

KORG

i40M

Interactive Music Module

*User's
Guide*



AI2 Synthesis System

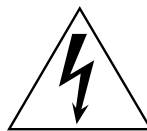
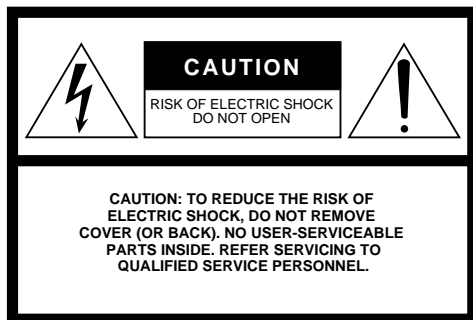


IMPORTANT SAFETY INSTRUCTIONS

WARNING — When using electrical products, basic precautions should be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with the cart or stand that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply of the type described in the operating instructions or as marked on the product.
8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the product; or
 - C. The product has been exposed to rain; or
 - D. The product does not appear to operate normally or exhibits a marked change in performance; or
 - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

SAVE THESE INSTRUCTIONS



The lightning flash with the arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

GROUNDING INSTRUCTIONS

This product must be grounded (earthed). If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with the local codes and ordinances.

DANGER — Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

THE FCC REGULATION WARNING (FOR THE U.S.A. AND CANADA ONLY)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CANADA

THIS APPARATUS DOES NOT EXCEED THE "CLASS B" LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATION OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRESENT APPAREIL NUMERIQUE N'EMET PAS DE BRUITS RADIOELECTRIQUES DEPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMERIQUES DE LA "CLASSE B" PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE

CE mark for European Harmonized Standards

CE mark which is attached to our company's products of AC mains operated apparatus until December 31, 1996 means it conforms to EMC Directive (89/336/EEC) and CE mark Directive (93/68/EEC).


And, CE mark which is attached after January 1, 1997 means it conforms to EMC Directive (89/336/EEC), CE mark Directive (93/68/EEC) and Low Voltage Directive (73/23/EEC).

Also, CE mark which is attached to our company's products of Battery operated apparatus means it conforms to EMC Directive (89/336/EEC) and CE mark Directive (93/68/EEC).

IMPORTANT NOTICE FOR THE UNITED KINGDOM

Warning-THIS APPARATUS MUST BE EARTHED

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- the wire which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol , or coloured green or green and yellow.
- the wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
- the wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Data Handling

Data in memory may sometimes be lost due to incorrect user action. Be sure to save important data to floppy disk. Korg will not be responsible for damages caused by data loss.

LCD Display

Some pages of the manuals show LCD screens along with an explanation of functions and operations. All sound names, parameter names, and values are merely examples and may not always match the actual display you are working on.

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Disclaimer

The information contained in this manual has been carefully revised and checked through. Due to our constant efforts to improve our products, the specifications might differ to those in the manual. Korg is not responsible for any eventual differences found between the specifications and the contents of the instruction manual - the specifications being subject to change without prior notice

Liability

KORG products are manufactured under strict specifications and voltages required by each country. These products are warranted by the KORG distributor only in each country. Any KORG product not sold with a warranty card or carrying a serial number disqualifies the product sold from the manufacturer's/distributor's warranty and liability. This requirement is for your own protection and safety.

Service and User's Assistance

For service, please contact your nearest Authorized KORG Service Center. For more information on KORG products, and to find software and accessories for your piano, please contact your local Authorized KORG distributor.

Web servers

- Home page Korg Italy: “<http://www.korg.it>”
- Home page Korg.net: “<http://www.korg.net>”
- Home page Korg USA.: “<http://www.korg.com>”
- Home page Korg Inc.: “<http://www.korg.co.jp>”

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GETTING STARTED

1. Introduction

Thank you for choosing Korg i40M, the interactive music workstation created for even the most demanding musicians! Given the legendary Korg sound and the most sophisticated automatic accompaniment functions, the i40M is the ideal instrument for those who play professionally and those who play just for pleasure.

The i40M is not only an instrument with great sound, great design and easy to use, it is also a flexible instrument that allows you to read and save Standard MIDI Files, program new arrangements, and create new sounds. On the whole, it is a complete instrument which enhances the musician's creativity!

We wish you years and years of great music with the i40M!

User's guide

The quickest and easiest way to obtain the best from your new instrument is to read the instruction guide. This guide is divided into two parts:

Getting Started - For those who want to start playing straight away without too much theory. Follow the instructions step by step and start playing now!

Reference - This is a more detailed look at the instrument and is for those who want to exploit all its potentiality to the full and become a real music programmer.

Safety Instructions

Before turning the instrument on, read carefully the "Safety Instructions" on the inside cover. Done that? Then let's make way for the music!

Before you begin...

Accessories

The following accessories are supplied with the instrument. Check that you have all of them and if any are missing contact your retailer.

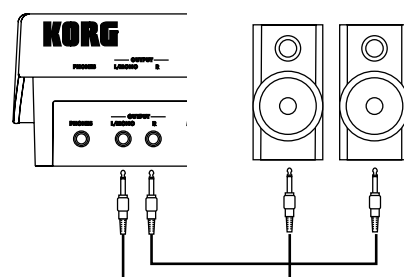
- ✓ User's guide
- ✓ Floppy disk "Accessory Disk"
- ✓ Power cable

Connecting an external amplifying system

You can connect the i40M to a professional amplifying system (mixer or amplified speakers) or to a hi-fi system. For more information see "Rear panel" on page 13.

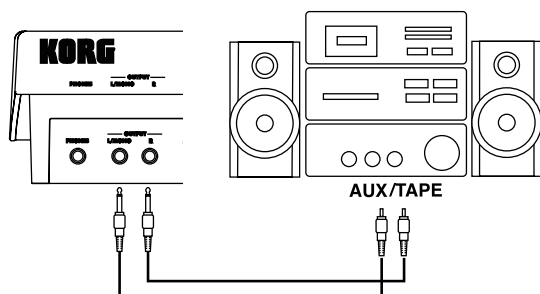
Connecting the i40M to a mixer (or to two amplified diffusers)

Connect the OUTPUT jacks of the i40M to two mono inputs of the mixer (or to the speaker inputs) using two audio cables with mono jacks. To take the signal in mono, connect the LEFT/MONO output only and one channel of the mixer using an audio cable. For more information refer to the user's guide of the mixer (or the speakers).



Connecting the i40M to a hi-fi system

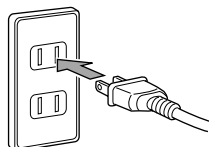
Connect the OUTPUT jacks of the i40M to the AUX or TAPE inputs of the amplifier using two audio cables with a mono jack at one end and an RCA connector at the other end (do not use the PHONE or TUNER inputs).



Connecting the power cable

- Plug the power cable into the power socket.

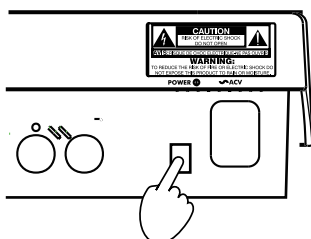
Make sure that the mains voltage is suitable for the instrument (the voltage is indicated next to the AC power inlet).



Turning on the power

- Press the POWER switch to turn the instrument on.

On turning on, the instrument will be in the Arrangement Play mode. If you are connected to an external amplifying system, turn the speakers on only after having switched on the i40M.



- To turn the instrument off, press the POWER switch again.

In order to save on electricity, turn the instrument off when you are not using it. Do not turn the power off while the disk indicator is lit or while a message such as "Loading", "Saving" or "Formatting" is shown on the LCD display.

Note: When the instrument is turned off, all the data contained in the RAM memory will be lost (e.g. backing sequence and song). On the contrary, USER styles, USER arrangements and USER programs are retained. Before turning the instrument off, save backing sequence (P. 33) and song (P. 35) on disk.

Adjusting the general volume

- Use the MASTER VOLUME knob to adjust the general volume of the internal sound generation.

Moving the knob towards "10" will increase the volume, and moving it towards the "0" will decrease the volume. In the "0" position the instrument will be mute.



If you are connected to an external amplifying system, you should at this point turn the volume of the mixer or the speakers up and then adjust both the volume of the i40M and that of the speakers.

The MASTER VOLUME knob controls the level of the internal sound generation both of the OUTPUT jacks and the headphones.

Note: This knob does not control the volume of the VOCAL/GUITAR section (input signal from the INPUT-IN jack). Use the VOLUME knob to adjust the level of this section.

Warning: At the maximum volume the sound can be distorted. Should this happen, decrease the volume of the i40M.

Adjusting the volume of the Vocal/Guitar section

The VOCAL/GUITAR section takes the input signal from the INPUT-IN jack and process it with dedicated effects. The processed signal is combined with the sounds generated by the internal sound generation and comes out from the OUTPUT jacks.

- Use the VOLUME knob to adjust the volume of the section.

Moving the knob towards "10" will increase the volume, and moving it towards the "0" will decrease the volume. In the "0" position the VOCAL/GUITAR section does not reach the OUTPUT jacks.



The VOLUME knob controls the level of the VOCAL/GUITAR section both of the OUTPUT jacks and the headphones.

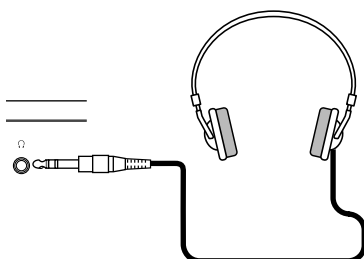
Note: Use the GAIN knob located next to the INPUT-IN jack to adjust the input level at best. Connect the instrument, start playing and check the color of the SIGNAL led on the control panel: if it is red, distortion is present and the gain must be decreased; if it is orange, distortion is close and the gain should be

decreased slightly; if it is green, the level is correct. If the led does not light up, the input level is too low and the gain must be increased.

Suggestion: If the INPUT-IN jack is not used, set the volume on zero to avoid any interference or residual noise.

The headphones

- Connect the headphones to the PHONES jack located on the rear panel.
Use stereo headphones with a standard jack. Adjust the volume with the MASTER VOLUME knob.



Connecting a MIDI controller

For live performances the i40M must be connected to a MIDI controller, such as a MIDI keyboard, a digital piano, a MIDI accordion, a guitar controller, a wind controller, a set of percussion pads or an external sequencer. For detailed information see “MIDI” on

page 44. Let's now illustrate two of the most common situations: connecting a MIDI keyboard and connecting a MIDI accordion.

Connecting a MIDI keyboard

The i40M can be controlled with any MIDI keyboard, such as a master keyboard or a synthesizer with MIDI OUT jack.

- ① Connect the MIDI OUT jack of the MIDI keyboard to the MIDI IN 1 jack of the i40M using a standard MIDI cable.
- ② Program the keyboard to transmit over the MIDI 1 channel.

According to the factory settings, the MIDI 1 channel is the channel used by the i40M to receive most information. For example, channel 1 corresponds to Global that allows for using all the functions related to the split point (Keyboard Mode section).

For more information on Global programming, see “MIDI” on page 44 and the “GLB (Global)” on page 139.

Note: If the keyboard transmits over the MIDI channel dedicated to the i40M Global, the keyboard becomes the integrated keyboard of the i40M. The i40M becomes virtually your keyboard instrument.

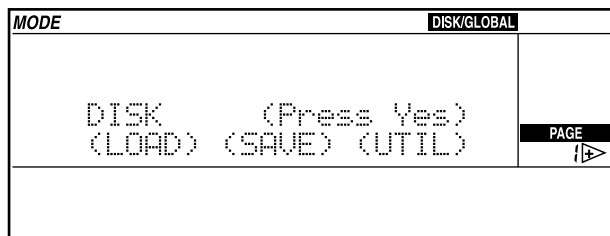
Suggestion: If the keyboard does not transmit over the Global channel, see “MIDI” on page 44 for more information.

Connecting a MIDI accordion

You can connect a MIDI accordion and play a track of the i40M with each section.

- 1 Connect the MIDI OUT jack of the MIDI accordion to the MIDI IN 1 jack of the i40M using a standard MIDI cable.

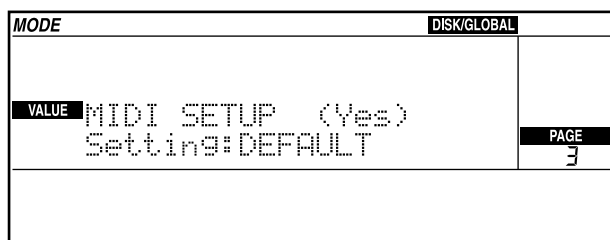
- 2 Press DISK/GLOBAL.



- 3 Press the PAGE [+] button repeatedly to access the MIDI Settings page.



- 4 Press CURSOR [>] to select <SETUP>.



- 5 Press the TEMPO/VALUE [+] to select one of the MIDI "Accordion" setups.

There are three "Accordion" setups.

- "Accordion 1" is designed for those who have an accordion with three fixed channels. This setup is also suitable for backing sequence recording.
- "Accordion 2" is designed for those who have an accordion with two channels on the right hand and do not want to play the bass of the i40M.
- "Accordion 3" is designed for those who have an accordion with two channels on the right hand, want to play the bass of the i40M and have another channel to change the Arrangements of the i40M with Program Change.

For more information on the MIDI Setups, see "MIDI" on page 44 and the "Page 3: MIDI Settings" on page 136.

- 6 Press ENTER/YES twice to confirm the MIDI Setup selection.

The configuration of the MIDI channels and of the other parameters selected with the MIDI Setup will be retained until the configuration is manually changed.

- 7 Press REC/WRITE/LYRICS and then ENTER/YES twice.

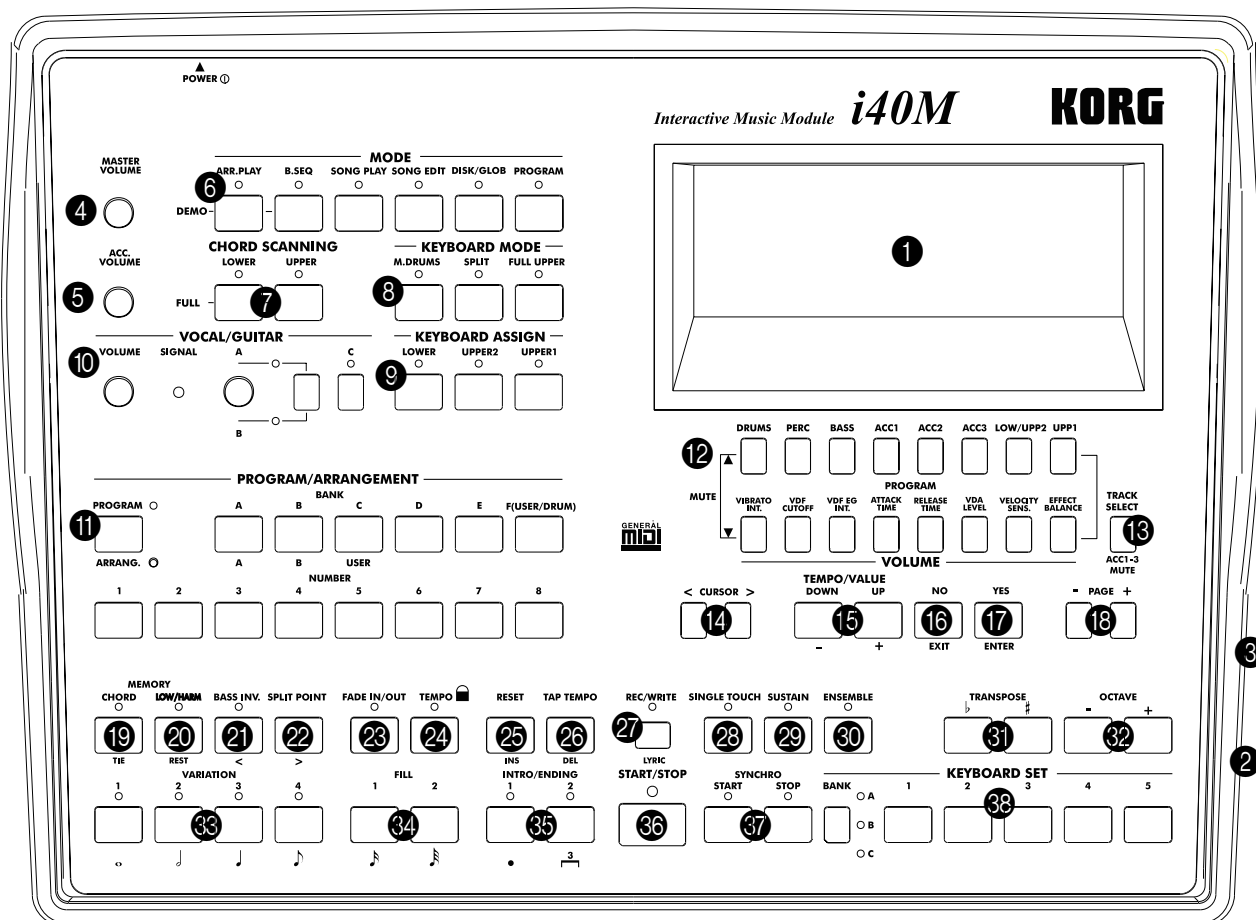
The automatic settings of the MIDI Setup are saved in Global and will be available also after turning the instrument off and on again.

Connecting other MIDI controllers

The MIDI configuration may vary according to the type of controller connected to the i40M. To automatically re-configure the i40M select a MIDI Setup (see "MIDI" on page 44 and the "Page 3: MIDI Settings" on page 136).

2. Front and Rear Panels

Front Panel



1 Display

The editing pages, parameters and messages for the user will appear in this display.

2 Floppy disk drive slot

3.5 inch double-sided double density (2DD) or double-sided high density (HD) floppy disks can be inserted in this drive. You can use Korg *i*-series formatted floppy disks and standard Ms-Dos® formatted floppy disks.

The i40M incorporates a disk drive without auditory feedback (i.e. the “click” when the disk has been pressed all the way in).

3 Disk eject button

Press this button to remove a floppy disk from the drive. If pressing this button does not eject the disk,

do not try to force it out. Contact your dealer or nearest Korg Service Station.

4 MASTER VOLUME knob

Output level of internal sound generation (OUTPUT outlets and headphones).

This control does not adjust the level of the VOCAL/GUITAR section (input signal through INPUT-IN).

Warning: Volume that is too high can cause serious harm to your hearing. Keep the volume at a moderate level.

Note: At higher volumes the sound can be distorted.

5 ACC.VOLUME knob (Accompaniment Volume)

Automatic accompaniment volume. In Song Play and Song Edit modes it controls the volume of all tracks, except the one selected (whose volume remains constant).

6 MODE section

The buttons in this section activate the operating modes of the instrument (see chapter “Operative modes” on page 15).

- **ARR. PLAY** (Arrangement Play) button

This button accesses the Arrangement Play mode. (The instrument is automatically in this mode when it is turned on). With this mode you can use the automatic accompaniments.

- **B.SEQ (Backing Sequence) button**

This button accesses the Backing Sequence mode. With this mode you can record or playback musical performances played with automatic accompaniments.

- **SONG PLAY** button

This button accesses the Song Play mode. With this mode you can directly playback musical performances in Standard MIDI File (SMF) format without loading them from disk.

You can also read the SMF lyrics in the display (Lyrics function). The display mode can be selected with the REC/WRITE/LYRICS button.

- **SONG EDIT** button

This button accesses the Song Edit mode. With this mode you can record, playback, edit and save a Standard MIDI File (SMF).

- **DISK/GLOBAL** button

This button accesses the Disk/Global mode. With this mode you can load and save data from a floppy disk, and program some of the instrument's general settings (e.g. pedals and MIDI channels).

- PROGRAM button

This button accesses the Program mode. With this mode you can play and edit the single programs (single sounds).

- DEMO buttons

Press both ARR.PLAY and B.SEQ to access the Demo mode where you can listen to 16 demo pieces.

How to listen to all demos consecutively. To listen to all demo pieces consecutively access the Demo mode and press START/STOP. To stop the demo playback press START/STOP.

How to listen to a single demo. To listen to a single demo, access the Demo mode and select it. The demo playback starts immediately.

To select a demo use the buttons of the PROGRAM/ARRANG section. To select a demo from 1 to 8, press

One or two tracks (Upper 1 and/or Upper 2) play on the entire keyboard.

These buttons select the realtime tracks (Upper 1, Upper 2, Lower) in the **Arrangement Play** and **Backing Sequence** modes. The Upper 2 and Lower are alternative, one excludes the other on the keyboard.

The VOCAL/GUITAR section applies effects to the signal of a microphone, a guitar or a line source (mono) coming to the INPUT-IN connector. The signal is then mixed with the sound of the internal sound generation and sent to the OUTPUT outlets.

In Vocal mode it harmonizes the voice with the notes received over the MIDI channel dedicated to harmonisation. According to the factory settings, the notes are received over channel 5.

The VOCAL/GUITAR section works in the Arrangement Play, Backing Sequence and Song Play modes. The settings are saved in the Keyboard Set. See “The Vocal/Guitar section” on page 39.

It controls the level of the VOCAL/GUITAR section on the OUTPUT outlets.

The SIGNAL led changes color according to the signal level. If it is off, there is no signal or the signal level is very low. If it is green the signal is present. If it is orange, the signal is close to saturation. If it is red, the signal is saturated.

Warning: The signal cannot be saturated. If the led is red, adjust the input gain with the GAIN knob in the control panel.

It selects the operating mode of the A/B switch between A and B.

Programmable knob. It controls the value of the parameter assigned to the A or B function (see page 65). The A or B operating mode can be selected with the A/B switch button.

Note: The knob does not work until the last value of the controlled function is reached. For example, if the knob is on "0" and the current parameter value is "5", the knob will not work until it reaches "5".

Programmable button. It can act as “mute” for the VOCAL/GUITAR section, the effects or the harmonisation.

Note: When you turn the instrument on, the VOCAL/ GUITAR section is deactivated. Select one of the Keyboard Sets to activate it. If you have connected a microphone, choose a Keyboard Set in the bank A. If you have connected a guitar, choose a Keyboard Set in the bank B (clean settings) or C (overdrive settings).

These buttons are used to select programs and arrangements.

To select a program (single sound) press PROGRAM/ARRANG to light the PROGRAM led. Press one of the BANK (A, B, C, D, E, F) buttons to choose the bank, then select a two-digit number between 11 and 88 using the NUMBER buttons to choose the program.

To select the DRUM bank press twice the F(USER/DRUM) button until the abbreviation “Dr” shows in the display. The Drum programs range from Dr11 to Dr28.

To select an arrangement, press PROGRAM/ARRANG to light the ARRANG led. Press one of the BANK (A, B, USER) buttons to choose the bank, then select a two-digit number between 11 and 88 using the NUMBER buttons to choose the arrangement.

If the program or arrangement to be selected belongs to the same bank of the selected program or arrangement, only select the two-digit number without pressing the BANK button.

In the **Arrangement Play** mode you can use the **Arrangement Preview** and **Program Preview** functions to show the program or arrangement name in the display before selecting it.

Press a BANK button, if necessary press a NUMBER button to select the tens, then select the program or arrangement using the TEMPO/VALUE buttons and press ENTER/YES to confirm.

These buttons are normally used to adjust the track volume of the tracks and to mute it. To raise the volume press the upper button, to lower it press the lower button. To mute a track press the upper and lower button together. To take off the mute, press one of the buttons briefly.

Arrangement Play mode: these buttons select the tracks and change the volume. When a track has been selected you can set a different program for that track (see PROGRAM/ARRANG section).

Backing Sequence mode: these buttons select the tracks and change the volume. To select the Extra Tracks first press the TRACK SELECT button and then the VOLUME buttons.

Song Play mode: these buttons select the MIDI channels (tracks) of the SMF and change the volume. To

go from channels 1-8 to channels 9-16 (and vice versa) press the TRACK SELECT button.

Song Edit mode: these buttons select the tracks and change the volume. To go from tracks 1-8 to tracks 9-16 (and vice versa) press the TRACK SELECT button.

Program mode: these buttons modify the value of the parameters indicated under each button.

13 TRACK SELECT button

Arrangement Play mode: mutes the ACC1, ACC2, ACC3 tracks.

Backing Sequence mode: switches between the arrangement tracks and the Extra Track.

Song Play mode: switches between the channels 1-8 and the channels 9-16 of the SMF. (In Song Play mode channels and tracks are the same).

Song Edit mode: switches between tracks 1-8 and tracks 9-16.

14 CURSOR buttons

These buttons move the cursor among the parameters that appear in the display. Before modifying the value of a parameter, the cursor must be positioned on the value that needs to be modified (flashing text).

15 TEMPO/VALUE buttons

These buttons modify the tempo or the parameter value selected in the display. The TEMPO or VALUE indicators show up in the display when they are functioning.

16 EXIT/NO button

This button is used to go back to Page 1 of the current operative mode and to return to the higher level from the subpages (pages in which the indication of previous or next page is not shown next to the number page).

The second function (NO) is to be used to give a negative reply to questions that may appear in the display.

Arrangement Play, Backing Sequence and Song Play modes: takes you back to Page 1 of the mode.

Page 1 of the **Arrangement Play** mode: calls up the settings of the realtime tracks saved in the Arrangement.

Song Play mode: takes you back to the previous page after pressing a VOLUME/PROGRAM button to choose a track.

Song Play-JukeBox mode: makes you exit from the JukeBox mode.

Song Edit mode: calls up Page 2 of the mode.

Disk/Global mode subpages: takes you back to the top page.

17 ENTER/YES button

By pressing this button you can give a positive reply to questions that may appear in the display and to start some operations in the Disk/Global mode (Load, Save, Format, MIDI Setup...).

Song Play mode: by pressing this button when the cursor is on the name of a song, the song will be inserted in the JukeBox list and the JukeBox mode activated.

18 PAGE buttons

These buttons select the previous (-) or the next (+) page in the current mode. The page number appears on the right of the display. Two arrows appear before or after the number to indicate the presence of previous (<) or next (>) pages.

If no arrows appear before and after the page number, you are in a subpage of the Disk/Global mode. To exit press EXIT/NO (see page 19).

19 MEMORY-CHORD/TIE button

Arrangement Play and **Backing Sequence** modes: keeps the accompaniment chord after taking your hand off the keyboard.

Backing Sequence-Step Recording mode: inserts a tie (ties the last note played to the next note that is going to be played).

20 MEMORY-LOW/HAR/REST button

Arrangement Play and **Backing Sequence** modes: if the Lower track is controlled by the Global channel, this button keeps the Lower track notes after taking your hands off the keyboard. (See "Page 14: Lower memory" in the Disk/Global mode).

Arrangement Play, Backing Sequence, Song Play modes: keeps the harmonization notes coming over the Harmony channel (see page 142 and following).

Backing Sequence-Step Recording mode: creates a pause.

21 BASS INV./< (Bass Inversion/backwards) button

Arrangement Play and **Backing Sequence** modes: with this function the lowest note of a chord played in inverted form will always be detected as the main note of the chord. Thus, you can specify to the arranger composite chords such as Am7/G or "F/C". When the Chord Scanning is FULL, the bass note will not change until another bass note is played.

Backing Sequence-Step Recording mode: this button is used to go to the previous step.

22 SPLIT POINT/> (Split Point/Forward) button

Arrangement Play and **Backing Sequence** modes: selects the split point (division of the keyboard). Hold down the button and play the note you wish to become the split point. This note and all the notes to the right of it are part of the Upper range, the notes to its lefts are part of the Lower range.

The split point can be saved in the Global in order to remain available also after you turn the instrument off and on again. (See “Page 22: Write Global” on page 152).

Note: The split point is particularly useful when the i40M is connected to a MIDI keyboard. It only works if the MIDI controller transmits through the special Global channel (see page 45).

Backing Sequence-Event Editing mode: goes to the next step.

23 FADE IN/OUT button

If the accompaniment is not playing, this button fades it in (the volume gradually increases from zero to the maximum value). If the accompaniment is playing, this button fades it out (the volume gradually decreases from the maximum value to zero). You do not need to press START/STOP to start or stop the accompaniment.

24 TEMPO (Tempo Lock) button

Led lit up: when you change the arrangement the tempo will not change. The tempo can be manually changed by using the TEMPO/VALUE buttons.

25 RESET/INS button

Backing Sequence, Song Play, Song Edit modes: this button returns the sequencer to the first measure.

Arrangement Play and **Backing Sequence** modes: restarts the chord scanner and returns to the beginning of the measure.

The second function of the (INS) button is to insert a Step Recording event, or an empty space where the cursor is positioned when you wish to write a name.

Note: In any situation this button can be used as “MIDI Panic”. Press it when a note gets stuck to unblock it.

26 TAP TEMPO/DEL button

You can set the tempo with this button. The tempo is updated in the display.

The second function of the (DEL) button is to cancel the event that has been selected in Step Recording, or to cancel a letter where the cursor is positioned when you wish to write a name.

27 REC/WRITE/LYRICS

(Recording/Writing/Lyrics) button

Backing Sequence and Song Edit modes: this button enters the record mode.

Arrangement Play and **Program** modes: this will access the Write page where you can save your modified Arrangement, Keyboard Set or program.

Song Play mode: switches through the display modes Lyrics 1 (lyrics 1), Lyrics 2 (lyrics 2), Play (standard execution information).

Note: The Lyrics modes are only available if the SMF contains the lyrics. The Lyrics 2 mode is only available with some SME.

Global mode: recalls the Write Global page.

28 SINGLE TOUCH button

Led lit up: when an arrangement is changed, the programs of Upper 1, Upper 2 and Lower tracks are recalled and saved in the new arrangement.

29 SUSTAIN button

Arrangement Play, Backing Sequence, Program, Song Play modes: increases the length of the notes (by extending the program sustain).

30 ENSEMBLE button

Arrangement Play and Backing Sequence modes: harmonizes the melody played with your right hand with the chords played with your left hand. The Chord Scanning must be LOWER.

31 TRANSPOSE buttons

These buttons change the transposition (in semitones) of the instrument. The transposition value temporarily appears on the right side of the display. In order to cancel the transposition you must press both buttons together.

32 OCTAVE buttons

These buttons change the transposition (in octaves) of the track selected in the display. In order to cancel the transposition you must press both buttons together.

33 VARIATION 1, 2, 3, 4 buttons

Arrangement Play and Backing Sequence modes: these buttons select one of the four style variations.

Backing Sequence-Step Recording mode: these buttons are used to specify the length of the note being input (the value of the notes is shown under the buttons).

34 FILL 1/2 (Fill-in) buttons

Arrangement Play and Backing Sequence modes:
pressing one of these buttons during performance
will add a fill-in.

Backing Sequence-Step Recording mode: these buttons are used to specify the length of the note being input (the value of the notes is shown under the buttons).

35 INTRO/ENDING buttons

Arrangement Play and **Backing Sequence** modes: pressing one of these buttons before you begin playing will cause an introduction to be played after you press START/STOP. Pressing one of these buttons during a performance will cause an ending to be

played, after which the performance will end automatically.

Backing Sequence-Step Recording mode: these buttons are used to specify the length of the note being input (the value of the notes is shown under the buttons).

36 START/STOP button

Arrangement Play, **Song Play** and **Demo** modes: this button starts or stops the automatic accompaniment or playback.

Backing Sequence and **Song Edit** modes: it starts or stops playback. If the REC/WRITE/LYRICS led is lit up, it starts or stops recording.

37 SYNCHRO-START and SYNCHRO STOP buttons

The SYNCHRO-START button makes the accompaniment start when you play a note or chord in the chord detection area of the keyboard, without having to press START/STOP.

The SYNCHRO-STOP button makes the accompaniment stop when the hand playing the notes in the chord detection area of the keyboard is taken off the keyboard.

38 KEYBOARD SET section

By pressing only one button in **Arrangement Play** and **Backing Sequence** modes the Keyboard Set

select the set-up of the realtime tracks (Upper 1, Upper 2 and Lower), the effects and the settings of the VOCAL/GUITAR section.

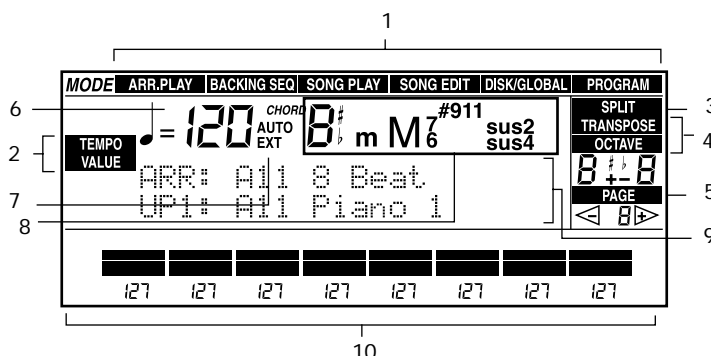
In **Song Play** mode the Keyboard Set only select the settings of the VOCAL/GUITAR section (and not the track set-up).

To choose a Keyboard Set you have to press once, or repeatedly BANK to choose bank A, B or C, then you must press one of the number buttons to choose the Keyboard Set.

In **Arrangement Play** you can save the current set-up of the realtime tracks, the effects and the settings of the VOCAL/GUITAR section in a Keyboard Set.

1. Press REC/WRITE/LYRICS.
2. Press one of the buttons in the KEYBOARD SET section to recall the Write Keyboard Set page.
3. Press once, or repeatedly BANK to choose the bank (A, B or C).
4. Press the number button which corresponds to the Keyboard Set where you wish to save the set-up.
5. Press ENTER/YES twice to confirm.

Display



1 Mode

The first line of the display indicates the operative mode: ARR.PLAY, BACKING SEQ., SONG PLAY, SONG EDIT, DISK/GLOBAL, PROGRAM.

2 Tempo/Value

The two indicators TEMPO and VALUE show in alternation. They show the functioning of the TEMPO/VALUE buttons. If these buttons act as tempo controls the display shows TEMPO. If they act as modifiers of the selected parameter the display shows VALUE.

3 Split

Indicates that the SPLIT POINT button is currently pressed, and the note shown below in the display is the currently selected split point.

4 Transpose/Octave

The two indicators TRANSPOSE and OCTAVE show in alternation. According to which one shows, the value below indicates the transposition value by semitones or octaves.

5 Page

Indicator of the current page. If [>] shows, there are pages to follow. If [<] shows there are previous pages. Go through the pages with the PAGE [+] and [-] buttons.

6 Tempo

Current tempo. If the TEMPO indicator is showing, you can vary the tempo with the TEMPO/VALUE buttons.

7 Tempo mode/Clock (synchronization)

Tempo mode and type of synchronization.

AUTO means that the sequencer is reading the tempo recorded in the song.

EXT means that the i40M is synchronized with the metronome of an external device connected to its MIDI IN. Only one of the MIDI IN connectors of the i40M can receive the synchronism (see page 137).

You can choose the kind of synchronism you require on "Page 4: Global MIDI parameters" of the Disk/Global mode.

8 Chord name

9 Modifiable parameters

Two lines of characters that show the parameters of the various edit pages. You can move through the parameters with the CURSOR buttons and modify the values with the TEMPO/VALUE buttons.

10 Volume indicators

Track volume. The tracks that are selected are shown at the top and on the left:

none = accompaniment and realtime tracks shown above the PROGRAM/VOLUME buttons (Arrangement Play, Backing Sequence)

ET = Extra Track (Backing Sequence)

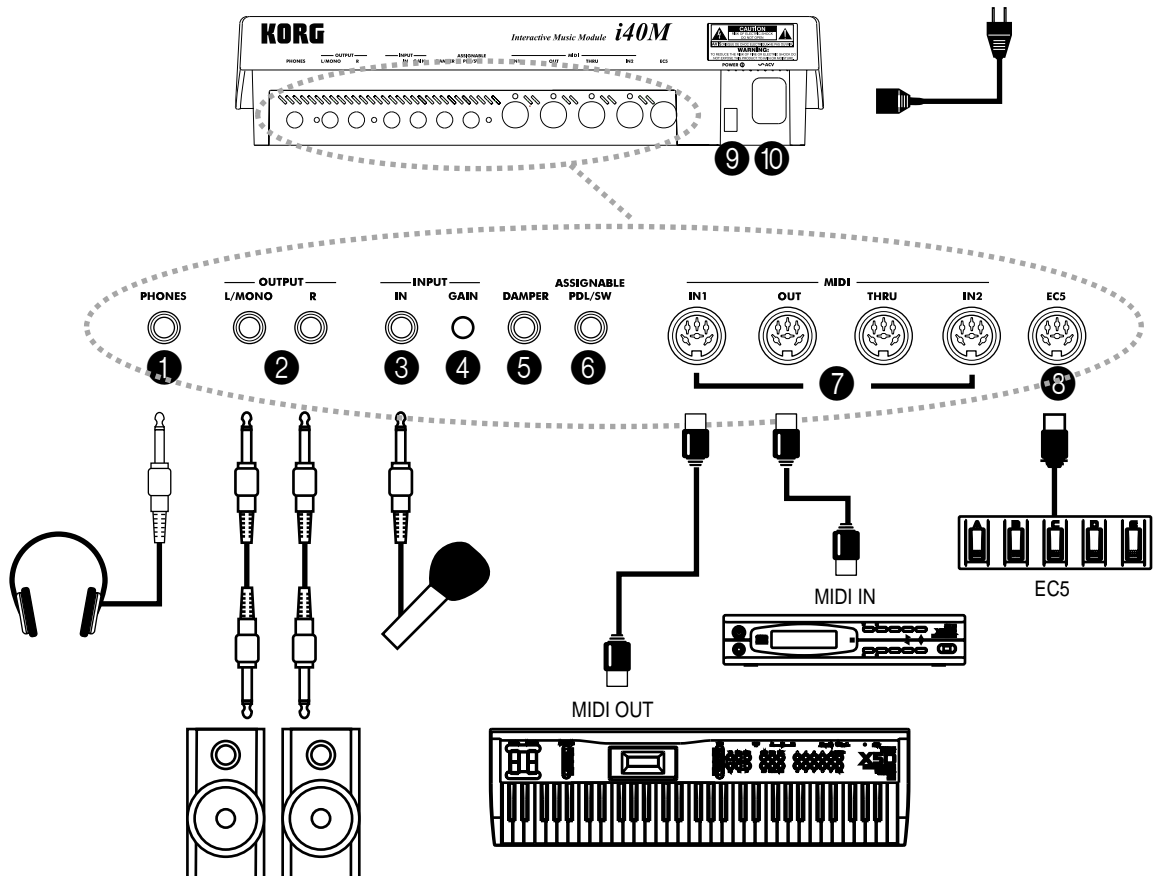
ch = channels (Song Play)

1-8 = tracks/channels 1-8 (Song Play, Song Edit)

9-16 = tracks/channels 9-16 (Song Play, Song Edit)

To select the hidden tracks press TRACK SELECT. If all the indicators are off, the realtime and accompaniment tracks indicated above the VOLUME/PROGRAM buttons are shown.

Rear panel



1 PHONES jack

You can connect a stereo headphones here.

2 OUTPUT connectors

Audio outlets. You can connect an amplifier here. You can connect the i40M to a mixer, two amplified speakers or the AUX/TAPE inlet of an hi-fi system. If the amplifier is mono, only connect the L/MONO connector.

Warning: Volume that is too high can cause serious damage to your hearing. Keep the volume at a moderate level.

3 INPUT-IN connector

Audio inlet for microphone, guitar or mono line signal. The signal goes through the effects and the harmonizer of the VOCAL/GUITAR section, and comes out from the OUTPUT outlets (together with the sounds of the internal sound generation of the i40M).

Set the input level with the GAIN knob. The presence of the signal lights up the green SIGNAL led. If the signal is close to saturation, the led becomes orange. If the signal is saturated, the led becomes red.

The signal can never be saturated. If the red led lights up, adjust the GAIN knob in order to reduce the input gain.

4 GAIN knob

Adjusts the gain of the INPUT-IN inlet. Turn it towards the left to reduce the gain (e.g. when the SIGNAL led is orange or red), and towards the right to increase it.

5 DAMPER connector

You can connect a damper pedal here, such as Korg DS-1 or similar. The damper pedals can have a different polarity; choose the polarity of your pedal on “Page 16: Auto chord scanning/Damper polarity” in the Disk/Global mode (see page 148).

6 ASSIGNABLE PDL/SW connector

You can connect an expression pedal here, such as Korg XVP-10 or EXP-2, or a PS-1 or PS-2 type foot-switch. You can program the function assigned to the pedal on “Page 12: Assignable pedal/switch” in the Disk/Global mode (see page 143).

7 MIDI connectors

You can connect other MIDI devices (keyboards or computers) here. For the connection you need the special MIDI cables which you can purchase from your Korg dealer. (See chapter “MIDI” on page 44).

- MIDI IN 1 and MIDI IN 2 connectors

Receive MIDI data from external devices. The two connectors are identical and can be used, for instance, to simultaneously connect a keyboard to MIDI IN 1 and an accordion to MIDI IN 2. The synchronism signal (MIDI Clock) can only be received by one connector at a time (see “Clock (Clock source)” on page 137).

- **MIDI OUT** connector

Transmits the MIDI data generated by the i40M to other devices.

- **MIDI THRU** connector

Re-transmits the MIDI data received by the MIDI IN 1 and 2 ports.

- ## 8 EC5 connector

You can connect an optional Korg EC5 external controller here. You can program the EC5 on “Page 13: EC5 external controller” in the Disk/Global mode, assigning a function to each of the five pedal switches.

- ## 9 POWER switch

On/off switch.

- ## 10 Power supply connector

Plug the power cable supplied with the instrument here.

Warning: Always connect the instrument to a power socket with ground.

3. Operative modes

The instrument can function in different “modes”, each of which groups together functions that are for its

own particular use. In order to choose a mode you need to press a button in the MODE section.

Arrangement Play mode

Arrangement Play is the main operative mode. When the instrument is turned on, it is always in this mode, where you can select the arrangements and the Keyboard Set you wish to use.

There are 192 arrangements in total, organized as 64 arrangements in each of the three banks A, B, and USER. The arrangements in the USER bank are freely modifiable and can be used to load new data from a disk.

The 15 Keyboard Set are all freely modifiable and divided in three banks with 5 Keyboard Set each. The Keyboard Set are designed to immediately change the programs of the real time tracks and the settings of the VOCAL/GUITAR section.

Each arrangement is composed of a style and three real time tracks (Upper 1, Upper 2, and Lower). The real time tracks can be played “live” with the accompaniment of the style tracks.

The way in which the real time tracks are arranged on a MIDI keyboard and their activation/deactivation state are set in the KEYBOARD MODE and KEYBOARD ASSIGN sections.

The styles are made up of patterns (musical structures) used to create the automatic accompaniments. Each style contains four variations, two intros (introductions), two endings and two fill-ins (passages).

The style selected by the arrangement detects the type of chord played in a section known as “chord detection section” and adapts its pattern to that chord. For example, if the pattern is in C major, playing a F major

chord in the chord detection section will cause the pattern transposition to F major.

The way in which patterns are affected by chords is of course more complex than what indicated above. Korg instruments are renowned for their refinement in detecting the chords.

The styles consist of six tracks: drums, percussion, bass, accompaniment tracks ACC1, ACC2 and ACC3. These six tracks are referred to as the Backing Tracks, since they provide the rhythmical and harmonic backing of the song.

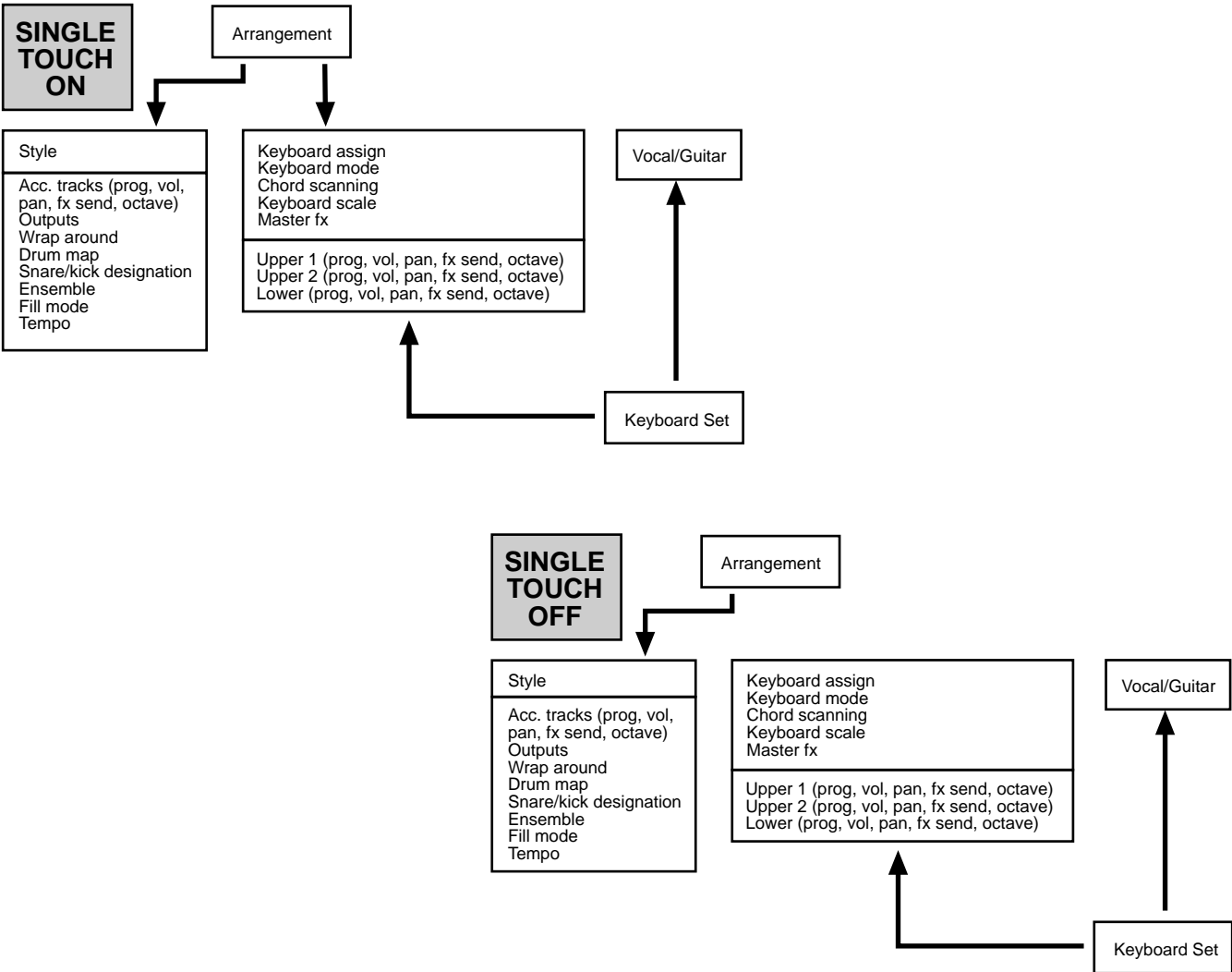
Whilst playing you can modify several arrangement parameters (e.g. the volume of the instrumental parts), however if you stop the accompaniment, or decide to select a different arrangement, your edits will be lost.

To save the changes in the USER bank use the Write Arrangement of the “Page 24: Write Arrangement” (see page 79).

To save the changes in the Keyboard Set use the Write Keyboard Set function of the “Page 25: Write Keyboard Set” (see page 80).

The following scheme shows the parameters that are automatically changed when selecting an arrangement or Keyboard Set:

- if the SINGLE TOUCH led is on, the arrangement can also change the parameters of the real time tracks;
- if the SINGLE TOUCH led is off, the arrangement can only change the parameters of the accompaniment tracks.



Backing Sequence mode

The Backing Sequence mode allows you to create a song in a simple way, by recording it in real time with the arrangements. You can playback the song in this way or convert it in SMF and playback it in Song Play or Song Edit mode.

The main parts of a backing sequence are the three arrangement tracks (keyboard track, controls track and chord track). The controls track records the button

selections of the front panel; the chord track records the sequence of the chords; the keyboard track records whatever is played in real time. Of course, you can leave the keyboard track empty and play it live.

In addition to the arrangement tracks, there are eight tracks referred to as Extra Tracks that can be used to record other free parts for a customized arrangement.

Program mode

The individual sounds played on the i40M are called programs. The instrument has a total of 384 programs, organized into six banks (A, B, C, D, E, F-USER) with 64 programs each, plus a DRUM bank which contains 16 Drum programs (14 ROM + 2 USER).

The programs are based on a multisample and are processed with an envelope (EG) and a digital filtering (VDF) stage.

In the Program mode you can edit previously recorded programs in order to create new programs and save them in the USER locations. You can then use the new programs in the arrangements, songs and backing sequences.

In the Program mode only the special Global channel is enabled to receive messages from an external MIDI controller.

Song Play mode

The Song Play mode allows you to listen to songs in Standard MIDI File format (SMF), by directly reading them from disk, with no waiting time for loading.

The Song Play mode allows you to listen to songs made up of 16 MID channels and is perfectly compatible with the General MIDI (GM).

This operative mode allows you to listen to new songs, not to record them. You can change the program of the MIDI channels, and adjust the volume, pan, effects,

effect send, tempo and transpose settings. However, the changes are not saved in memory or on disk.

In this operative mode you can read the lyrics of the SMF in Solton, M-live (Midisoft), Tune1000 and compatible (Roland Edirol, GEM GMX, KAR, HitBit, and Yamaha XF) format on the display. You can also read the chord abbreviations of the SMF in Solton, M-live (Midisoft), and GEM GMX format.

Song Edit mode

This operative mode allows you to record a new song with the typical functions of a sophisticated sequencer. The Song Edit mode is basically a sequence with 16 tracks. The produced SMF can be compatible with the General MIDI (GM).

The new song can be saved on disk in Standard MIDI File (SMF) in format 0. You can use this operative

mode to convert an SMF in format 1 into an SMF in format 0 (that is faster to load in Song Play mode).

In addition, the Song Edit mode allows you to load into memory, modify and save any existing SMF.

When you turn the instrument off, the song will be canceled from memory. Therefore, before turning off you need to save any modifications on disk (see page 124).

Disk/Global mode

The Disk/Global mode allows you to load or save data, and modify the parameters which affect the operation of the instrument. The operations you can carry out are:

- Save on disk data contained in memory and load into memory data from disk
- Tune the keyboard
- Modify MIDI settings
- Program pedals and external controllers
- Program Lower Memory
- Select a Scale (temperament)
- Control transmission/reception of MIDI messages (data filtering)

- Calibrate the pedal/footswitch
- Program the MIDI channels of the VOCAL section.

Apart from the Local Control and Clock Source parameters, all the settings (including the split point) can be saved in Global (with the Write Global function, see page 152) and will be retained when the instrument is turned off.

Global can be saved on disk and will be saved with each Save All and Save Global operation. The split point is not saved or loaded.

Note: The i40M can read disks from other Korg i-Series instruments, of which it can re-use the data (see page 133).

Display pages

The parameters and functions of the various operative modes are grouped into several pages, which appear on the display. The page number is always indicated on the right-hand side of the display. To move through the display pages use the PAGE [+] and [-] buttons.

If you wish to go directly to a page number you know, hold down the operative mode button the page which you wish to go to belongs to and enter the number using the buttons of the PROGRAM/ARRANG. section.

To go directly to a page from 1 to 8, press the PROGRAM/ARRANG button to light up the ARRANG led and then press a NUMBER button from number [1] to number [8].

To go directly to a page from 9 to 16, press the PROGRAM/ARRANG button to light up the PROGRAM led and then press a NUMBER button from number [1] to number [8].

Recording a display page

When the instrument is new, pages from 1 to 8 are assigned to the ARRANG + NUMBER button combination from number [1] to number [8], and the pages from 9 to 16 are assigned to the PROGRAM + NUM-

BER button combination from number [1] to number [8]. To record these pages under different numbers, use the following procedure.

- 1 Access the display page that you wish to record.
- 2 Hold down the current operative mode button and press the REC/WRITE/LYRICS button.
- 3 Release the REC/WRITE/LYRICS button (continue pressing the operative mode button).
- 4 Press in sequence the button combination where you want to record the current display page.

Press the PROGRAM/ARRANG button to light up the PROGRAM or ARRANG led and then a NUMBER button from [1] to [8].

- 5** Release the operative mode button and the button that you have recorded.

You may find it convenient to record the same type of page in the various operative modes to the same button. For example, the effect selection page could be found under the PROGRAM + NUMBER button number [7] both in the Song Play and Arrangement Play mode.

Subpages

Some of the display pages allow you to select secondary pages, referred to as “subpages”. The subpages are indicated by two round brackets () which contain the option. In the display shown below, the (LOAD), (SAVE) and (UTIL) items access the relative subpages.

MODE		DISK/GLOBAL	
DISK (Press Yes)			
(LOAD) (SAVE) (UTIL)		PAGE 1	

Use the CURSOR buttons to place the cursor on the name of the desired page and press the ENTER/YES button to access the selected subpage. To return from a subpage to the higher page press the EXIT/NO button.

Programming a parameter value

In order to modify the value of a parameter that appears on the display, first of all you need to select the value with the cursor. The cursor is indicated by the flashing of the value or the text line selected. Move the cursor in the display with the CURSOR buttons and modify the value with the TEMPO/VALUE buttons.

MODE		DISK/GLOBAL	
VALUE	Local:ON	Clock:INT	
	HostER=38.4k	VelI=Nor	PAGE 3

Cursor

4. Tutorial

This chapter is a practical guide to the use of the i40M that illustrates some real examples. All you need to do is follow these simple “lessons” and you will master the main functions of the instrument in a very short time.

Whilst using the instrument you may find yourselves in trouble, without knowing how to get out of a particular situation or edit page you have accessed by mistake. Remember that:

- EXIT/NO returns to the main pages of the various operative modes;

- START/STOP stops the accompaniments;
- RESET interrupts all the notes you are playing;
- turn the instrument off and on again to return to the initial situation (songs and backing sequences in memory are lost).

The names of the programs, styles and arrangements that appear in the next pages may be slightly different from those of the actual instrument—Don’t worry, they are only examples!

Demo

Listening to the Demo

The Demo is a selection of demonstrative songs contained in memory that cannot be erased (ROM). Let’s listen to them to get an idea of the sound capabilities of the instrument.

Entering the Demo mode

- Press the ARR.PLAY and B.SEQ (DEMO) buttons together

The “Demo” page will appear.



To listen to all the demo

- ① Press START/STOP.

The demo songs will playback one after the other.

- ② Press START/STOP again to stop the demo.

To listen to a single demo

- ① Select the demo with the buttons of the PROGRAM/ARRANG section.

If you wish to select a demo from number 1 to 8, press the PROGRAM/ARRANG button to light up the ARRANG led and then a button [1]–[8] of the NUMBER section. If you wish to select a demo from number 9 to number 16 press the PROGRAM/ARRANG button to light up the PROGRAM led and then a button [1]–[8] of the NUMBER section.

ARRANGEMENT NO.		PROGRAM NO.	
1	Synth World	1	Classic Piano
2	Jazz	2	Contemp. Piano
3	Latin	3	Bolero
4	Rock	4	Dance
5	Gospel	5	Jungle
6	Quick Step	6	Garage
7	German Polka	7	Progressive
8	Valzer	8	Modern Beat

- ② Press START/STOP again to stop the demo.

To exit the Demo mode

- Press EXIT/NO or one of the buttons of the MODE section.

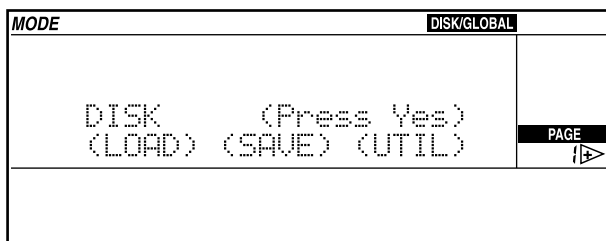
By pressing EXIT/NO you go back to the Arrangement Play mode. by pressing a button of the MODE section you go to the selected mode.

The Backing Sequence demo

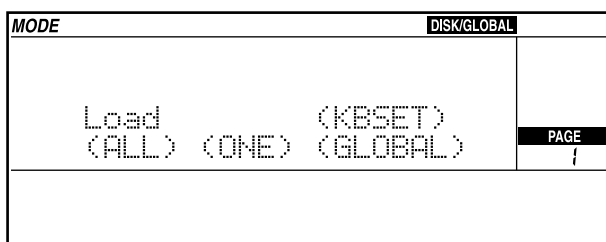
The Accessory Disk supplied with the instrument contains the demonstration backing sequences. Reading them on disk will help us understand how the backing sequences work.

- 1 Insert the Accessory Disk into the disk drive.
- 2 Press DISK/GLOBAL to enter the Disk/Global mode.

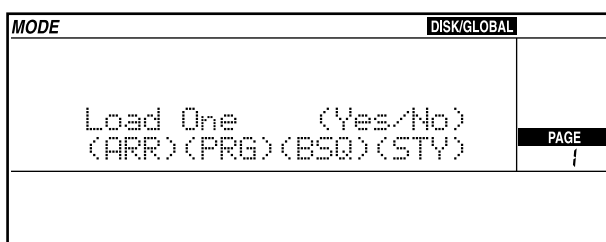
The DISK/GLOBAL led will light up. The DISK/GLOBAL indicator will appear on the display.



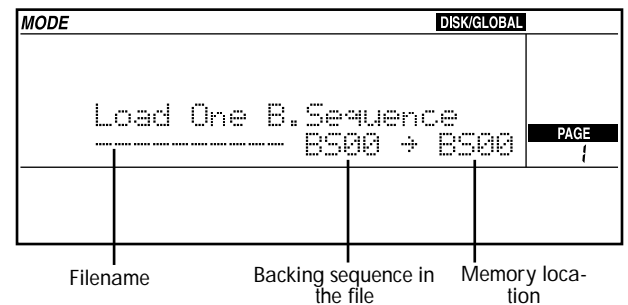
- 3 While the cursor is on (LOAD), press ENTER/YES to enter the "Load" subpage.



- 4 Move to cursor on (ONE), and press ENTER/YES to enter the "Load One" subpage.



- 5 Move the cursor on (BSQ), and press ENTER/YES view the files contained in the disk.



The display shows the name of the file which contains the backing sequence to be loaded, the backing sequence number and the location number in the memory where to load it.

- 6 Use the TEMPO/VALUE buttons to select the file you wish to load.
- 7 Select the backing sequence you wish to load and the memory location where to load it.

In the figure the backing sequence 00 will be loaded in location 00. Each file can contain up to ten backing sequences and there are ten backing sequence locations in the memory, numbered from 00 to 09.

To select a different backing sequence or load it in a different location, move the cursor to the "BS00" parameters and select different numbers and locations.

We do not need to make any change in the example, since we want to load the backing sequence 00 in location 00.

- 8 Press ENTER/YES to load the selected backing sequence.
- 9 When "Completed" appears on the display, press B.SEQ to enter the Backing Sequence mode.

The B.SEQ button led will light up. The BACKING SEQUENCE indicator will appear on the display.

- 10 Use the CURSOR buttons to move the cursor to the back sequence name. Use the TEMPO/VALUE buttons to select the backing sequence you wish to listen to.

We do not need to make any change in the example, since the backing sequence 00 is already selected when switching to the Backing Sequence mode.

- 1 Press START/STOP to start the playback.

10 Press START/STOP again to stop the playback.

Note: When the instrument is turned off, the backing sequences in memory will be canceled.

Listening to the songs

The songs are musical pieces with sixteen tracks available in the form of Standard MIDI Files (SMF). The i40M is able to playback SMF format 0 without having to load them in memory, and SMF format 1 after a short loading.

If the SMF is in Solton, M-live (Midisoft), Tune1000 or compatible (Edirol, GMX, KAR, HitBit, XF) format and contains lyrics, the lyrics are viewed in time with the music.

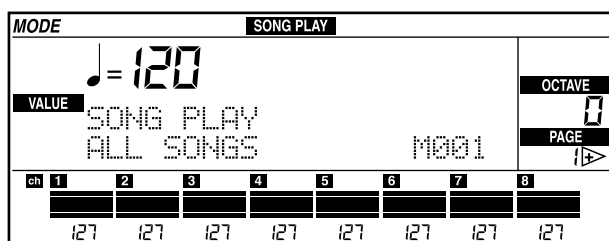
If the SMF is in Solton, M-live (Midisoft), or GMX format and contains chord abbreviations, the abbreviations are viewed in time with the music.

You can playback a single song, or create a list to playback with just one command (for example with the JukeBox function).

To listen to a song

- 1 Insert the disk containing the song into the disk drive.
- 2 Press SONG PLAY to enter the Song Play mode (Lyrics 1 mode).

The SONG PLAY led and the REC/WRITE/LYRICS led will light up.



Note: In the Song Play mode the REC/WRITE/LYRICS led will automatically light up to indicate that you are in the Lyrics 1 mode and that the lyrics of the song can be viewed. If the led is off, you are in Play mode (standard executive information).

- 3 Select the song with the TEMPO/VALUE buttons.

You can also select the song by entering its position number on the disk.

If the file has a number between 1 and 8, press the PROGRAM/ARRANG button to light up the ARRANG led, then press the BANK [A] button and a NUMBER button from [1] to [8].

If the file has a number between 9 and 16, press the PROGRAM/ARRANG button to light up the ARRANG led, then press the BANK [B] button and a NUMBER button from [1] to [8].

If the file has a number between 17 and 24, press the PROGRAM/ARRANG button to light up the ARRANG led, then press the BANK [USER] button and a NUMBER button from [1] to [8].

- 4 After selecting the song, press START/STOP.

If the selected song is in M-live (MidiSoft), Solton, or Tune1000 or compatible (Edirol, GMX, KAR, HitBit, XF) format and contains lyrics, the lyrics appear on the display in time with the music. If not, the display shows the standard information.

If the song is format 1, the red START/STOP led will flash for a few seconds, while the data is being loaded from the disk. When loading ends, playback will begin. If some backing sequences or songs are already loaded in the Song Edit mode, a message will appear asking you if it is OK to erase this data. If you don't mind losing the data in the memory, press ENTER/YES to start playback.

If you wish to retain the data, press EXIT/NO to cancel loading. Switch to the Disk/Global mode and save the song and backing sequences on another disk (see page 131). Then go back to the Song Play mode and repeat the operation.

- If the song is in Tune1000 or compatible (Edirol, GMX, KAR, HitBit, XF) format, press REC/WRITE/LYRICS to switch to the Lyrics 2 mode.

If the song is in a different format, pressing REC/WRITE/LYRICS will display the executive information page (Play mode).

With the Tune1000 and compatible (Edirol, GMX, KAR, HitBit, XF) format there are two ways to view the lyrics:

- **Lyrics 1** (the whole line will appear at once on the display);
- **Lyrics 2** (the words appear one at a time, in time with the music). Press REC/WRITE/LYRICS to switch to the Lyrics 2 mode.

- Press REC/WRITE/LYRICS to change the viewing mode from the lyrics (Lyrics modes) to the standard executive information (Play mode).

The REC/WRITE/LYRICS led will go off.

- Press REC/WRITE/LYRICS again to view the lyrics (Lyrics 1 mode).

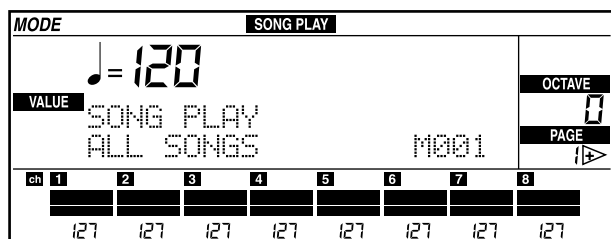
The REC/WRITE/LYRICS led will light up.

- 5 To stop the song, press START/STOP.

Listening to all the song on a disk

- 1 Insert the disk containing the songs in SMF format 0 or 1.
- 2 Press SONG PLAY to enter the Song Play mode.

The SONG PLAY and REC/WRITE/LYRICS leds will light up.



- 3 If the name of a song appears on the display, press EXIT/NO to display "ALL SONGS".

Now all the songs contained in the disk are selected. Press EXIT/NO to go back to ALL SONG after selecting a single song.

- 4 Press START/STOP to start the playback of all songs.

The songs in SMF format 0 are played back at once. If the song is in M-live (MidiSoft), Solton, or Tune1000 or compatible (Edirol, GMX, KAR, HitBit, XF) format and contains lyrics, the lyrics appear on the display in time with the music. If not, the display shows the standard information.

If the song is in M-live (MidiSoft), Solton, or GMX format and contains chord abbreviations, the abbreviations appear on the display in time with the music.

The songs in SMF format 1 must be loaded in memory first, then after a few seconds wait they are played back. If some backing sequences or songs are already loaded in the Song Edit mode, a message will appear asking you if it is OK to erase this data. If you don't mind losing the data in memory, press ENTER/YES to start playback.

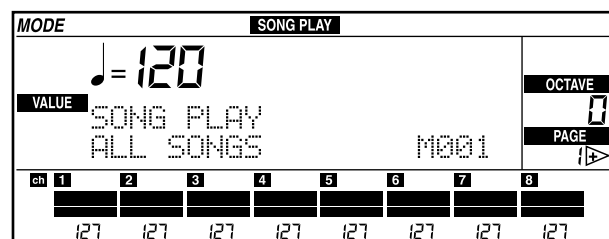
If you wish to retain the data, press EXIT/NO to cancel loading. Switch to the Disk/Global mode and save the song and backing sequences in another disk. Then go back to the Song Play mode and repeat the operation.

- If the played song is in Tune1000 or compatible (Edirol, GMX, KAR, HitBit, XF) format, press REC/WRITE/LYRICS to switch to the Lyrics 2 mode.
- Press REC/WRITE/LYRICS to change the viewing mode from the lyrics (Lyrics modes) to the standard executive information (Play mode).
- Press REC/WRITE/LYRICS again to view the lyrics (Lyrics 1 mode).
- 5 Press START/STOP to stop the playback.

JukeBox

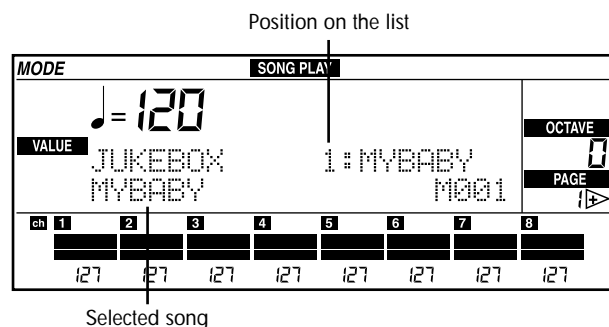
The JukeBox allows you to create a list of songs to be played back with just one command, choosing among the songs contained on the disk.

- 1 Insert the disk containing the songs in SMF format 0 or 1 into the disk drive.
 - 2 Press SONG PLAY to enter the Song Play mode.
- The SONG PLAY led will light up.



- 3 Choose the first song with the TEMPO/VALUE buttons.
- 4 Press ENTER/YES to insert the song in the list.

The name of the song, alongside its position number on the list, will appear on the display. Number 1 will appear after you have inserted the first song.



- ⑤ Choose the second song to be added in the list with the TEMPO/VALUE buttons.
- ⑥ Press ENTER/YES to confirm the second song on the list.
- ⑦ Add other songs to the list by following steps 5-6.
- ⑧ Once the list is complete, press START/STOP to play back all the selected songs.

The songs in SMF format 0 are played back at once. If the song is in M-live (MidiSoft), Solton, or Tune1000 or compatible (Edirol, GMX, KAR, HitBit, XF format and contains lyrics, the lyrics appear on the display in time with the music. If not, the display shows the standard information.

If the song is in M-live (MidiSoft), Solton, or GMX format and contains chord abbreviations, the

abbreviations appear on the display in time with the music.

The songs in SMF format 1 must be loaded in memory first, then after a few seconds wait they are played back. If some backing sequences or a song are already contained in the Song Edit mode, a message will appear asking you if it is OK to erase this data. If you don't mind losing the data in memory, press ENTER/YES to start playback.

If you wish to retain the data, press EXIT/NO to cancel loading. Switch to the Disk/Global mode and save the song and backing sequences on another disk. Then go back to the Song Play mode and repeat the operation.

- ⑨ Press START/STOP to stop playback.
- ⑩ Press START/STOP again to re-start playback.
- ⑪ Press EXIT/NO to exit the JukeBox mode.

The arrangements

What are styles and arrangements

The i40M features an automatic accompaniment system based on styles and arrangements. Playing with this system is just as if you had a real band backing you with six instruments: three harmonic instruments, bass, drums and a percussion set.

The styles provide the musical structure of the accompaniment, while the arrangements provide the sounds, effect and some general parameters. Generally speaking, the style is the “music style”, while the arrangement is its “instrumentation”.

During the playback you can select the arrangements and play live with the three real time tracks Upper 1, Upper 2 and Lower (two tracks at a time: Upper 2 and Lower exclude one other).

How to program the MIDI

The i40M need to receive the chords from a controller (MIDI keyboard, digital piano, MIDI accordion, MIDI guitar etc.). Then the arranger will transform the chords in accompaniment patterns according to the selected arrangement and style.

The chords must get at least to one of these special MIDI channels: Global, Chord 1, and Chord 2. For information on the connection of the MIDI controller see the detailed description contained in “MIDI” on page 44.

The KEYBOARD MODE section of the control panel works only if the controller is connected through the Global channel. This channel is generally used when connecting a master keyboard. For more information on the Global channel see “The Global channel” on page 45.

Selecting an arrangement

The i40M includes 192 arrangements divided into three banks of 64 each (64 in bank A, 64 in bank B, and 64 programmable in bank USER).

The arrangement families are listed in the top section of the control panel. The complete list of the arrangements is contained at the end of this guide (see page 205).

- 1 Press **ARR. PLAY** to enter the Arrangement Play mode.

The **ARR.PLAY** led will light up. The **ARR.PLAY** indicator will appear on the display.

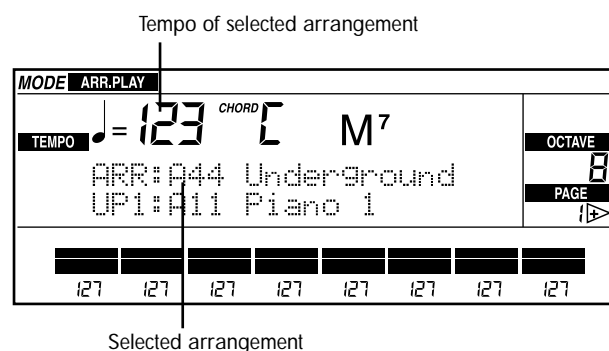
- 2 Press the **PROGRAM/ARRANG** button to light up the **ARRANG** led.
- 3 Press one of the **BANK [A], [B] or [USER]** buttons.
- 4 Enter a two-digit number between 11 and 88 using the buttons of the **NUMBER** section.

If the arrangement is contained in the same bank as the selected arrangement, you only need to enter a two-digit number, without pressing a **BANK** button.

Arrangement Preview. In the Arrangement Play mode the Arrangement Preview function allows you to view the arrangement name on the display before selecting it.

Press a **BANK** button, use a **NUMBER** button to select the tens – if necessary – then select the arrangement with the **TEMPO/VALUE** buttons and confirm with **ENTER/YES**.

Once the selection has been completed, the name of the selected arrangement will appear on the display:



The style (and the accompaniment patterns) changes and:

- if the **SINGLE TOUCH** led is on, also the real time programs (Upper 1, Upper 2, and Lower tracks) change;
- if the **TEMPO** led is off, also the metronome time changes. 🕒

Note: The arrangement can memorize the status of the control buttons. Therefore when changing the arrangement, you can also select one of the two fills, one of the two intros or one of the four variations.

Starting the accompaniment

After selecting an arrangement, you can start the automatic accompaniment.

1 Press RESET/INS to reset the values.

RESET erases the chords that are still in memory.

2 Press START/STOP.

Rhythm play will start. The START/STOP red led will light up on the first beat, the green led on the other beats, according to the time signature of the style.

3 Play a progression of chords.

The keyboard area and the way in which chords are detected will depend on the type of connection, on the split point, on the status of the CHORD SCANNING section, and on the “ChordRecog (Chord recognition mode)” parameter of the Disk/Global mode (see page 147).

When the i40M is connected with a **MIDI keyboard** through the special Global channel,

- if the CHORD SCANNING is LOWER, the chords played with the left hand below the split point will be detected;
- if the CHORD SCANNING is UPPER or FULL, the chords played above the split point or with two hands on the entire keyboard will be detected.

Note: If the option assigned to the “ChordRecog (Chord recognition mode)” parameter is “Fingered 1”, you only need to play a note to detect a major chord.

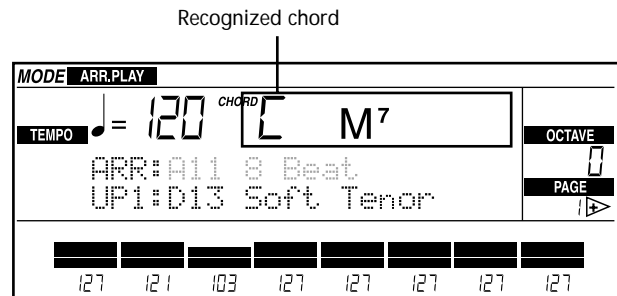
When the i40M is connected with a MIDI controller through channels other than Global (for example, when a **MIDI accordion** is connected), chords must come through the Chord 1 and Chord 2 channels with no extension limits.

The MIDI Setup (see page 136) selected when connecting the controller will always create the suitable condition to send the chords in the correct way through the appropriate channels.

Once the chord has been detected, the rhythm will be joined by the bass and the other accompaniment tracks that play following the detected chords.

If the MEMORY-CHORD button led is on, the chords will remain in memory also after releasing the notes.

The chord name is shown on the display:



4 Continue playing the chords and play the melody.

5 Press START/STOP to stop the accompaniment.

Synchro start e stop

You can make the accompaniment start or stop without pressing START/STOP.

1 With the accompaniment stopped, light up the SYNCHRO-START led.

The Synchro Start makes the accompaniment start when the notes for the chord recognition chords are played.

2 Play a chord in the chord recognition area to start the accompaniment.

3 Light up the SYNCHRO-STOP led.

The Synchro Stop makes the accompaniment stop when the notes for the chord recognition chords are released.

4 Release the chord recognition notes to stop the accompaniment.

The accompaniment stops at once.

5 Play a chord again in the chord recognition area to restart the accompaniment.

6 Turn off the SYNCHRO-STOP led.

If the SYNCHRO-STOP led is off and the MEMORY-CHORD led is on, the accompaniment will continue playing also when the chord recognition notes are released.

- ⑦ Continue playing, then press START/STOP to stop the accompaniment.

Fill

The fill is an interlude that breaks the rhythm continuity. Each style of the i40M has two different fill-ins.

- ① Start the automatic accompaniment (with START/STOP or SYNCHRO-START + played notes).
- ② Whilst playing press one of the FILL [1] or [2] keys.

A fill-in will be played. When the fill finishes, a different variation may be selected (see “Page 5: Ensemble/Variation change” in the Arrangement Play mode).

- ③ Press START/STOP to stop the accompaniment.

Intro/ending

“Intro” means introduction, “ending” means end. Each style has two intros and two endings, which are selected by one of the two buttons in the INTRO/ENDING section.

- ① With the accompaniment stopped, press one of the INTRO/ENDING [1] or [2] buttons.
- ② Start the automatic accompaniment with START/STOP (or SYNCHRO-START + played notes).

The introduction will be played, then the normal accompaniment pattern will begin (“Variation”).

.....
Note: The Intro 1 can play different chords, while the Intro 2 only plays with the recognized chord.

- ③ Play normally, then press one of the INTRO/ENDING [1] or [2] buttons.

The ending will be played and the accompaniment will stop.

.....
Note: The Ending 1 can play different chords, while the Ending 2 only plays with the recognized chord.

Variations

Variations are different versions of the same style Each style has four variations.

- ① Start the accompaniment (with START/STOP, INTRO/ENDING + START/STOP, or SYNCHRO-START + played notes).

- ② Press one button in the VARIATION section.

The led of the selected variation will start flashing. At the end of the measure the pattern will change. The led of the new variation will stay lit.

- ③ Press one of the FILL buttons and straight away afterwards one button in the VARIATION section.

The fill-in will play. The led of the variation that is going to play at the end of the fill-in will flash. At the end of the fill-in the new variation will play.

- ④ Press START/STOP or INTRO/ENDING to stop the accompaniment.

.....
Note: On “Page 5: Ensemble/Variation change” in the Arrangement Play mode, you can connect each FILL button to a variation that will be selected automatically after the fill-in has finished.

All the tracks, at once!

- ① With the SYNCHRO-START led off, play a chord in the chord recognition area.

- ② Press START/STOP (or INTRO/ENDING + START/STOP) to start the accompaniment.

The accompaniment tracks (Drum, Percussion, Bass, Acc1, Acc2, Acc3) will start playing.

- ③ Press START/STOP or INTRO/ENDING to stop the accompaniment.

Fade in/out

- ① With the accompaniment stopped, play a chord in the chord recognition area, then press FADE IN/OUT to start the accompaniment.

The accompaniment will start. The volume of the accompaniment tracks and the real time tracks will be set at zero, and will gradually increase to full.

- ② While the accompaniment is playing, press FADE IN/OUT to stop the accompaniment.

The volume of the accompaniment tracks and the real time tracks will gradually decrease to zero. At the end, the accompaniment will stop and the volume will come back to full.

Varying the tempo

- With the accompaniment stopped, use the TEMPO/VALUE buttons to vary the tempo.

In order for these controls to work as tempo controls, the TEMPO indication must appear on the left-hand side of the display.

There is an easier way to vary the tempo, which is as follows:

- ① Set (beat) the tempo on the TAP TEMPO button.
The tempo shown on the display will change according to the tempo beaten.
- ② Start the accompaniment.
- ③ Vary the tempo with the TEMPO/VALUE buttons.
- ④ Stop the accompaniment with START/STOP or INTRO/ENDING.

The real time tracks (Upper 1, Upper 2, Lower)

What are the real time tracks?

The real time tracks (Upper 1, Upper 2 e Lower) can be used to play “live” over the automatic accompaniment tracks.

You can have two tracks at the same time, since Upper 2 and Lower exclude one other.

If the real time tracks are managed through the special Global channel, the split point – and the KEYBOARD MODE section in general – are taken into consideration. In this case:

- if the Keyboard Mode is SPLIT, the Upper tracks can play above the split point and the Lower track below the split point;
- if the Keyboard Mode is FULL UPPER, the Upper tracks can play on the entire extension.

.....
Note: If notes are received from channels other than Global, the tracks will ignore the split point. If the channel assigned to the track coincides with Global, Global has the priority and the split point is taken into consideration. For the assignation of the MIDI channels to the tracks and Global, see page 139.

Assigning the real time tracks to the keyboard

If the i40M is connected to a MIDI keyboard through the special Global channel (see pages 45 and 47), you can assign the real time tracks to the keyboard areas with the buttons in the KEYBOARD MODE section.

- 1 Press M.DRUM to play the drum kit on the keyboard.
- 2 Press SPLIT to split the keyboard in two parts.

The Upper 1 and/or Upper 2 tracks can play on the right-hand side of the split point, while the Lower track can play on its left-hand side.

Use the buttons in the KEYBOARD ASSIGN section to activate or deactivate the tracks.

.....
Note: The Upper 2 and Lower tracks exclude one other.

- 3 Press FULL UPPER to play the Upper 1 and/or Upper 2 tracks on the entire keyboard.

Use the buttons in the KEYBOARD ASSIGN section to activate or deactivate the tracks.

- 4 Press SPLIT to split the keyboard in two parts again.

Activating and deactivating the real time tracks

The real time tracks can be activated or deactivated in two ways:

- using the buttons in the KEYBOARD ASSIGN section (the led lights up when the track is playing);
- using the UP1 and UP2/LOW buttons in the PROGRAM/VOLUME section (press two buttons together to mute the track; press one button to activate it again).

.....
Note: The Upper 2 and Lower tracks exclude one other. When UPPER 2 is selected, LOWER is automatically deactivated, and vice versa.

- 1 Light up the UPPER 1 led (KEYBOARD ASSIGN section) to activate the Upper 1 track.

Press the button to select the Upper 1 track.

- 2 Light up the UPPER 2 led (KEYBOARD ASSIGN section) to activate the Upper 2 track.

Press the button to select the Upper 2 track. The Lower track is deactivated.

- 3 Light up the SPLIT led (KEYBOARD MODE section) to split the keyboard, then light up the LOWER led (KEYBOARD ASSIGN section) to activate the Lower track.

Press the button to select the Lower track. The Upper 2 track is deactivated.

.....
Note: The Lower track can only be activated when the KEYBOARD MODE is SPLIT.

Blocking the programs of the real time tracks

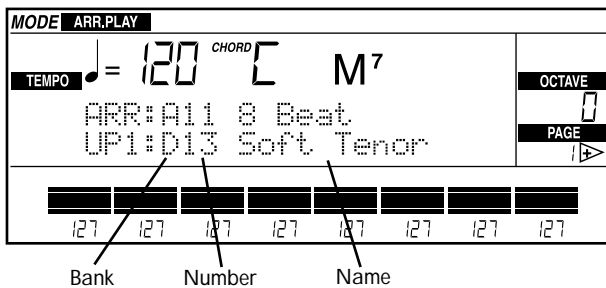
When you change an arrangement, you usually change also the programs assigned to the real time tracks. If you wish to change the accompaniment, but not the programs of the real time tracks, turn off the SINGLE TOUCH button led. With the SINGLE TOUCH led on, the arrangement will also change the programs and the volume of the real time tracks.

Changing the sounds of the real time tracks

You can assign one of the i40M programs to each real time track.

- 1 If the i40M is connected to a keyboard, press the SPLIT button to split the keyboard in two parts.
- 2 Select the Upper 1 track by pressing one of the UPP1 buttons in the PROGRAM/VOLUME section.

The abbreviation “UP1” will appear on the second text line of the display, followed by the bank number, name and number of the program assigned to the Upper 1 track.



- 3 Press the PROGRAM/ARRANG button to light up the PROGRAM led.
- 4 Press one of the BANK [A], [B], [C], [D], [E], [F(USER/DRUM)] buttons.

The A and B banks contain the 128 programs of the General MIDI standard. The A bank contains the first 64 programs, the B bank contains the other 64 programs. The C and D banks contain programs that are more or less organized as in the General MIDI banks, however there are some differences. The E bank contains layered programs and fantasia sounds, while the F(USER) bank contains programs

loaded from disk or directly programmed by the user.

- 5 Using the buttons of the NUMBER section select a two-digit number between 11 and 88.

To select a drum kit, press the [F/USER/DRUM] button twice, until the abbreviation “Dr” appears on the display.

If the program you wish to select is in the same bank as the selected program, you only need to select the two-digit number, without pressing a BANK button.

After selecting the bank and indicating a two-digit number, the program will be selected and assigned to the Upper 1 track.

Program Preview. In the Arrangement Play mode you can use the Program Preview function to view the name of the program on the display before selecting it.

Press a BANK button, use a NUMBER button to select the tens – if necessary – then select the program with the TEMPO/VALUE buttons and confirm with ENTER/YES.

- 6 Select the Upper 2 track by pressing one of the LOW/UPP2 buttons in the PROGRAM/VOLUME section and activating UPPER 2 in the KEYBOARD ASSIGN section.

If active, the Lower track will be deactivated. The abbreviation “UP2” will appear on the display, followed by the bank number, name and number of the program assigned to the Upper 2 track.

- 7 Select a program with the procedure illustrated for the Upper 1 track.
- 8 Select the Lower track, by pressing one of the LOW/UPP2 buttons in the PROGRAM/VOLUME section and activating LOWER in the KEYBOARD ASSIGN section.

If active, the Upper 2 track will be deactivated. The abbreviation “LOW” will appear on the display, followed by the bank number, name and number of the program assigned to the Lower 2 track.

- 9 Select a program with the procedure illustrated for the Upper 1 track.
- 10 Select the Upper 1 track again (press one of the UPP1 buttons in the VOLUME section).

The abbreviation “UP1” will appear on the display. All the next selections of programs will be assigned to the Upper 1 track.

Transposition

You can change the pitch of the real time tracks with the semitone transposition.

.....
Note: If the accompaniment is playing during the modification, the transposition will enter at the beginning of the next measure.

- To lower the real time track pitch by one or more semitones press the TRANSPOSE [\flat] button once or more.

The sound pitch will be lowered by a semitone each time the button is pressed.

- To raise the real time track pitch by one or more semitones press the TRANSPOSE [\sharp] button once or more.

The sound pitch will be raised by a semitone each time the button is pressed.

- To cancel the transposition press both TRANSPOSE buttons together.

Selecting a Keyboard Set

By selecting a Keyboard Set in the Arrangement Play mode, you can select the programs of the real time tracks, the Keyboard Mode, the Keyboard Assign, the Chord Scanning, the effects, as well as other characteristics that would otherwise have to be programmed one at a time.

In Arrangement Play and Song Play, the Keyboard Sets also recall the settings of the VOCAL/GUITAR section.

There are three banks (A, B, C) with five Keyboard Sets each (1, 2, 3, 4, 5). Let's try to select Keyboard Set 1 of the C bank.

- ① Press the BANK button in the KEYBOARD SET section a few times, to turn on the C bank led.

Each time you press the BANK button, one of the banks is selected in cyclic mode:

$$A \Rightarrow B \Rightarrow C \Rightarrow A \dots$$

- ② Press button 1 of the KEYBOARD SET section.

Keyboard Set 1 of the C bank will be selected. The programs of the real time tracks will change and the status of Chord Scanning, Keyboard Assign, Keyboard Mode, the effects, etc. could change, too (depending on the data saved in the Keyboard Set).

Recording a Keyboard Set

It is possible to record the status of the real time tracks, the effect and the VOCAL/GUITAR section in a Keyboard Set. Let's try to record the current status in Keyboard Set 5 of the B bank.

- ① Press REC/WRITE/LYRICS and press one of the buttons in the KEYBOARD SET section.

The Write Keyboard Set page will appear.

- ② Press a few times the BANK button in the KEYBOARD SET section to light up the B led.
- ③ Press button 5 in the KEYBOARD SET section.
- ④ Press ENTER/YES twice to save (or EXIT/NO to cancel).

The status of the real time tracks, the effects and the VOCAL/GUITAR section is saved in Keyboard Set 5 of the B bank. You can save the Keyboard Sets with the Save functions in the Disk/Global mode (see page 131).

.....
Note: To retrieve the original Keyboard Sets, load the Keyboard Set contained in the Accessory Disk supplied.

The backing sequences

What are the backing sequences?

The backing sequences are musical pieces created by playing the real time tracks and the arrangement accompaniment.

The creation of a new song in the Backing Sequence mode consists in recording a standard playing with the arrangements, just like if you were playing normally in the Arrangement Play mode.

Apart from the tracks available in the Arrangement Play mode, the Backing Sequence mode contains other eight tracks (Extra Tracks) where you can record freely.

The backing sequences can be saved on disk as backing sequences or Standard MIDI File (see “Page 18: SMF converter” on page 105).

Recording the Backing Sequences

With the i40M you can create new songs exploiting the wealth of material in the automatic accompaniment. This type of songs is known as Backing Sequence.

Note: While recording, you cannot select some of the buttons, e.g. the Keyboard Sets.

- 1 If the i40M is connected to a MIDI accordion, switch to the Disk/Global mode and select the MIDI Setup “Accordion 1”.

See “Connecting the i40M to a MIDI accordion” on page 49. “Accordion 1” allows you to transmit the right hand over the special Global channel and the chords over the Chord 1 and Chord 2 channels.

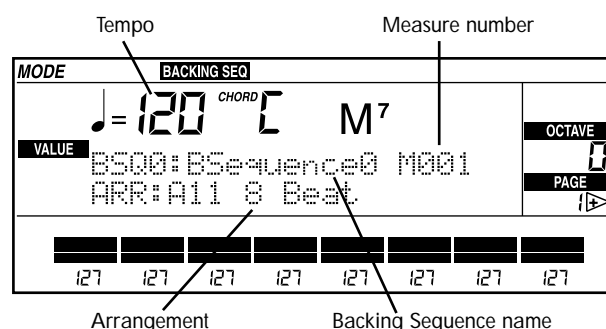
Note: The backing sequence must receive the real time tracks over the Global channel and the chords over the Global and/or the Chord 1 and Chord 2 channels.

- 2 If the i40M is connected to a keyboard or to another controller, program it to transmit over the special Global channel.

Note: The backing sequence must receive the real time tracks over the Global channel and the chords over the Global and/or the Chord 1 and Chord 2 channels.

- 3 Press B.SEQ to enter the Backing Sequence mode.

The B.SEQ led will light up. The following display will appear.



- 4 Select the backing sequence you wish to record with the TEMPO/VALUE buttons.

For this example, let's select BSQ3. (If BSQ3 is recorded, select another backing sequence).

- 5 Select an arrangement with the buttons of the PROGRAM/ARRANG section.

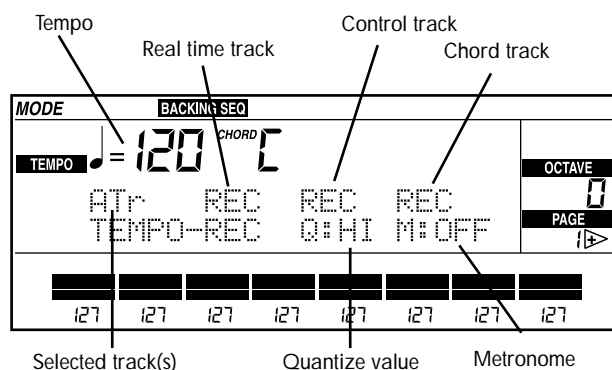
Press the PROGRAM/ARRANG button to light up the ARRANG led, then one of the BANK [A], [B] or [USER] buttons to select the bank. Finally, press two NUMBER button in sequence to choose a two-digit number between 11 and 88.

- 6 If necessary, change the split point, the Keyboard Mode, the Keyboard Assign and the Chord Scanning.

Split point: hold down SPLIT POINT and play the note that you wish to be the new split point. **Keyboard Mode:** use the buttons in the KEYBOARD MODE section. **Keyboard Assign:** use the buttons of the KEYBOARD ASSIGN section. **Chord Scanning:** use the buttons of the CHORD SCANNING section.

- 7 Press REC/WRITE/LYRICS to enter the recording mode.

The REC/WRITE/LYRICS led will light up and the recording page will appear. If the “ATr” (arrangement tracks) are selected, you can record both the real time and the accompaniment tracks in real time.



- 8 Press START/STOP (or one of the INTRO/ENDING buttons + START/STOP) to start the accompaniment.

After a two-measure pre-count, recording will begin and the accompaniment will start playing.

- 9 You can now play freely. During the recording you can use the FILL, VARIATION, ENDING buttons freely.

- 10 Press START/STOP (or one of the INTRO/ENDING buttons) to stop the accompaniment and the recording.

The recording will stop and the REC/WRITE/LYRICS led will go off. The sequencer will go back to measure 001.

- 11 Press START/STOP to listen to the song that you have just recorded.

Saving the Backing Sequences on disk

The backing sequences contained in memory will be lost when you turn the instrument off, therefore you need to save them on disk. The following procedure allows you to save all the back sequences contained in memory (max 10) in a new file.

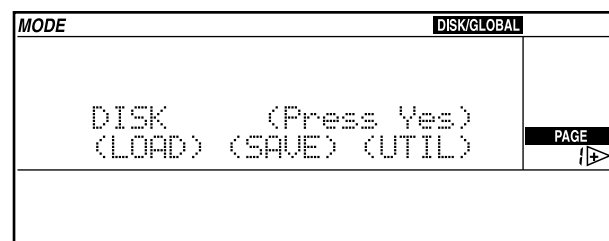
- 1 Insert an empty disk into the disk drive.

The i40M uses 3.5" 2DD/HD (double density or high density) disks. The disk must be formatted in MS-DOS® format, compatible with Windows™, Macintosh® and other systems. The disk must be

non-copy protected and must have space enough to contain the new data.

- 2 Press Disk/Global to enter the Disk/Global mode.

The following display will appear:



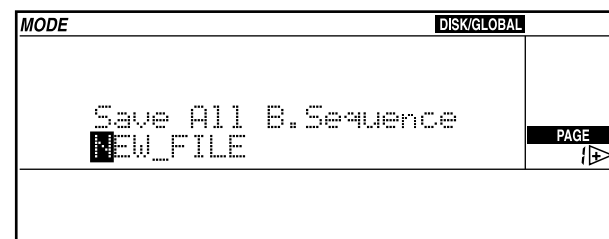
- 3 If you have inserted a blank disk, you need to format it.

1. Move the cursor to (UTIL) using the CURSOR buttons. Press ENTER/YES to enter the “Utilities” subpage.
2. Move the cursor to (FORMAT) using the CURSOR buttons. Press ENTER/YES to enter the “Format disk” subpage.
3. Press ENTER/YES to start formatting. After a couple of minutes the disk will be ready to use.
4. Press EXIT/NO to go back to the main page in the Disk/Global mode.

- 4 Move the cursor to (SAVE) and press the ENTER/YES button to enter the “Save” subpage.

- 5 Move the cursor to (BSQ) and press the ENTER/YES button.

The following display appears:



Note: If you have used arrangements and programs from the USER bank, choose (ALL) instead of (BSQ). This operation will save the entire contents on memory, including the USER arrangements and the USER programs used by the backing sequence.

- 6 Assign a new filename.

1. Select the character you wish to change with the CURSOR buttons.

2. Change the character using the TEMPO/VALUE buttons.
3. Press INS to insert a new character and DEL to delete the character indicated by the cursor.

7 Press ENTER/YES to save the file on disk.

To cancel the operation press EXIT/NO.

8 When the message “Completed” appears on the display, press the B.SEQ button to go back to the Backing Sequence operative mode.

Deleting the Backing Sequences

If you don't mind losing the backing sequence and you need space in memory, you can delete it. The backing sequences use up space in memory, taking it away from other data (e.g. songs in Song Edit, other backing sequences).

- 1 Press B.SEQ to enter the Backing Sequence mode.
- 2 Press PAGE [+] repeatedly to get to “Page 3: Erase Backing Sequence” in the Backing Sequence mode.
- 3 Press ENTER/YES twice to delete the backing sequence from memory.
- 4 Press EXIT/NO to go back to the first page of the Backing Sequence mode.

The Songs

What are the Songs?

The songs are musical pieces with sixteen tracks that can be saved on disk in the form of Standard MIDI File (SMF). There are two operative modes dedicated to the songs: the first one is used to read the songs live (Song Play) and the second one is used to create new songs or edit the existing songs (Song Edit).

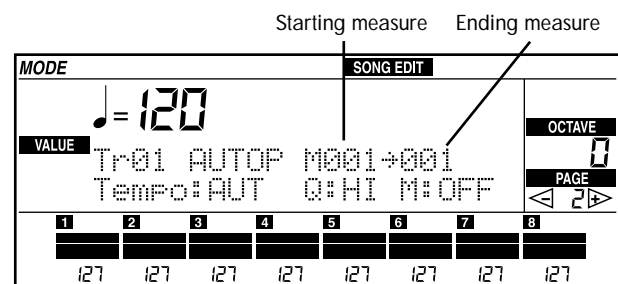
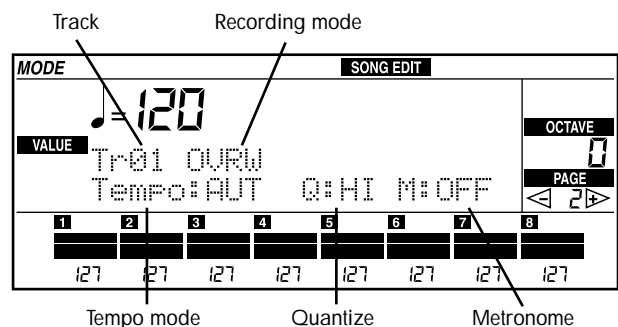
Unlike the backing sequences, the songs are made up of completely free tracks that cannot be created with the arrangements. You can however convert a backing sequence into a standard song (see “Page 18: SMF converter” on page 105).

The i40M is compatible with most of the songs found on the market. You can convert songs created with the computer sequencer into songs that can be read by the i40M, and vice versa.

Recording a song

In the Song Edit mode you can record a new song freely and save it on disk as a Standard MIDI File (SMF).

- 1 Press SONG EDIT to enter the Song Edit mode.
- 2 Press PAGE [+] to go to Page 2.



- ③ Whilst on Page 2, press REC/WRITE/LYRICS to enter the recording mode.

- ④ Select the track you wish to record with the buttons of the PROGRAM/VOLUME section. Use the TRACK SELECT button to switch between the 1-8 and 9-16 tracks.

- ⑤ Program the MIDI controller to transmit over the channel of the track you wish to record.

The tracks need to receive channeled information and not over the special Global channel. Each track of the song usually corresponds to a MIDI channel with the same number as the track. For example, track 1 usually corresponds to channel 1, track 2 to channel 2 and so on.

Suggestion: if it is not possible to change the MIDI channel used by the MIDI controller for transmission, follow this procedure:

1. Go to "Page 3: Track parameters" in the Song Edit mode.
2. Modify the "Ch" parameter by assigning the number of the MIDI channel used by the MIDI controller for transmission.
3. Go back to the recording page and record the track.
4. Go to "Page 3: Track parameters" in the Song Edit mode and assign the original MIDI channel to the "Ch" parameter.
5. Select a different track and repeat the procedure, assigning the MIDI channel used by the controller for transmission to the track you wish to record.

- ⑥ Move the cursor to the Recording Mode parameter and select the recording mode.

You can select the OVRW option to delete the old data and record the new data of the track.

Otherwise, in particular to record the drum track one instrument at a time, you can select OVDB, where you can add new notes to existing notes.

The more complex AUTOP and MANP modes are described on page 115

- ⑦ Move the cursor to the Tempo parameter and program the metronome tempo.

If you select the AUT option, the tempo is the current one indicated by TEMPO/VALUE. If you select the TEMPO-REC option, the tempo variations during the recording are recorded.

- ⑧ Move the cursor to the Q parameter and select a quantize value.

The quantize corrects the rhythmical mistakes made during the recording. The quantize value is expressed in musical values. Very high values can deeply change the recording.

- ⑨ Move the cursor to the M parameter and activate or deactivate the metronome.

OFF means that the metronome is deactivated. ON means that it is active both during the recording and playback. REC means that it is active only during the recording.

- ⑩ Press START/STOP to start the recording.

Play freely.

- ⑪ At the end press START/STOP to stop the recording.

- ⑫ Repeat the procedure with the other tracks.

Saving the Song as Standard MIDI File (SMF)

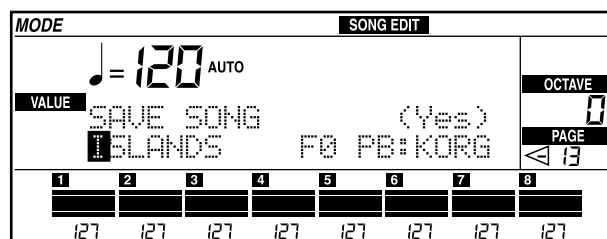
The songs and backing sequences contained in memory will be lost when you turn the instrument off, therefore you need to save them on disk.

- ① Insert a new disk into the disk drive.

The disk must be formatted, non copy-protected, and must have space enough for the song you are saving. To format the disk see "FORMAT (Format disk)" on page 133.

- ② If you are not already in the Song Edit mode, press SONG EDIT.

- ③ Press repeatedly PAGE [+] to get to "Page 13: Save" in the Song Edit mode.



- ④ Assign a name to the song.

Move the cursor with the CURSOR buttons and change the character indicated by the cursor using the TEMPO/VALUE buttons.

Be careful: If you are saving a file that was previously loaded from the disk, you need to change the name of the file to avoid overwriting the existing file on disk. A disk cannot contain two files with the same name (in the same directory). A message will inform you that you are overwriting an existing file.

- Press ENTER/YES twice to confirm and the name and save.

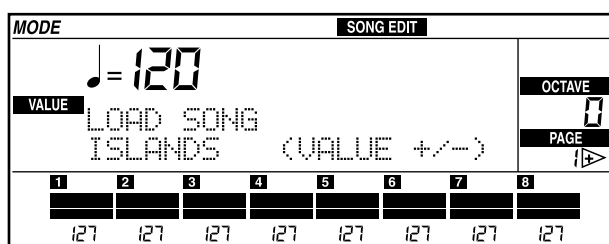
After pressing ENTER/YES the “Are you sure?” will appear. Press ENTER/YES again to save the Standard MIDI File on disk. When finished, the message “Completed” will appear.

Editing Standard MIDI Files (SMF)

A SMF can be modified, for example by adding a solo or changing the program played by the track. Let's try to edit the song “iS-Lands” contained in the disk supplied with the instrument.

Loading and listening to the song

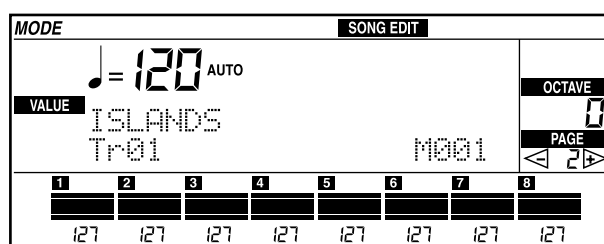
- Insert the disk supplied with the instrument into the disk drive.
- Press SONG EDIT to enter the Song Edit mode.
- Select the file “ISLANDS” with the TEMPO/VALUE buttons.



- Press ENTER/YES twice to load the song.

The message “Now loading” will appear. When finished, the message “Completed” will appear.

- Press PAGE [+] to get to “Page 2: Playback”.



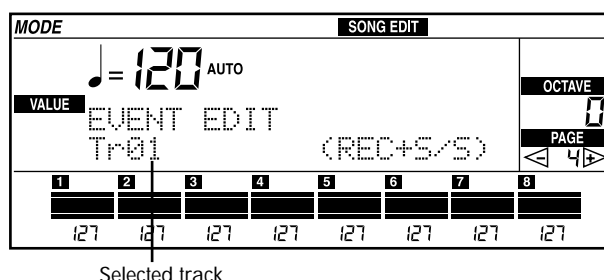
- Press START/STOP to listen to the song.

The song will be played from beginning to end. When it stops, the sequencer will go back to measure number 001. You can stop playback halfway through the song by pressing START/STOP; in this case, press RESET to get back to measure number 001.

Changing the sound of a track

Let's replace the pan flute of the melody line with an alto sax.

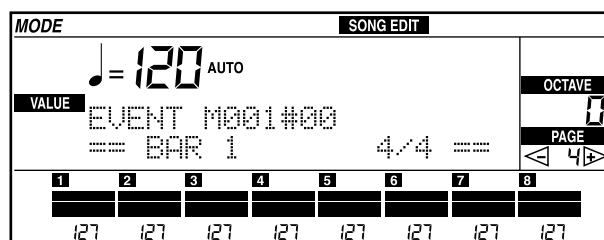
- Press PAGE [+] repeatedly to get to “Page 4: Event edit”.



- Select track 6 (Tr06) using the TEMPO/VALUE buttons.

The pan flute is to be found in track 6 (Tr06).

- Press REC/WRITE/LYRICS, then START/STOP to access Event Edit.

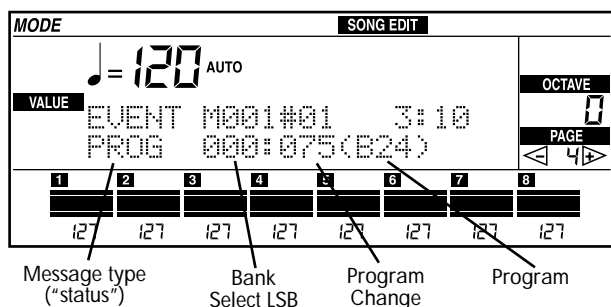


- ④ Use the CURSOR buttons to move the cursor to M001#00.

M001#00 indicates the measure number and the step inside the measure (001 = measure 1, #00 = initial step of the measure).

- ⑤ Press TEMPO/VALUE [UP/+] to select M001#01.

The #01 step is the first measure step that contains performable data (for example, notes). There will be a message showing the change of program on the second line of the display text.



- ⑥ Move the cursor to "075" using the CURSOR buttons.

Number "075" is the value of the MIDI Program Change message. A program can be selected through the combination of two Bank Select (usually abbreviated in BS MSB and BS LSB) and Program Change (usually abbreviated in PC). In the i40M the message sequence BS MSB=000, BS LSB=000 and PC=075 corresponds to program B24 (bank B, program 24) which is the pan flute.

- ⑦ Change the number to "065" using the TEMPO/VALUE buttons.

The program change number "65" corresponds to the B12 program (Alto Sax).

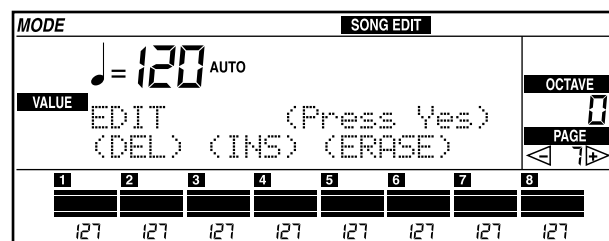
- ⑧ Press START/STOP to exit Event Edit.
- ⑨ Press EXIT/NO to get back to page 2 (Play).
- ⑩ Press START/STOP to listen to the edited song.

The melody will now be played by an alto sax.

Deleting parts of a song

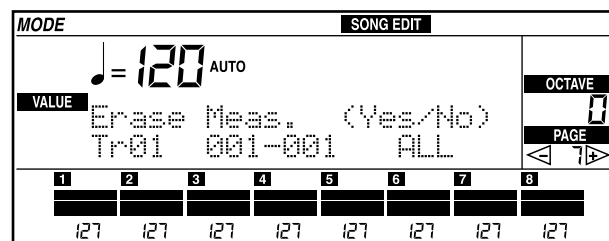
In this example we will delete the marimba accompaniment from the first four measures.

- ① Press PAGE [+] repeatedly to get to "Page 7: Edit".



- ② Move the cursor to (ERASE) using the CURSOR buttons,

- ③ Press ENTER/YES.



- ④ Move the cursor to "Tr01".
- ⑤ Press TEMPO/VALUE [UP/+] to select "Tr05".

The marimba part is on track 5 (Tr05).

- ⑥ Moves the cursor to "001" located at the right of the arrow.

As we want to delete the first four measures, measure 001 should be to the left of the arrow and measure 004 to the right of it.

- ⑦ Press TEMPO/VALUE [UP/+] repeatedly to select measure number "004".

- ⑧ Press ENTER/YES twice.

The message "Completed" will appear on the display. The first four measures of the marimba part will be deleted.

- ⑨ Press EXIT/NO to get to page 2 (Play).
- ⑩ Press START/STOP to listen to the song.

The marimba part will not play at the beginning of the song anymore.

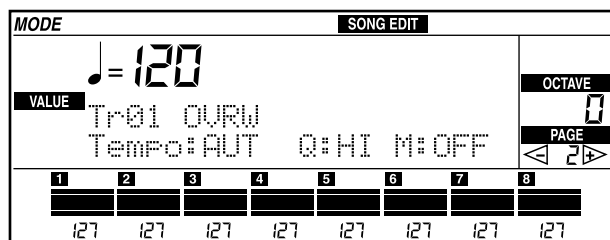
Adding parts to a song

In this example, we shall add a counterpoint melody to the song, recording it onto track 7 (Tr07).

- 1 If you are not already at page 2 (Play), press EXIT/NO, or hold down SONG EDIT and press ARRANGEMENT NUMBER [2].

(This is a shortcut to get directly to a page – see page 18).

- 2 Press REC/WRITE/LYRICS.



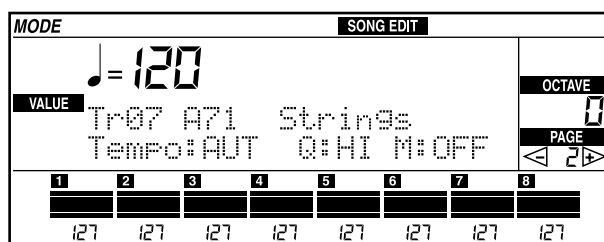
- 3 Move the cursor to "Tr01" using the CURSOR buttons.
- 4 Press TEMPO/VALUE [UP/+] repeatedly to select "Tr07".
- 5 Program the MIDI controller to transmit over the channel of the track you wish to record.

The tracks need to receive channeled information and not over the special Global channel. Each track of the song usually corresponds to a MIDI channel

with the same number as the track. For example, track 1 usually corresponds to channel 1, track 2 to channel 2 and so on.

- 6 Press PROGRAM/ARRANG to light up the PROGRAM led, then press BANK [A], and finally NUMBER [7] and [1].

This will assign the "A71 Strings" program to track 7 (Tr07).



- 7 Press START/STOP to start recording. Play the new part.
- 8 When finished press START/STOP to stop the recording.

After a two-measure precount, recording will begin.

If you have made any mistakes, press RESET and begin recording again, following the instructions from step 2 to step 7.

- 9 Press START/STOP to listen to the song.

The Vocal/Guitar section

Connecting a microphone or a guitar

You can connect a microphone or a guitar to the INPUT-IN jack. You can also connect a mono instrument with output at line level (such as a synthesizer).

The input level of the signal can be adjusted with the GAIN knob located next to the INPUT-IN jack. After you connected the instrument or the microphone, play or sing and adjust the knob until you obtain the desired level. Check the level with the assistance of the SIGNAL led situated in the VOCAL/GUITAR section.

The input signal is processed by the harmonizer and the effect processors of the VOCAL/GUITAR section. The processed signal is sent to the OUTPUT audio jacks of the i40M, together with the sounds generated by the internal sound generator.

The signal level is indicated by the SIGNAL led, located in the control panel of the VOCAL/GUITAR section. If it is off, the signal is not present; if it is green, the signal is present, if it is orange, the signal is close to saturation; if it is red, the signal is saturated.

Be careful: the signal must never be saturated. If this happens, reduce the input gain with the GAIN knob.

Note: When you turn the instrument on, the VOCAL/GUITAR section is deactivated. Select one of the Keyboard Sets to activate it. If you have connected a microphone, select a Keyboard Set in the A bank; if you have connected a guitar, select a Keyboard Set in the B (clean settings) or C (overdrive settings) bank.

Using the Vocal/Guitar section

In this example we will see how to use the settings of the VOCAL/GUITAR section saved in Keyboard Set A1 (if it was not modified).

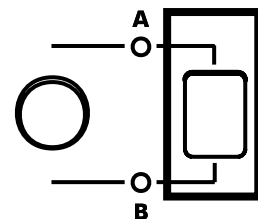
- 1 Connect the guitar or the microphone to the INPUT-IN jack of the i40M.

Connect the guitar using a cable ending with mono jacks. Connect the microphone with a cable ending with a mono jack.

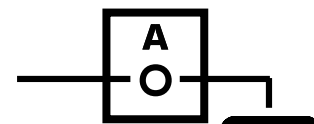
Adjust the input level with the GAIN knob. The correct adjustment will optimize the background noise caused by the connections with the microphone or the guitar.

The presence of the signal will light up the green SIGNAL led. If the signal is close to saturation the led will turn orange. If the signal is saturated, the led will turn red.

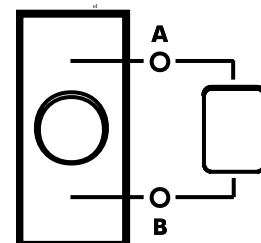
- 2 If necessary, press ARR.PLAY to go to the Arrangement Play mode.
- 3 Select Keyboard Set A1 to activate the VOCAL/GUITAR section.
When you turn the instrument on, the VOCAL/GUITAR section is inactive. To activate it you need to select a Keyboard Set.
- 4 Adjust the general volume of the VOCAL/GUITAR section with the VOLUME slider.
- 5 Use the A/B button to select the operating mode A of the A/B knob.



Light up the led A of the A/B button and knob.

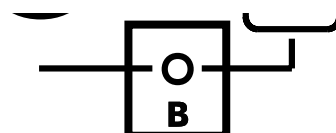


- 6 Start singing and adjust the Harmony volume (parameter A) with the A/B knob.



- 7 Use the A/B button to select the operating mode B of the A/B knob.

Light up the led B of the A/B button and knob.



- 8 Start singing and adjust the effect level (parameter B) with the A/B knob.
- 9 Press the C button to mute the entire VOCAL/GUITAR section.
- 10 Press the C button again to cancel the mute.

Changing the settings of the Vocal/Guitar section

The Keyboard Sets contain the settings of the VOCAL/GUITAR section. Select a Keyboard Set to automatically change the settings. The default settings of the Keyboard Sets supplied with the instrument are:

Bank	Type of settings
A	Vocal
B	Guitar clean
C	Guitar distorted

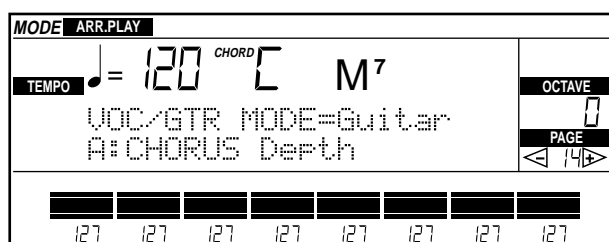
As the Keyboard Sets are modifiable, you can edit and save the settings of the section. You only need to make the modifications as described in the following paragraph and save the Keyboard Set as described on a page 31.

Programming the Vocal/Guitar section

- 1 If necessary, press ARR.PLAY to go to the Arrangement Play mode.
- 2 Select a Keyboard Set to activate the VOCAL/GUITAR section.

When you turn the instrument on, the VOCAL/GUITAR section is deactivated. You need to select a Keyboard Set to activate it.

- 3 Press PAGE [+] repeatedly to get to "Page 14: Vocal/Guitar mode/ Assigned parameters".



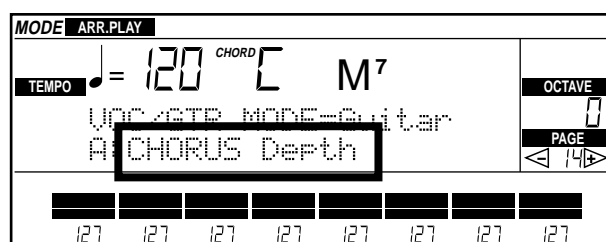
- 4 According to the connected device, assign the Guitar (for the guitar) or the Vocal (for the microphone) option to the "VOC/GTR MODE" parameter.

Note: Each mode offers effects that are especially dedicated to the guitar or vocal. For example, the harmonizer is only available in the Vocal mode, while the amplifier simulator only works in the Guitar mode. Other effect with the same name, such as the compressor, work differently in each mode.

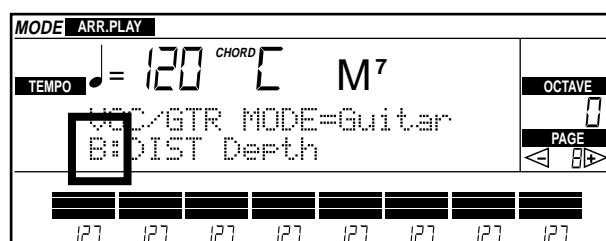
- 5 Go to the next pages to select the effects.

You can have different effects according to the selected mode (Vocal or Guitar). Now it is important to select the effects, to assign the control of two of their parameters to the A/B knob, and the mute to the C button.

- 6 Go back to "Page 14: Vocal/Guitar mode/ Assigned parameters". Move the cursor to "A" to select the parameter assigned to the A/B knob. Select the parameter you wish to control with the A/B knob in A mode.

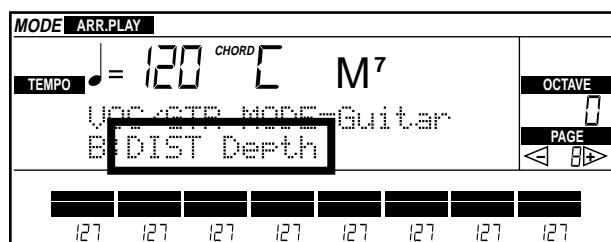


- 7 Press CURSOR [<] to select the "A" parameter. Press TEMPO/VALUE [+] to change the "A" parameter to "B".

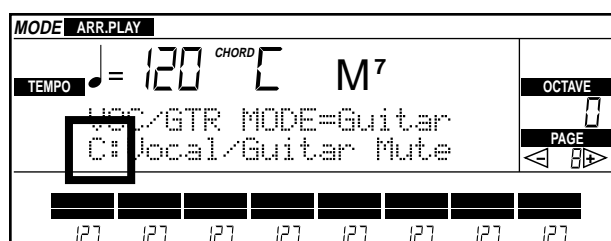


- 8 Press CURSOR [>] to select the parameter assigned to the A/B knob. Select the parameter

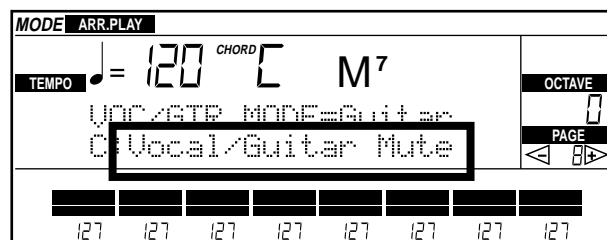
you wish to control with the A/B knob in B mode.



- 9 Press CURSOR [<] to select the "B" parameter. Press TEMPO/VALUE [+] to change the "B" parameter to "C".



- 10 Press CURSOR [>] to select the parameter assigned to the C button. Select the parameter you wish to control with the C button.



The C button is used to mute the effects, the harmonization or the entire VOCAL/GUITAR section.

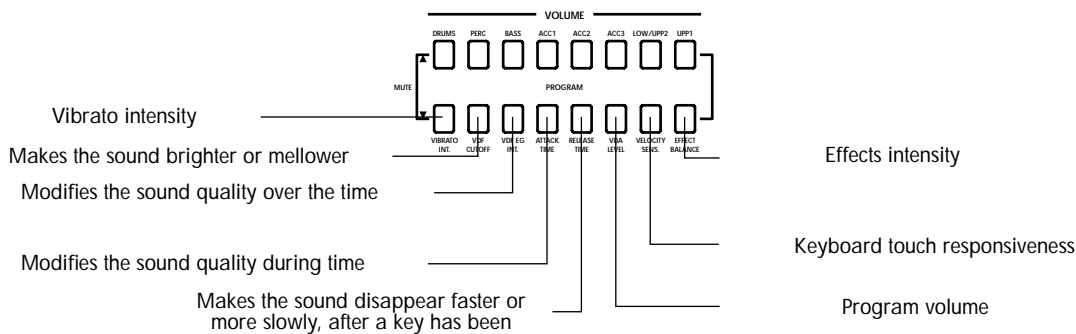
- 11 Save the settings of the VOCAL/GUITAR section in a Keyboard Set.

To save the settings, save the Keyboard Set as described in "Recording a Keyboard Set" on page 31.

The programs

Editing the programs

The i40M has a vast selection of Korg sounds, the same sounds that you hear on records and in concerts of many famous artists. However, it is also your creativity that needs suitable sounds, these you can create in **Performance Edit** by changing the fundamental parameters of the sounds. You can start from a program that is close to what you wish to create, perform the changes and save the program in the F(USER) bank. In this example we shall start with a digital piano.



- 1 Program the MIDI controller to transmit over the special Global channel of the i40M.

For information on the Global channel, see page 45. For information on programming the Global channel, see page 132.

- 2 Press **PROGRAM** to enter the Program mode.

In this situation the **PROGRAM/VOLUME** buttons are used to select the editable parameters of the selected program. The upper button of each pair increases the value of the parameter, while the lower button decreases it. In the display the volume indicators change to indicators of the parameter value.

- 3 Select the program you wish to edit.

In this case, we want to select the A16 program, so press **PROGRAM/ARRANG** to light up the **PROGRAM** led, then **BANK [A]**, and finally **NUMBER [1] [6]**.

- 4 Press the upper **PROGRAM [VIBRATO INT.]** button to increase the vibrato.

- 5 Press the lower **PROGRAM [VDF CUTOFF]** button for a few moments to make the sound less brilliant.

If you have closed the sound too much, press the upper button to reopen the filter. VDF means Variable Digital Filter.

- 6 Press the upper **PROGRAM [ATTACK TIME]** button for a few moments to make the sound attack slower.

- 7 Press the upper **PROGRAM [RELEASE TIME]** button for a few moments to make the sound disappear more slowly when releasing the note.

If the sound lasts too long, press the lower button to slightly shorten the release time.

- 8 Adjust the program volume using the **PROGRAM [VDA LEVEL]** buttons.

VDA means Variable Digital Amplifier.

- ⑨ Adjust the effect level using the PROGRAM [EFFECT BALANCE] buttons.
- ⑩ If you wish to save the program you have edited, press REC/WRITE/LYRICS to go to “Page 23: Write program” (see page 174).

MODE		PROGRAM	
VALUE	WRITE PROGRAM	OCTAVE	0
	All →F11 Ambiriano	PAGE	23

Selected USER location

- ⑩ Using the TEMPO/VALUE buttons select the location in the F(USER) bank where you wish to save the program.
- ⑪ Press ENTER/YES to save the program.

Press EXIT/NO if you wish to cancel the operation.

.....
Warning: The program you are saving will substitute and therefore delete the existing program. Don't press ENTER/YES if you are not sure that you want to lose the program.

5. MIDI

What is MIDI?

The MIDI protocol. The MIDI is a standard protocol that defines the hardware and software for the communication between musical instruments and computers. The **hardware** is represented by the interface with multipolar connectors located on the back of the i40M. The connectors are:

- MIDI IN (to receive data),
- MIDI OUT (to send data)
- MIDI THRU (to re-transmit the data received over the MIDI IN).

The MIDI IN 1 and MIDI IN 2 connectors of the i40M are identical. As a rule, if only one instrument is connected, it is recommended to use the MIDI IN 1 connector.

The **software** of the MIDI protocol is represented by a series of “messages” that the controller instrument (master) sends to the controlled instrument (slave) to “instruct” it to emit a sound or somehow modify it.

For example, if a MIDI keyboard is connected to the i40M, pressing a key on the keyboard will cause the transmission of a note activation message (Note On). The message will go through one of the MIDI channels and reach the i40M, that will convert the note message into a sound.

The same occurs with other messages: fox example, pressing the sustain pedal will cause the transmission of the Sustain/Damper message; editing the volume will cause the transmission of the Volume message, and so on.

The MIDI messages. There are “general” MIDI messages (metronome tempo, Start/Stop, Local Off) and “channel” messages that only refer to one of the sixteen MIDI channels.

The channel messages include the Note On (note activation), Program Change (selection of program, arrangement, Keyboard Set), and Control Change.

Most of the control messages, such as Sustain/Damper and Volume, is sent in the form of a Control Change message. This message consists in two parts: the Control Change number (0-127), that determines the control type, and the control value (0-127).

For instance, the activation of the Sustain/Damper pedal is a Control Change #64, with value 127. A “standard” volume is a Control Change #07, with value 90.

Some important controllers are:

CC#	Name	Notes
00	Bank Select MSB	In combination with CC#32 selects the program bank. In the i40M its value is always 0.
01	Modulation	Activates modulation.
07	Volume	Selects volume.
10	Pan	Selects the pan value.
32	Bank Select LSB	In combination with CC#00, selects the program bank. In the i40M the possible values are: Banks A-B = 00 Banks C-D = 01 Bank E = 02 Bank F = 03 Bank Dr = 04
91	Effect 1 send	Effect 1 send
93	Effect 2 send	Effect 2 send

The list of the messages sent via MIDI can be found in the Appendix.

Connections. In order to connect two musical instruments, you need standard MIDI cables that can be found in any musical instrument store.

Each cable must be used to connect two connectors of different instruments. Never connect two connectors of the same instrument with the same cable.

The simplest connection is the connection between the MIDI OUT connector of the controller and the MIDI IN connector of the controlled instrument.

The MIDI channels. The MIDI messages are sent from one instrument to the other over 16 separate channels. Each message must be sent over a specific MIDI channel.

For example, if the keyboard transmits over channel 1, the controlled instrument must receive over channel 1. If not, the controlled instrument will not play or will play the sound of a different channel.

The special channels. Some MIDI channels of the i40M can be assigned to “special channels” that are used for special functions. These channels are Global, Chord 1, Chord 2, Arrangement and Keyboard Set. A detailed description of these channels is contained in the following pages.

Other information. The MIDI is a vast, articulated world. This guide will only refer to the use of the MIDI

with the i40M. For more information, refer to specialized books and magazines.

The special channels

The Global channel

The Global is a special channel that allows you to simulate a keyboard integrated into the i40M. When the i40M is connected to a keyboard, the keyboard should transmit over the Global channel of the i40M.

According to the factory settings, the Global is programmed over channel 1 when the instrument is turned on. Since most of the MIDI controllers transmit over channel 1 when turned on, if no modifications have been made, a MIDI controller and the i40M are immediately connected over the Global channel.

The Global channel has the priority over the other channels. For example, if the Global is programmed over channel 1 and a track is programmed over channel 1 as well, the Global (with its settings and characteristics) will control the track, not the standard channel 1.

The MIDI messages received over the Global and not over a standard channel are affected by the buttons of the KEYBOARD MODE section (such as the split point). Therefore, if the SPLIT button led is lit up, the notes that arrive to the i40M over this channel will be divided by the split point into the Upper (above the split point) and Lower (below the split point) parts.

The notes that arrive to the Global channel are used for the chord detection of the automatic accompaniment. If the KEYBOARD MODE is SPLIT, only the notes below the split point will be used. These notes will be combined with the ones of the special Chord 1 and Chord 2 channels.

The Global channel does not work in Song Play, Song Edit, and Backing Sequence when the Extra Tracks are selected. The reason is that in these operative mode the information need to be channeled separately.

The Global channel works in Arrangement Play and Backing Sequence when the arrangement tracks are selected. It also works in Program mode, where all the other channels are deactivated.

For information on the programming of the Global channel, see “GLB (Global)” on page 139.

The Chord 1 and Chord 2 channels

The notes that go through the Chord 1 and 2 channels are used for the chord detection of the automatic accompaniment. The notes will be combined with the notes that go through the Global channel (under the split point if the SPLIT led is lit up).

The Chord channels are not affected by the split point and the KEYBOARD MODE section of the control panel. All the notes – both above and below the split point – will be sent to the chord detection.

The buttons of the CHORD SCANNING section have a particular effect on the Chord channels:

- if you have selected LOWER, the chord detection mode will be set by the “ChordRecog (Chord recognition mode)” parameter in the Global mode (see page 147);
- if you have selected UPPER or FULL, the chord detection mode will always be Fingered 2 (you need to play at least three notes in order for the chord to be detected).

These two channels are especially useful for accordion players to assign a different Chord channel to the chords and the bass played with the left hand. In this way, chords and bass will participate to the creation of chords for the chord detection of the automatic accompaniment.

For information on the programming of the Chord channels, see “CHORD 1” and “CHORD 2” on page 140.

The Keyboard Set channel

The Keyboard Set channel is used to receive the program change messages for the Keyboard Sets. The reception of a program change message over this channel will cause the selection of a Keyboard Set.

For information on the programming of the Keyboard Set channel, see “KBSET (Keyboard Set)” on page 140.

The Arrangement channel

The Arrangement channel is used to receive the program change messages for the arrangement. The

reception of a program change message will cause the selection of an Arrangement.

For information on the programming of the Arrangement channel, see “ARNG (Arrangement)” on page 140.

What is General MIDI?

General MIDI (abbreviated GM) is a series of added MIDI specifications, that allow you to play a song on different instruments without any modifications.

Until General MIDI appeared, there were no standards that governed the organization of sounds and how to select them. When a song was played by a different MIDI instrument to the original, the sound could differ entirely from the original ones. For example, a snare might play instead of a hi-hat, a crash cymbal instead of a bass drum, or a synth brass instead of a piano, and so on.

Therefore, in order to play a song on a different instrument, you needed to prepare a comparison table, which allowed you to identify the sounds on the new instrument that corresponded to those on the old one. In addition to the sounds, you also had to adjust other parameters, for example the volume and the effects.

General MIDI standardizes the organization of sounds, in such a way that the piano track is always played by a piano and the drum kit track by a drum kit; it also standardizes the setup of the drums in a drum kit, the main sound parameters (attack, sustain, release...), volume values and controls for the effects and effect send functions. The song can be played in the same way on any General MIDI compatible instrument.

In the i40M the General MIDI sounds are contained in the A and B banks. There are 128 General MIDI sounds altogether; the A bank contains programs 0-63, whereas the B contains programs 64-127. There are two General MIDI compatible Drum kits (Dr11 and Dr12).

To program MIDI songs compatible with any GM instrument, you need to use these programs and these Drum kits.

What are Standard MIDI Files?

“Standard MIDI File” format (abbreviated as SMF) is a standard that allows you to exchange songs between different sequencers, meaning incorporated sequencers in musical instruments, or computer software. SMF are not necessarily GM compatible.

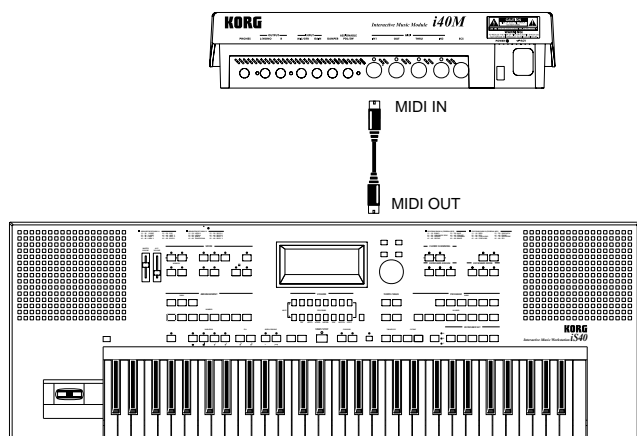
The i40M sequencer is compatible with SMF 0 and 1 formats. It can read SMF in the Song Play mode (see page 106) and edit them in the Song Edit mode (see

page 113). In the Backing Sequence mode it can save a backing sequence in standard SMF format 0 (see page 105).

The i40M can also show on the display the lyrics of the SMF in Solton, M-Live (Midisoft), Tune1000 and compatible (Edirol, GMX, KAR, HitBit, XF) format (see page 22).

Connecting the i40M to a MIDI keyboard

The easiest way to control the i40M is by connecting a master keyboard. You only need to connect the MIDI OUT connector of the keyboard to the MIDI IN 1 connector of the i40M. If the master keyboard transmits over the Global channel of the i40M, the master keyboard becomes the equivalent of the i40M integrated keyboard.



If the keyboard transmits over the Global channel, the split point and the status of the Keyboard Mode and Keyboard Assign sections in the control panel will affect the notes.

According to the factory settings, the Global channel of the i40M is the MIDI 1 channel when the instrument is turned on. When turned on, most of the keyboards will transmit over this channel and therefore no programming is usually necessary.

Connections and settings

To connect the keyboard to the i40M use this procedure:

- ❶ Connect the MIDI OUT connector of the keyboard to the MIDI IN 1 connector of the i40M.
- ❷ Program the keyboard so that the keyboard transmits over the Global channel of the i40M (see "GLB (Global)" on page 139)
- ❸ Press DISK/GLOBAL to go to the Disk/Global mode.
- ❹ Press the PAGE [+] button repeatedly to get to "Page 3: MIDI Settings" (see page 136).
- ❺ Press CURSOR> to select SETUP, then press ENTER/YES to enter the MIDI Setup page.
- ❻ Select the desired setup using the TEMPO/VALUE buttons. Select the "Master keyboard" setup and press ENTER/YES twice to confirm the selection.

This setup is illustrated below.

Note: The settings can change when new data is loaded from disk. To protect the settings from loading, use the PROTECT function (see page 136).

- ❼ Press one of the buttons in the MODE section to go to the desired operative mode.

The MIDI "Master keyboard" Setup

You can automatically configure the i40M for the connection to a MIDI keyboard by selecting the MIDI "Master keyboard" Setup (see page 136).

This MIDI Setup will configure the i40M for the connection to a master keyboard. The Keyboard Assign, Keyboard Mode and Chord Scanning Mode sections will affect the notes played.

The special Global channel is programmed over the MIDI 1 channel. You can change arrangement or Keyboard Set by sending a program change message to channel 2 (special Arrangement channel) or 3 (special Keyboard Set channel), respectively.

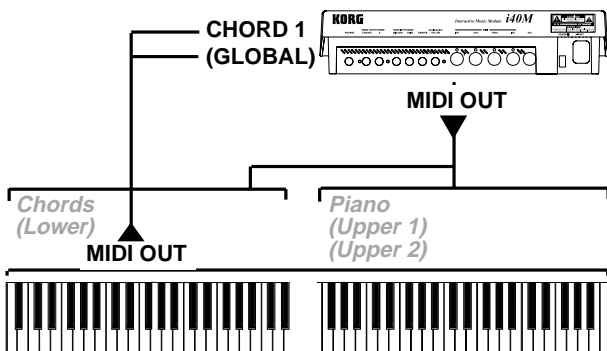
The chord detection mode is determined by the status of the Chord Recognition Mode section and the "ChordRecog (Chord recognition mode)" parameter in the Global mode (see page 147).

Connecting the i40M to a digital piano

The digital piano can be used as a MIDI keyboard to control the i40M. The keyboard is generally divided into two parts; the left part is muted, to play the piano with the right hand and the chords for the automatic accompaniment with the left hand.

If the left part of the keyboard was not muted, the left hand would have to play very low, compact chords with a very bad sound. The Echo Back function of the i40M allows you to divide the keyboard at the split point of the module.

When the Echo Back function is active, the i40M sends a Local Off message to the piano. This message disconnects the piano keyboard from its internal sound generator. The notes played on the keyboard are sent to the i40M that uses the notes below the split point for the chord detection and retransmits the notes above the split point to the piano to allow it to play its internal sound. At this stage, the left hand only plays the accompaniment chords and the right hand plays the piano sound.



If you select the “Digital Piano 1” setup, the right hand will only play the piano. If you select the “Digital Piano 2” setup, the right hand can also play the Upper 1 and Upper 2 parts, where the left hand plays the Lower part of the i40M.

Connection and settings

To connect the piano to the i40M follow this procedure:

- ❶ Connect the MIDI OUT connector of the piano to the MIDI IN 1 connector of the i40M.
- ❷ Connect the MIDI IN connector of the piano to the MIDI OUT connector of the i40M.

In this way the i40M and the piano are connected in a “MIDI loop”.

- ❸ Turn the digital piano on.

Note: When the Echo Back function is active, when turned on, the i40M transmits a Local Off message over the MIDI OUT connector. Always turn on the piano before the i40M.

- ❹ Program the piano to transmit over channel 1 that corresponds to the special Chord 1 and (in “Digital Piano 2”) Global channels in the i40M.

At this stage, the left hand will play the chords for the accompaniment and the right hand will play the digital piano. If you have selected “Digital Piano 2”, you can use the buttons of the Keyboard Assign sections to add the Upper 1, Upper 2 and Lower section of the i40M to the piano.

- ❺ Press DISK/GLOBAL to go to the Disk/Global mode.
- ❻ Press the PAGE [+] button repeatedly to get to “Page 3: MIDI Settings” (see page 136).
- ❼ Press CURSOR> to select SETUP, then press ENTER/YES to enter the MIDI Setup page.
- ❽ Select the desired setup using the TEMPO/VALUE buttons. Select one of the “Digital piano” setups and press ENTER/YES twice to confirm the selection.

At this stage the Echo Back function will be activated (see page 135) and a Local Off message will be sent to the piano. The piano keyboard will be disconnected from its internal sound generation. The MIDI messages will be sent to the i40M that will send again them to the internal sound generator of the piano, taking the split point into consideration.

This setup is illustrated below.

Note: The settings can change when new data is loaded from disk. To protect the settings from loading, use the PROTECT function (see page 136).

- ❾ Press a button in the MODE section to go to the desired operative mode.

The MIDI “Digital piano” Setups

You can automatically configure the i40M for the connection to a digital piano by selecting the MIDI “Digital piano 1” or “Digital piano 2” Setup (see page 136).

Digital piano 1. This MIDI Setup allows you to play the chords of the automatic accompaniment with your left hand and the sound of the digital piano with your right hand.

The special Chord 1 channel is programmed over the MIDI 1 channel. The Lower part of the piano is muted.

The chords for the accompaniment are detected on the left-hand side of the split point. If the Chord Scanning selected in the control panel is LOWER, the chord detection mode is the one indicated by the “ChordRecog (Chord recognition mode)” parameter in the Global mode (see page 147). If it is UPPER or FULL, the chord detection mode is always “Fingered 2”.

Digital piano 2. This MIDI Setup allows you to play the chords of the automatic accompaniment with your left hand and the sound of the digital piano with your right hand. Moreover, you can use the buttons of the Keyboard Assign section to activate or deactivate the Lower part (left hand) and the Upper 1 and Upper 2 parts (right hand) of the i40M.

.....
Suggestion: If you only wish to play the i40M parts, and not the piano sound, set the piano volume to zero.

Global and Chord 1 are programmed over channel 1. The settings of the Global channel have the priority over the settings of the other channels.

The chord detection mode is determined by the status of the CHORD SCANNING section in the control panel and the “ChordRecog (Chord recognition mode)” parameter in the Global mode (see page 147).

Connecting the i40M to a MIDI accordion

There are different types of MIDI accordion and each type requires a different configuration of the i40M. Select one of the MIDI “Accordion” Setups to configure the module properly (see page 136).

Connection and settings

To connect the accordion to the i40M follow this procedure:

- ① Connect the MIDI OUT connector of the accordion to the MIDI IN 1 connector of the i40M.
- ② Press DISK/GLOBAL.
- ③ Press PAGE+ twice to get to the MIDI Settings page.
- ④ Press CURSOR> to select SETUP, then press ENTER/YES to enter the MIDI Setup page.
- ⑤ Select the desired setup using the TEMPO/VALUE buttons. Select one of the “Accordion” setups and press ENTER/YES twice to confirm the selection.

These setups will be described in the following pages.

.....
Note: The settings can change when new data is loaded from disk. To protect the settings from loading, use the PROTECT function (see page 136).

- ⑥ Press a button in the MODE section to go the desired operative mode.
- ⑦ Only with “Accordion 1”: if your right hand plays some notes in the Lower part, or if the lower part is muted, hold down SPLIT POINT and play the lowest note of the right hand, then release SPLIT POINT.

The different types of MIDI accordion

Programmable / non-programmable. The MIDI accordions can be programmable or non-programmable. The programmable accordions offer the possibility of selecting the MIDI channel assigned to each part of the accordion, whereas the non-programmable accordions feature a fixed relationship between parts and MIDI channels.

For example, in the most common case of a non-programmable accordion, the right hand will transmit over channel 1, the chords over channel 2 and bass over channel 3.

Number of MIDI channels. Accordions transmit over a minimum of three MIDI channels. The most sophisticated accordions can transmit over a higher number of channels, normally five (four plus one special part for the arrangement change).

In the three-channel type of accordions, the right hand transmits over channel 2, the chords over channel 2

and bass over channel 3. In the five-channel type of accordions (usually programmable) the standard setting is right hand over channels 1 and 4, chords over channels 2, bass over channel 3, special part dedicated to the arrangement change over channel 16 or 10.

Bass Inversion

Bass Inversion causes the lowest note sent to the chord detection to be always detected as the chord root. The lowest note is usually the note played with bass.

Since in some accordions bass and chords can play in the same octave in some accordions, bass may not be the lowest note sent to the MIDI. Therefore this note would not be recognized as the chord root.

bass

chords

real bass

actually detected bass

detected chord

C/E

To solve this problem, you need to transpose an octave below the accordion bass.

bass

chords

real bass

actually detected bass

detected chord

C/G

Dynamics

Not all accordions can transmit Velocity messages (e.g. the dynamics, or intensity, notes are played with). However, in the i40M you can select the fixed dynamics value used to receive the notes sent by the accordion.

The MIDI “Accordion 1” and “Accordion 2” setups automatically select a fixed dynamics value. If the value is not appropriate for your accordion, you can edit the “Velocity Input” parameter in the Disk/Global mode (see page 138).

The MIDI “Accordion” Setups

The following table shows the i40M tracks that correspond to each of the 16 MIDI channels according to the selected MIDI “Accordion” setup. It also shows the value of the “Velocity Input” parameter.

With the MIDI programmable accordions, you can select the MIDI channel used to send the different parts, that is the correspondence between the i40M parts and the accordion parts.

	Accordion 1	Accordion 2	Accordion 3
Chan.	Track	Track	Track
1	Global (Upper 1 + Upper 2)	Upper 1	Upper 1
2	Lower + Chord 1 + Harmony	Lower + Chord 1 + Harmony	Lower + Chord 1 + Harmony
3	Bass + Chord 2	Chord 2	Bass + Chord 2
4	–	Upper 2	Upper 2
5	–	–	–
6	–	–	–
7	–	–	–
8	–	–	–
9	–	–	–
10	Drum	Drum	Arrangement
11	Perc	Perc	Perc
12		Bass	Drum
13	Acc1	Acc1	Acc1
14	Acc2	Acc2	Acc2
15	Acc3	Acc3	Acc3
16	–	Global	Global
Velocity Input	110	110	Normal

Accordion 1. The “Accordion 1” setup is dedicated to those who have an accordion with three fixed channels (with no assignable MIDI channel). With this setup you can play Upper 1 and Upper 2 with your right hand, Lower with the chords and the i40M bass with the accordion bass.

The chords for the automatic accompaniment will be sent by the right hand, chords (Chord 1) and bass (Chord 2).

Accordion part	Channel	i40M track
Right hand	1	Global (Upper 1 + Upper 2)
Chords	2	Lower + Chord 1 + Harmony
Bass	3	Bass + Chord 2

Use this setup to program the backing sequences (Backing Sequence mode) and the programs (Program mode).

Accordion 2. The “Accordion 2” setup is dedicated to those who have an accordion with two channels on the right hand and do not want to play the i40M bass. With this setup you can play Upper 1 and Upper 2 with your right hand, Lower with the chords, but not the i40M bass.

Since the Upper 1 and Upper 2 parts are controlled by two MIDI independent channels, you can send different volume, program change, and modulation values, etc.

The chords for the automatic accompaniment are sent by the chords (Chord 1) and the bass (Chord 2).

Accordion part	Channel	i40M channel
Right hand 1	1	Upper 1
Right hand 2	4	Upper 2
Chords	2	Lower + Chord 1 + Harmony
Bass	3	Chord 2
–	12	Bass

Accordion 3. The “Accordion 3” setup is dedicated to those who have an accordion with two channels on the

right hand, want to play the i40M bass and has another channel to change the i40M Arrangements with Program Change. With this setup you can play Upper 1 and Upper 2 with your right hand, Lower with the chords and the i40M bass with the accordion bass.

The chords for the automatic accompaniment are sent by the chords (Chord 1) and the bass (Chord 2). If the accordion is provided with a special channel to send the program change message, you can select the i40M arrangements (with a program change over channel 10).

.....
Suggestion: if you wish to change arrangement, but not the sounds of the Upper 1, Upper 2 and Lower tracks, turn the SINGLE TOUCH led off.

.....
Suggestion: if you wish to change the programs of the Upper 1, Upper 2 and Lower parts in one go, select a Keyboard Set via MIDI or in the control panel (see page 140).

This setup does not set a fixed dynamics value. If your accordion does not transmit dynamics messages, select a fixed value with the “Velocity Input” parameter (see page 138).

Accordion part	Channel	i40M track
Right hand 1	1	Upper 1
Right hand 2	4	Upper 2
Chords	2	Lower + Chord 1 + Harmony
Bass	3	Bass + Chord 2
Special	10	Arrangement

Connecting the i40M to a MIDI guitar

The i40M includes some special functions that allow you to connect a MIDI guitar and at the same time send chords for the automatic accompaniment and melody notes. In order to use this function you only need a standard footswitch, such as Korg PS-1 or Korg PS-2. The use of the Korg EC5 pedal keyboard is particularly recommended.

Connection and settings

To connect a guitar to the i40M follow this procedure:

- ➊ Connect the MIDI OUT connector of the guitar to the MIDI IN 1 connector of the i40M.
- ➋ Press DISK/GLOBAL.
- ➌ Press PAGE+ twice to get to the MIDI Settings page.
- ➍ Press CURSOR> to select SETUP, then press ENTER/YES to enter the MIDI Setup page.
- ➎ Select the desired setup using the TEMPO/VALUE buttons. Select the “Guitar” setup and press ENTER/YES twice to confirm the selection.

This setup is illustrated below.

.....
Note: The settings can change when new data is loaded from disk. To protect the settings from loading, use the PROTECT function (see page 136).

- ➏ Activate the “Guitar pedal” function.
 - If you have connected a footswitch, go to “Page 12: Assignable pedal/switch” (see page 143) and select the “Guitar Pedal” option.
 - If you have connected a EC5 pedal keyboard, go to “Page 13: EC5 external controller” (see page 145) and assign the “Guitar Pedal” option to a pedal.

- ➐ Press REC/WRITE/LYRICS to save the Global.
The “Write Global?” message will appear.
- ➑ Press ENTER/YES twice to confirm saving the Global.
- ➒ Press a button in the MODE section to go to the desired operative mode.
- ➓ Press FULL UPPER in the KEYBOARD MODE section to extend the Upper 1 and/or Upper 2 tracks to the entire extension of the guitar keyboard.
- ⓫ Turn off the SINGLE TOUCH led to avoid editing the Keyboard Mode with an arrangement change.

Using the 40M with a MIDI guitar

- ➊ Play the melody.
After selecting the MIDI “Guitar” setup and the FULL UPPER Keyboard Mode, the guitar will transmit over the special Global channel on the entire keyboard. The melody can be played by Upper 1, Upper 2 or both tracks.
- ➋ Hold down the pedal programmed for the “Guitar Pedal” function and play the chord for the automatic accompaniment.
When pressing the pedal programmed for the “Guitar pedal” function, the i40M will receive the accompaniment chords over the Global channel.
- ➌ Release the pedal and start playing the melody again.
- ➍ When releasing the pedal, the i40M will receive the melody notes from the Upper 1 and/or Upper 2 tracks over the Global channel.

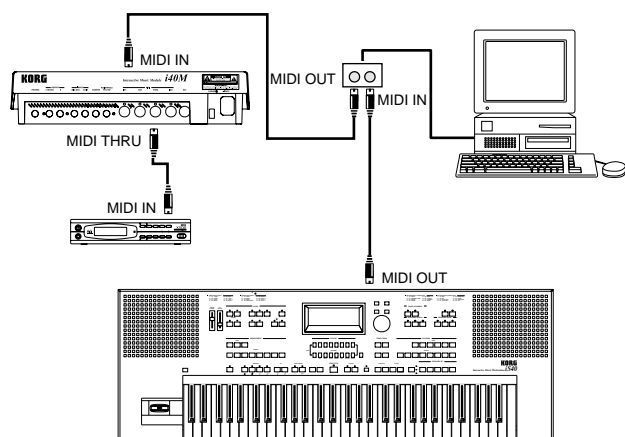
Connecting the i40M to an external sequencer

Even though the i40M has a built-in sequencer, there are computer sequencers that have more powerful editing functions. In general, it is easier to use the internal sequencer of the i40M to compose songs that are based on the automatic accompaniments (i.e. a backing sequence), and to use a computer sequencer to make Standard MIDI Files (SMF).

MIDI connections

In order to connect the i40M to a computer you need to have a computer with the MIDI interface.

Connect the i40M, a MIDI keyboard, the computer and another sound module (expander), if any, as in the following diagram.



The notes that are played on the keyboard come from the MIDI OUT connector and are sent to the MIDI IN connector of the MIDI interface, which then transmits them to the computer.

The notes that are generated by the computer (for example playing back a song by its sequencer) are sent to the MIDI interface, and transmitted from the MIDI OUT to the i40M MIDI IN.

The notes that arrive at the MIDI IN connector of the i40M are played and immediately retransmitted to the additional sound module, with no modifications; therefore the module receives the same data received by the i40M.

It is advisable to mute some of the i40M channels (tracks) and mute the channels enabled to play in the i40M in the additional module. In this way you will avoid the superposition of the sounds coming from the two instruments.

If the "MIDI Thru" function is activated in the computer sequencer (normally active; the name can be different according to the sequencer), the notes played on the keyboard are immediately sent to a MIDI channel

in the i40M and /or the additional module. The channel is the one that corresponds to the selected track in the computer sequencer.

The "MIDI Thru" function of the sequencer causes the notes to be received by the sequencer on a channel (the channel on which the MIDI controller transmits). The notes are sent to the i40M (and/or the additional module) over the channel assigned to the track selected in the computer.

For instance, if the master keyboard transmits over channel 1 and you must program the drum track assigned to channel 10, the data transmission will be as follows:

- The master keyboard transmits to the sequencer over the MIDI 1 channel.
- The track selected in the sequencer is the "Drum" track (or other name), to which the MIDI 10 channel is assigned (see the manual of the sequencer).
- The sequencer transmits the data received from the master keyboard to the MIDI 10 channel of the i40M, that usually corresponds to the drum track (according to the General MIDI specifications).

Performing a song from computer

- 1 Press SONG PLAY to enter the Song Play mode.

When in the Song Play mode, the i40M supplies 16 MIDI channels to an external sequencer. There is a corresponding i40M MIDI channel for every MIDI channel of a song that is played back by the external sequencer.

Each MIDI channel can play a different program, has its own effect send and its own panpot (positioning between the stereo channels). You should imagine every MIDI channel as an instrument in a band or orchestra: for example, you can have the piano on channel 1, sax on channel 2, strings on channel 3... You are free to set them where you like, except for channel 10 which is reserved for the drum kit.

Along with the notes, a song can contain control events called MIDI controllers (or Control Change messages), which can regulate parameters such as volume, vibrato, pan, pedal, etc. The list of the MIDI controllers transmitted and received by the i40M can be found in the Appendix.

It is possible however, to directly program the general parameters of each channel (program, pan, effect send) from the i40M control panel. (See page 109).

The control data of the VOCAL/GUITAR section must be received over the channel set on “Page 11: Song Play Harmony” in the Disk/Global mode (see page 143).

② Load the song into the computer sequencer, and put it onto playback.

The external sequencer controls the Start/Stop functions. At this stage, the i40M will become a simple expander.

.....
Note: The i40M is a General MIDI compatible instrument. If the song you are playing back is General MIDI compatible, the correct sounds will be selected, if not the sounds might not correspond. See the following paragraph.
.....

The programs

The song that is played back by the computer sequencer can select the i40M programs through the two MIDI messages Bank Select (bank selection) and Program Change (program selection). The first column in the chart indicates the Bank Select number, the second column indicates the Program Change number,

and the third column the i40M selected program number.

Bank Select No.	Program Change No.	i40M Program
0	0-63	A11-A88
	64-127	B11-B88
1	0-63	C11-C88
	64-127	D11-D88
2	0-63	E11-E88
3	0-63	F11-F88
4	0-127	Dr11-Dr28

In the i40M the Bank Select is represented by the Control Change message #00 with value 0 and by the Control Change message #32 with value from 0 to 4 (see table above).

A suggestion for those who program songs on computer: Even though it is not essential, you usually set the bass on channel 2, melody on channel 4, drum kit on channel 10, control of the i40M voice harmonizer on channel 5.

Controlling another instrument with the i40M

You can use the i40M as an arrangement module for other instruments. Connect a MIDI cable to the i40M MIDI OUT connector to the MIDI IN connector of an expander or another keyboard.

As regards the sounds, if the controlled instrument (“slave”) is General MIDI compatible, there will be no problems with arrangements that only use General MIDI programs (A and B banks).

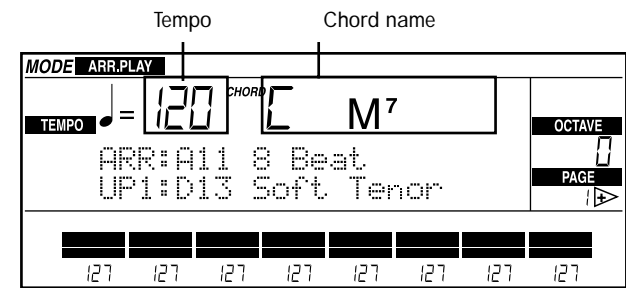
If the slave is not General MIDI compatible, the name of the i40M programs does not match the name of the slave programs. You need to edit the i40M arrangements, by assigning the program change number that corresponds to the desired sound in the slave to the tracks.

REFERENCE

6. Arrangement Play mode

Tempo and chord scanning

The tempo and recognized chords are always shown at the top of the display.



♩ = (Tempo)

[40...240]

Adjust the tempo using the TEMPO/VALUE buttons. Alternatively, you can define the tempo by tapping it on TAP TEMPO.

40-240	Normal metronome tempo expressed in BPM (Beat Per Minute).
EXT	External Synchronism. Automatically selected if the Clock Source parameter in the Disk/Global mode is on MIDI IN 1 or MIDI IN 2. Start/Stop and tempo are controlled by an external device connected via MIDI (sequencer, keyboards).

Name of the chords

When the instrument detects a chord, its abbreviation appears on the display. The chords control the arrangement patterns.

The notes for chord detection must be received over the special Global, Chord 1 and Chord 2 channels (see "The special channels" on page 45).

The notes for the chord detection that arrive on Chord 1 and Chord 2 channels have no extension limits. The notes that arrive on the Global channel are affected by the split point and the status of the CHORD SCANNING section.

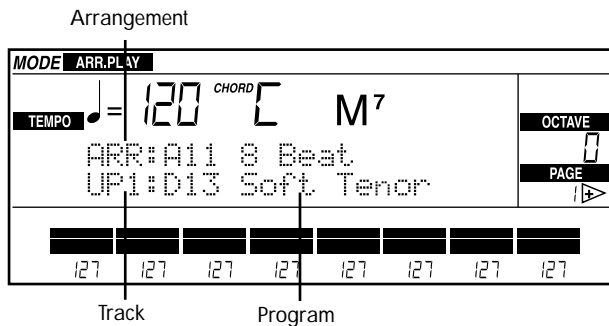
- Chord Scanning LOWER: detects chords below the split point. The detection mode depends on the "ChordRecog (Chord recognition mode)" parameter (see page 147).
- Chord Scanning UPPER: detect chords above the split point. The detection mode is always "Fingered 2" (see page 147), that requires chords of at least three notes.
- Chord Scanning FULL: detect chords on the entire keyboard. The detection mode is always "Fingered 2" (see page 147), that requires chords of at least three notes.

In order to program the split point, hold down the SPLIT POINT button and play the note you wish to set as split point.

The detected chord stays in memory, even if you change the arrangement while the accompaniment is playing. You can reset the chord scanning by pressing RESET, or by selecting an arrangement with the accompaniment stopped.

Page 1: Performance monitor

Press the ARR.PLAY button to enter the Arrangement Play mode. In this page you can select the arrangement and assign programs to the tracks.



ARR (Arrangement)

[A11...A88, B11...B88, U11...U88]

The display will show the bank, number and name of the selected arrangement. Use the buttons in the PROGRAM/ARRANG section to choose an arrangement (see “Selecting an arrangement” on page 25). Press PROGRAM/ARRANG to light up the ARRANG led. First select a bank (A, B, USER), then enter a two-digit number with the numeric buttons. If the arrangement is in the same bank, you only need to enter the two-digit number.

Arrangement Preview. Alternatively, you can press one of the BANK button, enter the tens number if necessary, select the arrangement using the TEMPO/VALUE buttons and confirm the selection with ENTER/YES.

If you choose a new arrangement while you are performing, the new arrangement will start playing at the beginning of the next measure, and the tempo will change accordingly. If you do not want the tempo to change when you switch from one arrangement to the other, press the TEMPO button to enlighten its led.

If, when selecting an arrangement you wish to change the keyboard programs as well, press SINGLE TOUCH to enlighten its led.

You can also select the arrangements by using a foot-switch such as Korg PS-1 or PS-2 or an external controller KORG EC5 (optionals). For more information see “Page 12: Assignable pedal/switch” or “Page 13: EC5 external controller” in the Disk/Global mode.

Track

[DRUM, PERC, BASS, ACC1...ACC3, UP1, LOW/UP2]

Select the track you wish to edit using the PROGRAM/VOLUME buttons. The buttons are arranged in pairs and you can use either the upper or lower button to select the track. The track name is indicated above each pair of buttons.

Note: The Upper 2 and Lower tracks exclude one other.

- To select the Upper 1 track press one of the UPP1 buttons.
- To select the Upper 2 track press one of the LOW/UPP2 buttons and activate UPPER2 in the KEYBOARD ASSIGN section.
- To select the Lower track press one of the LOW/UPP2 buttons, activate SPLIT in the KEYBOARD MODE section and activate LOWER in the KEYBOARD ASSIGN section.

Program

[A11...U88, Dr11...Dr28]

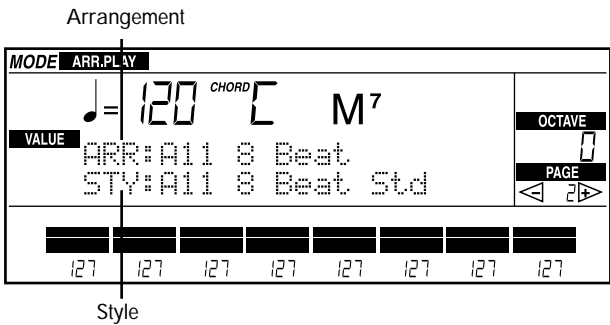
Before selecting a program, you must select the track you want to assign the program to (unless it is already selected). Select the program using the buttons in the PROGRAM/ARRANG section (see “Changing the sounds of the real time tracks” on page 30). Press PROGRAM/ARRANG to light up the PROGRAM led. Select a bank first (A, B, C, D, E, F-USER/DRUM), then enter a two-digit number, using the number buttons. If the program is in the same bank, you only need to select the two-digit number.

Program Preview. Alternatively, you can press one of the BANK button, enter the tens number if necessary, select the program using the TEMPO/VALUE buttons and confirm the selection with ENTER/YES.

In order to select a Drum program (Dr11–28), press the F(USER/DRUM) button repeatedly in the PROGRAM section, until the abbreviation “Dr” appears, then select a two-digit number with the number buttons.

Page 2: Style select

In this page you can select the style played by the arrangement. The style contains the patterns played by the arrangement. To change the programs of the accompaniment tracks, see “Page 3: Track settings (1)” on page 59.



ARR (Arrangement)

[A11...A88, B11...B88, U11...U88]

For more information about selecting the arrangements, see “Page 1: Performance monitor”.

STY (Style)

[A11...A88, B11...B58, U11...U28]

Select the style using the buttons in the PROGRAM/NUMBER section. First press PROGRAM/ARRANG to enlighten the ARRANG led. Then select a bank (A,

B), finally enter a two-digit number with the NUMBER buttons. There are 128 styles in total, in the A and B banks, so you can select A11-A88 and e B11-B88.

If you want to select a style loaded from disk, choose the USER bank, and enter a two-digit number using the number buttons. There are a maximum of 16 USER styles, so you can only select U11-U28.

If you change the style while the accompaniment is stopped, the style programs will be assigned to the accompaniment tracks, transpositions deleted and the “wrap around” parameter will be set on ORG. For more information about these parameters, see “Page 4: Track settings (2)” on page 60.

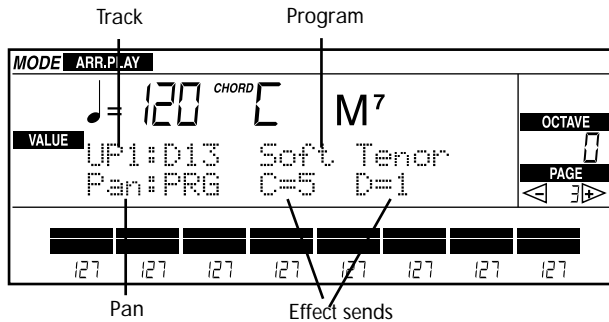
If you change the style while the accompaniment is playing, the accompaniment patterns will change, whereas the programs and the track parameters will not. If the TEMPO led is off, the tempo of the new style will be selected.

In order to create a new arrangement, select a style that is close to what you have in mind, then change the programs, volume, pan, tempo, effects. Finally, save the new arrangement in the USER bank. USER styles and arrangements will stay in memory even when the instrument is turned off.

You can also select styles by using an optional foot-switch or KORG EC5 external controller. For more information refer to see “Page 12: Assignable pedal/switch” or “Page 13: EC5 external controller” in the Disk/Global mode.

Page 3: Track settings (1)

In this page you can choose the program (sound), pan (stereo position), and effect send (send levels) for each of the eight tracks in the arrangement.



Track

[DRUM, PERC, BASS, ACC1...ACC3, UP1, LOW/UP2]

For more information about selecting the tracks, see see “Page 1: Performance monitor”.

Program

[A11...U88, Dr11...Dr28]

For more information about selecting programs, see see “Page 1: Performance monitor”.

Pan (Channels A and B)

[OFF, L15...L01, CENT, R01...R15, PROG]

Track position in the stereo “panorama”. The pan corresponds to the A and B channels of the internal sound generation (see chapter “Effects”). The A and B channels usually form the direct signal (A=Left, B=Right). If the effect setup is not Parallel 3, the A and B channels can function as effect send. See see “Page 11: Effect placement”.

CNT	In the center.
L values	On the left (channel Left, A).
R values	On the right (channel Right, B).
OFF	No output of track from channels A and B.
PROG	Pan of program used.

C=/D= (Effect send, channels C and D)

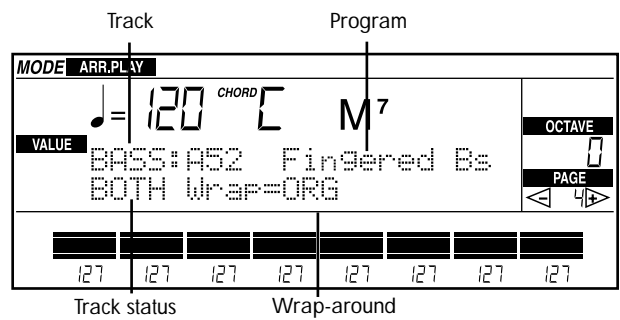
[0...9, P]

Signal level sent to the effects. Normally, channel C is the reverb effect setting, channel D is the modulating effect setting (chorus, flanger...). If the effect placement is not on Parallel 3, the C and D channels can function in different ways. See see “Page 11: Effect placement”.

0-9	Effect level. 0: there will be no output of the track from channels C/D.
P	The program level will be used.

Page 4: Track settings (2)

For each track in the arrangement, you can set the damper pedal and the parameters related to keyboard range (octave, wrap around) for each arrangement track. The parameters can be different according to the selected track.



Track

[DRUM, PERC, BASS, ACC1...ACC3, UP1, LOW/UP2]

For information about selecting tracks, see “Page 1: Performance monitor”.

Program

[A11...U88, Dr11...Dr44]

For information about selecting programs, see “Page 1: Performance monitor”.

Damper

[DIS, ENA]

This enables or disables the damper effect on the keyboard tracks. This parameter will only appear if track UP1 or LOW/UP2 is selected.

ENA	Enabled.
DIS	Disabled.

Track status

[OFF, INT, EXT, BOTH]

This determines whether the track should be played by the internal tone generator and/or an external

instrument connected via MIDI. It will only appear if you select one of the DRUM, PERC, BASS, or ACC1-ACC3 tracks.

OFF	The track will not play.
INT	Normal setting. The track will only play the internal tone generator, and will not transmit data to the MIDI OUT connector.
EXT	The track will not be played by the internal tone generator, but will transmit data to external devices through the MIDI OUT connector.
BOTH	The track will be played by the internal tone generator, and transmit data to the MIDI OUT connector.

Wrap (wrap-around point)

[ORG, 1...12]

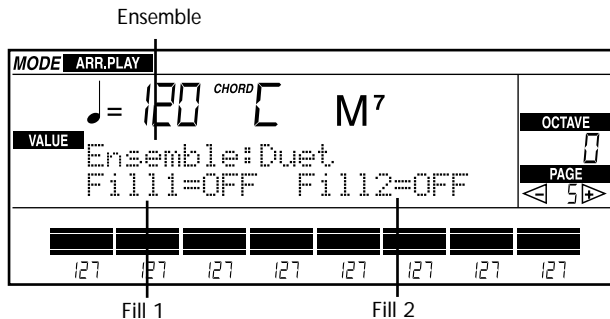
The wrap-around point is the highest register limit for the backing track. The accompaniment patterns will be transposed according to the detected chord. If the chord is too high, the backing track might play in a register that is too high, and therefore unnatural. If, however, it reaches the wrap-around point, it will automatically be transposed an octave lower. This parameter will only appear when you select the BASS or ACC1-3 tracks.

The wrap-around point can be set for each track in **semitone steps** up to a **maximum of 12 semitones**, relative to the chord keynote. This value will be the interval between the key specified by the Chord Variation and the wrap-around point. It would be better not to program all the tracks at the same wrap-around point, to avoid them all jumping by an octave the same time. In order to find the best wrap around point for the track you are editing, mute all the other tracks and try experimenting on each track.

ORG	The track will use wrap-around point of the style.
1-12	Number of semitones relative to the Chord variation pitch.

Page 5: Ensemble/Variation change

In this page you can choose the kind of Ensemble you want, and latch the FILL buttons to a variation.



Ensemble

[DUET...REED ENS]

This enables you to set the Ensemble function thus activating the ENSEMBLE button.

DUET	Add a third to the melody.
CLOSE	"Closed" chord harmonization.
OPEN 1	"Open" chord harmonization.
OPEN 2	The same as the above, but with a different algorithm.
OCTAVE	Add one or more octaves to the melody.
POWER ENS	Add a fifth and an octave to the melody, typical hard rock harmonization.
4THS	Add a fourth and a minor seventh to the melody (two layered fourths), typical jazz harmonization.
BLOCK	"Block" harmonization, typical jazz piano harmonization.

BRASS ENS

Typical brass section harmonization.

REED ENS

Typical reed section harmonization.

Fill 1/Fill 2

[OFF, →1...→4, 1&2...3&4, UP, DOWN]

These parameters determine the variation to be selected at the end of the fill-in. Fill 1 will program the FILL [1] button and Fill 2 will program the FILL [2] button.

OFF

At the end of the fill-in the initial variation will resume playing.

Values →1 - →4

At the end of the fill-in, the indicated variation will play. For example, if the parameter or Fill 1 has been set on "→2", after Fill 1, variation 2 will be selected.

Values 1&2-3&4

Each time a fill-in ends, one of the two indicated variations will be selected. For example, if the Fill 1 parameter is set on "2&3", after the first Fill 1 playback, variation 2 will be selected, after the second fill-in playback, variation 3 will be selected 3.

UP and DOWN

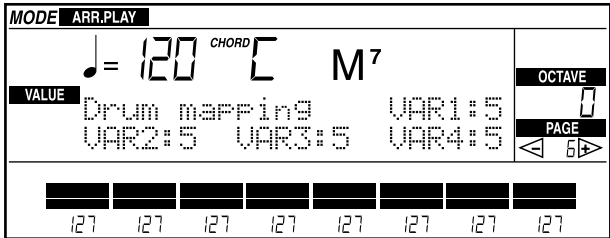
These settings increase or decrease the variation respectively. For example, if the Fill 1 parameter is set on UP, starting from variation 1, after the Fill 1, variation 2 will be selected. After variation 4, variation 1, before variation 1, variation 4 will be selected. Thus the cycle is:

2→3→4→1→2→...

Page 6: Drum Mapping

The Drum Mapping function allows you to edit the Drum part of the Style with only one operation. The Drum Mapping will replace some instruments in the drum kit without changing the notes.

The settings will only affect the selected Arrangement and will be memorized by saving the modifications in a new Arrangement USER.



Drum mapping VAR1...VAR4

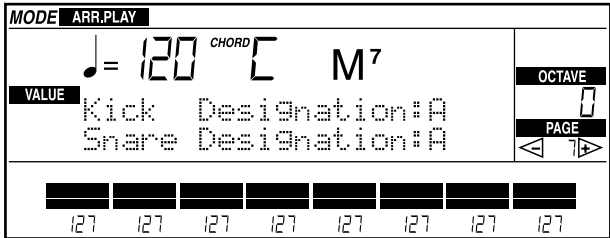
[1...8]

Selected Drum Map. You can select a different Drum Map for each Variation of the Style. There are eight Drum Maps (1...8). Drum Map 5 corresponds to the original pattern programming.

Page 7: Kick & Snare Designation

The Kick & Snare Designation function allows you to replace the programmed Bass Drum (Kick) and the Snare Drum (Snare) with a different Bass Drum or Snare Drum from the same drum kit with only one operation.

The settings will only affect the selected Arrangement and will be memorized by saving the modifications in a new Arrangement USER.



Kick designation

[A...D]

Designation for the Bass Drum (Kick). There are four designations (A...D). Designation A corresponds to the original pattern programming.

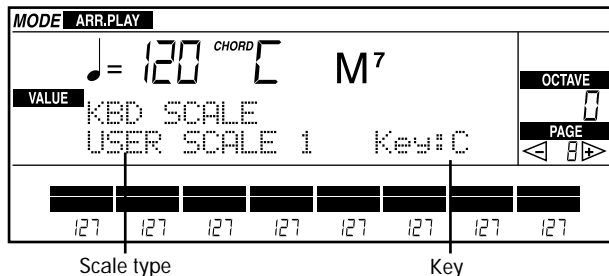
Snare designation

[A...D]

Designation for the Snare Drum. There are four designations (A...D). Designation A corresponds to the original pattern programming.

Page 8: Keyboard scale

In this page you can choose the keyboard scale (or temperament) automatically assigned by the arrangement to the tracks when selected.



Scale type

[EQUAL TEMP...USER SCALE 4]

EQUAL TEMP.	Equal temperament. This scale is normally used nowadays, in traditional Western music. Consists of 12 absolutely identical semitones.
EQUAL TEMP. 2	The same as the previous setting, but with some irregularities in pitch, consenting a more realistic imitation of acoustic instruments.
PURE MAJOR	The major chords of the selected key will be perfectly tuned.
PURE MINOR	The minor chords of the selected key will be perfectly tuned.
ARABIC	Arabic scale, with quarter tones. The Key parameter should be set to C for "rast C/bayati D", to D for "rast D/bayati E", to F for "rast F/bayati G",

to G for "rast G/bayati A", to A# for "rast B b/bayati C".

PYTHAGOREAN	Pythagorean scale, based on ancient Greek theory. It is suitable for playing melodies.
WERCKMEISTER	Late baroque/classical scale.
KIRNBERGER	18th century harpsichord scale.
SLENDRO	Indonesian gamelan scale. The octave is divided into 5 notes (C, D, F, G, A). The remaining notes will play equal temperament notes.
PELOG	Indonesian scale. The octave is divided into 7 notes (all the white keys, if the key parameter is assigned to C tonic). The black keys will play equal temperament.
USER SCALE 1...4	One of the 4 scales that you create on "Page 19: User scale" of the Disk/Global mode.

.....
Note: When a scale other than Equal Temperament or Equal Temperament 2 is selected, the TRANSPOSE buttons may cause undesired chords to be recognized.

Key (Tonic)

[C...B]

This parameter selects the key for the scales where it is necessary to indicate the key as well.

Page 9: Effect select

The instrument has two incorporated digital effect processors for the sounds produced by the internal sound generator. In this page, you can choose which

effects you wish to assign to an arrangement and turn them on or off. For more details, see page 175.

Page 10: Effect modulation

In this page you can connect the effects to controls, which allow you to dynamically modulate their intensity. For more details, see page 176.

Page 11: Effect placement

In this page you can choose the effect setup of the arrangement, and program pan and levels for channels C and D. Pan and sending of arrangement tracks

are programmed on “Page 3: Track settings (1)”. For more details, see page 177.

Page 12: Effect 1 settings

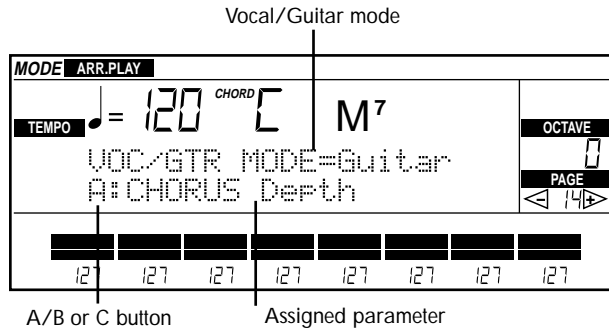
Page 13: Effect 2 settings

These pages contain the effect parameters selected on “Page 9: Effect select”, that will be used for the selected arrangement. The parameters contained in

these pages will depend on the effects you have selected. For more information on programming effects, see page 178.

Page 14: Vocal/Guitar mode/ Assigned parameters

This page allows you to select the operating mode of the VOCAL/GUITAR section. It also allows you to select the operation of the A/B knob and of the C button in the VOCAL/GUITAR section.



VOC/GTR MODE

[Guitar/Vocal]

Operating mode of the VOCAL/GUITAR section. Select "Guitar" when connecting a guitar. Select "Vocal" when connecting a microphone.

Note: The effects of the VOCAL/GUITAR section will change if the Vocal or Guitar mode is selected.

A, B, C

[A, B, C]

Selection of the function you wish to program. "A" and "B" are functions assigned to the A/B knob. You can switch from mode A to mode B by pressing the A/B button.

"C" is the function assigned to the C button, which acts as "mute" of the entire VOCAL/GUITAR section, effects or harmonization only.

Assigned parameter (A/B, Vocal mode)

[ALL VOCAL PARAMETERS]

Parameter assigned to the A function of the A/B knob in the Guitar mode.

A/B (Vocal): MIXER Harmony
MIXER Lead
MIXER FxSend

Assigned parameter (C, Vocal mode)

[Vocal/Guitar Mute, Effect Mute, Harmony&Fx Mute, Harmony Mute]

Voc/Gtr Mute Mute of the Vocal/Guitar section
Effect Mute Effect mute of the Vocal/Guitar section.
Harmony&Fx Mute Harmony and effect mute of the Vocal/Guitar section.
Harmony Mute Harmony mute of the Vocal/Guitar section.

Assigned parameter (A/B, Guitar mode)

[ALL GUITAR PARAMETERS]

Parameter assigned to the A function of the A/B knob in the Guitar mode.

A/B (Guitar): OFF

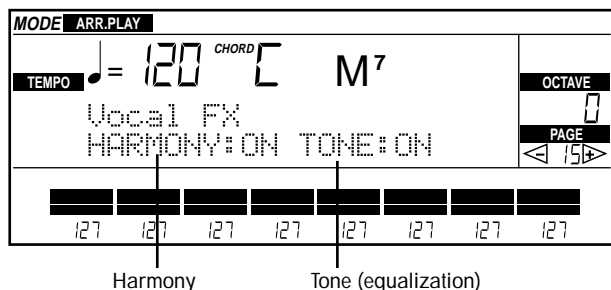
Assigned parameter (C, Guitar mode)

[Vocal/Guitar Mute, Effect Mute]

Voc/Gtr Mute Mute of the Vocal/Guitar section.
Effect Mute Effect mute of the Vocal/Guitar section.

Page 15: Vocal effects (1) (Vocal mode)

First page for effect selection in the Vocal mode of the VOCAL/GUITAR section.



HARMONY

[OFF/ON]

Activates/deactivates the harmony of the vocal part, which can be used in the Arrangement Play, Backing Sequence and Song Play modes.

The harmony notes must be received over a dedicated MIDI channel, which is different for each operative mode.

For more information, see

- “Page 9: Arrangement Harmony” on page 142
- “Page 10: Backing Sequence Harmony” on page 142
- “Page 11: Song Play Harmony” on page 143.

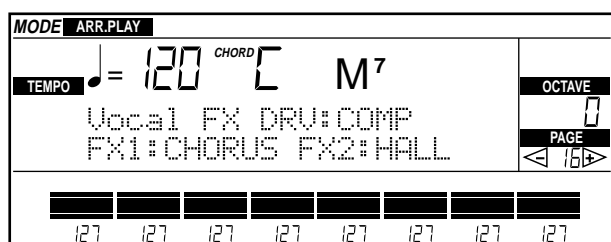
TONE

[OFF/ON]

Activates/deactivates the Tone section (equalizer). For information about programming see page 67.

Page 16: Vocal Effects (2) (Vocal mode)

Second page for effect selection in the Vocal mode of the VOCAL/GUITAR section.



DRV

[OFF, COMP]

Drive effect type, consisting in a compressor. The compressor cuts down the vocal dynamics, reducing on one hand the background noise and the sibilant sounds (“s”, “f”), and on the other hand the excessive dynamics, such as the explosive sounds (“p”, “t”).

For information about programming see page 68.

FX1

[OFF, CHORUS, DELAY]

Effect type 1 (chorus, delay). This type of effects must be used to increase the sound depth. The delay creates a distance between the original sound and its reflection from the walls, whereas the chorus makes the sound softer and seems to multiply it in the space.

For information about programming see page 69.

FX2

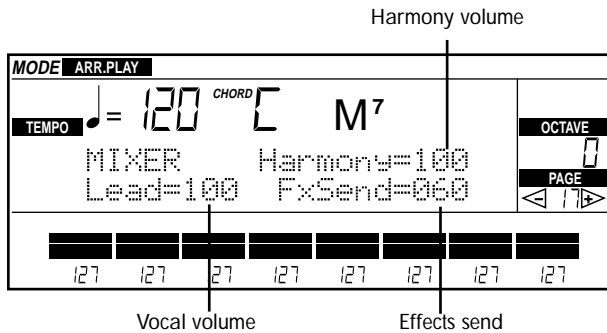
[OFF, HALL, ROOM]

Effect type 2 (reverb). This type of effects inserts the sound in a particular setting. For example, if you are singing in a very dry room, with no reverb at all, you can add one of these effects to give the impression of singing in a room or concert hall with strong reflections.

For information about programming see page 70.

Page 17: Mixer (Vocal mode)

In this page you can program the mixing of the VOCAL/GUITAR section (Vocal mode).



Harmony

[0...127]

Level of harmonization notes.

Lead

[0...127]

Microphone level.

FxSend

[0...127]

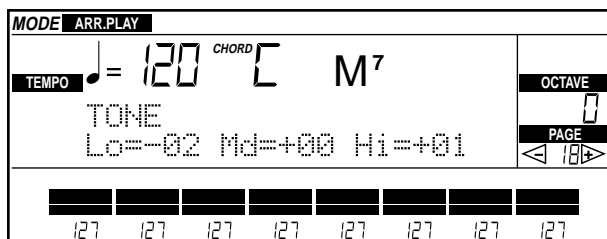
Effect send. It corresponds to the signal level from the VOCAL/GTR connector sent to the FX1 and FX2 effects.

Page 18: Tone programming (Vocal mode)

This page contains the programming of the Tone effect selected in "Page 15: Vocal effects (1) (Vocal mode)" (see page 66).

Note: These parameters can only be accessed if the TONE parameter is not set on OFF in "Page 15: Vocal effects (1) (Vocal mode)".

The Tone section is composed of an equalizer with three fixed bands. The bands are Lo, Md, and Hi.



Lo

[-15...0...+15]

Low frequency band. With positive values the band is boosted (level increase), whereas with negative values the band is cut (level reduction).

Md

[-15...0...+15]

Medium frequency band. With positive values the band is boosted (level increase), whereas with negative values the band is cut (level reduction).

Hi

[-15...0...+15]

High frequency band. With positive values the band is boosted (level increase), whereas with negative values the band is cut (level reduction).

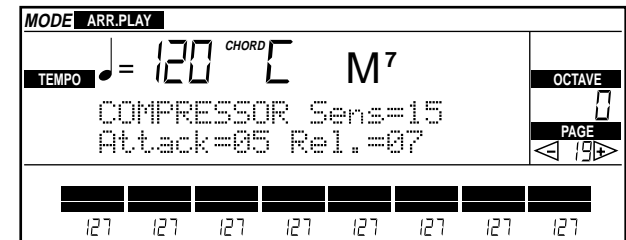
Page 19: Drive programming

This page contains the programming of the DRV (Drive) effect selected in “Page 16: Vocal Effects (2) (Vocal mode)”.

.....
Note: These parameters can only be accessed if the DRV parameter is not set on OFF in “Page 16: Vocal Effects (2) (Vocal mode)”.
.....

Compressor

The compressor cuts down the vocal dynamics, reducing on one hand the background noise and the sibilant sounds (“s”, “f”), and on the other hand the excessive dynamics, such as the explosive sounds (“p”, “t”).



Sens (Sensitivity)

[0...30]

Sensitivity. With low values, the compressor will only eliminate the sounds at a low level (background noise, sibilant and explosive sounds). With high values, the compressor will also eliminate the sounds at a higher level (notes in piano or pianissimo).

Attack

[0...10]

Compressor speed in the activation phase.

Rel. (Release)

[0...10]

Compressor speed in the deactivation phase.

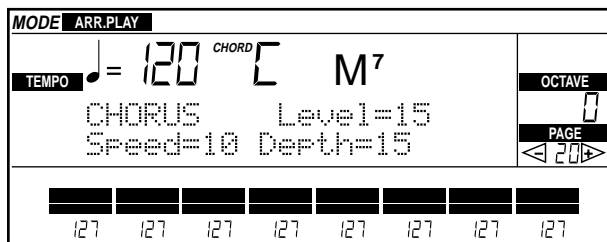
Page 20: FX1 programming (Vocal mode)

This page shows the parameters of the FX1 effect selected in “Page 16: Vocal Effects (2) (Vocal mode)”. The parameters are different according to the selected effect.

Note: These parameters can only be accessed if the FX1 parameter is not set on OFF in “Page 16: Vocal Effects (2) (Vocal mode)”.

Chorus

The chorus effect is a delay modulated by an LFO (Low Frequency Oscillator) and produces a slight variance in pitch. When it is combined with the direct signal, an effect as though multiple instruments were playing in unison is produced. The chorus effect makes the sound wider and deeper.



Note: The chorus effect will not be noticed if (1) if the output signal is taken in mono or (2) the signal is taken in stereo, but in the external mixer the pan of the two channels has the same setting. In order to notice it, the signal must be taken in stereo and the pan sliders of the two channels must be turned in the opposite direction.

Level

[0...30]

Chorus level.

Speed

[0...30]

Chorus speed modulation.

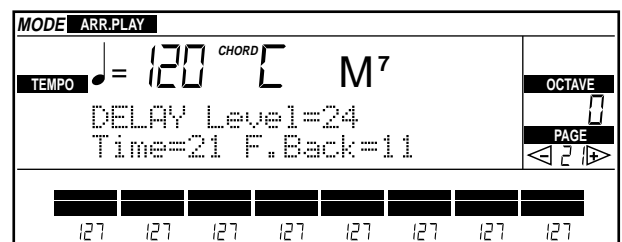
Depth

[0...30]

Chorus intensity.

Delay

The delay sends the effected signal in feedback to the input of the delay, thus creating repetitions of the original note. Each repetition has a lower sound level than the previous one until the sound dies away.



Level

[0...30]

Delay level.

Time

[0...30]

Delay time. It will determine the duration of each repetition.

F.Back (FeedBack)

[0...30]

The feedback (return of the signal sent back in the delay) will determine the number of repetitions.

Page 21: FX2 programming (Vocal mode)

This page shows the parameters of the FX2 effect selected in “Page 16: Vocal Effects (2) (Vocal mode)”.

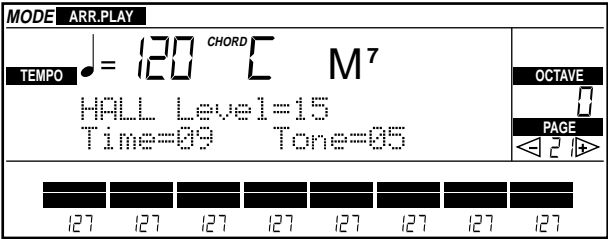
The parameters are different according to the selected effect.

.....
Note: These parameters can only be accessed if the FX2 parameter is not set on OFF in “Page 16: Vocal Effects (2) (Vocal mode)”.
.....

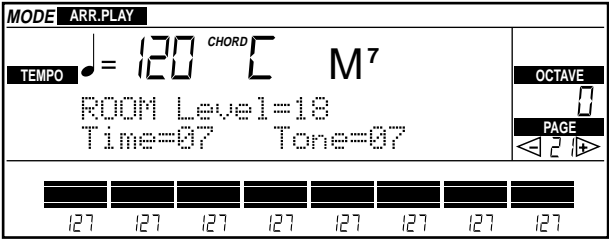
The FX2 effects in the Vocal mode are reverb effects.

Hall, Room

The Hall reverb simulates the sound refractions in a concert hall.



The Room reverb simulates the sound refractions in a room.



Level

[0...30]

Reverb level.

Time

[0...30]

Reverb duration.

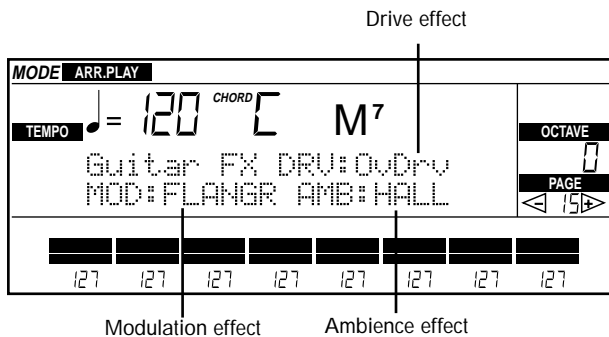
Tone

[0...30]

Reverb tone. This parameter will determine the high frequency attenuation. Higher values will give a higher attenuation.

Page 15: Guitar effects (1) (Guitar mode)

First page for effect selection in the Guitar mode of the VOCAL/GUITAR section.



DRV

[OFF, OvDrv, DIST, COMP]

Drive effect type. This type of effect simulates the functions of a guitar preamplifier.

Overdrive is a saturation with warm, dense sounds. (For information about programming see page 73).

Distorsion is an electronically simulated saturation, with colder, buzzing sounds. (For information about programming see page 74).

The compressor cuts down the instrument dynamics. With low values it will reduce the background noise and the “dirty” notes. With high values it will also reduce the notes played in pianissimo. (For information about programming see page 74).

MOD

[OFF, CHORUS, FLANGR, PHASER, TRMOLO, PAN, PITCH, WAH]

Modulation effect type. This type of effects creates a modulation that gives more life and space feeling to the sound.

Chorus increases the sound depth, creating the impression of a sound multiplication in the space. The sound becomes softer. (For information about programming see page 75).

Flanger is similar to chorus, but varies the harmonic contents of the sound in cyclic mode. (For more information about programming see page 75).

Phaser is similar to flanger, but with a faster modulation. The signal becomes slightly out of tune. (For more information about programming see page 75).

Tremolo varies the volume in cyclic mode, making the sound tremble. (For information about programming see page 76).

Pan moves the sound from one stereo channel to the other in cyclic mode. (For information about programming see page 76).

Pitch modulation varies the pitch in cyclic mode. (For information about programming see page 76).

The wah enhances the upper harmonics of the sound, making it more nasal. (For information about programming see page 76).

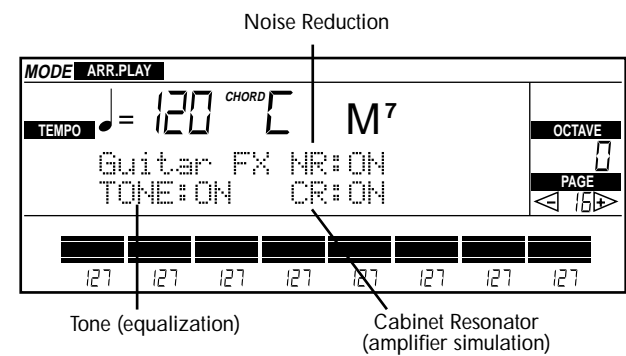
AMB

[OFF, DELAY, HALL, ROOM]

Ambience effect type (delay/reverb). For information about programming see page 77.

Page 16: Guitar effects (2) (Guitar mode)

Second page for effect selection in the Guitar mode of the VOCAL/GUITAR section.



TONE

[OFF/ON]

Activates/deactivates the Tone section (equalizer). For information about programming see page 73.

Page 17: Mixer (Guitar mode)

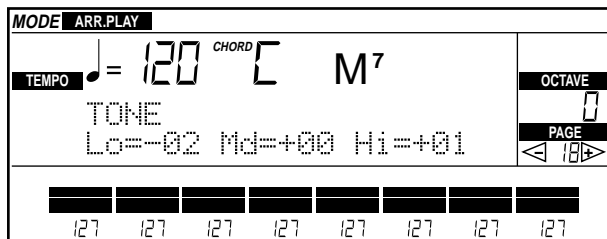
(There is no Page 17 in Guitar mode.)

Page 18: Tone programming (Guitar mode)

This page contains the programming of the Tone effect selected in “Page 16: Guitar effects (2) (Guitar mode)” (see page 66).

Note: These parameters can only be accessed if the TONE parameter is not set on OFF in “Page 16: Guitar effects (2) (Guitar mode)”.

The Tone section is composed of an equalizer with three fixed bands. The bands are Lo, Md, and Hi.



Lo

[-15...0...+15]

Low frequency band. With positive values the band is boosted (level increase), whereas with negative values the band is cut (level reduction).

Md

[-15...0...+15]

Medium frequency band. With positive values the band is boosted (level increase), whereas with negative values the band is cut (level reduction).

Hi

[-15...0...+15]

High frequency band. With positive values the band is boosted (level increase), whereas with negative values the band is cut (level reduction).

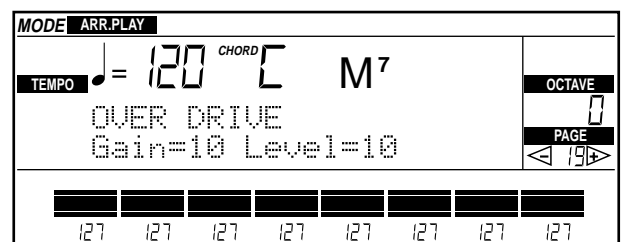
Page 19: Drive programming (Guitar mode)

This page shows the parameters of the DRV (Drive) effect selected in “Page 15: Guitar effects (1) (Guitar mode)”. The parameters are different according to the selected effect.

Note: These parameters can only be accessed if the DRV parameter is not set on OFF in “Page 15: Guitar effects (1) (Guitar mode)”.

Overdrive

The overdrive is a distortion with warm dense sounds, obtained by simulating the saturation of the pre-amplification stage of the amplifier.



Gain

[0...30]

Gain (overdrive saturation).

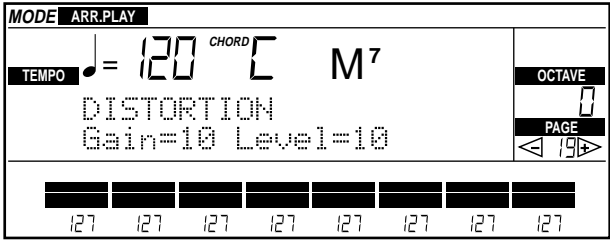
Level

[0...30]

Effect level.

Distorsion

The distorsion is obtained by simulating the saturation of the amplifier distorsion circuit. The sounds are colder and more buzzing than in the overdrive.



Gain

[0...30]

Gain (distorsion saturation).

Level

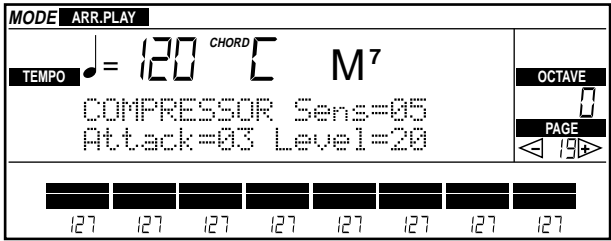
[0...30]

Effect level.

Compressor

The compressor cuts down the instrument dynamics, reducing the signal peaks and increasing the signal level in the lower level. With low values it will reduce the background noise and the “dirty” notes. With high

values it will also reduce the notes played in pianissimo.



Sens (Sensitivity)

[0...30]

Sensitivity. With low values, the compressor will only eliminate the sounds at a low level (typically, background noise and “dirty” notes). With high values, the compressor will also eliminate the sounds at a higher level (notes in piano or pianissimo).

Attack

[0...10]

Compressor speed in the activation phase.

Level

[0...30]

Compressor level.

Rel. (Release)

[0...10]

Compressor speed in the deactivation phase.

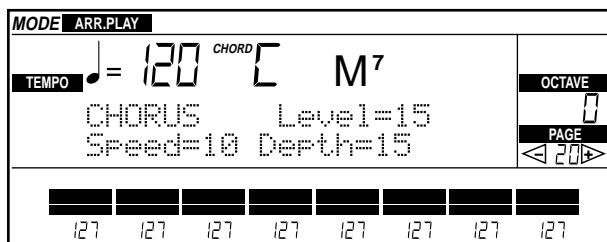
Page 20: Modulation programming (Guitar mode)

This page shows the parameters of the MOD (Modulation) effect selected in “Page 15: Guitar effects (1) (Guitar mode)”. The parameters are different according to the selected effect.

Note: These parameters can only be accessed if the MOD parameter is not set on OFF in “Page 15: Guitar effects (1) (Guitar mode)”.

Chorus

The chorus effect is a delay modulated by an LFO (Low Frequency Oscillator) and produces a slight variance in pitch. When it is combined with the direct signal, an effect as though multiple instruments were playing in unison is produced. The chorus effect makes the sound wider and deeper.



Note: The chorus effect will not be noticed if (1) if the output signal is taken in mono or (2) the signal is taken in stereo, but in the external mixer the pan of the two channels has the same setting. In order to notice it, the signal must be taken in stereo and the pan sliders of the two channels must be turned in the opposite direction.

Level

[0...30]

Chorus level.

Speed

[0...30]

Chorus modulation speed.

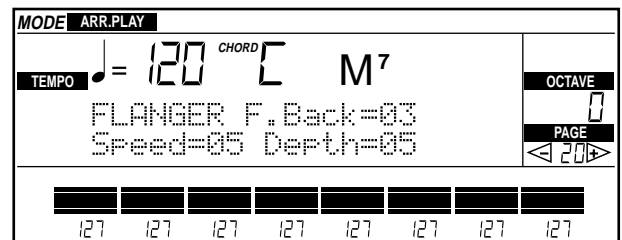
Depth

[0...30]

Effect intensity.

Flanger

Flanger is similar to chorus, but has a shorter delay. It varies its harmonic contents in cyclic mode, with the feeling of getting closer and farther in cyclic mode.



F.Back (Feedback)

[0...30]

The feedback is the effect quantity that is sent back to the flanger and modulated again.

Speed

[0...30]

Effect modulation speed.

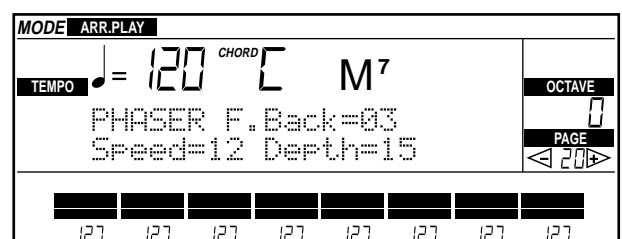
Depth

[0...30]

Effect intensity.

Phaser

The phaser is similar to the flanger, but with a faster modulation. The signal becomes slightly out of tune.



F.Back (Feedback)

[0...30]

The feedback is the effect quantity that is sent back to the phaser and modulated again.

Speed

[0...30]

Effect modulation speed.

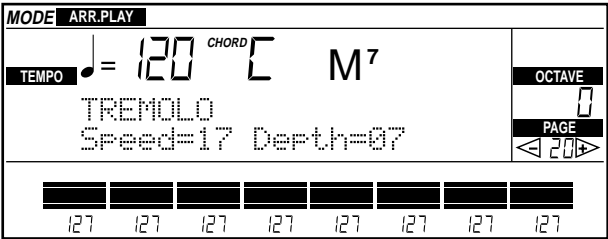
Depth

[0...30]

Effect intensity.

Tremolo

Tremolo varies the volume in cyclic mode, making the sound tremble.



Speed

[0...30]

Effect modulation speed.

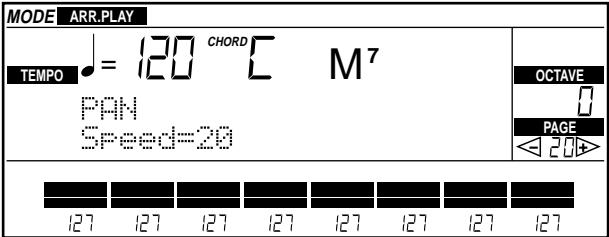
Depth

[0...30]

Effect intensity.

Pan

The pan moves the sound from one stereo channel to the other in cyclic mode.

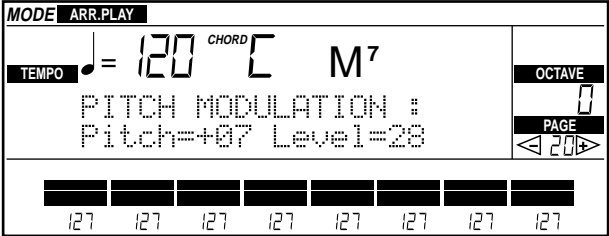


Speed

[0...30]

Effect modulation speed.

Pitch modulation



Pitch

[-24...0...+24]

Maximum distance from the base note, expressed in semitones. With the value +24, the pitch oscillates between the base note and the two upper octaves. With the value -24, the pitch oscillates between the base note and the two lower octaves.

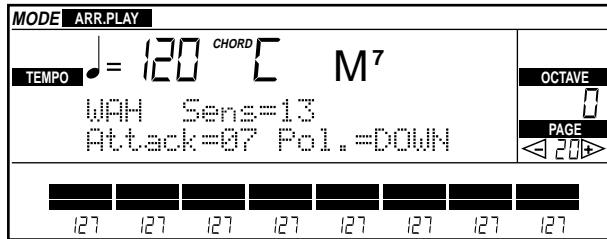
Level

[0...30]

Effect level.

Wah

The wah enhances the upper harmonics of the sound, making it more nasal.



Sens (Sensitivity)

[0...30]

Sensitivity.

Attack

[0...10]

Attack speed.

Pol. (Polarity)

[UP/DOWN]

Wah polarity.

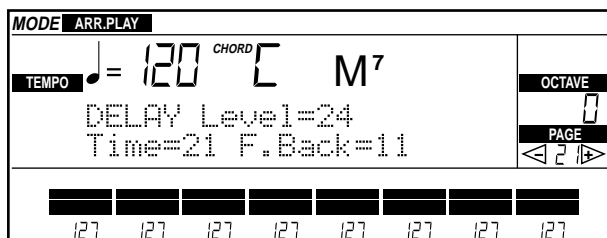
Page 21: Ambience programming (Guitar mode)

This page shows the parameters of the AMB (Ambience) effect selected in "Page 15: Guitar effects (1) (Guitar mode)". The parameters are different according to the selected effect.

Note: These parameters can only be accessed if the AMB parameter is not set on OFF in "Page 15: Guitar effects (1) (Guitar mode)".

Delay

The delay sends the effected signal in feedback to the input of the delay, thus creating repetitions of the original note. Each repetition has a lower sound level than the previous one until the sound dies away.



Level

[0...30]

Delay level.

Time

[0...30]

Delay time. It determines the duration of each repetition.

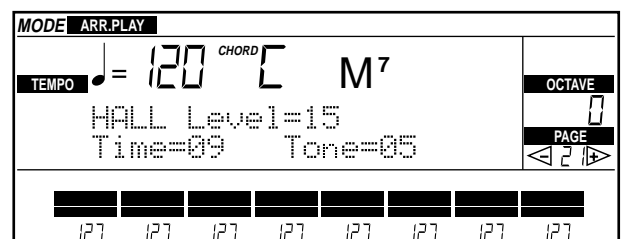
F.Back (FeedBack)

[0...30]

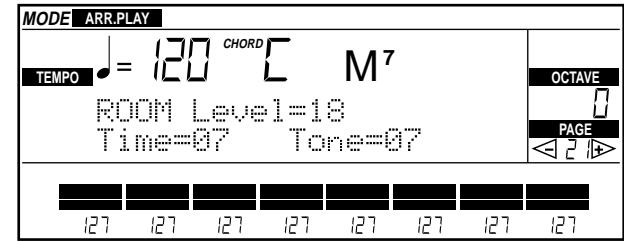
The feedback (return of the signal sent back in the delay) determines the number of repetitions.

Hall, Room

The Hall reverb simulates the refractions of a concert hall.



The Room reverb simulates the refractions of a room.



Level

[0...30]
Reverb level.

Time

[0...30]
Reverb length.

Tone

[0...30]
Reverb tone. This parameter will determine the high frequency attenuation. Higher values will give a higher attenuation.

Page 22: NR and CR programming (Guitar mode)

This page shows the parameters of the NR (Noise Reduction) and CR (Cabinet Resonator) effects. These effects can be activated in “Page 16: Guitar effects (2) (Guitar mode)”.

.....
Note: These parameters will only be accessed if the NR and CR parameters are not set on OFF in “Page 16: Guitar effects (2) (Guitar mode)”.
.....

NR/CR
(Noise Reduction/Cabinet Resonator)

The Noise Reduction reduces the level of the background noise (noise captured by the pick-ups, empty strings touched by mistake). The Cabinet Resonator simulates a guitar amplifier.

NR: Threshold

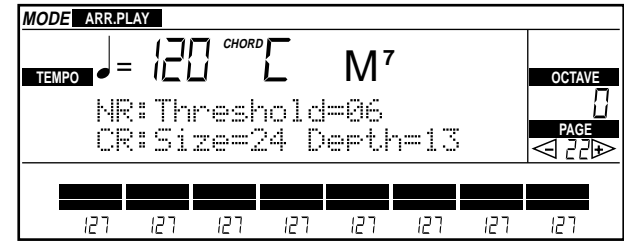
[0...30]
Level threshold under which the signal must be cut. With too high values even the guitar sound can be cut.

CR: Size

[0...30]
This parameter determines the size of the simulated amplifier cabinet.

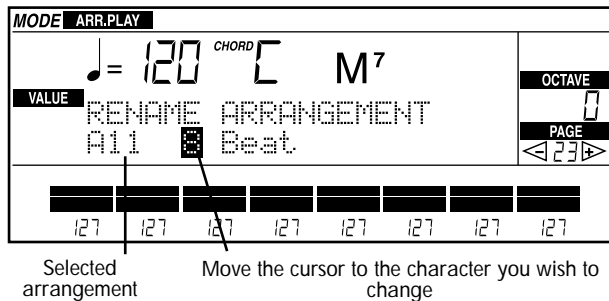
Depth

[0...30]
Effect intensity.



Page 23: Rename Arrangement

The “Rename Arrangement” page allows you to modify the arrangement name. The name can be made up of a maximum of 10 characters.



The following characters can be used.

```

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789? ! , . ; ' ` " + - = # & @ $
% & ' ( ) [ ] < > * / _ | ^ ~ +

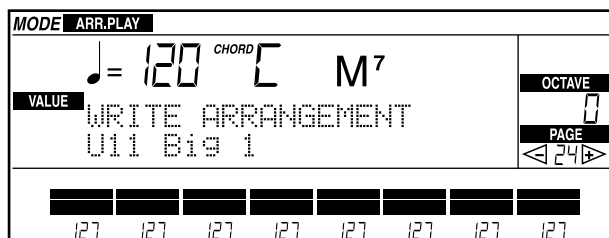
```

Use the CURSOR buttons to move the cursor to the character you wish to change and the TEMPO/VALUE buttons to choose a character.

Press INS to insert a new character at the cursor location. Press DEL to delete the character at the cursor location.

Page 24: Write Arrangement

The “Write Arrangement” page allows you to save the arrangement in a location of the USER bank. Press REC/WRITE/LYRICS to directly enter this page while you are in Arrangement Play mode. Along with the arrangement, the status of the Chord Scanning and Keyboard Assign settings will be saved.



- 1 Select the location where the arrangement will be saved using the TEMPO/VALUE buttons.

It is not possible to use the buttons in the ARRANGEMENT section to choose a location.

Along with the location number, the arrangement name currently existing in the location you selected previously will be shown. Make sure that you are not working with important data without having first made a copy.

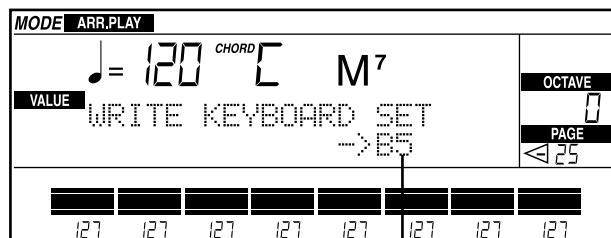
Warning: Once you have saved a new arrangement, it will not be possible to recover the erased arrangement.

- 2 Press ENTER/YES.

The USER arrangements will stay in memory even when the instrument is switched off. It is possible to save them on disk or with one of the Save operations in the Disk/Global setting: “Save All” (page 132) or “Save Arr” (page 132).

Page 25: Write Keyboard Set

This page allows you to save the current situation of the real time tracks, effects and VOCAL/GUITAR section in a Keyboard Set.



Keyboard Set location

- 1 Press REC/WRITE/LYRICS and one of the buttons in the KEYBOARD SET section.

The Write Keyboard Set page will appear.

- 2 Press the BANK button repeatedly, in the KEYBOARD SET section, to turn on the led of the bank you wish to use (A, B,C).
- 3 Press the button in the KEYBOARD SET that corresponds to the location you wish to use.
- 4 Press ENTER/YES twice to save.

7. Backing Sequence mode

• Saving the backing sequences before turning off

Warning: When the instrument is turned off, the backing sequences in memory will be erased. Before turning off the instrument, save the backing sequences on

disk (see “2. Save” on page 131, and “Saving the Backing Sequences on disk” on page 33).

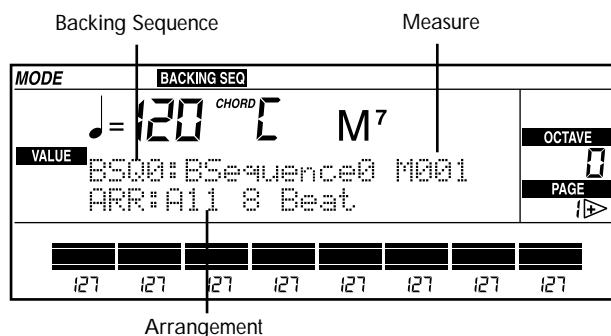
Page 1: Playback

- 1 Press B.SEQ to enter the Backing Sequence mode.

This page (Page 1) allows you to select a backing sequence and play it.

.....
Note: If Page 1 in the Backing Sequence mode is not displayed, press EXIT/NO to load it.

- 2 Move the cursor to BSQ and use the TEMPO/VALUE buttons to select the 1st backing sequence you wish to playback.
- 3 Press START/STOP to start playback.
- 4 Press START.STOP to stop playback.
- 5 Press RESET to go back to the beginning (measure 001).



BSQ (Backing sequence)

[0...9]

Selected backing sequence. In theory, the memory could contain up to a maximum of 10 backing sequences; in practice, the number of backing sequences you can fit into memory depends on their size and complexity. If a song was loaded in Song Edit, the free memory available for the backing sequences will be reduced further.

.....
Warning: Backing sequences are not saved on memory when the instrument is turned off. Before turning off the instrument, save the backing sequences on disk (see a “2. Save” on page 131).

M (Measure number)

[001...999]

This is the measure at which playback will begin. Each track of a backing sequence can record up to 999 measures. By pressing RESET, the indicator will go back to 001. If the backing sequence reaches the end, the indicator will automatically go back to 001.

Page 1: Recording

The backing sequence can be recorded in different ways:

- In real time, all the tracks in one go (see “Recording all the tracks in one go in real time” on page 82).
- In real time, a track at a time (see “Recording a track at a time in real time” on page 85).
- In step mode (see “Page 2: Step recording” on page 89).

While you are at Page 1 of the Backing Sequence mode, press REC/WRITE/LYRICS to enter the recording mode. In order to go back to the playback mode, press REC/WRITE/LYRICS or EXIT/NO.

Recording all the tracks in one go in real time

This mode allows you to create a new song by recording the playback in real time with the arrangements. You only need to put the backing sequence in the recording mode, start playing with the arrangements and the new song is ready.

For instructions on this recording mode see on page 32.

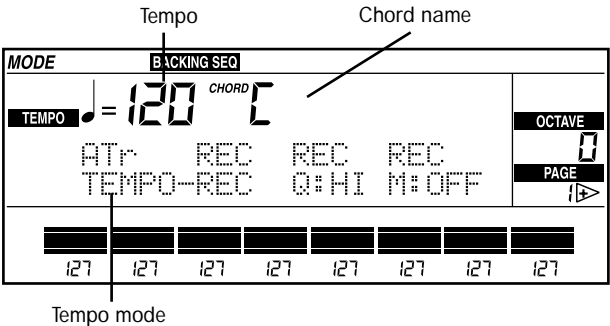
- ❶ If the i40M is connected to a MIDI accordion, go to the Disk/Global mode and select the MIDI Setup “Accordion 1”.

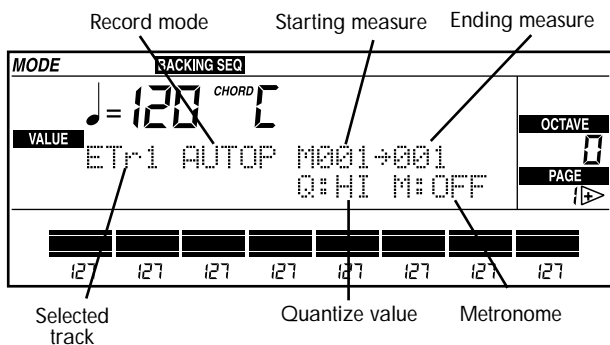
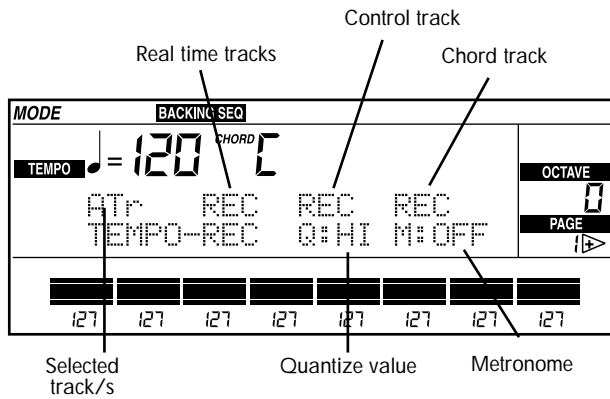
See “Connecting the i40M to a MIDI accordion” on page 49. “Accordion 1” allows you to transmit the right hand over the special Global channel and the chords over the Chord 1 and Chord 2 channels.

Note: For this recording mode, the backing sequence must receive over the special Global, Chord 1 and Chord 2 channels.

- ❷ If the i40M is connected to a keyboard or to another controller, program it to transmit over the special Global channel.
 - ❸ Press B.SEQ to enter the Backing Sequence mode.
 - ❹ If necessary, press EXIT/NO to get to Page 1.
 - ❺ Press REC/WRITE/LYRICS to activate the recording.
- The **Backing Sequence-Realtime Recording** page will appear (see below), where you can select the track you wish to record, choose the quantize in recording and program the metronome.
- ❻ Program the parameters.
 - ❼ Press START/STOP (or INTRO/ENDING + START/STOP) to start the recording.
 - ❽ Play freely, using any control button of the arrangement.
 - ❾ Press START/STOP (or INTRO/ENDING) to stop the arrangement.
 - ❿ Press START/STOP to stop the recording.

Details of the Backing Sequence-Realtime Recording page





Tempo

Metronome tempo (playing speed) of the backing sequence expressed in quarters per minute ($1/4 = \text{♩}$).

Tempo mode

[REC, AUT, 40...240]

This indicates the mode used to record or playback the tempo. Move the cursor to the "Tempo" parameter (the note with the equal symbol and the numeric value), then change the mode with the TEMPO/VALUE buttons.

- To go to TEMPO-REC press together the two TEMPO/VALUE buttons.
- To go to AUTO press together the two TEMPO/VALUE buttons and press TEMPO/VALUE [UP/+].
- To go back to the numeric values, press again TEMPO/VALUE [UP/+].

Suggestion: if you want to simplify the recording of a quick song, record with a slower tempo and choose a normal tempo only after recording.

TEMPO-REC Tempo changes are recorded whilst you are recording. This option can

only be chosen if you are recording (REC/WRITE/LYRICS led lit up).

AUTO

Recorded tempo playback. It automatically appears in playback. The tempo will be the one recorded in the backing sequence.

Values 40-240

Metronome value. The tempo can be adjusted manually during recording or playback, using the TEMPO/VALUE buttons.

Chord name

When the instrument detects a chord, its abbreviation will appear on the display. The chords control the arrangement patterns.

The notes for the recognition of chords must be received over the special Global, Chord 1 and Chord 2 channels (see "The special channels" on page 45).

The notes for the recognition of chords arriving over the Chord 1 and Chord 2 channels are affected by the Chord Scanning, but have no extension limits (the split point does not affect these channels). The notes arriving over the Global channel are affected both by the Chord Scanning and the split point.

- Chord Scanning LOWER: chord detected below the split point. The recognition mode depends on the "ChordRecog" parameter (see page 147).
- Chord Scanning UPPER: chord detected above the split point. The recognition mode is always "Fingered 2" (see page 147), that requires chords of at least three notes.
- Chord Scanning FULL: chord detected on the entire keyboard. The recognition mode is always "Fingered 2" (see page 147), that requires chords of at least three notes.

In order to program the split point, hold down the SPLIT POINT button and play the note you wish to set at split point.

The detected chord will remain in memory even if you change the arrangement while the accompaniment is playing back. To start the chord recognition again, press RESET or select an arrangement with the accompaniment stopped.

Selected track

Track you wish to record. If the option ATr is selected, all the arrangement tracks are recorded in one go (accompaniment, keyboard, controls, chords).

In order to record the ATr track, the MIDI controller must transmit over the Global channel of the i40M.

The **ETr1-ETr8** tracks are the Extra Tracks 1-8, used to add freely recorded parts (non-automatic). See “Recording a track at a time in real time” on page 85.

To record the Extra Tracks, the MIDI controller must transmit over the channel of the Extra Tracks. The Extra Tracks usually are not connected to the MIDI and a MIDI channel must be assigned to them (see “Page 9: Extra Track settings (1)” on page 101).

Track status

[---, REC, (KBT/CTRL/CHRD), MUTE]

These settings will appear if you select track ATr. They determine the status of the keyboard, control and chord tracks.

Hyphens (---)	An empty track. It will only possible to select REC.
REC	The track is recording. The data already contained in the track will be deleted.
MUTE	The track will be mute.
KBT, CTRL, CHRD	Play status of the keyboard, control and chord tracks, respectively.

Recording mode

[OVWR, OVDB, AUTP, MANP]


This parameter will appear when you select an Extra Track (ETr1-8). It indicates how the extra track you have selected will be recorded.

OVWR	(Overwrite). Data previously recorded onto the track will be erased.
OVDB	(Overdub). New data will be added to data previously recorded onto the track.
AUTP	(Auto Punch). This option allows you to demarcate the area, between a start measure and an end measure, where you wish to record. When this option is selected, the “First measure” (first autopunch measure) and “Last measure” (last autopunch measure) parameters appear. Recording occurs in overwrite mode.
MANP	(Manual Punch). This option allows you to manually specify the area where you wish to record.

How to carry out Manual Punch. Playback the song. When you get to the beginning of the area where you wish to record, press REC/WRITE/LYRICS. Press REC/WRITE/LYRICS again when you get to the area you wanted to record.


Instead of pressing the REC/WRITE/LYRICS button, you can use a pedal which has been especially set for the PUNCH IN/OUT function. see “Page 12: Assignable pedal/switch” on page 143 or “Page 13: EC5 external controller” on page 145.

Q (Recording quantize)

[HI,  ... 

Quantization is the correction of timing imprecisions. The notes are moved during recording, so that the timing of the song is more regular, without any notes off time.

Since the continuous controllers (like pitch bend) are quantized, if you use these controls heavily, it would be better to record with the HI option set, and use the quantize function later on (see “6-3. Quantize” on page 96).

HI	No quantize; the notes will be recorded exactly as they were performed (with a precision of 1/96th of a quarter note).
Other options	All the notes are brought to ideal intervals, determined by the value you have selected. For example, if you have selected the option  , the beginning of all the notes you play will be moved to the nearest quarter note.

M (Metronome)

[OFF, ON, REC]

Metronome options.

OFF	The metronome will only sound during the pre-count, before recording.
ON	The metronome will sound during recording and playback.
REC	The metronome will only sound during recording.

Recording a track at a time in real time

This method allows you to create a backing sequence by recording a track at a time.

The backing sequence tracks may corresponds to various tracks of the i40M. Some of the backing sequence tracks do not correspond to real tracks of the i40M, but to special control tracks.

Abbrev.	BSQ track	i40M track
ATr	Arrangement Tracks	Upper 1, Upper 2, Lower, Drum, Percussion, Bass, Acc1, Acc2, Acc3, chords, controls
KBT	Real Time Tracks	Upper 1, Upper 2, Lower
ETr	Extra Tracks	Channels not used by real time and accompaniment tracks
CHRD	Chord Track	Accompaniment (Drum, Perc, Bass, Acc1, Acc2, Acc3)
CTRL	Control Track	Accompaniment control buttons (Fill, Variation, Style selection, Arrangement selection, etc.)

Preparing the recording

- 1 If the i40M is connected to a MIDI accordion, go the Disk/Global mode and select the MIDI Setup "Accordion 1".

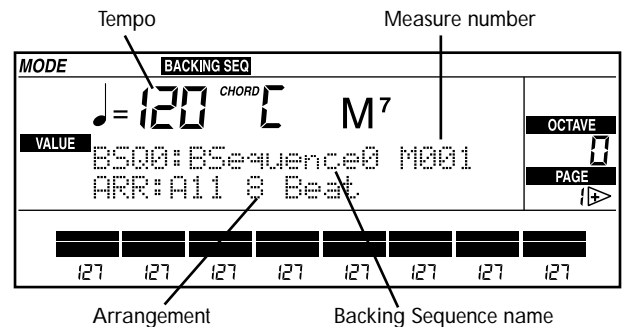
See "Connecting the i40M to a MIDI accordion" on page 49. "Accordion 1" allows you to transmit the right hand over the special Global channel and the chords over the Chord 1 and Chord 2 channels.

Note: The backing sequence must receive the real time tracks over the Global channel and the chords over the Global and/or Chord 1 and Chord 2 channels.

- 2 If the i40M is connected to a keyboard or another controller, program it to transmit over the special Global channel.
- 3 Press B.SEQ to enter the Backing Sequence mode.

The B.SEQ led will light up. The display shows the backing sequence name, the measure number and

the tempo. If this information does not appear, press EXIT/NO to go to Page 1 of the Backing Sequence mode.



- 4 Move the cursor to the backing sequence name with the CURSOR buttons, then select the backing sequence you wish to record using the TEMPO/VALUE buttons.

In this example select BSQ4. (If BSQ4 is recorded, select another backing sequence).

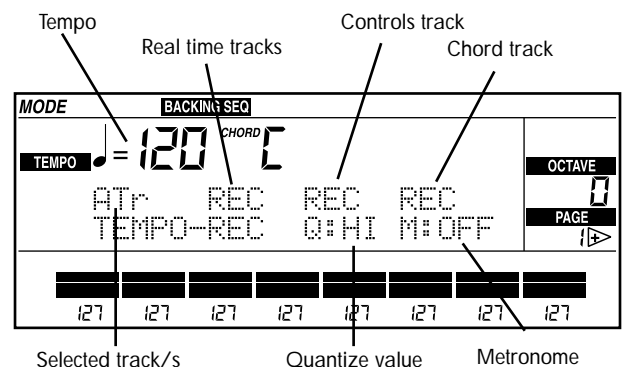
- 5 Select an arrangement with the buttons of the PROGRAM/ARRANG section.

Press the PROGRAM/ARRANG button to light up the ARRANG led. Then press one of the BANK [A], [B] or [USER] buttons to select the bank. Press two NUMBER buttons in a sequence to enter a two-digit number from 11 to 88.

- 6 If necessary, change the split point, the Keyboard Mode, the Keyboard Assign and the Chord Scanning.

- 7 Press REC/WRITE/LYRICS to enter the recording mode.

The REC/WRITE/LYRICS will light up and the recording page will appear. The arrangement tracks (ATr) are selected. The display shows the status of the backing sequence tracks (REC = recording).



- ⑧ To hear the metronome during the recording, move the cursor to "M" (metronome) and select the option REC using the TEMPO/VALUE buttons.
- ⑨ To record the tempo changes, move the cursor to the "Tempo" parameter and press the TEMPO/VALUE buttons together to select the option TEMPO-REC.

Recording the chords

To record the chord track, the MIDI controller must transmit over the Global, Chord 1 and/or Chord 2 channel.

- ① Use the CURSOR buttons to move the cursor to the real time track. Use the TEMPO/VALUE buttons to select the status "----" (deactivated track).
- ② Move the cursor to the control track and select the status "----" (deactivated track).

Now only the chord track is in recording mode (REC status).

- ③ Press START/STOP to start the recording and the accompaniment.

After a two-measure pre-count, the recording will start.

- ④ Play the chords in the chord detection area.

The accompaniment will start playing.

- ⑤ At the end of the chords, press START/STOP to stop the recording.

The recording will stop and the REC/WRITE/LYRICS led will go off. The sequencer will go back to measure 001.

- ⑥ Press START/STOP again to listen to the chords you have just recorded.

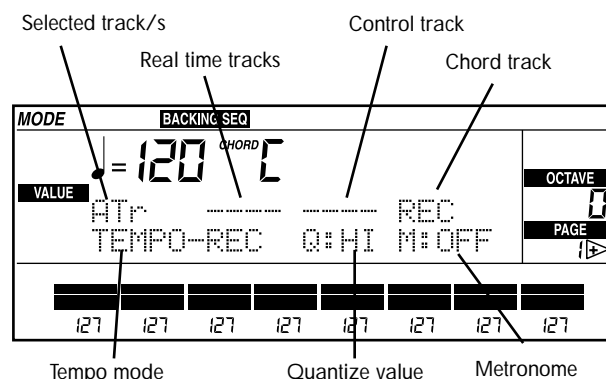
The song will be played from the beginning to the end. When finished, the sequencer will go back to measure 001. You can stop the playback halfway by pressing START/STOP; in this case, press RESET to return to measure 001.

Recording the control track

In order to record the control track, the MIDI controller must transmit over the Global channel.

- ① Press REC/WRITE/LYRICS to go back to the recording mode.

The REC/WRITE/LYRICS will light up and the recording page will appear.



- ② Move the cursor to the chord track and set the CHRD status (e.g. already recorded).

- ③ Move the cursor to the control track and select the REC status (e.g. recording the track).

Now the real time track is in the "----" status (deactivated), the control track is in the REC status (recording), the chord track is in the CHRD status (already recorded and played back). Only the control track is being recorded.

- ④ Press START/STOP to start the recording. Press immediately one of the INTRO/ENDING buttons to book the intro.

After a two-measure pre-count, the arrangement will start playing and the recording will start with an introduction.

- ⑤ Before the end of the intro, press one of the VARIATION [1]–[4] buttons to select the variation.

- ⑥ To insert a fill-in, press one of the FILL [1] or [2] button.

The fill-in will be played and then the variation will start again.

- ⑦ At the end, press one of the INTRO/ENDING buttons to play the ending. Press START/STOP to stop the recording.

The recording will stop and the REC/WRITE/LYRICS led will go off. The sequencer will go back to measure 001.

- ⑧ Press **START/STOP** to listen to the song you have just recorded.

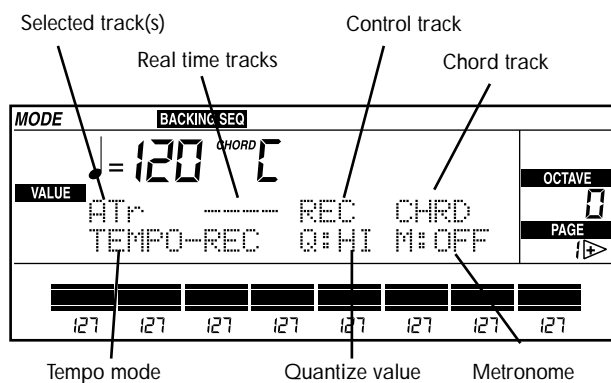
The song will be played from the beginning to the end. When finished, the sequencer will go back to measure 001. You can stop the playback halfway by pressing **START/STOP**; in this case, press **RESET** to return to measure 001.

Recording the solo part

In order to record the real time tracks, the MIDI controller must transmit over the Global channel. The MIDI channels assigned to the real time tracks in the Disk/Global are not active in the Backing Sequence mode.

- ① Press **REC/WRITE/LYRICS** to go back to the recording mode.

The **REC/WRITE/LYRICS** led will light up and the recording page will appear.



- ② Move the cursor to the control track and set the **CTRL** status (already recorded).
- ③ Move the cursor to the real time track and set the **REC** status (recording).

Now the real time track is in the **REC** status, the control track in the **CTRL** status (already recorded), the chord track in the **CHRD** status (already recorded). Only the real time track of the backing sequence is being recorded (Upper 1, Upper 2, and Lower tracks).

- ④ Press **START/STOP** to start the recording.

After a two-measure pre-count, the arrangement will start playing and the recording will start.

- ⑤ Play the solo part.

If the selected Keyboard Mode is **SPLIT**, the solo part must be played above the split point.

- ⑥ When finished, press **START/STOP** to stop the recording.

The recording will stop and the **REC/WRITE/LYRICS** will go of. The sequencer will go back to measure 001.

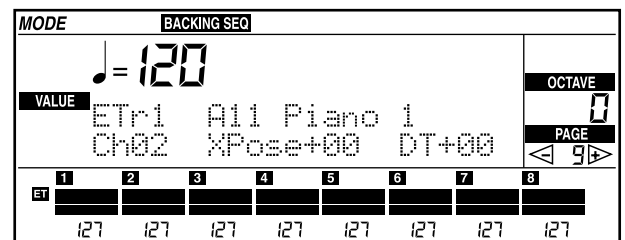
- ⑦ Press **START/STOP** again to listen to the song you have just recorded.

The song will be played from the beginning to the end. When finished, the sequencer will go back to measure 001. You can stop the playback halfway by pressing **START/STOP**; in this case, press **RESET** to return to measure 001.

Recording the Extra Tracks

Apart from the arrangement tracks, the song has other eight tracks (Extra Track, abbreviated in **ETr**) where you can freely record a string pad, reinforcement parts and solos, to enhance and personalize the arrangement. In the example we will record the Extra Track 8.

- ① Press the **PAGE [+]** button repeatedly to get to "Page 9: Extra Track settings (1)".



- ② In the **PROGRAM/VOLUME** section press one button in the last pair of buttons on the right-hand to select the Extra Track 8 (**ETr8**).

In this page you can select one of the eight Extra Tracks by pressing a button in the **PROGRAM/VOLUME** section.

- ③ Move the cursor to the upper line with the **CURSOR** buttons.
- ④ Use the buttons of the **PROGRAM/ARRANG** section to select the program you wish to assign to the Extra Track 8.

Press the **PROGRAM/ARRANG** button to light up the **PROGRAM** led. Then press one of the **BANK [A], [B], [C], [D], [E]** or **[F(USER/DRUM)]** buttons to select the bank. Finally press two **NUMBER** buttons in a sequence to enter a two-digit number between 11 and 88.

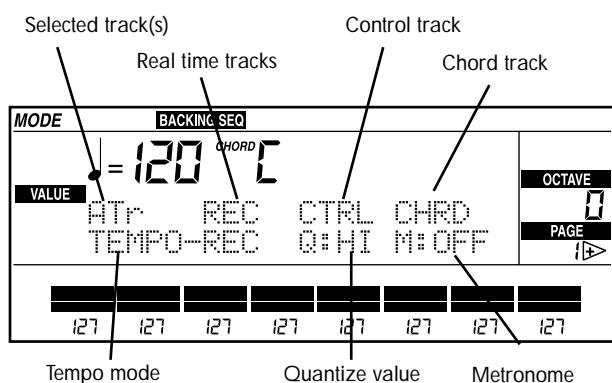
- 5 Move the cursor to the “Ch” parameter and assign a MIDI channel to the Extra Track.

The Extra Track usually are not connected to the MIDI.

- 6 Program the MIDI controller to transmit over the channel of the Extra Track you wish to record.

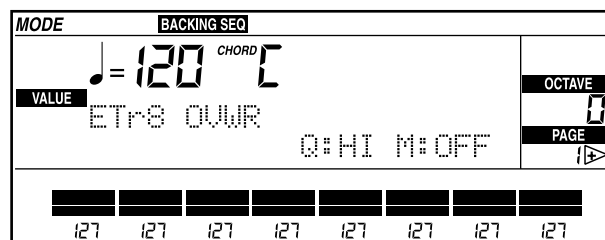
The Extra Tracks must receive the notes over their own channel, and not over the special Global channel.

- 7 Press EXIT/NO to go back to page 1. Then press REC/WRITE/LYRICS to enter the recording mode.



- 8 Move the cursor to the track (Atr) selected for the recording using the CURSOR buttons.
- 9 Use the TEMPO/VALUE or PROGRAM/VOLUME buttons to select ETr8 instead of ATr.

This operation will program the recording of the Extra Track 8.



- 10 Press START/STOP to start the recording.

After a two-measure pre-count, the arrangement will start playing and the recording will start.

- 11 Play freely.

- 12 When finished, press START/STOP to stop the recording.

The recording will stop and the REC/WRITE/LYRICS led will go off. The sequencer will go back to measure 001.

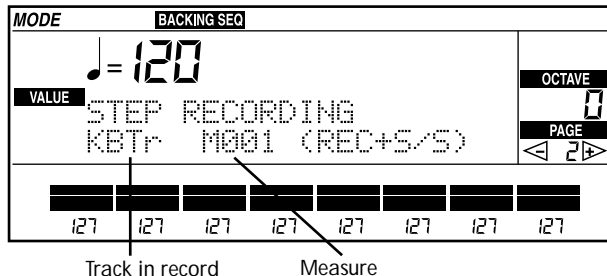
- 13 Press START/STOP again to listen to the song you have just recorded.

The song will be played from the beginning to the end. When finished, the sequencer will go back to measure 001. You can stop the playback halfway by pressing START/STOP; in this case, press RESET to return to measure 001.

- 14 Repeat the procedure to record other Extra Tracks.

Page 2: Step recording

Step recording (recording step by step) allows you to insert an event at a time. It can be used for all the tracks (keyboards, chords, controls, extra tracks). Step recording erases the data of the measures you are recording on.



When in this page, first select the track to be recorded, then press REC/WRITE/LYRICS and START/STOP. To go out of the step recording sub-pages and go back to this page, press START/STOP. To playback the new backing sequence go back to Page 1 and press START/STOP.

Track in record

[KBTr, CHRD, CTRL, ETr1...ETr8]

Track to be recorded.

KBTr	Real time tracks.
CHRD	Chord track.
CTRL	Control track.
ETr1–ETr8	Extra tracks 1-8.

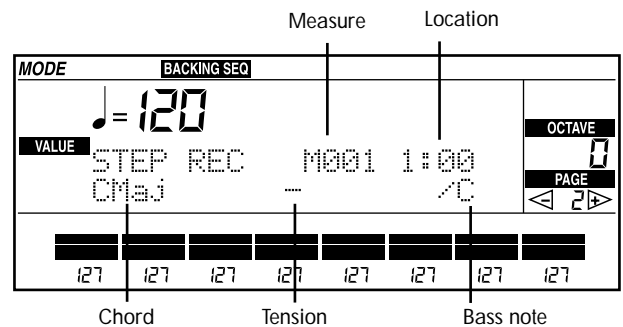
M (Measure number)

[001...999]

This indicates the measure where recording will begin. Each track of a backing sequence can record up to 999 measures. Press RESET to bring the measure indicator back to 001.

Step recording the chord track

In order to step record the control track go to page 2 of the Backing Sequence mode, select the CTRL track, press REC/WRITE/LYRICS, and then START/STOP. The following page will appear.



1. Select the chord using the CURSOR and the TEMPO/VALUE buttons, or play it with the MIDI controller connected over the Global, Chord 1 and/or Chord 2 channels.
2. Press ENTER/YES to enter the chord. The chord will be input at eighth-note steps (♩ = 48 tic). If you need a greater precision, input the events and then adjust their location with "Page 8: Event edit".
3. If necessary, move to a different location using the < and > buttons. You can replace the chord you have already entered.

Warning: If you go back with the < button and input or edit data, the remaining part of the track will be erased.

4. When finished, press START/STOP to go back to Page 2 of the Backing Sequence mode. To listen to the new backing sequence, go back to Page 1 and press START/STOP.

M (Measure number)

Current measure.

Location

This indicates the location where the next chord will be entered. The number to the left of the colon (:) indicates the beat within the measure. The number to the right of the colon (:) indicates the position within the beat, in 1/96th quarter note units.

Chord

Chord to be entered.

Tension

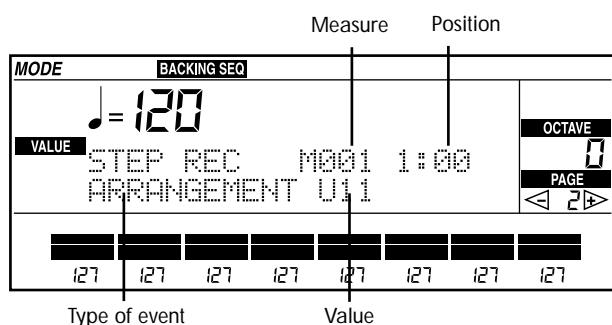
Tension adds notes that have actually been played to the accompaniment, even if they haven't been written in the style pattern.

Bass note

You can indicate a bass note that is different to the chord root (e.g. C/E to indicate the first reverse of the C chord).

Step recording the control track

In order to step record the control track go to page 2 of the Backing Sequence mode, select the CTRL track, press REC/WRITE/LYRICS, and then START/STOP. The following page will appear.



1. Select the type of event and the value using the CURSOR and TEMPO/VALUE buttons.
2. Press ENTER/YES to enter an event.
3. Move to a different location using the < and > buttons. The event will be input at eighth-note steps (♩ = 48 tic). If you need a greater precision, input the events and then adjust their location with "Page 8: Event edit".

Warning: If you go back with the < button and input or edit data, the next part of the track will be erased.

4. When finished, press START/STOP to go back to Page 2 of the Backing Sequence mode. To listen to the new backing sequence, go back to Page 1 and press START/STOP.

M (Measure number)

Current measure.

Position

This indicates the position where the next chord will be entered. The number to the left of the colon (:) indicates the beat within the measure. The number to the right of the colon (:) indicates the position within the beat, in 1/96th quarter note units.

Type of event

This indicates the type of event you wish to input on the control track. The following events can be input.

Type of event	Values
ARRANGEMENT *	U11–88, A11–88, B11–88
STYLE	A11–88, B11–58, U1–16
STY, ELEMENT (style element)	OFF, VAR1–VAR4, INT1, INT2, END1, END2, FIL1, FIL2
KB MODE/ASSIGN (keyboard mode/assign) **	FUL-UP1, FUL UP1&2, SP UP1&L, DRUM, FUL-MUTE, FUL-UP2, SP-MUTE, SP-UP1, SP-UP2, SP-UP1&2, SP-LOW
CHORD SCAN (chord scanning)	OFF, LOWER, UPPER, FULL
CHORD MEMORY	OFF, ON
BASS INV. (bass inversion)	OFF, ON
TRANPOSE	–11... –1, 00, +1... +11
DRUM MUTE	PLAY, MUTE
PERC MUTE	
BASS MUTE	
ACC1 MUTE	
ACC2 MUTE	
ACC3 MUTE	
UP1 PROG (Upper 1 program) *	A11–A88, B11–B88, C11–C88, D11–D88, E11–E88, Dr11–Dr28, F11–F88
UP2/LOW PROG (Upper 2/Lower program) *	
UP1 OCT. (Upper 1 octave)	–2, –1, 0, +1, +2
UP2/LOW OCT. (Upper 2/Lower octave)	

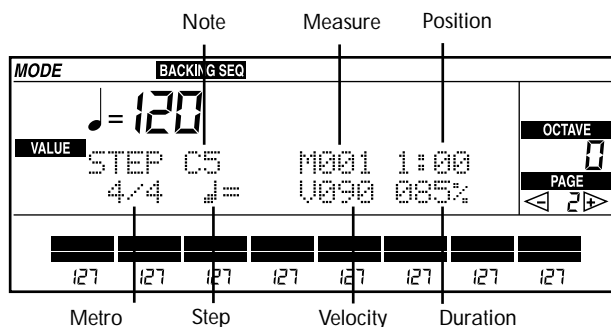
* These events can also be input using the PROGRAM/ARRANG buttons.

** The KB MODE/ASSIGN parameter controls the KEYBOARD ASSIGN and KEYBOARD MODE sections:

Option	Keyboard Assign	Keyboard Mode
FUL-UP1	UPPER1	FULL
FUL UP1&2	UPPER1, UPPER2	FULL
SP UP1&L	UPPER1, LOWER	SPLIT
DRUM	---	DRUM
FUL-MUTE	---	FULL
FUL-UP2	UPPER2	FULL
SP-MUTE	---	SPLIT
SP-UP1	UPPER1	SPLIT
SP-UP2	UPPER2	SPLIT
SP-UP1&2	UPPER1, UPPER2	SPLIT
SP-LOW	LOWER	SPLIT

Step recording the real time track

1. Press EXIT/NO to get to Page 2 in the Backing Sequence mode.
2. Select the KBTr track.
3. Press REC/WRITE/LYRICS and then START/STOP. The following page will appear.



4. Move the cursor to the parameters you wish to modify, using the CURSOR buttons, and change the values using the TEMPO/VALUE buttons.
5. Select the step using the buttons with the notes (or with the TEMPO/VALUE buttons) and play the note to be entered.
6. When finished, press START/STOP to go back to Page 2 of the Backing Sequence mode.
7. To playback the new backing sequence, go back to Page 1 and press START/STOP.

Note

This indicates the name of the most-recently entered note. This parameter will appear if you have selected track KBTr or ETr1-8.

M (Measure number)

Current measure.

Position

This indicates the position where the next event will be entered. The number to the left of the colon (:) indicates the beat within the measure. The number to the right of the colon (:) indicates the position within the beat, in 1/96th quarter note units.

Time signature

[1/4...16/16]

Initial time signature of the backing sequence. This parameter will appear if you have selected track KBTr or ETr1-8. To enter time signature changes during the backing sequence go to "Page 8: Event edit" on page 97.

Step

[♩ / ♪ / ♫ / . / 3]

This specifies the length of the step by which you will move forward each time a note is entered (or other event). This will appear if you have selected KBTr or ETr1-8 as the track. The value will be indicated by a musical symbol. You can select any musical value from ♩ (whole note) and ♫ (32nd note), including lengthened (dotted) notes (.) and triplet notes (3).

You can select the step by using either the TEMPO/VALUE buttons or the VARIATION, FILL, INTRO/ENDING buttons.

Velocity

[002...126, KEY]

This indicates the strength (dynamics) of the note. If the value is **KEY**, the velocity with which the note was actually played will be input. This will only appear if you have selected KBTr or ETr1-8 as the track.

Duration

[001...100%]

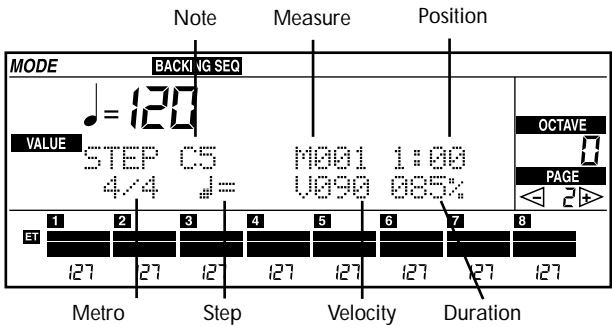
This specifies the duration of the note, relative to the length of the step.

- 100 Duration of the step.
- Lower values Staccato (sharply detached) notes.
- Higher values Legato (smooth flowing) notes.

Step recording the extra tracks

In order to step record an extra track, go to Page 2 of the Backing Sequence mode, select the extra track

(ETr1-ETr8), press REC/WRITE/LYRICS and then START/STOP. This page will appear.

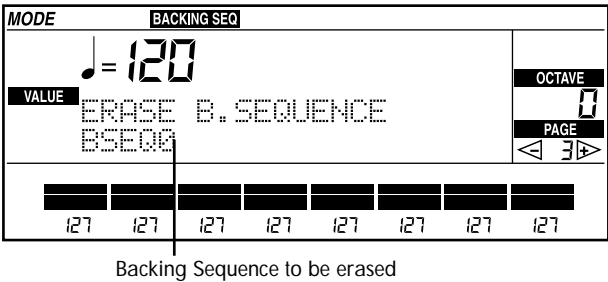


The extra track recording pages are the same as the keyboard track recording page.

Page 3: Erase Backing Sequence

This function erases all the data from the selected backing sequence.

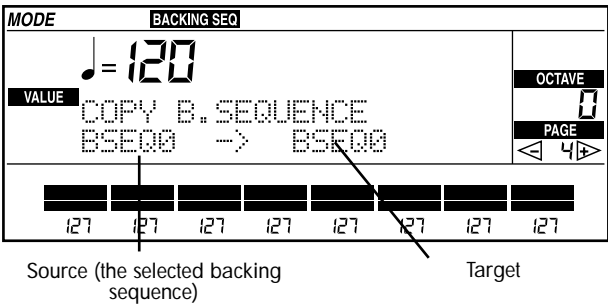
Select the backing sequence you wish to erase using the TEMPO/VALUE buttons. Press ENTER/YES twice to erase it.



Page 4: Copy Backing Sequence

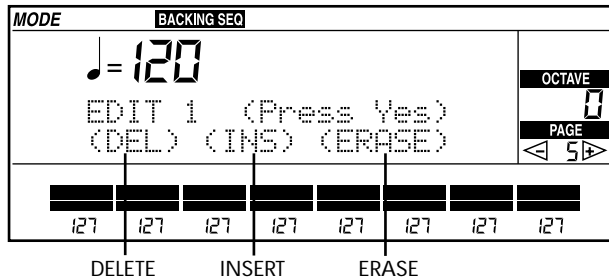
This function copies the entire contents of the selected backing sequence to another backing sequence.

Select the target backing sequence using the TEMPO/VALUE buttons, and press ENTER/YES twice.



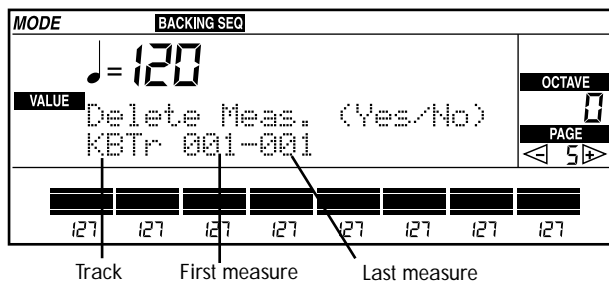
Page 5: Edit 1

In this page you can select one of the following three options: delete measure (DELETE), insert measure (INSERT), erase data from measure (ERASE). Move the cursor to the desired operation using the CURSOR buttons, then press ENTER/YES to enter the subpage.



5-1. Delete measures

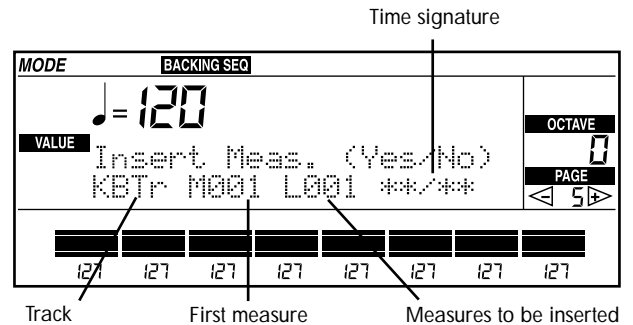
This operation deletes measures from the selected track. The following measures will then be moved back, filling the gap that was created by deleting the other data.



1. Move the cursor to the "Track" parameter using the CURSOR buttons, and choose the track with the TEMPO/VALUE buttons. The **ALL** value, deletes measures from all the tracks (chord track, control track, tempo track, keyboard track, etc.)
2. Move the cursor to the "First measure" parameter, and choose the first measure you wish to delete. Move the cursor to the "Last measure", and choose the last measure you wish to delete. If you only wish to delete only one measure, assign the same measure to both fields.
3. Press ENTER/YES twice to confirm deletion.

5-2. Insert measures

This operation inserts measures into the selected track. The following measures will then be moved forward.

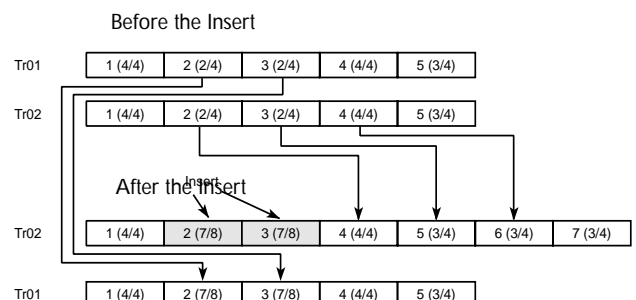


1. Move the cursor to the "Track" parameter using the CURSOR buttons, and choose the track with the TEMPO/VALUE buttons. Select **ALL** to insert measures from all the tracks (chord track, control track, tempo track, keyboard track, etc.).
2. Move the cursor to the "First measure" parameter and enter the measure where you would like to insert the new measures. Move the cursor to the "Measures to be inserted" parameter, and choose the number of measures you wish to insert. Move the cursor to the "time signature" parameter, and choose the time signature for the measures you wish to insert.
3. Press twice ENTER/YES to confirm insertion.

How to insert a different time signature

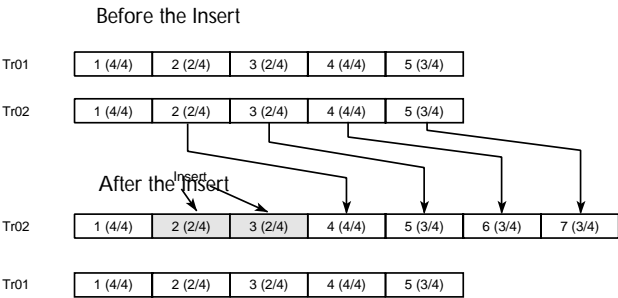
The change of time signature during playback will take place if the tempo is $\text{♩} = \text{AUT}$ (see "Tempo mode" on page 83). If measures are inserted with a different time signature in a track, all the tracks will have the new time signature. The data will remain intact however, and the tracks will play exactly as they did before.

Inserting two measures of time signature = 7/8



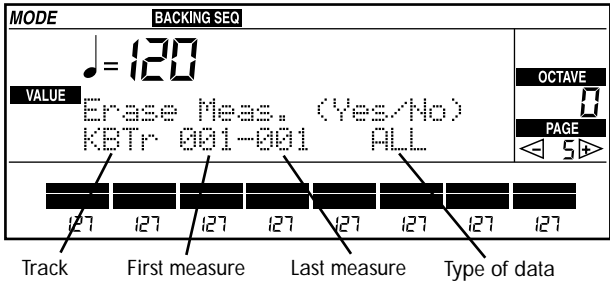
If you assign the value ****/**** to the time signature parameter, the new measures will have the same time signature as the measures that are in the same position on the other tracks. If the other tracks are still empty, the time signature of the nearest measure to the measures that will be inserted, will be used.

Metro = **/**



5-3. Erase measures

This operation erases all or part of the data contained in the specified measure(s). The measures themselves will remain.



- 1. Move the cursor to the “Track” parameter, using the CURSOR buttons and choose the track with the

LL value erases measures from all the tracks (chord track, control track, tempo track, keyboard track, etc.).

- 2. Move the cursor to the “First measure” parameter and choose the first measure of the range where data will be erased. Move the cursor to the “Last measure” parameter and choose the last measure of the range from which you wish to erase the data. If you only want to erase data from one measure, assign the same measure to both the parameters.

Type of data	Erased data
ALL	All data
NOTE	All note messages
CTRL	All control change messages
AFTT	Channel/polyphonic aftertouch messages
BEND	All pitch bend messages
PROG	All program change messages

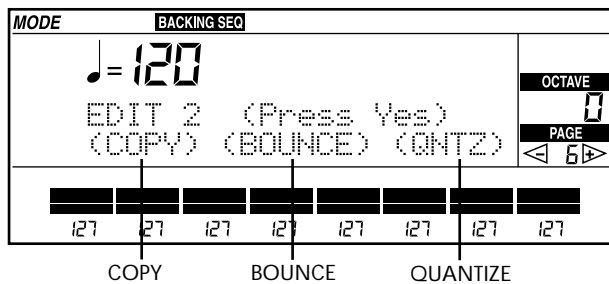
- 3. Press ENTER/YES twice to confirm erasure of data.

How to erase control change data

Control change messages (CTRL), can be made up of an activating part (to turn the effect on) and also a deactivating part (to turn the effect off). If you erase the deactivating message, the control can get “stuck”. For example, if you erase the deactivating message of the damper, the pedal will stay open; if you erase the pitch bend reset message, the track could be out of tune. If this occurs, you should manually erase the activating messages or insert new deactivating events with the functions of “Page 8: Event edit”.

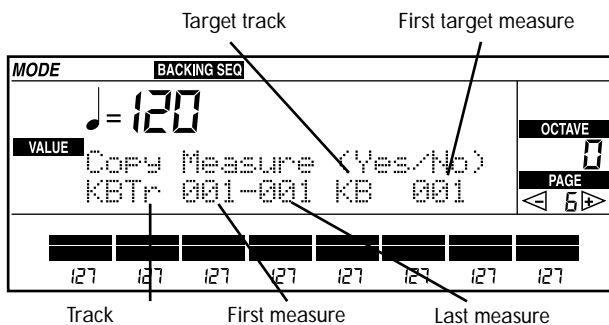
Page 6: Edit 2

In this page you can select one of the following three operations: copy measures (COPY), combine tracks (BOUNCE), adjust timing errors (QUANTIZE). Move the cursor to the operation you wish to carry out using the CURSOR buttons, then press ENTER/YES to access the subpage.



6-1. Copy measures

This operation copies measures within a track or from one track to another.



1. Move the cursor to the "Track" parameter, using the CURSOR buttons and choose the track with the TEMPO/VALUE buttons. Select **ALL** to erase measures from all the tracks (chord track, control track, tempo track, keyboard track, etc.).
2. Move the cursor to the "First measure" parameter, and choose the first measure you wish to copy. Move the cursor to the "Last measure" parameter, and choose the last measure you wish to copy. If only want to copy one measure, assign the same measure to both the parameters.
3. Move the cursor to the "Target track" parameter, and choose the copy destination track. If you have chosen **ALL** as the copy source, this parameter will automatically be set on **ALL**.
4. Move the cursor to the "First target measure" and choose the measure number.
5. Press ENTER/YES twice to confirm copying of data. If the destination measure contains other data, this will be erased and substituted with the new data.

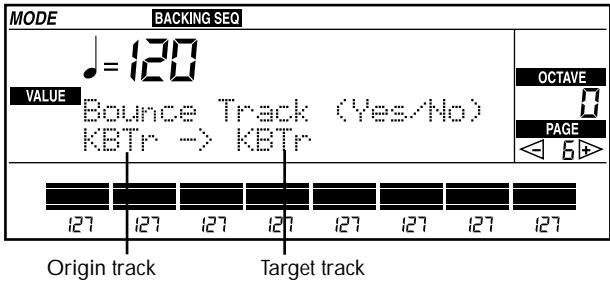
How to copy in measures with different time signature

If the destination measures have a different time signature to the original ones, the data will remain intact, but the time signature of the copied data will not now coincide with the original data.

6-2. Bounce tracks

This operation combines two tracks (keyboard tracks or extra tracks) into one track. The resulting track will use the program, the MIDI channel and all the settings of the Bounce destination track. The data on the source Bounce track will be erased.

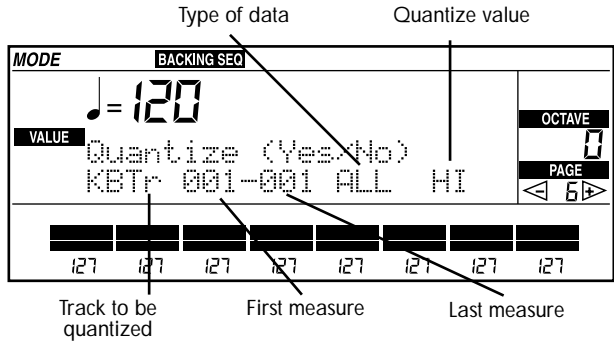
The combination of two tracks containing continuous controls or change control data (e.g. pitch bend, damper, etc.) requires particular care, since the combination of this data can produce undesired results. Before combining these two tracks, it would be better to remove the continuous control data from at least one of the tracks. In order to do this, you should use the functions of subpage “5-3. Erase measures”.



1. Move the cursor to the “Origin track” parameter using the CURSOR buttons, and choose the track with the TEMPO/VALUE buttons.
2. Move the cursor to the “Target track” parameter and choose a track.
3. Press ENTER/YES twice to confirm completion of the Bounce operation.









6-3. Quantize

This operation corrects timing errors of previously-recorded data, without changing the note length. Unlike the quantize function in the recording phase (see “Page 1: Recording” on page 82), this function allows you to specify the type of data to work upon and a range of measures.



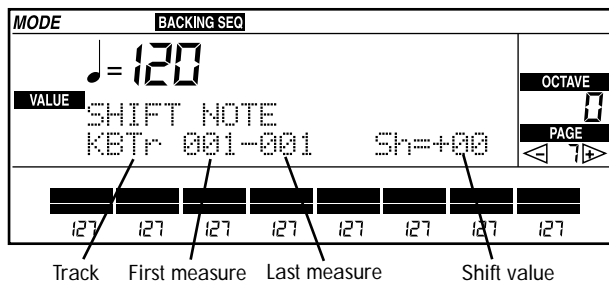
1. Move the cursor to the “Track to be quantized” parameter using the CURSOR buttons and choose the track with the TEMPO/VALUE buttons. CHRD, CTRL and TEMPO are the chord, control and tempo tracks, respectively.
2. Move the cursor to the “First measure” parameter, and choose the first measure you wish to quantize. Move the cursor to the “Last measure” parameter, and choose the last measure you wish to quantize.
3. Move the cursor to the “Type of data” parameter and choose the type of data you wish to quantize. Except for the tempo track, the following types of data can be selected for quantization.

Type of data	Data to be quantized
ALL	All data
NOTE	All notes
CTRL	All control change messages
AFTT	All channel/polyphonic aftertouch messages
BEND	All pitch bend messages
PROG	All program change messages

4. Move the cursor to the “Quantize value” parameter and choose a musical symbol: HI, , , , , , , , . The HI value does not modify data. With other values, the data will be adjusted to ideal intervals, whose spacing is determined by the musical symbol you have selected.
5. Press ENTER/YES twice to confirm the quantizing operation.

Page 7: Shift note (Transposition)

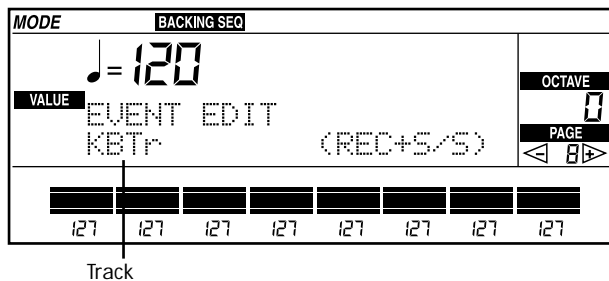
This operation shifts the pitch of notes making them more acute (higher) or more grave (lower), in semitone steps. You can shift all the notes or choose a range of notes. You can transpose all the notes of the selected track or choose the note interval you wish to shift the pitch of.



1. Move the cursor to the “Track” parameter using the CURSOR buttons and choose the track with the TEMPO/VALUE buttons. You can select either the keyboard track or the extra tracks.
2. Move the cursor to the “First measure” parameter and choose the first measure you wish to shift the pitch of. Move the cursor to the “Last measure” parameter and choose the last measure you wish to shift the pitch of.
3. Move the cursor to the “Shift value” parameter and indicate the value in semitones, up to a maximum of ± 24 semitones (± 2 octaves).
4. Press ENTER/YES twice to confirm the shift operation.

Page 8: Event edit

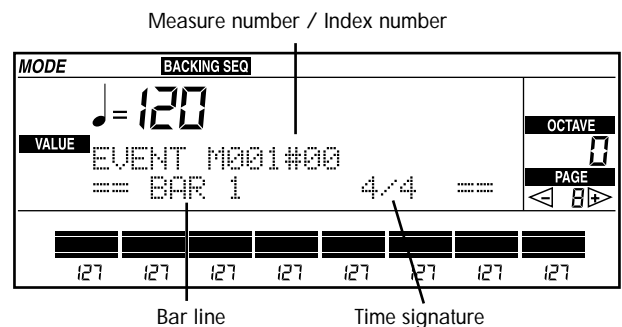
This operation allows you to view and edit single events.



1. Move the cursor to the “Track” parameter using the CURSOR buttons and choose the track with the TEMPO/VALUE buttons.
2. Press REC/WRITE/LYRICS and then START/STOP.
3. Move the cursor to the event and edit it with the TEMPO VALUE buttons. The parameters will differ according to the type of event and the track you have selected.
4. When you have finished editing, press START/STOP to exit event edit.

Event editing for KBTr (keyboard track) and ETr1–8 (extra track)

● Bar lines



Measure number/Index number

The index number is the event number starting from the beginning of the measure. By modifying this number you can step from one event to another within the measure. Index number “00” displays the bar line (i.e. the point that divides two measures) and the time signature of the measure.

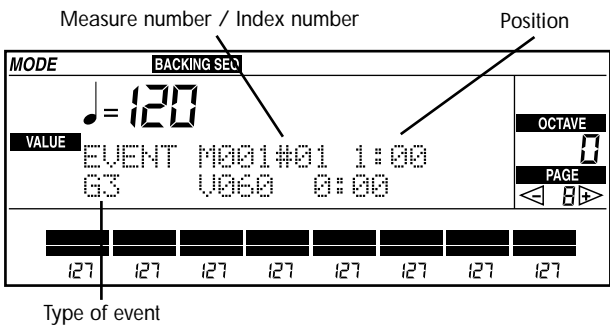
Time signature

This indicates the time scanning of the measure, i.e. (a) number of movements in which it is divided, and (b) scanning unit.

● End of track

This display indicates the end of the track.

● Event



Position

[1:00...8:95]

This indicates the position of the event within the measure. The value is displayed in the form of “quarter:tic” (1 tic = 1/96th of a quarter note). If the abbreviation TIE appears, the note has been tied to the last note in the previous measure.

Event type

The following table shows the event type and possible values.

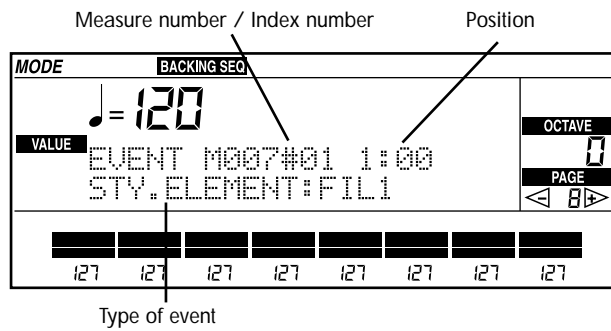
You can insert an event before the displayed event by pressing the INS button. However, it is not possible to carry out this operation if the bar line (BAR event) of the first measure is selected.

You can delete the displayed event by pressing the DEL button. It isn't possible to delete BAR (bar line) or the End of Track indicator.

Type of event	Value	
C-1...G9 (note number)	V:002...V:126 (velocity)	0:00...4:00 *1 length (beats: clock)
BEND (pitch bend)	-8192...+8191 (upper/lower) *2	
AFTT (aftertouch)	000...127 (intensity)	
PROG (bank select:program change)	000...127: 000...127 *3 (bank: number of program)	
CTRL (control change)	C000...C127 (control change number)	000...127 (control number)
PAFT (polyphonic after- touch)*4	C-1...G9 (note number)	000...127 (value)

- *1. If connected to a note in the next measure, this will be displayed as TIE.
- *2. The pitch bend value is divided in two parts of two digits each. Use the CURSOR buttons to switch from one part to the other.
- *3. The LSB values of the Bank Select message can be 000...127, whereas the MSB value is always 0. “- - -” means that the bank is not transmitted, and the previously selected bank will be left unchanged.
- *4. MIDI Polyphonic Key Pressure (Poly Touch) messages will be transmitted, but not received.

Event editing of the CTRL track (controls)



Type of event	Value
ARRANGEMENT *	U11–88, A11–88, B11–88
STYLE	A11–88, B11–58, U1–16
STY, ELEMENT (style element)	OFF, VAR1–VAR4, INT1, INT2, END1, END2, FIL1, FIL2
KB MODE/ASSIGN (keyboard mode/assign) **	FUL-UP1, FUL UP1&2, SP UP1&L, DRUM, FUL-MUTE, FUL-UP2, SP-MUTE, SP-UP1, SP-UP2, SP-UP1&2, SP-LOW
CHORD SCAN (chord scanning)	OFF, LOWER, UPPER, FULL
CHORD MEMORY	OFF, ON
BASS INV. (bass inversion)	OFF, ON

Type of event	Value
TRANPOSE	–11... –1, 00, +1... +11
DRUM MUTE	PLAY, MUTE
PERC MUTE	
BASS MUTE	
ACC1 MUTE	
ACC2 MUTE	
ACC3 MUTE	
UP1 PROG (Upper 1 program) *	A11–A88, B11–B88, C11–C88, D11–D88, E11–E88, Dr11–Dr28, F11–F88
UP2/LOW PROG (Upper 2/Lower program) *	
UP1 OCT. (Upper 1 octave)	–2, –1, 0, +1, +2
UP2/LOW OCT. (Upper 2/Lower octave)	

* These events can also be input using the PROGRAM/ARRANG buttons.

** The KB MODE/ASSIGN parameter controls the KEYBOARD ASSIGN and KEYBOARD MODE sections.

Event editing of the CHRD track (chords)

Option	Keyboard Assign	Keyboard Mode
FUL-UP1	UPPER1	FULL
FUL UP1-2	UPPER1, UPPER2	FULL
SP UP1&L	UPPER1, LOWER	SPLIT
DRUM	---	DRUM
FUL-MUTE	---	FULL
FUL-UP2	UPPER2	FULL
SP-MUTE	---	SPLIT
SP-UP1	UPPER1	SPLIT
SP-UP2	UPPER2	SPLIT
SP-UP1&2	UPPER1, UPPER2	SPLIT
SP-LOW	LOWER	SPLIT

Chord

This indicates the chord that will be input.

Tension

Tension adds notes that have actually been played to the accompaniment, even if they haven't been written in the style pattern.

Bass note

You can indicate a bass note that is different to the chord root (e.g. C/E, that indicates the first reverse of the C chord).

Measure number / Index number Position

MODE BACKING SEQ

VALUE EVENT 003#01 1:48

Am --- A

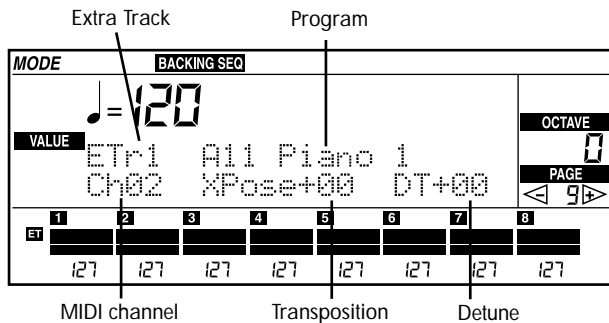
OCTAVE 0

PAGE 8

Chord Tension Bass note

Page 9: Extra Track settings (1)

In this page you can set the initial parameters of the eight extra tracks ETr1-ETr8. In the same way as the keyboard track, you can individually adjust the transpose and detune settings. You can also specify the MIDI channel of every extra track.



Extra Track

[ETr1...ETr8]

Select the extra track using the buttons in the PROGRAM/VOLUME section.

Program

[A11...U88, Dr11...Dr28]

Select the program using the buttons in the PROGRAM/ARRANG section. In order to select a Drum program (Dr11–28), press the F(USER/DRUM) button repeatedly until the abbreviation “Dr” appears, then select a two-digit number with the number buttons. If the program is contained in the selected bank, you only need to select the two-digit number.

Ch (MIDI channel)

[-, 01G...16]

MIDI channel used by the track to receive data from the MIDI IN 1 and 2 connectors. It is possible to assign two or more tracks to the same MIDI channel, so that they play in unison when receiving data from the MIDI. You can assign the same MIDI channel to two tracks, so you can record the notes on one and the controls on the other (e.g. volume, damper, pitch bend).

The “--” option disconnect the track from the MIDI. The abbreviation “G” next to the channel number indicates that channel is assigned to the Global.

.....
Suggestion: you should not assign a MIDI channel that is already used by the Global to the Extra tracks.

Xpose (Transposition)

[-24...+24]

This transposes the track in semitones, up to a maximum of ± 24 semitones (± 2 octaves). At 0 there is no transpose. Since each program has an upper range limit, the higher notes might not play with a very high transpose setting.

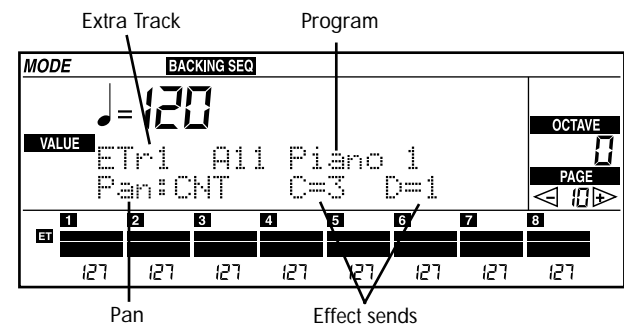
DT (Detune)

[-50...+50]

This finely tunes the track in 1-cent steps, up to a maximum of ± 50 cents ($1/2$ of a semitone). You can create a richer sound by detuning two tracks relative to each other and playing them in unison. Suggestion: assign the same MIDI channel to the two tracks, detune them with the same value, one positive and one negative (if one of the tracks is detuned at +10, the other should be detuned at -10), then record the data onto only one of the two tracks.

Page 10: Extra Track settings (2)

In this page you can choose the program (sound), pan (stereo location) and the effect level sent to the two built-in effect systems, for each of the 8 extra tracks.



Extra Track

[ETr1...ETr8]

Select the track using the buttons of the PROGRAM/VOLUME section.

Program

[A11...U88, Dr11...Dr44]

Select the program using the buttons in the PROGRAM/ARRANG section. In order to select a Drum program (Dr11–28), press the F(USER/DRUM) button

repeatedly until the abbreviation “Dr” appears, then select a two-digit number with the number buttons.

Pan

[OFF, L15...L01, CNT, R01...R15, PROG]

This specifies the stereo location of the track. It will determine the levels of channels A and B.

CNT	Track placed in the center.
L values	Track placed to the left.
R values	Track placed to the right.
OFF	Track output on channels A and B off.
PROG	The pan setting of the program will be used.

C=/D= (Effect sends)

[0...9, P]

These are the send levels for the selected track (sent by channels C and D to the built-in effect systems).

P	The send level of the program will be used.
0-9	Send levels of channels C (usually reverb) or D (usually modulating effect, chorus or flanger type).

Page 11: Effect select

The instrument has two incorporated digital effect processors for the sounds produced by the internal sound generation. In this page, you can choose which

effects you wish to assign to each processor. For more details, see page 175.

Page 12: Effect modulation

In this page you can connect the effects to one or two controls, which allow you to dynamically modulate their intensity. For more details, see page 176.

Page 13: Effect placement

In this page you can choose the effect setup of the backing sequence, and program pan and levels for channels C and D. Pan and sending of arrangement tracks are programmed in the Arrangement Play mode

on “Page 3: Track settings (1)”. Pan and sending of extra tracks are programmed on “Page 10: Extra Track settings (2)” in the Backing Sequence mode. For more details, see page 177.

Page 14: Effect 1 settings

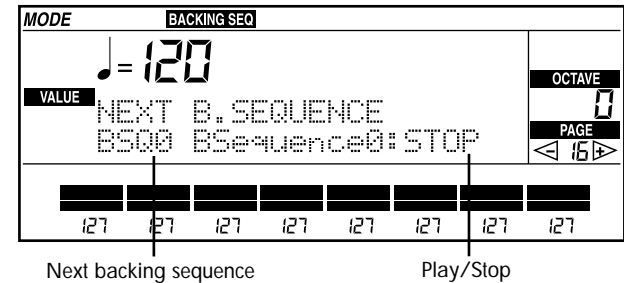
Page 15: Effect 2 settings

These pages contain the effect parameters selected on “Page 11: Effect select”, that will be used for the selected backing sequence. The settings of the other operative modes are carried out in the respective modes.

The parameters contained in these pages will depend on the effects you have selected. For more information on programming effects, see page 178.

Page 16: Next Backing Sequence

The “Next Backing Sequence” page allows you to choose a backing sequence which will be automatically selected when the current backing sequence ends.



Next backing sequence

[OFF, BSEQ0...BSEQ9]

This indicates the backing sequence that will be selected when the current backing sequence ends. If it

is **OFF**, at the end the current backing sequence will carry on playing.

Play/Stop

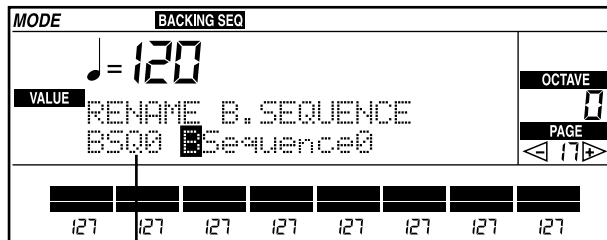
[STOP, PLAY]

This will set the backing sequence you have selected as the next one, in Play or Stop. If all the backing sequences in memory are in Play, they will link up with the next backing sequence, and backing sequence 9 will link up with backing sequence 0, thus you can create a “loop” of backing sequences that playback continuously until you press START/STOP.

- | | |
|------|--|
| STOP | The next backing sequence will be selected, but not played back. |
| PLAY | The next backing sequence will be selected and played back. |

Page 17: Rename Backing Sequence

The “Rename Backing Sequence” page allows you to change the name of the backing sequence. The name can be made up of a maximum of 10 characters.



Selected backing sequence

The following characters can be used.

```

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789? ! , . ; ' ` " + - = # & @ $
% & ' ( ) [ ] < > * / _ | ^ +

```

Use the CURSOR buttons to move the cursor to the location of the character you wish to change and the TEMPO/VALUE buttons to choose a character.

Press INS to insert the character at the cursor location.
Press DEL to delete a character at the cursor location.

8. Song Play mode

Sending MIDI Bank Select messages

You can specify how the Bank Select message will be sent to the MIDI OUT in “Page 8: MIDI filter” in the Disk/Global mode. In order to connect the i40M to another Korg instrument, set the parameter to “o”. To connect a device from another manufacturer, if the results are not correct, set the parameter to “s” or “n”. If “n” is selected, the Bank Select message will not be sent.

Programming a song on an external computer

To program a song on an external sequencer, set the i40M in the Song Play mode. In this way the instrument will transmit on the channel selected with the PROGRAM/VOLUME buttons, and receive from the external sequencer on all the MIDI channels (1-16). See

see the chapter “MIDI” on page 44 for more information.

Song Play and Song Edit

The Song Play mode must be used to read the Standard MIDI Files directly from disk and to program songs on an external sequencer.

The Song Edit mode must be used to create or edit a song directly in the i40M.

Changes in Song Play cannot be saved

The Song Play mode does not allow you to edit the song permanently. You can only make changes during the playback (volume, mute, program), but not memorize them or save them on disk.

Page 1: Performance monitor

Readable formats

The i40M can read Standard MIDI files (SMF) in format 0 and 1. Format 0 SMF will be played back immediately, without having to load them from disk, whereas format 1 SMF will be loaded first, then played back a few seconds later. While loading the SMF in format 1, the START/STOP leds will flash, and the message “Please wait a moment” will appear on the display.

It is also possible to read files in format Yamaha “.DOC”, although there are some limitations. The sounds will be converted, where possible, into GM sounds. As there are differences between the DOC and the GM standard, some of the tracks might playback with programs and levels that differ from the original ones.

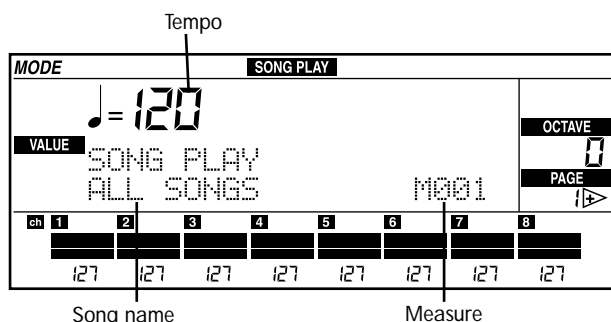
The i40M can display the lyrics of the SMF in M-live (MidiSoft), Solton, or Tune1000 or compatible (Edirol, GMX, KAR, HitBit, XF) format. You can switch from the viewing modes of the lyrics (Lyrics 1 and Lyrics 2) to the viewing mode of the standard parameters (Play) by pressing the REC/WRITE/LYRICS repeatedly. Press the same button again to go back to the lyrics viewing mode:

Lyrics 1 ⇒ Lyrics 2 ⇒ Play ⇒ Lyrics 1...

The i40M can also display the chords contained in the SMF in M-live (MidiSoft), Solton, and GMX format.

The Play mode

Press SONG PLAY to enter the Song Play mode. If you are in a page that differs from the one shown in the display (Page 1), press EXIT/NO to get to Page 1 in the Song Play mode. If the display shows the song lyrics (Lyrics 1 or Lyrics 2 mode), press REC/WRITE/LYRICS once or twice to go to the Play mode.



Song name

Song in playback. You can choose one song, playback all the songs contained on disk, or create a list of songs to playback with just one command. While the song is played back, you can select another song which will be selected at the end of the current one.

- **Playing back all the songs**

To successively playback all the songs contained on disk, select “ALL SONGS” as the song name, and press START/STOP. The songs will playback in the order that they are filed on the disk. You can stop playback by pressing the START/STOP button again. If you have already selected a song, press EXIT/NO to select “ALL SONGS”.

- **Playing back one song**

Select the song with the TEMPO/VALUE buttons. You can select the song on disk with the buttons of the PROGRAM/ARRANGEMENT section. Press PROGRAM/ARRANG to light up the ARRANG led and press a NUMBER button to select the songs 1-8. Press PROGRAM/ARRANG to light up the PROGRAM led and press a NUMBER button to select the songs 9-16.

Press START/STOP to start playback. Press START/STOP again to stop playback.

During playback, you can press RESET to go back to the beginning of the song. In this way the song initial tempo will be reset.

- **The JukeBox**

You can create a list of songs with the JukeBox function. For more information, see also the chapter “Tutorial” on page 23.

1. Choose the first song with the TEMPO/VALUE buttons.
2. Press ENTER/YES to insert the song in the list.
3. Choose the second song with the TEMPO/VALUE buttons.
4. Press ENTER/YES to insert the song in the list.
5. Proceed in the same way to insert the other songs.
6. Press START/STOP to playback the songs on the list.
7. You can use START/STOP to stop or restart playback.
8. Press EXIT/NO to exit the JukeBox mode.

If there are already backing sequences and a song in memory

If there is already a backing sequence (Backing Sequence mode) or a song (Song Edit mode) in memory, before loading a SMF in format 1, a message will appear asking you if you want to erase the backing sequence or song in memory: “Ok to erase B.Seq & Song Edit”. Press ENTER/YES, to erase the data in memory and playback the new song. If you do not wish to lose the contents on memory, press EXIT/NO.

If you are playing back a song list, as soon as you press EXIT/NO the following SMF will be read. (If you want to save the data contained in memory, follow the Save procedure in the Disk/Global mode to save the backing sequences, the Save function on “Page 13: Save” of the Song Edit mode to save the song).

If the size of the file you wish to load is larger than the size of the edit memory, the message “Can’t play all tracks” will appear. Press ENTER/YES to continue loading, or EXIT/NO to cancel.

If a file does not appear

In Song Play mode, only files with an extension of “.MID” will be played back (for example, MICHELLE.MID). You cannot view the SMF which have been saved with a different filename extension. Read the disk with a computer, and change the filename extension to “.MID”. The name of the file must be 8 characters long, plus period and “MID” suffix (MS-DOS® conventions).

If the file does not comply with the Standard MIDI File specifications, it might be impossible to read the file with the i40M, or it might be read incorrectly, with a bad sound.

Parameters of the Play mode

♪ = (Tempo)

[20...250]

Tempo or playback speed of the song. The tempo values can be between 20–250. If you tap the tempo with the TAP TEMPO button, the values will be limited to 40–240. To change the tempo, move the cursor to the Tempo parameter using the CURSOR buttons, then change the tempo with the TEMPO/VALUE buttons.

When the song is played back from the beginning, the tempo saved in the SMF will be selected. If you press RESET while the sequencer is stopped, or if the song ends and the sequencer goes back to the first measure, the tempo saved in the SMF will be automatically selected when the song is played back again.

M (Measure number)

[001...999]

Current measure. You can choose a different measure both when the sequencer is in playback or when it has stopped. If you change a measure while the sequencer is in playback, the START/STOP leds will briefly flash while the measure is being searched for, then the song will start up again from that point.

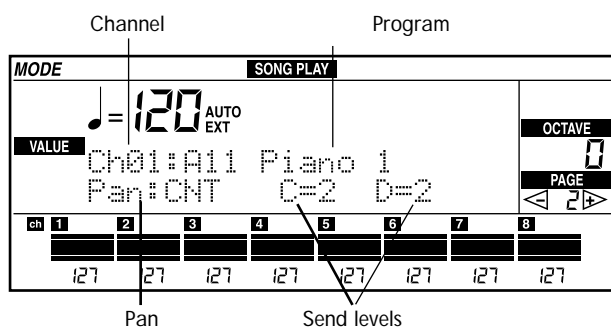
If you choose a measure number following the last measure number of the song, the sequencer will go to the last measure and playback will stop. The message “Measure not exists. Continue?” will appear. If you press ENTER/YES playback will continue with the next song. If you press EXIT/NO playback will stop on the last measure of the current song.

If you move to a measure – or after a measure – that contains tempo change, program change or volume change data, the data for all the channels will be updated, apart from the ones that are muted. If you wish to update these channels as well, change their channel status to Play.

Page 2: Channel settings

In this page you can set the channels during playback. The SMF have their own parameters, which are automatically assigned to the tracks.

Note: The modifications will not be memorized or saved on disk.



Note: In Song Play mode both channels and tracks coincide.

Ch (Channel)

[01...16]

Select the channel you wish to edit using the buttons in the PROGRAM/VOLUME section. The channel which corresponds to each pair of buttons will be indicated in the display, above the volume indicator. You can switch from channels 1-8 to channels 9-16 by pressing the TRACK SELECT button. The program of the selected channel will play on the keyboard.

Note: In the Song Play mode the MIDI channel and the track number coincide.

Warning: The ACC.VOLUME knob controls the volume of all the song tracks, except for the selected track (track considered as "solo").

Program

[A11...U88, Dr11...Dr44]

Program that is assigned to the selected channel. Select the program using the buttons in the PROGRAM/

ARRANG section. (See "Changing the sounds of the real time tracks" on page 30). Press PROGRAM/ARRANG to light up the PROGRAM led. First select a bank (A, B, C, D, E, F-USER/DRUM), then select a two-digit number with the number buttons. If the program is in the same bank, you only need to enter the two-digit number.

To select a drum program (Dr11-Dr28), press F/USER/DRUM repeatedly until the abbreviation "Dr" appears on the display, then select a two-digit number with the number buttons.

Note: According to the General MIDI specifications channel 10 is assigned to the DRUM program.

Pan

[OFF, L15...CENT...R15, PROG]

Stereo positioning of the channel. This works as level for the A and B channels of the internal tone generation (see chapter "Effects"). The A and B channels normally represent the direct signal (A=Left, B=Right). If the effect configuration is not Parallel 3, the A and B channels can work as send levels. see "Page 6: Effect placement".

CNT	In the center.
L values	To the left (Left, A channel).
R values	To the right (Right, B channel).
OFF	The track does not come out on the A and B channels.
PROG	Uses the pan setting of the program.

C=/D= (Effect send)

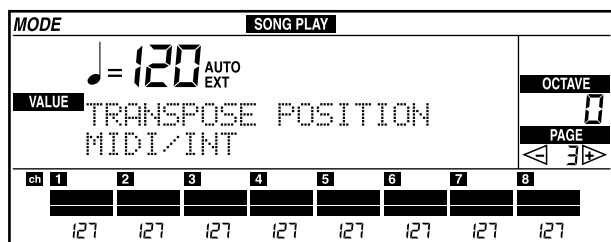
[0...9, P]

Level of the signal sent to the effects. Normally, the C channel is the send to reverb and the D channel is the send to the modulating effect, (chorus, flanger...). If the effect configuration is not Parallel 3, the C and D channels may work differently. See "Page 6: Effect placement".

1-9	Effect level. When the value is 0, the channel does not come out on the internal C/D channels.
P	Uses the value of the program.

Page 3: Transpose position

In this page you can specify the transpose position in the MIDI data flow.

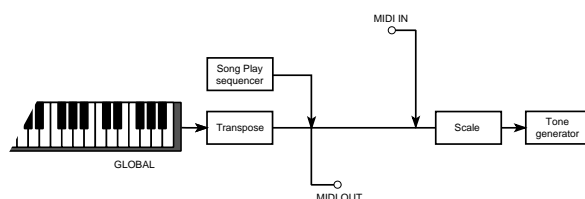


Transpose position

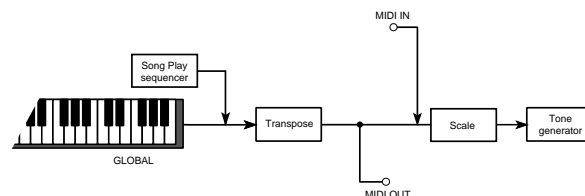
[MIDI/INT, SEQ/MIDI&INT, MIDI&SEQ/INT]

This parameter determines in which point of the MIDI data flow the action of the TRANSPOSE buttons is inserted. The parameter only regards the Song Play mode. The OCTAVE buttons always apply only to the keyboard sounds, and are not affected by this setting.

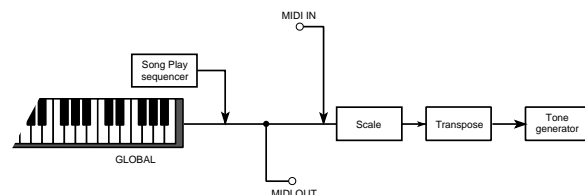
With the **MIDI/INT** option, only the notes received by the MIDI IN will be transposed. The notes played by the sequencer will not be transposed.



With the **SEQ/MIDI&INT** option, both the notes received via MIDI and the ones played by the sequencer will be transposed. Both the notes sent to the internal tone generator and the ones sent to the MIDI OUT will be transposed.



With the **MIDI&SEQ/INT** option, the notes received via MIDI and the ones played back from the sequencer will be transposed. Only the notes sent to the internal tone generator (and not the ones sent to the MIDI OUT) will be transposed.



Page 4: Effect select

The instrument has two built-in digital effect processors for the sounds produced by the internal tone generator. In this page, you can choose the effects assigned

to the song and switch them on/off. For more information, see page 175.

Page 5: Effect modulation

In this page, you can connect the effects to one or two controls, which allow you to dynamically “modulate” their intensity. For more information, see page 176.

Page 6: Effect placement

In this page you can setup the effects of the song and program pan and level of the C and D channels. Pan

and channel send are programmed on “Page 2: Channel settings”. For more information, see page 177.

Page 7: Effect 1 settings

Page 8: Effect 2 settings

These pages contain the effect parameters selected on “Page 4: Effect select”, that will be used for the selected arrangement. The settings for the other operative modes are set in their respective modes.

The parameters contained in these pages will depend on the effects you have selected. For more information on effect programming, see page 178.

Page 9: Song Play Harmony

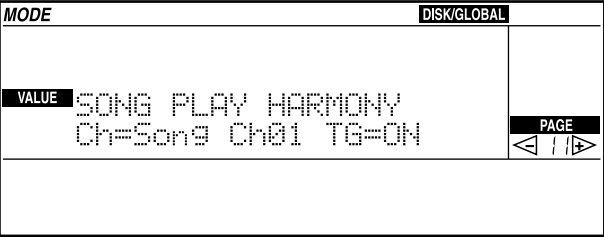
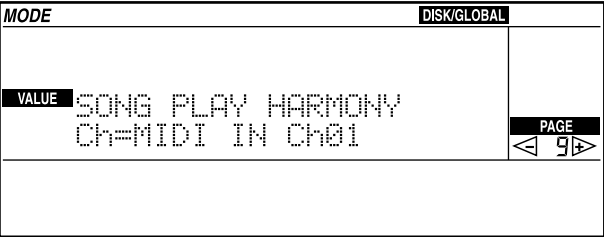
This page allows you to select the harmonization channel of the VOCAL/HARMONY section for the Song Play mode.

It is the same as “Page 11: Song Play Harmony” in the Disk/Global mode and it has been also introduced in the Song Play mode to change the harmonization channel without exit the Song Play mode.

The most common SMF formats (M-live, Tune 1000 and compatibles) usually assign the harmonization track to the MIDI 5 channel. Sometimes the MIDI 7, 15 or 16 channels are used.

The modifications made in this page will not be saved. To save the harmonization channels for the songs, you need to go to “Page 11: Song Play Harmony” in the Disk/Global mode (see page 143), and the save the modifications to Global.

(To save the modifications to Global, whilst in Global mode, press REC/WRITE/LYRICS, and then press ENTER/YES twice to confirm).



Ch (Channel)

[OFF, MIDI IN Ch01...16, Song Ch01...16]

MIDI channel or song track from which the data for harmonization arrive.

- OFF: Harmonization deactivated.
- MIDI IN Ch01...16: MIDI channel. The notes are received through the MIDI IN (1 and 2).
- Song Ch01...16: Song track. The notes are received from the track of the selected song. The notes received via MIDI will be ignored.

TG (Tone Generator)

[ON/OFF]

This parameter is only displayed when you have selected a Song track (Song Ch01...16).

- ON The harmonization notes are also sent to the internal tone generator and played by the selected track.
- OFF The harmonization notes are only sent to the harmonization and not played by the selected track. This settings allows you to save notes of the i40M polyphony.

9. Song Edit mode

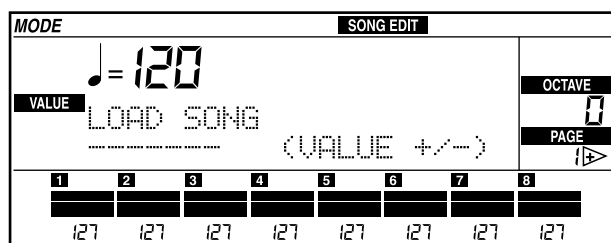
• Saving a song before turning off

Warning: When the instrument is turned off, the song in Song Edit will be erased. Before turning off the instrument, save the song by following the Save proce-

dure contained on “Page 13: Save” in the Song Edit mode. The function is also explained in the “Tutorial” chapter on page 35.

Page 1: Load

Loading a Standard MIDI File (SMF).



Insert the disk containing the SMF you wish to load. The disk must be MS-DOS®, 3.5" format, 720K capacity (DS-DD) or 1.44MB (HD). The SMF must have the filename extension ".MID".

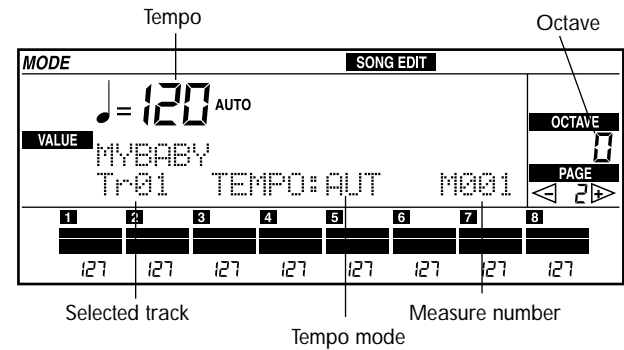
It is also possible to read files in Yamaha ".DOC" format, with however some limitations. The sounds are converted, where possible, into GM sounds. Given the differences between the DOC and the GM standard, some tracks may playback with programs and levels that differ from the original ones.

Choose the SMF with the TEMPO/VALUE buttons. The files will appear in the order in which they were saved on disk. Press ENTER/YES twice to load the selected file. Once the file has been loaded:

- **to go to Page 2 and start playback**, press START/STOP;
- **to go to Page 2 without starting playback**, press EXIT/NO.

Page 2: Playback

The parameters contained in this page control the playback of the SMF loaded in memory.



Tempo

[40...240]

Metronome tempo, or playback speed of the song. Normally, it is the tempo recorded in the song. If you wish to adjust the tempo manually, set the “Tempo mode” parameter to MAN.

Tr (Track)

[1...16]

Selected track.

.....
Note: In Song Edit mode the terms track and channel do not coincide. The MIDI channel of each track can be freely defined on “Page 3: Track parameters”.

Tempo mode

[AUTO, MAN, TEMPO-REC]

Playback mode of the metronome tempo.

- AUTO** The song tempo will play.
- MAN** The tempo will be as defined by the TEMPO/VALUE buttons. The tempo changes recorded in the song will be ignored.
- TEMPO-REC** The tempo can be adjusted manually after pressing the REC/WRITE/LYRICS button.

M (Measure number)

[001...999]

Current measure. With the sequence stopped, you can choose the measure you wish to start from or continue the playback. If you move to a measure – or after a measure – that contains tempo change, program change or volume change, the data for all the channels will be updated, except for the ones that are muted. If you wish to updated these channels as well, change their channel status and put them in Play. It is not possible to choose a different measure while the song is being played back.

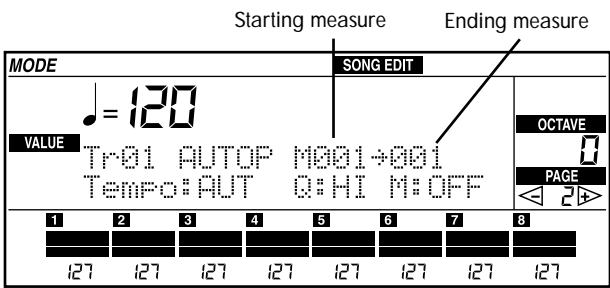
Octave

[-2...+2]

Transposition of the keyboard in octaves. Use the OCTAVE buttons to change this value.

Page 2: Recording

To enter the recording mode, go to Page 2 in the Song Edit mode, then press REC/WRITE/LYRICS. To go back to playback press REC/WRITE/LYRICS or EXIT/NO.



The typical recording procedure is:

1. Go to Page 2 in the Song Edit mode.
2. While in Page 2, press REC/WRITE/LYRICS to enter the recording mode.
3. Select the track you wish to record using the buttons of the VOLUME section. Use the TRACK SELECT button to switch from tracks 1-8 to 9-16.
4. Program the various parameters (tempo, time signature, etc.).
5. Press START/STOP to start recording.
6. When finished, press START/STOP to stop recording and go back to playback.

Tr (Track)

[1...16]

Track to be recorded.

Note: In Song Edit mode the terms track and channel do not coincide. The MIDI channel of each track can be freely defined on "Page 3: Track parameters".

Recording mode

[OVWR, OVDB, AUTP, MANP]

Mode used for recording.

- | | |
|------|--|
| OVWR | (Overwrite) Previously existing data on the track will be erased and replaced with new data. |
| OVDB | (Overdub) New data will be added |

AUTP

to previously existing data.

(Auto punch) You can specify a start measure and an end measure before beginning to record, so that only the specified area will be recorded onto and other recording parts will not be "spoilt". When you select this parameter, the "Start measure" and "End measure" parameters will appear.

MANP

(Manual punch) You can define the recording area manually. Follow this procedure:

1. Select the track you wish to record.
2. Press START/STOP to start playback.
3. Press REC/WRITE/LYRICS at the beginning of the area you wish to record. Recording will begin.
4. Press REC/WRITE/LYRICS again at the end of the area you wish to record. Recording will stop and playback will continue.

Instead of using the REC/WRITE/LYRICS button, you can switch on and off the Manual Punch with a specially programmed pedal or with the EC5 controller. see "Page 12: Assignable pedal/switch" or "Page 13: EC5 external controller" in the Disk/Global mode.

Tempo mode

[AUT, MAN, REC]


Tempo mode of the song.

- | | |
|-----------|--|
| AUTO | The song tempo will play. |
| MAN | The tempo will be as defined by the TEMPO/VALUE buttons. The tempo changes recorded in the song will be ignored. |
| TEMPO-REC | The tempo can be adjusted manually after pressing the REC/WRITE/LYRICS button. Select the TEMPO-REC option, press REC/WRITE/LYRICS and then START/STOP to start recording. Now you can make tempo changes which will be recorded in the Tempo track of the song. |

Q (Recording quantize)

[HI,  ... 

Correction of timing imprecisions during recording.

HI	The notes will be recorded as they were played. (On the i40M precision is 96 "tic" per quarter).
Other values	The notes adjust to ideal intervals, whose spacing is determined by the quantize value you have chosen. For example, if the parameter is set on  , the attack time of the notes will be positioned to the nearest quarter. Since the pitch bend and the other continuous controls are also quantized, you need to be careful not to make your recording too unnatural.

M (Metronome)

[OFF, ON, REC]

Turning the metronome on or off.

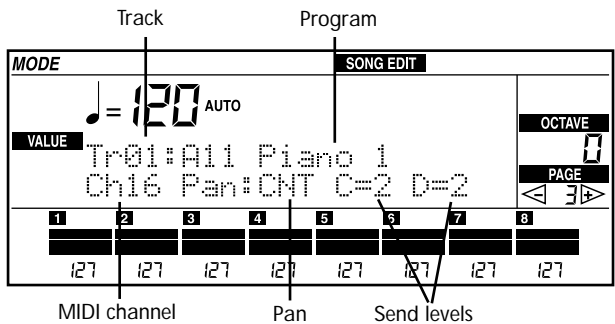
OFF	The metronome will only sound during the precount of recording.
ON	The metronome will sound both during recording and playback.
REC	The metronome will only sound during recording.

Recording a song with a time signature that differs from 4/4

When you enter in recording mode, the time signature of the song is 4/4. If you wish to use a different time signature (e.g. 3/4, or 5/8), you need to insert an empty measure at least before starting to record, and assign the desired time signature to the inserted measure. See "7-2. Insert measures" on page 121.

Page 3: Track parameters

In this page you can view and modify the parameters of each individual track.



Tr (Track)

[01...16]

Select the track you wish to edit using the buttons in the PROGRAM/VOLUME section. The track that corresponds to each pair of buttons will be indicated in the display above the volume indicator. Move from tracks 1-8 to tracks 9-16 by pressing the TRACK SELECT button. The program of the selected track will play on the keyboard.

Program

[A11...U88, Dr11...Dr28]

Program that is assigned to the selected track. Select the program using the buttons in the PROGRAM/ARRANG section. To select a drum program (Dr11–Dr28), press repeatedly F(USER/DRUM) until the abbreviation “Dr” appears in the display, then select a two-digit number with the number buttons.

Note: The track to which channel 10 is assigned can only play a DRUM program.

Ch (MIDI channel)

[01...16]

MIDI channel of the track. If a song is converted into a Standard MIDI File with the function on “Page 13. Save”, the MIDI channels specified here will be used. You can assign the same channel to more than on track. However, once the song has been saved as a SMF 0 format, the program change messages and controls will be mixed in the same channel.

Pan

[OFF, L15...CENT...R15, PROG]

Stereo positioning of the track. This works as level for the A and B channels of the internal tone generation (see the “Effects” chapter). The A and B channels normally represent the direct signal (A=Left, B=Right). If the effect configuration is not Parallel 3, the A and B channels can work as send levels. see “Page 10: Effect placement”.

CNT	In the center.
L values	To the left (Left, A channel).
R values	To the right (Right, B channel).
OFF	The track does not come out on the A and B channels.
PROG	Uses the pan setting of the program.

C=/D= (Effect send)

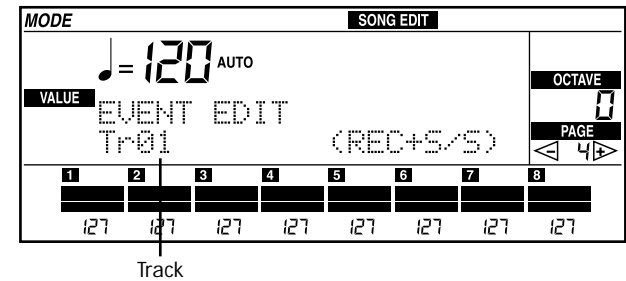
[0...9, P]

Level of the signal sent to the effects. Normally, the C channel is the send to reverb and the D channel is the send to the modulating effect, (chorus, flanger...). If the effect configuration is not Parallel 3, the C and D channels may work differently. see “Page 10: Effect placement”.

0-9	Effect level. When the value is 0, the channel does not come out on the internal C/D channels.
P	Uses the value of the program.

Page 4: Event edit

The Event Edit page allows you to modify single events, for example notes and control change messages (pedal, volume, pan...).



The typical edit procedure is:

- 1. Select the track you wish to edit, press REC/ WRITE/LYRICS and then START/STOP.
- 2. Select the "Measure number/Index number" parameter and go to the event you wish to edit. Make the necessary modifications.
- 3. When finished, press START/STOP to exit event edit.

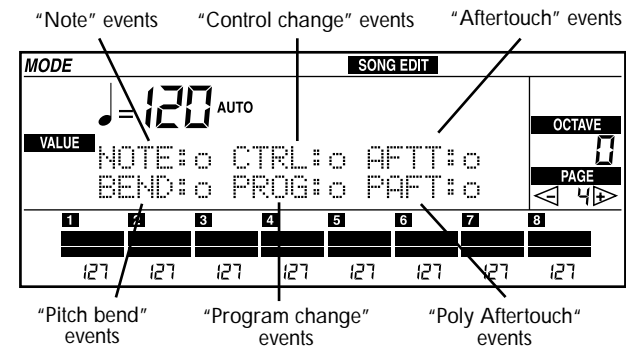
Track

[01... 16, TEMPO]

The track you wish to edit.

Event filter

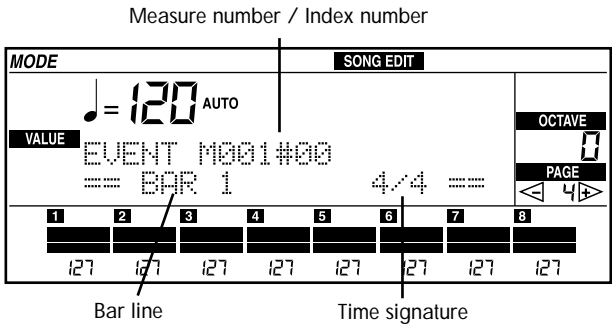
To make viewing and searching of the event you wish to edit easier, you can "filter" the events shown on the display. While you are in the main page of Event Edit, press REC/WRITE/LYRICS to access the Event Filter page. Assign "o" to the type of events you wish to view, "x" to the type of event that you do not wish to view. For more information on the various types of events, refer to the paragraph about this further on.



Press REC/WRITE/LYRICS to get back to the Event Edit page.

Event types

● BAR (Bar line)



Measure number/Index number

The index number is the event number within the measure. By modifying this number you can step from one event to another within the measure. Index number 0 corresponds to the bar line (i.e. the point that separates two measures) and the time signature of the measure.

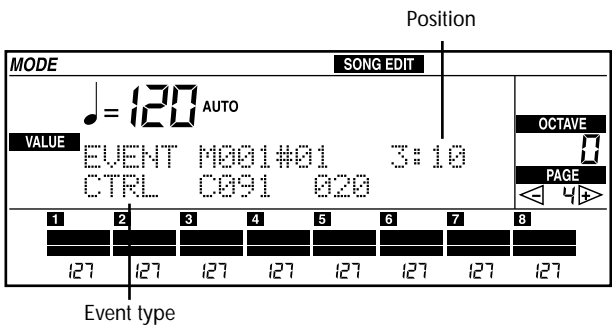
Time signature

This indicates the time scanning of the measure, i.e. the number of movements in which it is divided, and the scanning unit.

● End of track

This display indicates the end of the track.

● Event



Position

[1:00...8:95]

This indicates the position within the measure. The value is displayed in the form of “quarter:tic” (96 tics per quarter). If the TIE abbreviation appears, the note has been tied to the last note in the previous measure.

Event type

Event type	Values	
C-1...G9 (note data)	V:002...V:126 (velocity)	0:00...4:00*1 length (beats: tics)
BEND (pitch bend)	-8192...+8191*2 (upper/lower values)	
AFTT (aftertouch)	000...127 (value)	
PROG (program change)	000...127: 000...127*3 (bank: program number)	
CTRL (control change)	C000...C127 (control change number)	000...127 (control number)
PAFT*4 (polyphonic: aftertouch)	C-1...G9 (note number)	000...127 (value)

*1. If a note is connected to a note in the next measure, this writing TIE will be displayed.

*2. The pitch bend value is divided into two parts with two digits each. Use the CURSOR buttons to switch from one part to the other.

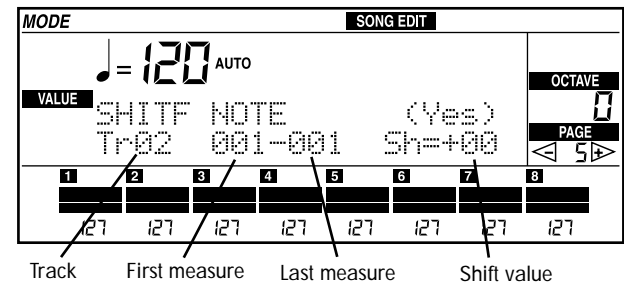
*3. The LSB values of the MIDI Bank Change message are 000...127, whereas the MSB value is 0.
“- - -” means that the bank is not transmitted, and the current bank will remain selected.

*4. The MIDI Polyphonic Key Pressure messages will be transmitted, but not received.

- You can delete the selected event by pressing the DEL button. It is not possible, however, to delete the BAR (bar line) or the End of Track indicator.
- You can insert an event before the selected event by pressing the INS button. It is not possible, however, to carry out this operation if you have selected the bar line (BAR event) of the first measure.

Page 5: Shift notes (Transposition)

This function shifts (i.e. transposes) the pitch of notes making them more acute (higher) or more grave (lower). You can shift all the notes or choose certain measures.



1. Move the cursor to the “Track” space using the CURSOR buttons and choose the track with the TEMPO/VALUE buttons.
2. Move the cursor to the “First measure” space and choose the first of the measures you wish to shift. Move the cursor to the “Last measure” and choose the last of the measures you wish to shift.
3. Move the cursor to the “Shift value” parameter and indicate the value in semitones, up to a maximum of ± 24 semitones (± 2 octaves).
4. Press ENTER/YES twice to confirm the shift operation.

Track

[Ch01...Ch16, ALL]

Selected track(s). Choose **ALL** to select all the tracks at the same time.

Start Measure

[001...999]

The first measure where you wish to shift the pitch of the notes.

End measure

[001...999]

The last in the range of measure where you wish to shift the pitch of the notes.

Sh= (Shift amount)

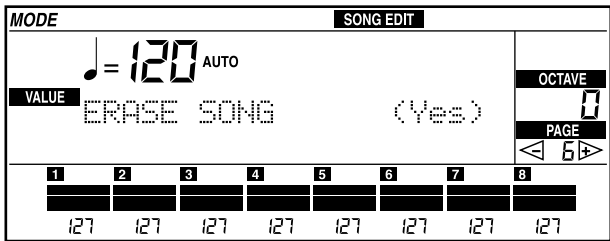
[-24...+24]

Shift amount in semitones.

+24	+2 octaves.
+00	No effect.
-24	-2 octaves.

Page 6: Erase song

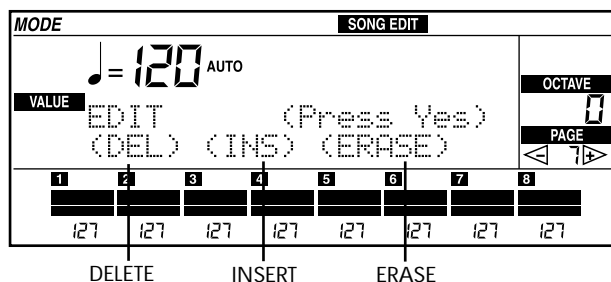
When a song has been loaded in Song Edit, the remaining memory available for the backing sequences will decrease, and it may no longer be possible to read a new backing sequence. By erasing the song you can free some of the memory. Go to this page and press ENTER/YES twice.



If you do not want to lose the data, save it on disk before erasing it from memory. Use the Save function on “Page 13: Save”.

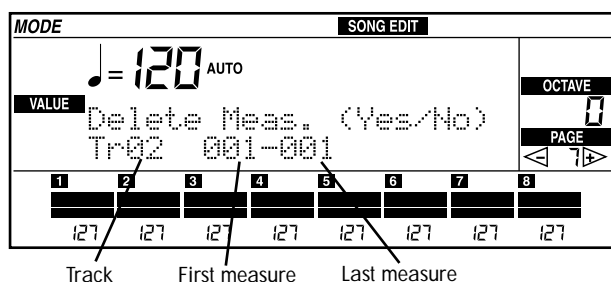
Page 7: Edit

In this page, you can select one of the three following functions: delete measures (DELETE), insert measures (INSERT), erase data from measure (ERASE). Move the cursor to the desired function using the CURSOR buttons, then press ENTER/YES to enter the subpage.



7-1. Delete measures

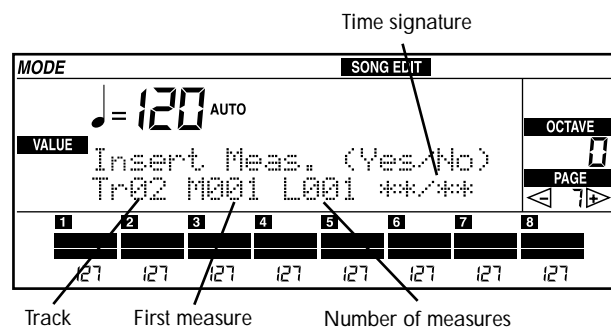
This function deletes measures from the selected track. The following measures will then be moved back, filling the gap that was created by deleting the other data.



1. Move the cursor to the "Track" field using the CURSOR buttons, and choose the track with the TEMPO/VALUE buttons. Select **ALL** to delete the measures from all tracks at the same time.
2. Move the cursor to the "First measure" field, and choose the first of the measures you wish to delete. Move the cursor to the "Last measure", and choose the last of the measures you wish to delete. If you only wish to delete one measure, assign the same measure to both the fields.
3. Press ENTER/YES twice to confirm deletion.

7-2. Insert measures

This function inserts measures into the selected track. The following measures will be moved forward.

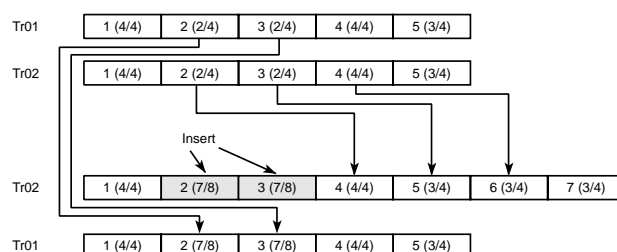


1. Move the cursor to the "Track" field using the CURSOR buttons, and choose the track with the TEMPO/VALUE buttons. Select **ALL** to insert measures on all tracks at the same time.
2. Move the cursor to the "First measure" field, and indicate the measure where you wish the insert to take place. Move the cursor to the "Number of measures" field, and indicate the number of measures to be inserted. Move the cursor to the "Time signature" field, and choose the time signature for the measures you wish to insert.
3. Press ENTER/YES twice to confirm insertion.

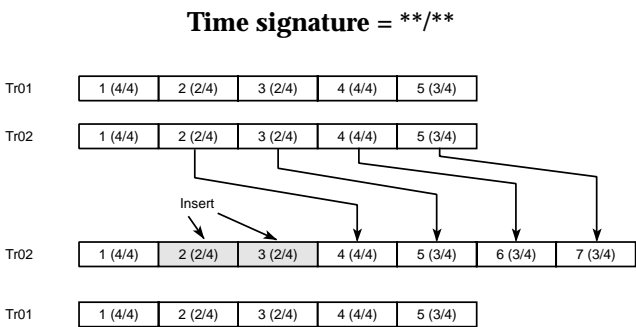
Inserting measures with a different time signature

The change of time signature during playback will take place if the tempo is $\text{♩} = \text{AUT}$. If measures are inserted with a different time signature in a track, all the tracks will have the new time signature. The data will remain intact however, and the tracks will play exactly as they did before.

Inserting two measures of time signature = 7/8

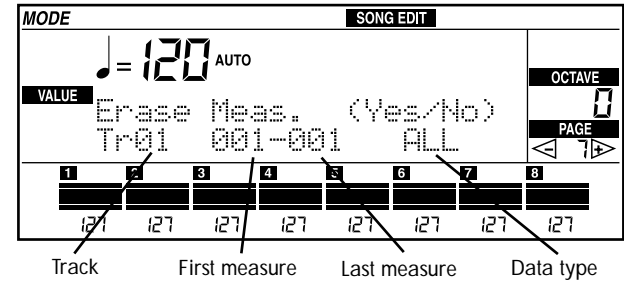


If you assign the value ****/**** to the "Time signature" parameter, the new measures will have the same time signature as the measures that are in the same position on the other tracks. If the other tracks are still empty, the time signature of the measure that precedes the measures to be inserted, will be selected.



7-3. Erase measures

This function erases all or part of the data contained in the specified measure(s). The measures themselves will not be erased.



1. Move the cursor to the “Track” field using the CURSOR buttons, and choose the track with the TEMPO/VALUE buttons. Choose **ALL** to erase data from all the tracks at the same time.

2. Move the cursor the “First measure” field, and choose the first of the measures you wish to erase. Move the cursor to the “Last measure” field, and choose the last of the measures you wish to erase. If you only want to erase data from one measure, assign the same measure to both the fields.

Type of data	Erased data
ALL	All data
NOTE	All note messages
CTRL	All control change messages
AFTT	Channel/polyphonic aftertouch messages
BEND	All pitch bend messages
PROG	All program change messages

3. Press ENTER/YES twice to confirm erasure of data.

Erasing control change messages

The continuous controls (control change, CTRL) can be made up of an activating and a deactivating part. If you erase the deactivating part, the control can get “stuck”. For example, if you erase the deactivating message of the damper, the pedal will stay open; if you erase the pitch bend reset message, the track could be out of tune. Manually erase the activating messages or insert new deactivating events with the functions of “Page 4. Event edit”.

Page 8: Effect select

The instrument has two built-in digital effect processors for the sounds produced by the internal tone generator. In this page you can select the effects you wish

to assign to the song and switch them on or off. For more information, see page 175.

Page 9: Effect modulation

In this page you can connect the effects to one or two controls, which allow you to dynamically “modulate” their intensity. For more information, see page 176.

Page 10: Effect placement

In this page you can setup the effects of a song and program pan and level for channels C and D. Pan and effects send for the channels must be programmed on

“Page 3: Track parameters”. For more information, see see page 177.

Page 11: Effect 1 settings

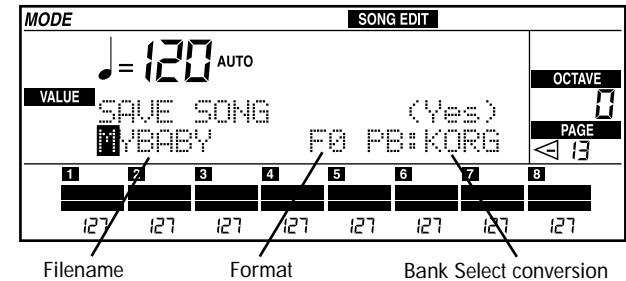
Page 12: Effect 2 settings

These pages contain the effect parameters selected on “Page 8: Effect select” that will be used for the song. The settings for the other operative modes are set in their respective modes.

The parameters contained in these pages will depend on the effects you have selected. For more information on programming effects, see page 178.

Page 13: Save

In this page you can save the song on disk, in Standard MIDI File (SMF) format. You can change the name of the song before saving it. To save the song, when this page is displayed press ENTER/YES twice.



For compatibility with the MS-DOS® conventions, the filename can be up to 8 characters long + 3-character extension (automatically added). Move the cursor with the CURSOR buttons and modify the selected character with the TEMPO/VALUE buttons. Press INS to insert a character at the cursor location. Press DEL to delete the character at the cursor location.

Format

[0, 1]

Format of the Standard MIDI File (SMF). In order to playback the song in the Song Play mode of the i40M, choose format 0, which will allow loading to take place more quickly and will occupy no space in memory.

If two or more tracks are using the same MIDI channel (for example, if you recorded the percussion instruments onto different tracks, but with the same MIDI channel), it would be better to save the data in format 1 to keep the tracks separate.

Format 0	All tracks are mixed in only one track. The MIDI channel data is kept for each event.
Format 1	The tracks are saved separately within the file.

PB (Program bank, Bank Select conversion)

[NUM, KORG, SERI]

This parameter allows you to decide which Bank Select number must be saved in the SMF.

NUM	The bank select will not be saved. If you have used programs from banks other than A and B (General MIDI banks), the SMF may playback with sounds that differ from the original ones, except for channel 10 which maintains the standard program changes.
KORG	The bank select numbers that can be used with Korg instruments will be saved. Korg GM compatible instruments will playback perfectly SMF created with programs from A and B banks, and will select the correct drum kits. Some sounds may not play at all on instruments from other manufacturers.
SERI	The following bank select numbers will be saved: AB=00,00 banks, CD=00,01 banks, E=00,02 bank, F=00,03 bank, Dr=00,04 bank.

10. Disk/Global mode

• “Parameter modified - Write?” message

After having modified some parameters, if you press the button of another operative mode, the question “Parameter modified - Write?” will appear in the display.

If you wish to save the changes you have made, press ENTER/YES twice, otherwise press EXIT/NO. If the changes are not saved, switching the instrument off and then on again will reset the original Global values.

The changes will be saved in memory, and kept even when the instrument is turned off. They will be saved in the Global file when you perform one of the following operations:

- Save > Save All
- Save > Save Global

Changes will be loaded in memory when you perform one of the following operations:

- Load > Load Global
- Load > Load All > All

The settings saved in memory will be saved on disk. Therefore, before saving the Global on disk, you need to save the Global settings in memory, using the Write Global function contained in “Page 22: Write Global” (see page 152).

In order to avoid drastic changes in the instrument operation when loading data from disk, the Split Point and Lower Memory Mode parameters will be saved in memory when you save the Global, but will not be saved on disk.

You can also access the Write Global function by pressing REC/WRITE/LYRIVS while you are in any other page in the Disk/Global mode.

Introduction to disks

The i40M can save most of the data contained in memory on a 3,5" DS-DD disk (720KB capacity) or HD (1,44MB capacity), formatted in MS-DOS® format. A disk can contain up to 112 files, irrespective of the disk size. The i40M can format disks, load, save and delete data.

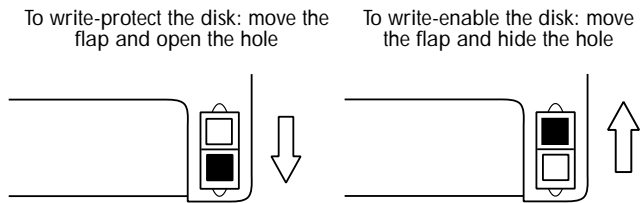
The data is saved in different types of files, each of which containing a particular kind of data. In order to distinguish one file from another, each type of file has an extension of a period followed by three characters. The following table shows the correspondence between filename extensions and types of file.

Type of data	Extension	Size
Arrangement	.ARR	9 KB
Style	.STY	256 KB (max.)
Backing sequence	.BSQ	132 KB (max.)
Standard MIDI File (SMF)	.MID	720 KB (max.)
Program	.PRG	14 KB
Global	.GBL	448 Byte
Arrangement Global	.ARG	79 Byte
Keyboard Set	.KBS	500 Byte
Vocal/Guitar Settings	.HMB	70 Byte

You can view the file extensions with the UTILITY> Delete function, on "Page 1: DISK functions"

Write protection

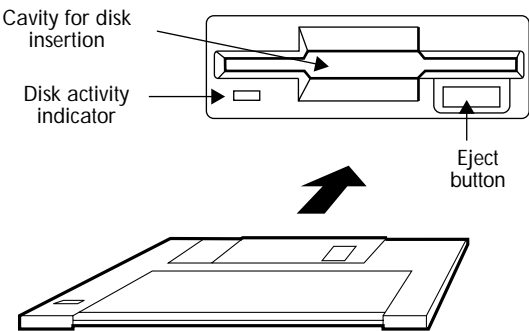
You can protect a disk from the accidental overwriting of data, by opening the write protect hole. To protect the disk from the overwriting of data, slide the protection flap so that the hole becomes visible.



Inserting a disk

Insert the disk delicately into the disk drive, with the label facing upwards and the metal part to the front. Press it in as far as it will go.

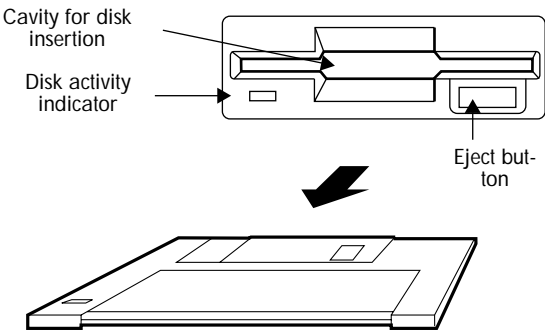
Note: The i40M incorporates a new type of disk drive and you cannot hear "click" when the disk is inserted into place.



Removing a disk

Before removing a disk, make sure that the disk activity indicator is off. If the led is off, remove the disk by pressing the eject button.

Warning: Do not remove the disk if the disk activity indicator is lit up.



Cleaning the heads

The disk drive read/write heads get dirty with use and become less accurate. You can clean the heads with a special cleaning disk, purchasable from any computer or musical instrument store. Use a 3.5" DS wet type head cleaning disk; and carefully follow the instructions included with the cleaning disk.

Precautions

- Make a backup copy of the disks, in order not to lose data forever in case of damage. If you have a personal computer, you can keep a copy of the data on its hard disk.
- Do not open the metallic shutter on the disk, and do not touch the surface of the magnetic media inside it. If the magnetic media becomes scratched or soiled, it may cause irreparable damage.
- Do not leave a disk in the disk drive while transporting the instrument: the read/write heads may scratch the disk and ruin data.
- Keep the disks away from sources that generate magnetic fields, for example televisions, refrigerators, computers, monitors, speakers and transformers. Magnetic fields can alter the contents of the disks.
- Do not keep disks in very hot or humid places, do not expose them to direct sunlight and do not store them without use in dusty or dirty places.
- Do not place heavy objects on top of the disks.
- After use, replace the disks in a case.
- Do not remove the disk or move the instrument while the disk drive is operating (green led lit up).

Possible problems

- In exceptional cases, the disk can get stuck in the disk drive. In order to avoid this happening, you should only use disks of the best quality. If the disk does get stuck, do not try to force it out. Contact

your local dealer or your nearest Korg Service Center.

- Magnetic fields, dirt, humidity and usage can damage data on disk. You can try to recuperate the data with disk repair utilities for personal computers (e.g. Norton Utilities or PC Tools). It is however, a good idea to make a backup copy of data.

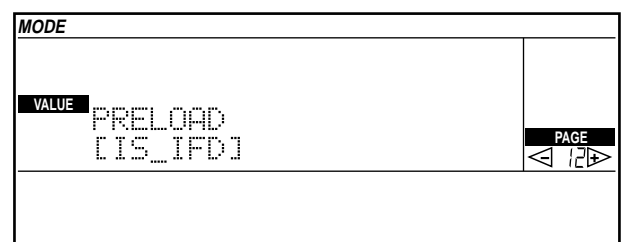
The disk supplied with the instrument

The i40M is supplied with a disk containing some demonstrative files: a song, a backing sequence, Vocal/Guitar settings, Keyboard Set.

The disk also contains a backup copy of the i40M ROM data, that is non user-modifiable data. They are the arrangements of the A and B banks, the programs of the A, B, C, D, and E banks, and the styles of the A and B banks.

If the i40M is subjected to intense magnetic fields or sudden voltage changes, this data may be damaged and it will be necessary to load the again. To load the ROM data follow this procedure:

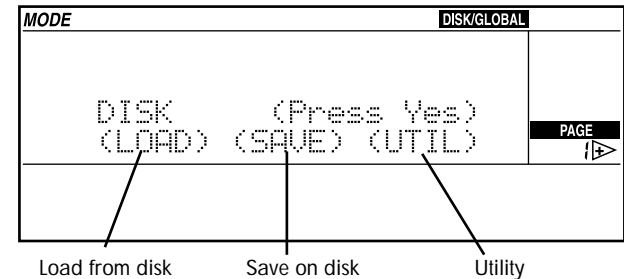
1. Hold down the SONG PLAY and DISK/GLOBAL buttons, and turn the instrument on.
2. Release the buttons as soon as the i40M test display appears.
3. Press PAGE [+] repeatedly until you get to the Pre-load page:



4. Press the ARRANG/PROGRAM button to light up the PROGRAM led.
5. Press the NUMBER [8] button to start loading data.

Page 1: DISK functions

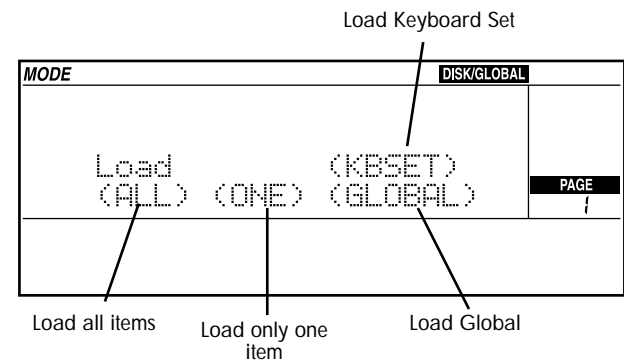
In this page you can select one of the three disk functions: loading (LOAD), saving (SAVE) and utility (UTIL). Move the cursor to the desired function, then press ENTER/YES to access its subpages.



1. Load

The Load function allows you to load data from disk. You can load all the data that can fit in memory (Load All), only some data (Load One), only Global data (Load Global), or only the Keyboard Sets (Load Kbset). Choose one of the three options and press ENTER/YES to access the relative subpage.

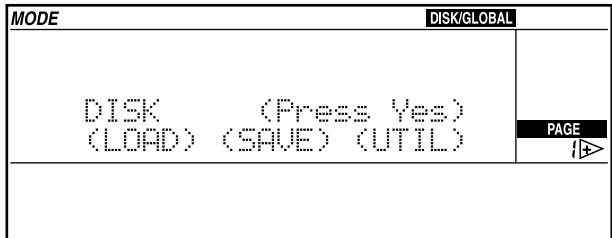
.....
Warning: Loading data can cause erasure of data previously existing in memory. Before loading new data, make sure that you have a copy on disk of any important data in memory.
.....



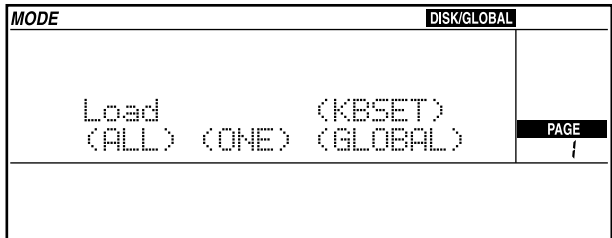
1-1. Load all

The Load All function loads all data of a file, or all data of a particular type contained in a file.

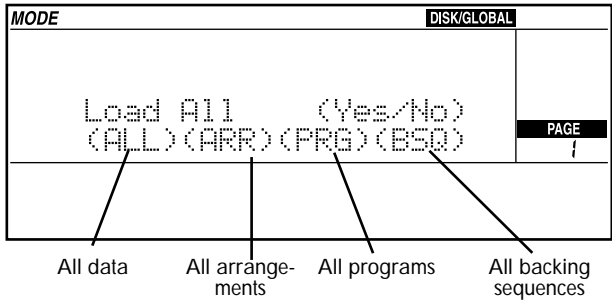
1. Press DISK/GLOBAL.



2. Select LOAD and press ENTER/YES.



3. Select ALL and press ENTER/YES.



4. Select one of the options and press ENTER/YES to view the contents of the disk. Only the data that can be loaded with the selected function will be displayed.

ALL

An ALL file contains all the data that can fit in memory. In reality, it is a file that points to other files, which can even be loaded separately. The ALL files allow you to load all the data you may need for an entire concert, in one operation. This operation loads also the Global data, including the user scales and the two USER drum kits.

1. Insert the disk.
2. Choose ALL and press ENTER/YES. The ALL filenames contained on disk will appear in the display. The filename extension will not appear.

3. Choose the desired file with the TEMPO/VALUE buttons.
4. Press ENTER/YES to load the file (or, press EXIT/NO to cancel the procedure). If all the data requested by the ALL file is not found on the disk, an error message ("Missing some files") will appear after loading.

ARR (ARRANGEMENT)

The ARR files contain up to 64 arrangements to be located in the USER bank. If there are also files with styles of the same name as the ARR file (but with the filename extension STY), the USER styles up to a maximum of 16 (USER 11-28 styles) will also be loaded along with the arrangements.

1. Insert the disk.
2. Select ARR and press ENTER/YES. The display will show the name of the ARR files contained in the disk. The file extension will not appear.
3. Select the desired file with the TEMPO/VALUE buttons.
4. Press ENTER/YES to load the file (or, press EXIT/NO to cancel the procedure). If all the data requested by the ARR file is not found on the disk, an error message ("Missing styles") will appear after loading.

PRG (PROGRAM)

The PRG files contain 64 programs of the F(USER) bank and the two Drum programs of USER (Dr 27 e Dr 28) type.

1. Insert the disk.
2. Choose PRG and press ENTER/YES. The PRG file-names contained on disk will appear in the display. The filename extension will not appear.
3. Choose the desired file with the TEMPO/VALUE buttons.
4. Press ENTER/YES to load the file (or, press EXIT/NO to cancel the procedure). If all the data requested by the PRG file is not found on the disk, an error message will appear after loading.

BSQ (BACKING SEQUENCE)

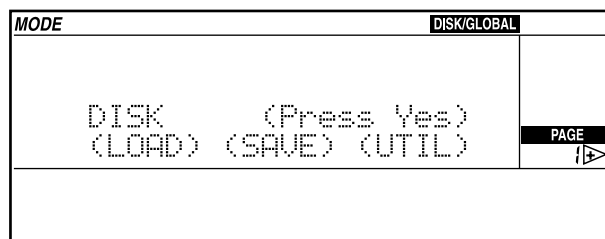
The BSQ files contain up to 10 backing sequences.

1. Insert the disk.
2. Choose BSQ and press ENTER/YES. The BSQ file-names contained on disk will appear in the display. The filename extension will not appear.
3. Choose the desired file with the TEMPO/VALUE buttons.
4. Press ENTER/YES to load the file (or, press EXIT/NO to cancel the procedure). If all the data requested by the BSQ file is not found on the disk, an error message will appear after loading.

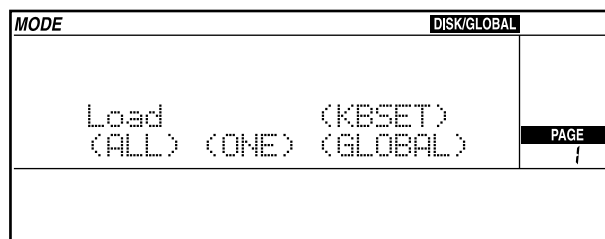
1-2. Load one

The Load One function allows you to load a single element from a file: an arrangement (ARR), a program (PRG), a backing sequence (BSQ) or a style (STY).

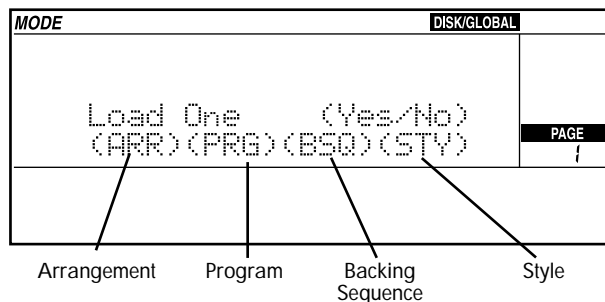
1. Press DISK/GLOBAL.



2. Select LOAD and press ENTER/YES.



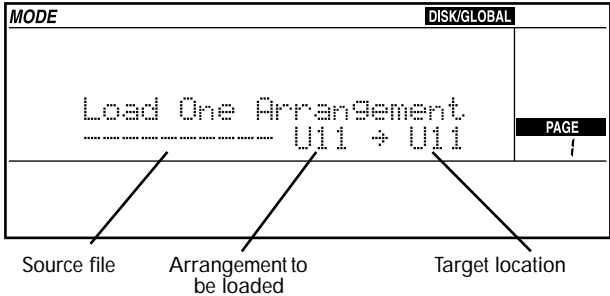
3. Select ONE and press ENTER/YES.



4. Select one of the options and press ENTER/YES to view the disk directory.

ARR (ARRANGEMENT)

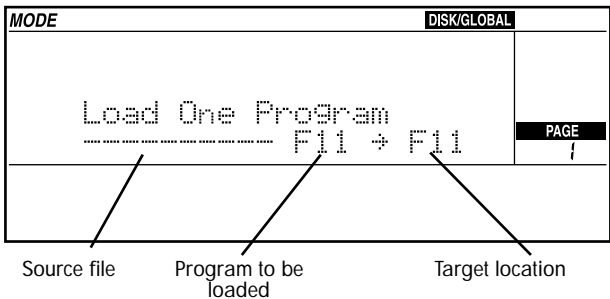
This option allows you to load an arrangement from an arrangement file. If the arrangement uses an USER style, this style will not be loaded with this command. To load the missing style, use the Load One Style function.



1. Use the TEMPO/VALUE buttons to choose the program file from which you wish to load the program.
2. With the CURSOR buttons, move the cursor to the second field. Use the TEMPO/VALUE buttons to choose the program you wish to load.
3. With the CURSOR buttons, move the cursor to the third field. Use the TEMPO/VALUE buttons to choose the USER location where you wish to load the program. Alternatively, you can choose the location with the buttons in the PROGRAM section.
4. Press ENTER/YES to load the program. (Or press ENTER/NO to stop loading).

PRG (PROGRAM)

This option allows you to load a program from a program file. If you load a USER Drum program, the relative USER drum kit will be loaded as well.

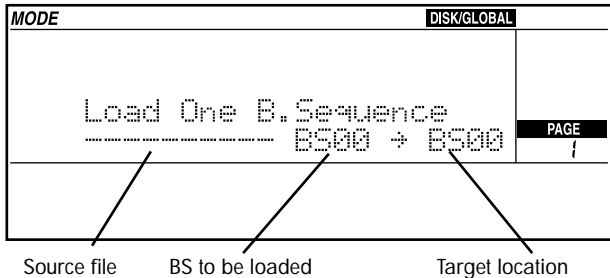


1. Use the TEMPO/VALUE buttons to choose the program file from which you wish to load the program.
2. With the CURSOR buttons, move the cursor to the second field. Use the TEMPO/VALUE buttons to choose the program you wish to load.
3. With the CURSOR buttons, move the cursor to the third field. Use the TEMPO/VALUE buttons to choose the F(USER) or the Dr 27-28 location, where you wish to load the program. Alternatively, you can choose the location with the buttons in the PROGRAM section.
4. Press ENTER/YES to load the program. (Or press EXIT/NO to stop loading).

Warning: If the loaded program uses a USER drum kit, that drum kit will automatically be loaded. In this case, any previously existing drum kit in memory will be a overwritten by the new drum kit.

BSQ (BACKING SEQUENCE)

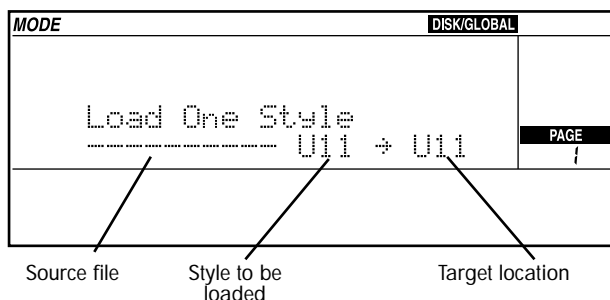
This option allows you to load a backing sequence from a backing sequence file.



1. With the TEMPO/VALUE buttons choose the backing sequence file from which you wish to load the backing sequence.
2. With the CURSOR buttons, move the cursor to the second field. Use the TEMPO/VALUE buttons to choose the backing sequence you wish to load.
3. With the CURSOR buttons, move the cursor to the third field. Use the TEMPO/VALUE buttons to choose the location where you wish to load the backing sequence.
4. Press ENTER/YES to load the backing sequence. (Or press EXIT/NO to cancel the operation).

STY (STYLE USER)

This option allows you to load a style from a style file. There are 16 USER style locations available (U11-U28).



1. With the TEMPO/VALUE buttons choose the file from which you wish to load the style.
2. With the CURSOR buttons, move the cursor to the second field. Use the TEMPO/VALUE buttons to choose the style you wish to load.
3. With the CURSOR buttons, move the cursor to the third field. Use the TEMPO/VALUE buttons to choose the location where you wish to load the style.
4. Press ENTER/YES to load the style. (Or press EXIT/NO to cancel the operation).

1-3. Load global

The Load Global function allows you to load a Global file, containing most of the settings of this operative mode. By loading the Global data, the scale, pedal settings, control settings and MIDI channel settings may be automatically modified. The Global contains also the four USER scales and the two USER drum kits.

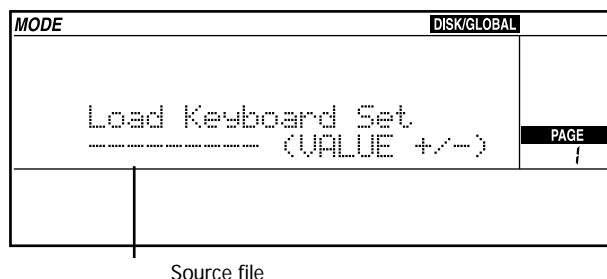


1. Using the TEMPO/VALUE buttons choose the Global file you wish to load.
2. Press ENTER/YES to load the file. (Or press EXIT/NO to cancel the operation).

1-4. Load keyboard set

The Load All Keyboard Set function allows to load the Keyboard Sets. Any Keyboard Sets already in memory will be deleted.

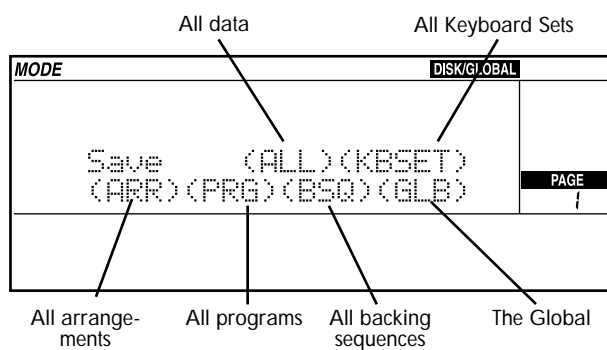
If you are loading data from a Korg iS40 disk, an error message ("Missing HMB file") will appear at the end of the loading procedure, because the Vocal/Guitar setup file is missing in the Korg iS40. The loaded data will work properly, although the setup data of the Vocal/Guitar section is missing.



1. Select the Keyboard Set file you wish to load, using the TEMPO/VALUE.
2. Press ENTER/YES to load the file. (Or press EXIT/NO to cancel the operation).

2. Save

The Save function allows you to save data on disk. It is not possible to save single elements in a file; All the data of a certain type previously existing in memory, will always be saved in a file



1. Choose a file type and press ENTER/YES to give it a name.
2. Use the CURSOR buttons to move the cursor to the character to be changed. Choose a character with the TEMPO/VALUE buttons. Press INS to insert a character at the cursor location, DEL to delete the character at the cursor location. The name can be up to 8 characters long (capital letters and numbers).
3. Press ENTER/YES to save the file on disk. If a file with the same name already exists on disk, a mes-

sage will appear asking you if you wish to proceed and delete the old file, replacing it with the one you are saving. Press ENTER/YES to confirm (or EXIT/NO to cancel the operation).

Warning: If you save a file with the same name as a file that already exists on disk, the latter will be erased from the disk.

If the disk is full, the “Disk full” message will appear. Remove the disk, insert a formatted new disk and repeat the saving operation.

To format a disk, use the “FORMAT (Format disk)” function (see page 133).

ALL

The Save All function allows you to save all the data contained in memory, in only one operation. This function offers you the advantage of automatically saving all connected data, for example the USER programs and the USER styles used by a USER arrangement.

This function creates an ALL file, and a series of files that contain single elements (programs, arrangements, styles, backing sequences, Global data). The single elements used by an ALL file, can also be loaded individually. The filename extension (.KST, .PCG, .ARR, .STY, .BSQ, .GBL, .ARG) will be automatically added.

KBSET (KEYBOARD SET)

The KBSET option allows to save all the Keyboard Sets contained in memory. A file containing the setup of the VOCAL/GUITAR section will be generated as well. The filename extension (.KBS) will be automatically added.

GLB (GLOBAL)

The GLB option saves two files containing the Global data. The filename extension of the two files (.GBL and .ARG) will be automatically added.

ARR (ARRANGEMENT)

The ARR option saves a file containing 64 arrangements of the USER bank, and a file that contains the USER styles, on disk. The style file will automatically be given the arrangement filename. The filename extension (.ARR and .STY) will be automatically added.

PRG (PROGRAM)

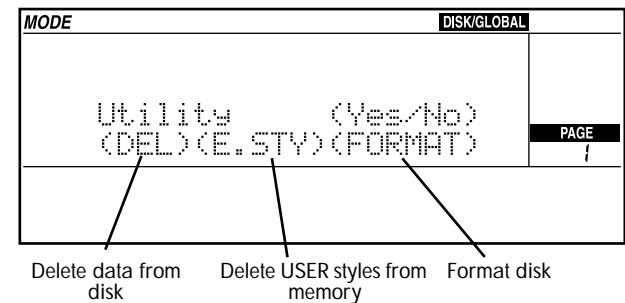
The PRG option saves a file containing the 64 programs of the F(USER) bank and the two Drum programs set by the user (Dr 27 and Dr 28). The filename extension (.PRG) will be automatically added.

BSQ (BACKING SEQUENCE)

The BSQ option saves a file containing 10 backing sequences. The filename extension (.BSQ) will be automatically added.

3. Utility

This page gives access to the deleting file and formatting disk functions. Move the cursor to the desired function, then press ENTER/YES to access its sub-page.



DEL (Delete file)

This function deletes a file contained on disk.

- 1. Select the file you wish to delete using the TEMPO/VALUE buttons.
- 2. Press ENTER/YES twice, to delete the file. (Or press EXIT/NO to cancel the operation).

E.STY (Erase style)

This function erases a style or all styles from memory. Use it when you receive the message “Not enough memory” when loading an arrangement that makes use of USER styles loaded from disk.

- 1. Select the style you wish to erase using the TEMPO/VALUE buttons. If you wish to erase all the styles, press TEMPO/VALUE [-] to select the All option.
- 2. Press ENTER/YES twice, to erase the style. (Or press EXIT/NO to cancel the operation).

Limitations when loading Programs

- Only the first i30 64 Programs will be loaded (i30 and i40 Programs F11-88).
- Only the first i30 16 Styles will be loaded (C11-18, C21-28). If you select an Arrangement which uses a Style with a number higher than C28 in the i30, the display will show the correct Style number, but with the **InvalidStyle** name. The Style will not play. If you press TEMPO/VALUE [-] the USER Styles will be selected.
- Since the i30 has four effect processors for the internal tone generation, while the i40M has two, the effects assigned to the accompaniment tracks in the i30 will be assigned to all the tracks in the i40M.

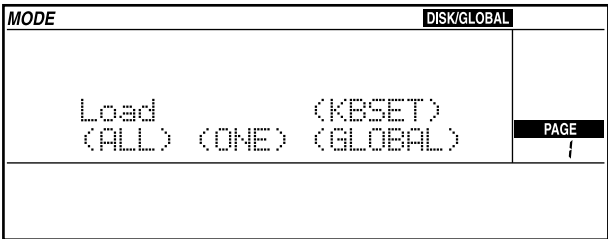
Loading data from a Korg i30 disk

Following is the procedure used to load all the programs (Load All Program) from a Korg i30 disk. You can use the same procedure to load other types of data (arrangements, styles), selecting a different type of data.

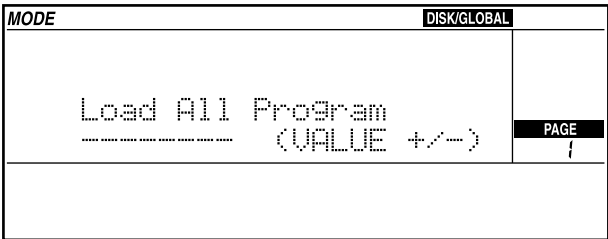
1. Insert the Korg i30 disk into the disk drive.
2. Press the DISK/GLOBAL button.



3. The <LOAD> item is selected by default. Press ENTER/YES to access the Load page.



4. Select the desired Load operation. Always keep in mind the limitations described in the previous paragraphs.

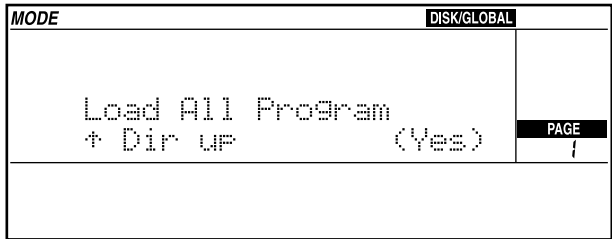


5. Use the TEMPO/VALUE buttons to scroll the list of directories contained in the disk.

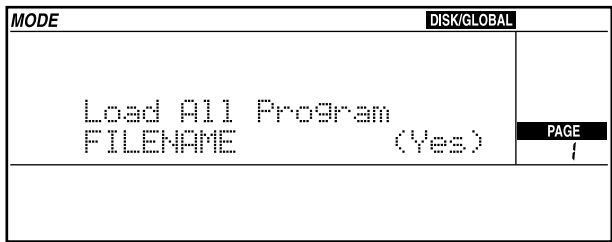
Note: In the i30 disk the directories containing the files – and not the individual files – will be displayed. The directories are marked with a star (*) positioned after the name.



6. As soon the display shows the directory containing the file you wish to load, press ENTER/YES to open the directory.



7. When the directory has been opened, the “Dir up” (= Directory up) command will appear. If you press ENTER/YES, the directory will close and the higher level in the disk will be accessed.
8. If you wish to choose a file in the directory you have opened, use the TEMPO/VALUE buttons to scroll the files contained in the directory.



9. Once you have identified the file containing the desired Programs, press ENTER/YES twice to load the Programs contained in the file in memory.

Warning: The new data will erase the data of the same type which are already contained in the USER areas. Before loading new data, save the data contained in memory on disk, if you do not have a backup copy and you do not want to lose it.

Page 2: Echo Back / MIDI IN Octave

The Echo Back function allows you to connect a digital piano and create a “muted” keyboard area for the chord composition for the automatic accompaniment.

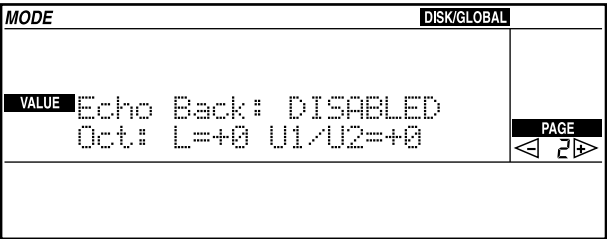
In order to use this function, you need to connect the MIDI OUT connector of the i40M to the MIDI IN connector of the piano, and the MIDI IN 1 or 2 connector of the i40M to the MIDI OUT connector of the piano.

When you activate the function, the i40M will send a Local Off message through the MIDI OUT, while disconnecting the internal sounds of the piano from the piano keyboard.

If the function is active when you turn the i40M off, the Local Off message will be sent to the piano when turning the instrument on. Therefore you need to turn on the digital piano first, and then the i40M.

When the Echo Back function is active, when playing on the piano keyboard, the MIDI messages will be sent to the MIDI IN connector of the i40M, which will send them back to the piano.

The Echo Back function is used by the MIDI “Digital piano 1” and “Digital piano 2” setups (see “Connecting the i40M to a digital piano” on page 48).



Echo Back

[DISABLE, IN 1, IN 2]

Select the MIDI IN port used for connecting the piano to the i40M. “Disable” means that the function is deactivated.

Note: When the Echo Back function is active, the i40M will send a Local Off message over the MIDI OUT connector when you turn the i40M on. Turn on the piano before turning the i40M on.

Oct (MIDI IN Octave)

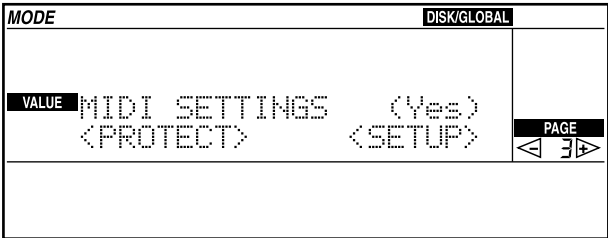
[-2...0...+2]

This function will transpose the incoming MIDI notes by one or more octaves. It is particularly useful to accordion players to modify the octave in which the right hand (Upper 1/Upper 2) and left hand (Lower) notes are received.

L Lower track transposition.
U1/U2 Upper 1 and Upper 2 track transposition.

Page 3: MIDI Settings

This page will access the Protect and MIDI Setup functions.



- 1. Choose the desired function with the CURSOR buttons.
- 2. Press ENTER/YES to access the function.
- 3. Program the settings.
- 4. Press EXIT/NO to get back to this page.

Protect

The Protect function protect the settings in the Disk/Global mode against loading a Global (.GLB) file. If protection is active, the Global settings will not be modified when loading data with the Load All or Load Global operation.

Warning: The modification of the MIDI settings may cause the change of the channel assigned to the special Global, Chord 1, and Chord 2 channel. Therefore it is possible that the Load All > All or Load Global operation will stop the communication between the MIDI controller and the i40M.



PROTECT

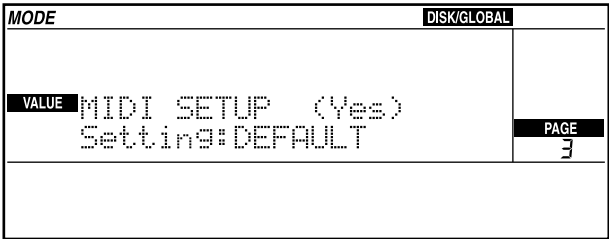
[OFF, ON]

Activates/deactivates the protection of the Global parameters when loading a Global file.

- OFF Protection deactivated. The MIDI settings may be modified when loading a Global file (Load All > All, or Load Global).
- ON Protects the MIDI settings contained on pages 4 - 7 in the Disk/Global mode.

MIDI Setup

The MIDI Setup function allows you to configure the programming pages of the MIDI and other parameters with only one command (see table "MIDI Setup" on page 203). When you select one of the setups, the i40M will be automatically configured for connection with a specific type of MIDI controller.



- 1. Choose the desired setup using the TEMPO/VALUE buttons.
- 2. Press ENTER/YES twice to confirm the selection and configure the i40M. When finished, you will automatically get back to the higher level page (MIDI Settings).

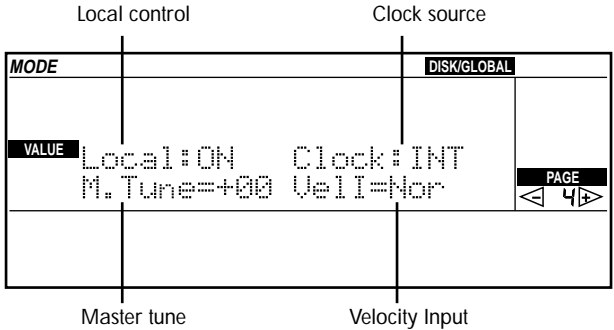
MIDI Setup

[DEFAULT, PIANO 1, PIANO 2, MASTER KB, ACCORDION1/2/3, GUITAR]

The name of the selected MIDI Setup indicates the type of MIDI controller the i40M is connected to. For the description of the parameters which are automatically configured by the MIDI Setups, see the Appendix ("MIDI Setup" on page 203).

Page 4: Global MIDI parameters

This page contains the global MIDI settings, such as the clock and the external generator connection to the MIDI.



Local (Local control)

[OFF, ON]

If this parameter is deactivated, the i40M arranger and sequencer will no longer control the internal sounds, but will only send the notes out.

Set “Local Off” if you wish to use the i40M automatic accompaniments and internal sequencer in order to control only another expander.

You can also use “Local Off” to connect the i40M to a MIDI keyboard and a sequencer, while still using the i40M even when the computer is off. (See image at the end of the page).

The default setting of parameter is ON.

ON

The i40M will respond to local controls.

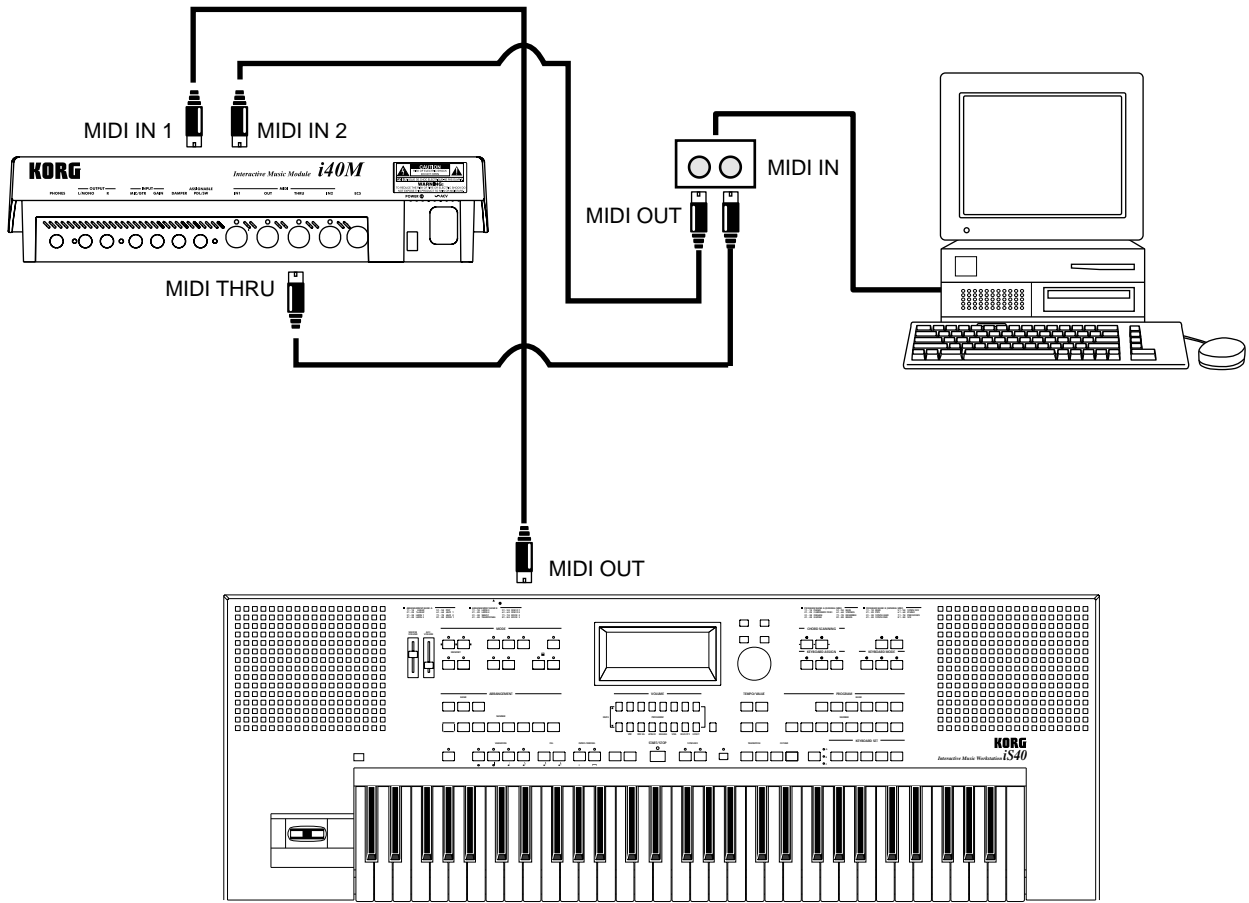
OFF

The internal tone generator of the i40M will be disconnected from the arranger and internal sequencer. The data will be sent to MIDI OUT, but not to the internal tone generator. The internal tone generator will only respond to messages coming from MIDI IN.

Clock (Clock source)

[INT, EXT-IN1, EXT-IN2]

The status of this parameter determines how the i40M will synchronize with other MIDI devices. If you have selected the EXT-IN1 or EXT-IN2 options, the abbreviation **EXT** will appear in the display next to the tempo.



When the power is turned on, this parameter is automatically set to **INT**.

INT	The i40M uses the tempo generated by its own metronome. MIDI OUT will transmit MIDI Clock messages, to which other devices can synchronize.
EXT-IN1	The i40M will synchronize to incoming MIDI Clock messages to MIDI IN 1. The Start/Stop message can only be given by an external device which is controlling the i40M. The i40M responds to Start, Stop, Continue, Song Select, Song Position Pointer messages.
EXT-IN2	As for the EXT-IN1 option, the messages however, will be received through the MIDI IN 2 connector.

.....
Note: In the Song Play mode, synchronism is always set on INT, regardless of the status of this parameter.
.....

Master Tune

[−50...+50]

Overall pitch of the instrument. You can raise or lower the tuning in one cent steps (100th of semitone), up to a maximum of 50 cents ($\frac{1}{2}$ semitone). This parameter has no effect on the pitch of a MIDI device connected to the i40M.

Velocity Input

[Nor, 0...127]

The status of this parameter determines how i40M will receive velocity data. This is very useful when using keyboards that do not transmit velocity data, for example MIDI accordions.

Nor	Normal. Notes are played back with the same velocity they are received from the MIDI.
0-127	Fixed velocity. Notes are played back with the specified value.

Page 5: MIDI channel settings (1)

The first of the pages dedicated to the programming of the arrangement MIDI channels.

Global		
MODE	DISK/GLOBAL	
VALUE	MIDI CHANNEL GLB=01 LOW=01 UP2=01 UP1=01	PAGE ◀ 5 ▶
Lower	Upper 2	Upper 1

GLB (Global)

[01...16]

Global MIDI channel. This can be assigned to one of the sixteen standard MIDI channels.

Note: In the pages used to program the MIDI parameters and channels, the channel which corresponds to the Global channel is always followed by the letter "G". For example, if the Global channel is assigned to channel 1, the channel will appear as "01G" in the various pages.

- System Exclusive messages will be received on the Global channel.
- In the Arrangement Play and Backing Sequence modes, the MIDI messages received on this channel will simulate an integrated keyboard in the i40M. Program a keyboard connected to the i40M to transmit on the Global channel of the i40M.

- In the Backing Sequence mode the Upper 1 track always transmits on the same channel as the Global.
- In the Program mode, the i40M transmits and receives on the Global channel.
- When you purchase the instrument, the Global is programmed on the MIDI 1 channel. This setting can be modified and saved in memory in the Global.

UP1 (Upper 1)

[01...16]

In Arrangement Play mode: MIDI channel of the Upper 1 track.

In the Backing Sequence mode this parameter will be ignored, as reception and transmission of the Upper 1 track always take place on the Global channel.

UP2 (Upper 2)

[01...16]

MIDI channel of the Upper 2 track.

LOW (Lower)

[01...16]

MIDI channel of the Lower track.

Page 6: MIDI channel settings (2)

The second page dedicated to the programming of the arrangement MIDI channels.

Drum		Percussion		Bass	
MODE				DISK/GLOBAL	
VALUE		DRM=10 AC1=13		PER=11 AC2=14	
				BAS=12 AC3=15	
				PAGE ◀ 6 ▶	
Accomp. 1		Accomp. 2		Accomp. 3	

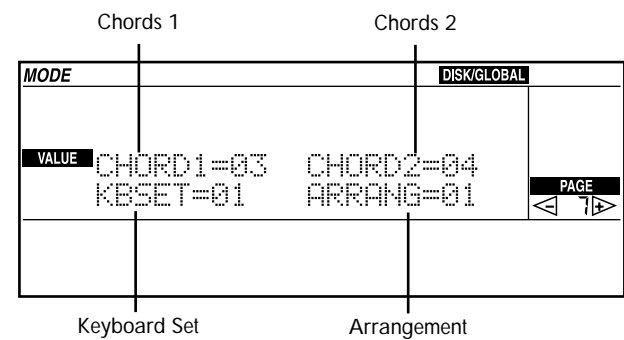
DRM/PER/BAS/AC1/AC2/AC3

[01...16]

MIDI channels of the accompaniment tracks. Channels 10-15 are usually assigned channels to these tracks.

Page 7: MIDI channel settings (3)

The third page dedicated to the programming of arrangement MIDI channels.



CHORD 1

[-, 01-16]

Used for receiving chords from an external device (master keyboard, sequencer, MIDI accordion). The notes received on this channel are redirected to the chord recognition engine, and mixed with the notes received on the Global and Chord 2 channels.

When using a MIDI accordion it would be better to assign it to MIDI channel 3, this being the channel that is usually dedicated to the chords part. If you use a master keyboard to simulate an integrated keyboard in the i40M, choose the same channel that is assigned to Global.

To deactivate this parameter choose the "--" option.

CHORD 2

[-, 01-16]

Used for the receiving of chords from an external device (particularly a MIDI accordion or pedal controls). The notes received on this channel are redirected to the chord recognition engine, and mixed with the notes received on the Global and Chord 1 channels. When using a MIDI accordion, it would be better to assign it to MIDI 2, this being the channel that is usually dedicated to the bass part.

To deactivate this parameter choose the "--" option.

KBSET (Keyboard Set)

[-, 01-16]

Used for receiving program change messages for the selection of Keyboard Sets. To deactivate this parameter choose the "--" option.

ARNG (Arrangement)

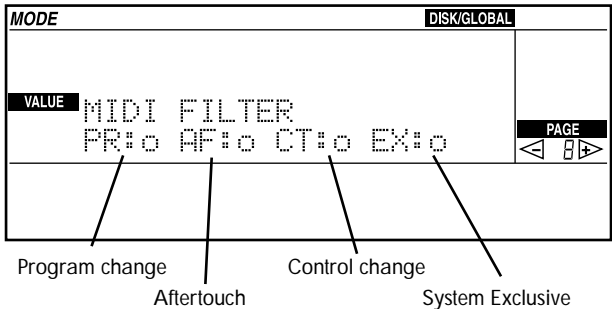
[-, 01-16]

Used for receiving program change messages for the selection of arrangements. To deactivate this parameter choose the "--" option.

Page 8: MIDI filter

This page contains a series of MIDI filters, to be used to restrict transmission and reception of some kinds of MIDI events. For example, events like aftertouch use up a great deal of memory and make the songs too large, therefore you can choose to “filter” them whilst recording.

Note: The data that has already been recorded in a backing sequence or an accompaniment track of the arrangement, will always be transmitted (whatever the status of this parameter is).



PR (Program change)

[x, o, n, s]

Program change and bank select message filter.

- | | |
|---|--|
| o | Messages will be transmitted and received normally. |
| x | Messages will be neither transmitted, nor received. |
| n | Program change messages will be transmitted, but the bank select messages will not. |
| s | Program change messages will be transmitted and received. Program banks A and B will be transmitted as [MSB 0, LSB 0], and the DRUM bank |

will be transmitted as [MSB 0, LSB 0]. The other banks will be transmitted normally.

AF (Aftertouch)

[x, o]

Aftertouch message filter.

- | | |
|---|--|
| o | Aftertouch messages will be transmitted and received normally. |
| x | Messages will be neither transmitted, nor received. |

FCT (Control change)

[x, o]

Control change message filter.

- | | |
|---|--|
| o | Control change messages will be transmitted and received normally. |
| x | Messages will be neither transmitted, nor received. |

EX (System Exclusive)

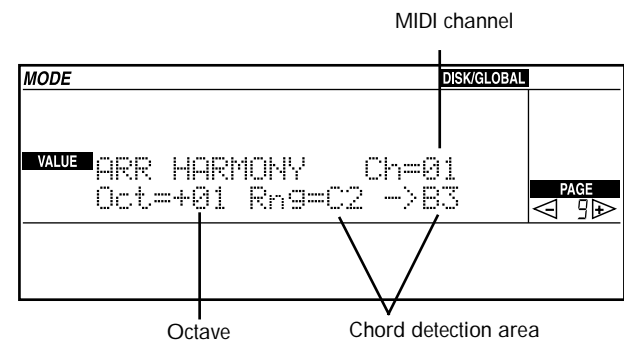
[x, o]

System Exclusive message filter, used to transfer programming data via MIDI, for example programs, arrangements, styles, and editing commands for the Arrangement Play and Backing Sequence modes.

- | | |
|---|--|
| o | System exclusive messages will be transmitted and received normally. |
| x | Messages will be neither transmitted, nor received. |

Page 9: Arrangement Harmony

This page allows you to choose the harmonization channel in the VOCAL/GUITAR section for the Arrangement Play mode.



Ch (Channel)

[01...16]

MIDI channel on which the harmonization notes are received.

Oct

[-3...0...+3]

Transposition octave of the harmonization notes. For example, if you are playing the chords with your left hand, below the split point, and you must harmonize a female voice, you can choose a positive value (two or three octaves) to bring the chords to the sing height.

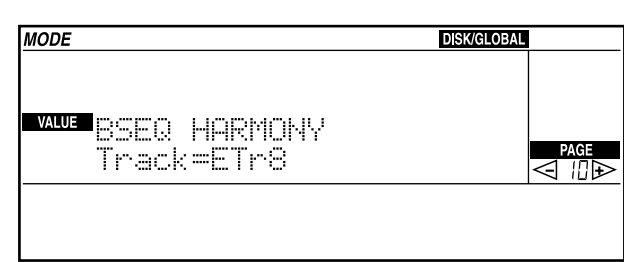
Rng (Range)

[C-1...G9]

Lowest and highest note in the chord detection area for harmonization in the VOCAL/GUITAR section. This area may not coincide with the chord detection area for the arrangement (see “Tempo and chord scanning” on page 56).

Page 10: Backing Sequence Harmony

This page allows you to choose the track of the harmonization chord in the VOCAL/GUITAR section for the Backing Sequence mode.



Track

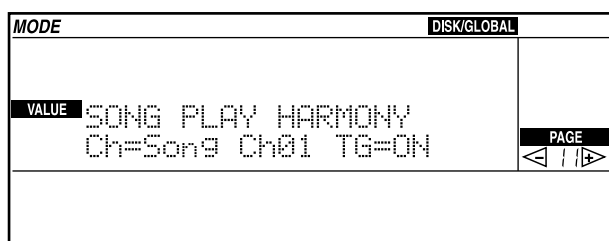
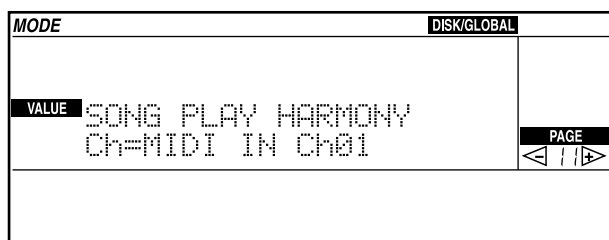
[OFF, DRUM, PERC, BASS, ACC1...3, UP1, LOW/UP2, ETr1...8]

Track of the harmonization chord. The chord may be generated by a recorded track or a part played in real time (e.g. by choosing UP1 and playing on a keyboard connected through the Global channel).

The LOW/UP2 track is normally selected. This track allows you to play the harmonization chords with your left hand.

Page 11: Song Play Harmony

This page allows you to choose the harmonization channel in the VOCAL/HARMONY section for the Song Play mode. It is the same as “Page 9: Song Play Harmony” in the Song Play mode, but the parameters of this page will be saved in the Global (while they will not in Song Play mode).



Ch (Channel)

[OFF, MIDI IN Ch01...16, Song Ch01...16]

Song channel or track from which the harmonization notes come.

OFF: Harmonization deactivated.

MIDI IN Ch01...16: MIDI channel. Notes are received through MIDI IN.

Song Ch01...16: Song track. The notes are the ones recorded in the indicated song track. The notes received via MIDI will not be recognized.

TG (Tone Generator)

[ON/OFF]

This parameter will appear only when a Song track is selected (Song Ch01...16).

ON Notes are also sent to the internal tone generator and played by the selected track.

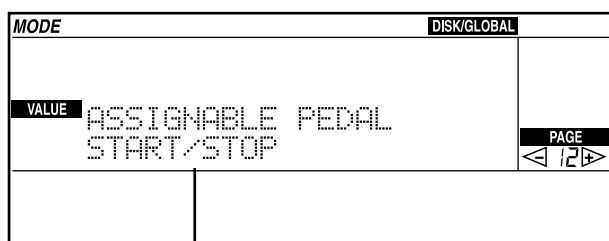
OFF Notes are sent only to the harmonization and not played by the selected track.

Page 12: Assignable pedal/switch

You can connect a footswitch or an expression pedal to the ASSIGNABLE PEDAL jack. The function of this pedal can be programmed in this page.

While this parameter is selected, you can select the function by pressing the corresponding button on the control panel.

The i40M is compatible with a number of pedal models. We recommend using a Korg PS-1 or PS-2 pedal switch, and a Korg XVP-10 or EXP-2 expression pedal.



Function assigned to the pedal

ASSIGNABLE PEDAL

[OFF, START/STOP...DATA ENTRY]

Assignable footswitch functions.

Option	Function
OFF	None
START/STOP	Same as the START/STOP button
SYNC START	Same as the SYNCHRO START button
SYNC STOP	Same as the SYNCHRO STOP button
RESET	Same as the RESET button
TAP TEMPO	Same as the TAP TEMPO button
TEMP LOCK	Same as the TEMPO LOCK button
INTRO/ENDING 1	Same as the INTRO/ENDING [1] button
INTRO/ENDING 2	Same as the INTRO/ENDING [2] button

Option	Function
FILL 1	Same as the FILL [1] button
FILL 2	Same as the FILL [2] button
VARIATION 1	Same as the VARIATION [1] button
VARIATION 2	Same as the VARIATION [2] button
VARIATION 3	Same as the VARIATION [3] button
VARIATION 4	Same as the VARIATION [4] button
CHORD HOLD	Same as the MEMORY-CHORD button
BASS INVERSION	Same as the BASS INV. button
SCALE CHANGE	Main Scale/Sub Scale switch
ARR/STYLE UP	Selects the next arrangement or style*
ARR/STYLE DOWN	Selects the previous arrangement or style*
PROGRAM UP	Selects the next program
PROGRAM DOWN	Selects the previous program
KEYB SET UP	Selects the next Keyboard Set
KEYB SET DOWN	Selects the previous Keyboard Set
VARIATION UP	Selects the next variation
VARIATION DOWN	Selects the previous variation
PUNCH IN/OUT	Punch-in recording switch
EFFECT 1 ON/OFF	Effect 1 activation/deactivation
EFFECT 2 ON/OFF	Effect 2 activation/deactivation
DRUM MUTE	Mutes the Drum track
PERC MUTE	Mutes the Percussion track
BASS MUTE	Mutes the Bass track
ACC1 MUTE	Mutes the Acc.1 track
ACC2 MUTE	Mutes the Acc.2 track
ACC3 MUTE	Mutes the Acc.3 track
ACC1-3 MUTE	Mutes the Acc.1-3 tracks
MEMORY-LOW	Same as the MEMORY-LOWER button
SUSTAIN ON/OFF	Same as the SUSTAIN button
FADE IN/OUT	Same as the FADE IN/OUT button
ENSEMBLE ON/OFF	Same as the ENSEMBLE button
C SWITCH	Repeats the function of the C button in the VOCAL/GUITAR section
QUARTER TONE	Quarter tone setting**
DAMPER ON/OFF	Damper pedal function
CHORD LATCH ON/OFF	Chord Latch makes the chord scanning function hold the current chord, until the pedal is released. ***

Option	Function
LOW/UP1/UP2 MUTE	Mutes the Upper 1, Upper 2 and Lower tracks, to allow the MIDI guitar to send the chords for the automatic accompaniment. On when you hold down the pedal. Off when you release it.

Assignable expression pedal functions

Option	Function
KEYBOARD VOLUME	Volume of the selected program/track
MASTER VOLUME	General volume of the i40M
EXPRESSION	Relative volume of the selected program/track
VDF CUTOFF	VDF cutoff frequency (brightness)
EFFECT CONTROL	Effect real time modulation
DATA ENTRY	Value of the selected function
A/B FADER	Repeats the function of the A/B knob in the VOCAL/GUITAR section

* In the Arrangement Play or Backing Sequence mode pages where it is possible to select arrangements or styles.

** The i40M can detune single notes by a quarter tone (50 cents), particularly for use in Middle Eastern music. In order to program this, you need to use a pedal with open-type polarity, such as the Korg PS-1 or the Korg PS-2 connected through its right jack. See the next paragraph, “Setting quarter tones”.

Setting quarter tones

You can program an Arab scale in realtime, by assigning a footswitch or an EC5 pedal the “Quarter tone” function. The selected scale must be the Main Scale (this function has no effect on the Sub Scale).

When you modify one note it reflects on all the notes with the same name in the other octaves (for example, if C4 is modified, C3, C5, etc. will also be modified).

In the Backing Sequence mode, quarter tones only work on the real time tracks (both on the recorded notes, and the notes received by MIDI IN).

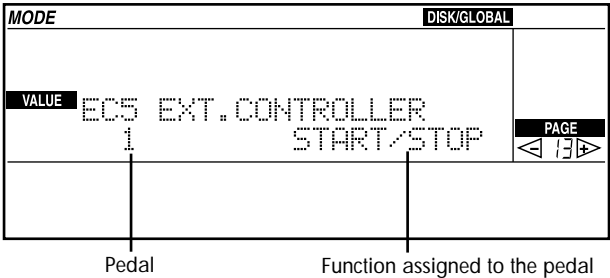
To lower a note by a quarter tone: Keep the pedal pressed, then press the MEMORY-CHORD button. While the MEMORY-CHORD led is off, play the note you wish to lower by a quarter tone. Release the pedal.

To raise a note by a quarter tone: Keep the pedal pressed, then press the MEMORY-CHORD button. While the MEMORY-CHORD led is lit up, play the note you wish to raise. Release the pedal.

To cancel the quarter tone setting: Simply press and release the pedal. At this point, press and then immediately release the pedal. Another way to do this would be to assign a different option to the “Assignable pedal” setting. The setting will be canceled when the instrument is turned off.

Page 13: EC5 external controller

You can connect the Korg EC5 external controller to the EC5 jack. This versatile controller includes five completely programmable pedals, which make live controlling of the i40M easier.



Pedal

[A...E]

Selects the one of the five EC5 pedals you wish to program. The EC5 pedals are marked by the letters A, B, C, D, E. While the parameter is selected, you can choose the pedal you wish to program by pressing it directly.

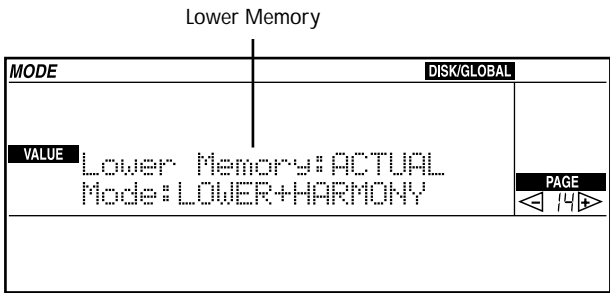
Function

[OFF, START/STOP...CHORD LATCH]

Function assignable to the selected pedal. The functions are the same as those assignable to the ASSIGNABLE PEDAL setting (see “Page 12: Assignable pedal/switch”). While the parameter is selected, you can choose the function by pressing the equivalent button on the control panel.

Page 14: Lower memory

In this page you can program the functioning of the MEMORY-LOW/HAR button.



Lower Memory

[ACTUAL, AUTO, BASS]

Functioning of the MEMORY-LOW/HAR button.

ACTUAL	Chords are reproduced exactly as they are played.
AUTO	This option completes the chords that are played with some missing notes (i.e. without the fifth).
BASS	While the accompaniment is stopped, the chord root will be held and sounded by the Bass track.

Mode

[LOWER, HARMONY, LOWER+HARMONY]

Part whose note you wish to hold.

LOWER	Notes of the Lower part played through the Global, Chord 1 and
-------	--

Chord 2 channels. Notes played through the channel of the Lower track will not be held.

See also "Page 7: MIDI channel settings (3)" on page 140.

Notes played through the Harmony channel of the current operative mode (Arrangement Play, Backing Sequence or Song Play).

See also "Page 9: Arrangement Harmony" on page 142, "Page 11: Song Play Harmony" on page 143, "Page 11: Song Play Harmony" on page 143.

HARMONY

LOWER+HARM. Combination of the two previous options.

Note: Since Intro 1 and Ending 1 use a particular chord progression, which can vary from arrangement to arrangement, Lower Memory will be automatically switched off to prevent unnatural sounding results.

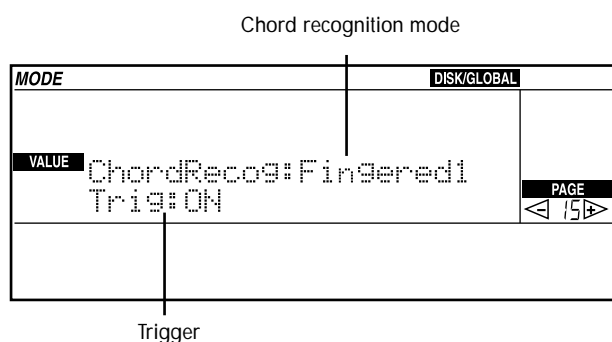
Note: In the Backing Sequence mode, the notes held by the Lower Memory function will be recorded as normal Note events. Lower Memory will not function during playback.

Note: This parameter will be saved in memory when saving the Global, but will not saved on disk. When loading data from disk, the status of the parameter will remain unchanged.

Page 15: Chord recognition mode

This is the mode in which the chords for the automatic accompaniment will be recognized when the button selected in the CHORD SCANNING section is LOWER.

If Chord Scanning is set on UPPER or FULL, the chord recognition mode will always be Fingered 2.



ChordRecog (Chord recognition mode)

[FINGERED1, FINGERED2, ONE FINGER]

FINGERED1 If Chord Scanning is set on LOWER, you only have to play one note below the split point to obtain a major chord. If Chord Scanning is set on UPPER you need to play three or more notes above the split point for the chord to be recognized. If Chord Scanning is FULL you need to play three or more notes along the entire keyboard for a chord to be recognized.

Chord Scanning	Chord recognition
LOWER	One or more notes below the split point
UPPER	Three or more notes above the split point

Chord Scanning	Chord recognition
FULL	Three or more notes along the entire keyboard

FINGERED2 In order for a chord to be recognized, three or more notes must be played in the chord recognition area established by Chord Scanning setting.

Chord Scanning	Chord recognition
LOWER	Three or more notes below the split point
UPPER	Three or more notes above the split point
FULL	Three or more notes along the entire keyboard

ONE FINGER If only one note is played (e.g. C3), this note will be recognized as the root of a major chord. If along with the root, you play the first white key below the root (e.g. C3 and B2), a seventh chord will be recognized. If, along with the root, the first black key is played below the root (e.g. C3 and Bb2), a minor chord will be recognized.

Trig (Trigger)

[ON/OFF]

If the Trigger parameter is set on ON, you can change the chord by raising one or more notes of the previous chord, without playing the chord again.

For example, you are playing a C7th chord (C, E, G, B flat) and the arranger recognizes C7th. If you raise the B flat, a C major (C, E, G) chord will be composed and the arranger will recognize a C Major.

Page 16: Auto chord scanning/Damper polarity

In this page, you can program the Automatic-Chord Scanning and the Damper pedal polarity.

Auto chord scanning

MODE	DISK/GLOBAL
VALUE	PAGE
Auto Chord Scan:OFF	
Damper Polarity:KORG	
< 16 >	

Damper polarity

Auto chord scanning

[ON, OFF]

If this parameter is set on ON, the Chord Scanning changes automatically when you select a Keyboard Mode.

Keyboard Mode	Automatically selected Chord Scanning
FULL UPPER	FULL

Keyboard Mode	Automatically selected Chord Scanning
SPLIT	LOWER
MANUAL DRUM	--

Damper polarity

[REVERSE (+), KORG (-)]

It is possible to connect a footswitch to the DAMPER connector to activate the Damper or Sustain function and produce a similar effect of a right-most pedal on an acoustic piano. The pedals that are readily available on the market, can have different polarities. If you own a Korg PS-2 pedal, you should program its right jack as KORG (-) and the left jack as REVERSE (+).

- KORG(-)

For pedals with normally open polarity. Choose this option to connect the Korg DS-1 and PS-1 footswitches.
- REVERSE(+)

For pedals with normally closed polarity. Choose this option to connect the Korg DS-2 footswitch.

Page 17: Main scale

These pages allow you to select a Main Scale (or temperament), or Sub Scale for the instrument. It is possible to switch from the Main Scale to the Sub Scale with a footswitch, the EC5 external controller, or via MIDI.

MODE DISK/GLOBAL

VALUE MAIN SCALE
EQUAL TEMP. Key#:C

PAGE 17

Scale type Root key

Scale type

[EQUAL TEMP...USER SCALE 4]

The scales that you can select for the Main Scale and the Sub Scale are the same.

EQUAL TEMP.	Equal temperament. This scale is normally used nowadays, in traditional Western music. Consists of 12 absolutely identical semitones.
EQUAL TEMP. 2	The same as the previous setting, but with some irregularities in pitch, consenting a more realistic imitation of acoustic instruments.
PURE MAJOR	The major chords of the selected key will be perfectly tuned.
PURE MINOR	The minor chords of the selected key will be perfectly tuned.
ARABIC	Arabic scale, with quarter tones. The Key parameter should be set to C for "rast C/bayati D", to D for "rast D/bayati E", to F for "rast F/bayati G", to G for "rast G/bayati A", to A# for "rast B b/bayati C".
PYTHAGOREAN	Pythagorean scale, based on ancient Greek theory. It is suitable for playing melodies.

WERCKMEISTER	Late baroque/classical scale.
KIRNBERGER	18th century harpsichord scale.
SELENDRO	Indonesian gamelan scale. The octave is divided into 5 notes (C, D, F, G, A). The remaining notes will play equal temperament notes.
PELOG	Indonesian scale. The octave is divided into 7 notes (all the white keys, if the key parameter is assigned to C tonic). The black keys will play equal temperament.
USER SCALE 1...4	One of the 4 scales that you create on "Page 19: User scale".

Note: When a scale other than Equal Temperament or Equal Temperament 2 is selected, the TRANSPOSE buttons may cause undesired chords to be recognized.

Key (Tonic)

 $[C \dots B]$

This parameter selects the key for the scales where it is necessary to indicate the key as well.

Switching from the Main Scale to the Sub Scale and vice versa

You can switch between the Main Scale and the Sub Scale with a footswitch or an EC5 external controller. Assign the SCALE CHANGE value to the setting on “Page 12: Assignable pedal/switch” (for the footswitch) or “Page 13: EC5 external controller” (for the EC5).

You can select the scale MIDI, through the Control Change 04 message. Values 0–63 select the Main Scale, values 64–127 select the Sub Scale.

Page 19: User scale

You can create four personalized scales, that you can use by assigning the USER SCALE value to the “Page 17: Main scale” setting. You can use the User Scale as a sub scale, assigning one of the USER SCALE values to the “Page 18: Sub scale” setting.

Scale to be programmed

MODE		DISK/GLOBAL	
VALUE	USER SCALE 1	PAGE	
	C = +00	<< 19 >>	
Note	Tuning		

User Scale

[USER SCALE 1...4]
One of the four USER scales.

Note

[C...B]
The note you wish to modify. The modifications apply to this note on all the octaves.

Tuning

[-50...+50]
Tuning of the selected note, in 1 cent steps (1 cent = $\frac{1}{100}$ of a semitone). Tuning can be changed by max. a quarter tone above (+50) or below (-50) the standard tuning.

Page20: MIDI data dump

The MIDI Data Dump is the sending of internal data of the i40M to another MIDI device. In this page, you can transmit and receive System Exclusive data.

MODE		DISK/GLOBAL	
VALUE	DATA DUMP (Press Yes)	PAGE	
	GLOBAL	<< 20 >>	
Data type			

To transmit System Exclusive data:

1. Set the System Exclusive message filter on “o”. (see “Page 8: MIDI filter”).

2. Select the type of data you wish to send and press ENTER/YES.
3. Write down the MIDI Global channel, which should be the same when you wish to newly receive the data from the external device (see “Page 5: MIDI channel settings (1)”).

To receive System Exclusive data.

1. Program the MIDI Global channel on the channel where data has been sent. (see “Page 5: MIDI channel settings (1)”).
2. Set the System Exclusive message filter on “o”. (see “Page 8: MIDI filter”).
3. Move to this page and start transmitting from the external device.

Data type

[GLOBAL...KEYBOARD SET]

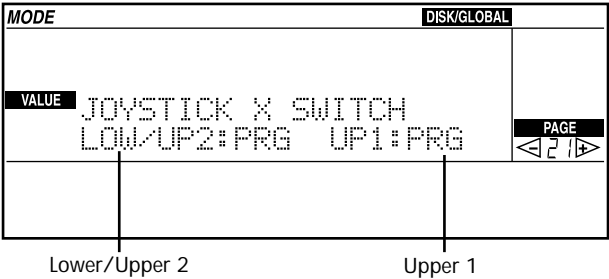
GLOBAL	All Global parameters, except for Local Control and Clock Source.
ARRANGEMENT	The 64 USER arrangements.
B.SEQUENCE	The 10 backing sequences.
PROGRAM	The 64 USER programs, the 2 USER Drum programs, the 2 USER drum kits.
STYLE	Block of 4 USER styles.

Data type	Size (in KB)	Transmission time (in seconds)
Program	15	5

Data type	Size (in KB)	Transmission time (in seconds)
Global	0.3	<1
Arrangement	12	4
Backing sequence	2,6-186	1-60
Style U11-U14	5-74	2-25
Style U15-U18	5-74	2-25
Style U21-U24	5-74	2-25
Style U25-U28	5-74	2-25

Page 21: Joystick settings

Setting the joystick for pitch bend control. Many master keyboards and keyboards are provided with this device.



UP1 (Upper 1 track)

[PRG, DIS]

PRG The joystick will activate Upper 1

track pitch, provided that the program setting does not turn it off.

DIS

The joystick will be deactivated on Upper 1 track.

LOW/UP2 (Lower/Upper 2 track)

[PRG, DIS]

PRG

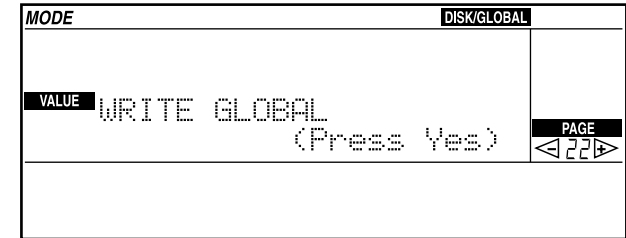
The joystick will activate the Upper 2/Lower track pitch bend, provided that the program setting does not turn off.

DIS

The joystick will be deactivated for the Upper2/Lower track.

Page 22: Write Global

The Write Global function permits you to save all of the Global settings in memory, and the split point. You can reach this page by pushing the REC/WRITE/LYRICS button when you are in any other page of the Disk/Global mode.



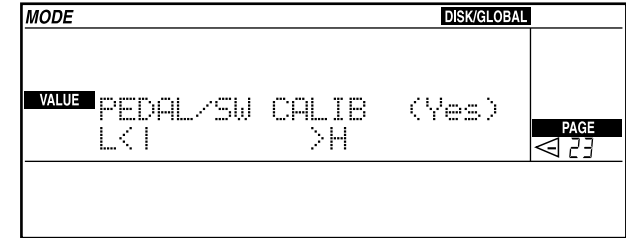
1. Go to this page.
2. Press ENTER/YES twice to save the Global settings in memory. Otherwise press EXIT/NO to cancel this operation.

“Parameter modified - Write?”

If you modify something in the Disk/Global mode, and push a button in the MODE section to pass to another operating mode, the message “Parameter modified - Write?” Press ENTER/YES if you want to save the modifications in Global, or EXIT/NO if you do not want to save the modifications.

Page 23: Assignable pedal/footswitch calibration

The depth of an effect controlled by a pedal or a foot-switch will depend on the model of the pedal or foot-switch. If you change pedal, the effect might not be able to reach maximum intensity, or shut off completely. If this is the case you need to calibrate the pedal.




1. Connect the pedal or footswitch to the ASSIGNABLE PEDAL/SW connector.
2. In order to calibrate the pedal, press the pedal down as far as it will go, then raise it completely.
3. Press ENTER/YES.
4. If adjustment has been performed correctly, the “Are you sure?” message will appear in the display. Press ENTER/YES again to confirm. The message “Completed” will appear in the display.

If adjustment hasn't been performed correctly, the message “Invalid Data” will appear instead. Repeat the calibration procedure.

11. Program mode

- * If you set Oscillator Type to DOUBLE (double oscillator program) in “Page 2: Oscillator basic/Oscillator 2 relative”, these pages will display either the oscillator 1 or oscillator 2 parameters. Switch between oscillators 1 and 2 by pressing the VARIATION buttons [1] and [2].

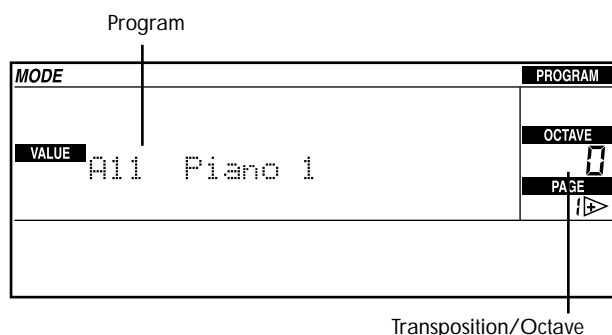
How to recover lost changes

If you accidentally select a different program without writing your edits, you can press the TEMPO  button (if you have not yet edited the selected program) to bring back the previous program. (Only the sound will be brought back, and the program number will not change.)

Page 1: Program play

In Page 1 of Program mode you can select the Program that will be played. You can also use the Performance Edit settings that are shown in this page to perform simple editing.

Press the PROGRAM button to enter Program mode, and the following display will appear.



Select the program using the buttons in the PROGRAM/ARRANG section (see “Changing the sounds of the real time tracks” a pagina 30). Press PROGRAM/ARRANG to light up the PROGRAM led. Select a bank first (A, B, C, D, E, F-USER/DRUM), then enter a two-digit number, using the number buttons. If the program is in the same bank, you only need to select the two-digit number.

In order to select a Drum program (Dr11–28), press the F(USER/DRUM) button repeatedly in the PROGRAM section, until the abbreviation “Dr” appears, then select a two-digit number with the number buttons.

You can also select programs using an optional foot-switch or an EC5 external controller pedal. For details refer to Disk/Global mode “Page 12: Assignable pedal/switch” or “Page 13: EC5 external controller”.

When you select a program, a MIDI program change message will also be transmitted.

Program

[A11...E88, F11...F88, Dr11...Dr28]

The internal memory of the i40M contains seven banks of Programs, as follows.

Bank	Number of programs	Contents
A	64	GM programs 1–64 (ROM)
B	64	GM programs 65–128 (ROM)
C, D, E	64 × 3	i40M preset programs (ROM)
F	64	User programs (RAM)
Dr	16	Drum programs (ROM: Dr11–26, RAM: Dr27–28)

XPOSE (Transpose)

[–11...+11]

When you need to transpose (shift the pitch), use the TRANSPOSE buttons to set the Transpose setting of each program. The pitch can be transposed in semi-tone steps over a range of 11 steps up or down.

Octave

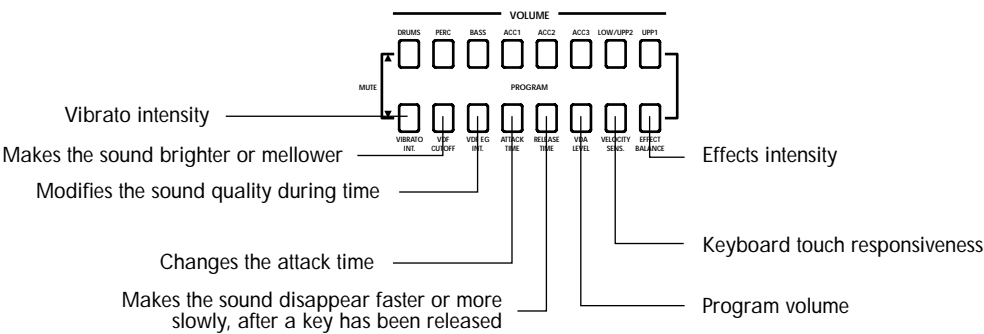
[–2...+2]

Use the OCTAVE buttons to set the Octave of each program. With a setting of 0, the program will sound at its standard pitch. The pitch can be shifted in steps of an octave, over a range of 2 octaves up or down.

Performance Edit

By pressing one of the VOLUME buttons in Page 1, you can perform the Performance Edit operation cor-

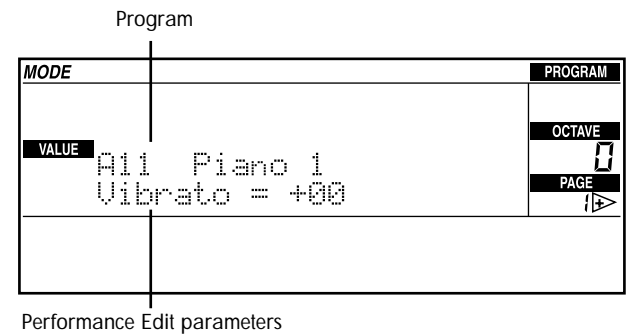
responding to the button that was pressed. You can save the modified program in a F(USER) location, by pressing REC/WRITE to go to “Page 23: Write program”.



Performance edit

[−10...+10/−3...+3]

The Performance Edit function of the i40M allows you to make adjustments to the most important program parameters, without having to bother with detailed editing. This is a convenient way of modifying program parameters during a rehearsal or live performance.



When you press the upper or lower PROGRAM/VOLUME button, the corresponding Performance Edit parameter will be displayed (always with a value of +00), and you can press either button to modify the value.

Performance Edit settings are made with a value of −10...+10. This editing adjusts the effect of the corresponding program parameter. However, be aware that this setting does not change the value of the program parameter itself, but is only an adjustment that is relative to that setting. When you modify a Performance Edit parameter, one or more parameters for each oscillator will be affected (except for Dry:Effect Balance).

If the original parameter value is already at its maximum or minimum value, changing the Performance Edit value will have no effect.

Vibrato Intensity modifies the Vibrato Intensity parameter (P. 168), adjusting the vibrato.

OSC Octave adjusts the Octave parameter (P. 156) of both oscillators, modifying the octave of the program that will sound. This allows 1 octave of change in one-octave steps.

VDF Cutoff modifies the VDF Cutoff parameter (P. 159) of both oscillators, modifying the tone of the program. Each step will change the parameter value 5 steps.

VDF EG Intensity modifies the VDF EG Intensity parameter (P. 159) of both oscillators, adjusting the way in which the tone of the program changes over time. Each step will change the parameter value 3 steps.

Attack Time modifies the VDA Attack Time parameter (P. 164) of both oscillators, adjusting the attack length of the program. Each step will change the parameter value 5 steps.

Release Time modifies the VDF and VDA Release Time parameters (P. 158) of both oscillators, adjusting the release length of the program. Each step will change the parameter value 5 steps.

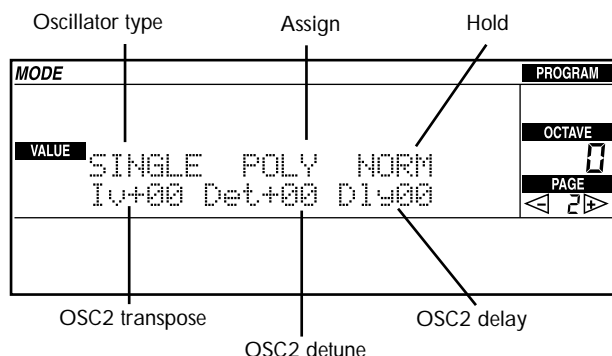
VDA Level modifies the VDA Level parameter (P. 156) of both oscillators, adjusting the overall volume of the entire program. Each step will change the parameter value 5 steps.

Velocity Sensitivity modifies the way in which changes in keyboard playing dynamics will affect the sound. The EG Intensity parameter (P. 163) for VDF Velocity Sensitivity and the VDA Velocity Sensitivity parameter (P. 167) for VDA Velocity Sensitivity will be modified for both oscillators. Each step will change the parameter value 5 steps.

DRY:FX Balance modifies the Balance parameter between effects 1 and 2, adjusting the balance between the “dry” sound of the program (unprocessed by the effect) and the “wet” sound processed by the effect. Each step will change the parameter value 5 steps.

Page 2: Oscillator basic/Oscillator 2 relative

Here you can select the basic oscillator type: i.e., whether the program will use one or two oscillators, or a drum kit. You can also specify whether the sound of the program will be maintained even after a Note-off message is received, and whether the program will sound monophonically or polyphonically.



Oscillator type

[*SINGLE, DOUBLE, DRUMS*]

This parameter determines the basic structure of the program.

SINGLE (single oscillator program) will cause the program to use only one oscillator. Maximum polyphony will be 32 notes.

DOUBLE (double oscillator program) will cause the program to use two oscillators. This allows more complex sounds to be created, but the maximum polyphony will be limited to 16 notes.

DRUMS (drum program) will assign a drum kit (instead of a multisample) to the program. (For details refer to the explanation for the Multisample/Drum Kit parameter which follows later.)

Assign

[*MONO, POLY*]

This specifies the number of simultaneous notes that the program will sound in response to Note messages received on one MIDI channel.

MONO will cause the program to sound only one note at a time.

POLY will allow the program to play chords.

Hold

[*HOLD, NORM*]

This specifies whether or not a note sounded by the program will stop when you release the i40M's keyboard or when a Note-off message is received.

HOLD causes the sound to continue sounding even after the note is released. This is convenient when playing drum sounds. For other types of program you will usually set this parameter to **NORM**.

Even with a setting of **NORM**, the sound will continue playing forever if the VDA EG Sustain Level parameter (⇐P. 165) is set to a value other than 0.

Iv (OSC2 Interval)

[*-12...+12*]

This parameter raises or lowers the OSC2 pitch relative to the OSC1 pitch, allowing a program to sound a two-note parallel "chord" for each note. This can be adjusted in semitone steps over a maximum range of 1 octave.

Positive (+) **values** will raise the OSC2 pitch, and negative (-) **values** will lower the OSC2 pitch.

Det (OSC2 Detune)

[*-50...+50*]

This parameter detunes OSC1 and OSC2 in relation to each other, producing a richer sound.

Positive (+) **values** will cause the OSC2 pitch to rise and the OSC1 pitch to fall, and negative (-) **values** will produce the opposite effect.

This setting indicates the pitch difference between OSC1 and OSC2 in one-cent steps, and as shown by the following table, raising the pitch of one oscillator will lower the pitch of the other.

Detune	OSC1 pitch	OSC2 pitch
+50	-25 cents	+25 cents
•	•	•
•	•	•
+0	0 cents	0 cents
•	•	•
•	•	•
-50	+25 cents	-25 cents

Dly (OSC2 Delay)

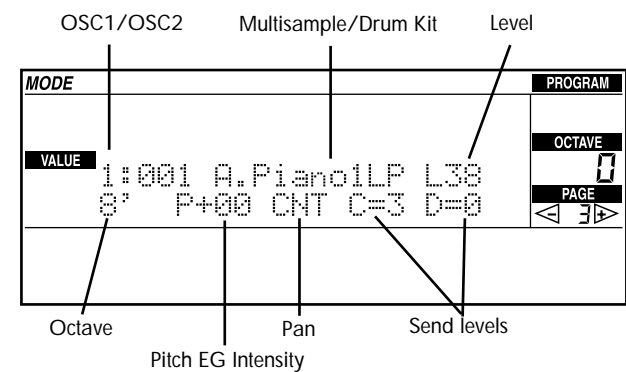
[00...99]

This parameter delays the onset of the OSC2 sound, so that OSC2 will begin to sound after OSC1.

With a setting of 0, OSC1 and OSC2 will sound simultaneously.

Page 3: Oscillator tone

In this page you can select the waveform used by the oscillator, and make other oscillator-related settings. Most of these parameters can be set at any time regardless of the type of the selected program, but if in “Page 2. Oscillator basic/Oscillator 2 relative” you have set the Oscillator Type to Drum Program, the panpot parameters will not be displayed at all.



L (Level)

[00...99]

This sets the overall volume that is output by the VDA of the selected oscillator.

High settings of this parameter may cause the sound to distort when chords are played. In this case, lower the setting.

You can make the oscillator output level be affected by the force (velocity) of your keyboard playing. You can also use the VDA EG to make the volume of individual notes change over time. For details refer to “Page 9: VDA EG”.

OSC1/OSC2 (Oscillator 1/2)

If in “Page 2: Oscillator basic/Oscillator 2 relative” you have set the Oscillator Type to DOUBLE, this setting specifies which of the two oscillators you will be editing. If Oscillator Type has been set to Drum, this will be displayed as D.

You can also switch between Oscillators 1 and 2 by pressing the VARIATION buttons [1] or [2].

Multisample/Drum Kit

If Oscillator Type was set either to SINGLE or DOUBLE, this selects the basic waveform that the oscillator will use. The number and name of the multisample will be displayed. (Multisamples with an abbreviation of “NT” will produce the same pitch regardless of the key that is played.)

The appendices to the user’s guide contains a list of the available multisamples for your reference.

Octave

[4', 8', 16', 32']

This sets the basic pitch of the selected oscillator in octave units. The standard pitch of all multisamples is 8'.

Since each multisample has an upper limit to the pitch that it can produce, setting this parameter to 4' and in addition using the OCTAVE and TRANSPOSE buttons to raise the keyboard pitch may, for some sounds, result in no sound when you play upper ranges of the keyboard.

When editing a drum program, be sure to set this parameter to 8'. Other settings will cause the keyboard assignments of the drum kit to be skewed upward or downward.

P (Pitch EG intensity)

[−99...+99]

This specifies the effect that the Pitch EG will have on the pitch of the selected oscillator.

Positive (+) settings will cause a greater pitch change as the value is increased.

Negative (−) settings will invert the direction of the pitch change.

With a setting of **0**, the Pitch EG will not affect the selected oscillator, and the pitch will not change at all.

Pitch EG settings are made in “Page 4: Pitch EG”.

Pan

[OFF, L15...L01, CNT, R01...R15]

This sets the stereo location of the selected oscillator. This will adjust the level of the oscillator signals that are sent from channels A and B to the effect section.

CNT will place the sound produced by the oscillator in the center.

L settings will place the sound toward the right, and **R** settings toward the left. As this value is increased the sound will move further away from the center.

OFF will turn off the oscillator output to channels A and B.

This parameter will not be displayed for a Drum program. The pan settings of each drum kit will be used.

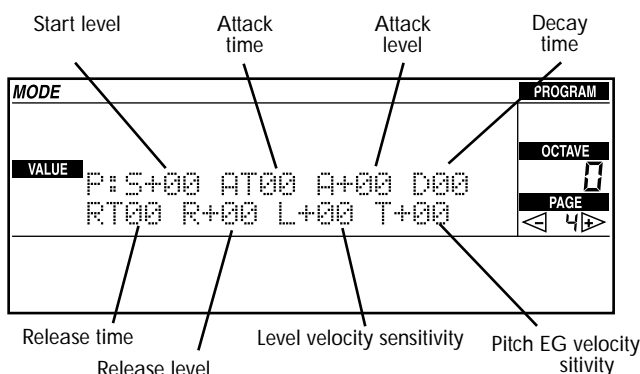
C=/D= (Send levels)

[0...9]

These parameters set the send levels that are sent from channels C and D to the effect section.

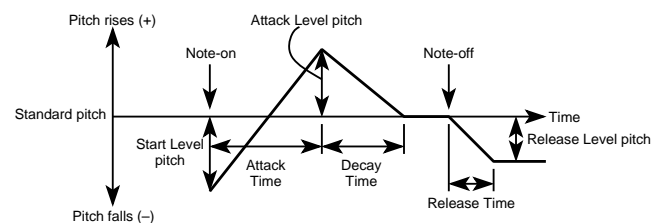
Page 4: Pitch EG

The parameters of this page determine the shape of the Pitch EG (envelope generator). The Pitch EG determines how the pitch of the program changes over time in relation to its standard pitch.



For a double oscillator program, both oscillators use the same Pitch EG. However you can separately adjust the sensitivity of each oscillator to the pitch EG.

Be aware that the total pitch change (produced by the pitch EG, pitch bend level, and the Vibrato) is limited to 3 octaves. In addition, some multisamples are limited to a narrower range of pitch change depending on the conditions.



S (Start level)

[−99...+99]

Sets the pitch at which the program begins to sound.

Positive (+) settings will raise the pitch above standard pitch, and **negative (−)** settings will lower the pitch below standard pitch. When the Pitch EG Intensity parameter is either +99 or −99, a setting of +99 or −99 for this parameter will produce a rise/fall of approximately 1 octave.

With a setting of **0**, the program will start sounding at the standard pitch.

AT (Attack time)

[00...99]

Sets the time over which the pitch will change from the Start Level (S) to the Attack Level (A).

With a setting of **0** the movement will take place instantly, and with a setting of **99** the movement will be the slowest.

A (Attack level)

[-99...+99]

Sets the pitch at which the program will arrive after the Attack Time has elapsed.

Set it in the same way as the Start Level parameter.

D (Decay time)

[00...99]

Sets the time over which the pitch will change from the Attack Level (A) to the standard pitch.

Set it in the same way as the Attack Time parameter.

RT (Release time)

[00...99]

This sets the time over which the pitch will change from the standard pitch to the Release Level (R) after the key is released.

Set it in the same way as the Attack Time parameter.

R (Release level)

[-99...+99]

This sets the pitch at which the program will arrive after the Release Time has elapsed.

Set it in the same way as the Start Level parameter.

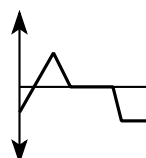
L (Level velocity sensitivity)

[-99...+99]

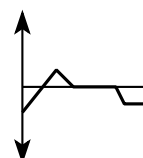
This specifies the depth to which the Pitch EG levels will be affected by note velocity (keyboard dynamics).

With a setting of **0**, the Pitch EG levels will not be affected by velocity.

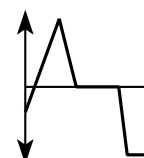
Pitch EG level sensitivity



Pitch EG settings



Softly played note



Strongly played note

T (Time velocity sensitivity)

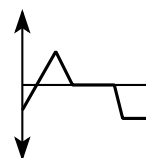
[-99...+99]

This specifies how the Pitch EG times will be affected by note velocity.

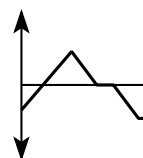
Higher settings of this parameter will cause the pitch change to become faster.

With a setting of **0**, the Pitch EG times will not be affected by velocity.

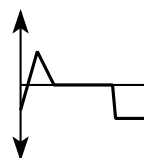
Pitch EG level sensitivity



Pitch EG settings



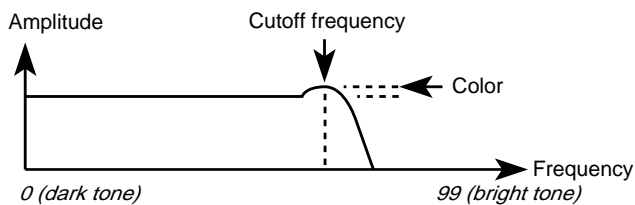
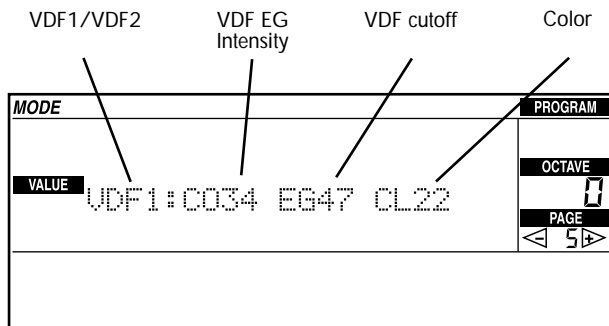
Softly played note



Strongly played note

Page 5: VDF

Here you can change filter settings to adjust the tone.



VDF1/VDF2

When a double oscillator program is selected, this specifies the oscillator whose filter parameters will be edited.

You can also switch between oscillators 1 and 2 by pressing the VARIATION buttons [1] or [2].

CO (VDF cutoff frequency)

[00...99]

This specifies the frequency at which the VDF filter will begin to apply.

Lower values will produce a darker and more muted tone.

EG (VDF EG intensity)

[00...99]

This specifies the effect that the VDF EG will have on the tone of the oscillator.

Higher values will cause the tone to change more greatly.

With a setting of **0**, the VDF EG will not be used, and the tone will not change over time.

VDF EG settings are made in "Page 6: VDF EG".

CL (Color)

[00...99]

This parameter adds character to the sound.

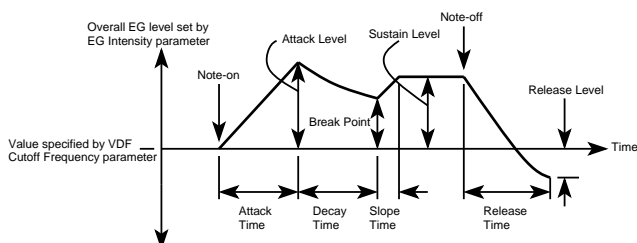
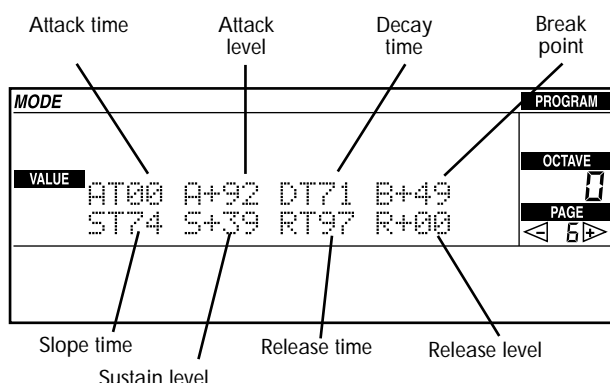
Higher values will boost the frequency components in the region of the cutoff frequency, causing filter movements produced by the VDF EG or VDF modulation to be more noticeable.

Page 6: VDF EG

Here you can specify the shape of the VDF EG (envelope generator) that will determine how the VDF cutoff frequency will change over time.

In “Page 5: VDF”, the EG Intensity parameter allows you to adjust the depth of the effect produced by the oscillator EG. Also, the “Page 7: VDF keyboard tracking”, parameter settings allow the EG to be automatically adjusted according to the keyboard position or key velocity.

Switch between oscillators 1 and 2 by pressing the VARIATION buttons [1] or [2].



AT (Attack time)

[00...99]

This sets the time over which the cutoff frequency will change from the normal VDF setting to the Attack Level (A).

With a setting of **0** the movement will take place instantly, and with a setting of **99** the movement will be the slowest.

A (Attack level)

[-99...+99]

Sets the level at which the cutoff frequency will arrive after the Attack Time has elapsed.

With **positive (+)** settings the Attack Level will be higher than the normal cutoff frequency, and with **negative (-)** settings it will be lower.

DT (Decay time)

[00...99]

Sets the time over which the VDF cutoff frequency will change from the Attack Level (A) to the Break Point (B).

Set it in the same way as the Attack Time parameter.

B (Break point)

[-99...+99]

Sets the level at which the VDF cutoff frequency will arrive after the Decay Time (DT) has elapsed.

Set it in the same way as the Attack Level parameter.

ST (Slope time)

[00...99]

Sets the time over which the VDF cutoff frequency will change from the Break Point (B) to the Sustain Level (S).

Set it in the same way as the Attack Start Time parameter.

S (Sustain level)

[-99...+99]

Sets the level at which the VDF cutoff frequency will arrive after the Slope Time (ST) has elapsed.

Set it in the same way as the Attack Level parameter.

RT (Release time)

[00...99]

Sets the time over which the VDF cutoff frequency will change from the Sustain Level (S) to the normal cutoff frequency after you release the key.

Set it in the same way as the Attack Time parameter.

R (Release level)

[−99...+99]

Sets the level at which the VDF cutoff frequency will arrive after the Release Time (RT) has elapsed.

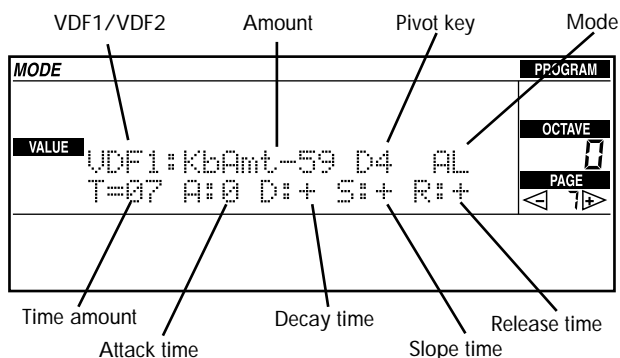
Set it in the same way as the Attack Level parameter.

Page 7: VDF keyboard tracking

VDF keyboard tracking is a function that adjusts the cutoff frequency according to the keyboard location of the note that is played. On many real-world instruments, higher notes have a brighter tone, and this can be simulated using VDF keyboard tracking.

The effect of the tracking function is determined by the Keyboard Track Amount, Pivot Key, and Mode parameters.

Keyboard tracking can be used to modify VDF EG times, so that the four EG time parameters will be shortened or lengthened depending on the location of the keyboard that you play.



VDF1/VDF2

When a double oscillator program is selected, this selects the oscillator whose filter parameters will be edited.

You can also use the VARIATION [1] or [2] buttons to switch between oscillators 1 and 2.

KbAmt (Keyboard track amount)

[−99...+99]

Specifies how greatly keyboard tracking will affect the cutoff frequency. The way in which this will function is determined by the Mode parameter, explained below.

Positive (+) settings will cause the tone to become brighter as you play above the Pivot Key. Conversely, the tone will become darker as you play below the specified key.

Negative (−) will have exactly the opposite effect.

With a setting of **−50**, the cutoff frequency of the note specified by the Key parameter will be used as the standard cutoff frequency for all notes, meaning that the cutoff frequency will remain the same for all areas of the keyboard.

With a setting of **0**, the cutoff frequency will change in direct correspondence to the pitch. This will produce the same effect as when the following Mode parameter is turned OFF.

Pivot key

[C-1...G9]

Sets the note which will be used as the center for the keyboard tracking function. The function of this key is determined by the setting of the Mode parameter, below.

Mode

[OF, LO, HI, AL]

This determines the range which will be affected by the keyboard tracking function.

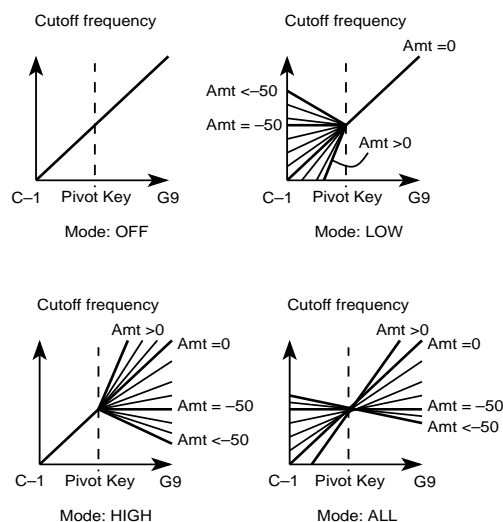
OF (OFF) will cause keyboard tracking to be exactly proportional to the keyboard pitch, just as when Keyboard Track Amount is set to 0.

LO (LOW) will cause keyboard tracking to apply to the range below the Pivot note.

HI (HIGH) will cause keyboard tracking to apply to the range above the Pivot note.

AL (ALL) will cause keyboard tracking to adjust the cutoff frequency of all notes, relative to the Pivot note.

Changes in cutoff frequency produced by Keyboard Track Amount (Amt) and Pivot Key settings for each Mode



T (Time Amount)

[00...99]

Specifies how deeply keyboard tracking will affect the VDF EG speed.

Higher values will produce a greater change.

With a setting of **0**, EG speed will not be affected.

This parameter only specifies the amount of the effect that the keyboard tracking function has on EG speed. Whether keyboard tracking will lengthen or shorten the various EG times is determined by the following four parameters.

A (Attack time)

[-, 0, +]

Specifies the direction of the change that keyboard tracking will cause for Attack Time.

A setting of “+” will cause keyboard tracking to shorten the attack time.

A setting of “-” will cause keyboard tracking to lengthen the attack time.

With a setting of **0**, the attack time will not be affected.

D (Decay time)

[-, 0, +]

Specifies the direction of the change that keyboard tracking will cause for Decay Time.

This setting functions in the same way as the Attack Time parameter.

S (Slope time)

[-, 0, +]

Specifies the direction of the change that keyboard tracking will cause for Slope Time.

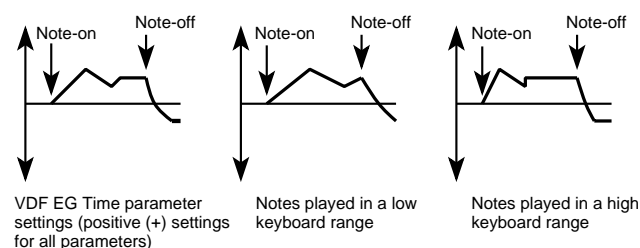
This setting functions in the same way as the Attack Time parameter.

R (Release time)

[-, 0, +]

Specifies the direction of the change that keyboard tracking will cause for Release Time.

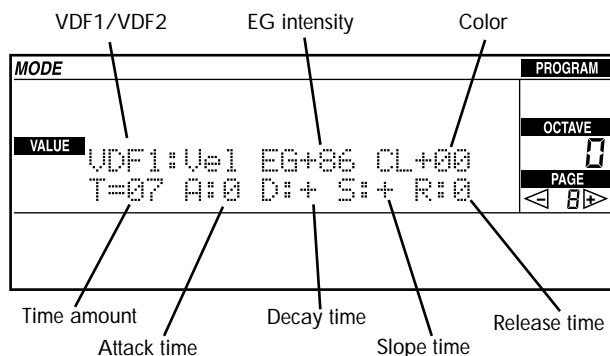
This setting functions in the same way as the Attack Time parameter.



Page 8: VDF velocity sensitivity

On the i40M, the VDF EG can be affected by your keyboard playing dynamics or by the velocity values of MIDI Note messages received from an external MIDI device. Instruments such as a piano, on which strongly played notes are brighter, can be easily simulated using this capability. Even when the VDA does not change, using velocity to modify the filter can produce a variety of interesting effects.

You can also use keyboard dynamics to modify the speed of the VDF EG. Note velocity can shorten or lengthen each of the four EG segments.



VDF1/VDF2

When a double oscillator program is selected, this specifies the oscillator whose filter parameters will be edited.

You can also switch between oscillators 1 and 2 by pressing the VARIATION buttons [1] or [2].

EG (EG intensity)

[−99...+99]

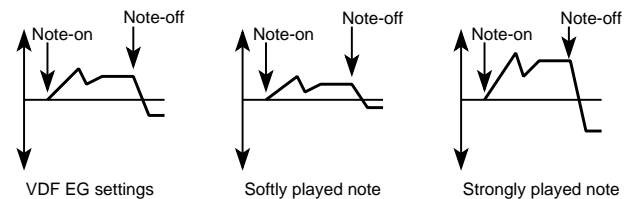
Specifies the effect that keyboard dynamics will have on the VDF EG.

Positive (+) settings will cause EG depth to decrease for softly-played notes, causing cutoff frequency to change less.

Negative (−) settings will cause EG depth to decrease for strongly-played notes.

With a setting of **0**, the depth will be as specified by the “Page 5: VDF” EG Intensity parameter.

VDF EG velocity sensitivity (for positive (+) settings)



CL (Color)

[−99...+99]

Specifies the effect that keyboard dynamics will have on the Resonance.

Positive (+) settings will cause Resonance to increase for strongly-played notes, and to decrease for softly-played notes.

Negative (−) settings will have the exact opposite result.

With a setting of **0**, the Resonance of all notes will be as specified by the “Page 5: VDF” Color parameter.

T (Time amount)

[00...99]

Specifies the amount of the effect that velocity will have on VDF EG speed.

Higher values will produce a greater change.

With a setting of **0**, EG speed will not be affected.

This parameter only specifies the amount of the effect that velocity has on EG speed. Whether velocity will lengthen or shorten the various EG times is determined by the following four parameters.

A (Attack time)

[−, 0, +]

Specifies the direction of the change that velocity will cause for Attack Time.

A setting of “+” will cause the attack time to be shortened for strongly played notes.

A setting of “−” will cause the attack time to be lengthened for strongly played notes.

With a setting of **0**, the attack time will not be affected by velocity.

D (Decay time)

[-, 0, +]

Specifies the direction of the change that velocity will cause for Decay Time.

This setting functions in the same way as the Attack Time parameter.

S (Slope time)

[-, 0, +]

Specifies the direction of the change that velocity will cause for Slope Time.

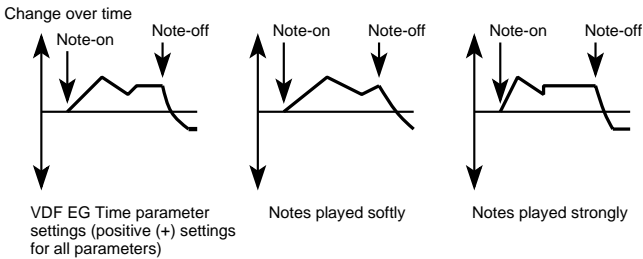
This setting functions in the same way as the Attack Time parameter.

R (Release time)

[-, 0, +]

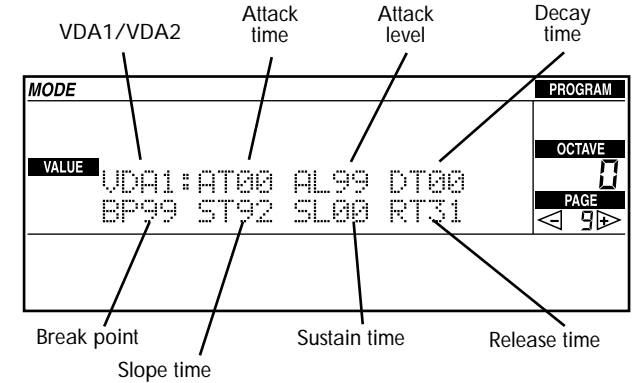
Specifies the direction of the change that velocity will cause for Release Time.

This setting functions in the same way as the Attack Time parameter.

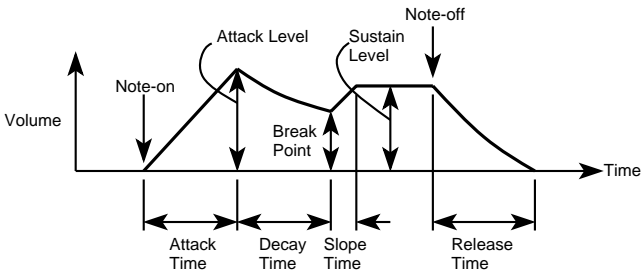


Page 9: VDA EG

The settings in this page set the shape of the VDA EG (envelope generator), specifying how the VDA level of the oscillators will change over time.



The parameters in “Page 10: VDA keyboard tracking” allow you to specify how keyboard position or playing dynamics will automatically modify the EG.



VDA1/VDA2

When a double oscillator program is selected, this specifies the oscillator whose VDA parameters are being edited.

You can also use the VARIATION buttons [1] or [2] to switch between oscillators 1 and 2.

AT (Attack time)

[00...99]

This sets the time over which the VDA volume will change from 0 to the Attack Level (A).

With a setting of 0 the movement will take place instantly, and with a setting of 99 the movement will be the slowest.

A (Attack level)

[+00...+99]

Sets the volume level at which the VDA will arrive after the Attack Time (AT) has elapsed.

As this setting is increased, the Attack Level will be louder, and with a setting of +0 the volume will be 0, delaying the timing at which the sound will begin to be heard.

DT (Decay time)

[00...99]

Sets the time over which the VDA volume will change from the Attack Level (A) to the Break Point (B).

Set it in the same way as the Attack Time parameter.

B (Break point)

[+00...+99]

Sets the volume level at which the VDA will arrive after the Decay Time (DT) has elapsed.

Set it in the same way as the Attack Level parameter.

ST (Slope time)

[00...99]

Sets the time over which the VDA volume will change from the Break Point Level (B) to the Sustain Level (S).

Set it in the same way as the Attack Time parameter.

S (Sustain level)

[+00...+99]

Sets the volume level at which the VDA will arrive after the Slope Time (ST) has elapsed.

Set it in the same way as the Attack Level parameter.

RT (Release time)

[00...99]

Sets the time over which the VDA volume will change from the Sustain Level (S) to a volume of 0 after you release the key.

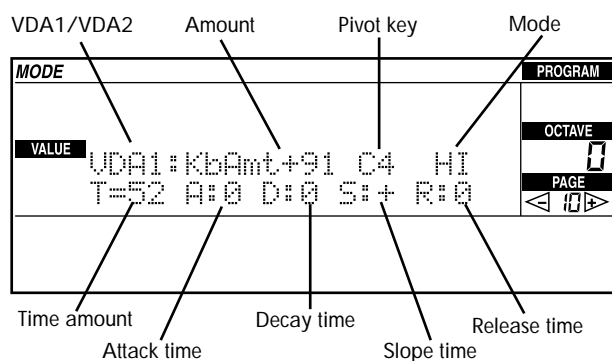
Set it in the same way as the Attack Time parameter.

Page 10: VDA keyboard tracking

VDA keyboard tracking is a function that adjusts the oscillator volume according to the keyboard location of the note that is played. On many real-world instruments such as wind instruments, higher notes have a louder volume, and this can be simulated using VDA keyboard tracking.

The effect of the tracking function is determined by the Keyboard Track Amount, Pivot Key, and Mode parameters.

Keyboard tracking can be used to modify VDA EG times, so that the four EG time parameters will be shortened or lengthened depending on the location of the keyboard that you play.



VDA1/VDA2

When a double oscillator program is selected, this selects the oscillator whose amplifier parameters will be edited.

You can also use the Variation [1] or [2] buttons to switch between oscillators 1 and 2.

KbAmt (Keyboard track amount)

[-99...+99]

Specifies how greatly keyboard tracking will affect the volume. The way in which this will function is determined by the Mode parameter, explained below.

With a setting of 0, all notes will have the same volume. (This is the same effect as when the following Mode parameter is turned OFF.)

Pivot key

[C-1...G9]

Sets the note which will be used as the center for the keyboard tracking function. The function of this key is

determined by the setting of the Mode parameter, below.

Mode

[OF, LO, HI, AL]

This determines the range which will be affected by the keyboard tracking function.

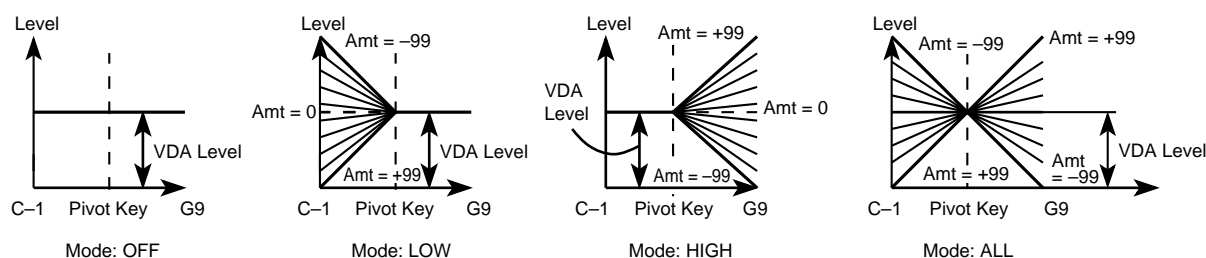
OF (OFF) will cause keyboard tracking to be turned off, so that notes in any range of the keyboard will have the same volume.

LO (LOW) will cause keyboard tracking to apply to the range below the Pivot note.

HI (HIGH) will cause keyboard tracking to apply to the range above the Pivot note.

AL (ALL) will cause keyboard tracking to adjust the volume level of all notes, relative to the Pivot note.

Changes in VDA level produced by Keyboard Track Amount (Amt) and Pivot Key settings for each Mode



T (Time Amount)

[00...99]

Specifies how deeply keyboard tracking will affect the VDA EG speed.

Higher values will produce a greater change.

With a setting of **0**, EG speed will not be affected.

This parameter only specifies the amount of the effect that the keyboard tracking function has on EG speed. Whether keyboard tracking will lengthen or shorten the various EG times is determined by the following four parameters.

A (Attack time)

[-, 0, +]

Specifies the direction of the change that keyboard tracking will cause for Attack Time.

A setting of “+” will cause keyboard tracking to shorten the attack time.

A setting of “-” will cause keyboard tracking to lengthen the attack time.

With a setting of **0**, the attack time will not be affected.

D (Decay time)

[-, 0, +]

Specifies the direction of the change that keyboard tracking will cause for Decay Time.

This setting functions in the same way as the Attack Time parameter.

S (Slope time)

[-, 0, +]

Specifies the direction of the change that keyboard tracking will cause for Slope Time.

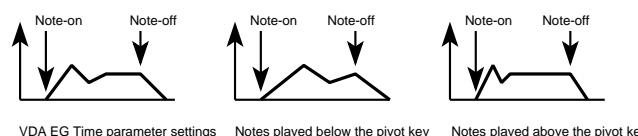
This setting functions in the same way as the Attack Time parameter.

R (Release time)

[-, 0, +]

Specifies the direction of the change that keyboard tracking will cause for Release Time.

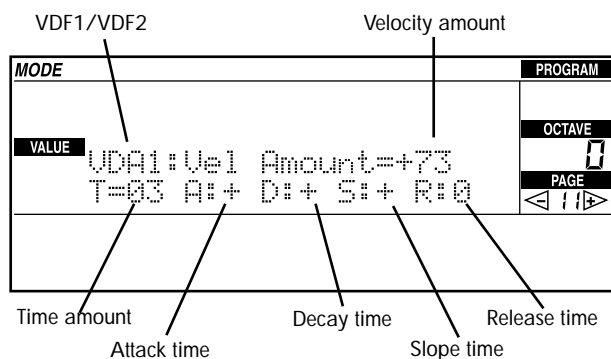
This setting functions in the same way as the Attack Time parameter.



Page 11: VDF velocity sensitivity

On the i40M, the VDA EG can be affected by your keyboard playing dynamics or by the velocity values of MIDI Note messages received from an external MIDI device. Settings can be made so that strongly played notes will have a more greatly emphasized attack or decay.

The five parameters in the lower line also allow playing dynamics to modify the speed of the VDA EG. Note velocity can shorten or length each of the four EG segments.



VDA1/VDA2

When a double oscillator program is selected, this specifies the oscillator whose amplifier parameters will be edited.

You can also switch between oscillators 1 and 2 by pressing the VARIATION [1] or [2] buttons.

Amount

[−99...+99]

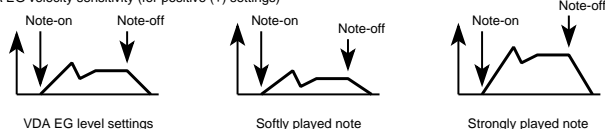
Specifies the effect that keyboard dynamics will have on the VDA EG.

Positive (+) settings will cause EG depth to decrease for softly-played notes, causing the volume level to change less.

Negative (−) settings will cause EG depth to decrease for strongly-played notes.

With a setting of **0**, the depth will be as specified by the Attack Time, Decay Time, Slope Time, and Release time parameters.

VDA EG velocity sensitivity (for positive (+) settings)



T (Time amount)

[00...99]

Specifies the amount of the effect that velocity will have on VDA EG speed.

Higher values will produce a greater change.

With a setting of **0**, EG speed will not be affected.

This parameter only specifies the amount of the effect that velocity has on EG speed. Whether velocity will length or shorten the various EG times is determined by the following four parameters.

A (Attack time)

[−, 0, +]

Specifies the direction of the change that velocity will cause for Attack Time.

A setting of **“+”** will cause the attack time to be shortened for strongly played notes.

A setting of **“−”** will cause the attack time to be lengthened for strongly played notes.

With a setting of **0**, the attack time will not be affected by velocity.

D (Decay time)

[−, 0, +]

Specifies the direction of the change that velocity will cause for Decay Time.

This setting functions in the same way as the Attack Time parameter.

S (Slope time)

[−, 0, +]

Specifies the direction of the change that velocity will cause for Slope Time.

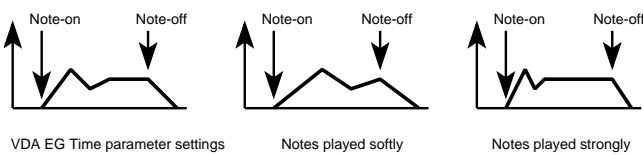
This setting functions in the same way as the Attack Time parameter.

R (Release time)

[−, 0, +]

Specifies the direction of the change that velocity will cause for Release Time.

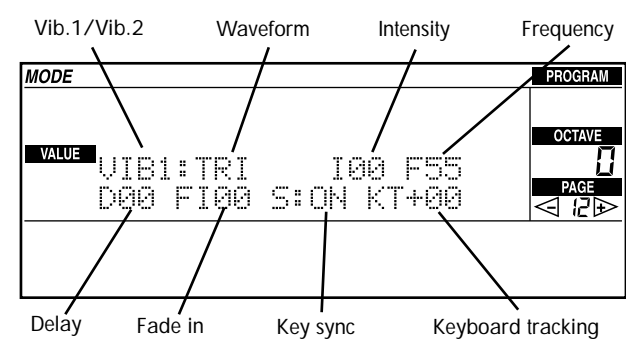
This setting functions in the same way as the Attack Time parameter.



Page 12: Vibrato

This page contains settings which control pitch modulation. This function simulates the vibrato effects that can be produced on many acoustic instruments.

For double oscillator programs, the pitch of each oscillator can be modulated independently.



Vib.1/Vib.2 (Vibrato 1/Vibrato 2)

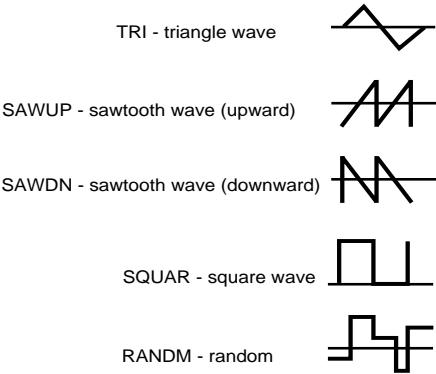
When a double oscillator program is selected, this specifies the oscillator whose Vibrato parameter will be edited.

You can also use the VARIATION buttons [1] and [2] to switch between oscillators 1 and 2.

Waveform

[TRI...RANDM]

Selects the waveform that will be used to modulate the pitch of the oscillator. The following waveforms are available.



I (Intensity)

[00...99]

This sets the depth of automatic pitch modulation.

With a setting of **99**, the selected waveform will modulate the pitch over a range of 1–2 octaves.

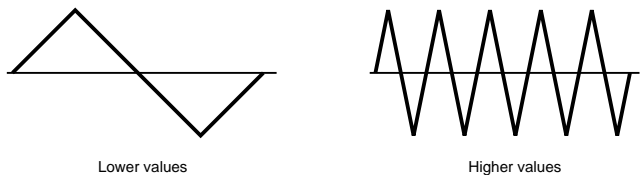
With a setting of **0**, modulation will not be applied.

F (Frequency)

[00...99]

This sets the speed of pitch modulation.

Higher values will produce faster modulation.



D (Delay)

[00...99]

This parameter delays the onset of automatic pitch modulation.

Higher values will produce a greater delay.

With a setting of **0**, modulation will begin to apply as soon as the note begins.

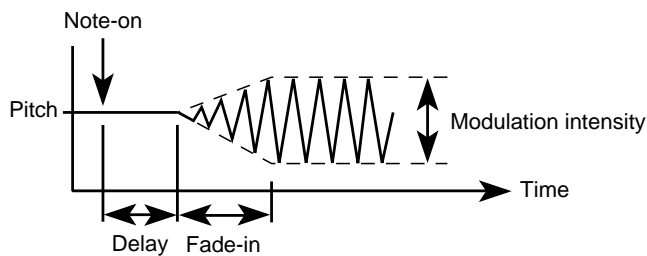
FI (Fade-in)

[00...99]

This parameter allows the automatic pitch modulation to be faded-in, so that it will begin with a small amount of modulation and gradually increase to the full depth that is specified by the Intensity parameter.

Higher values will produce a longer fade-in.

With a setting of **0**, there will be no fade-in, and modulation will begin immediately at the depth specified by the Intensity parameter.



S (Key sync)

[ON, OFF]

This parameter specifies whether or not the Vibrato will be reset each time you play a note.

With a setting of **ON**, the modulation waveform will be reset each time you play a note.

With a setting of **OFF**, the modulation waveform of the first-played note will continue at the standard frequency, and will not be affected by subsequently-played notes. We suggest that you set this **OFF** when playing chords, so that modulation will apply to each note in unison even if you arpeggiate the chord.

KT (Keyboard tracking)

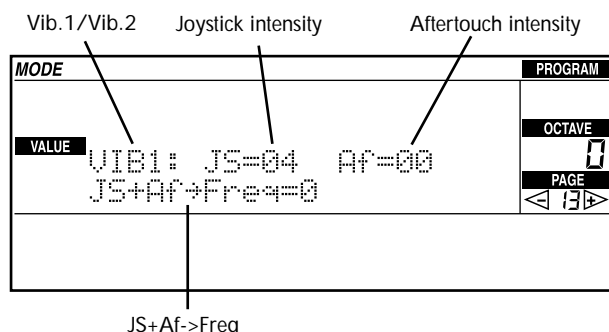
[-99...+99]

This parameter adjusts the speed of pitch modulation according to the keyboard location that you play.

Positive (+) settings will cause modulation to become faster as you play above middle C, and slower as you play below middle C.

Negative (-) settings will have the opposite effect.

Page 13: Vibrato controller



Vib1/Vib2 (Vibrato1/Vibrato2)

When a double oscillator program is selected, this specifies the oscillator whose Vibrato parameters will be edited.

You can also use the **VARIATION** buttons [1] or [2] to switch between oscillators 1 and 2.

JS (Joystick up)

[00...99]

This specifies the maximum depth of the modulation that will occur when the joystick is moved away from you.

This is similar to the “Page 12: Vibrato” Intensity parameter, but in this case, the specified modulation will not be applied until you move the joystick.

Af (Aftertouch)

[00...99]

This specifies the maximum depth of the modulation that will occur when aftertouch is applied.

This is similar to the “Page 12: Vibrato” Intensity parameter, but in this case, the specified modulation will not be applied until you apply aftertouch.

JS+ Af → Freq (Frequency control by joystick + aftertouch)

[0...9]

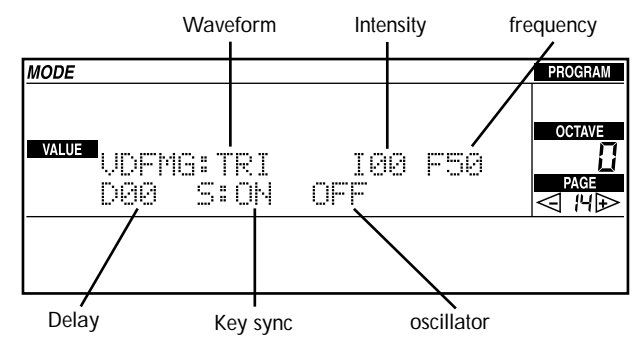
This parameter allows the modulation to be speeded up by moving the joystick away from you or by applying aftertouch.

Higher settings will allow modulation to be speeded up more.

With a setting of **0**, the joystick or aftertouch will not affect the modulation frequency.

Page 14: VDF MG

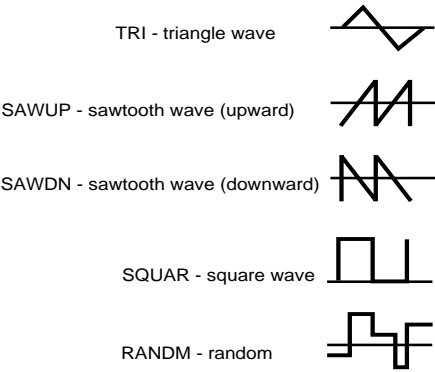
These parameters let you use the selected waveform to control the filter cutoff frequency. Unlike pitch, VDF is modulated by a single MG even for double oscillator programs.



Waveform

[TRI...RANDM]

Selects the waveform that will be used to modulate the pitch of the oscillator. The following waveforms are available.

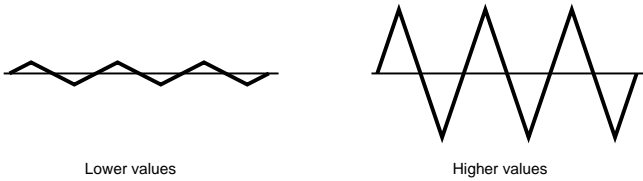


I (Intensity)

[00...99]

This sets the depth of automatic VDF modulation.

With a setting of **0**, modulation will not be applied.

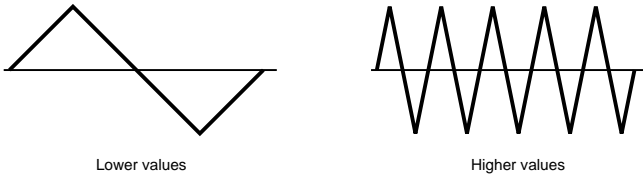


F (Frequency)

[00...99]

This sets the speed at which the cutoff frequency will be modulated.

Higher values will produce faster modulation.



D (Delay)

[00...99]

This parameter delays the onset of automatic VDF modulation.

Higher values will produce a greater delay.

With a setting of **0**, modulation will begin to apply as soon as the note begins.

S (Key sync)

[ON, OFF]

This parameter specifies whether or not the VDF MG will be reset each time you play a note.

With a setting of **ON**, the modulation waveform will be reset each time you play a note.

With a setting of **OFF**, the modulation waveform of the first-played note will continue at the standard frequency, and will not be affected by subsequently-played notes. We suggest that you set this OFF when

playing chords, so that modulation will apply to each note in unison even if you arpeggiate the chord.

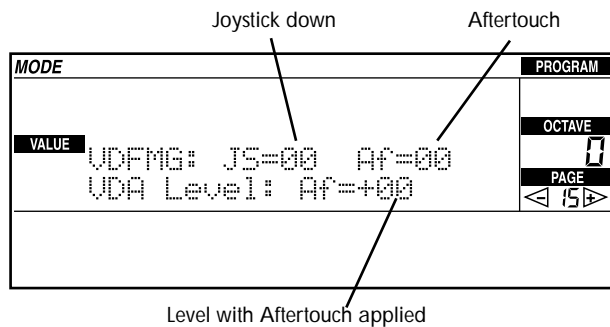
Oscillator

[OFF, OSC1, OSC2, BOTH]

This specifies the oscillator(s) to which VDF modulation will apply. You may modulate the cutoff frequency of OSC1 or OSC2 or both.

If this is turned **OFF**, VDF MG will also be off.

Page 15: VDF MG controller/VDA level



• Af (Aftertouch)

[00...99]

This specifies the maximum depth of the modulation that will occur when aftertouch is applied.

This is similar to the “Page 14: VDF MG” Intensity parameter, but in this case, the specified modulation will not be applied until you apply aftertouch.

VDA Level

• Af (Aftertouch)

[-99...+99]

This specifies the volume change that will be controlled by aftertouch.

Positive (+) settings will cause the sound to become louder as you press down on the keyboard, and higher settings will allow a greater change in volume.

Negative (-) settings will cause the sound to become softer as you press down on the keyboard.

VDFMG (VDF MG controller)

• JS (Joystick down)

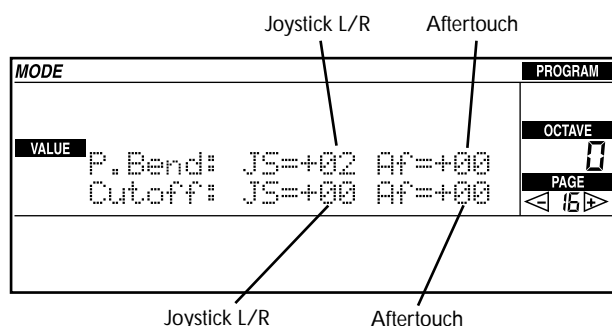
[00...99]

Specifies the maximum depth of modulation that will be applied when you move the joystick away from you.

This is similar to the “Page 14: VDF MG” Intensity parameter, but in this case, the specified modulation will not be applied until you move the joystick.

Page 16: Controllers

The settings here determine how the joystick and aftertouch will affect the pitch, filter cutoff frequency, and volume of the program. These parameters will directly control the pitch, cutoff frequency, and volume. Unlike the joystick and aftertouch parameters explained in the Vibrato and VDF MG sections, they do not control the amount or speed of modulation.



P.Bend (Pitch bend)

- **JS (Joystick L/R)**

[-12...+12]

This specifies the amount of pitch change that will occur when you move the joystick to left or right, in chromatic steps.

A setting of **12** will allow a pitch bend effect of 1 octave.

Positive (+) settings will cause the pitch to rise when the joystick is moved toward the right, and fall when the joystick is moved toward the left.

Negative (-) settings will produce the opposite effect.

Depending on the sound or the keyboard location that you play, the pitch may not change in a full ± 1 octave range.

- **Af (Aftertouch)**

[-12...+12]

This specifies the amount of pitch change that will occur when you apply aftertouch, in chromatic steps.

A setting of **12** will allow a pitch bend effect of 1 octave.

Positive (+) settings will cause the pitch to rise when aftertouch is applied.

Negative (-) settings will cause the pitch to fall when aftertouch is applied.

Cutoff

- **JS (Joystick L/R)**

[-99...+99]

This specifies the maximum amount of cutoff frequency change that will occur when you move the joystick to left or right.

Positive (+) settings will cause the tone to become brighter when the joystick is moved toward the right, and darker when the joystick is moved toward the left.

Negative (-) settings will produce the opposite effect.

- **Af (Aftertouch)**

[-99...+99]

This specifies the maximum amount of cutoff frequency change that will occur when you apply aftertouch.

Positive (+) settings will cause the tone to become brighter when aftertouch is applied.

Negative (-) settings will cause the tone to become darker when aftertouch is applied.

Page 17: Effect select

The instrument has two incorporated digital effect processors. In this page, you can choose which effects

you wish to assign to the program and turn them on or off. For more details, see “Effects” chapter.

Page 18: Effect modulation

In this page you can connect the effects to controls, which allow you to dynamically modulate their intensity. For more details, see “Effects” chapter.

Page 19: Effect placement

In this page you can choose the effect setup of the program, and program pan and levels for channels C and D. For more details, see “Effects” chapter.

Page 20: Effect 1 settings

Page 21: Effect 2 settings

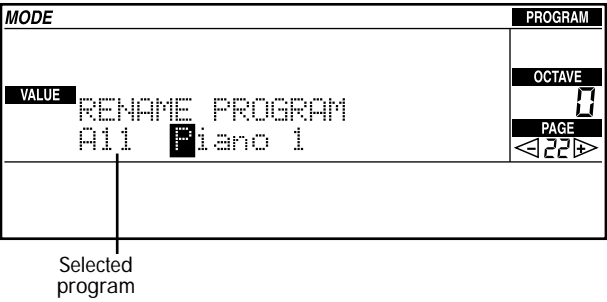
These pages contain the effect parameters selected on “Page 17: Effect select”, that will be used for the selected program. The parameters contained in these

pages will depend on the effects you have selected. For more information on programming effects, see “Effects” chapter.

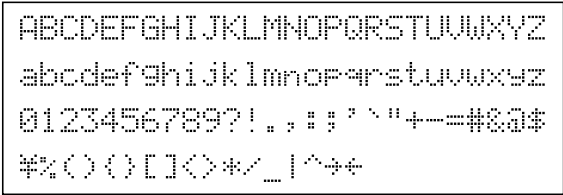
Page 22: Rename program

Here you can modify the title of the program that is being edited.

A title of up to 10 characters can be assigned to the program.



The following characters can be used.



Use the CURSOR buttons to move the cursor to the location of the character you wish to modify, and use the TEMPO/VALUE buttons to modify the character.

Pressing the INS button will copy the character at the cursor, allowing a character to be inserted at that location. Pressing the DEL button will delete the character at the cursor location.

Page 23: Write program

This function saves (writes) the edited program into internal memory (F11–88, Dr27–28). You can also access this page by pressing the REC/WRITE button from a different page.



- ① Use the TEMPO/VALUE buttons to display the program number of the desired writing destination (the memory location into which the data will be written).

You can also use the PROGRAM BANK buttons and PROGRAM NUMBER buttons to input the program number.

When saving a normal program, select F11–88. When saving a drum program, select Dr27 or Dr28. (The selected program will be displayed.)

- ② If you wish to save the current program into the specified destination, press the ENTER/YES button.

.....
Warning: When you execute the Write Program operation, the data in the writing destination will be lost, and cannot be recovered.
.....

12. Effects

i40M includes two DSP (Digital Signal Processors), or effect generators. This chapter explains the effect types that can be used in the various modes of the i40M. The i40M provides 47 different types of effect, beginning

with those essential for any type of music (reverb, chorus, etc.) and including effects such as exciter and enhancer. In addition, you can use a foot pedal to switch effects on/off while you play.

Effect type

The i40M has 47 different effects, and these can be classified into the following 25 Types.

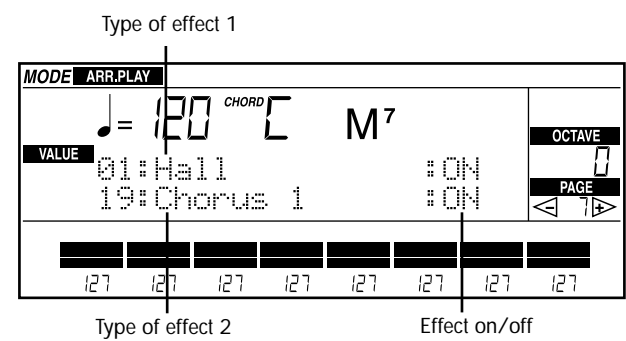
Effect number	Effect type
0	No Effect
1–9	Reverb
10–12	Early Reflection
13–14	Stereo Delay
15	Dual Delay
16–18	Multitap Delay
19–20	Chorus
21–22	Quadrature Chorus
23	Harmonic Chorus
24	Symphonic Ensemble
25–27	Flanger
28	Exciter

Effect number	Effect type
29	Enhancer
30–31	Distortion
32–33	Phaser
34	Rotary Speaker
35–36	Tremolo
37	Parametric Equalizer
38–39	Chorused/Flanged Delay
40–41	Delay & Reverb
42	Delay & Chorus
43	Delay & Flanger
44–45	Delay & Distortion
46	Delay & Phaser
47	Delay & Rotary Speaker

“Effect select” pages

Mode	Page
Arrangement Play	“Page 9: Effect select”
Backing Sequence	“Page 11: Effect select”
Song Play	“Page 4: Effect select”
Song Edit	“Page 8: Effect select”
Program	“Page 17: Effect select”

In these pages, you can choose which effects you wish to assign to an arrangement, backing sequence, song or program, and turn them on or off.



Type of effect

[00: No effect...47: Delay/Rotary]

You can assign a different effect to each processor. For more information on the types of effect, read forward in this chapter.

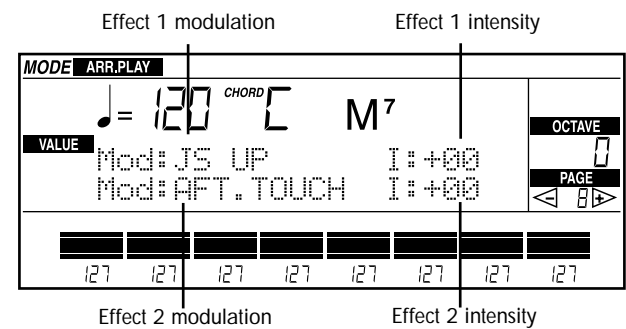
ON/OFF[OFF, ON]

This switches the effect on or off. The effects can also be switched on or off by a footswitch a pedal or an EC5. External controller. For more information see “Page 12: Assignable pedal/switch” and “Page 13: EC5 external controller” in the Disk/Global mode.

“Effect modulation” pages

Mode	Page
Arrangement Play	“Page 10: Effect modulation”
Backing Sequence	“Page 12: Effect modulation”
Song Play	“Page 5: Effect modulation”
Song Edit	“Page 9: Effect modulation”
Program	“Page 18: Effect modulation”

In these page you can connect the effects to controls, which allow you to dynamically modulate their intensity.



Mod (Modulation)

[NONE, JS UP, JS DOWN, AFTT, PEDAL, VDA EG]

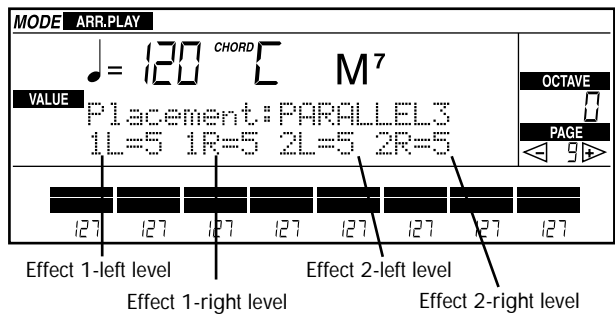
The control that is assigned to the effect.

- | | |
|---------|---------------------------|
| NONE | No control assigned. |
| JS UP | Joystick moves upwards. |
| JS DOWN | Joystick moves downwards. |
| AFTT | Aftertouch. |
| PEDAL | Damper pedal. |
| VDA EG | Amplitude envelope. |

“Effect placement” pages

Mode	Page
Arrangement Play	“Page 11: Effect placement”
Backing Sequence	“Page 13: Effect placement”
Song Play	“Page 6: Effect placement”
Song Edit	“Page 10: Effect placement”
Program	“Page 19: Effect placement”

In this page you can choose the effect setup of the arrangement, backing sequence, song or program, and program pan and levels for channels C and D. Pan and sending of arrangement tracks are programmed on the “Track settings” page.



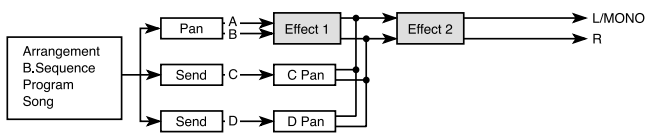
Placement

[SERIAL, PARALLEL 1, PARALLEL 2, PARALLEL 3]

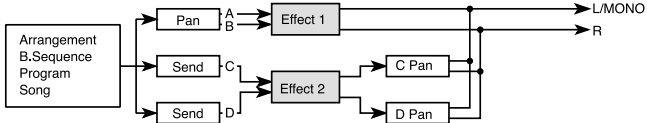
The Placement determines where the internal audio channels (A, B, C, and D) will be connected to the effects. The usual placement is Parallel 3.

Warning: A different placement to Parallel 3 can increase the signal output level, and generate distortion.

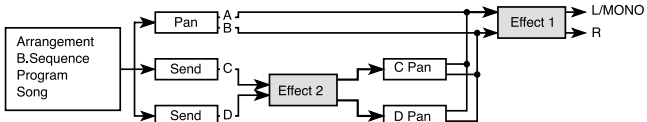
The **SERIAL** setting will assign effects 1 and 2 to channels A and B. Since the signal from channels C and D will only be mixed in after effect 1 (as specified by channel C pan and channel D pan), only effect 2 will be assigned to channels C and D.



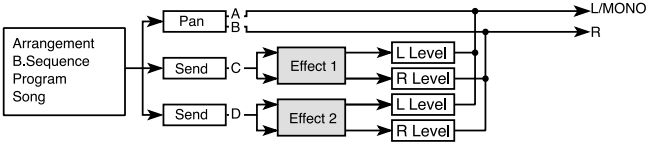
The **PARALLEL 1** setting will assign effect 1 to channels A and B, and effect 2 to channels C and D. After effect 2, the pan of channels C and D will be set. Finally, the signals from the two effects will be mixed.



The **PARALLEL 2** setting will assign effect 2 to channels C and D. After effect 2, the pan of channels C and D will be set. The signal will be mixed with channels A and B and sent through effect 1.



The **PARALLEL 3** setting will assign effect 1 (reverb) to channel C and effect 2 (modulating) to channel D. The L/R (left/right) level of each effect will be set separately. Then the signal of the two effects will be mixed with channels A and B. This setting allows you mix the effected signal of channels C and D (wet) with the direct signal of channels A and B (dry).



C (C Pan)

[OFF, R, 99:01...01:99, L]

Panning (stereo positioning) of the signal from channel C. This will only appear if SERIAL, PARALLEL 1 or PARALLEL 2 settings are selected.

- L Left signal.
- R Right signal.
- OFF Channel C signal off.

D (D Pan)

[OFF, R, 99:01...01:99, L]

Panning (stereo positioning) of the signal from channel D. This will only appear if SERIAL, PARALLEL 1 or PARALLEL 2 settings are selected.

- L Left signal.
- R Right signal.
- OFF Channel D signal off.

1L/1R (Effect 1 Left/Right level)

[0...9]

This only appears if PARALLEL 3 setting is selected.

- 0 Effect 1 (reverb) off.
- 1-9 Effect 1 level (reverb). The signal will be mixed with channels A and B (not effected).

2L/2R (Effect 2 Left/Right level)

[0...9]

This will only appear if PARALLEL 3 setting is selected.

- 0 Effect 2 level(modulating) off.
- 1-9 Effect 2 level 2 (modulating). The signal will be mixed with channels A and B (not effected).

Effect 1 settings pages

Effect 2 settings pages

Mode	Page
Arrangement Play	"Page 12: Effect 1 settings", "Page 13: Effect 2 settings"
Backing Sequence	"Page 14: Effect 1 settings", "Page 15: Effect 2 settings"
Song Play	"Page 7: Effect 1 settings", "Page 8: Effect 2 settings"
Song Edit	"Page 11: Effect 1 settings", "Page 12: Effect 2 settings"
Program	"Page 20: Effect 1 settings", "Page 21: Effect 2 settings"

These pages contain the effect parameters selected on the "Effect select" page. The parameters contained in these pages will depend on the effects you have

selected. For more information on programming effects, see forward in this chapter.

Dynamic modulation

If an optional Korg XVP-10 or EXP-2 pedal controller is connected to the ASSIGN PDL/SW jack, and you set the Disk/Global mode "Page 12: Assignable pedal/switch" to EFFECT CONTROL, a foot pedal can be used to control the effects in various ways. The aspect

of the effect that can be controlled will depend on the effect; for example it might be the balance between the original sound and processed sound, the speed of modulation, or the frequency that is being emphasized.

However for some effect settings, dynamic modulation may not have a noticeable result.

In the LCD, parameters which can be controlled using dynamic modulation while you play are indicated by a

“→” symbol (except for 34: Rotary Speaker and 47: Delay & Rotary Speaker). In this manual, such parameters are marked by a **D^{mod}** symbol.

Shelving equalizer

Many of the i40M's built-in effects have a two-band shelving-type equalizer that can boost or cut the low and high frequency ranges, and the equalizer will continue functioning even if the switch parameter is used to turn the effect on/off. However the Stereo Delay

(13, 14), Stereo Chorus (19, 20), Exciter (28), and Tremolo (35, 36 effects) are exceptions.

If you wish to listen to the un-equalized sound while editing a program, you will have to set the effect selection to 00:No Effect to turn off both effect processors.

Settings for each effect

Explanations for each of the 25 effect types are given below.

00: No Effect

When **00: No Effect** is selected, effects will not be applied to the sound. Select this if you want the sound to be dry, with no effects.

As an alternative to selecting No Effect, you can also turn off the effects by using an optional foot switch. However the foot switch is designed for realtime control while you play, while selecting No Effect is used when no effects are to be applied to the sound at all.

01...09: Reverb

Reverb adds reverberance to the sound, creating a more natural impression. This is the most frequently used effect.

The i40M provides nine types of reverb effect.

01: Hall simulates the acoustics of a small concert hall, such as might be used by a string quartet or acoustic jazz band.

02: Ensemble Hall is a slightly larger hall, suitable for orchestral or brass ensembles.

03: Concert Hall has greater emphasis on the early reflections, and is suitable for full orchestras.

04: Room reproduces the feeling of a standard room.

05: Large Room simulates a larger room with greater density, and is similar to gated reverb.

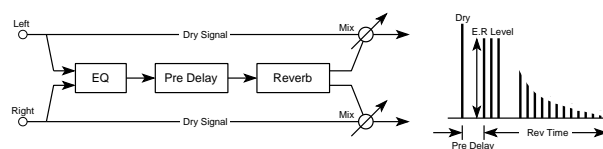
06: Live Stage has a sound similar to what you might hear in a gymnasium, and re-creates the atmosphere of a rock concert.

07: Wet Plate and **08: Dry Plate** simulate plate reverbs, devices which are often used to add emphasis to vocals or solo instruments. Wet Plate is heavy, and Dry Plate is light.

09: Spring Reverb simulates a spring reverb device of the type often used in guitar amplifiers.

For each of these, the sound passes through a two-band shelving equalizer located before the reverb effect.

Some of these reverb effects produce a rapid series of initial delays which are known as Early Reflections. The “wash” of reverberation will follow this, and gradually die away.



	Reverb time	Depends on the effect	Set the time over which the reverberation decays
P	Pre delay	0...200 ms	Set the delay from the direct sound until when the early reflections begin. Higher values will cause the reverberation to be more distinct, like an echo.

E	Early reflection level	Depends on the effect	Set the volume of the early reflection components of the reverberation. As this value is increased, the early reflections will be emphasized more greatly, allowing them to be heard clearly.
H D	High damp	0%...99%	Set the degree to which the high frequencies will be attenuated. Higher settings will cause the high frequencies to decay more rapidly.
L	Equalizer low	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.
→	Dry:Effect balance	DRY, B01...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the reverb sound will be heard. D-mod P. 178.

10...12: Early Reflections

These effects simulate just the early reflection component of natural reverberation.

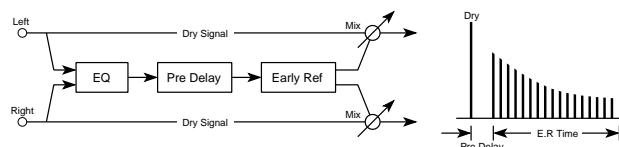
Early reflections play an important role in determining the characteristics of an acoustic environment. They can be used to add solidity to the sound, to create echo-like delays, or to add interesting touches to the sound.

10: Early Ref 1 allows you to boost the low frequency components or produce effects similar to gated reverb. This effect is ideal for drum sounds.

11: Early Ref 2 causes the early reflections to decay more gradually.

12: Early Ref 3 produces reflections which increase instead of decreasing. When applied to a sound with a strong attack, this produces a reverse-tape effect.

Each of these three early reflection effects includes a two-band shelving equalizer.



T	Early reflection time	100...800 ms	Set the time over which the early reflections will disappear. As this time is set to a longer value, the early reflections will become more pronounced.
---	-----------------------	--------------	---

P	Pre delay	0...200 ms	Set the delay from the direct sound until when the early reflections begin. Higher values will cause the reflections to be more obvious, producing a clearer echo sound.
L	Equalizer low	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the early reflection sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod P. 178.

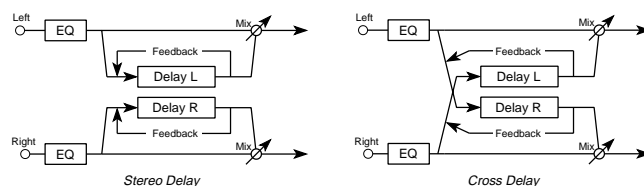
13, 14: Stereo Delay

This effect produces a stereo delay (echo pattern). Since it is a stereo effect, you can set different delay times for left and right to pan the echoes in interesting ways. The Hi Damp parameter attenuates the high frequencies, making the delay repeats sound more natural.

13: Stereo Delay applies feedback independently for the left and right channels.

14: Cross Delay sends the delay feedback from the left to the right, and from the right to the left channel, making the sound bounce between the left and right channels.

These two effects route the left and right channels through a two-band shelving equalizer before applying the delay.



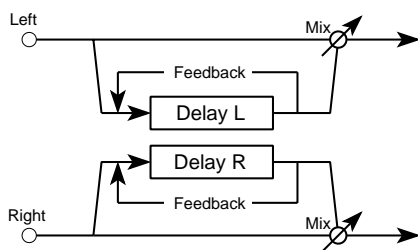
L	Delay time L	0...500 ms	Set the length of the left channel delay.
R	Delay time R	0...500 ms	Set the length of the right channel delay.

F	Feedback	–99%...+99%	Set the amount of feedback; i.e., the amount of the delayed signal that will be returned to the input of the delay. Higher settings will produce a greater number of delay repeats, and it will take longer for the echoes to die away. Negative settings will invert the phase of the feedback, causing the echoes to have a harder tone quality, and less of a hollow feeling.
H D	High damp	0%...99%	Set the degree to which the high frequencies will be attenuated. Higher settings will cause the high frequencies to decay more rapidly.
L	Equalizer low	–12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	–12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the delayed sound will be heard. Other settings set the proportion of the direct sound and effect sound. D^{mod} P. 178.

H D	High damp L	0%...99%	Set the degree to which the high frequencies of the left channel will be attenuated. Higher settings will cause the high frequencies to decay more rapidly.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX) for the left channel. With a setting of DRY, the effect will be turned off. With a setting of FX, only the echo will be heard. Other settings set the proportion of the direct sound and effect sound. D^{mod} P. 178.
	Delay time R	0...500 ms	Set the delay length of the right channel.
R	Feedback R	–99%...+99%	Set the amount of feedback for the right channel. The contents are the same as for the Feedback L parameter.
H D	High damp R	0%...99%	Set the degree to which the high frequencies of the right channel will be attenuated. Higher settings will cause the high frequencies to decay more rapidly.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX) for the right channel. The contents are the same as for the DRY:FX parameter explained above. D^{mod} P. 178.

15: Dual Delay

15: Dual Delay applies an independent mono delay to the left and right input signals.



	Delay time L	0...500 ms	Set the delay length of the left channel.
L	Feedback L	–99%...+99%	Set the amount of feedback for the left channel; i.e., the amount of the delayed signal that will be returned to the input of the delay. Higher settings will produce a greater number of delay repeats, and it will take longer for the echoes to die away. Negative settings will invert the phase of the feedback, causing the echoes to have a harder tone quality, and less of a hollow feeling.

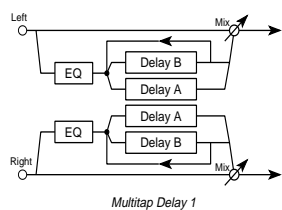
16...18: Multitap Delay

Multitap delay passes the input signals through two independent delays. The multi-echo effect that this produces will create a pair of echoes for each note that is played.

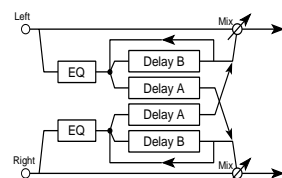
16: Multitap Dly1 is the standard multitap delay.

17: Multitap Dly2 cross-pan the signals, causing the echoed left and right channel signals to change places.

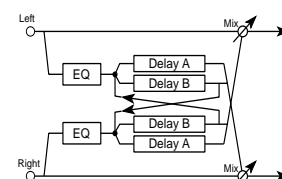
18: Multitap Dly3 exchanges the feedback between channels, causing each pair of echoes to switch between left and right.



Multitap Delay 1

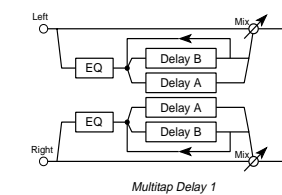


Multitap Delay 2

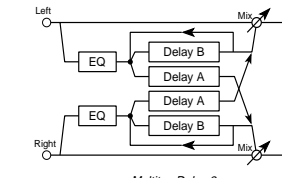


Multitap Delay 3

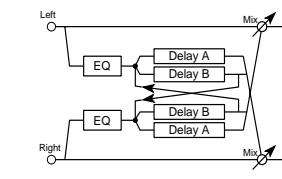
Each of these three effects provides a two-band shelving equalizer for the left and right channels.



Multitap Delay 1



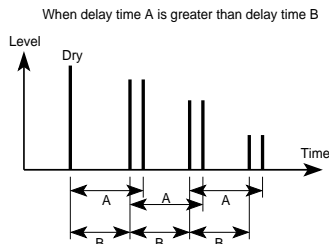
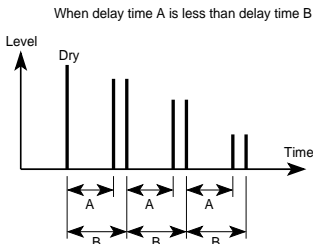
Multitap Delay 2



Multitap Delay 3

Of the two delays, feedback is applied only to one (delay B). This means that the timing of the second and subsequent echoes produced by both delays will be

determined by the Delay B parameter, as shown in the following diagrams.



A	Delay time A	0...500 ms	Set the length of Delay A.
B	Delay time B	0...500 ms	Set the length of Delay B.
F	Feedback	-99%...+99%	Set the amount of feedback; i.e., the amount of the Delay B signal that will be returned to the input of the delay. Higher settings will produce a greater number of delay repeats, and it will take longer for the echoes to die away. Negative settings will invert the phase of the feedback, causing the echoes to have a harder tone quality, and less of a hollow feeling.
L	Equalizer low	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the echoes will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod P. 178.

19, 20: Chorus

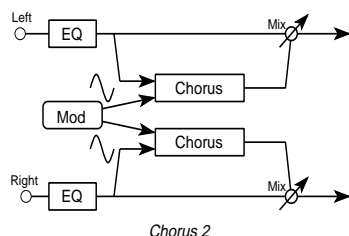
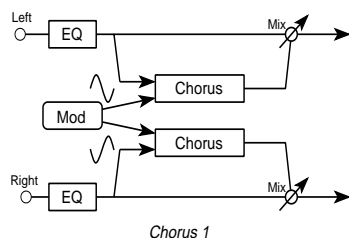
The chorus effects use an LFO (low frequency oscillator) to modulate the delay time, adding depth to the sound. This delay produces a slight variance in pitch, and when it is combined with the original signal, an effect as though multiple instruments were playing in unison is produced.

As with reverb, this effect is indispensable for music production using electronic musical instruments. It is especially widely used on synth pads such as strings and vocal chorus, and applying a chorus effect to such sounds will add a character of enveloping spaciousness. However much you may like this, it is still not a good idea to apply chorus to all of your sounds. Although chorus does add spaciousness to the sound, it can also turn sound into un-expressive mush. It is up to you, the musician, to use chorus appropriately for the type of music that you wish to create.

19: Chorus 1 modulates the left and right channel delays in opposite phase, causing the stereo image to sway from side to side.

20: Chorus 2 modulates both channels with the same phase.

For either effect, the left and right channel signals are sent through a two-band shelving equalizer before the chorus effect is applied.



T	Delay time	0...200 ms	Set the basic delay length. Both channels use the same delay time.
S	Modulation speed	0.03...30 Hz	Set the speed of the LFO that modulates the delay. For a standard chorus effect, use a low frequency (approximately 1 Hz).
M	Modulation depth	0...99	Set the depth at which the LFO will modulate the delay time. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no chorus effect.
	LFO waveform	SIN, TRI	Select the waveform with which the LFO will modulate the delay time. You can select either sine wave (SIN) or triangle wave (TRI).
L	Equalizer low	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.

H	Equalizer high	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the chorus sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod P. 178.

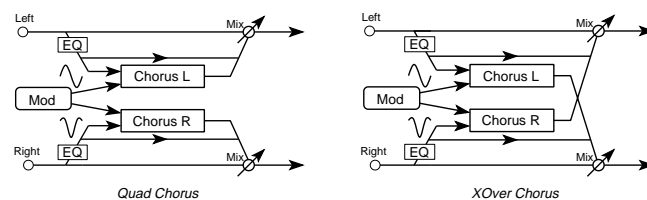
21, 22: Quadrature Chorus

The Quadrature Chorus effect is similar to the previously-described Stereo Chorus. The difference is that the modulation applied by the LFO to the left and right channels is 90 degrees out of phase.

21: Quad Chorus is the standard type, and processes the left and right channels independently.

22: XOver Chorus mixes the chorused signal of each channel with the output of the other channel, producing a cross-over effect.

For either effect, the left and right channel signals are sent through a two-band shelving equalizer before the chorus effect is applied.

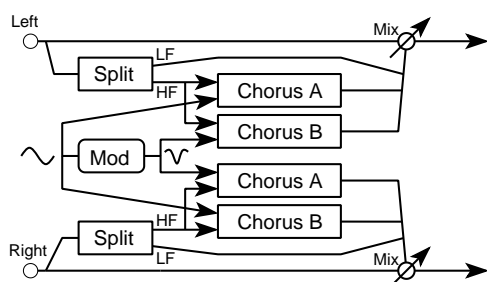


L	Delay time L	0...250 ms	Set the basic delay length for the left channel.
R	Delay time R	0...250 ms	Set the basic delay length for the right channel.
→ S	Modulation speed	1...99	Set the speed of the LFO that modulates the delay. Higher values will produce faster modulation. D-mod P. 178.
M	Modulation depth	0...99	Set the depth at which the LFO will modulate the delay time. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no chorus effect.
	LFO shape	T+10...T-10, S-10...S+10	Select the waveform with which the LFO will modulate the delay time. You can select either sine wave (S) or triangle wave (T). The numeric value selects the character of the waveform. Increasingly positive (+) values will cause the peak of the waveform to become broader, and increasingly negative (-) values will cause the peak of the waveform to become sharper.

L	Equalizer low	–12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	–12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.
	Dry:Effect balance	DRY, 99:1...1:99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the chorus sound will be heard. Other settings set the proportion of the direct sound and effect sound.

23: Harmonic Chorus

23: Harmonic Cho. is a type of quadrature chorus in which a filter is used to divide the input signal into low and high frequency ranges, and two chorus systems are applied only to the high frequency range. It is effective on low frequency range sounds such as bass.



A	Delay time A	0...500 ms	Set the basic delay length for chorus unit A.
B	Delay time B	0...500 ms	Set the basic delay length for chorus unit B.
→ S	Modulation speed	1...99	Set the speed of the LFO that modulates the delay. Higher values will produce faster modulation. D-mod P. 178.
M	Modulation depth	0...99	Set the depth at which the LFO will modulate the delay time. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no chorus effect.
S P	Filter split point	0...18	Specify the frequency at which the filter will divide the input signal into high and low frequency ranges. Higher settings will raise the split point frequency. The chorus effect will apply only to the portion above this frequency. The table below shows the correspondence between this parameter value and the actual frequency.

	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the chorus sound will be heard. Other settings set the proportion of the direct sound and effect sound.
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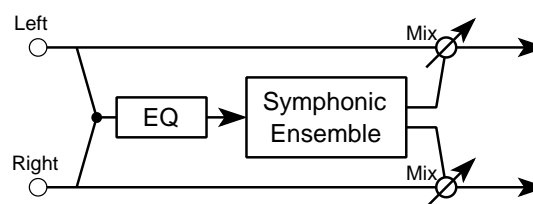
Value	Frequency	Value	Frequency
0	160 Hz	10	1.60 kHz
1	200 Hz	11	2.00 kHz
2	250 Hz	12	2.50 kHz
3	320 Hz	13	3.20 kHz
4	400 Hz	14	4.00 kHz
5	500 Hz	15	5.00 kHz
6	640 Hz	16	6.40 kHz
7	800 Hz	17	8.00 kHz
8	1.00 kHz	18	10.0 kHz
9	1.25 kHz		

24: Symphonic Ensemble


The Symphonic Ensemble effect is essentially identical to the chorus type effects discussed earlier, but is especially effective when used on large-scale ensembles such as orchestral strings.

24: Symphonic Ens. mixes the left and right channel signals before applying the ensemble effect. The signal processed by the effect will be output equally from both channels.

A two-band shelving equalizer is applied to the sound of the left and right channels before the ensemble effect is applied.



M	Modulation depth	0...99	Set the depth at which the LFO will modulate the delay time. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no ensemble effect.
L	Equalizer low	–12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	–12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.

→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the ensemble sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod  Pagina 178 in questo manuale.
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This Symphonic Ensemble effect cannot be used simultaneously with any one of the following modulation effects.

Effect types		Effect types	
19 – 20	Chorus	35 – 36	Tremolo
21 – 22	Quadrature Chorus	38 – 39	Chorused/Flanged Delay
23	Harmonic Chorus	42	Delay & Chorus
24	Symphonic Ensemble	43	Delay & Flanger
25 – 27	Flanger	46	Delay & Phaser
32 – 33	Phaser	47	Delay & Rotary Speaker
34	Rotary Speaker		

25...27: Flanger

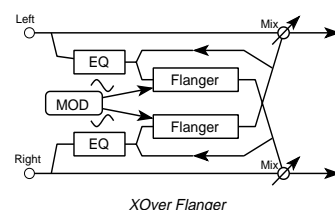
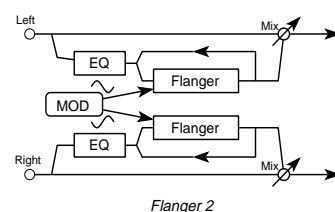
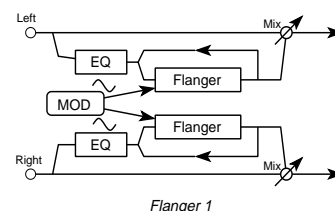
Flanging operates on basically the same principle as chorus-type effects, but adds a feedback loop to the delay output. It produces a chorus-like effect, but can also create a feeling of pitch even on non-pitched sounds. In particular when used on sounds with a rich overtone structure, such as cymbals, flanging can produce very intense effects.


25: Flanger 1 applies modulation to both channels using the same phase.

26: Flanger 2 modulates the two channels in opposite phase, causing the stereo image to move back and forth.

27: XOver Flanger modulates the two channels in opposite phase, and swaps the feedback signal.

For each of these three flangers, a two-band shelving equalizer is applied to the signals of the right and left channels before the flanging effect is applied.



T	Delay time	0...200 ms	Set the basic delay length. Both channels use the same delay time.
M	Modulation depth	0...99	Set the depth at which the LFO will modulate the delay time. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no flanger effect.
→ S	Modulation speed	1...99	Set the speed of the LFO that modulates the delay. For a standard flanger effect, set a low frequency (approximately 1 Hz). D-mod  P. 178.
F	Feedback	-99%...+99%	Set the amount of feedback; i.e., the amount of the signal that will be returned to the input of the flanger. As this value is increased, the resonance produced by the flanger effect will be increased. Negative values will invert the phase of the feedback, lowering the pitch of the effect sound by 1 octave.
L	Equalizer low	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.

	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the flanger effect sound will be heard. Other settings set the proportion of the direct sound and effect sound.
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→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the exciter effect sound will be heard. Other settings set the proportion of the direct sound and effect sound. D^{mod} P. 178.
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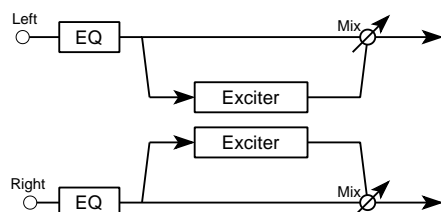
28: Exciter

An exciter adds harmonics (overtones) to emphasize a specific frequency region, adding sparkle and definition to the sound. It is most effective when applied to solo instruments such as electric guitar or lead synth, and will push the sound into the foreground.

For example if when playing in an ensemble (whether using the i40M by itself, or in a band with other instruments) you have ever felt that the i40M sound you were playing tended to be smothered by the other sounds or by instruments other people were playing (unlikely, since the i40M is a powerful-sounding instrument with plenty of presence!), you might try using this Exciter effect.

28: Exciter processes the signals of the left and right channels independently.

A two-band shelving equalizer is provided for each channel.



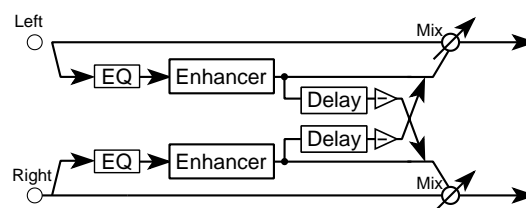
D	Harmonic density	-99...+99	Specify the density of the harmonics. As this value is increased, the exciter effect will be deeper. Negative settings will attenuate the harmonics, producing a thinner sound.
H S	Hot spot	1...10	Specify the center frequency that will be emphasized by the exciter effect. Harmonics will be added around this frequency. Higher settings will raise the frequency at which the emphasis occurs.
L	Equalizer low	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.

29: Enhancer


The enhancer effect emphasizes the sound by adding harmonics that increase the clarity of the sound and give it greater definition. A short phase-inverted delay is applied to each channel, giving the sound greater spaciousness.

29: Enhancer processes the left and right channel signals separately.

The signals are sent through a two-band shelving equalizer before the exciter effect and delay effect are applied.



D	Harmonic density	1...99	Specify the density of the harmonics that will be added to the signal. As this value is increased, the exciter effect will be deeper.
H S	Hot spot	1...20	Specify the center frequency that will be emphasized by the exciter portion of the effect. Harmonics will be added around this frequency. Higher settings will raise the frequency at which the emphasis occurs.
S W	Stereo width	0...99	Set the proportion at which the delayed signal of each channel is added to the output of the other channel. Higher settings will widen the stereo image of the delay effect.
T	Delay time	1...99	Set the basic delay length. Both channels use the same delay time.
L	Equalizer low	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.

→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the exciter effect sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod  P. 178.
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	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the distortion effect sound will be heard. Other settings set the proportion of the direct sound and effect sound.
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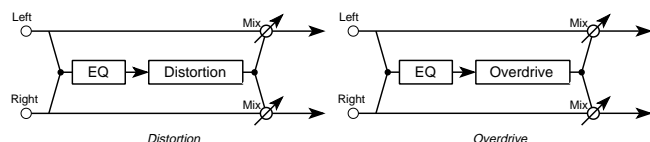
30, 31: Distortion


Distortion effects were originally designed for guitar, and simulate the distortion which occurs in the signal when the input signal gain exceeds the input capacity. Distortion adds depth to individual notes, and is effective on solos. If chords are played with this effect in use, the sound will be muddy, but if you're after a true "rock" atmosphere, it may be just what you want.

This effect passes the left and right channels through a two-band shelving equalizer before applying distortion to create a slight "wah" effect.

30: Distortion produces a hard and solid distortion of the type often used in hard rock or heavy metal. It is particularly effective on solo instruments.

31: Overdrive simulates the warm distortion that occurs on a tube amplifier. Applying it to a guitar or organ sound will produce a bluesy sound.



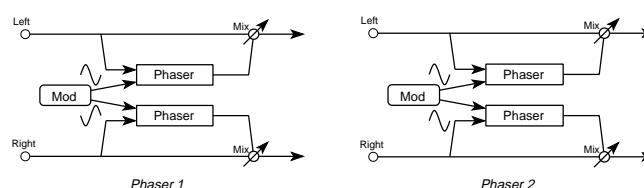
D	Drive	1...111	Set the depth of the distortion effect. Higher settings will raise the distortion level.
→ H S	Hot spot	0...99	Set the center frequency at which the wah filter will be applied. As this value is raised, the wah frequency will rise. D-mod  P. 178.
R	Resonance	0...99	Set the amount of resonance that is applied by the wah filter. Higher settings will produce a deeper wah effect.
L	Equalizer low	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.
DL	Distortion level	0...99	Set the output level of the distorted sound. Higher settings will produce more distortion. With a setting of 0 there will be no distortion effect.


32, 33: Phaser

While chorus and flanger effects modulate the delay time, the phaser effect modulates the phase of the input signal itself, producing a more distinct modulation effect. Phasers (also known more accurately as phase shifters) are especially effective on electric piano and electric guitar sounds.

32: Phaser 1 applies opposite-phase modulation to the signals of the left and right channels, causing the stereo image to move from side to side.

33: Phaser 2 applies same-phase modulation to the left and right channels.



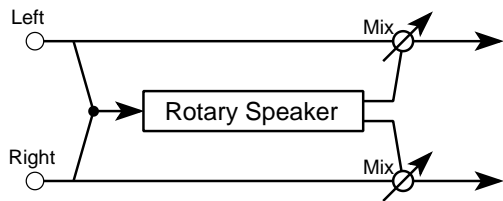
H S	Hot spot	0...99	Set the center frequency at which the phase shift effect will be applied. Higher settings will raise the frequency that is shifted.
→ S	Modulation speed	0.03...30 Hz	Set the speed of the LFO that modulates the delay. Higher settings will produce faster modulation. D-mod  P. 178.
M	Modulation depth	0...99	Set the depth at which the LFO will modulate the phase shift. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no phaser effect.
F	Feedback	-99%...+99%	Set the amount of feedback; i.e., the amount of delayed signal that will be returned to the input of the phaser. As this value is increased, the resonance produced by the phaser effect will be increased. Negative values will invert the phase of the feedback and increase the resonance.
	LFO waveform	SIN, TRI	Select the waveform that the LFO will use to modulate the phase of the signal. You can select either sine wave (SIN) or triangle wave (TRI).

	Dry:Effect balance	DRY, 99:1...1:99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the phaser effect sound will be heard. Other settings set the proportion of the direct sound and effect sound.
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34: Rotary Speaker

This effect simulates the sound of the rotary speakers that are popularly used with electric organs. Rotary speakers contain a motor which rotates the high frequency speaker horn at either a high or a low speed. The rotary speaker effect can be used in a variety of ways, but is generally used by changing the rotary speaker's rotational speed from slow to fast at points in the music where the musician wishes to build up or add excitement. This creates an effect of movement as if the sound were being shaken.

34: Rotary Speaker mixes the input signals from the left and right channels, and then creates the rotary effect using a completely independent LFO (low frequency oscillator). The signal of neither channel will be equalized.



V I B	Vibrato depth	0...15	Set the depth of the vibrato effect. (This corresponds to the diameter of the rotating speaker horn.) Higher values will produce a more definite vibrato effect.
A C	Acceleration	1...15	When dynamic modulation is used to switch the rotational speed, this parameter sets the time required to accelerate from low speed to high speed (or to decelerate from high to low speed). Higher settings will result in faster acceleration or deceleration.
S	Slow speed	1...99	Set the rotational speed for when the LFO is switched to the slow speed. Higher settings will produce faster rotation.
F	Fast speed	1...99	Set the rotational speed for when the LFO is switched to the fast speed. Higher settings will produce faster rotation.

	Dry:Effect balance	DRY, 99:1...1:99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the rotary speaker effect sound will be heard. Other settings set the proportion of the direct sound and effect sound.
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You can use dynamic modulation to switch between slow and fast while you play. Use a switch-type controller for this purpose. I.e., even if a continuous controller is moved rapidly, this will not cause the rotational speed to follow the motion, and will not affect the way in which the low and high speeds switch. The rotational speed is not affected by the speed at which the controller is moved, but will change to the new speed at the rate specified by the AC (acceleration) parameter. **D^{-mod}** P. 178.

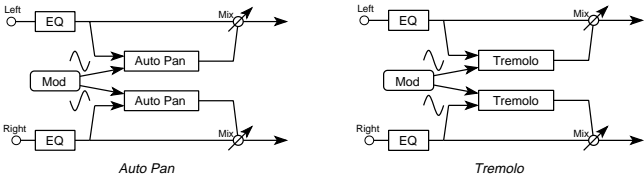
35, 36: Tremolo

Tremolo is an effect that uses an LFO (low frequency oscillator) to modulate the output volume. It is particularly effective on slow melody lines or when playing spacious chords, but is not very suitable when playing rapid phrases.


35: Auto Pan applies opposite-phase modulation to the volume of the left and right channels, causing an effect as though the sound were being panned between left and right.

36: Tremolo applies same-phase modulation, producing a standard tremolo effect.

For both effects, the sound passes through a two-band shelving equalizer before the tremolo effect is applied.



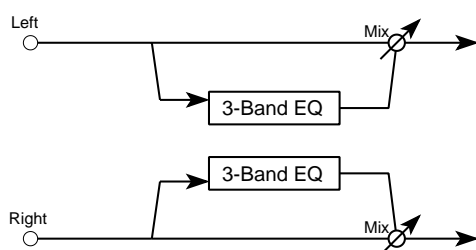
	LFO waveform	SIN, TRI	Select the waveform that the LFO will use to modulate the input level of the signal. You can select either sine wave (SIN) or triangle wave (TRI).
W	LFO width	-99...+99	Adjust the LFO waveform. Increasingly positive settings will cause the peak of the waveform to become broader, and negative settings will cause the peak of the waveform to become narrower and sharper.


S	Modulation speed	0.03...30 Hz	Set the speed of the LFO that modulates the input level. Higher settings will produce faster modulation.
M	Modulation depth	0...99	Set the depth at which the LFO will modulate the amplitude. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no tremolo effect.
L	Equalizer low	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region below 1 kHz.
H	Equalizer high	-12 dB...+12 dB	Set the amount of boost or cut that the shelving type equalizer will apply to the region above 1 kHz.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the tremolo effect sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod  P. 178.

37: Parametric Equalizer

37: Parametric Equalizer allows you to modify the tone by adjusting the boost or cut in three frequency bands. This is a useful way to add punch to drums or bass.

For the low, center, and high frequency bands, you can specify the cutoff (center) frequency and the gain.



L F	Low frequency	0...29	Set the cutoff frequency of the low frequency filter. Higher settings will raise the cutoff frequency.
G	Low gain	-12 dB...+12 dB	Set the amount of boost or cut that will be applied to the region below the cutoff frequency specified by the LF parameter.
→ M	Middle frequency	0...99	Set the center frequency of the mid-range filter. Higher settings will raise the middle frequency. D-mod  Pagina 178 in questo manuale.
G	Middle gain	-12 dB...+12 dB	Set the amount of boost or cut that will be applied to the region centered at the frequency specified by the M parameter.

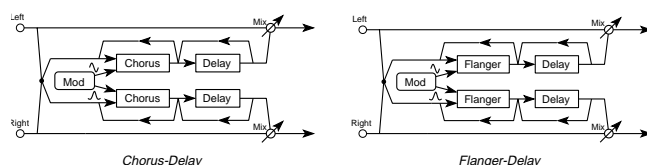
W	Middle width	0...99	Set the width of the band affected by the mid-range filter. Higher settings will cause the range being cut or boosted by the filter to be narrower.
H F	High frequency	0...29	Set the cutoff frequency of the high frequency filter. Higher settings will raise the cutoff frequency.
G	High gain	-12 dB...+12 dB	Set the amount of boost or cut that will be applied to the region above the cutoff frequency specified by the HF parameter.
	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the equalized sound will be heard. Other settings set the proportion of the direct sound and effect sound.

38, 39: Chorused or Flanged Delay


These are dual effects which connect two effects in series. I.e., the sound of the left and right channels is processed first by a mono-in stereo-out chorus or flanger, and then by a stereo delay. This is especially effective when used on solo instruments.

38: Chorus-Delay connects chorus and delay in series.

39: Flanger-Delay connects flanger and delay. Both the chorus and flanger use quadrature modulation; i.e., modulation is applied at a 90 degree phase difference to the left and right channels.



T	Delay time	0...50 ms	Set the basic delay length for the chorus and flanger effects. Both channels use the same delay time.
F	Feedback	-99%...+99%	Set the amount of feedback that will be returned to the input of the flanger. As this value is increased, the resonance produced by the flanger effect will be increased. Negative values will invert the phase of the feedback, lowering the pitch of the effect sound by 1 octave.
S	Modulation speed	1...99	Set the speed of the LFO that modulates the delay of the chorus or flanger. Higher settings will cause faster modulation.
M	Modulation depth	0...99	Set the depth at which the LFO will modulate the delay time. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no chorus effect or flanger effect.

T	Delay time	0...450 ms	Set the basic delay length for the delay effect.
F	Feedback	–99%...+99%	Set the amount of feedback that will be returned to the input of the delay. As this value is increased, the number of delay repeats will increase, and it will take longer for the echoes to disappear. Negative values will invert the phase of the feedback, causing the tone of the echo to be harder, and less hollow-sounding.
→	Dry:Effect balance	DRY, 99:1...1:99, FX	For both the chorus or flanger effect and the delay effect, set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the echoed sound processed by the chorus or flanger effect will be heard. Other settings set the proportion of the direct sound and effect sound.  P. 178.

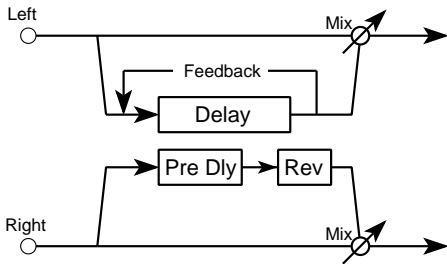
40, 41: Delay & Reverb

These are dual effects which connect a mono delay and a mono reverb.



40: Delay/Hall combines a delay and a hall reverb.

41: Delay/Room combines a delay and a room reverb.

You can use dynamic modulation to control the DRY:FX balance parameters of both the delay and reverb while you play.



T	Delay time	0...500 ms	Set the basic delay length for the delay effect.
F	Feedback	–99%...+99%	Set the amount of feedback; i.e., the amount of the delayed sound that will be returned to the input of the delay. As this value is increased, the number of delay repeats will increase, and it will take longer for the echoes to disappear. Negative values will invert the phase of the feedback, causing the tone of the echo to be harder, and less hollow-sounding.
H D	High damp	0%...99%	Set the degree to which the high frequency range of the delayed sound will be attenuated. Higher settings will cause more rapid attenuation.

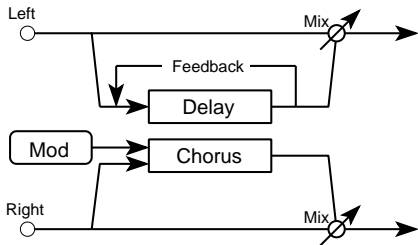
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the echoed sound will be heard. Other settings set the proportion of the direct sound and effect sound.  P. 178.
	Reverb time	Depends on the effect	Set the time over which the reverberation will decay. Hall-type reverb allows a setting from 0.2–9.9 seconds, and room-type reverb allows a setting from 0.2–4.9 seconds.
P	Pre delay	0...150 ms	This parameter sets the delay from the direct sound until when the early reflections of the reverb are heard. Higher settings will cause the reverberation to be distinct, producing an echo-like sound.
H D	High damp	0%...99%	Set the degree to which the high frequency range of the reverberation will be attenuated. Higher settings will cause more rapid attenuation.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the reverberation will be heard. Other settings set the proportion of the direct sound and effect sound.  P. 178.

42: Delay & Chorus

This effect combines a mono delay and mono chorus in parallel.

42: Delay/Chorus is an effect which connects a mono delay and a mono chorus in parallel.

You can use dynamic modulation to control the DRY:FX parameters of both the delay and chorus effects while you play.



T	Delay time	0...500 ms	Set the basic delay length for the delay effect.
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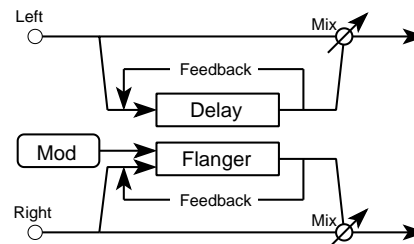
F	Feedback	–99%...+99%	Set the amount of feedback; i.e., the amount of the delayed sound that will be returned to the input of the delay. As this value is increased, the number of delay repeats will increase, and it will take longer for the echoes to disappear. Negative values will invert the phase of the feedback, causing the tone of the echo to be harder, and less hollow-sounding.
H D	High damp	0%...99%	Set the degree to which the high frequency range of the delayed sound will be attenuated. Higher settings will cause more rapid attenuation.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the echoed sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod P. 178.
	Modulation speed	0.03...30 Hz	Set the speed of the LFO that modulates the delay of the chorus effect. For a standard chorus effect, set a low frequency (approximately 1 Hz).
M	Modulation depth	0...99	Set the modulation depth of the chorus. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no chorus effect.
	LFO waveform	SIN, TRI	Select the waveform that the LFO will use to modulate the delay time. You can select either sine wave (SIN) or triangle wave (TRI).
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the chorus sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod P. 178.

43: Delay & Flanger

This effect combines a mono delay and mono flanger in parallel.

43: Delay/Flanger is an effect that connects a mono delay and mono flanger in parallel.

You can use dynamic modulation to control the DRY:FX parameters of both the delay and flanger effects while you play.



T	Delay time	0...500 ms	Set the basic delay length for the delay effect.
F	Feedback	–99%...+99%	Set the amount of feedback; i.e., the amount of the delayed sound that will be returned to the input of the delay. As this value is increased, the number of delay repeats will increase, and it will take longer for the echoes to disappear. Negative values will invert the phase of the feedback, causing the tone of the echo to be harder, and less hollow-sounding.
H D	High damp	0%...99%	Set the degree to which the high frequency range of the delayed sound will be attenuated. Higher settings will cause more rapid attenuation.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the echoed sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod P. 178.
	Modulation speed	0.03...30 Hz	Set the speed of the LFO that modulates the delay of the flanger effect. For a standard flanger effect, set a low frequency (approximately 0.18 Hz).
M	Modulation depth	0...99	Set the modulation depth of the flanger. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no modulation effect.
F	Feedback	–99%...+99%	Set the amount of feedback that will be returned to the input of the flanger. As this value is increased, the resonance produced by the flanger effect will be increased. Negative values will invert the phase of the feedback, lowering the pitch of the effect sound by 1 octave.

→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the chorus sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod P. 178.
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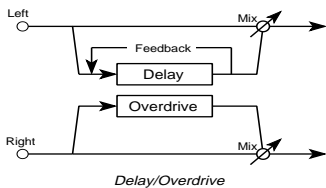
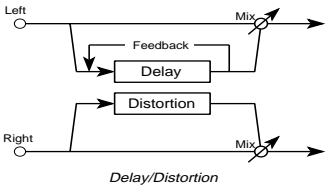
R	Resonance	0...99	Set the amount of resonance that is applied by the wah filter. Higher settings will produce a deeper wah effect.
D L	Distortion level	1...99	Set the output level of the distorted sound. Higher settings will produce more distortion. With a setting of 1 there will be no distortion effect.

44, 45: Delay & Distortion

This effect combines a mono delay and mono distortion or overdrive in parallel. For example, this can be used to apply delay to a lead synth in one channel, and distortion to a guitar in the other channel.

44: Delay/Dist combines delay and distortion.

45: Delay/Overdrv combines delay and overdrive. Both distortion and overdrive include a wah effect.

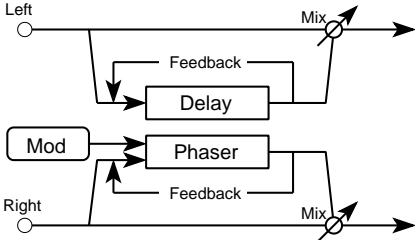


46: Delay & Phaser

This effect combines a mono delay and mono phase shifter in parallel.


46: Delay/Phaser is an effect that connects a mono delay and mono phaser in parallel.

You can use dynamic modulation to control the DRY:FX parameters of both the delay and phaser effects while you play.



T	Delay time	0...500 ms	Set the basic delay length for the delay effect.
F	Feedback	-99%...+99%	Set the amount of feedback; i.e., the amount of the delayed sound that will be returned to the input of the delay. As this value is increased, the number of delay repeats will increase, and it will take longer for the echoes to disappear. Negative values will invert the phase of the feedback, causing the tone of the echo to be harder, and less hollow-sounding.
	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the echoed sound will be heard. Other settings set the proportion of the direct sound and effect sound.
D	Drive	1...111	Set the depth of the distortion effect. Higher settings will raise the distortion level.
H S	Hot spot	1...99	Set the center frequency at which the wah filter will be applied. As this value is raised, the wah frequency will rise.

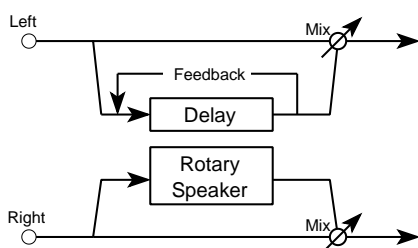
T	Delay time	0...500 ms	Set the basic delay length for the delay effect.
F	Feedback	-99%...+99%	Set the amount of feedback; i.e., the amount of the delayed sound that will be returned to the input of the delay. As this value is increased, the number of delay repeats will increase, and it will take longer for the echoes to disappear. Negative values will invert the phase of the feedback, causing the tone of the echo to be harder, and less hollow-sounding.
H D	High damp	0%...99%	Set the degree to which the high frequency range of the delayed sound will be attenuated. Higher settings will cause more rapid attenuation.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the echoed sound will be heard. Other settings set the proportion of the direct sound and effect sound. D-mod P. 178.
	Modulation speed	0.3...30 Hz	Set the speed of the LFO that modulates the phase of the input signal. Higher settings will produce faster modulation.

M	Modulation depth	0...99	Set the depth at which the phase will be modulated. Higher settings will cause the modulation effect to be more pronounced. With a setting of 0 there will be no phaser effect.
F	Feedback	-99%...+99%	Set the amount of feedback; i.e., the amount of the delayed signal that will be returned to the input of the phaser. As this value is increased, the resonance produced by the phaser effect will be increased. Negative values will invert the phase of the feedback and increase the resonance of the effect.
→	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the phaser sound will be heard. Other settings set the proportion of the direct sound and effect sound. D^{mod}  P. 178.

47: Delay & Rotary Speaker


This effect combines a mono delay with a mono rotary speaker in parallel.

47: Delay/Rotary provides a mono rotary speaker that produces a heavier tremolo than the stereo rotary speaker (34: Rotary Speaker) effect.



T	Delay time	0...500 ms	Set the basic delay length for the delay effect.
F	Feedback	-99%...+99%	Set the amount of feedback; i.e., the amount of the delayed sound that will be returned to the input of the delay. As this value is increased, the number of delay repeats will increase, and it will take longer for the echoes to disappear. Negative values will invert the phase of the feedback, causing the tone of the echo to be harder, and less hollow-sounding.

	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the echoed sound will be heard. Other settings set the proportion of the direct sound and effect sound.
A C	Acceleration	1...15	When dynamic modulation is used to switch the rotational speed, this parameter sets the time required to accelerate from low speed to high speed (or to decelerate from high to low speed). Higher settings will result in faster acceleration or deceleration.
S	Slow speed	1...99	Set the rotational speed for when the LFO is switched to the slow speed. Higher settings will produce faster rotation.
F	Fast speed	1...99	Set the rotational speed for when the LFO is switched to the fast speed. Higher settings will produce faster rotation.
	Dry:Effect balance	DRY, B1...B99, FX	Set the balance between the direct sound (DRY) and the sound processed by the effect (FX). With a setting of DRY, the effect will be turned off. With a setting of FX, only the rotary speaker effect sound will be heard. Other settings set the proportion of the direct sound and effect sound.

You can use dynamic modulation to switch between slow and fast while you play. Use a switch-type controller for this purpose. I.e., even if a continuous controller is moved rapidly, this will not cause the rotational speed to follow the motion, and will not affect the way in which the low and high speeds switch. The rotational speed is not affected by the speed at which the controller is moved, but will change to the new speed at the rate specified by the AC (acceleration) parameter. **D^{mod}**  P. 178.

13. Appendices

Messages

In the various page displays of Arrangement Play mode and Backing Sequence mode display settings and parameters, and also when you modify settings such as volume, mute, and transpose, the iS40/iS50 will sometimes display “popup” screens that appear only for a few seconds.

In addition to these, you may occasionally see messages that provide warnings, ask for confirmation, or indicate that processing is taking place.

If a warning message is displayed, correct the settings for the measure or filename etc. as necessary, and execute the operation once again.

If a confirmation message is displayed, be aware that executing the operation may cause some or all data to be lost from the iS40/iS50's internal memory or from a floppy disk.

Then, either save the important data to disk or make a backup copy of the file before continuing the procedure.

If one of these warning or confirmation messages appears, you should also check to make sure that the type of operation itself that you are attempting to execute is actually the desired operation. (For example, make sure that while intending to execute Rename Arrangement you are not actually selecting the Write Arrangement page.)

?????????.??? exists.

The filename ???????? that you specified as the name of a new file is already used by a different file on the same disk. Is it OK to replace (overwrite) the old file with the new file? If this is done, the contents of the old file will be lost from the disk.

Already formatted. Continue?

This message notifies you that the disk you are attempting to format is already formatted, and asks whether the operation should be continued. Make sure that you have inserted the correct disk.

Are you sure?

This message is asking whether the operation should be executed. To execute press the ENTER/YES button. To cancel without executing press the EXIT/NO button.

Can't find file

During an operation such as load, delete or rename, did you exchange disks after specifying a file?

The currently inserted floppy disk does not contain the required file. Thus, the operation that you are attempting cannot be executed.

Make sure that the correct disk is inserted.

Can't play all track. Continue?

The iS40/iS50 does not have enough memory to play all the tracks of the musical data that you specified. If you playback now, some of the tracks will not be heard.

Can't read disk.

The currently inserted floppy disk is a format which the iS40/iS50 cannot use, and the operation that you are currently attempting cannot be executed.

Make sure that the correct disk is inserted. This message may also appear if the current or voltage of your AC power is unstable.

Can't replace dir.	<p>The filename that you specified is already being used by a directory on that disk. Thus, the operation that you are attempting cannot be executed.</p> <p>Specify a different filename, and try the operation again.</p>
Can't replace system.	<p>The filename that you specified is already being used by a system file on that disk. Thus, the operation that you are attempting cannot be executed.</p> <p>Specify a different filename, and try the operation again.</p>
Completed.	Processing has been completed. You may continue operation as desired.
Corrupt SMF.	The specified Standard MIDI File contains damaged data. Thus, this data cannot be played back on the iS40/iS50.
Corrupt file.	<p>The data in the specified file has been damaged. Thus, the operation that you are attempting cannot be executed.</p> <p>Make sure that you have selected the correct file.</p> <p>If you have a backup copy of that file, load the backup file.</p>
Directory full.	<p>No more directories can be created in the currently inserted floppy disk. Thus, the operation that you are attempting cannot be executed.</p> <p>Either delete unneeded files from the disk, or insert a different disk in which additional files can be created, and try the operation again.</p>
Disk full.	<p>No more data can be written into the currently inserted floppy disk. Thus, the operation that you are attempting cannot be executed.</p> <p>Either delete unneeded files from the disk, or insert a different disk that has remaining space, and try the operation again.</p>
Disk has ??? file(s). Continue?	The disk that you are attempting to format already contains ??? files. This message asks you whether you still wish to format the disk. If you execute formatting, the files currently existing on disk will all be lost. Make sure that you have inserted the correct disk.
Disk protected.	<p>The write protect tab of the disk is in the open (protect) position. Thus, the operation that you are attempting cannot be executed.</p> <p>First make sure that the correct disk is inserted. Then, if you are sure that you don't mind for the data on the disk to be rewritten, slide the tab closed and perform the operation once again.</p>
Empty SONG/B.SEQ	The specified backing sequence does not yet contain data. Thus, the operation that you are attempting cannot be executed.
Empty file.	<p>The selected file does not contain data. Thus, the operation that you are attempting cannot be executed.</p> <p>If disk operations are performed incorrectly, it is possible that such an empty file can be created on disk.</p> <p>If you find such a file, use the Disk/Global page "Utility" (P. 132) function Delete File (DEL) to delete that file.</p>
Empty measure.	This measure contains no data. Thus, the operation that you are attempting is invalid. Make sure that you have selected the correct measure.
Empty track.	This track does not contain data. Thus, the operation that you are attempting cannot be executed. Make sure that you have selected the correct track.

File protected.

The selected file has an attribute of read-only. Thus, the operation that you are attempting cannot be executed.

First make sure that you have selected the correct file. The attribute of a file on disk cannot be changed by the iS40/iS50, but you can use a personal computer to do so if you need to. If you are sure that it is OK to change the attribute of the file, insert the disk into the disk drive of a personal computer, modify the attribute of that file, insert the disk back into the iS40/iS50's disk drive, and perform the operation once again. For details on file attributes and how to change them, refer to the owner's manual for your personal computer or the manual for your computer's operating system.

Keyboard Track Empty.

Since the keyboard track contains no data, the operation that you are attempting cannot be executed. Either record data, or load data into the track before attempting the operation.

Measure not exists. Continue?

Have you specified the wrong measure? The measure number that you specified does not exist in the data.

Measure overlaps.

With the settings that you specified, the measures that you wish to copy overlap with the copy destination.

It is not possible to make settings so that the copy destination is located within the copy source.

Check the position and length of the copy source measures and the number of copies, and the location of the copy destination.

Measure won't fit.

If measures are copied or inserted as you specified, this track will exceed 999 measures.

The iS40/iS50 cannot create more than 999 measures in a track. Check the length of the measures that you wish to copy or insert, the number of copies, and the length of the insert destination track.

Missing Arrangement.

There is no arrangement file in the currently inserted disk.

Missing B.Sequence.

There is no backing sequence file in the currently inserted disk.

Missing HMB file

The setup file of the VOCAL/GUITAR section is missing. The disk probably comes from a KORG iS40. In spite of the error message, all the other files will be loaded and no problems will occur when operating the instrument.

Missing some files.

Some of the files are missing from the currently inserted disk.

No disk in drive.

A floppy disk is not inserted in the disk drive. Correctly insert a disk into the drive, and try the operation again.

Not SMF.

The specified file is not a Standard MIDI File. Thus, this data cannot be played back on the iS40/iS50. Make sure that you have not specified the wrong file.

Not enough memory.	<p>The iS40/iS50 does not have enough memory for work area. Thus, the operation that you are attempting cannot be executed. In order to allocate memory space, you will need to perform one of the operations described below. However if any of the data in memory is important and must not be lost, use the Disk/Global page “Save” or Song Edit “Page 13: Save” operation to save the data to floppy disk.</p> <p>If this message appears when you are in Song Edit mode, Backing Sequence mode, or in Disk/Global mode when you are using LOAD ALL or LOAD ONE to load backing sequence data, you will need to delete backing sequence data or song edit data. If this message appears when you are using the Disk/Global mode operation LOAD ONE to load style data, you will need to delete style data from the user bank.</p>
Okay to erase B.Seq & Song Edit	<p>The iS40/iS50 does not have enough memory to playback the SMF format 1 data that you specified.</p> <p>In order to allocate sufficient memory space, is it OK to erase the backing sequence data or the song editing data from internal memory? If internal memory contains data that you do not wish to lose, use the Disk/Global “Save” page backing sequence save operation or the Song Edit mode “Page 13: Save” operation to save that data to disk.</p>
SMF format 2.	<p>The specified file is a Standard MIDI File in Format 2. Thus, this data cannot be played back by the iS40/iS50. Make sure that the correct file has been selected.</p>
Source is empty.	<p>If this appears during a Copy Measure operation ...</p> <p>Are you attempting to copy a measure that contains no data to another measure? It is not possible to copy a measure which contains no data to another measure. Re-specify the correct measure.</p> <p>Alternatively, it is possible that the track itself contains no data at all. Make sure that you have selected the correct track.</p> <p>If this appears during a Bounce Track operation ...</p> <p>Are you attempting to bounce a track containing no data to another track? It is not possible to bounce a track containing no data to another track. Re-specify the correct track.</p> <p>Check once again that you have selected the correct track.</p>
Wait a moment ... Now loading ... Now saving ... Now formatting ...	<p>These message indicate that a disk-related operation is in progress. Please wait until the operation is completed.</p>

Troubleshooting

General problems

Problem	Solution	Page
Power does not turn on	Make sure that (1) the power cable is plugged into the outlet, (2) the cable is plugged into the connector on the back of the instrument, (3) and is not damaged, (4) there are any problems with the mains.	
	Is the power switch turned ON?	
	If the power still does not turn on, contact your dealer or the nearest KORG Service Center.	
No sound	Check the connections of your amp or mixer.	☞ P. 2
	Make sure that all the components of the amplifying system are turned on.	
	Are the MASTER VOLUME and VOLUME sliders of the i40M set to a position other than "0"?	☞ P. 3
	Is the Local Control parameter set to OFF? Turn it ON.	☞ P. 137
Lowest note are not played	If the MIDI controller is connected through the Global channel of the i40M (channel 1 by default), and the led of the SPLIT button is lit up, the notes will be divided into the Lower part (low notes, below the split point) and the Upper 1 and Upper 2 (high notes, above the split point) parts. The Lower part is muted in some Arrangements and does not play.	☞ P. 29
Wrong sounds	Do the USER banks contain modified data? Load the appropriate data for the song, the backing sequence or the arrangement you wish to playback.	☞ P. 128
	Has one of the two drum kits in RAM been modified? Load the appropriate drum kits (27 and 28 Drum programs).	☞ P. 131
	Have the arrangements been modified? Load the appropriate data.	☞ P. 129
Arrangements or backing sequences do not play the correct patterns	Do the arrangements use the USER styles? Load the USER styles required by the arrangements.	☞ P. 131
Sound does not stop	Make sure that the damper switch polarity parameter is set correctly.	☞ P. 148
Selected arrangement or backing sequence does not playback	Make sure that the MIDI Clock parameter is set to INT. If you are using the MIDI Clock of another device, you must set the MIDI Clock parameter to EXT-IN1 or EXT-IN2 (if the device is connected to MIDI IN1 or MIDI IN 2, respectively) and make sure that the external device transmits MIDI Clock data.	☞ P. 137
Cannot record in Backing Sequence mode	Make sure that the MIDI Clock parameter is set to INT. If you are using the MIDI Clock of another device, you must set the MIDI Clock parameter to EXT-IN1 or EXT-IN2 (if the device is connected to MIDI IN1 or MIDI IN 2, respectively) and make sure that the external device transmits MIDI Clock data.	☞ P. 137
Does not respond to MIDI messages	Make sure that all MIDI cables are connected correctly.	☞ P. 4
	Make sure that the external device is transmitting through MIDI channels that are enable to receive in the i40M.	☞ P. 4
	Make sure that the MIDI Filters of the i40M do not prevent the reception of messages.	☞ P. 141
Some drum kit sounds are not played	Check the panpot and effect send level settings.	
Percussive instruments played are not correct	Make sure that the track transposition is set to +00 and that the external device, if any, transmits without transposition.	☞ P. 31

Floppy disk related problems

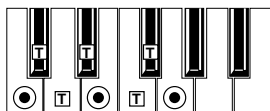
Problem	Action
Cannot format a floppy disk	Are you using a 3.5 inch 2DD or 2HD floppy disk? You must use one of these types.
	Is the disk inserted correctly?
	Is the write protect tab of the disk in the protect position?
Cannot save data to a floppy disk	Is the disk inserted correctly?
	Is the write protect tab of the disk in the protect position?
Cannot load data from a floppy disk	Is the disk inserted correctly?
	Does the disk contain data?

List of detected chords

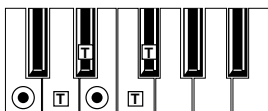
Each of the chords pictured below are shown in root position with a root note of C. In order for the *iS40/iS50* to correctly recognize major 6th and minor 6th chords, they must be played in root position as pictured. This is because these chords consist of the same notes as the minor 7th and minor 7th flatted 5th of the relative minor key. (For example, the notes C, E, G, and A could be either C6 or Am7.)

Major

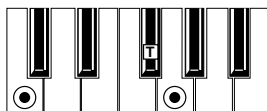
3-note



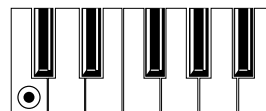
2-note



2-note

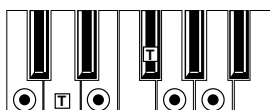


1-note

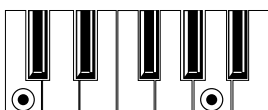


Major 6th

4-note

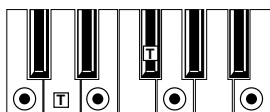


2-note

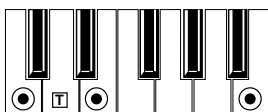


Major 7th

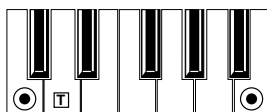
4-note



3-note

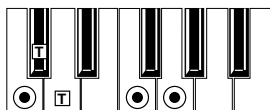


2-note

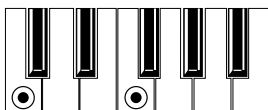


Sus 4

3-note

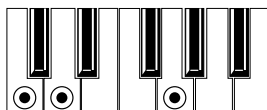


2-note



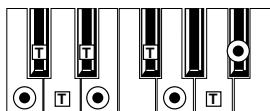
Sus 2

3-note

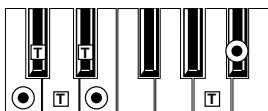


Dominant 7th

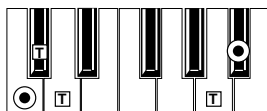
4-note



3-note

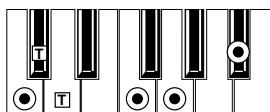


2-note

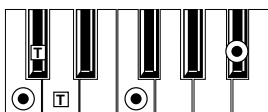


Dominant 7th Sus 4

4-note



3-note

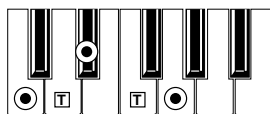


● = constituent notes of the chord

⌈T⌋ = can be used as tension

Minor

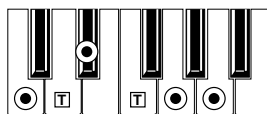
3-note



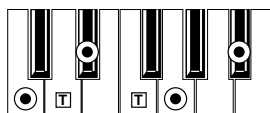
2-note

**Minor 6th**

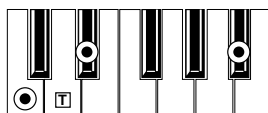
4-note

**Minor 7th**

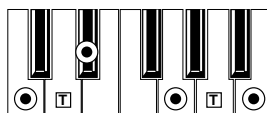
4-note



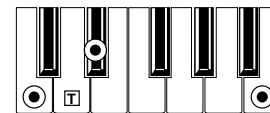
3-note

**Minor-Major 7th**

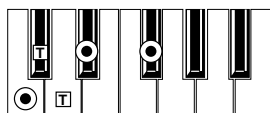
4-note



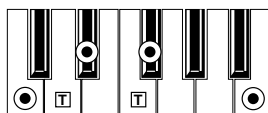
3-note

**Diminished**

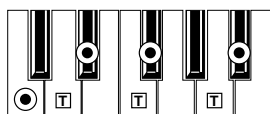
3-note

**Diminished Major 7th**

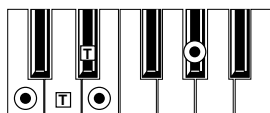
4-note

**Minor 7th $\flat 5$**

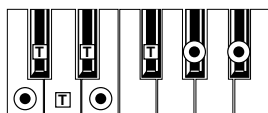
4-note

**Augmented**

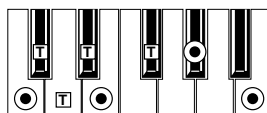
3-note

**Augmented 7th**

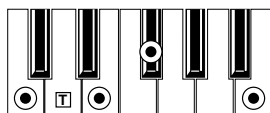
4-note

**Augmented Major 7th**

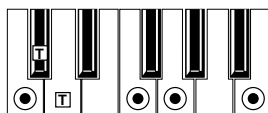
4-note

**Major 7th $\flat 5$**

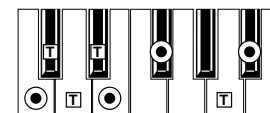
4-note

**Major 7th Sus 4**

4-note

**Dominant 7th $\flat 5$**

4-note



= constituent notes of the chord

= can be used as tension

MIDI Implementation chart

KORG i40M
OS Version 1.0 - Feb. 20, 1999

Function		Transmitted	Recognized	Remarks	
Basic Channel	Default	1–16	1–16	Memorized	
	Changed	1–16	1–16		
Mode	Default		3		
	Messages	X	X		
	Altered	*****			
Note Number:		0–127	0–127	Transmit from sequencer	
	True Voice	*****	0–127		
Velocity	Note On	O 9n, V=1–127	O 9n, V=1–127	Transmit 2-126 from sequencer	
	Note Off	X	X		
Aftertouch	Polyphonic (Key)	O	O	Sequencer data only	*A
	Monophonic (Channel)	O	O	Sequencer data only	*A
Pitch Bend		O	O	Sequencer data only	*C
Control Change	0, 32	O	O	Bank Select (MSB, LSB)	*P
	1, 2	X	O	Modulation (pitch, cutoff)	*C
	4, 64	O	O	Pedal (scale, damper)	*C
	6, 38	X	O	Data Entry (MSB, LSB)	*E
	11	X	O	Expression	*C
	7, 10, 91, 93	O	O	Volume, A:B panpot, send C, D	*C
	12	O	O	Effect controller	*C
	72, 73, 74	X	O	EG time (Release, Attack), Brightness	*C
	92, 94	O	O	Effects 1, 2 on/off	*C
	96, 97	X	O	Data Inc, Dec	*E
	100, 101	X	O	RPN (LSB, MSB)	*2
	120, 121	X	O	All sound off, Reset all Cntrls	
	0–101	O	O	(Sequencer data)	
Program Change		O 0–127	O 0–127		
	True #	*****	0–127		
System Exclusive		O	O	*3 *E	
System Common	Song Position	O	O	*1	
	Song Select	O 0	O 0	*1	
	Tune	X	X		
System Real Time	Clock	O	O	*1	
	Commands	O	O	*1	
Aux Messages	Local On/Off	O	X	In case Echo back is active.	
	All Notes Off	X	O (123–127)		
	Active Sense	O	O		
	Reset	X	X		
*C, *P, *A, *E: Sent and received when MIDI Filter (Controller, Program Change, Aftertouch, System Exclusive) is set to ENA in Global mode.					
*1: When clock is set to internal, sent but not received. When set to external, received but not sent.					
*2: LSB, MSB = 00,00: pitch bend range, =01,00: fine tune, =02,00: course tune					
*3: Includes Inquiry, GM Mode On, Master Balance, and Master Volume messages.					

Mode 1: OMNI ON, POLY
Mode 3: OMNI OFF, POLYMode 2: OMNI ON, MONO
Mode 4: OMNI OFF, MONOO: Yes
X: No

MIDI Setup

The following chart lists the parameters that are automatically configured by each MIDI Setup.

Parameter	Default	Master	Piano 1	Piano 2	Accordion 1	Accordion 2	Accordion 3	Guitar
Global	1	1	2	1	1	16	16	1
Upper 1	1	1	2	2	1	1	1	1
Upper 2	1	1	2	2	1	4	4	1
Lower	1	1	2	2	2	2	2	1
Drum	10	10	10	10	10	10	12	10
Percussion	11	11	11	11	11	11	11	11
Bass	12	12	12	12	3	12	3	12
Acc.1	13	13	13	13	13	13	13	13
Acc.2	14	14	14	14	14	14	14	14
Acc.3	15	15	15	15	15	15	15	15
Chord 1	-	-	1	1	2	2	2	-
Chord 2	-	-	-	-	3	3	3	-
Arrangement	1	2	-	-	-	-	10	-
Keyboard Set	-	3	-	-	-	-	-	-
Program Filter	0	0	0	0	0	0	0	0
A.Touch Filter	0	0	0	0	0	0	0	X
C.C. Filter	0	0	0	0	0	0	0	X
Sysex Filter	X	X	X	X	X	X	X	X
MIDI Vel. In	NOR	NOR	NOR	NOR	110	110	NOR	NOR
Echo Back	DIS	DIS	IN 1	IN 1	DIS	DIS	DIS	DIS
Local Off Tran.	NO	NO	YES	YES	NO	NO	NO	NO
Arr.Harm.Ch.	1	1	1	1	2	2	2	Off
Har.Octave	+1	+1	+1	+1	-1	-1	-1	+ 1
Harmony Range Bottom	C-1	C-1	C-1	C-1	C-1	C-1	C-1	C -1
Harmony Range Top	B3	B3	B3	B3	G9	G9	G9	G 9
Split Point	C4	C4	C4	C4	A1	C4	C4	C4
MIDI Octave Input Lower	0	0	0	0	-1	-1	-1	0
MIDI Octave Input Upper	0	0	0	0	0	0	0	0
Lower Memory Mode	Harmony	Harmony	Harmony	Harmony	Harmony	Harmony	Harmony	Harmony

Styles

8 Beat	16 Beat	Ballroom	Dance 1
8 beat 1	16 beat 1	Slow Pop	Party Polka
8 Beat 2	16 Beat 2	Slow Rock 1	Disco Party
8 Beat 3	16 beat 3	Slow Rock 2	Motown
8 Beat 4	16 Beat 4	Flipper 6/8	Love Disco
8 Beat Analog	16Beat pop	Flipper 4/4	Disco '70
8 Beat Rock	16BeatAnalog	Twist	80's Dance
8 Bt. Shuffle	16 Beat Funk	Hully Gully	House
8 R&B	16 Beat Rock	Surf Rock	Techno
Dance 2	Latin 1	Latin 2	Latin Dance
Progress.	Bossa 1	Tango	Mambo
Underground	Bossa 2	Habanera	Salsa
Jungle	Bossa 3	Paso Doble	Merengue
Garage	Samba 1	Cumbia	Meneito
Rap	Samba 2	Bajon	Macarena
Hip Hop	Beguine	Calypso	Tikyitikità
Dancing Tribe	Last Rhumba	Reggae	Lambada
Down Beat	Cha Cha Cha	Dance Reggae	Disco Samba
Traditional 1	Traditional 2	Jazz	Jazz & Funk
I. Waltz	Wien Waltz	40's Big Band	Swing Ballad
Mazurka	Slow Waltz 1	Big Band	Medium Swing
Polka	Slow Waltz 2	Fast Big Band	Be bop
German Waltz	Fox Trot 1	Latin Big Band	Acid Jazz
Laendler	Fox Trot 2	Broadway	Latin Jazz
GermanPolka	Big Band Fox	Hollywood	New Jazz
WaltzMusette	Quick step	Jazz Waltz	Party Funk
French March	Charleston	5/4 Swing	Groove
Rhythm and Blues	Rock	World Music 1	World Music 2
R & B	Light Rock	Country	9/8 Roman
6/8 Blues	Pop Rock	Country beat	Ciftetelli
Gospel	Open Rock	Country Bld.	Mariachi
Blues Shuffle	Heavy Rock	Dixieland	Raspa
Pub Shuffle	Rock Ballad	March	Baroque
Hip Blues	Half Time	Tarantella	Minuet
R&B Funk	Rock & Roll	Sevillana	Bolero
Rhythm&Funk	Rock Hip Hop	Gipsy	New Age

User 1	User 1	User 2	User 2

Arrangements

You can select the arrangements via MIDI, sending Bank Select MSB, Bank Select LSB (shown in table as BS) and Program Change (shown in table as PC) messages through the ARNG channel. The Bank Select MSB is always = 00.

BS	PC	#		BS	PC	#		BS	PC	#		BS	PC	#	
8 Beat				16 Beat				Ballroom				Dance 1			
000	000	A11	8 Beat	000	008	A21	16 Beat	000	016	A31	Pop 6/8	000	024	A41	Party Polka
	001	A12	Guitar Ballad		009	A22	Windy Beat		017	A32	Back to 60's		025	A42	Nonstop-Party
	002	A13	L.A. R&B		010	A23	Home Beat		018	A33	Rock 6/8		026	A43	Motown
	003	A14	Sweet Beat		011	A24	Color Beat		019	A34	Flipper 6/8		027	A44	Love disco
	004	A15	Analog Night		012	A25	Miami Beat		020	A35	Flipper 4/4		028	A45	Disco '70
	005	A16	8 Beat Rock		013	A26	Analogyst		021	A36	Twist		029	A46	80's Dance
	006	A17	Shuffle Shade		014	A27	Thin Funk		022	A37	Hully Gully		030	A47	House
	007	A18	Rhythm&Beat		015	A28	Easy Rock		023	A38	Beach Surfer		031	A48	Techno
Dance 2				Latin 1				Latin 2				Latin Dance			
000	032	A51	Progressive	000	040	A61	Basic Bossa	000	048	A71	Tango	000	056	A81	Mambo
	033	A52	Underground		041	A62	Bossa nueva		049	A72	Habanera		057	A82	Salsa
	034	A53	Jungle		042	A63	Miss Bossa		050	A73	Paso Doble		058	A83	Merengue
	035	A54	Garage		043	A64	Samba		051	A74	Cumbia		059	A84	Meneito
	036	A55	Euro Rap		044	A65	Sambalegre		052	A75	By on		060	A85	Macarena
	037	A56	Hip Hop		045	A66	Beguine		053	A76	Calypso		061	A86	Tikitikita
	038	A57	Dancing Tribe		046	A67	Last Rhumba		054	A77	Reggae		062	A87	Lambada
	039	A58	Down Beat		047	A68	Cha Cha Cha		055	A78	DanceReggae		063	A88	Disco-samba

BS	PC	#		BS	PC	#		BS	PC	#		BS	PC	#	
Traditional 1				Traditional 2				Jazz				Jazz & Funk			
000	064	B11	Waltz	000	072	B21	Wiener Waltz	000	080	B31	Big Band 40's	000	088	B41	Ballad
	065	B12	Mazurka		073	B22	Slow Waltz 1		081	B32	Big Band		089	B42	Mediu- mSwing
	066	B13	Polka		074	B23	Slow Waltz 2		082	B33	Fast Big Band		090	B43	Be Bop
	067	B14	German Waltz		075	B24	Operetta		083	B34	Latin BigBand		091	B44	Acid Jazz
	068	B15	Laendler		076	B25	Fox Trot		084	B35	Broadway		092	B45	Latin Jazz
	069	B16	German Polka		077	B26	Club Fox		085	B36	Hollywood		093	B46	Still Life
	070	B17	W. Musette		078	B27	Quick step		086	B37	Jazz Waltz		094	B47	Party Funk
	071	B18	French March		079	B28	Charleston		087	B38	5/4 Swing		095	B48	Groove
Rhythm & Blues				Rock				World Music 1				World Music 2			
000	096	B51	R & B	000	104	B61	Light Rock	000	112	B71	Country	000	120	B81	9/8 Roman
	097	B52	6/8 Blues		105	B62	Pop Rock		113	B72	Country Beat		121	B82	Ciftetelli
	098	B53	Gospel		106	B63	Open Rock		114	B73	Country Ballad		122	B83	Mariachi
	099	B54	Blues Shuffle		107	B64	Heavy Rock		115	B74	Dixieland		123	B84	Raspa
	100	B55	Pop Shuffle		108	B65	Rock Ballad		116	B75	OnTheBridge		124	B85	Venezia
	101	B56	Uncle Funk		109	B66	Half Time		117	B76	Tarantella		125	B86	Minuetto
	102	B57	Get Funked		110	B67	Rock & Roll		118	B77	Sevillana		126	B87	Bolero
	103	B58	Electric Funk		111	B68	Rock Hip Hop		119	B78	Gipsy		127	B88	New Age
User 1				User 2				User 3				User 4			
001	000	U11		001	008	U21		001	016	U31		001	024	U41	
	001	U12			009	U22			017	U32			025	U42	
	002	U13			010	U23			018	U33			026	U43	
	003	U14			011	U24			019	U34			027	U44	
	004	U15			012	U25			020	U35			028	U45	
	005	U16			013	U26			021	U36			029	U46	
	006	U17			014	U27			022	U37			030	U47	
	007	U18			015	U28			023	U38			031	U48	
User 5				User 6				User 7				User 8			
001	032	U51		001	040	U61		001	048	U71		001	056	U81	
	033	U52			041	U62			049	U72			057	U82	
	034	U53			042	U63			050	U73			058	U83	
	035	U54			043	U64			051	U74			059	U84	
	036	U55			044	U65			052	U75			060	U85	
	037	U56			045	U66			053	U76			061	U86	
	038	U57			046	U67			054	U77			062	U87	
	039	U58			047	U68			055	U78			063	U88	

Programs

You can select the programs via MIDI, sending Bank Select MSB, Bank Select LSB (shown in table as BS) and Program Change (shown in table as PC) messages, through the MIDI channel you wish to change the program to. The Bank Select MSB is always = 00.

BS	PC	#		BS	PC	#		BS	PC	#		BS	PC	#	
Bank A: Piano				Bank A: Chromatic percussion				Bank A: Organ				Bank A: Guitar			
000	000	A11	Piano 1	000	008	A21	Celesta	000	016	A31	Organ 1	000	024	A41	Nylon gtr
	001	A12	Piano 2		009	A22	Glockenspiel		017	A32	Organ 2		025	A42	Steel Gtr.
	002	A13	Piano 3		010	A23	Music Box		018	A33	Organ 3		026	A43	Jazz Gtr.
	003	A14	Honky-tonk		011	A24	Vibraphone		019	A34	ChurchOrgan		027	A44	Clean Gtr.
	004	A15	E. Piano 1		012	A25	Marimba		020	A35	Reed Organ		028	A45	Muted Gtr.
	005	A16	E. Piano 2		013	A26	Xylophone		021	A36	Musette		029	A46	Overdrive
	006	A17	Harpsichord		014	A27	Tubular Bell		022	A37	Harmonica		030	A47	Dist. Gtr.
	007	A18	Clavinet		015	A28	Santur		023	A38	Bandoneon		031	A48	GT.Harm.
Bank A: Bass				Bank A: Strings				Bank A: Ensemble				Bank A: Brass			
000	032	A51	Acoustic Bs.	000	040	A61	Violin	000	048	A71	Strings	000	056	A81	Trumpet
	033	A52	Fingered Bs.		041	A62	Viola		049	A72	Slow Strings		057	A82	Trombone
	034	A53	Picked Bs.1		042	A63	Cello		050	A73	SynStrings 1		058	A83	Tuba
	035	A54	Fretless Bs.		043	A64	Contrabass		051	A74	SynStrings 2		059	A84	MuteTrumpet
	036	A55	Slap Bass 1		044	A65	Tremolo Str.		052	A75	Choir Aahs		060	A85	French Horns
	037	A56	Slap Bass 2		045	A66	PizzicatoStr.		053	A76	Voice Oohs		061	A86	Brass
	038	A57	SynthBass 1		046	A67	Harp		054	A77	SynVox		062	A87	Syn.Brass1
	039	A58	SynthBass 2		047	A68	Timpani		055	A78	OrchestraHit		063	A88	Syn.Brass2
Bank B: Reed				Bank B: Pipe				Bank B: Synth lead				Bank B: Synth pad			
000	064	B11	Soprano Sax	000	072	B21	Piccolo	000	080	B31	SquareWave	000	088	B41	Fantasia
	065	B12	Alto Sax		073	B22	Flute		081	B32	Saw Wave		089	B42	Warm Pad
	066	B13	Tenor Sax		074	B23	Recorder		082	B33	Syn.Calliope		090	B43	PolySynth
	067	B14	Baritone Sax		075	B24	Pan Flute		083	B34	Chiffer Lead		091	B44	Space Voice
	068	B15	Oboe 1		076	B25	Bottle Blow		084	B35	Charang		092	B45	BowedGlass
	069	B16	English Horn		077	B26	Shaku 1		085	B36	Solo Vox		093	B46	Metal Pad
	070	B17	Bassoon		078	B27	Whistle 1		086	B37	5Th Wave		094	B47	Halo Pad
	071	B18	Clarinet		079	B28	Ocarina 1		087	B38	Bass & Lead		095	B48	Sweep Pad

BS	PC	#		BS	PC	#		BS	PC	#		BS	PC	#	
Bank B: Synth SFX				Bank B: Ethnic				Bank B: Percussion				Bank B: Effects			
000	096	B51	Ice Rain	000	104	B61	Sitar	000	112	B71	Tinkle Bell	000	120	B81	Gt.FretNoise
	097	B52	Soundtrack		105	B62	Banjo		113	B72	Agogo		121	B82	Breath Noise
	098	B53	Crystal		106	B63	Shamisen		114	B73	Steel Drums		122	B83	Seashore
	099	B54	Atmosphere		107	B64	Koto		115	B74	Woodblock		123	B84	Bird
	100	B55	Brightness		108	B65	Kalimba		116	B75	Taiko		124	B85	Telephone 1
	101	B56	Goblin		109	B66	Bagpipe		117	B76	Melo. Tom		125	B86	Helicopter
	102	B57	Echo Drops		110	B67	Fiddle		118	B77	Synth Drum		126	B87	Applause
	103	B58	Star Theme		111	B68	Shanai		119	B78	ReverseCym.		127	B88	Gun Shot
Bank C: Piano				Bank C: Chromatic percussion				Bank C: Organ				Bank C: Guitar			
001	000	C11	90's Piano	001	008	C21	SynCelesta	001	016	C31	Gospel Org.	001	024	C41	L&R Ac.Gtr.
	001	C12	Rock Piano		009	C22	Sistro		017	C32	ClickOrgan		025	C42	12 Strings
	002	C13	New Piano		010	C23	Orgel		018	C33	Rotary Org.		026	C43	PedalSteel
	003	C14	M1 Piano		011	C24	SynVibes		019	C34	EuroPipe		027	C44	L&R El. Gtr.
	004	C15	Whirly		012	C25	Balaphone		020	C35	SmallPipe		028	C45	Clean Funk
	005	C16	DW-8000 EP		013	C26	Gamelan		021	C36	Fr.Musette		029	C46	DistoMutes
	006	C17	HarpsiFunk		014	C27	ChurchBell		022	C37	Akordeon		030	C47	Solo Dist.
	007	C18	Clavmation		015	C28	Celtic Plug		023	C38	Cassotto		031	C48	PowerChord
Bank C: Bass				Bank C: Strings				Bank C: Ensemble				Bank C: Brass			
001	032	C51	Upright	001	040	C61	The Strings	001	048	C71	Marcato	001	056	C81	FlugelHorn
	033	C52	Bass/ Harm.		041	C62	ChambViola		049	C72	Exp. Str.		057	C82	Dynabone
	034	C53	Picked Bs.2		042	C63	Cello Ens.		050	C73	AnalogPad		058	C83	OB. Tuba
	035	C54	Fat Fretty		043	C64	ChamDBass		051	C74	AnaStrings		059	C84	Mute Ens.
	036	C55	SuperRound		044	C65	Octave Str.		052	C75	Doolally		060	C85	Horns Ens.
	037	C56	DynaSlap		045	C66	OctavePizz.		053	C76	AirVoxDbl		061	C86	Brass Band
	038	C57	Dance Bass		046	C67	My dream		054	C77	Glassglide		062	C87	Syn.Brass3
	039	C58	SquareBass		047	C68	SftTimpani		055	C78	ImpactHit		063	C88	Sfz< Brass
Bank D: Reed				Bank D: Pipe				Bank D: Synth lead				Bank D: Synth pad			
001	064	D11	AltoBreath	001	072	D21	Synth Fife	001	080	D31	Soft Solo	001	088	D41	Thick Pad
	065	D12	Folk Sax		073	D22	BreathFlute		081	D32	Big Lead		089	D42	Soft Pad
	066	D13	SoftTenor		074	D23	Traverso		082	D33	PurePanLd.		090	D43	Farluce
	067	D14	PerkySaxes		075	D24	Kawala		083	D34	Rubby		091	D44	Heaven
	068	D15	Oboe 2		076	D25	BottleBlow		084	D35	Dist.Lead		092	D45	Glass Pad
	069	D16	Woodwinds		077	D26	Shaku 2		085	D36	Vox Lead		093	D46	Panner Pad
	070	D17	Small^Orch		078	D27	Whistle 2		086	D37	Big Fives		094	D47	Polar Pad
	071	D18	Clarn. Ens.		079	D28	Ocarina 2		087	D38	Big & Raw		095	D48	Celestial

BS	PC	#		BS	PC	#		BS	PC	#		BS	PC	#	
Bank D: Synth SFX				Bank D: Ethnic				Bank D: Percussion				Bank D: Effects			
001	096	D51	Caribbean	001	104	D61	Tambra	001	112	D71	WindChimes	001	120	D81	Heart Beat
	097	D52	Rave		105	D62	Bouzouki		113	D72	Cowbell		121	D82	Laughing
	098	D53	BellPad		106	D63	Oud		114	D73	Claves		122	D83	Wind
	099	D54	AmbientPad		107	D64	Kanoon		115	D74	Castanets		123	D84	Gallop
	100	D55	ElastikPad		108	D65	Ukulele		116	D75	Tsuzumi		124	D85	Telephone 2
	101	D56	Bell Choir		109	D66	Jaw Harp		117	D76	Oil Drum		125	D86	Train
	102	D57	Big Panner		110	D67	MandoTrem.		118	D77	Rev. Tom		126	D87	Stadium!!
	103	D58	Odyssey		111	D68	Hichiriki		119	D78	Rev Snare		127	D88	Explosion
Bank E: 1				Bank E: 2				Bank E: 3				Bank E: 4			
002	000	E11	Piano&Strgs	002	008	E21	Tone Wheel	002	016	E31	R&R Guitar	002	024	E41	FingerDark
	001	E12	PianoPad		009	E22	70' Organ		017	E32	Dobro		025	E42	Dyno Bass
	002	E13	Midi Piano		010	E23	Theatre Org.		018	E33	ElectricAc.		026	E43	Bass/Mute
	003	E14	Fresh Air		011	E24	Jimmy Org.		019	E34	Mr.Clean		027	E44	Stick Bass
	004	E15	Mark II bis		012	E25	DblBrass		020	E35	Hackbrett		028	E45	Deep House
	005	E16	Hard Tines		013	E26	SlowSunset		021	E36	Gtr.Strings		029	E46	Dr.Octave
	006	E17	FunkyRoads		014	E27	Ultra Rez		022	E37	StereoDist.		030	E47	Rap Bass
	007	E18	PianoVibes		015	E28	DanceReMix		023	E38	Gtr/Bass		031	E48	Zap bass
Bank E: 5				Bank E: 6				Bank E: 7				Bank E: 8			
002	032	E51	Velo Flute	002	040	E61	i3 Strings	002	048	E71	LiteVoices	002	056	E81	Jet Star
	033	E52	Flute/Muted		041	E62	N-Strings		049	E72	DigitalAir		057	E82	Space Wing
	034	E53	Trump Ens.		042	E63	Ravel Pad		050	E73	Air Vox		058	E83	Ambience
	035	E54	Lyle Stack		043	E64	Dark Pad		051	E74	Ambi.Voice		059	E84	Glide Fx
	036	E55	Folk Clar.		044	E65	Yoshi Pad		052	E75	Airways		060	E85	SteamCloud
	037	E56	SectWinds		045	E66	Swell Pad		053	E76	Stab Pad		061	E86	WhiteNoise
	038	E57	FallAngels		046	E67	Light Pizz		054	E77	Poppin'Pad		062	E87	Fragments
	039	E58	Lylesircs		047	E68	DblStrings		055	E78	MonoLead		063	E88	Brass Fall
Bank F: User 1				Bank F: User 2				Bank F: User 3				Bank F: User 4			
003	000	F11		003	008	F21		003	016	F31		003	024	F41	
	001	F12			009	F22			017	F32			025	F42	
	002	F13			010	F23			018	F33			026	F43	
	003	F14			011	F24			019	F34			027	F44	
	004	F15			012	F25			020	F35			028	F45	
	005	F16			013	F26			021	F36			029	F46	
	006	F17			014	F27			022	F37			030	F47	
	007	F18			015	F28			023	F38			031	F48	

BS	PC	#		BS	PC	#		BS	PC	#		BS	PC	#	
Bank F: User 5				Bank F: User 6				Bank F: User 7				Bank F: User 8			
003	032	F51		003	040	F61		003	048	F71		003	056	F81	
	033	F52			041	F62			049	F72			057	F82	
	034	F53			042	F63			050	F73			058	F83	
	035	F54			043	F64			051	F74			059	F84	
	036	F55			044	F65			052	F75			060	F85	
	037	F56			045	F66			053	F76			061	F86	
	038	F57			046	F67			054	F77			062	F87	
	039	F58			047	F68			055	F78			063	F88	

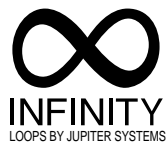
BS	PC	#		BS	PC	#	
Drum 1				Drum 2			
004	000, 002-007, 074-115, 117-127	Dr11	GM Kit 1	004	040-047	Dr21	Brush Kit
	001	Dr12	GM Kit 2		048-055	Dr22	Orchestra Kit
	008-015	Dr13	Room Kit		064, 066-071	Dr23	Percussion Kit
	016-023	Dr14	Power Kit		065	Dr24	Latin Perc. Kit
	024, 027-031	Dr15	Electronic Kit		116	Dr25	Arabian Kit
	025	Dr16	Analog Kit		056-063	Dr26	SFX Kit
	026	Dr17	Dance Kit		072	Dr27	(User 1)
	032-039	Dr18	Jazz Kit		073	Dr28	(User 2)

Multisamples

#	Multisample	#	Multisample	#	Multisample	#	Multisample	#	Multisample	#	Multisample
0	A.Piano 1	88	Mute Gtr 1	87	E.Guitar 3	261	Viola	348	VS 58	435	MuteTriang
1	A.Piano 1w	89	FunkyGtr1	175	House Bass	262	Cello	349	VS 71	436	OpenTriang
2	A.Piano1LP	90	Mute Guitar1	176	House Bass	263	Cello LP	350	VS 72	437	Agogo
3	A.Piano 2	91	FunkyGtr 1	177	Bass Slide	264	CBs.&Cello	351	VS 88	438	Cow Bell
4	A.Piano 2w	92	FunkyGtr1V	178	StringSlap	265	Pizzicato	352	VS 89	439	Timbale
5	A.Piano 3	93	FunkyGtr1V	179	Kalimba	266	Voice	353	13-35	440	WoodBlock1
6	A.Piano 3w	94	E.Gtr Harm	180	Music Box	267	Choir	354	DWGSOrg1	441	WoodBlock2
7	M1 Piano	95	E.GtrHramV	181	MusicBoxLP	268	Soft Choir	355	DWGSOrg2	442	WoodBlock3
8	M1 Piano w	96	Dist.Gtr 1	182	Log Drum	269	Air Vox	356	DWGS E.P.1	443	Claves
9	Grand EP	97	DistGtr1LP	183	Marimba	270	Doo Voice	357	ClarinetLP	444	Syn Claves
10	E.Piano 1	98	Dist.Gtr1V	184	Marimba w	271	DooVoiceLP	358	DWGSOrg1	445	Castanet
11	E.Piano 1w	99	Dist.Gtr 2	185	Xylophone	272	DooVoiceLP	359	Saw	446	CastanetNT
12	E.Piano1LP	100	Over Drive	186	Vibe	273	Choir	360	Square	447	Castanet V
13	E.Piano 2	101	OverDrv LP	187	Vibe w	274	MouthHarp1	361	Ramp	448	FingerSnap
14	E.Piano 2w	102	OverDrv F4	188	Celesta	275	Syn Vox	362	Pulse 25%	449	FingSnapNT
15	E.Piano2LP	103	MtDistGtr1	189	Glocken 1	276	Syn Vox LP	363	Pulse 8%	450	Snap
16	DWGS E.P. 1	104	MtDstGtr1V	190	Glocken 2	277	White Pad	364	Pulse 4%	451	Snap NT
17	Soft EP LP	105	Dist.Gtr 2	191	BrightBell	278	Ether Bell	365	Syn Sine	452	Vibraslap
18	Hard EP	106	DstGtrHarm	192	B.Bell LP	279	E.Bell LP	366	Sine	453	Guiro
19	Hard EP w	107	PowerChrd1	193	Metal Bell	280	Ghostly	367	Orch Hit	454	Guiro LP
20	Hard EP LP	108	PowerChd1V	194	M.Bell LP	281	Mega Pad	368	ImpactHitL	455	Hand Clap
21	Stage EP 1	109	OverDvChrd	195	Gamelan	282	Synth Pad	369	ImpactHitR	456	HandClapNT
22	StageEP 1w	110	Power Gtr	196	Tubular	283	Synth PadA	370	Rave Hit L	457	Gun Shot 1
23	Hard EP	111	PowerGtr V	197	ChurchBell	284	Spectrum 1	371	Rave Hit R	458	GlassBreak
24	Stage EP 1	112	PowerChrd1	198	FingCymbal	285	WaveSweep	372	Philly Hit	459	Metal Hit
25	Hard EP	113	Gt Scratch	199	FingCymbNT	286	WavSweepA	373	PowerSnare	460	HandDrill
26	Hard EP	114	Gtr Slide	200	Gong	287	WavSweepB	374	Syn Snare	461	HandDriINT
27	PianoPad 2	115	GtCutNois1	201	Gong LP	288	MouthHarp1	375	SnareRI/Ht	462	Zap 1
28	Clav	116	GtCutNois2	202	Split Drum	289	MouthHrp1A	376	Stick Hit	463	Zap 2
29	Clav w	117	Chic 1	203	Split Bell	290	MouthHarp2	377	Side Stick	464	Fret Zap 1
30	Clav LP	118	Chic 2	204	Flute	291	MouthHrp2A	378	SideStikNT	465	Fret Zap 2
31	Harpsicord	119	Sitar 1	205	Tin Flute	292	MouthHarps	379	TimbleSide	466	Scratch Hi
32	Harpsicd w	120	Sitar 2	206	TinFluteLP	293	ChromRes	380	TimblSidNT	467	ScratchHiNT
33	HarpsicdLP	121	Sitar 2 LP	207	Pan Flute	294	Applause	381	Indust	468	Scratch Lo
34	PercOrgan1	122	Tambura	208	PanFluteLP	295	Stadium	382	Taiko Hit	469	ScratchLoNT
35	PercOrg1LP	123	Tambura LP	209	White Pad	296	BrushNoise	383	Syn Rim	470	ScratchDbl

#	Multisample	#	Multisample	#	Multisample	#	Multisample	#	Multisample	#	Multisample
36	PercOrgan2	124	Santur	210	Shakuhachi	297	BruNoiseNT	384	Syn Rim NT	471	ScratDbiNT
37	PercOrg2LP	125	Bouzouki	211	ShakhachiV	298	WhiteNoise	385	Click	472	Scratch a
38	Organ 1	126	BouzoukiLP	212	ShakhachLP	299	WhiteNoiNT	386	Crash Cym	473	Scratches
39	Organ 1 LP	127	Kanoun	213	Bottle	300	Jetstar	387	CrashCymLP	474	Rev.Kick
40	Organ 2	128	Mandolin	214	Recorder	301	Jetstar LP	388	CrashLP NT	475	Rev.ConBD
41	Organ 2 LP	129	Banjo	215	Ocarina	302	JetstrLPNT	389	China Cym	476	Rev Snare1
42	Organ 3	130	Shamisen	216	Oboe	303	BrushSwirl	390	ChinaCymLP	477	Rev.Snare2
43	Organ 4	131	Koto	217	EnglishHrn	304	MarcTree 1	391	Splash Cym	478	Rev.Snare3
44	Organ 6	132	Uood	218	Eng.HornLP	305	MrcTree1NT	392	Orch Crash	479	Rev.Cymbal
45	Organ 6 LP	133	Harp	219	BasoonOboe	306	MarcTree1V	393	Orch Perc	480	Rev.Tom 1
46	VoxOrgan 1	134	Ukulele	220	BsnOboeLP	307	MrcTre1VNT	394	Tite HH	481	Rev.Tom 2
47	VoxOrgan 2	135	MandlinTrm	221	Clarinet	308	MarcTree 2	395	Tite HH NT	482	Growl 1
48	VoxOrgan 3	136	A.Bass 1	222	ClarinetLP	309	MrcTree2NT	396	Open HH	483	Growl 1 NT
49	RotaryOrg1	137	A.Bass1 LP	223	Bari.Sax	310	MarcTree2V	397	CloseSynHH	484	Rain
50	Rotary1 LP	138	A.Bass 2	224	Bari.SaxLP	311	MrcTre2VNT	398	OpenSyn HH	485	Thunder
51	RotaryOrg2	139	A.Bass2 LP	225	Tenor Sax	312	Tri Roll	399	Bell Ride	486	Wind
52	Super BX-3	140	E.Bass 1	226	T.Sax LP	313	TriRoll NT	400	Ping Ride	487	Seashore
53	SuperBX3LP	141	E.Bass1 LP	227	Alto Sax	314	Tri Roll V	401	Orch B.Drm	488	Seashore V
54	Dist.Organ	142	E.Bass 2	228	A.Sax LP	315	TriRollVNT	402	Tom 1	489	Stream
55	Dist.OrgLP	143	E.Bass2 LP	229	SopranoSax	316	Cast Roll	403	Tom 2 Hi	490	Bubble
56	PipeOrgan2	144	E.Bass 1	230	S.Sax LP	317	CastRollNT	404	Tom 2 Lo	491	Bird 1
57	PipeOrg2LP	145	PickBass 1	231	Bag Pipe	318	Lore	405	ProccesTom	492	Bird 2
58	PipeOrgan3	146	PicBass1LP	232	Tuba	319	Lore NT	406	OilDrum	493	Kitty
59	PipeOrg3LP	147	PickBass 2	233	Tuba LP	320	Crickets 2	407	Syn Tom 1	494	Dog
60	Cheese Org	148	PickBass 3	234	Horn	321	Crickts2NT	408	Syn Tom 2	495	Growl 2
61	Musette	149	Fretless	235	FlugelHorn	322	MalletLoop	409	SolidHit	496	Gallop
62	Musette V	150	FretlessLP	236	Trombone 1	323	MalletLpNT	410	Steel Drum	497	Laughing V
63	Bandneon	151	SlapBass 1	237	Trombone 2	324	Sporing	411	SteelDrmLP	498	Scream
64	BandneonLP	152	SlapBass 2	238	Trombone 1	325	Rattle	412	Timapni	499	Punch
65	Accordion	153	SlpBass2LP	239	Trumpet	326	Kava	413	Timpani LP	500	Hart Beat
66	AcordionLP	154	SlapBass 3	240	Trumpet LP	327	Fever 1	414	Taiko	501	Footstep 1
67	Harmonica1	155	SlapBass 1	241	Mute TP 1	328	Fever 2	415	Tsuzumi	502	Footstep 2
68	Harmonica1	156	SlapBass 1	242	MuteTP1 LP	329	Scratchar	416	Low Bongo	503	Telephone1
69	G.Guitar 1	157	SlapBass 1	243	Mute TP 1	330	Zappers 1	417	Slap Bongo	504	Telephone2
70	G.Gtr 1 LP	158	SynthBass1	244	Brass 1	331	Zappers 2	418	Open Conga	505	Door Creak
71	G.Guitar 2	159	SynBass1LP	245	Brass 1 LP	332	Bugs	419	Slap Conga	506	Door Slam
72	F.Guitar 1	160	SynthBass2	246	Brass 2	333	Surfy	420	Palm Conga	507	Car Engine
73	F.Gtr 1 LP	161	SynBass2LP	247	Brass 2 LP	334	SleighBell	421	Mute Conga	508	CarEnginLP

#	Multisample	#	Multisample	#	Multisample	#	Multisample	#	Multisample	#	Multisample
74	F.Guitar1V	162	SynthBass3	248	Brass 2	335	Sagatty	422	Baya	509	Car Stop
75	F.Guitar 2	163	RezBass 1	249	Brass 2 LP	336	Sagatty NT	423	Tabla 1	510	Car Pass
76	F.Guitar 2	164	RezBass 2	250	Brass Fall	337	Idling	424	Tabla 2	511	Car Crash
77	ResoGuitar	165	RezBass 3	251	StringEns.	338	EthnicBeat	425	Djembe	512	Siren
78	A.Gtr Harm	166	RezBass3LP	252	StrEns. V1	339	Tap-A	426	Maracas	513	Train
79	E.Guitar 1	167	MiniBass	253	StrEns. V2	340	Tap-B	427	SynMaracas	514	Helicopter
80	E.Guitar1V	168	Mini 1a	254	StrEns. V3	341	Tap-C	428	SynMarcsNT	515	Gun Shot 2
81	E.Guitar 2	169	SynthBass3	255	AnaStrings	342	Mini 1 a	429	Cabasa	516	MachineGun
82	E.Guitar 3	170	Saw	256	AnaStr. V1	343	vs88	430	Cabasa NT	517	Laser Gun
83	E.Guitar 4	171	MiniBass	257	AnaStr. V2	344	Mini 1a	431	Sagat	518	Explosion
84	E.Guitar 4	172	House Bass	258	AnaStr. V3	345	VS 102	432	Sagat NT		
85	E.Guitar 2	173	FM Bass 1	259	PWM	346	VS 48	433	Tambourine		
86	E.Guitar 3	174	FMBass1 LP	260	Violin	347	VS 52	434	JingleBell		



Drum kits

The following chart lists the percussive instruments assigned to each note of each Drum program. The **Excl** (Exclusive) parameter determines the mutual exclusion of two instruments with the same Exclusive number. For example, if the “Open Hi-Hat” and the “Closed Hi-Hat” have the same Exclusive number, the “Closed Hi-Hat” will immediately stop when you play the “Open Hi-Hat”.

Key		Inst		Excl	Inst		Excl	Inst		Excl	Inst		Excl
#	Note	Dr11 - GM Kit 1			Dr 12 - GM Kit 2			Dr13 - Room Kit			Dr14 - Power Kit		
21	A0	18	Syn Kick 1	---	18	Syn Kick 1	---	19	Syn Kick 2	---	16	Dance Kick	---
22	A#0	58	SynSnare 2	---	58	SynSnare 2	---	47	AmbiSnare1	---	58	SynSnare 2	---
23	B0	20	Syn Kick 3	---	20	Syn Kick 3	---	20	Syn Kick 3	---	20	Syn Kick 3	---
24	C1	57	SynSnare 1	---	57	SynSnare 1	---	57	SynSnare 1	---	57	SynSnare 1	---
25	C#1	40	FullRoomSD	---	40	FullRoomSD	---	39	LightSnare	---	37	PicloSnare	---
26	D1	50	GatedSnare	---	53	--	---	46	TightSnare	---	33	Snare 1	---
27	D#1	8	Dry Kick 2	---	8	Dry Kick 2	---	0	Fat Kick	---	1	Rock Kick	---
28	E1	1	Rock Kick	---	2	Ambi.Kick	---	12	Gated Kick	---	13	--	---
29	F1	34	Snare 2	---	48	AmbiSnare2	---	40	FullRoomSD	---	40	FullRoomSD	---
30	F#1	94	Open HH 1	1	93	Close HH	1	94	Open HH 1	1	94	Open HH 1	1
31	G1	12	Gated Kick	---	5	PillowKick	---	10	Real Kick	---	0	Fat Kick	---
32	G#1	78	Side Stick	---	79	--	---	404	Metronome2	---	404	Metronome2	---
33	A1	56	RollSnare2	7	56	RollSnare2	7	48	AmbiSnare2	---	48	AmbiSnare2	---
34	A#1	55	RollSnare1	7	55	RollSnare1	7	51	PowerSnare	---	40	FullRoomSD	---
35	B1	0	Fat Kick	---	14	ProcesKick	---	1	Rock Kick	---	2	Ambi.Kick	---
36	C2	2	Ambi.Kick	---	0	Fat Kick	---	2	Ambi.Kick	---	12	Gated Kick	---
37	C#2	78	Side Stick	---	78	Side Stick	---	78	Side Stick	---	78	Side Stick	---
38	D2	43	DrySnare 1	---	43	DrySnare 1	---	50	GatedSnare	---	51	PowerSnare	---
39	D#2	269	Syn Claps	---	269	Syn Claps	---	269	Syn Claps	---	268	Hand Claps	---
40	E2	40	FullRoomSD	---	49	Rock Snare	---	39	LightSnare	---	50	GatedSnare	---
41	F2	123	Tom 2 Lo	---	123	Tom 2 Lo	---	120	Tom 1 Lo	---	128	ProcessTom	---
42	F#2	93	Close HH	1	93	Close HH	1	93	Close HH	1	93	Close HH	1
43	G2	123	Tom 2 Lo	---	123	Tom 2 Lo	---	120	Tom 1 Lo	---	128	ProcessTom	---
44	G#2	97	Pedal HH 1	1	97	Pedal HH 1	1	97	Pedal HH 1	1	97	Pedal HH 1	1
45	A2	123	Tom 2 Lo	---	123	Tom 2 Lo	---	120	Tom 1 Lo	---	128	ProcessTom	---
46	A#2	94	Open HH 1	1	94	Open HH 1	1	94	Open HH 1	1	94	Open HH 1	1
47	B2	123	Tom 2 Lo	---	121	Tom 2 Hi	---	120	Tom 1 Lo	---	128	ProcessTom	---
48	C3	121	Tom 2 Hi	---	121	Tom 2 Hi	---	120	Tom 1 Lo	---	128	ProcessTom	---
49	C#3	81	Crash Cym	---	81	Crash Cym	---	81	Crash Cym	---	81	Crash Cym	---
50	D3	121	Tom 2 Hi	---	121	Tom 2 Hi	---	120	Tom 1 Lo	---	128	ProcessTom	---
51	D#3	117	Ride Cym 2	---	117	Ride Cym 2	---	117	Ride Cym 2	---	117	Ride Cym 2	---
52	E3	83	China Cym	---	83	China Cym	---	83	China Cym	---	83	China Cym	---
53	F3	115	Ride Cup	---	115	Ride Cup	---	115	Ride Cup	---	115	Ride Cup	---
54	F#3	206	Tambourine	---	206	Tambourine	---	206	Tambourine	---	206	Tambourine	---
55	G3	85	Splash Cym	---	85	Splash Cym	---	85	Splash Cym	---	85	Splash Cym	---
56	G#3	235	Cowbell 1	---	235	Cowbell 1	---	235	Cowbell 1	---	235	Cowbell 1	---
57	A3	81	Crash Cym	---	81	Crash Cym	---	81	Crash Cym	---	81	Crash Cym	---
58	A#3	263	Viblaslap	---	263	Viblaslap	---	263	Viblaslap	---	263	Viblaslap	---
59	B3	117	Ride Cym 2	---	114	Ride Edge	---	117	Ride Cym 2	---	117	Ride Cym 2	---
60	C4	147	Hi Bongo	---	147	Hi Bongo	---	147	Hi Bongo	---	147	Hi Bongo	---
61	C#4	146	Lo Bongo	---	146	Lo Bongo	---	146	Lo Bongo	---	146	Lo Bongo	---
62	D4	161	Slap Conga	---	161	Slap Conga	---	161	Slap Conga	---	161	Slap Conga	---
63	D#4	160	Open Conga	---	160	Open Conga	---	160	Open Conga	---	160	Open Conga	---
64	E4	160	Open Conga	---	160	Open Conga	---	160	Open Conga	---	160	Open Conga	---
65	F4	239	Timbal1HiO	---	239	Timbal1HiO	---	239	Timbal1HiO	---	239	Timbal1HiO	---
66	F#4	240	Timbal1LoO	---	240	Timbal1LoO	---	240	Timbal1LoO	---	240	Timbal1LoO	---
67	G4	227	Agogo 1	---	227	Agogo 1	---	227	Agogo 1	---	227	Agogo 1	---
68	G#4	227	Agogo 1	---	227	Agogo 1	---	227	Agogo 1	---	227	Agogo 1	---
69	A4	190	Cabasa	---	190	Cabasa	---	190	Cabasa	---	190	Cabasa	---
70	A#4	196	SynMaracas	---	196	SynMaracas	---	196	SynMaracas	---	196	SynMaracas	---

Key		Inst		Excl	Inst		Excl	Inst		Excl	Inst		Excl
71	B4	266	Whistle S	2	266	Whistle S	2	266	Whistle S	2	266	Whistle S	2
72	C5	267	Whistle L	2	267	Whistle L	2	267	Whistle L	2	267	Whistle L	2
73	C#5	264	Guiro S	4	264	Guiro S	4	264	Guiro S	4	264	Guiro S	4
74	D5	265	Guiro L	4	265	Guiro L	4	265	Guiro L	4	265	Guiro L	4
75	D#5	255	Claves	---	255	Claves	---	255	Claves	---	255	Claves	---
76	E5	253	WoodBlockM	---	253	WoodBlockM	---	253	WoodBlockM	---	253	WoodBlockM	---
77	F5	253	WoodBlockM	---	253	WoodBlockM	---	253	WoodBlockM	---	253	WoodBlockM	---
78	F#5	185	Mute Cuica	3	185	Mute Cuica	3	185	Mute Cuica	3	185	Mute Cuica	3
79	G5	186	Open Cuica	3	186	Open Cuica	3	186	Open Cuica	3	186	Open Cuica	3
80	G#5	224	MuteTriang	5	224	MuteTriang	5	224	MuteTriang	5	224	MuteTriang	5
81	A5	225	OpenTriang	5	225	OpenTriang	5	225	OpenTriang	5	225	OpenTriang	5
82	A#5	190	Cabasa	---	190	Cabasa	---	190	Cabasa	---	190	Cabasa	---
83	B5	221	JingleBell	---	221	JingleBell	---	221	JingleBell	---	221	JingleBell	---
84	C6	222	MarcTree 1	---	222	MarcTree 1	---	222	MarcTree 1	---	222	MarcTree 1	---
85	C#6	258	Castanet1V	---	258	Castanet1V	---	258	Castanet1V	---	258	Castanet1V	---
86	D6	169	Baya 1	6	169	Baya 1	6	169	Baya 1	6	169	Baya 1	6
87	D#6	122	Tom 2 Hi V	6	122	Tom 2 Hi V	6	122	Tom 2 Hi V	6	122	Tom 2 Hi V	6

Key		Inst		Excl	Inst		Excl	Inst		Excl	Inst		Excl
#	Note	Dr15 - Electronic Kit			Dr16 - Analog Kit			Dr17 - Dance Kit			Dr18 - Jazz Kit		
21	A0	16	Dance Kick	---	401	Explosion	---	33	Snare 1	---	18	Syn Kick 1	---
22	A#0	58	SynSnare 2	---	47	AmbiSnare1	---	33	Snare 1	---	57	SynSnare 1	---
23	B0	20	Syn Kick 3	---	10	Real Kick	---	20	Syn Kick 3	---	20	Syn Kick 3	---
24	C1	57	SynSnare 1	---	50	GatedSnare	---	57	SynSnare 1	---	57	SynSnare 1	---
25	C#1	49	Rock Snare	---	37	PicloSnare	---	33	Snare 1	---	39	LightSnare	---
26	D1	130	OilDrum	---	49	Rock Snare	---	48	AmbiSnare2	---	48	AmbiSnare2	---
27	D#1	18	Syn Kick 1	---	0	Fat Kick	---	2	Ambi.Kick	---	2	Ambi.Kick	---
28	E1	12	Gated Kick	---	16	Dance Kick	---	49	Rock Snare	---	5	PillowKick	---
29	F1	51	PowerSnare	---	48	AmbiSnare2	---	358	WhiteNoise	---	40	FullRoomSD	---
30	F#1	104	ClosSynHH1	1	93	Close HH	1	299	Zap 2	1	94	Open HH 1	1
31	G1	0	Fat Kick	---	2	Ambi.Kick	---	7	Dry Kick 1	---	7	Dry Kick 1	---
32	G#1	298	Zap 1	---	298	Zap 1	---	298	Zap 1	---	404	Metronome2	---
33	A1	50	GatedSnare	---	40	FullRoomSD	---	397	Gun Shot 1	---	43	DrySnare 1	---
34	A#1	51	PowerSnare	---	33	Snare 1	---	134	SolidHit	---	40	FullRoomSD	---
35	B1	2	Ambi.Kick	---	18	Syn Kick 1	---	18	Syn Kick 1	---	2	Ambi.Kick	---
36	C2	21	Syn Kick 4	---	20	Syn Kick 3	---	16	Dance Kick	---	8	Dry Kick 2	---
37	C#2	80	Syn Rim	---	80	Syn Rim	---	404	Metronome2	---	78	Side Stick	---
38	D2	58	SynSnare 2	---	57	SynSnare 1	---	40	FullRoomSD	---	39	LightSnare	---
39	D#2	269	Syn Claps	---	269	Syn Claps	---	269	Syn Claps	---	268	Hand Claps	---
40	E2	47	AmbiSnare1	---	58	SynSnare 2	---	47	AmbiSnare1	---	34	Snare 2	---
41	F2	131	Syn Tom 1	---	132	SynTom2 Hi	---	128	ProcessTom	---	120	Tom 1 Lo	---
42	F#2	93	Close HH	1	104	ClosSynHH1	1	93	Close HH	1	93	Close HH	1
43	G2	131	Syn Tom 1	---	132	SynTom2 Hi	---	128	ProcessTom	---	120	Tom 1 Lo	---
44	G#2	97	Pedal HH 1	1	104	ClosSynHH1	1	104	ClosSynHH1	1	97	Pedal HH 1	1
45	A2	131	Syn Tom 1	---	132	SynTom2 Hi	---	128	ProcessTom	---	120	Tom 1 Lo	---
46	A#2	94	Open HH 1	1	106	OpenSynHH1	1	106	OpenSynHH1	1	94	Open HH 1	1
47	B2	131	Syn Tom 1	---	132	SynTom2 Hi	---	128	ProcessTom	---	120	Tom 1 Lo	---
48	C3	131	Syn Tom 1	---	132	SynTom2 Hi	---	128	ProcessTom	---	119	Tom 1 Hi	---
49	C#3	81	Crash Cym	---	106	OpenSynHH1	---	81	Crash Cym	---	81	Crash Cym	---
50	D3	131	Syn Tom 1	---	132	SynTom2 Hi	---	128	ProcessTom	---	119	Tom 1 Hi	---
51	D#3	117	Ride Cym 2	---	117	Ride Cym 2	---	117	Ride Cym 2	---	117	Ride Cym 2	---
52	E3	313	Rev.Cymbal	---	83	China Cym	---	313	Rev.Cymbal	---	83	China Cym	---
53	F3	115	Ride Cup	---	115	Ride Cup	---	115	Ride Cup	---	115	Ride Cup	---
54	F#3	206	Tambourine	---	206	Tambourine	---	206	Tambourine	---	206	Tambourine	---
55	G3	85	Splash Cym	---	85	Splash Cym	---	85	Splash Cym	---	85	Splash Cym	---
56	G#3	235	Cowbell 1	---	237	SynCowbell	---	237	SynCowbell	---	235	Cowbell 1	---

Key		Inst		Excl	Inst		Excl	Inst		Excl	Inst		Excl
57	A3	81	Crash Cym	---	81	Crash Cym	---	81	Crash Cym	---	81	Crash Cym	---
58	A#3	263	Viblaslap	---	263	Viblaslap	---	263	Viblaslap	---	263	Viblaslap	---
59	B3	117	Ride Cym 2	---	117	Ride Cym 2	---	117	Ride Cym 2	---	117	Ride Cym 2	---
60	C4	147	Hi Bongo	---	147	Hi Bongo	---	147	Hi Bongo	---	147	Hi Bongo	---
61	C#4	146	Lo Bongo	---	146	Lo Bongo	---	146	Lo Bongo	---	146	Lo Bongo	---
62	D4	161	Slap Conga	---	132	SynTom2 Hi	---	162	Palm Conga	---	161	Slap Conga	---
63	D#4	160	Open Conga	---	132	SynTom2 Hi	---	160	Open Conga	---	160	Open Conga	---
64	E4	160	Open Conga	---	133	SynTom2 Lo	---	160	Open Conga	---	160	Open Conga	---
65	F4	239	Timbal1HiO	---	239	Timbal1HiO	---	239	Timbal1HiO	---	239	Timbal1HiO	---
66	F#4	240	Timbal1LoO	---	240	Timbal1LoO	---	240	Timbal1LoO	---	240	Timbal1LoO	---
67	G4	227	Agogo 1	---	227	Agogo 1	---	227	Agogo 1	---	227	Agogo 1	---
68	G#4	227	Agogo 1	---	227	Agogo 1	---	227	Agogo 1	---	227	Agogo 1	---
69	A4	190	Cabasa	---	190	Cabasa	---	190	Cabasa	---	190	Cabasa	---
70	A#4	196	SynMaracas	---	196	SynMaracas	---	196	SynMaracas	---	196	SynMaracas	---
71	B4	266	Whistle S	2	266	Whistle S	2	266	Whistle S	2	266	Whistle S	2
72	C5	267	Whistle L	2	267	Whistle L	2	267	Whistle L	2	267	Whistle L	2
73	C#5	264	Guiro S	4	264	Guiro S	4	264	Guiro S	4	264	Guiro S	4
74	D5	265	Guiro L	4	265	Guiro L	4	265	Guiro L	4	265	Guiro L	4
75	D#5	255	Claves	---	256	Syn Claves	---	256	Syn Claves	---	255	Claves	---
76	E5	253	WoodBlockM	---	253	WoodBlockM	---	253	WoodBlockM	---	253	WoodBlockM	---
77	F5	253	WoodBlockM	---	253	WoodBlockM	---	253	WoodBlockM	---	253	WoodBlockM	---
78	F#5	185	Mute Cuica	3	185	Mute Cuica	3	185	Mute Cuica	3	185	Mute Cuica	3
79	G5	186	Open Cuica	3	186	Open Cuica	3	186	Open Cuica	3	186	Open Cuica	3
80	G#5	224	MuteTriang	5	224	MuteTriang	5	224	MuteTriang	5	224	MuteTriang	5
81	A5	225	OpenTriang	5	225	OpenTriang	5	225	OpenTriang	5	225	OpenTriang	5
82	A#5	190	Cabasa	---	190	Cabasa	---	190	Cabasa	---	190	Cabasa	---
83	B5	221	JingleBell	---	221	JingleBell	---	221	JingleBell	---	221	JingleBell	---
84	C6	222	MarcTree 1	---	222	MarcTree 1	---	222	MarcTree 1	---	222	MarcTree 1	---
85	C#6	258	Castanet1V	---	258	Castanet1V	---	258	Castanet1V	---	258	Castanet1V	---
86	D6	169	Baya 1	6	169	Baya 1	6	169	Baya 1	6	169	Baya 1	6
87	D#6	122	Tom 2 Hi V	6	122	Tom 2 Hi V	6	122	Tom 2 Hi V	6	122	Tom 2 Hi V	6

Key		Inst		Excl	Inst		Excl	Inst		Excl	Inst		Excl
#	Note	Dr21 - Brush Kit			Dr22 - Orchestra Kit			Dr23 - Percussion Kit			Dr24 - Lati Perc. Kit		
21	A0	120	Tom 1 Lo	---	OFF	OFF		OFF	OFF		OFF	OFF	
22	A#0	120	Tom 1 Lo	---	OFF	OFF		OFF	OFF		224	MuteTriang	7
23	B0	120	Tom 1 Lo	---	OFF	OFF		OFF	OFF		225	OpenTriang	7
24	C1	120	Tom 1 Lo	---	56	RollSnare2	7	226	Flexatone	---	226	Flexatone	---
25	C#1	119	Tom 1 Hi	---	55	RollSnare1	7	344	FingCymbal	---	344	FingCymbal	---
26	D1	43	DrySnare 1	---	260	FingrSnap1	---	154	Tsuzumi	---	237	SynCowbell	---
27	D#1	32	Orch B.Drm	---	93	Close HH	1	146	Lo Bongo	---	257	Castanet 1	6
28	E1	4	Punch Kick	---	98	--	1	147	Hi Bongo	---	258	Castanet1V	---
29	F1	260	FingrSnap1	---	94	Open HH 1	1	146	Lo Bongo	---	260	FingrSnap1	---
30	F#1	94	Open HH 1	1	114	Ride Edge	---	206	Tambourine	---	262	Snap	---
31	G1	7	Dry Kick 1	---	77	Stick Hit	---	227	Agogo 1	---	278	MetalHitHi	---
32	G#1	78	Side Stick	---	262	Snap	---	366	Wind	---	279	MetalHitLo	---
33	A1	74	Brush Tap	---	403	Metronome1	---	227	Agogo 1	---	154	Tsuzumi	---
34	A#1	74	Brush Tap	---	347	Tubular 3	---	148	Slap Bongo	---	154	Tsuzumi	---
35	B1	5	PillowKick	---	10	Real Kick	---	254	WoodBlockL	---	154	Tsuzumi	---
36	C2	8	Dry Kick 2	---	32	Orch B.Drm	---	255	Claves	---	32	Orch B.Drm	1
37	C#2	78	Side Stick	---	78	Side Stick	---	253	WoodBlockM	---	32	Orch B.Drm	1
38	D2	357	BrushNoise	---	43	DrySnare 1	---	233	BongBellOp	---	227	Agogo 1	---
39	D#2	73	Brush Slap	---	258	Castanet1V	---	252	WoodBlockH	---	227	Agogo 1	---
40	E2	75	BrushSwish	---	43	DrySnare 1	---	257	Castanet 1	---	160	Open Conga	---
41	F2	135	Brush Tom	---	137	Timpani	---	170	Baya 2	---	163	Mute Conga	---
42	F#2	93	Close HH	1	137	Timpani	---	187	Shaker 1	---	162	Palm Conga	---

Key		Inst		Excl	Inst		Excl	Inst		Excl	Inst		Excl
43	G2	135	Brush Tom	---	137	Timpani	---	169	Baya 1	---	161	Slap Conga	---
44	G#2	97	Pedal HH 1	1	137	Timpani	---	191	Maracas 1	---	196	SynMaracas	---
45	A2	135	Brush Tom	---	137	Timpani	---	170	Baya 2	---	160	Open Conga	---
46	A#2	94	Open HH 1	1	137	Timpani	---	190	Cabasa	---	224	MuteTriang	2
47	B2	135	Brush Tom	---	137	Timpani	---	173	Tabla 3	1	225	OpenTriang	2
48	C3	135	Brush Tom	---	137	Timpani	---	172	Tabla 2	1	163	Mute Conga	---
49	C#3	81	Crash Cym	---	137	Timpani	---	263	Viblaslap	---	162	Palm Conga	---
50	D3	135	Brush Tom	---	137	Timpani	---	171	Tabla 1	1	161	Slap Conga	---
51	D#3	117	Ride Cym 2	---	137	Timpani	---	224	MuteTriang	3	206	Tambourine	---
52	E3	83	China Cym	---	137	Timpani	---	32	Orch B.Drm	---	160	Open Conga	---
53	F3	114	Ride Edge	---	137	Timpani	---	225	OpenTriang	3	146	Lo Bongo	---
54	F#3	206	Tambourine	---	206	Tambourine	---	264	Guiro S	2	146	Lo Bongo	---
55	G3	85	Splash Cym	---	85	Splash Cym	---	221	JingleBell	---	147	Hi Bongo	---
56	G#3	235	Cowbell 1	---	235	Cowbell 1	---	265	Guiro L	2	240	Timbal1LoO	---
57	A3	81	Crash Cym	---	81	Crash Cym	---	222	MarcTree 1	---	148	Slap Bongo	---
58	A#3	263	Viblaslap	---	263	Viblaslap	---	223	MarcTree 2	---	240	Timbal1LoO	---
59	B3	116	Ride Cym 1	---	87	Orch Cym	---	191	Maracas 1	---	206	Tambourine	---
60	C4	147	Hi Bongo	---	147	Hi Bongo	---	268	Hand Claps	---	241	Timbal1Pil	---
61	C#4	146	Lo Bongo	---	146	Lo Bongo	---	269	Syn Claps	---	239	Timbal1HiO	---
62	D4	161	Slap Conga	---	161	Slap Conga	---	301	Scratch Lo	---	241	Timbal1Pil	---
63	D#4	160	Open Conga	---	160	Open Conga	---	300	Scratch Hi	---	239	Timbal1HiO	---
64	E4	160	Open Conga	---	160	Open Conga	---	302	ScratchDbl	---	238	Timbal1HiR	---
65	F4	239	Timbal1HiO	---	239	Timbal1HiO	---	266	Whistle S	4	238	Timbal1HiR	---
66	F#4	240	Timbal1LoO	---	240	Timbal1LoO	---	267	Whistle L	4	212	Rek Dom 2	---
67	G4	227	Agogo 1	---	227	Agogo 1	---	161	Slap Conga	---	212	Rek Dom 2	---
68	G#4	227	Agogo 1	---	227	Agogo 1	---	163	Mute Conga	---	212	Rek Dom 2	---
69	A4	190	Cabasa	---	190	Cabasa	---	160	Open Conga	---	214	Rek Slap	---
70	A#4	196	SynMaracas	---	196	SynMaracas	---	160	Open Conga	---	233	BongBellOp	---
71	B4	266	Whistle S	2	266	Whistle S	2	185	Mute Cuica	---	254	WoodBlockL	---
72	C5	267	Whistle L	2	267	Whistle L	2	186	Open Cuica	---	253	WoodBlockM	---
73	C#5	264	Guiro S	4	264	Guiro S	4	241	Timbal1Pil	---	234	BongBellMt	---
74	D5	265	Guiro L	4	265	Guiro L	4	238	Timbal1HiR	---	191	Maracas 1	---
75	D#5	255	Claves	---	255	Claves	---	239	Timbal1HiO	---	232	Manbo Bell	---
76	E5	253	WoodBlockM	---	253	WoodBlockM	---	240	Timbal1LoO	---	190	Cabasa	---
77	F5	253	WoodBlockM	---	253	WoodBlockM	---	256	Syn Claves	---	189	Shaker 3	---
78	F#5	185	Mute Cuica	3	185	Mute Cuica	3	237	SynCowbell	---	235	Cowbell 1	---
79	G5	186	Open Cuica	3	186	Open Cuica	3	260	FingrSnap1	---	187	Shaker 1	---
80	G#5	224	MuteTriang	5	224	MuteTriang	5	138	Taiko Hi	---	187	Shaker 1	---
81	A5	225	OpenTriang	5	225	OpenTriang	5	139	Taiko Lo	---	188	Shaker 2	---
82	A#5	190	Cabasa	---	190	Cabasa	---	299	Zap 2	---	251	Tambourim3	---
83	B5	221	JingleBell	---	221	JingleBell	---	55	RollSnare1	5	249	Tambourim1	---
84	C6	222	MarcTree 1	---	222	MarcTree 1	---	56	RollSnare2	5	250	Tambourim2	---
85	C#6	258	Castanet1V	---	258	Castanet1V	---	87	Orch Cym	6	250	Tambourim2	---
86	D6	169	Baya 1	6	169	Baya 1	6	87	Orch Cym	6	249	Tambourim1	---
87	D#6	122	Tom 2 Hi V	6	122	Tom 2 Hi V	6	179	Udu	---	179	Udu	---
88	E6	OFF	OFF		383	Applause 1	1	288	Orch Hit	---	180	DjembeOpen	---
89	F6	OFF	OFF		OFF	OFF		288	Orch Hit	---	191	Maracas 1	---
90	F#6	OFF	OFF		OFF	OFF		288	Orch Hit	---	191	Maracas 1	---
91	G6	OFF	OFF		OFF	OFF		288	Orch Hit	---	185	Mute Cuica	---
92	G#6	OFF	OFF		OFF	OFF		288	Orch Hit	---	265	Guiro L	3
93	A6	OFF	OFF		OFF	OFF		288	Orch Hit	---	264	Guiro S	3
94	A#6	OFF	OFF		OFF	OFF		288	Orch Hit	---	264	Guiro S	3
95	B6	OFF	OFF		OFF	OFF		288	Orch Hit	---	186	Open Cuica	---
96	C7	OFF	OFF		OFF	OFF		288	Orch Hit	---	255	Claves	---
97	C#7	OFF	OFF		OFF	OFF		288	Orch Hit	---	266	Whistle S	4
98	D7	OFF	OFF		OFF	OFF		288	Orch Hit	---	267	Whistle L	4
99	D#7	OFF	OFF		OFF	OFF		288	Orch Hit	---	203	Sagat Open	5
100	E7	OFF	OFF		OFF	OFF		288	Orch Hit	---	204	Sagat HfOp	5

Key		Inst		Excl	Inst		Excl	Inst		Excl	Inst		Excl
101	F7	OFF	OFF		OFF	OFF		288	Orch Hit	---	205	SagatClose	5
102	F#7	OFF	OFF		OFF	OFF		288	Orch Hit	---	221	JingleBell	---
103	G7	OFF	OFF		OFF	OFF		288	Orch Hit	---	222	MarcTree 1	---
104	G#7	OFF	OFF		OFF	OFF		288	Orch Hit	---	223	MarcTree 2	---
105	A7	OFF	OFF		OFF	OFF		288	Orch Hit	---	360	Tri Roll	2
106	A#7	OFF	OFF		OFF	OFF		288	Orch Hit	---	361	Cast Roll	6
107	G8	OFF	OFF		OFF	OFF		288	Orch Hit	---	403	Metronome1	---

Key		Inst		Excl	Inst		Excl	Inst		Excl	Inst		Excl
#	Note	Dr25 - Arabian Kit			Dr26 - SFX Kit			Dr27 - User 1			Dr28 - User 2		
21	A0	404	Metronome2	---	OFF	OFF							
22	A#0	347	Tubular 3	---	OFF	OFF							
23	B0	235	Cowbell 1	---	OFF	OFF							
24	C1	235	Cowbell 1	---	OFF	OFF							
25	C#1	55	RollSnare1	---	OFF	OFF							
26	D1	260	FingrSnap1	---	OFF	OFF							
27	D#1	299	Zap 2	---	OFF	OFF							
28	E1	91	Tite HH 1	---	OFF	OFF							
29	F1	280	Gt Scratch	---	OFF	OFF							
30	F#1	280	Gt Scratch	---	OFF	OFF							
31	G1	77	Stick Hit	---	304	Scratch b	1						
32	G#1	162	Palm Conga	---	305	Scratch c	1						
33	A1	404	Metronome2	---	282	GtCutNois1	---						
34	A#1	403	Metronome1	---	283	GtCutNois2	---						
35	B1	2	Ambi.Kick	---	285	Chic 2	---						
36	C2	10	Real Kick	---	284	Chic 1	---						
37	C#2	78	Side Stick	---	286	Bass Slide	---						
38	D2	33	Snare 1	---	280	Gt Scratch	---						
39	D#2	268	Hand Claps	---	298	Zap 1	---						
40	E2	33	Snare 1	---	358	WhiteNoise	---						
41	F2	120	Tom 1 Lo	---	300	Scratch Hi	2						
42	F#2	91	Tite HH 1	1	301	Scratch Lo	2						
43	G2	120	Tom 1 Lo	---	77	Stick Hit	---						
44	G#2	91	Tite HH 1	1	382	Footstep 2	---						
45	A2	120	Tom 1 Lo	---	404	Metronome2	---						
46	A#2	94	Open HH 1	1	403	Metronome1	---						
47	B2	119	Tom 1 Hi	---	281	Gtr Slide	---						
48	C3	119	Tom 1 Hi	---	282	GtCutNois1	---						
49	C#3	81	Crash Cym	2	282	GtCutNois1	---						
50	D3	119	Tom 1 Hi	---	287	StringSlap	---						
51	D#3	117	Ride Cym 2	3	287	StringSlap	---						
52	E3	182	Darabuka O	---	377	Laughing V	---						
53	F3	184	Darabuka M	---	378	Scream	---						
54	F#3	206	Tambourine	---	379	Punch	---						
55	G3	183	Darabuka R	---	380	Hart Beat	---						
56	G#3	235	Cowbell 1	---	381	Footstep 1	---						
57	A3	183	Darabuka R	---	381	Footstep 1	---						
58	A#3	190	Cabasa	---	383	Applause 1	---						
59	B3	142	Douf Dom	---	387	Door Creak	---						
60	C4	145	Douf Tak 2	---	388	Door Slam	---						
61	C#4	146	Lo Bongo	---	303	Scratch a	---						
62	D4	144	Douf Tak 1	---	223	MarcTree 2	---						
63	D#4	147	Hi Bongo	---	389	Car Engine	---						
64	E4	143	Douf Rim	---	390	Car Stop	---						
65	F4	174	Tabla Dom	---	391	Car Pass	---						
66	F#4	178	Tabla Roll	4	392	Car Crash	---						

Key		Inst		Excl	Inst		Excl	Inst		Excl	Inst		Excl
67	G4	175	Tabla Tak	4	394	Siren	---						
68	G#4	176	Tabla Flam	---	395	Train	---						
69	A4	177	Tabla Rim	---	359	Jetstar	---						
70	A#4	148	Slap Bongo	---	396	Helicopter	---						
71	B4	172	Tabla 2	---	400	Laser Gun	---						
72	C5	212	Rek Dom 2	---	398	Gun Shot 2	---						
73	C#5	213	Rek Tak	---	399	MachineGun	---						
74	D5	211	Rek Dom 1	---	400	Laser Gun	---						
75	D#5	215	Rek Rim	---	401	Explosion	---						
76	E5	215	Rek Rim	---	374	Dog	---						
77	F5	214	Rek Slap	---	376	Gallop	---						
78	F#5	206	Tambourine	---	371	Bird 1	3						
79	G5	212	Rek Dom 2	---	364	Rain	---						
80	G#5	206	Tambourine	2	365	Thunder	---						
81	A5	213	Rek Tak	2	366	Wind	---						
82	A#5	215	Rek Rim	---	367	Seashore	---						
83	B5	214	Rek Slap	---	369	Stream	---						
84	C6	203	Sagat Open	5	370	Bubble	---						
85	C#6	204	Sagat HfOp	5	373	Kitty	---						
86	D6	205	SagatClose	5	372	Bird 2	---						
87	D#6	221	JingleBell	---	375	Growl 2	---						
88	E6	180	DjembeOpen	6	356	Stadium	---						
89	F6	180	DjembeOpen	6	385	Telephone1	---						
90	F#6	182	Darabuka O	6	386	Telephone2	---						
91	G6	203	Sagat Open	7	OFF	OFF							
92	G#6	204	Sagat HfOp	7	OFF	OFF							
93	A6	205	SagatClose	7	OFF	OFF							
94	A#6	221	JingleBell	---	OFF	OFF							
95	B6	10	Real Kick	---	OFF	OFF							
96	C7	361	Cast Roll	---	OFF	OFF							
97	C#7	OFF	OFF		OFF	OFF							
98	D7	OFF	OFF		OFF	OFF							
99	D#7	OFF	OFF		OFF	OFF							
100	E7	OFF	OFF		OFF	OFF							
101	F7	OFF	OFF		OFF	OFF							
102	F#7	OFF	OFF		OFF	OFF							
103	G7	OFF	OFF		OFF	OFF							
104	G#7	OFF	OFF		OFF	OFF							
105	A7	OFF	OFF		OFF	OFF							
106	A#7	OFF	OFF		OFF	OFF							
107	G8	OFF	OFF		OFF	OFF							

Drum samples

#	Instr	#	Instr	#	Instr	#	Instr	#	Instr	#	Instr	#	Instr	#	Instr
1	Fat Kick	52	PoweSnare	103	--	154	--	205	Sagat HfOp	256	Claves	307	Growl 1	358	BrushNoise
2	Rock Kick	53	--	104	--	155	Tsuzumi	206	SagatClose	257	Syn Claves	308	Monkey 2	359	WhiteNoise
3	Ambi.Kick	54	--	105	CisSynHH1	156	--	207	Tambourine	258	Castanet 1	309	Rev.Kick	360	Jetstar
4	Crisp Kick	55	--	106	--	157	--	208	--	259	Castanet1V	310	Rev.ConBD	361	Tri Roll
5	Punch Kick	56	RollSnare1	107	OpSynHH1	158	--	209	--	260	--	311	Rev.Snare1	362	Cast Roll
6	PillowKick	57	RollSnare2	108	--	159	--	210	--	261	FingrSnap1	312	Rev.Snare2	363	Lore
7	--	58	SynSnare 1	109	--	160	--	211	--	262	--	313	Rev.Snare3	364	MalletLoop
8	Dry Kick 1	59	SynSnare 2	110	--	161	OpnConga	212	Rek Dom 1	263	Snap	314	RevCymbal	365	Rain
9	Dry Kick 2	60	--	111	--	162	Slap Conga	213	Rek Dom 2	264	Viblaslap	315	Rev.Tom 1	366	Thunder
10	--	61	--	112	--	163	PalmConga	214	Rek Tak	265	Guiro S	316	Rev.Tom 2	367	Wind
11	Real Kick	62	--	113	--	164	MuteConga	215	Rek Slap	266	Guiro L	317	Kalimba 1	368	Seashore
12	--	63	--	114	--	165	--	216	Rek Rim	267	Whistle S	318	Kalimba 2	369	Seashore V
13	Gated Kick	64	--	115	Ride Edge	166	--	217	--	268	Whistle L	319	MusicBox 1	370	Stream
14	--	65	--	116	Ride Cup	167	--	218	--	269	Hand Claps	320	MusicBox 2	371	Bubble
15	ProcesKick	66	--	117	Ride Cym 1	168	--	219	--	270	Syn Claps	321	Log Drum 1	372	Bird 1
16	Metal Kick	67	--	118	Ride Cym 2	169	--	220	--	271	--	322	Log Drum 2	373	Bird 2
17	Dance Kick	68	--	119	--	170	Baya 1	221	--	272	--	323	Log Drum 3	374	Kitty
18	--	69	--	120	Tom 1 Hi	171	Baya 2	222	JingleBell	273	--	324	Log Drum 4	375	Dog
19	Syn Kick 1	70	--	121	Tom 1 Lo	172	Tabla 1	223	MarcTree 1	274	--	325	Log Drum 5	376	Growl 2
20	Syn Kick 2	71	--	122	Tom 2 Hi	173	Tabla 2	224	MarcTree 2	275	--	326	Marimba 1	377	Gallop
21	Syn Kick 3	72	--	123	Tom 2 Hi V	174	Tabla 3	225	MuteTriang	276	--	327	Marimba 2	378	Laughing V
22	Syn Kick 4	73	--	124	Tom 2 Lo	175	Tabla Dom	226	OpenTriang	277	--	328	Marimba 3	379	Scream
23	--	74	Brush Slap	125	Tom 2 Lo V	176	Tabla Tak	227	Flexatone	278	--	329	Marimba 4	380	Punch
24	--	75	Brush Tap	126	--	177	Tabla Flam	228	Agogo 1	279	MetalHitHi	330	Xylofon 1	381	Hart Beat
25	--	76	BrshSwish	127	--	178	Tabla Rim	229	--	280	MetalHitLo	331	Xylofon 2	382	Footstep 1
26	--	77	BrushSwirl	128	--	179	Tabla Roll	230	--	281	Gt Scratch	332	Xylofon 3	383	Footstep 2
27	--	78	Stick Hit	129	ProcesTom	180	Udu	231	--	282	Gtr Slide	333	Vibe 1	384	Applause 1
28	--	79	Side Stick	130	--	181	DjembeOp	232	--	283	GtCutNois1	334	Vibe 2	385	Applause 2
29	--	80	--	131	OilDrum	182	--	233	Manbo Bell	284	GtCutNois2	335	Vibe 3	386	Telephone1
30	--	81	Syn Rim	132	Syn Tom 1	183	DarabukaO	234	BongBellO	285	Chic 1	336	Vibe 4	387	Telephone2
31	--	82	Crash Cym	133	SynTom2Hi	184	Darabuka R	235	BongBellMt	286	Chic 2	337	Celeste	388	Door Creak
32	--	83	Crash LP	134	SynTom2L	185	DarabukaM	236	Cowbell 1	287	Bass Slide	338	Glocken 1	389	Door Slam
33	Orch B.Drm	84	China Cym	135	SolidHit	186	Mute Cuica	237	--	288	StringSlap	339	Glocken 2	390	Car Engine
34	Snare 1	85	China LP	136	Brush Tom	187	Open Cuica	238	SynCowbell	289	Orch Hit	340	Glocken 3	391	Car Stop
35	Snare 2	86	SplashCym	137	BrshTom V	188	Shaker 1	239	Timbal1HiR	290	ImpactHitL	341	BrightBell	392	Car Pass
36	Snare 3	87	Splash LP	138	Timpani	189	Shaker 2	240	Timbal1HiO	291	ImpactHitR	342	Metal Bell	393	Car Crash
37	Snare 4	88	Orch Cym	139	Taiko Hi	190	Shaker 3	241	Timbal1LO	292	Rave Hit L	343	Gamelan 1	394	GlassBreak
38	PicloSnare	89	OrchCmLP	140	Taiko Lo	191	Cabasa	242	Timbal1Pil	293	Rave Hit R	344	Gamelan 2	395	Siren
39	Soft Snare	90	--	141	--	192	Maracas 1	243	--	294	Philly Hit	345	FingCym	396	Train
40	LightSnare	91	--	142	--	193	--	244	--	295	BrassFall1	346	Tubular 1	397	Helicopter
41	FullRmSD	92	Tite HH 1	143	Douf Dom	194	--	245	--	296	BrassFall2	347	Tubular 2	398	Gun Shot 1
42	--	93	--	144	Douf Rim	195	--	246	--	297	BrassFall3	348	Tubular 3	399	Gun Shot 2
43	--	94	Close HH	145	Douf Tak 1	196	--	247	--	298	BrassFall4	349	ChurchBell	400	MachinGun
44	DrySnare 1	95	Open HH 1	146	Douf Tak 2	197	SynMaracs	248	--	299	Zap 1	350	Gong Hi	401	Laser Gun
45	--	96	--	147	Lo Bongo	198	--	249	--	300	Zap 2	351	Gong Lo	402	Explosion
46	--	97	--	148	Hi Bongo	199	--	250	Tambrim1	301	Scratch Hi	352	MouthHrp1	403	HandDrill
47	TightSnare	98	Pedal HH 1	149	Slap Bongo	200	--	251	Tambrim2	302	Scratch Lo	353	MthHrp1A	404	Metron1
48	AmbSnar1	99	--	150	--	201	--	252	Tambrim3	303	ScratchDbl	354	MouthHrp2	405	Metron2
49	AmbSnar2	100	--	151	--	202	--	253	WoodBlkH	304	Scratch a	355	MthHrp2A	406	testwave
50	Rock Snare	101	--	152	--	203	--	254	WoodBlkM	305	Scratch b	356	Spectrum 1		
51	GatdSnare	102	--	153	--	204	SagatOpen	255	WoodBlkL	306	Scratch c	357	Stadium		

Technical specifications

Features	
Generation system	AI ² Synthesis System
Tone generator	32voices, 32 oscillators
Sample memory	14MB PCM ROM
Effects	Two stereo digital multi-effect systems, 47 effects, edit function
Vocal/Guitar section	Input sensitivity: Microphone, Guitar, Line (Mono). Controls: Volume, A/B programmable knob, C programmable button (mute). LED indicator: Signal (presence and clip). Vocal model: 4 harmonization voices, separate MIDI channel for the Arrangement Play, Backing Sequence and Song Play modes. Vocal mode effects: Compressor, Tone controls, Chorus/Delay, 2 Reverbs. Guitar mode effects: 3 Drive, Tone controls, Noise reduction, Speaker simulator, 7 Modulating effects, 3 Ambience effects.
Programs	320 programs (including GM programs) + 14 drum kits + 64 USER programs + 2 USER drum kits
Styles	128 styles + 16 USER styles
Arrangements	128 arrangements + 64 USER arrangements
Keyboard Set	15
Song	Reads SMF in format 0 and 1 (16 tracks), GM compatible, Lyrics function
Backing Sequence	10, stored in RAM (40,000 events)
External controls	Damper Pedal, Assignable Pedal/Switch, EC5
Audio outputs	Left/Mono, Right
Audio inputs	Mic/Gtr with gain control
MIDI	In 1, In 2, Out, Thru
Floppy Disk	3,5" 2DD/2HD (MS-DOS® 1,44 MB and 720KB, IBM-PC® and Macintosh® compatible)
Display	Backlit custom LCD
Dimensions (W x D x H)	400 x 287 x 87 mm (15.7 x 11.2 x 3.4 inch)
Weight	4,3kg (9.5 lbs)

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