

KAWAI

GB-4

Owner's Manual

FCC INFORMATION

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:

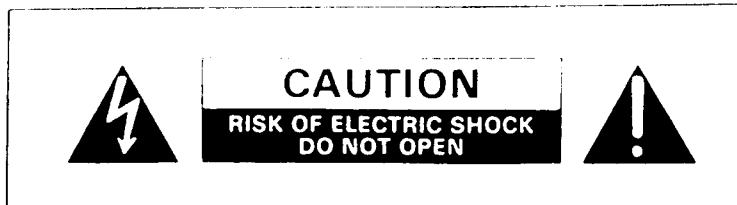
Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a different electrical circuit from the receiver.

Consult the dealer or an experienced radio/TV technician for help.

* This instrument complies with the limits for a class B digital apparatus, pursuant to the Radio Interference Regulations, C.R.C., c. 1374.



AVIS: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

CAUTION *TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.*



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user 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.

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IMPORTANT SAFETY INSTRUCTIONS

Warning

- * Read Instructions -- This Owner's Manual contains valuable information that will help you make full use of the GB-4's many capabilities. All the safety and operating instructions should be read before the product is operated.
- * Retain Instructions -- The safety and operating instructions should be retained for future reference.
- * Heed Warnings -- All warnings on the product and in the operating instructions should be adhered to.
- * Follow Instructions -- All operating and use instructions should be followed.
- * Protect the appliance from direct sunlight, extremes in temperature (such as inside your car on a warm day) or humidity, dusty environment, or vibration (especially during transportation).
- * The appliance should be kept away from hot, dry places (such as near a radiator or heater)
- * The appliance should not be operated or stored near water or other moisture -- for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool, and the like.
- * Whenever connecting or disconnecting the GB-4 to an amplifier or sound system, turn down the volume(s) of the sound system or amplifier.
- * Always turn down the volume(s) of all instruments (such as guitar or keyboard) before connecting or disconnecting to the GB-4.
- * Do not disassemble or attempt to modify the appliance.
- * Protect the appliance from physical shocks and impact.
- * Do not use attachments not recommended by KAWAI as they may cause hazards.
- * Accessories -- Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fail, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by KAWAI, or sold with the product.

Power Supply

- * Use only AC adaptor shipped with the GB-4 and connect it only to a power supply with a voltage within the limits stated on the ratings plate on the backs.
- * Make sure that all power switches are off before changing equipment connections.
- * Check all equipment connections before applying the power.
- * Do not connect to the same circuit as a heavy load or equipment that generates line noise.

Cleaning

- * Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. (Clean the instrument with a soft cloth, a mild detergent, and lukewarm water.) Never use harsh or abrasive cleansers or organic solvents.

Basic Structure of the GB-4

Songs and Backing Patterns

SONGS

There are 100 (95 in the U.S. market) internal songs programmed into the GB-4. You can modify them using REPEAT, JUMP, PART VOLUME functions etc. to suit your taste. You can create and save up to ten modified songs which are called "USER SONGS". You cannot change the Chord Progression of a song.

BACKING PATTERNS

There are 100 internal backing patterns (which we will refer to as "Patterns") programmed into the GB-4. Each Pattern consists of two elements: Style and Chord Progression.

Each internal Pattern has one each of Style and Chord Progression. You can freely modify them or create your own Style and Chord Progression from scratch. You can create and save up to 50 Patterns which are called "USER Patterns".

This goes for not only the internal patterns. You are free to import new patterns from cards (ROM) and edit them. An optional CARD (RAM) can be used for storing (saving) your USER PATTERNS into the USER CARD PATTERN area.

PLAY MODE and EDIT MODE

PLAY mode allows you to playback songs or patterns. EDIT mode allows you to edit songs or patterns. Press the PLAY mode switch at the right side of the display as many times as necessary until the appropriate small lamp of the display is lit to reach your desired PLAY mode.

Press the EDIT mode switch at the right side of the display as many times as necessary until the appropriate small lamp of the display is lit to reach your desired EDIT mode.

Notes: Please be aware that there will be no sound from the STEREO 2 (OUTPUT 3 and 4) jacks at the factory preset setting. Only the signals for the STEREO 1 (OUTPUT 1 and 2) jacks will be output from the PHONES jack. See the PARA OUT section in the page 64 of this manual for details.

Battery Backup

The lithium battery that protects the memory contents while the power to the unit is off is good for approximately five years of normal use. We recommend, however, that you have your nearest authorized service representative replace it promptly after five years.

Parameter Reset

To reset all of the parameters for the GB-4 to their factory default values, turn the power on using the POWER switch while holding down the VOCAL/CHORD 2 switch and GUITAR/CHORD 3 switch.

Note: Be careful not to carelessly clear important data.

NAME OF PARTS

- 1) BACK BAND VOLUME knob : controls output volume of songs and patterns.
- 2) GUITAR/INPUT VOLUME knob : controls volume level of an external instrument (guitar, bass, etc.) connected to the INPUT jack of the GB-4.
- 3) OVERDRIVE VOLUME knob : controls level of an external instrument connected to the INPUT jack of the GB-4 when OVERDRIVE is turned on.
- 4) DISPLAY: shows various messages.
- 5) PLAY mode switch: allows you to select SONG PLAY, BACKING PATTERN PLAY, and CARD PLAY modes.
- 6) EDIT mode switch: allows you to select SONG EDIT, CHORD EDIT, STYLE MAKE, and SYSTEM modes.
- 7) PART VOLUME switches: controls the volume level of each of the GB-4's musical parts.
- 8) CURSOR switches: used to change the position of the cursor in the display. If you move the cursor onto a field, the field will begin to flash to indicate that you can change the value of the field.
- 9) CHORD switches: used to input chords. Also used to input notes in STYLE MAKE mode.
- 10) OVERDRIVE switch: turns the OVERDRIVE effect on or off. This switch is also used for adding dynamic accents to notes recorded in STYLE MAKE mode.
- 11) TRANSPOSE switches: allow you to change keys. Also used to add sharp “#” or flat “b” symbols when inputting chords.
- 12) RESET/ERASE switch: allows you to cancel the currently selected operation or display. Also used to erase notes during certain STYLE MAKE operation modes.
- 13) RWD/FILL1 switch: rewinds a song. Also, adds the FILL IN 1 during pattern play.
- 14) FWD/FILL2 switch: fast forwards through a song. Also, adds a FILL IN 2 during pattern play.
- 15) and 16): SELECT switches
- 15) Numeric keys: Used to change numbers in the display. Also used to input chords.
- 16) PAGE +/- 1 switches: increases or decreases numbers in the display by a value of one. Also used for selecting various menus.
- 17) Dial: Used to change values in the display. When Y/N screen is displayed, rotating the dial to the right (clockwise) allows you to select Y(YES) and rotating the dial to the left (counterclockwise) allows you to select N(NO).
- 18) STOP switch: stops playback of songs or patterns.
- 19) PLAY/ENTER switch: starts playback of songs or patterns.
- 20) CARD slot: used to insert a KAWAI card RAM (DC-16 or DC-32) or card ROM. These optional cards are available separately.

Note: Insert the card slowly and carefully while making sure that the arrow on the card is aligned with the arrow on the unit (i.e. facing upwards). Inserting the card with excessive force or with the mark facing down can result in damage to the card and to the GB-4 card slot.

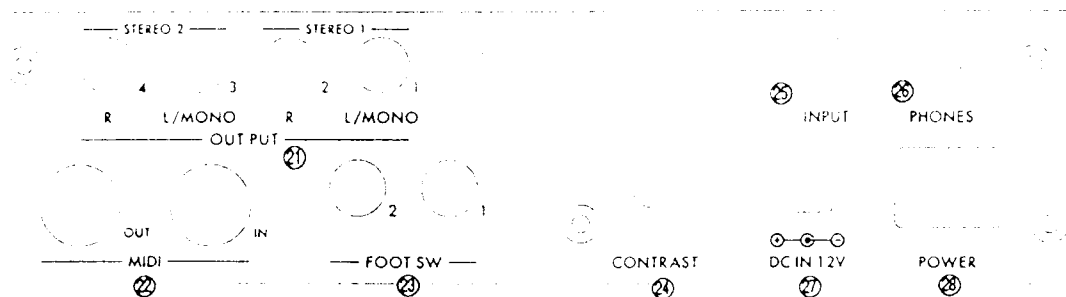
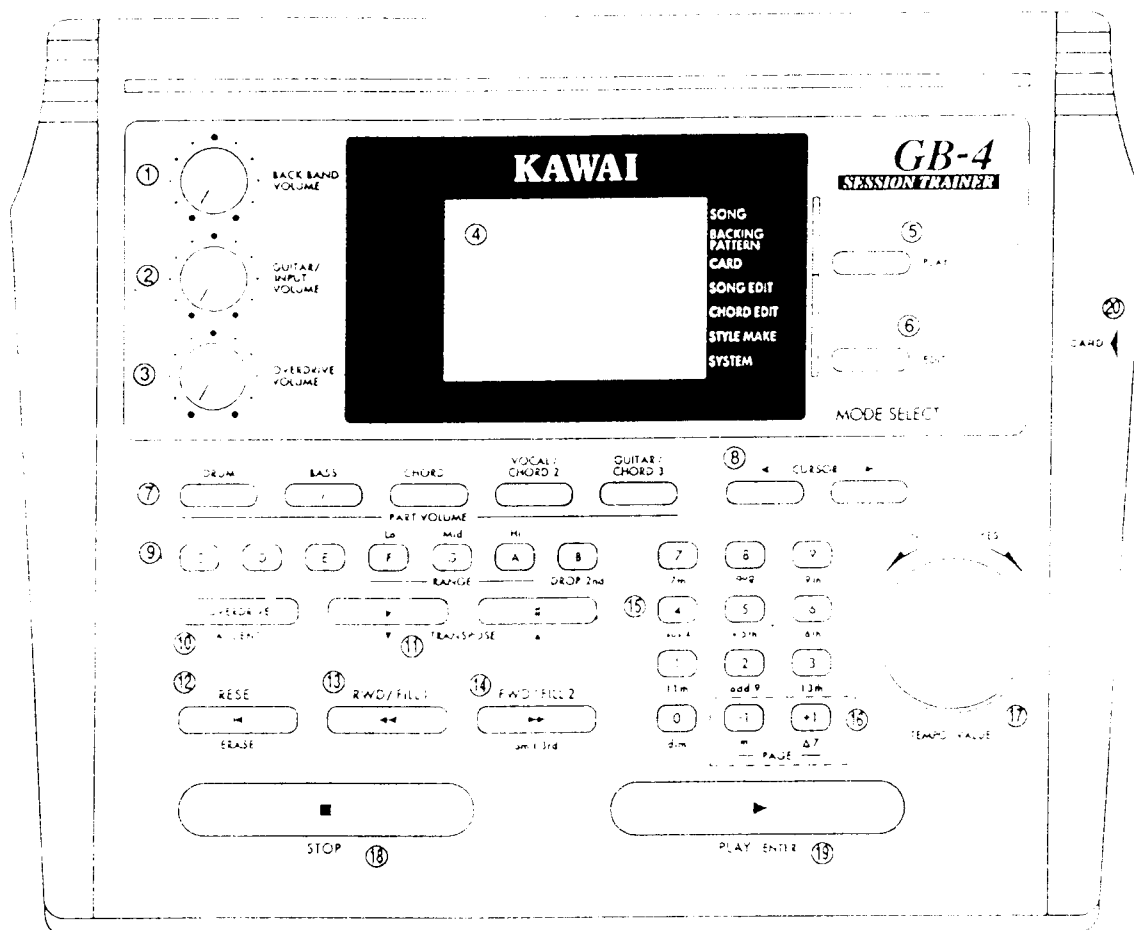
- 21) OUTPUT jacks : output internal signals and signals of an external instrument connected to the INPUT jack of the GB-4.

Note: Please be aware that there will be no sound from the STEREO 2 (OUTPUT 3 and 4) jacks at the factory preset setting. See the PARA OUT section of this manual for details.

- 22) MIDI jacks: used to connect the GB-4 to other MIDI devices.
- 23) FOOT SWITCH jacks: used to connect optional footswitch (KAWAI F-1).
- 24) CONTRAST knob: adjusts the brightness of the display.
- 25) INPUT jack: accepts signals from an external instrument such as guitar, bass, or keyboard.
- 26) PHONES jack: used to connect a stereo headphone.

Note: Only the signals for the STEREO 1 (OUTPUT 1 and 2) jacks will be output from the PHONES jack. See the PARA OUT section of this manual for details.

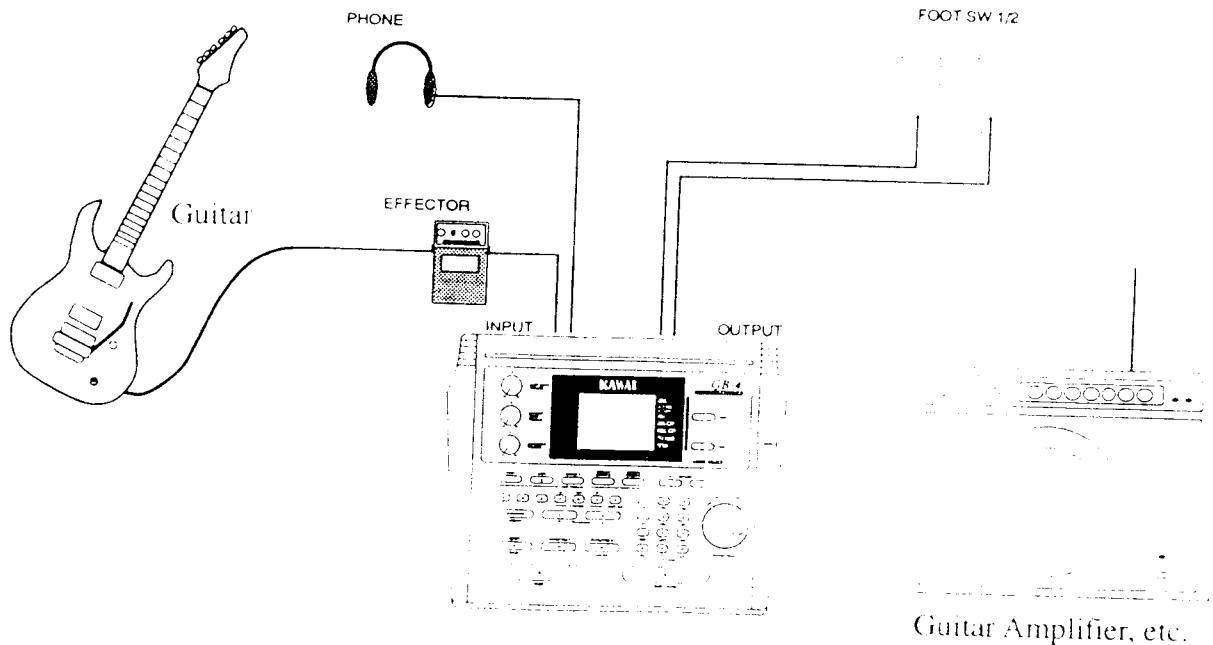
- 27) DC IN jack: used to connect the AC adaptor (KAWAI PS-123).
- 28) POWER switch: turns the unit's power on or off.



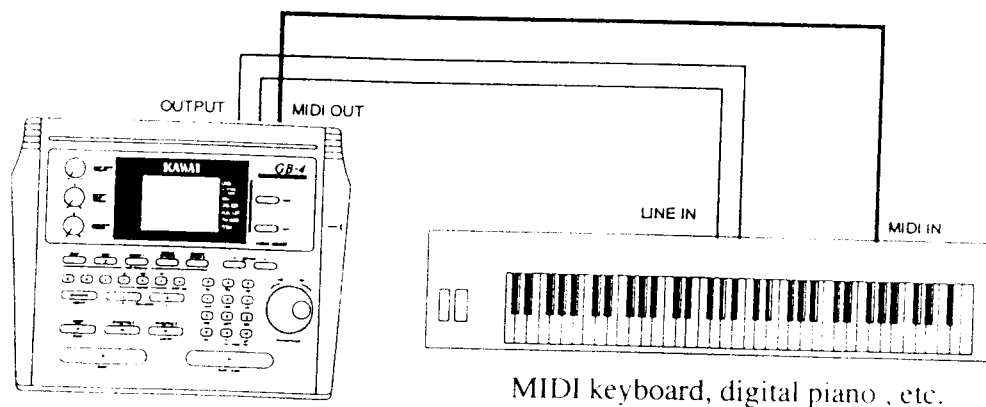
CONNECTIONS

Note: Please be aware that there will be no sound from the STEREO 2 (OUTPUT 3 and 4) jacks at the factory preset setting. See the PARA OUT section of this manual for details.

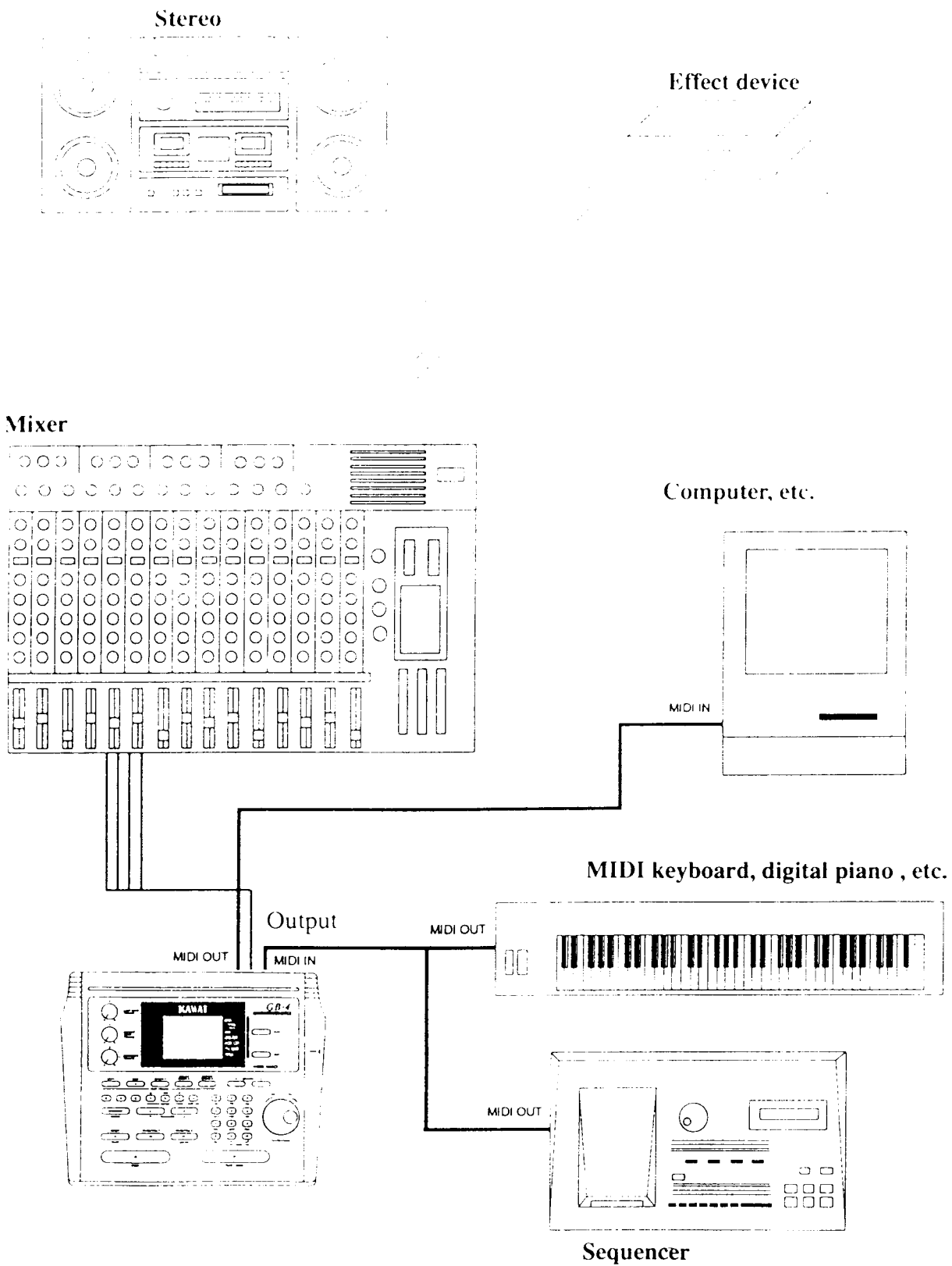
Connections to a Guitar, etc.



Connections to a keyboard, etc. 1.



Connections to a keyboard, etc. 2.



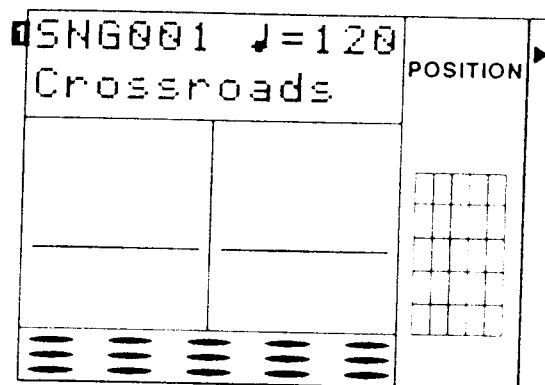
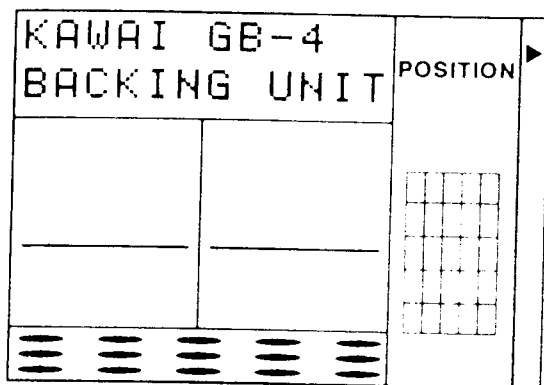
Chapter 1 PLAY MODE

1. SONG PLAY MODE

1) PLAYING AN INTERNAL SONG

1. Turn on the power. The display will show a greeting message and then SONG PLAY mode screen. The SONG lamp of the display will light.

1. Song Number field



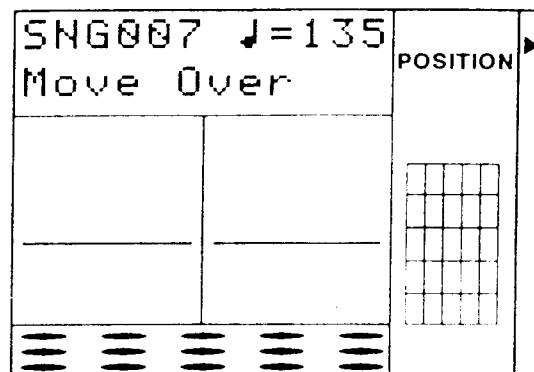
2. Use the CURSOR switches to select the Song Number field (the field will flash when selected). Then, use the dial or SELECT switches (Numeric keys and PAGE switches) to select a song.

Notes:

- * *The CURSOR switches allow you to move the cursor position. Use the dial or SELECT switches to change the value of the cursor position (the field which is flashing).*
- * *To enter a one- or two- digit number using the Numeric keys, enter two or one "zeros" before the number. For example, press "0-0-6" to select song number 6. Press "0-2-5" to select song number 25.*
If you do not enter two or one "zeros" before the number, the SONG NAME may not change according to the SONG NUMBER.
- * *There are 95 internal songs programmed in the GB-4 for the U.S. market. The same songs as the song 1-5 are assigned as the song 96-100.*

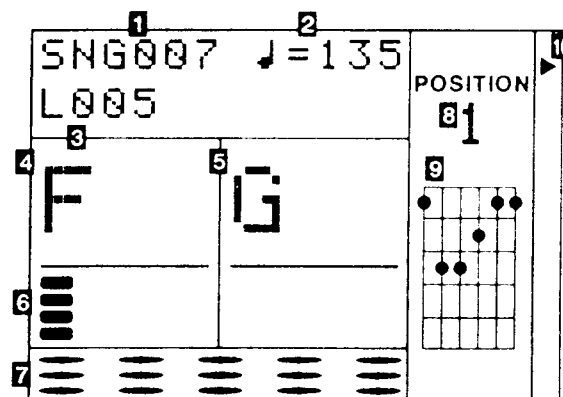
3. Press the PLAY/ENTER switch below the dial to start playing the song. The display shows as follows:

- * Adjust the entire volume of the song by turning the BACK BAND VOLUME knob.
- * Adjust the volume of an external instrument connected to the input jack of the GB-4 (Guitar, etc.) by turning the GUITAR/INPUT VOLUME knob.
- * Adjust the level of the overdrive of an external instrument (Guitar, etc.) by turning the OVERDRIVE VOLUME knob.



The display shows the following messages in the SONG PLAY mode.

1. Song Number
2. Tempo
3. Measure Number
4. The chord name now playing
5. The next chord name to be played
6. Location of the current chord
7. Volume levels of each part
8. & 9. Chord Position (as played on guitar neck, displayed up to 10th fret)
10. Current Mode



The bar on the field "6" moves from left to right below the fields 4 and 5 to show the current chord.

Notes:

* *The Chord Position field displays one of some examples of playing chord. It does not always show the Chord Position of the original song.*

4. Press the STOP switch to stop the song. If you press the PLAY/ENTER switch again, the playback begins where it left off. Use the FWD switch to move forward and the RWD switch to move backward in the song. Press the RESET switch to return to the beginning of the song.

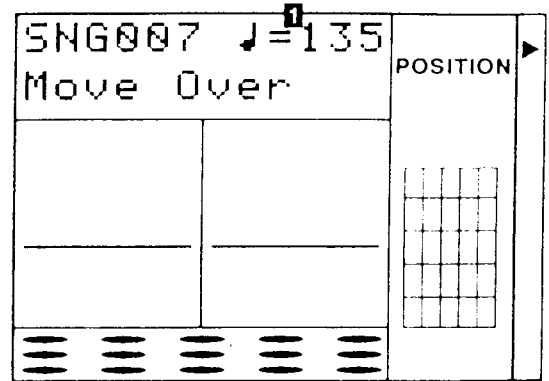
Note: *The FWD or RWD switch does not function as forward or backward switch when the Song is playing or when the MONO CHORD function is on (see the SYSTEM section of this manual for details.)*

2) TEMPO (40-250)

This controls the tempo of a song.

Move the cursor under the Tempo field. Then, use the dial to change tempo. If you select a new song, starting the song will automatically change the tempo to a factory preset tempo that suits the new song.

Adjust the tempo after selecting the new song if you do not want to play the song at the factory preset tempo.

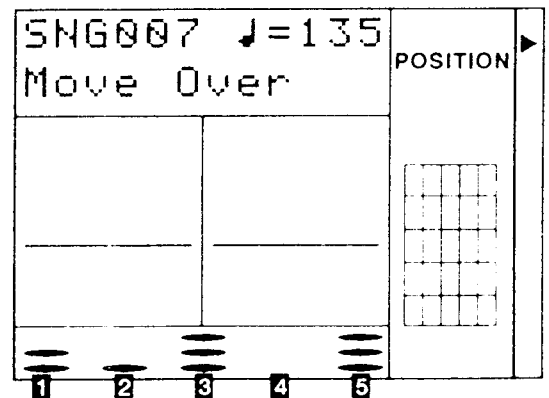


3) PART VOLUME (0-3)

GB-4 songs consist of five musical parts (drums, bass, chord 1, vocal/chord 2, and guitar/chord 3). You can adjust the volume level of each part.

Let's adjust the DRUM part. Press the "DRUM" PART VOLUME switch as many times as you want. The lower left side of the display shows the volume level of the DRUM part. Press the appropriate PART VOLUME switch as many times as needed to adjust the volume level of any other part.

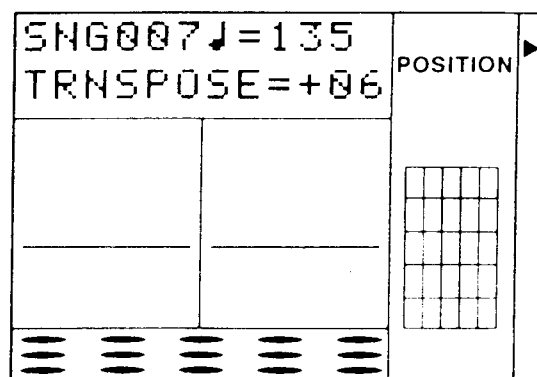
If you want to mute a part (i.e. - turn the part off), press the appropriate PART VOLUME switch until the three lights of the part go off.



1. DRUM PART VOLUME
2. BASS PART VOLUME
3. CHORD 1 PART VOLUME
4. VOCAL/CHORD 2 PART VOLUME
5. GUITAR /CHORD 3 PART VOLUME

4) TRANSPOSE

1. Pressing the TRANSPOSE "b" switch lowers the pitch by a half-step. Pressing the TRANSPOSE "#" switch raises the pitch by a half-step.
If you press a TRANSPOSE switch, the display will show the value for a few seconds (range: -12 half steps, + 12 half steps).



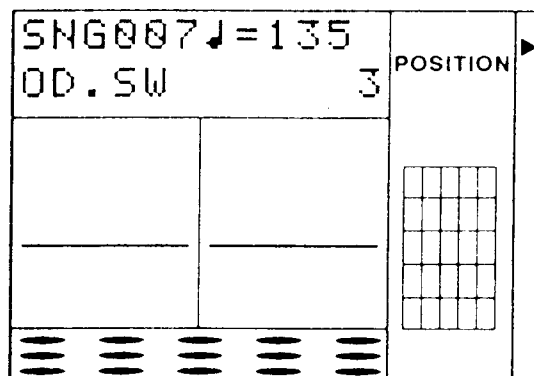
5) OVERDRIVE

This function adds overdrive (distortion) to the sound of the instrument (guitar etc.) connected to the input jack of the GB-4.

1. Press the OVERDRIVE switch until the display shows as follows for about two seconds.
Adjust the depth of the overdrive by pressing the OVERDRIVE switch while the display is showing the "OVERDRIVE" menu (range: OFF(0) to 3).
2. Press the OVERDRIVE switch again while the display is not showing the "OVERDRIVE" menu to turn off the OVERDRIVE effect.

NOTE: You can adjust the depth of the overdrive by pressing the OVERDRIVE switch repeatedly while the display is showing the "OVERDRIVE" menu (range: OFF(0) to 3).

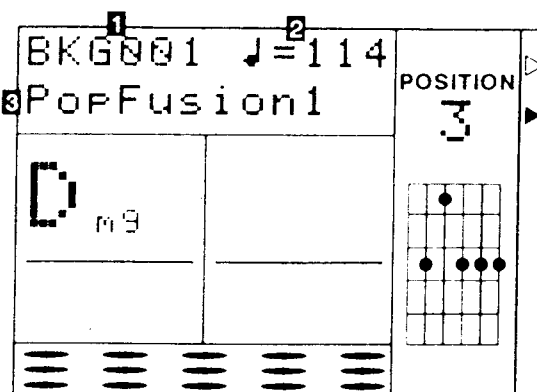
When the display is not showing the "OVERDRIVE" menu, the OVERDRIVE switch turns the OVERDRIVE effect on or off.



2. PATTERN PLAY MODE

1) PLAYING A PATTERN

1. Press the PLAY mode switch at the right side of the display until the BACKING PATTERN lamp of the display is lit. The display will show PATTERN PLAY MODE screen.

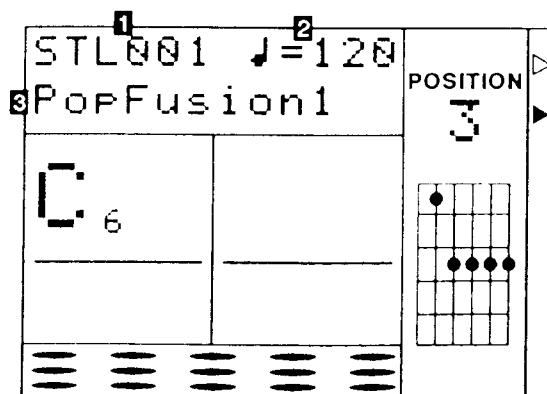


1. Pattern No.
2. Tempo
3. Pattern name

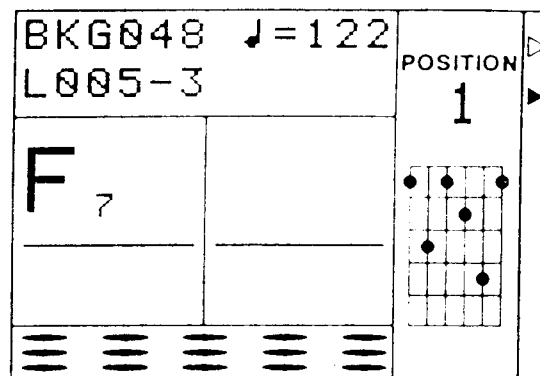
2. Use the CURSOR switches to move to the Pattern Number field. When the Pattern Number field is flashing, use the numeric keys to select a pattern.

Notes:

- * If you start playing USER Pattern whose Style track is empty, no sound will be played back. If you start playing USER Pattern whose Chord Progression track is empty, the Style will be played with C chord.
- * To enter a one- or two- digit number using the Numeric keys, enter two or one "zeros" before the number. For example, press "0-0-6" to select song number 6. Press "0-2-5" to select song number 25. If you do not enter two or one "zeros" before the number, the Pattern name may not change according to the Pattern number.
- * The Chord Position field displays one of some examples of playing chord. It does not always show the Chord Position of the original song.
- * When you activate the MONO CHORD function (refer to the page 62 of this manual for details), you can play a Style at the chord you specify with the switches of the GB-4 or an external MIDI device.
- * When you activate the MONO CHORD function, the STL (short for STYLE) instead of the BKG (Backing Pattern) will be shown at the upper left side of the display.



3. Press the PLAY/ENTER switch below the dial to start playing the pattern.
- * Adjust the entire volume of the song by turning the BACK BAND VOLUME knob.
- * Adjust the volume of an external instrument connected to the input jack of the GB-4 (Guitar, etc.) by turning the GUITAR/INPUT VOLUME knob.
- * Adjust the level of the overdrive of an external instrument (Guitar, etc.) by turning the OVERDRIVE VOLUME knob.



5. Press the STOP switch to stop the Pattern. If you want to stop the pattern without ENDING, press the STOP switch quickly twice.
- If you press the RWD/FILL 1 or FWD/FILL 2 switch when the Pattern is playing, FILL 1 or 2 phrase will play and then changes to VARI (variation) 1 or 2 pattern.
- Use the FWD switch to move forward and the RWD switch to move backward in the Pattern when the Pattern is not playing.
- Press the RESET switch to return to the beginning of the Pattern.

Note: The FWD or RWD switch does not function when the MONO CHORD function is on or in the GB-2 CARD PLAY MODE described later in this manual.

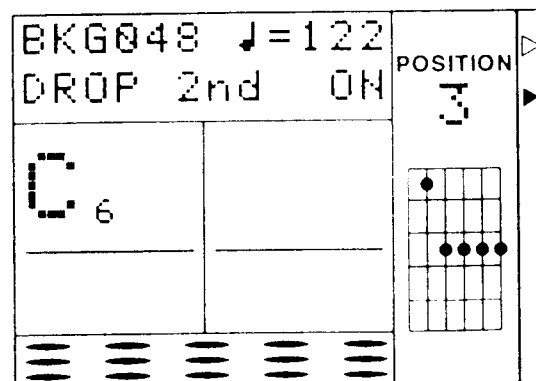
You can adjust the TEMPO, PART VOLUME, TRANSPOSE, and OVERDRIVE of a Pattern in the same manner as you can in song play mode. (See the PLAY SONG MODE section of this manual.) There are no melody parts on the Pattern, but you can control PART VOLUME of five parts (DRUM, BASS, CHORD 1, CHORD 2 and CHORD 3). In addition, you can use the DROP 2nd and the RANGE functions for a Pattern. (You cannot use these functions for a Song.)

2) DROP 2nd

1. Press the DROP 2nd switch until the second line of the left side of the display shows "Drop 2nd ON". This function adds variation to a chord 1 part of a Pattern.
2. Press the DROP 2nd switch again to turn off the DROP 2nd effect.

Notes:

- * You cannot use this function in the SONG PLAY mode and GB-2 CARD PLAY mode.
- * This function may not take effect on some Patterns.



3) RANGE

The sound range of a Pattern can be changed using the procedure mentioned below.

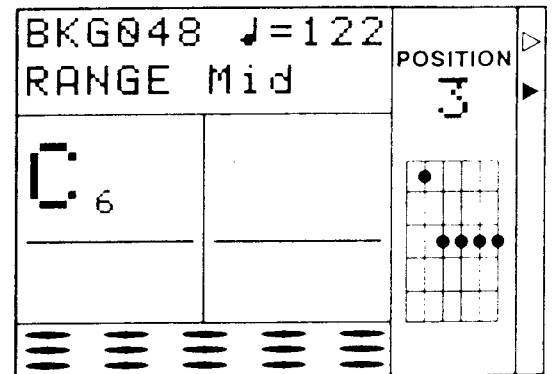
1. Press one of the RANGE switches (Lo, Mid, Hi) in the CHORD switches section.

Press the Hi switch to play the Pattern in a higher sound range.

Press the Lo switch to play the Pattern in a Lower sound range.

Press the Mid switch to play the Pattern in the normal sound range.

Note: You cannot use this function in the SONG PLAY mode.



3. PLAYING THE PATTERNS ON A GB-2 CARD ROM

The GB-4 is compatible with all KAWAI CARD ROMs for the KAWAI Session Trainer "GB-2". (See the "SYSTEM" section of this manual if you want to use other card for GB-4.)

You are free to import new patterns from cards (ROM) and play them. You can modify them and save up to 20 Patterns which are called "USER CARD Patterns" (CARD Pattern No. 21 - 40). See the CARD EDIT section later on in this manual for modifying patterns.

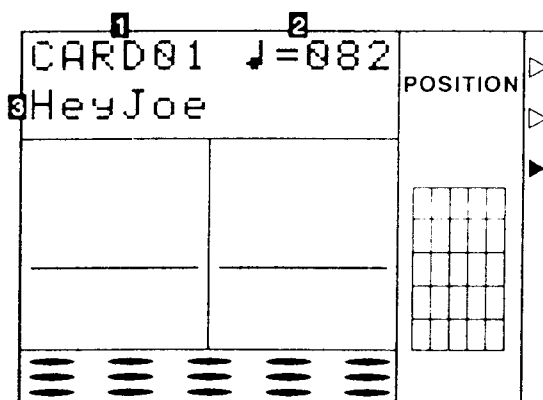
Notes:

- * *Insert the card slowly and carefully while making sure that the arrow on the card is aligned with the arrow on the card slot (i.e. - facing upward). Inserting the card with excessive force or with the mark facing down can result in damage.*
- * *You cannot play patterns on the GB-2 card ROM or "USER CARD Patterns" (CARD Pattern No. 21 - 40) if you are not inserting the GB-2 card ROM into the GB-4 card slot.*

1. Insert an optional GB-2 CARD ROM into the card slot. Press the PLAY mode switch at the right side of the display until the CARD lamp of the display is lit. The display will show GB-2 CARD PLAY MODE screen.

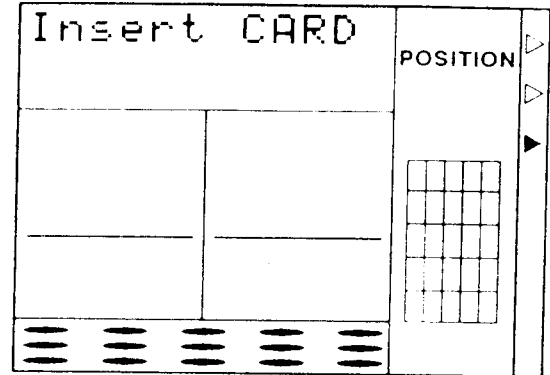
1. CARD Pattern No. :
2. Tempo
3. Pattern name

Move the cursor under the song number field and select a Pattern using the dial or the PAGE switches.



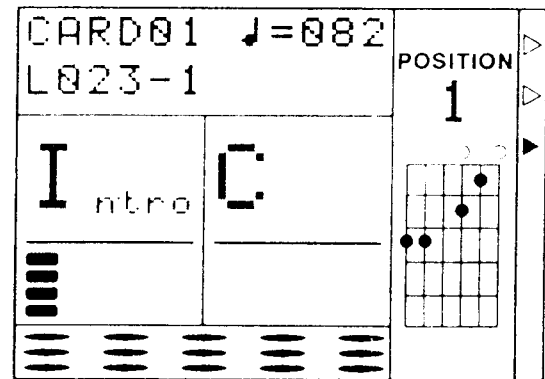
Notes:

- * Song number C0-C9 corresponds to CARD Pattern Number 01-10. Song number c0-c9 corresponds to CARD Pattern Number 11-20.
- * When you want to use a card RAM, (or the GB-4 CARD ROM if it is available in your country), use the "LOAD FROM CARD function" (see the "SYSTEM" section of this manual).
- * When a card is not inserted properly, or when you insert a card other than GB-2 CARD ROM, "Insert CARD" will be displayed.



2. Press the PLAY/ENTER switch to start playing the pattern.

- * Adjust the entire volume of the song by turning the BACK BAND VOLUME knob.
- * Adjust the volume of an external instrument connected to the input jack of the GB-4 (Guitar, etc.) by turning the GUITAR INPUT VOLUME knob.
- * Adjust the level of the overdrive of an external instrument (Guitar, etc.) by turning the OVERDRIVE VOLUME knob.



Notes:

- * TEMPO, TRANSPOSE, OVERDRIVE functions are the same as those available for internal patterns.
- * When playing GB-2 card songs, you can control PART VOLUME of four parts (DRUM, BASS, CHORD 1, and CHORD 2).
- * You cannot use the DROP 2nd and the RANGE functions for a GB-2 CARD ROM Pattern.
- * The FWD or RWD switch does not function when the MONO CHORD function is on or in the GB-2 CARD PLAY MODE described later in this manual.

3. Press the STOP switch to stop the Pattern. If you want the pattern to end without the Ending, press the STOP switch quickly two times. Press the RESET switch to return to the beginning of the Pattern.

Chapter 2 EDIT MODE

The GB-4 allows you to edit internal patterns and songs.

1. SONG EDIT MODE

Following functions can be used to edit the internal song:

- * COPY SONG: allows you to copy a song.
- * EDIT SONG: selects a song to be edited.
- * REPEAT: A specified number of measures within a song will be repeated.
- * JUMP: jumps to a specified area of a song.
- * TEMPO CHANGE: inserts tempo change message.
- * PART VOLUME: inserts PART VOLUME change message.
- * OVERDRIVE: inserts OVERDRIVE ON/OFF message.
- * DELETE: deletes any (or all) of the above edit messages.
- * WRITE: saves the song you have edited in the USER SONG area.

Notes:

- * Use the **PLAY** or **EDIT** mode switches to leave the **SONG EDIT MODE** before executing the **WRITE** operation if you want to cancel the songs you have edited.
- * Be sure not to leave the **EDIT MODE** before executing the **WRITE** operation if you do not want to cancel the songs you have edited.
- * If you input too much data in the **EDIT** mode, "Work Full" may be displayed and you can not input data any more. If necessary, save the data using the **WRITE** operation.
- * The maximum measure number in the **EDIT** mode is 999. If you try to input more data, "Bar Overflow" will be displayed and you cannot input data any more.

1) COPY/EDIT SONG

1) COPY SONG

1. Press the **EDIT** switch until the **SONG EDIT** lamp in the display lights.

The display will show **SONG EDIT MODE** screen.

If you want to edit a preset **SONG** or remake the **USER SONG** you have stored, copy the song using the following procedures.

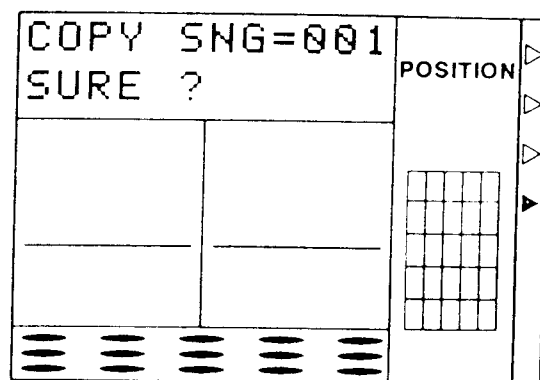
1. Song Number (001-110)
2. Song Name

*Note: If you want to copy a preset song, but do not have to copy the tempo message of the preset song, press the **PAGE +1** switch now to skip the **COPY SONG** operation. Then, start from the step 4 below (**EDIT SONG** operation). In this case, the initial tempo of the **SONG** will be automatically set to 120.*

The screenshot shows a digital display with the text 'COPY SNG=001' and 'Crossroads' below it. To the right of the text is a vertical column of arrows pointing up and down, labeled 'POSITION'. Below the text is a grid of 10 columns and 10 rows. At the bottom of the screen, there are five horizontal bars, each with a small square in the center, representing a keyboard or control panel.

2. Move the cursor under the Song Number field using the CURSOR switches. Then, use the dial to select a song to copy.
3. Press the PLAY/ENTER switch. The GB-4 will prompt you "SURE?". Turn the dial clockwise (to the right) to execute the operation. When the operation is completed, "Completed" will be displayed.

(Turn the dial counterclockwise (to the left) to cancel the operation. When the operation is canceled, "Canceled" will be displayed.)



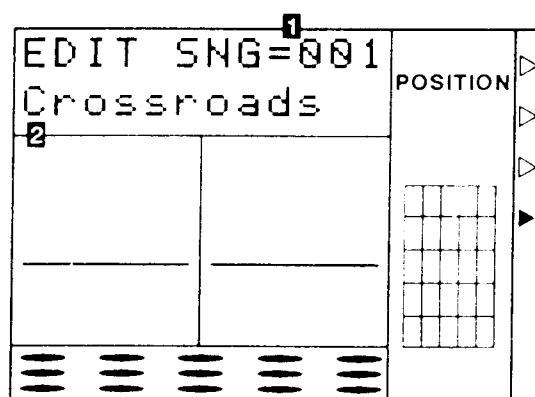
2) EDIT SONG

4. If you press the PAGE +1 switch in the COPY SONG display, the display will show the "EDIT SONG" menu. If you copied a song using the "COPY SONG" function, press the PAGE +1 switch again and start from the step 5 below

NOTE: You cannot copy a USER SONG using the EDIT SONG function.

If you want to copy a preset song (except for the tempo message), use the dial to select a song number (001-100) to modify. Then, press the PLAY/ENTER switch.

The EDIT SONG function allows you to copy a preset song, but the initial tempo will be set to 120 automatically.



5. You can scroll through the following functions in order by pressing a PAGE switch as many times as necessary. Adjust the values of each functions and save the song using the WRITE function. Use the CURSOR switches so that the appropriate field flashes and change the value of the field using the dial. Then, press the PLAY/ENTER switch to enter the value. Refer to the following pages for the details.

* REPEAT * JUMP * TEMPO CHANGE * PART VOLUME * OVERDRIVE * DELETE * WRITE

Note: Do not leave the SONG EDIT mode by using the PLAY or EDIT mode switch without executing the WRITE operation or the values you change in the SONG EDIT mode will be cleared.

2) REPEAT

You can insert up to eight REPEAT messages (REP1 - REP8) in a song.

1. If you press the PAGE +1 switch in the EDIT SONG display, the display will change as follows. Then, use the CURSOR switches so that the appropriate field flashes. Change the value of the field using the dial. Then, press the PLAY ENTER switch to enter the value.

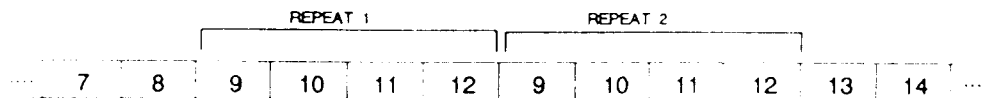
When the "REP" mark is flashing, each REPEAT message and its location in the song will be displayed as you rotate the dial.

1. Number of the message: REP1 - REP8
2. Source start bar
3. Source end bar (This value must be larger than that of the Source start bar.)
4. Number of times the specified area will be played : 1 - 99, **

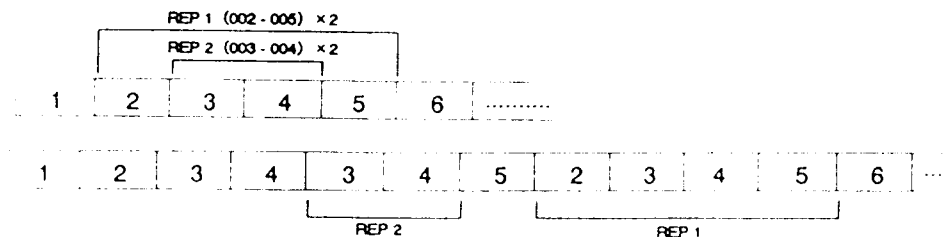
Notes:

- * If you select the value "***" in the "Number of repeating times" field, the specified area will be repeated endlessly. You can use a footswitch to quit the endless repeat. See the **FOOTSWITCH ASSIGN** section, described later in this manual, for details.
- * If you select the "1" in the "Number of repeating times" field, the specified area will be played once and REPEAT function will not take effect.

For example, the above display indicates that the measures 9 - 12 will be played twice (repeated once).



As soon as the playback reaches the Source End Bar of a REPEAT message, the REPEAT message takes effect. For example, if you use the "REP1 (002-005)x2" and "REP2 (003-004)x2", the measures 3 - 4 will be played twice (repeated once), and then the measure 5 will be played, and then measures 002-005 will be repeated once.



If the Source End Bar of some REPEAT messages are the same, the REPEAT message whose Number of the message is smaller will take effect first. For example, if the Source End Bar of the REP1 and the REP2 is the same, the REP1 will take effect first.

3) JUMP

You can insert up to eight JUMP messages (JMP1 - JMP8) into a song.

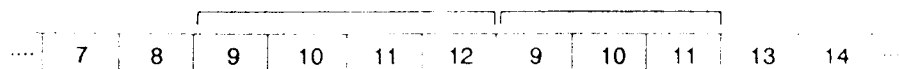
1. Press the PAGE +1 switch in the REPEAT menu. Then, use the CURSOR switches so that the appropriate field flashes. Change the value of the field using the dial. Then, press the PLAY ENTER switch to enter the value.

When the "JMP" mark is flashing, each JUMP message and its location in the song will be displayed as you rotate the dial.

1. Number of the message: JMP1 - JMP8
 2. Source end bar
 3. Source start bar
 4. Number of times of the source end bar: **, 1 - 99 (Select "***" if you do not want the JUMP function to take effect.)
- After the Source end bar is played as many times as you set at this field, the JUMP function takes effect.

For example, the above display indicates that the second playback of the measure 11 will be immediately followed by measure 13, skipping measure 12 entirely. (Measure 12 will be played after the second playback of the measure 11.)

If you use the above setting with the REPEAT function with its values "(009-012)x2", the playback will be as follows:



Notes:

- * If the Source End Bar of some JUMP messages are the same, the JUMP message whose Number of the message is smaller will take effect first. Each JUMP message takes effect once.
- * If the Source End Bar of a REPEAT message and that of a JUMP message overlaps, the JUMP message does not take effect during repetition. The JUMP message will takes effect after the repetition.

4) TEMPO CHANGE

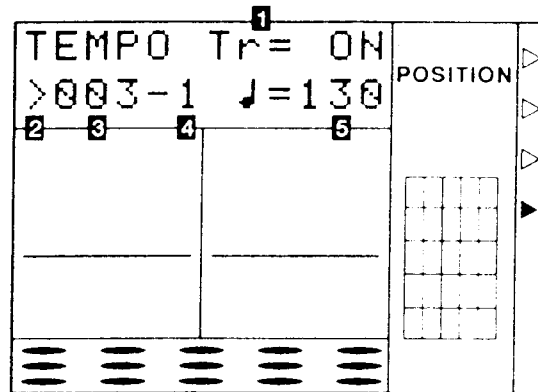
You can insert as many TEMPO CHANGE messages as you want in a song.

1. Press the **PAGE +1** switch in the **JUMP** menu. Then, use the **CURSOR** switches so that the appropriate field flashes. Change the value of the field using the **dial**. Press the **PLAY ENTER** switch to enter the value.

When the ">" mark is flashing, each TEMPO message and its location in the song will be displayed as you rotate the dial.

If you want to delete a TEMPO message, press the RESET/ERASE switch when the message is displayed.

1. ON/OFF status of the TEMPO CHANGE function: ON or OFF
2. Search mode mark
3. Measure number
4. Beat Number
5. Tempo Value: 40 - 250 (Beats Per Minute)



For example, the above display indicates that the song tempo will change to 130 BPM, starting at beat No. 1 of measure No. 3.

5) PART VOLUME

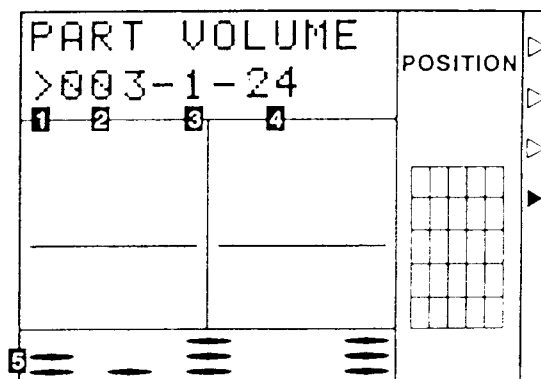
You can insert as many PART VOLUME messages as you want in a song.

1. Press the PAGE +1 switch in the TEMPO CHANGE menu. Then, use the CURSOR switches so that the appropriate field flashes. Change the value of the field using the dial. Then, press the PLAY/ENTER switch to enter the value.

When the ">" mark is flashing, each PART VOLUME message and its location in the song will be displayed as you rotate the dial.

If you want to delete a PART VOLUME message, press the RESET/ERASE switch when the message is displayed.

1. Search mode mark
2. Measure number
3. Beat Number
4. Clock Pulse: 0 - 47
5. Value: 0 - 3



Note: Each beat is divided into 48 time divisions. These are called Clock Pulses.

For example, the above display indicates that the volume level of each part will be as follows from the Clock Pulse 24 of the 1st beat of the 3rd measure:

DRUM: 2, BASS: 1, CHORD 1: 3, CHORD 2: 0, CHORD 3: 3

(note: a PART VOLUME value of 0 can be used to mute a part)

6) OVERDRIVE

You can insert as many OVERDRIVE messages as you want in a song.

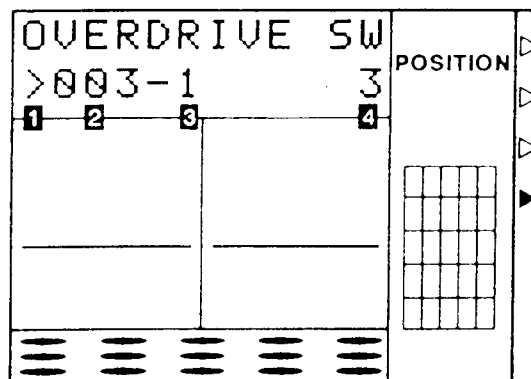
1. Press the PAGE +1 switch in the PART VOLUME menu. Then, use the CURSOR switches so that the appropriate field flashes. Change the value of the field using the dial. Change the value of the field using the dial. Press the PLAY/ENTER switch to enter the value.

When the ">" mark is flashing, each

OVERDRIVE message and its location in the song will be displayed as you rotate the dial.

If you want to delete an OVERDRIVE message, press the RESET/ERASE switch when the message is displayed.

1. Search mode
2. Measure number
3. Beat Number
4. Value: OFF, 1 - 3



For example, the above display indicates that the overdrive level will be set to 3 starting from the 1st beat of the 3rd measure.

7) DELETE

You can delete the following SONG EDIT messages you have inserted.

ALL: All the following messages

REPEAT: all REPEAT messages (REP1 - REP8)

JUMP: all JUMP messages (JMP1 - JMP8)

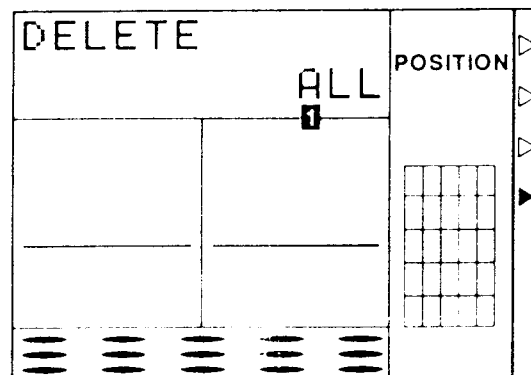
TEMPO: all TEMPO CHANGE messages

PART VOL: all PART VOLUME messages

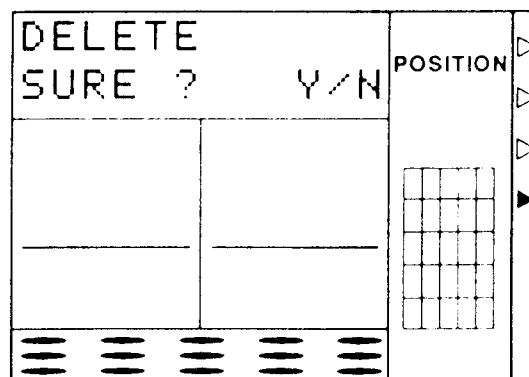
OVERDRIVE: all OVERDRIVE ON/OFF messages

1. Press the PAGE +1 switch in the OVERDRIVE menu. Change the value of the field using the dial.

1. Messages to be deleted: ALL, REPEAT, JUMP, TEMPO, PART VOL, OVERDRIVE



2. Press the PLAY/ENTER switch. The GB-4 will prompt you "SURE?".



3. Turn the dial clockwise (to the right) to execute the deletion. When the deletion is completed, "Completed" will be displayed.
(Or, turn the dial counterclockwise (to the left) to cancel the deletion. When the deletion is canceled, "Canceled" will be displayed.)

8) WRITE

You can store up to ten songs you have edited on the GB-4 as songs 101 through 110.

1. Select the WRITE menu using the procedures mentioned above. Then, use the CURSOR switches so that the appropriate field flashes. Change the value of the field using the dial. You can store the song you have edited on one of the ten USER SONGS. You may name your USER SONG using the CURSOR keys and dial.

1. USER SONG NUMBER: 101 - 110
2. SONG NAME

WRITE to 101		POSITION	<div style="display: flex; flex-direction: column; align-items: center;"> <div>▶</div> <div>▶</div> <div>▶</div> <div>▶</div> </div>

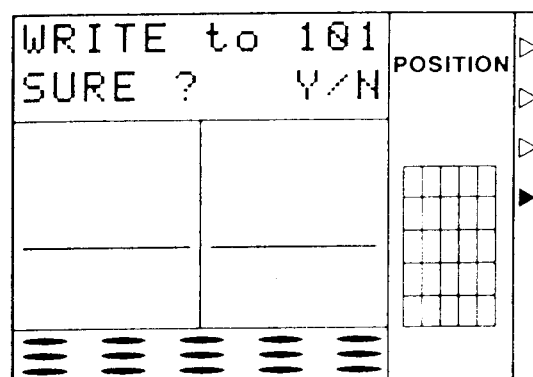
<div style="display: flex; justify-content: space-around;"> <div style="width: 40px; height: 40px; border: 1px solid black;"></div> <div style="width: 40px; height: 40px; border: 1px solid black;"></div> <div style="width: 40px; height: 40px; border: 1px solid black;"></div> <div style="width: 40px; height: 40px; border: 1px solid black;"></div> <div style="width: 40px; height: 40px; border: 1px solid black;"></div> </div>			

Naming your own data

The following letters or symbols can be entered with the dial. Then, use the CURSOR switches so that the appropriate field flashes and select a letter or symbol for the field. Repeat this procedure as many times as necessary.

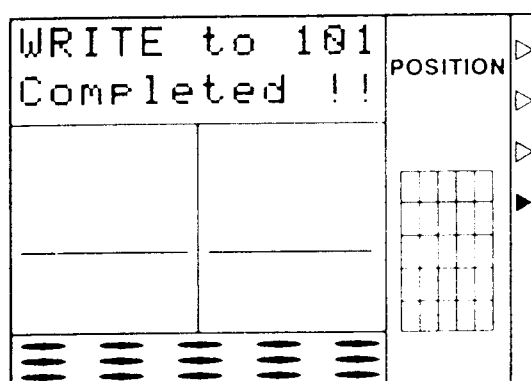
(SPACE) ! " # \$ % & ' () * + , - . /
 0 1 2 3 4 5 6 7 8 9
 : ; < = > ? @
 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 [\] ^ _ ` '
 a b c d e f g h i j k l m n o p q r s t u v w x y z
 { } → ←

2. Press the PLAY/ENTER switch. The GB-4 will prompt you "SURE?". Then, turn the dial clockwise (to the right) to execute the WRITE operation. (Turn the dial counterclockwise (to the left) to cancel the operation.)



3. When the operation is completed, "Completed" will be displayed. (When the operation is canceled, "Canceled" will be displayed.)

Use the PLAY or EDIT switch to leave the SONG EDIT mode.



Note: If you want to delete a song, do not input any data for a song and save the song.

2. CHORD EDIT

There are 100 internal backing patterns (which we will refer to "Patterns") programmed into the GB-4 in addition to the internal songs. Each Pattern consists of two elements: Style and CHORD TRACK (Chord Progression, REPEAT, JUMP, TEMPO, PART VOLUME, OVERDRIVE messages, etc.).

Each internal Pattern has one each of Style and Chord Track. You can freely modify them or create your own Style and Chord Track from scratch. You can create and save up to 50 Patterns which are called "USER Patterns". You may edit the internal patterns and save them using the following functions:

- * CHORD TRACK COPY: allows you to copy chord track data.
- * STYLE CHANGE: selects a new style to be inserted.
- * CHORD INPUT: selects a new chord progression to be inserted.
- * BAR COPY: selects a chord progression to be copied.
- * BAR ERASE: selects a chord progression to be erased.
- * BAR DELETE: selects a chord progression to be deleted.
- * CHORD RETRIGGER: allows you to add chord play when you want to change chords outside of the strong beat.
- * REPEAT: selects specified area to be repeated.
- * JUMP: selects specified area to be jumped over.
- * TEMPO: controls the tempo change
- * PART VOLUME: controls the PART VOLUME
- * OVERDRIVE: controls the OVERDRIVE
- * DELETE: cancels the messages you have inserted.
- * WRITE: saves the Pattern you have edited in the USER PATTERN area.

You can scroll through all the above functions in order by pressing one of the PAGE switch as many times as necessary after selecting the CHORD EDIT mode by pressing the EDIT switch.

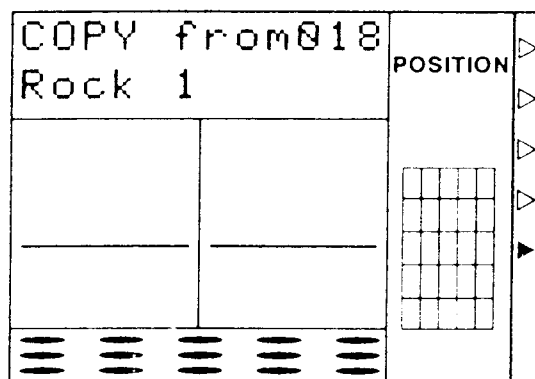
Note:

- * Do not leave the CHORD EDIT mode by using the PLAY or EDIT mode switch without executing the WRITE operation or the values you change in the CHORD EDIT mode will be cleared.*
- * If you input too much data in the EDIT mode, "Work Full" may be displayed and you can not input data any more. If necessary, save the data using the WRITE operation.*
- * The maximum measure number in the EDIT mode is 999. If you try to input more data, "Bar Overflow" will be displayed and you cannot input data any more.*
- * If you want to delete a chord track, do not input any data for a chord track and save the chord track.*

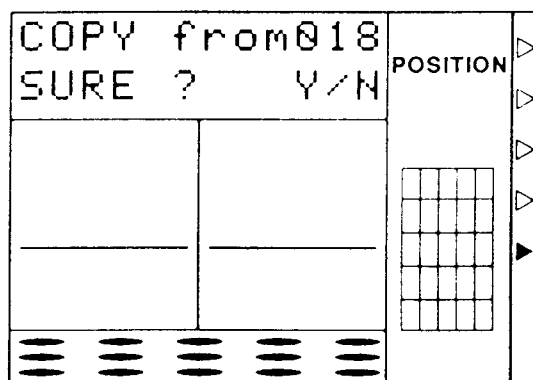
1) CHORD TRACK COPY

There are 100 internal CHORD TRACKS (Chord Progression, REPEAT, JUMP, TEMPO, PART VOLUME, OVERDRIVE messages, etc.) programmed into the GB-4. The CHORD TRACK COPY function allows you to copy chord track data. You can freely modify them or create your own chord tracks using the procedures mentioned later on. If you wish to modify an internal Pattern, you must first COPY the internal Pattern into the USER Pattern area. If you wish to make your own chord track from scratch, press the PAGE +1 switch after selecting the CHORD TRACK COPY menu.

1. Enter CHORD EDIT mode by pressing the EDIT switch as many times as necessary until the display will show "CHORD EDIT MODE", and then CHORD TRACK COPY screen. Select the Source CHORD Track Number using the dial.
(If you wish to make your own chord progression from scratch, press the PAGE +1 switch and the STYLE CHANGE menu will be displayed)



2. Press the PLAY/ENTER switch. The display will prompt "SURE?". Turn the dial clockwise (to the right) to execute the CHORD TRACK COPY operation.



3. The display will show "Completed" when the operation is completed.
(Or, turn the dial counterclockwise (to the left) to cancel the operation. The display will show "Canceled" when the operation is canceled.)

2) STYLE CHANGE

There are 100 internal STYLES programmed into the GB-4. Each Style consists of six elements (Ending, VR1 (variation 1), VR2 (variation 2), FL1 (fill-in 1) and FL2 (fill-in 2), and INTRO). Five of them and two other messages (STOP and RETURN) can be used for the STYLE CHANGE function.

The STYLE CHANGE function allows you to change pattern STYLES during playback.

1. If you press the +1 switch in the PAGE section in the CHORD TRACK COPY mode, the display will show the STYLE CHANGE screen.
Use the CURSOR switches to flash the appropriate field and select a value using the dial.
Press the PLAY/ENTER switch to enter the value.
When the ">" mark is flashing, each STYLE message and its location in the Pattern will be displayed as you rotate the dial.
If you want to delete a STYLE CHANGE message, press the RESET switch while the message is displayed.

Notes:

** It is not possible to delete the first STYLE message in the chord track.*

1. Search mode
2. Bar number
3. Style number (001 - 150): This is the STYLE number you wish to change to.
4. Style type: This allows you to select which STYLE element you wish to go to when you change to the new STYLE.

VR 1: switches to VARI1

VR 2: switches to VARI2

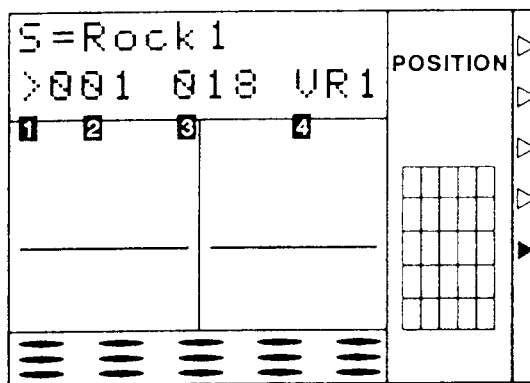
FL 1 : switches to FILL 1

FL 2 : switches to FILL 2

END: switches to ENDING

STOP: stops playback

RET(RETURN): returns to the beginning after playing the bar



The above display indicates that VR1 (variation 1) of STYLE 18 messages is inserted at the first measure. If you did not execute the CHORD TRACK COPY operation, the VR1 (variation 1) of STYLE VR1 (variation 1) of STYLE 001 will be inserted at the beginning of the song.

3) CHORD INPUT

The CHORD INPUT function allows you to input chord change messages.

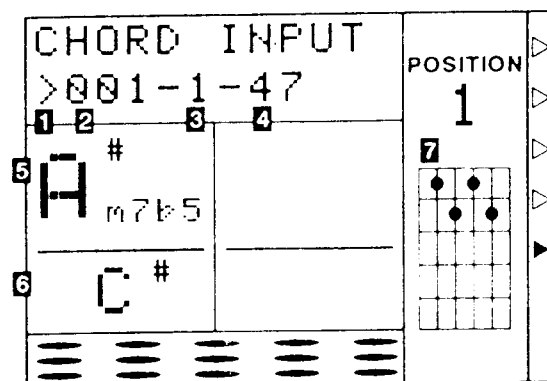
1. If you press the +1 switch in the PAGE section in the STYLE CHANGE mode, the display will change to the CHORD INPUT screen.

Use the CURSOR switches to flash the appropriate field and select a value for location in the Pattern using the dial. Press the PLAY/ENTER switch to enter the value.

When the ">" mark is flashing, each CHORD INPUT message and its location in the song will be displayed as you rotate the dial.

If you want to delete a CHORD INPUT message, press the RESET/ERASE switch while the message is displayed.

1. Search mode
2. Bar number
3. Beat number
4. Clock Pulse
5. Chord name type
6. Bass note
7. Chord position



Notes:

* Each quarter note is divided into 48 time divisions. These are called Clock Pulses. They represent the smallest beat division possible on the GB-4.

* If you copied CHORD PROGRESSIONS in the CHORD TRACK COPY function, two CHORD INPUT messages may be located at the beginning of the Pattern. Flash the ">" mark and rotate the dial counterclockwise near the beginning of the Pattern to display the messages one by one. The first message takes effect for the INTRO style and the second one for the beginning of the style after the introduction.

If you make your own chord progression from scratch, CHORD INPUT message for the INTRO style and beginning of the Pattern is the same.

* How to input chords

Use the CHORD switches below the PART VOLUME section to input a chord name. Use the SELECT switches and TRANSPOSE switches to select the chord type (see the CHORD LIST in the page 80).

Press the BASS switch and then select chord name/type to input bass note message.

Press the PLAY/ENTER switch to enter your message.

If you want to cancel your input, press the RESET/ERASE switch while the message is displayed.

If you press the RESET/ERASE switch when the CHORD ROOT field is flashing, the chord will be set to "C". If you press the RESET/ERASE switch when the CHORD type field is flashing, the chord type will be deleted.

4) BAR COPY

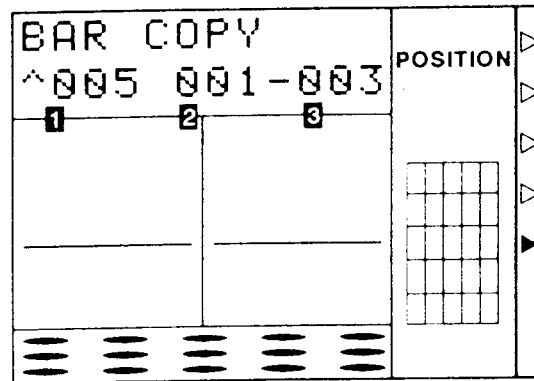
This function allows you to copy chord progression data, etc. from one location of a chord track to another. This makes it easy to copy sections of a chord progression (such as a verse or chorus), thereby reducing the time and effort required when creating large song arrangements.

Data that already exists within the destination region is replaced by the copied source data.

1. If you press the +1 switch in the PAGE section in the CHORD INPUT menu, the display will change to the BAR COPY screen.

Use the CURSOR switches to flash the appropriate field. Select values for source and destination locations within the Pattern by using the dial.

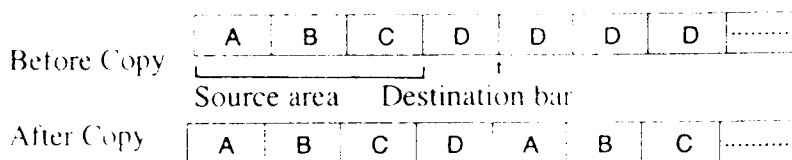
If you want to cancel the setting, press the RESET ERASE switch.



1. Destination bar where the copied chord progression data is to be placed
2. Start bar of the source chord progression data
3. End bar of the source chord progression data

The above display indicates that chord progression messages from bar 1 - 3 will be copied to the 5th bar.

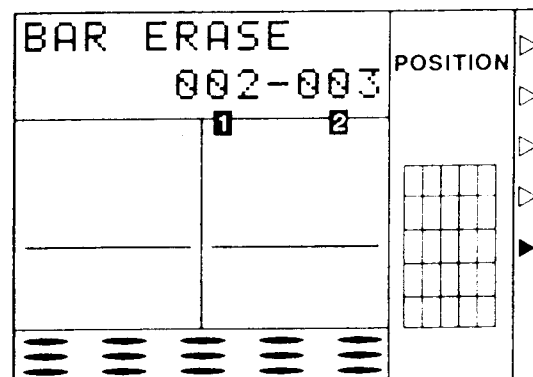
2. Press the PLAY/ENTER switch. The display will prompt "SURE?". Turn the dial clockwise (to the right) to execute the CHORD COPY operation.
3. The display will show "Completed" when the operation is completed.
(Or, turn the dial counterclockwise (to the left) to cancel the operation. The display will show "Canceled" when the operation is canceled.)



5) BAR ERASE

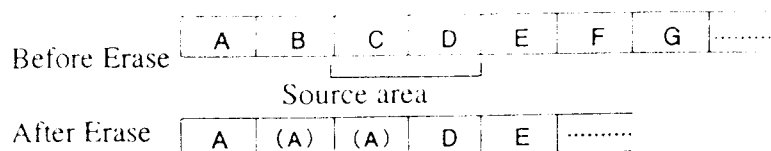
This function removes chord progression messages from a specified number of measures and leaves these measures intact but empty.

1. If you press the +1 switch in the PAGE section in the BAR COPY menu, the display will change to the BAR ERASE screen.
Use the CURSOR switches to flash the appropriate field and select a value using the dial. If you want to cancel the setting, press the RESET ERASE switch.

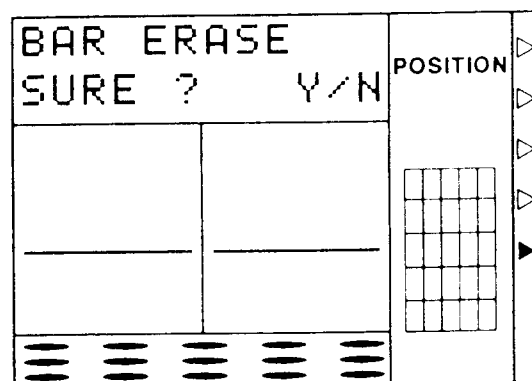


1. Start bar
2. End bar

The above display indicates that chord progression messages from bar 2-3 will be erased. When the erase operation is executed, the last chord message appearing before the second bar will take effect from the second bar.



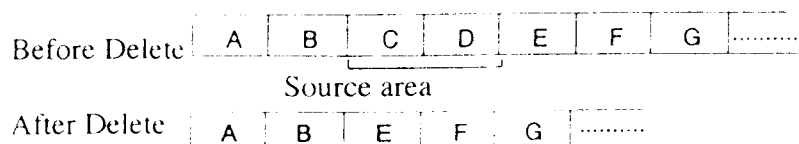
2. Press the PLAY/ENTER switch. The display will prompt "SURE?". Turn the dial clockwise (to the right) to execute the operation.



3. The display will show "Completed" when the operation is completed.
(Or, turn the dial counterclockwise (to the left) to cancel the operation. The display will show "Canceled" when the operation is canceled.)

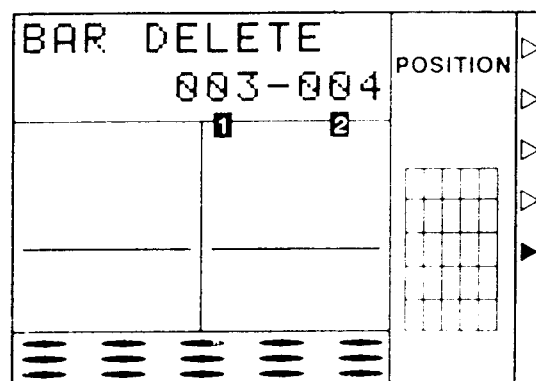
6) BAR DELETE

This function removes measures from the chord progression track. This differs from BAR ERASE in that the chord progressions track is actually shortened by the specified number of bars.



1. If you press the +1 switch in the PAGE section in the BAR ERASE menu, the display will change to the BAR DELETE screen. Use the CURSOR switches to flash the appropriate field and select a value using the dial.
If you want to cancel the setting, press the RESET ERASE switch.

1. Start bar
2. End bar



The above display indicates that measures 3-4 (and all chord progression messages within those measures) will be deleted from the chord track.

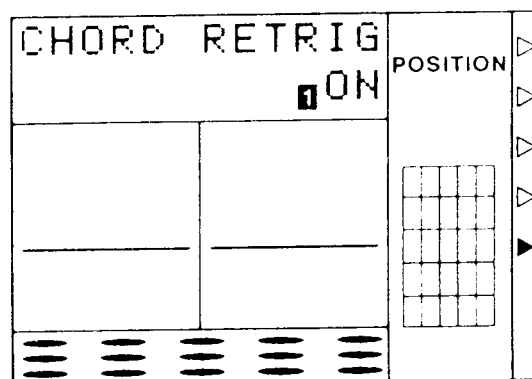
2. Press the PLAY/ENTER switch. The display will prompt "SURE?". Turn the dial clockwise (to the right) to execute the operation.
3. The display will show "Completed" when the operation is completed.
(Or, turn the dial counterclockwise (to the left) to cancel the operation. The display will show "Canceled" when the operation is canceled.)

7) CHORD RETRIGGER

This function allows you to select whether or not to add chord play at chord changes occurring halfway between bar positions.

1. If you press the +1 switch in the PAGE section in the BAR DELETE menu, the display will change to the CHORD RETRIGGER screen. Select ON or OFF using the dial. Press the PLAY/ENTER switch to enter the value.

1. Whether or not to activate the RETRIGGER: ON/OFF



8) REPEAT, JUMP, TEMPO CHANGE, PART VOLUME, OVERDRIVE, and DELETE

Use these functions in the same way as mentioned for SONG EDIT mode.

You can scroll through all the above functions in order by pressing one of the PAGE switch as many times as necessary after selecting the CHORD EDIT mode by pressing the EDIT switch

9) WRITE

You can store up to 50 CHORD TRACKS you have edited on the GB-4.

1. Select the WRITE menu using the procedures mentioned above. Then, use the CURSOR switches so that the appropriate field flashes. You can store the song you have edited on one of the ten USER CHORD TRACKS. Change the value of the field using the dial.

1. USER CHORD TRACK NUMBER:
101 - 150
2. CHORD TRACK NAME

The diagram shows the GB-4 display screen in WRITE mode. The top line displays 'WRITE to' followed by a cursor and the number '101'. The second line displays 'USER PTN'. Below these are two large empty rectangular boxes for editing. To the right of these boxes is a vertical column labeled 'POSITION' with a series of upward-pointing triangle cursors. Below the 'POSITION' label is a 4x8 grid of small squares. At the bottom of the screen are five sets of three horizontal lines, representing a dial or keypad interface.

You may name your USER CHORD TRACK using the CURSOR keys and dial.

Naming your own data

Use the CURSOR switches so that the appropriate field flashes and select a letter or symbol for the field. Repeat this procedure as many times as necessary.

2. Press the PLAY/ENTER switch. The GB-4 will prompt you "SURE?". Then, turn the dial clockwise (to the right) to execute the WRITE operation. (Turn the dial counterclockwise (to the left) to cancel the operation.)
3. When the operation is completed, "Completed" will be displayed.
(When the operation is canceled, "Canceled" will be displayed.)

Use the PLAY or EDIT switch to leave the CHORD EDIT mode.

3. GB-2 CARD CHORD EDIT

You are free to import new patterns from cards (GB-2 CARD ROM) and edit them. You can modify them and save up to 20 Patterns which are called "USER CARD Patterns" (CARD Pattern No. 21 - 40). An optional CARD RAM (KAWAI DC-16 or DC-32) can be used for storing (saving) your USER CARD PATTERNS.

Following functions can be used to edit styles on GB-2 CARD ROM. See the "SYSTEM" section of this manual if you want to use other card for GB-4.

- * RHYTHM SELECT: selects which rhythm of a card to edit.
- * CARD COPY: allows you to copy a style from an optional card (ROM).
- * TEMPO: inserts tempo message.
- * CHORD INPUT: inserts CHORD change message.
- * PATTERN: inserts SECTION CHANGE message.
- * PART ON/OFF: controls the on-off of each PART
- * LOOP: A specified number of measures within a Pattern will be repeated.
- * CLEAR: cancels the messages you have inserted.
- * WRITE: saves the Pattern name and Pattern you have edited into the USER CARD PATTERN area.

You can scroll through all the above functions in order by pressing a PAGE switch as many times as necessary after selecting the GB-2 CARD CHORD EDIT mode by pressing the EDIT switch.

To play back USER CARD Patterns, use the PLAY switch to enter the CARD PLAY mode. (Refer to the "PLAYING THE PATTERNS ON A GB-2 CARD ROM" section for details.)

Notes:

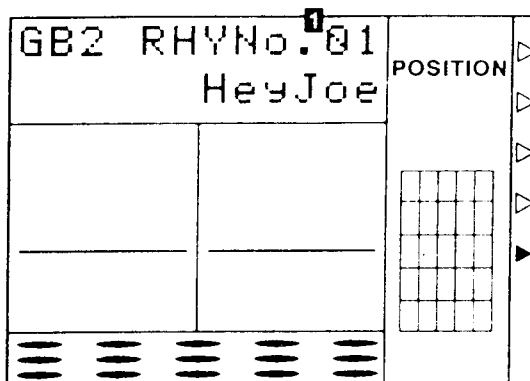
- * *You must insert the CARD ROM you used for editing patterns to playback the USER CARD Patterns.*
- * *If you leave the GB-2 CARD CHORD EDIT mode before executing the WRITE operation, the values you adjusted will be canceled.*
- * *You cannot use an optional DC-8 card with the GB-4.*
- * *If you input too much data in the EDIT mode, "Work Full" may be displayed and you can not input data any more. If necessary, save the data using the WRITE operation.*

1) RHYTHM SELECT

1. Insert a card (GB-2 CARD ROM) into the card slot. Press the EDIT mode switch at the right side of the display until the display will show GB-2 CARD CHORD EDIT MODE screen and then the following display.

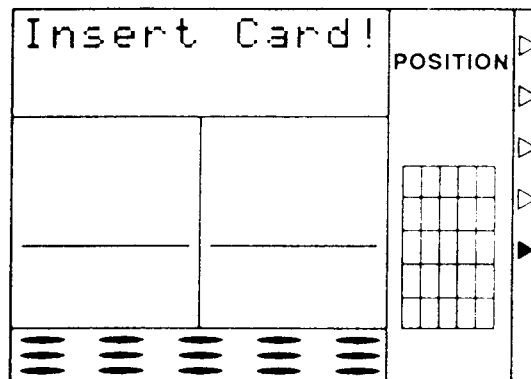
2. Select a Rhythm number using the dial.

1. CARD Rhythm No.



Notes:

- * When you want to use a card RAM or a CARD ROM for GB-4, see the "SYSTEM" section of this manual.
- * When a card is not inserted properly, or when you insert a card other than GB-2 CARD ROM, the display will show as follows:



2) CARD COPY

This function allows you to copy Pattern data from the CARD ROM into the GB-4. You can freely modify them or create your own chord tracks using the procedures mentioned later on.

1. If you press the +1 switch in the PAGE section in the RHYTHM SELECT menu, the display will change to the following screen. Use the CURSOR switches to flash the appropriate field and select a value using the dial.

Note: Press the +1 switch in the PAGE section now if you do not want to copy chord tracks data.

1. Card Style number to be copied. 1-20 (internal), 21-40 (USER area)
 2. Pattern name
2. Press the PLAY ENTER switch. The display will prompt "SURE?". Turn the dial clockwise (to the right) to execute the COPY operation. The display will show "Completed" when the operation is completed.

(Or, turn the dial counterclockwise (to the left) to cancel the operation. The display will show "Canceled" when the operation is canceled.)

3) TEMPO

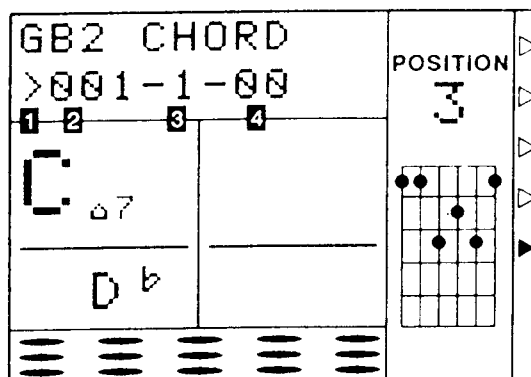
This function allows you to insert tempo message at the beginning of a Pattern.

1. If you press the +1 switch in the PAGE section in the CARD COPY menu, the display will change to the following screen. Use the CURSOR switches to flash the appropriate field and select a value (40-250) using the dial. Press the PLAY ENTER switch to enter the value.

4) CHORD INPUT

This function inserts CHORD change message.

1. If you press the +1 switch in the PAGE section in the TEMPO menu, the display will change to the following screen. Use the CURSOR switches to flash the appropriate field and select a value using the dial or switches.



1. Search mode
2. Bar number
3. Beat number
4. Clock Pulse

* How to input chord

Use the CHORD switches below the PART VOLUME section to input a chord name. Use the SELECT switches and TRANSPOSE switches to select the chord type as mentioned in the page 32 of this manual (see the CHORD LIST on the page 80 of this manual).

Press the BASS switch and then select chord name/type to input bass note message.

If you want to cancel your input, press the RESET/ERASE switch while the message is displayed.

If you press the RESET/ERASE switch when the CHORD ROOT field is flashing, the chord will be set to "C". If you press the RESET/ERASE switch when the CHORD type field is flashing, the chord type will be deleted.

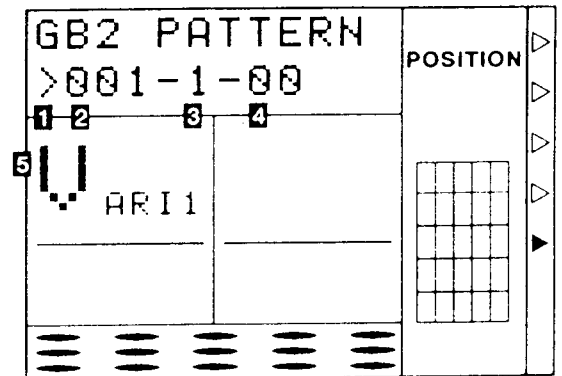
2. Press the PLAY/ENTER switch to enter your message.

5) PATTERN

This function inserts SECTION CHANGE message.

1. If you press the +1 switch in the PAGE section in the CHORD INPUT menu, the display will change to the following screen.

1. Search mode mark
 2. Measure Number
 3. Beat Number
 4. Clock Pulse: 0 - 47
 5. VARI 1: switches to VARI 1,
VARI 2: switches to VARI 2,
FILL 1: switches to FILL 1,
FILL 2 switches to FILL 2,
ENDING switches to ENDING.
- STOP: stops playback,
RET(RETURN): returns to the beginning
after playing the bar.
RHYTHM CHANGE: changes to the pattern number in the CARD ROM of your choice after
playing the selected bar. (If you select the RHYTHM CHANGE, pattern number will be
displayed.)



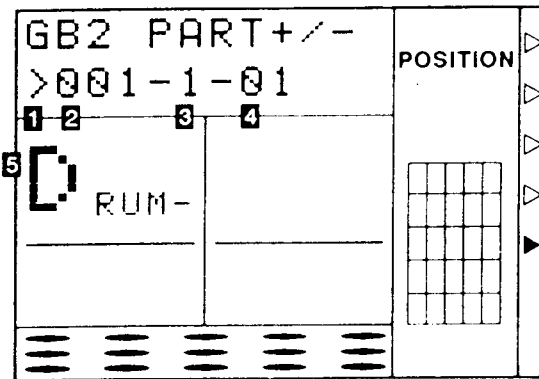
2. Use the CURSOR switches to flash the appropriate field and select a value using the dial.
If you want to insert a RHYTHM CHANGE message, select a Card Pattern Number.
3. Press the PLAY ENTER switch to enter the message.

6) PART ON/OFF

This function controls the on/off of each PART.

1. If you press the +1 switch in the PAGE section in the PATTERN menu, the display will change to the following screen.

1. Search mode mark
2. Measure Number
3. Beat Number
4. Clock Pulse: 0 - 47
5. PART (DRUM, BASS, CHD1, CHD2, ALL) and Value: +(ON), -(OFF)
" +" indicates ON, "-" indicates OFF



2. Use the CURSOR switches to flash the appropriate field and select a value using the dial. Press the PLAY/ENTER switch to enter the message

7) LOOP

This function allows you to repeat a specified number of measures within a Pattern. You can insert up to two LOOP messages.

1. If you press the +1 switch in the PAGE section in the PART ON/OFF menu, the display will change to the following screen.

1. LOOP number: LOOP 1/2
2. Measure Number of the beginning of the LOOP
3. Measure Number of the ending of the LOOP
4. Number of times the LOOP will repeat: 1-99, or "***"(endless)

Figure 1: A schematic diagram of a 16-bit parallel adder. The top section shows the input and output logic. The input is a 16-bit bus labeled "GB2 LOOP1" with a "POSITION" indicator. The input is split into two 8-bit buses, labeled "2" and "4". These are connected to two 8-bit adders. The output of the adders is a 16-bit bus labeled "GB2 LOOP1" with a "POSITION" indicator. The output is split into two 8-bit buses, labeled "2" and "4". The bottom section shows a 16-bit bus labeled "GB2 LOOP1" with a "POSITION" indicator, which is connected to a 16-bit bus labeled "GB2 LOOP1" with a "POSITION" indicator. The bottom section also shows a 16-bit bus labeled "GB2 LOOP1" with a "POSITION" indicator, which is connected to a 16-bit bus labeled "GB2 LOOP1" with a "POSITION" indicator.

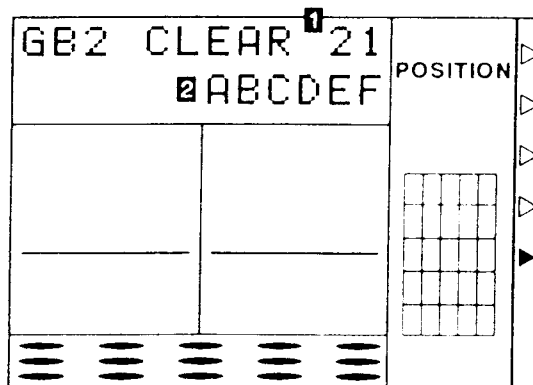
2. Use the CURSOR switches to flash the appropriate field and select a value using the dial. Press the PLAY/ENTER switch to enter the message. Press the +1 switch in the PAGE section in the LOOP1 menu to change to the LOOP2 screen.

8) CLEAR

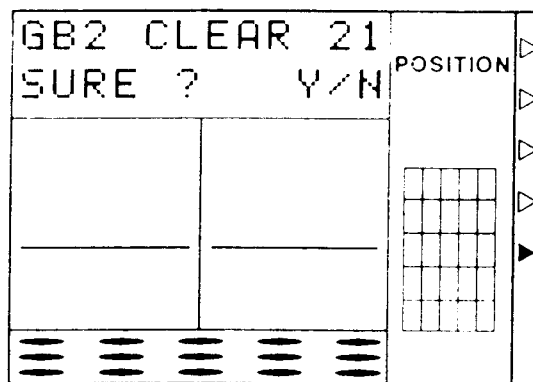
This function erases all the data in a USER CARD PATTERN you have inserted.

1. If you press the +1 switch in the PAGE section in the LOOP2 menu, the display will change to the following screen. If you want to skip to the WRITE operation, press the PAGE +1 switch now

1. USER CARD PATTERN number: 21-40
2. USER CARD PATTERN name



2. Press the PLAY ENTER switch. The display will show the Y/N screen.
3. Turn the dial clockwise (to the right) to execute the operation. When the operation is completed, "Completed" will be displayed. Or, turn the dial counterclockwise (to the left) to cancel the operation. When the operation is canceled, "Canceled" will be displayed.



9) WRITE

This function saves the Pattern name and Pattern you have edited into the USER CARD PATTERN area.

1. If you press the +1 switch in the PAGE section in the CLEAR menu, the display will change to the following screen.

1. USER CARD PATTERN number (destination area): 21-40
2. USER CARD PATTERN name (up to six letters/signs)

Use the CURSOR switches to flash the appropriate field and select a value using the dial.

- 2 Press the PLAY/ENTER switch. The display will show the Y/N screen. Turn the dial clockwise (to the right) to execute the WRITE operation. When the operation is completed, "Completed" will be displayed.

Or, turn the dial counterclockwise (to the left) to cancel the operation. When the operation is canceled, "Canceled" will be displayed.

Use the PLAY or EDIT switch to leave the GB-2 CARD CHORD EDIT mode.

4. STYLE MAKING

Each internal Pattern has one each of Style and Chord Progression. You may create your own Styles. You can save up to 50 Styles which are called "USER Styles". Each Style consists of six sections (INTRO, VARI 1, VARI 2, FILL 1, FILL 2, and ENDING). Each section consists of five parts (DRUM, BASS, CHORD 1, CHORD 2, and CHORD 3). You can create each part.

If you want to input your Style part using an external MIDI keyboard, connect the MIDI OUT jack of the MIDI keyboard to the MIDI IN jack of the GB-4 using a MIDI cable. Then, play the keyboard to record your style part. You can use any channel from 1 to 16.

Following functions can be used to create your own styles:

- * **MAKE SECTION:** selects which section (INTRO, VARI 1, VARI 2, FILL 1, FILL 2, or ENDING) of a Style to create.
- * **STYLE COPY:** allows you to copy a preset style.
- * **BAR LENGTH:** selects BAR LENGTH of a style.
- * **BEAT/MEASURE:** selects a time signature.
- * **INPUT STYLE:** selects the transpose value which automatically transposes your input.
- * **RECORD PART:** selects which part of a Style to create.
- * **-tone:** selects a tone.
- * **AUTO QUANTIZE:** selects the Quantize value which automatically adjusts note positions so that they line up at regular musical timing intervals within the bar.
- * **REC:** allows you to input your Style part using an external MIDI keyboard.
- * **DELETE:** deletes the data you have created.
- * **WRITE:** saves the Style you have created or edited into the USER STYLE area.

You can scroll through all the above functions in order by pressing one of the PAGE switch as many times as necessary after selecting the STYLE MAKE mode by pressing the EDIT switch.

Use the PLAY or EDIT switch if you want to leave the STYLE MAKING mode. If you leave the STYLE MAKING mode without performing the WRITE operation, the values you have changed will be cleared.

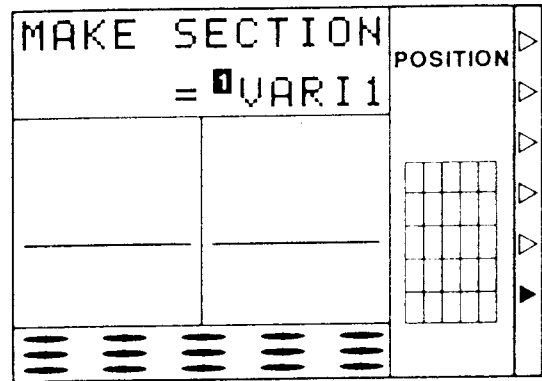
- * *If you input too much data in the EDIT mode, "Work Full" may be displayed and you can not input data any more. If necessary, save the data using the WRITE operation.*
- * *If you change STYLE data, any Pattern which uses the STYLE will change accordingly. For example, if you change the STYLE number 101, any Pattern which contains the STYLE 101 in the Chord Track will change accordingly.*
- * *Do not leave the EDIT mode by using the PLAY or EDIT mode switch without executing the WRITE operation or the values you change in the EDIT mode will be cleared.*

1) MAKE SECTION

This allows you to select which section (INTRO, VARI 1, VARI 2, FILL 1, FILL 2, and ENDING) of a Style to create.

1. Press the EDIT switch several times until the small lamp beside the STYLE MAKE lights up.

1. Section field



2. Use the CURSOR switches to flash the section field and select a section using the dial. Press the PLAY/ENTER switch to enter the message.

Note: If you create your Section and then change the section without executing the WRITE operation, the Section you created will be canceled. If you want to create more than one Section, save Sections one by one. For example, if you created FILL 1 section and also want to create INTRO section, save the FILL 1 section first using the WRITE operation and then create INTRO section.

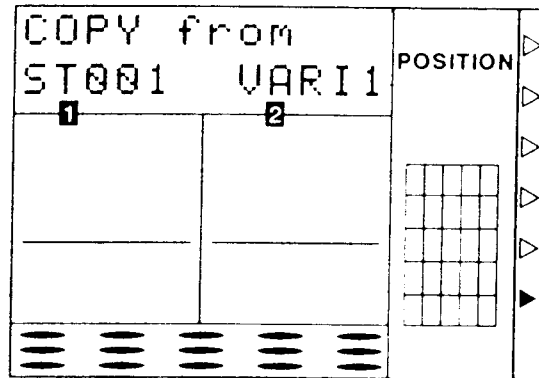
2) STYLE COPY

If you want to create your Style by modifying a preset Style, use this function to copy a preset style on the USER STYLE area first. (If you wish to create your Style from scratch, enter the STYLE COPY mode, but do not select a Style number. Instead, press the +1 switch in the PAGE section to skip directly to the BAR LENGTH screen.)

1. If you press the +1 switch in the PAGE section in the MAKE SECTION menu, the display will change to the STYLE COPY screen.

1. Style number to be copied: 1 - 150
2. Section of a Style to be copied: INTRO, VARI 1, VARI 2, FILL 1, FILL 2, ENDING

2. Use the CURSOR switches to flash the appropriate field and select a value using the dial.



(If you wish to create your Style from scratch, press the +1 switch in the PAGE section to skip directly to the BAR LENGTH screen.)

Note: If you have selected "FILL 1 or FILL 2" in the MAKE SECTION menu, you can select FILL 1 or FILL 2 as a section of a Style to be copied.

If you have selected "Intro" in the MAKE SECTION menu, you can select Intro as a section of a Style to be copied.

If you have selected "VARI 1 or VARI 2" in the MAKE SECTION menu, you can select VARI 1, VARI 2, FILL 1 or FILL 2 as a section of a Style to be copied.

If you have selected "Ending" in the MAKE SECTION menu, you can select Ending as a section of a Style to be copied.

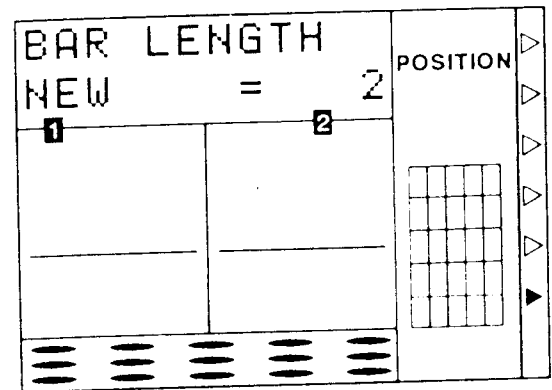
3. Press the PLAY ENTER switch. The display will prompt "SURE?". Turn the dial clockwise (to the right) to execute the operation. The display will show "Completed" when the operation is completed.

(Or, turn the dial counterclockwise (to the left) to cancel the operation. The display will show "Canceled" when the operation is canceled.)

3) BAR LENGTH

If you want to create your Style from scratch, you must first set a BAR LENGTH for each section of the Style.

1. If you press the +1 switch in the PAGE section in the STYLE COPY menu, the display will change to the BAR LENGTH screen.
If you did not executed the STYLE COPY operation, "NEW" will be displayed indicating that you can select a BAR LENGTH value using the dial. Press the PLAY/ENTER switch to enter the value.
If you copied any Style using the STYLE COPY, "DUB" will be displayed and you cannot change a value. When the "DUB" is displayed, press the +1 switch in the PAGE section and the display will change to the BEAT/MEASURE screen.



Note: If you have selected "FILL 1 or FILL 2" in the MAKE SECTION operation, the BAR LENGTH value will automatically be set to 1 bar. You cannot change this value.

1. If you executed the STYLE COPY: NEW, DUB
2. BAR LENGTH: 1, 2, 4 (INTRO, VARI 1, VARI 2, or ENDING)
1 (FILL 1, FILL 2)

4) BEAT/MEASURE

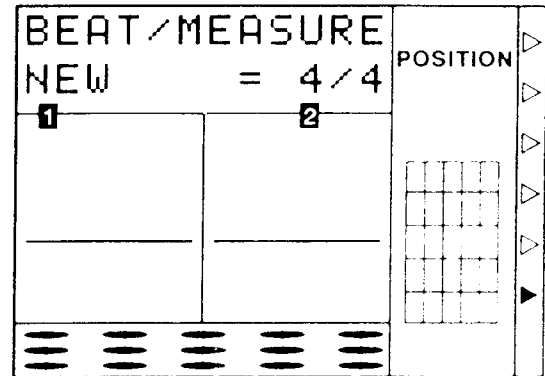
If you want to create your Style from scratch, you must choose a TIME SIGNATURE for the Style.

1. If you press the +I switch in the PAGE section in the BAR LENGTH menu, the display will change to the BEAT/MEASURE screen.

If you skipped over the STYLE COPY operation, you can select a time signature using the dial. Press the PLAY ENTER switch to enter the value.

If you copied any Style using the STYLE COPY, "DUB" will be displayed and it will not be possible to change the time signature. When the "DUB" is displayed, press the +I switch in the PAGE section and the display will change to the INPUT STYLE screen.

1. If you executed the STYLE COPY: NEW, DUB
2. TIME SIGNATURE: 2/4, 3/4, 4/4, 6/8, 5/4



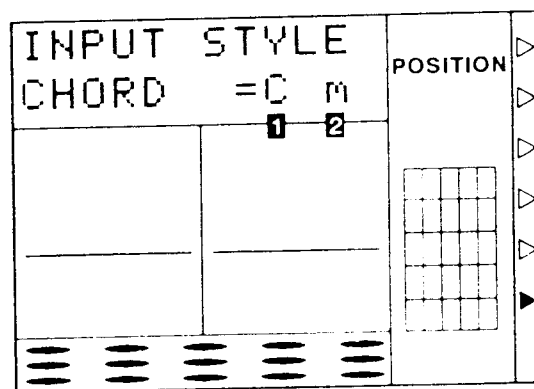
NOTE: It is not possible to save sections of different time signature on a USER PATTERN area. For example, if you select the time signature "4/4" for your INTRO section, you must select the time signature "4/4" for any other sections for a USER pattern. See the WRITE operation on the page 59 for details.

5) INPUT STYLE

If you specify a chord with this function and start recording (see the RECORD section in page 55 of this manual), your input will be modified. When you are recording the CHORD 1 part, you can record element notes of the chord you set. For example, if you select the CHORD ROOT TYPE "C", you can record only the C, E, or G notes. If you try to record other notes, the GB-4 will automatically modify your input. When you are recording the CHORD 2, CHORD 3, or BASS part, you can record scale notes of the chord. For example, if you select the CHORD ROOT TYPE "C", you can record only the C, D, E, F, G, A or B notes (see the RECORD section in page 55 of this manual for details).

1. If you press the +1 switch in the PAGE section in the BEAT/MEASURE menu, the display will change to the INPUT STYLE screen. Use the CURSOR switches to flash the appropriate field. Use the dial to set the desired value.

1. CHORD ROOT TYPE: C - B
2. CHORD TYPE: space (indicates Major), 7th, m, m7

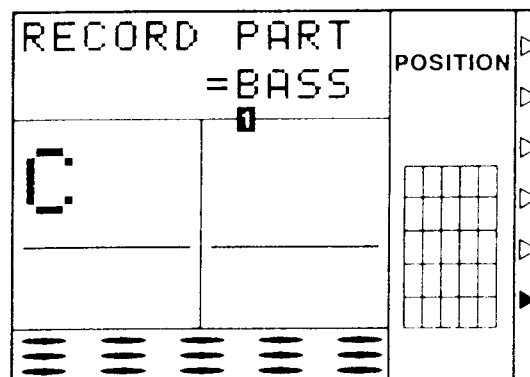


6) RECORD PART

This selects which part to record.

1. If you press the PAGE +1 switch in the INPUT STYLE menu, the display will change to the RECORD PART screen. Select a part to record using the PART VOLUME switches or the dial.

1. RECORD PART: DRUM, BASS, CHD (CHORD) 1, CHD (CHORD) 2, and CHD (CHORD) 3



The above display indicates that the BASS part will be recorded.

NOTE: If you specify a chord with the INPUT STYLE function and start recording (see the RECORD section of this manual), your input will be modified. When you are recording the CHORD 1 part, you can record element notes of the chord you set. When you are recording the CHORD 2, CHORD 3, or BASS part, you can record scale notes of the chord.

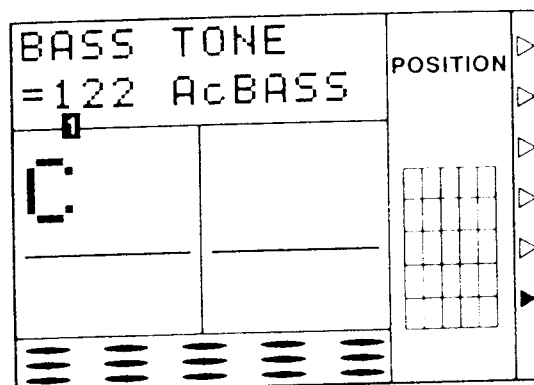
If you copied a style, however, there may be a case that you can record only the element notes of the chord for CHORD 2 part.

7) TONE

This selects a tone (instrument) for each part.

- If you press the PAGE +1 switch in the RECORD PART menu, the display will change to the TONE screen. (If you selected the BASS part in the RECORD PART menu, the BASS TONE will be displayed. If you selected the CHORD 1 part in the RECORD PART menu, the CHORD1 TONE will be displayed.)
Select a tone using the dial. Press the PLAY/ENTER switch to enter your setting.

1. Tone No.: 1 - 160



8) AUTO QUANTIZE

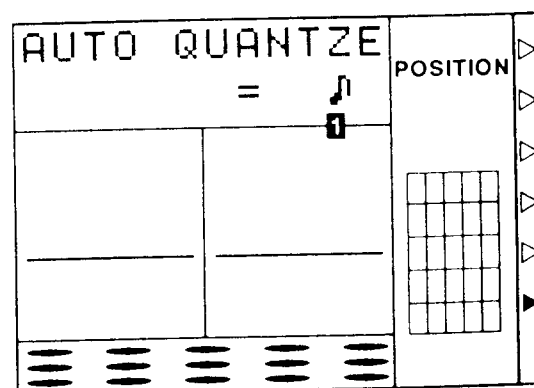
This selects the Quantize value to be used when recording. This automatically corrects small timing errors of notes.

(Please note: for best musical results, you should set the AUTO QUANTIZE to the smallest timing value that you plan to play during the part. For example, if you wish to play a series of three quarter notes, followed by two 8th notes, you should select an AUTO QUANTIZE value of 1/8th.)

- If you press the PAGE +1 switch in the TONE menu, the display will change to the AUTO QUANTIZE screen.
Select a quantize value using the dial.

1. Value: OFF, 1/4, 1/8, 1/16, 1/32, 1/64

The display at right indicates that all the notes will be moved to the nearest 8th note beat division.

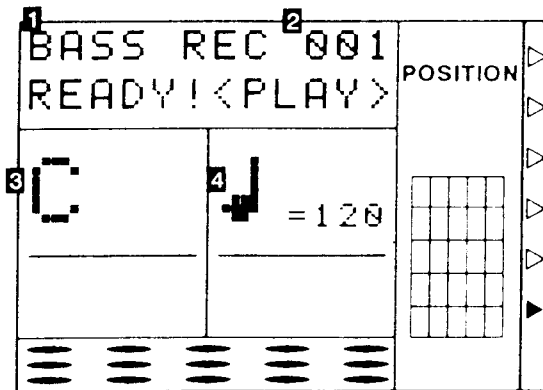


9) REC (RECORD)

This allows you to input your Style part.

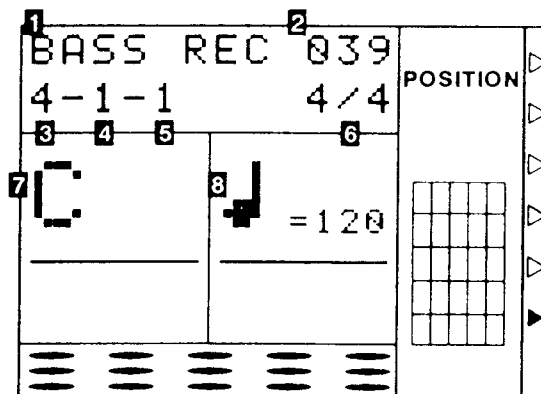
1. If you press the PAGE +1 switch in the AUTO QUANTIZE menu, the display will change to the REC screen. Use the CURSOR switches to flash the Tone field and select a value using the dial. Then, press the PLAY/ENTER switch.

1. RECORDING PART: DRUM, BASS, CHD (CHORD) 1, CHD 2, and CHD (CHORD) 3
2. Tone number
3. Chord root type (see the Input Style section.)
4. Tempo



2. Press the PLAY/ENTER switch again. After a two measure count-off the GB-4 begins recording. The part will repeat continuously during recording. New data can be overdubbed without erasing existing data. If you press and hold down the RESET/ERASE switch, data in the part will be deleted as long as you hold down the RESET/ERASE switch. Use the CHORD and TRANSPOSE switches of the GB-4 or an external MIDI device to record. If you press the "#" switch, the pitch will raise by an octave. If you press the "b" switch, the pitch will drop by an octave. If you input notes while holding down the OVERDRIVE switch, the notes will be played back with increased volume (accented).

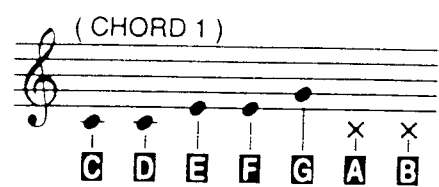
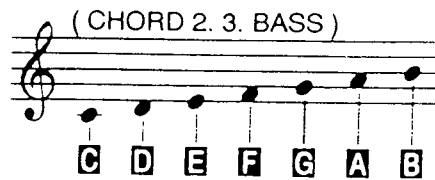
1. RECORDING PART
2. Tone No.: 1 - 160
3. BAR LENGTH of the part
4. Current Bar number
5. Current Beat number
6. Time signature
7. Chord root/type
8. Tempo



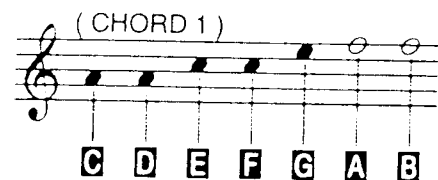
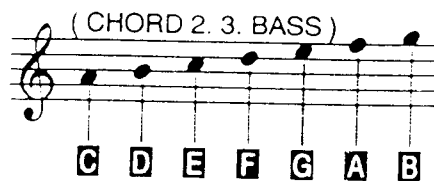
How to record notes using the CHORD switches.

The following chart shows examples of inputting notes using the CHORD switches when you specified a chord in the INPUT STYLE function.

C Major

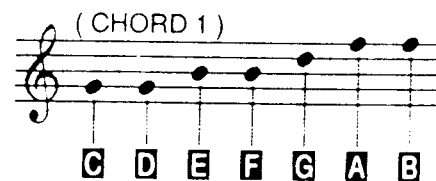
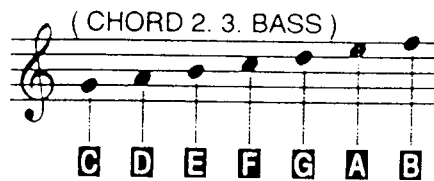


Am Am7



Can be played
for minor 7th only

G7



Notes:

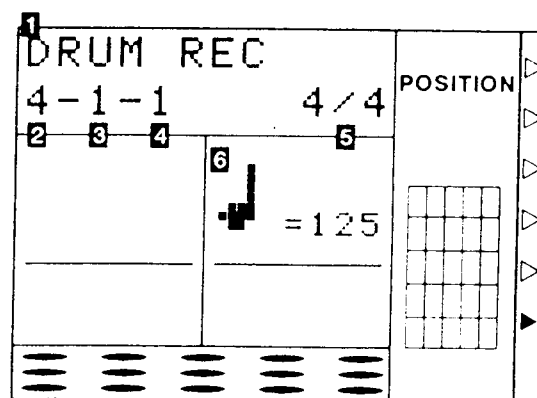
- * If you change root note of the chord in the INPUT STYLE function, notes for the CHORD switches will be transposed accordingly.
- * You cannot use the CHORD switches "A" and "B" if you specify a Major or minor chord in the INPUT STYLE function.

3. Press the STOP switch to stop recording. The display will change to the RECORD PART screen.

Note: You do not have to stop recording to record other parts. You can record each part one by one by changing the part to record using the PART VOLUME switches. Use the CURSOR switches so that the tone field flashes and select a tone number using the dial if you want to change tone during recording.

When you are recording the DRUM part, the display will be:

1. RECORDING PART: DRUM
2. BAR LENGTH of the part: 1, 2, 4
3. Current Bar number
4. Current Beat number
5. Time signature
6. Tempo



Chord root type will not be displayed. Use the following switches of the GB-4 or an external MIDI device to input DRUM part. If you press a switch while holding down the OVERDRIVE switch, the notes will be played back with increased volume (accented). If you want to delete a particular drum sound, press the appropriate switch or a key on the external MIDI keyboard while holding down the RESET/ERASE switch.

This procedure deletes all sections (INTRO, VARI 1, VARI 2, FILL 1, FILL 2, and ENDING) of a USER Style. If you want to delete one of the section, save a section (see the WRITE section mentioned below) without inputting any data.

- [illegible]

- [illegible]

58

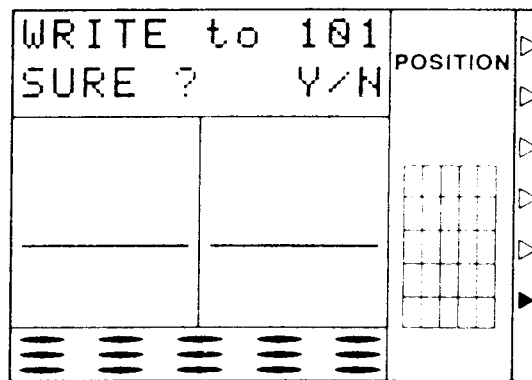
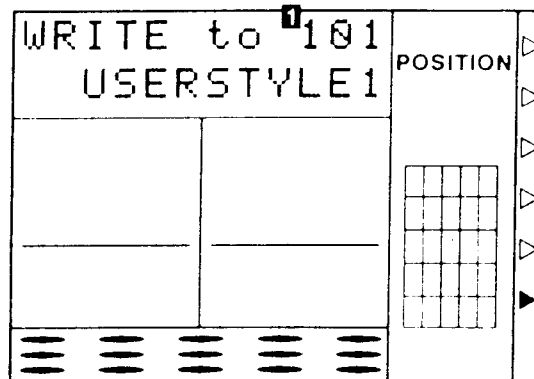
11) WRITE

Store the Style you have recorded on the USER STYLE area of the GB-4.

1. Press the PAGE +1 switch in the DELETE STYLE menu and the display will change to the WRITE screen.

1. USER STYLE NUMBER: 101 - 150
2. STYLE NAME

When you finished inputting the STYLE NAME and STYLE NUMBER using the CURSOR switches and dial, press the PLAY ENTER switch. The display will show the Y/N screen. Turn the dial clockwise (to the right) to execute the WRITE operation. When the operation is completed, "Completed" will be displayed. Or, turn the dial counterclockwise (to the left) to cancel the operation. When the operation is canceled, "Canceled" will be displayed.



NOTE: It is not possible to save sections of different time signature on a USER PATTERN area. For example, if you have stored your INTRO section whose time signature is "4/4" on the USER STYLE NUMBER 101 and try to store any other section of different time signature on the same USER STYLE NUMBER, the display at right will appear.

WRITE to 101
Beat/M= 4/4!

4. SYSTEM

You can use the following functions in the SYSTEM mode.

- * TUNING: The GB-4 incorporates reference tones for tuning your guitar.
- * MONO CHORD: allows you to play one chord repeatedly.
- * PARA OUT: assigns the output jacks for output signals.
- * FOOT SWITCH ASSIGN: assigns a function to a footswitch jack.
- * MEMORY: indicates the amount of free memory in the GB-4.
- * CLOCK: lets you sync the GB-4 to an external MIDI device.
- * SYSTEM CHANNEL: assigns a MIDI channel for system exclusive messages of the GB-4.
- * DUMP Trans-Receive: allows you to transfer MIDI data on the GB-4.
- * SAVE TO CARD: allows you to save your data onto a RAM card.
- * LOAD FROM CARD: allows you to load data from a RAM card.
- * DELETE CARD: deletes data from CARD RAM
- * FORMAT CARD: formats a CARD RAM
- * MEMORY PROTECT: protects the data in the GB-4 from accidental erasure.
- * FILES: displays the data name on a CARD RAM

You can scroll through all the above functions in order by pressing one of the PAGE switch as many times as necessary after selecting the SYSTEM mode by pressing the EDIT switch

1) TUNING

The GB-4 incorporates reference tones for tuning your guitar.

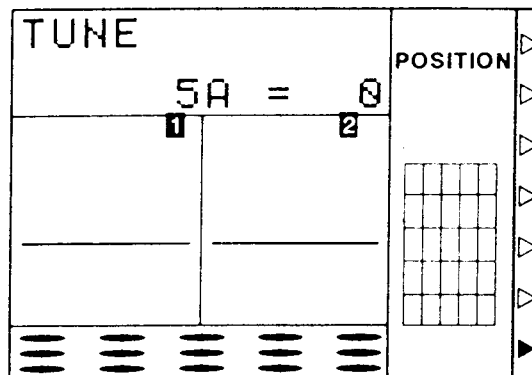
1. Press the EDIT switch several times until the small lamp beside the SYSTEM lights up.

1. String: 6E, 5A, 4D, 3G, 2B, 1E
2. Pitch: -64 - 0 - +63

If you want to play the low E (6th string of the guitar) tone, select the String "6E" and Pitch value "0".

Use the CURSOR switches so that the String field flashes and change the value using the dial to select other tuning tones: 5A (5th string), 4D (4th string), 3G (3rd string), 2B (2nd string), 1E (1st string). Tune your guitar to match the pitch.

Use the CURSOR switches so that the Pitch field flashes and change the value using the dial to shift the pitch by small increments. Use the BACK BAND VOLUME to control the volume of the calibration tone.



2) MONO CHORD

When "MONO CHORD" is turned on, one chord plays repeatedly (useful for practicing one-chord ad-lib) in the Pattern Play mode. Only when a Pattern is playing, chord type can be changed using switches on the front panel of the GB-4 or sending MIDI data to the MIDI IN jack of the GB-4 from an external MIDI device.

* How to input chords

Use the CHORD switches below the PART VOLUME section to input a chord name. Use the SELECT switches and TRANSPOSE switches to select the chord type (see the CHORD LIST in the page 80 of this manual).

Press the BASS switch and then select chord name type to input bass note message.

Press the PLAY ENTER switch to enter your message.

If you want to cancel your input, press the RESET/ERASE switch while the message is displayed.

If you press the RESET/ERASE switch when the CHORD ROOT field is flashing, the chord will be set to "C". If you press the RESET/ERASE switch when the CHORD type field is flashing, the chord type will be deleted.

Changing the chord using an external MIDI keyboard:

Connect the MIDI OUT jack of a MIDI keyboard to the MIDI IN jack of the GB-4 with a MIDI cable. Then play a chord on the keyboard.

There are three types of MONO CHORD.

ON1: chord is detected when one or more keys at the left of the F#2 key are pressed.

ON2: chord is detected when more than three keys at the left of the F#2 key are pressed.

Lower key than F#2 can be used to detect chord.

ON3: chord is detected when more than three keys at any pitch are pressed. Bass note can be played when you hold down a chord and simultaneously press a key whose pitch is more than 6th notes lower than the lowest key of the chord. As you play a chord on an external keyboard, the GB-4 will detect the chord and play the notes you play.

Examples of how to play chords that can be recognized by the GB-4 using an external MIDI keyboard (C root)

1. Press the PAGE +I switch in the TUNE menu and the display will change to the MONO CHORD screen. Select a value using the dial.

MONO CHORD
MODE = OFF

POSITION

5x6 grid of indicator lights

Five sets of three horizontal sliders

- * *The FWD or RWD switch does not function when the MONO CHORD function is on.*
- * *When the MONO CHORD function is on, the BASS switch controls the Bass note of the chord. You cannot change the volume of the BASS part with the BASS switch.*
- * *When the MONO CHORD function is on, the FWD/FILL 2 switch controls the FILL 2. You cannot use this switch as OMIT 3rd switch.*

3) PARA OUT

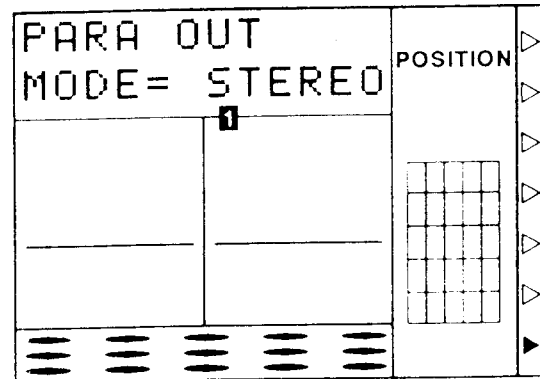
This function allows you to assign the line out jack for each part of the GB-4.

Note: Please be aware that there will be no sound from the STEREO 2 (OUTPUT 3 and 4) jacks at the factory preset setting.

1. Press the PAGE +1 switch in the MONO CHORD menu and the display will change to the PARA OUT screen. Select a value using the dial.

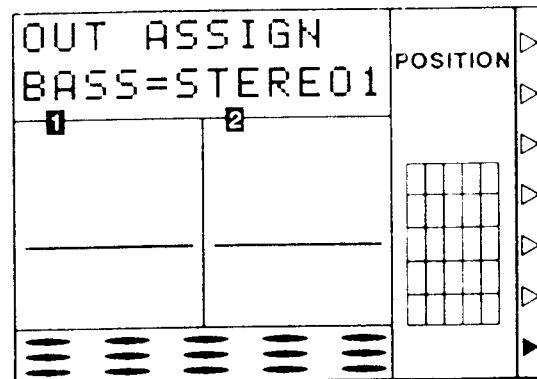
1. MODE: STEREO, 4PARA

Note: If you use the OUTPUT 1, but not the OUTPUT 2 jack, signals for both the 2 jacks will be output from the OUTPUT 1 (L/MONO) jack. If you use the OUTPUT 3, but not the OUTPUT 4 jack, signals for both the 2 jacks will be output from the OUTPUT 3 (L/MONO) jack.



2. Press the PAGE +1 switch. If you selected the "STEREO" in the above step, the following display will appear:

1. Part: BASS, CHD (CHORD) 1, CHD2, CHD3
2. Output jacks: STEREO 1, STEREO 2



Use the CURSOR switches to flash the Part field and select a part using the dial. Then, use the CURSOR switches to flash the Output jacks field and select STEREO 1 or STEREO 2 using the dial. If you select STEREO 2 for the BASS, BASS part will be output from the STEREO 2 (OUTPUT 3 and 4) jacks. Repeat these procedures to assign output jacks to other parts.

Notes

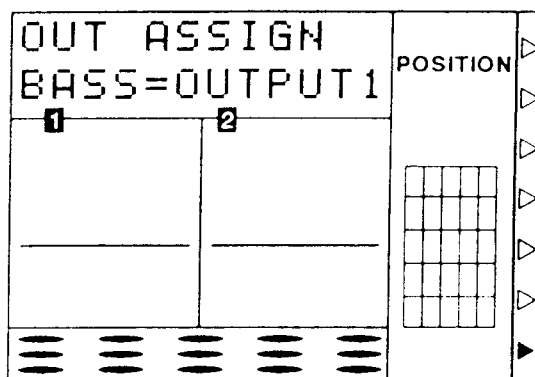
- * You can assign each part (except for the DRUM part) to STEREO 1 or STEREO 2 jacks. The DRUM part and signals of an external instrument connected to the INPUT jack of the GB-4 will be output from the STEREO 1 (OUTPUT 1 and 2) jacks only.
- * Adjust the output volume of the STEREO 1 (OUTPUT 1 and 2) jacks by turning the BACK BAND VOLUME knob. The BACK BAND VOLUME knob does not change the output volume of the STEREO 2 (OUTPUT 3 and 4) jacks.

3. If you selected the "4PARAM" in the step 1 and then press the PAGE +1 switch, the following display will appear:

1. Part: BASS, CHD (CHORD) 1, CHD2, CHD3

2. Output jack: OUTPUT 1, 2, 3, 4

You can assign each part (except for the DRUM part) to each output jack. The DRUM part will be output from the STEREO 1 (OUTPUT 1 and 2) jacks only. Use the CURSOR switches and the dial to assign Output jack to each part one by one.



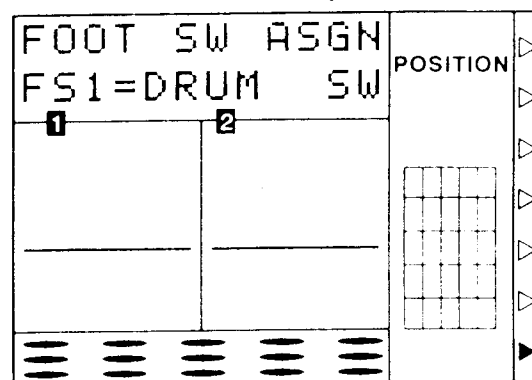
Notes

- * *You can assign each part (except for the DRUM part) to each output jack. The DRUM part and signals of an external instrument connected to the INPUT jack of the GB-4 will be output from the STEREO 1 (OUTPUT 1 and 2) jacks only.*
- * *Adjust the output volume of the STEREO 1 (OUTPUT 1 and 2) jacks by turning the BACK BAND VOLUME knob. The BACK BAND VOLUME knob does not change the output volume of the STEREO 2 (OUTPUT 3 and 4) jacks.*

4) FOOT SWITCH ASSIGN

You can assign a function to an optional footswitch (KAWAIF-1) by connecting it to the FOOTSWITCH 1 jack or to the FOOTSWITCH 2 jack.

1. Press the PAGE +1 switch in the step 2 or 3 of the PARA OUT screen. The display will show the FOOT SWITCH ASSIGN screen. Use the CURSOR switches and the dial to change value of the appropriate field. .



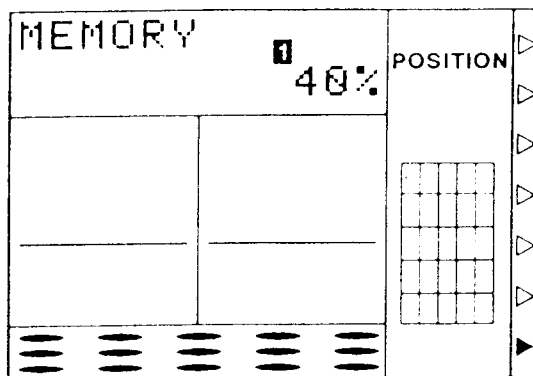
1. Foot Switch Jack: FS1 indicates a function for a footswitch connected to the FOOTSWITCH 1 jack. FS2 indicates a function for a footswitch connected to the FOOTSWITCH 2 jack.

2. Value:
 - Drum SW: turns on/off the DRUM part volume.
 - Bass SW: turns on/off the BASS part volume.
 - Chord 1 SW: turns on/off the CHORD 1 part volume.
 - Chord 2 SW: turns on/off the CHORD 2 part volume.
 - Chord 3SW: turns on/off the CHORD 3 GUITAR part volume.
 - Song No UP: Increases the song number by one.
 - Song No DW: Decreases the song number by one.
 - ODrive SW: turns the OVERDRIVE on/off.
 - STRT/STP: starts or stops playback.
 - LOOP OUT: Exits the repeat when REPEAT whose value is more than 2 is playing.
 - RptAgain: Add the number of repeat as many times as you press the footswitch when repeat part is playing.

5) MEMORY

Press the PAGE +1 switch in the FOOT SWITCH ASSIGN screen. The display will show the amount of free memory area in the GB-4.

1. Value: 0% - 100%



6) CLOCK

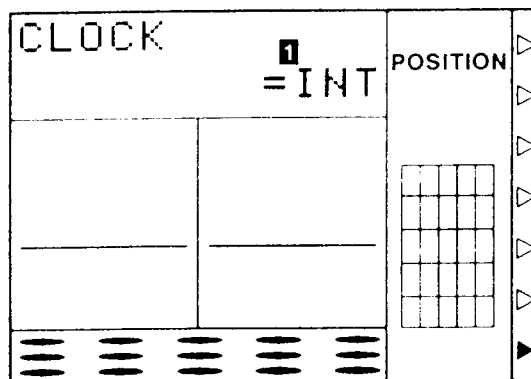
Determines if the songs or patterns can be played with the panel switches on the GB-4 or with MIDI clock signals from an external MIDI device.

1. Press the PAGE +1 switch in the MEMORY screen. The display will show the CLOCK screen.
Use the dial to change value.

1. Value: INT, EXT

INT: The songs or patterns of the GB-4 can be played with the panel switches on the GB-4.

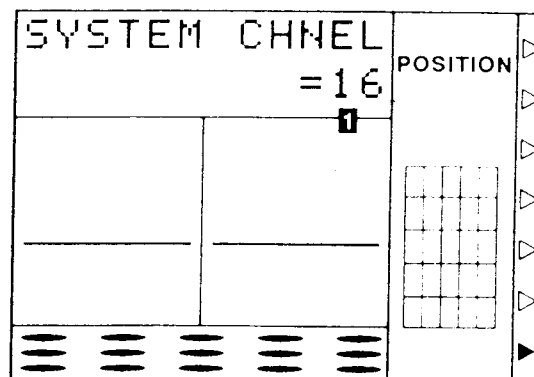
EXT: Songs or patterns will be synchronized to MIDI clock signals from an external MIDI device. The songs or patterns cannot be played with the panel switches on the GB-4. Tempo is controlled by the external device.



7) SYSTEM CHANNEL

This function allows you to select the MIDI channel for system exclusive messages of the GB-4. Use this function for the following DATA DUMP Trans/Receive functions.

1. Press the PAGE +1 switch in the CLOCK screen. The display will show the SYSTEM CHANNEL screen. Use the dial to change value.

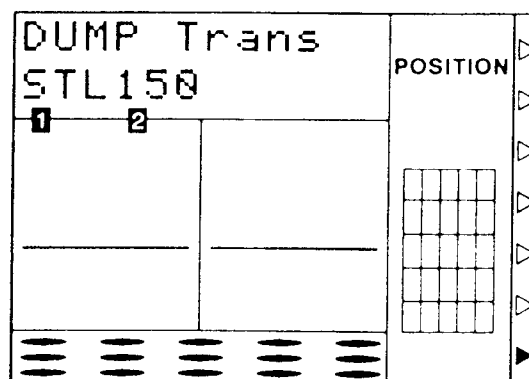


8) DATA DUMP Trans

You can transfer the following data of the GB-4 to a MIDI data file (such as KAWAI Q-80EX). Be sure to match the MIDI channel of the instrument to that of the SYSTEM CHANNEL of the GB-4.

- SNG (SONG) 101 - 110: one of the USER SONGS.
- CHD (CHORD) 101 - 150: one of the USER CHORDS.
- STL (STYLE) 101 - 150: one of the USER STYLES.
- GB2 (CARD) 21 - 40: one of the USER GB-2 CARD ROM PATTERNS.

1. Press the PAGE +1 switch in the SYSTEM CHANNEL screen. The display will show the following screen. Use the CURSOR switches and dial to change value.



2. Press the PLAY/ENTER switch. The display will show the Y/N screen. Turn the dial clockwise (to the right) to execute the DATA DUMP operation. Or, turn the dial counterclockwise (to the left) to cancel the operation.
3. When the operation is completed, "Completed" will be displayed.
(When the operation is canceled, "Canceled" will be displayed.)

9) DATA DUMP Receive

You can reload the following data to the GB-4 from a MIDI data file (such as KAWAI Q-80EX). Be sure to match the MIDI channel of the instrument to that of the SYSTEM CHANNEL of the GB-4.

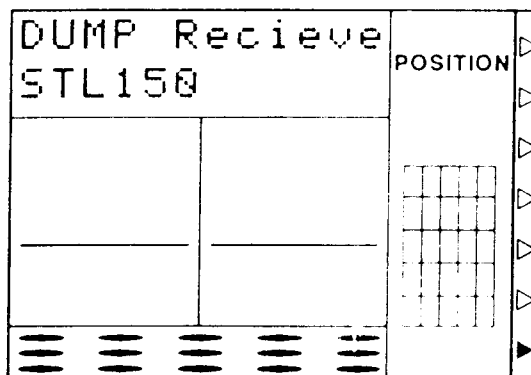
SNG (SONG) 101 - 110: one of the USER SONGS.

CHD (CHORD) 101 - 150: one of the USER CHORDS.

STL (STYLE) 101 - 150: one of the USER STYLES.

GB2 (CARD) 21 - 40: one of the USER GB-2 CARD ROM PATTERNS.

1. Press the PAGE +1 switch in the DUMP Trans screen. The display will show the following screen. Use the CURSOR switches and dial to select the destination area.



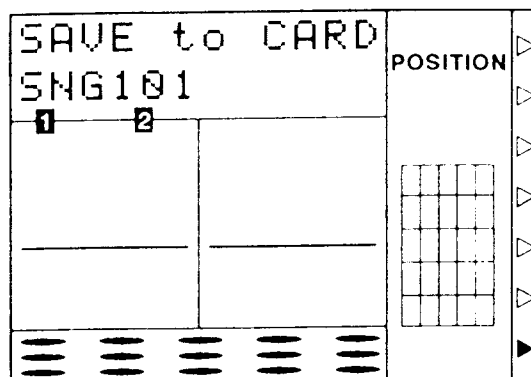
2. Press the PLAY/ENTER switch. The display will show the following screen. Then, command your external sequencer to transmit data to the GB-4.
3. When the operation is completed, "Completed" will be displayed.

10) SAVE TO CARD

You can save the following data on an optional RAM card (KAWAI DC-16 or DC-32). We strongly suggest you to save your important data on a RAM card (or MIDI data file using the above function).

1. Insert a RAM card into the card slot of the GB-4.
2. Press the PAGE +1 switch in the DUMP

Receive screen. The display will show the following screen. Use the CURSOR switches and dial to change value.



SNG (SONG) 101 - 110: one of the USER SONGS.

CHD (CHORD) 101 - 150: one of the USER CHORD PROGRESSIONS.

STL (STYLE) 101 - 150: one of the USER STYLES.

GB2 (CARD) 21 - 40: one of the USER GB-2 CARD ROM PATTERNS.

NOTES:

- * *Formatting must be carried out when using a new RAM card or when using a RAM card which has been previously formatted for another model. If the inserted card is not formatted for the GB-4, "CARD ID ERR!" will be displayed. Refer to the FORMATTING CARD on page 75 for details.*
- * *Kawai Session Trainer "GB-2" cannot load data on a RAM card on which you saved data with the GB-4.*
- * *Formatting will delete any contents on the card! Be careful not to carelessly format a card which may contain important data.*
- * *You cannot use an optional DC-8 card with the GB-4.*
- * *If you attempt to press the PAGE +1 switch when a RAM card is not inserted into the card slot, the display will show "Insert CARD".*

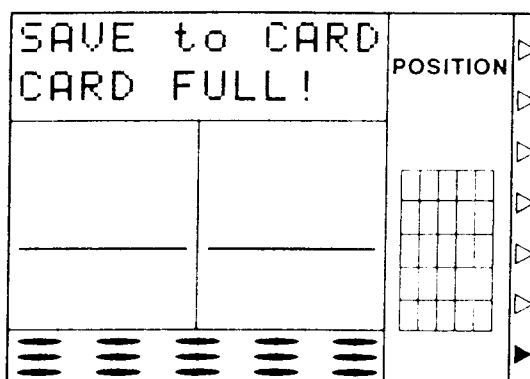
3. Press the PLAY/ENTER switch. The display will show the Y/N screen. Turn the dial clockwise (to the right) to execute the SAVE operation. Or, turn the dial counterclockwise (to the left) to cancel the operation.
4. When the operation is completed, "Completed" will be displayed. (When the operation is canceled, "Canceled" will be displayed.)

NOTES:

*** You cannot save more than following data on a RAM card:**

10 songs, 50 chord progressions, 10 styles, 10 USER GB-2 CARD ROM PATTERNS.

*** If there is not enough room on the card for the data transfer, "CARD FULL" will be displayed. Insert another card and try again.**



11) LOAD FROM CARD

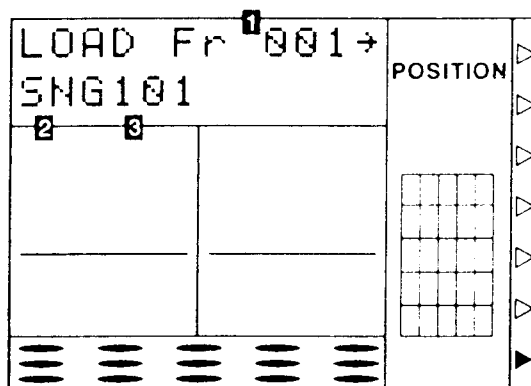
This operation allows you to reload the GB-4 with data you have saved onto KAWAI CARD RAM (DC-16, or DC-32). This operation also allows you to load the GB-4 with data of the GB-4 CARD ROM if it is available in your country.

Notes:

- * *You cannot use the "GB-2 CARD PLAY" mode for the GB-4 CARD ROM.*
- * *The GB-4 cannot load data on a RAM card on which you saved data with Kawai Session Trainer "GB-2" .*
- * *Formatting must be carried out when using a new RAM card or when using a RAM card which has been previously formatted for another model. If the inserted card is not formatted for the GB-4, "CARD ID ERR!" will be displayed. Refer to the FORMATTING CARD on page 75 for details.*
- * *Formatting will delete any contents on the card! Be careful not to carelessly format a card which may contain important data.*

1. Insert a card containing data for GB-4 into the card slot.
2. Press the PAGE +1 switch in the SAVE FROM CARD screen. The display will show the following screen. Use the CURSOR switches and dial to change value.

1. Data Number on the CARD RAM
- 2 & 3: Destination USER area number
SNG (SONG) 101 - 110: one of the USER SONGS.
CHD (CHORD) 101 - 150: one of the USER CHORD PROGRESSIONS.
STL (STYLE) 101 - 150: one of the USER STYLES.
GB2 21 - 40: one of the GB-2 USER CARD PATTERNS.

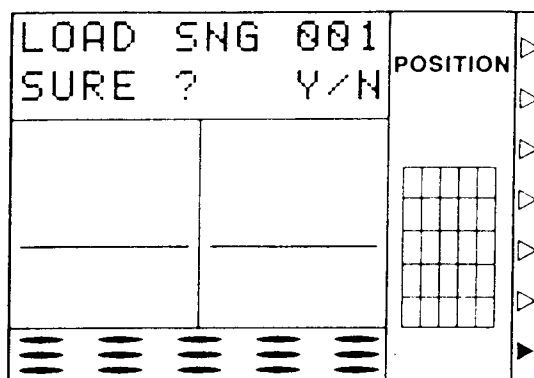


Notes:

- * *The source data number will not be displayed in the LOAD FROM CARD function. We suggest you to check the source data number before executing the SAVE TO CARD operation, or check the source data name in the FILES operation described later on in this manual.*
- * *Data that already exists within the destination USER area is replaced by the loaded source data. If you change STYLE data, any Pattern which uses the STYLE will change accordingly. For example, if you load a STYLE from a card as the STYLE number 101, any Pattern which contains the STYLE 101 in the Chord Track will change accordingly.*
- * *If you attempt to press the PAGE +1 switch when a RAM card is not inserted into the card slot, the display will show "Insert CARD".*

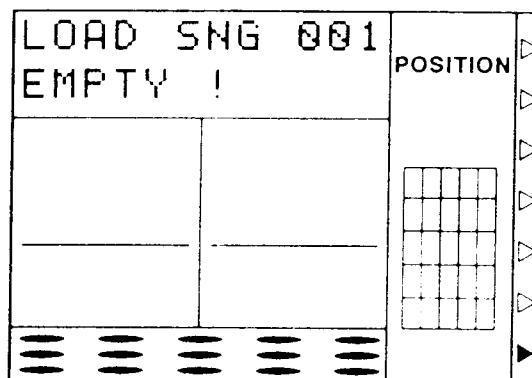
3. Press the PLAY/ENTER switch. The display will show the Y/N screen. Turn the dial clockwise (to the right) to execute the LOAD operation. Or, turn the dial counterclockwise (to the left) to cancel the operation.

4. When the operation is completed, "Completed" will be displayed.
(When the operation is canceled, "Canceled" will be displayed.)



Note:

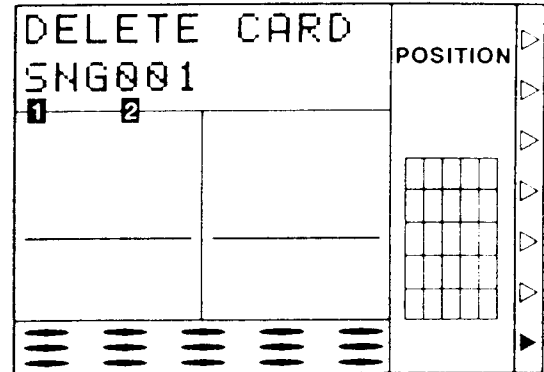
* If there is no data on the card RAM, "EMPTY" will be displayed for a while.




12) DELETE CARD

This deletes data from CARD RAM (KAWAI DC-16 or DC-32).

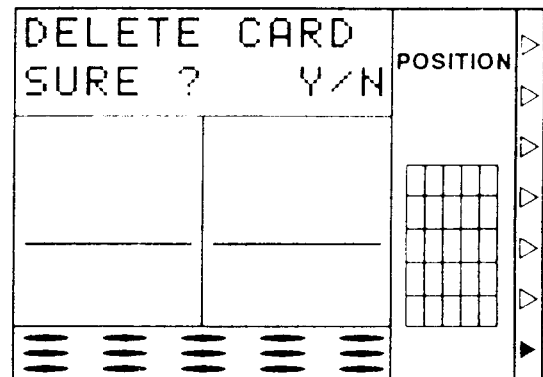
1. Insert a RAM card into the card slot of the GB-4.
2. Press the PAGE +1 switch in the LOAD FROM CARD screen. The display will show the following screen. Use the CURSOR switches and dial to change value.



1. Type of the data: SNG (SONG) , CHD (CHORD), STL (STYLE), GB2(GB-2 USER CARD PATTERNS)
- 2: Data Number on the CARD RAM
- SNG (SONG) 001 - 010: one of the USER SONGS.
- CHD (CHORD) 001 - 050: one of the USER CHORD PROGRESSIONS.
- STL (STYLE) 001 - 050: one of the USER STYLES.
- GB2 001 -010: one of the GB 2 USER CARD PATTERNS
- 

Note: If you attempt to press the PAGE +1 switch when a RAM card is not inserted into the card slot, the display will show "Insert CARD".

3. Press the PLAY/ENTER switch. The display will show the Y/N screen. Turn the dial clockwise (to the right) to execute the DELETE operation. Or, turn the dial counterclockwise (to the left) to cancel the operation.
4. When the operation is completed, "Completed" will be displayed. (When the operation is canceled, "Canceled" will be displayed.)

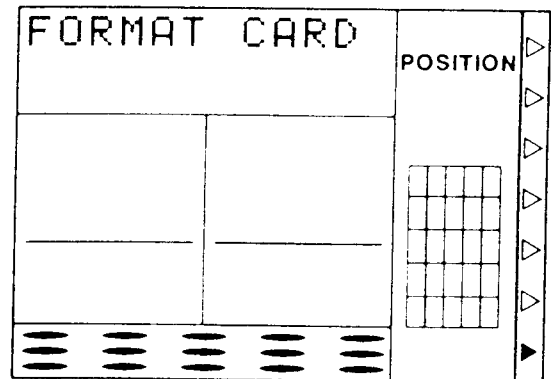


13) FORMATTING CARD

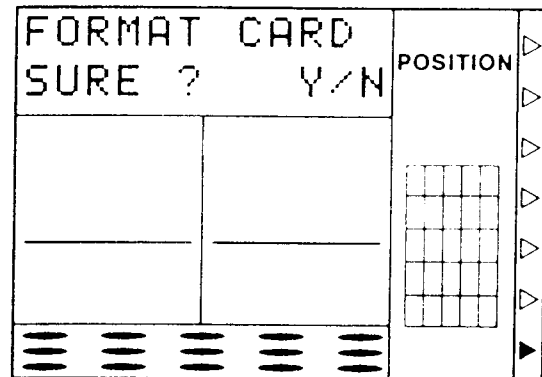
Formatting must be carried out when using a new RAM card or when using a RAM card which has been previously formatted for another model.

Note: Formatting will delete any contents on the card! Be careful not to carelessly format a card which may contain important data.

1. Insert a RAM card into the card slot of the GB-4.
2. Press the PAGE +1 switch in the DELETE CARD screen. The display will show the following screen.



3. Press the PLAY ENTER switch. The display will show the Y/N screen. Turn the dial clockwise (to the right) to execute the FORMAT operation. Or, turn the dial counterclockwise (to the left) to cancel the operation.
4. When the operation is completed, "Completed" will be displayed. (When the operation is canceled, "Canceled" will be displayed.)

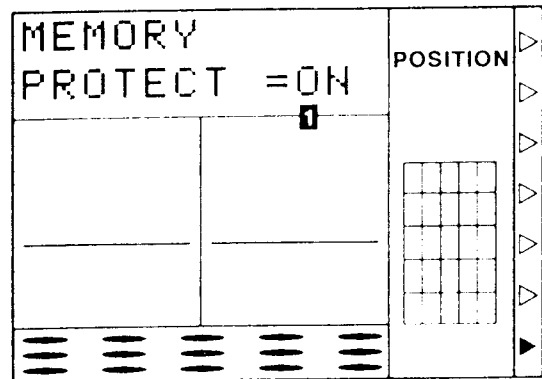


14) MEMORY PROTECT

This protects the data on the GB-4 (except for SYSTEM settings) from accidental erasure.

1. Press the PAGE +I switch in the LOAD FROM CARD screen. The display will show the following screen. Use the CURSOR switches and dial to change value.

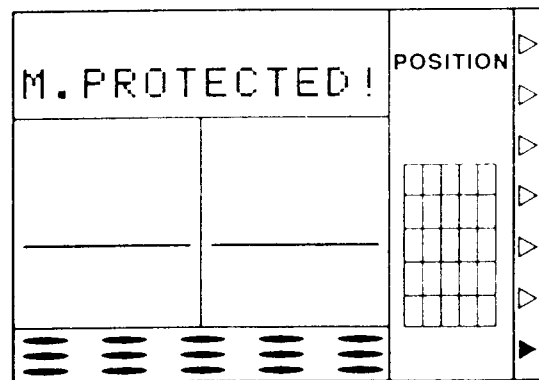
1. Value: ON, OFF



NOTES:

* When you want to edit data on the GB-4, select the value "OFF".

* If you attempt to edit data with the "PROTECT = ON", "M.PROTECTED" will be displayed to indicate that you cannot edit data.



15) FILES

This displays the data name on a CARD RAM.

1. Press the PAGE +1 switch in the MEMORY PROTECT screen. The display will show the following screen. Use the CURSOR switches and dial to change value.

1. Type of the data: SNG (SONG) , CHD (CHORD), STL (STYLE), GB2(GB-2 USER CARD PATTERNS)

2 Data Number on the CARD RAM

SNG (SONG) 001 - 010: one of the USER SONGS.

CHD (CHORD) 001 - 050: one of the USER CHORD PROGRESSIONS.

STL (STYLE) 001 - 050: one of the USER STYLES.

GB2 001 -010: one of the GB-2 USER CARD PATTERNS.

3. File name

Note:

** If there is no data, "EMPTY" will be displayed in the File name field.*

TONE LIST

No.	No.	No.	No.
1 Piano 1	41 Violin1	81 SqLead1	121 FrNoise
2 Piano 2	42 Viola	82 SwLead1	122 Gt/App
3 Piano 3	43 Cello	83 Bras/Ap	123 Dist/Ap
4 HonkyPf	44 CntrBas	84 BrasSc2	124 DsSlide
5 EPiano1	45 EPiano3	85 Charang	125 SqLead2
6 EPiano2	46 Pizzcato	86 DistGt2	126 StrEns3
7 Hrpsicd	47 Harp	87 DistGt3	127 Aplaus2
8 Clavi1	48 Timpani	88 BasLead	128 StrEns4
9 Celesta	49 StrEns1	89 SynBas3	129 StVoice
10 Glocken	50 StrEns2	90 WarmPad	130 Bs/Hand
11 MuscBox	51 SynStr1	91 SynPad	131 Violin2
12 Vibe	52 SynStr2	92 SlapBs3	132 StVoice
13 Marmba1	53 ChorAah	93 BowdPad	133 StrEns5
14 Xylophn	54 EPiano4	94 PkBass2	134 SwLead2
15 Piano 4	55 PfStrng	95 HaloPad	135 Trumpet2
16 Piano 5	56 OcheHit	96 SwepPad	136 Marmba2
17 DrawOrg	57 Trumpet1	97 Rain	137 EPTripet
18 PrcOrg1	58 Trombon	98 SoundTr	138 FkCtr2
19 RokOrg1	59 Tuba	99 Crystal	139 AcGtr2
20 PipeOg1	60 PfVoice	100 Atmsphr	140 ClenGt2
21 ReedOrg	61 EPiano5	101 Bright	141 GtHarm2
22 Accord1	62 BrasSc1	102 Frless2	142 DistGt4
23 Harmnca	63 SynBras	103 Echoes	143 AcGtr3
24 TangoAc	64 PrcOrg2	104 AcBas2	144 AcGtr4
25 AcGtr1	65 RokOrg2	105 Sitar	145 AcGtr5
26 FkGtr1	66 PrcOrg3	106 Banjo	146 FkGtr3
27 JazGtr1	67 TnrSax1	107 FgBass2	147 FkGtr4
28 ClenGt1	68 Flute 1	108 Koto	148 FkGtr5
29 MuteGt1	69 PipeOg2	109 Voice	149 JazGtr2
30 ODGuit1	70 PipeOg3	110 SynBas4	150 ClenGt3
31 DistGt1	71 Accord2	111 Fiddle	151 ClenGt4
32 GtHarm1	72 Clarint	112 OcheHit	152 ClenGt5
33 AcBass1	73 Banjo	113 DtSlide	153 MuteGt2
34 FgBass1	74 Flute 2	114 Hand/Ap	154 ODGuit2
35 PkBass1	75 AcFkGtr	115 SteelDr	155 DistGt5
36 Frless1	76 AtkBass	116 Aplaus1	156 DistGt6
37 SlapBs1	77 Clavi 2	117 Bas/Ap1	157 FgBass3
38 SlapBs2	78 SteelDr	118 Bas/Ap2	158 Frless3
39 SynBas1	79 Pf/Hand	119 Org/App	159 SlapBs3
40 SynBas2	80 TnrSax2	120 RvrsCym	160 SynBas5

If you want to select ones number (129-160) through an external MID device, use the BANK message (MSB, LSB) (0, 7) and PROGRAM CHANGE messages (29-60) . Use the BANK message (MSB, LSB) (0, 0) and PROGRAM CHANGE messages (0-127) if you want to select tones number (1-128)

DRUM KEY ASSIGNMENT

0	Bob Bass Drum	46	Open Hi-Hat	91	DIST.SLIDE 3
1	BD 1	47	Low Mid Tom	92	DIST.SLIDE 4
2	Bob Snare	48	Hi Mid Tom	93	HANDS 1
3	SD 1	49	Crash Cymbal 1	94	HANDS 2
4	SD 2	50	High Tom	95	HANDS 3
5	TOM.Lo 1	51	Ride Cymbal 1	96	Reverse Cymbal
6	TOM.Lo2	52	Chinese Cymbal	97	Brush Tap
7	TOM.Mid	53	Ride bell	98	Brush Slap
8	TOM.Mid	54	Tambourine	99	Brush Swil
9	TOM.Hi 1	55	Splash Cymbal	100	Jazz Bass Drum
10	SIDE CYMBAL Hi	56	Cowbell	101	HANDS 4
11	TOM.Hi 2	57	Crash Cymbal 2	102	APPLAUSE 1
12	TOP CYMBAL	58	Vibraslap	103	APPLAUSE 2
13	SIDE CYMBAL Lo	59	Ride Cymbal 2	104	Timpani F
14	SIDE SYMBAL MUTE 1	60	Hi Bongo	105	Timpani F#
15	BD 2	61	Low Bongo	106	Timpani G
16	SIDE CYMBAL MUTE 2	62	Mute Hi Conga	107	Timpani G#
17	SD 3	63	Open Hi Conga	108	Timpani A
18	Mondo Kick	64	Low Conga	109	Timpani A#
19	Gated Snare	65	High Timbal	110	Timpani B
20	Power Tom Low 2	66	Low Timbal	111	Timpani C
21	Power Tom Low 1	67	High Agogo	112	Timpani C#
22	Power Tom Mid 2	68	Low Agogo	113	Timpani D
23	Power Tom Mid 1	69	Cabasa	114	Timpani D#
24	Power Tom High 2	70	Maracas	115	Timpani E
25	Power Tom High 1	71	Short Whistle	116	Timpani F2
26	GONG	72	Long Whistle	117	APPLAUSE 3
27	BONGO Lo	73	Short Guiro	118	HANDS 5
28	SD 4	74	Long Guiro	119	Applause
29	CONGA Hi	75	Claves	120	HANDS 6
30	CONGA Lo	76	Hi Wood Block	121	HANDS 7
31	Sticks	77	Low Wood Block	122	HANDS 8
32	SPLASH	78	Mute Cuica	123	HANDS 9
33	Metronome Click	79	Open Cuica	124	HANDS 10
34	Metronome Bell	80	Mute Triangle	125	HANDS 11
35	Acoustic Bass Drum	81	Open Triangle	126	HANDS 12
36	Bass Drum 1	82	Shaker	127	HH.HALF OPEN
37	Side Stick	83	Jingle Bell		
38	Acoustic Snare 1	84	DIST.SLIDE 1		
39	Hand Clap	85	Castanet		
40	Acoustic Snare 2	86	Mute Surdo		
41	Low Floor Tom	87	Open Surdo		
42	Closed Hi-Hat	88	Electric Bass Drum		
43	High Floor Tom	89	Electric Snare		
44	Pedal Hi-Hat	90	DIST.SLIDE 2		
45	Low Tom				

CHORD LIST

[sus4]	
[add9]	
[b5]	
[aug]	
[omit3rd]	
[m]	
[madd9]	
[m(#5)]	
[m omit3rd]	
[Δ7]	
[Δ7(#5)]	
[Δ7(b5)]	
[Δ9]	
[Δ7(13)]	
[Δ9(13)]	
[Δ9(#11)]	
[Δ7(#11,13)]	
[Δ9(#11,13)]	
[M9(#11,13)]	
[6]	
[6(9)]	
[m7]	
[m9]	
[m7(11)]	
[m9(11)]	
[m7(b13)]	
[m7(11,b13)]	
[mΔ7]	
[mΔ9]	
[m6]	
[m6(9)]	

[7b5]	
[aug7]	
[7sus4]	
[9]	
[11]	
[13]	
[9(13)]	
[9(11,13)]	
[7(b9)]	
[7(#9)]	
[7(#11)]	
[7b13]	
[7(b9,13)]	
[7(b9,11)]	
[7(b9,11,13)]	
[7(#9,11,13)]	
[m7(b5)]	
[m7(b5,b9)]	
[m7(b5,11)]	
[dim]	
[dimΔ7]	
[dim(b13)]	

MIDI DATA FORMAT

1. TRANSMITTED DATA

1001nnnn	0kkkkkkk	00000000	Note off kkkkkkk = 0 - 127
1001nnnn	0kkkkkkk	0vvvvvvv	Note on kkkkkkk = 0 - 127 vvvvvv = 1 - 127
1011nnnn	00000000	00000000	Bank select MSB
1011nnnn	00100000	0vvvvvvv	Bank select LSB vvvvvv = 0 or 7
1011nnnn	00000110	0vvvvvvv	Date entry vvvvvv = 0 - 127
1011nnnn	00000111	0vvvvvvv	Main volume vvvvvv = 0 - 127
1011nnnn	00001010	0vvvvvvv	Pan pot vvvvvv = 0 - 127
1011nnnn	00001011	0vvvvvvv	Expression vvvvvv = 0 - 127
1011nnnn	01100100	0vvvvvvv	RPC LSB vvvvvv = 0 - 2
1011nnnn	01100101	00000000	RPC MSB
1100nnnn	0ppppppp	-----	Program change ppppppp = 0 - 127
1110nnnn	00000000	0hhhhhhh	Pitch bender hhhhhhh = 0 - 127
11111000	-----	-----	Clock
11111010	-----	-----	Start
11111011	-----	-----	Continue
11111100	-----	-----	Stop
11111110	-----	-----	Active sensing

nnnn = Channel no.

RPC : Registered parameter control

2. RECOGNIZED DATA

1000nnnn	0kkkkkkk	0vvvvvv	Note off kkkkkkk = 0 - 127 vvvvvv = 0 - 127
1001nnnn	0kkkkkkk	00000000	Note off kkkkkkk = 0 - 127
1001nnnn	0kkkkkkk	0vvvvvv	Note on kkkkkkk = 0 - 127 vvvvvv = 1 - 127
1011nnnn	00000000	00000000	Bank select MSB
1011nnnn	00100000	0vvvvvv	Bank select LSB vvvvvv = 0 or 7
1011nnnn	00000001	0vvvvvv	Modulation vvvvvv = 0 - 127
1011nnnn	00000110	0vvvvvv	Data entry vvvvvv = 0 - 127
1011nnnn	00000111	0vvvvvv	Main volume vvvvvv = 0 - 127
1011nnnn	00001010	0vvvvvv	Pan pot vvvvvv = 0 - 127
1011nnnn	00001011	0vvvvvv	Expression vvvvvv = 0 - 127
1011nnnn	01000000	0vvvvvv	Hold1 vvvvvv = 0 - 127 (0 - 63:off / 64 - 127:on)
1011nnnn	01000011	0vvvvvv	Soft pedal vvvvvv = 0 - 127 (0 - 63:off / 64 - 127:on)
1011nnnn	01000101	0vvvvvv	Hold2 vvvvvv = 0 - 127 (0 - 63:off / 64 - 127:on)
1011nnnn	01100100	0vvvvvv	RPC LSB vvvvvv = 0 - 2
1011nnnn	01100101	00000000	RPC MSB
1100nnnn	0ppppppp	-----	Program change ppppppp = 0 - 127
1101nnnn	0vvvvvv	-----	Ch.pressure vvvvvv = 0 - 127
1110nnnn	00000000	0hhhhhhh	Pitch bender hhhhhhh = 0 - 127
11111000	-----	-----	Clock
11111010	-----	-----	Start
11111011	-----	-----	Continue
11111100	-----	-----	Stop
11111110	-----	-----	Active sensing

nnnn = Channel no.

RPC : Registered parameter control

3 EXCLUSIVE DATA FORMAT

Status	11110000	F0H	System Exclusive
Kawai ID no.	01000000	40H	
Channel no.	0000nnnn	00H - 0FH	
Function no.	00100000	20H	Block data dump
Group no.	00000010	02H	
Machine ID no.	00000100	04H	GB-4 ID
Data ID no.	000000dd	00H - 03H	
Data 1 high	0000hhhh		
Data 1 low	0000 llll		
Data 2 high	0000hhhh		
Data 2 low	0000 llll		
...	...		
...	...		
...	...		
...	...		
Data n high	0000hhhh		
Data n low	0000 llll		
EOX	11110111	F7H	

Data ID no. 0 : User Song
 1 : User Chord
 2 : User Style
 3 : GB-2 User Chord

```

If Data n is hhhh llll
    Data n high : 0000hhhh
    Data n low  : 0000llll

```

Specifications

INTERNAL MEMORY: 100 (95 in the U.S. market) Songs, 100 Patterns, 100 Chord Progressions

USER MEMORY: 10 Songs, 50 Patterns, 50 Chord Progressions

JACKS: CARD slot, FOOT SWITCH, DC IN, MIDI IN/OUT,
4 OUTPUTS, GUITAR/LINE IN, PHONES

Dimensions: 257 x 225 x 64 (mm), 10 1/8" x 9" x 2 1/2"

Weight: 1.4 kg, 3.1 lbs.

Accessory: AC adaptor PS-123 (included)

GB-4 MIDI IMPLEMENTATION CHART

Date : NOV '94
Version : 1.0

Function		TRANSMITTED	RECEIVE	REMARKS
Basic Channel	Default Changed	1 ~ 16 1 ~ 16	1 ~ 16 1 ~ 16	for Exclusive ID
Mode	Default Message Altered	Mode 3 × *****	Mode 3 × *****	
Note Number	True Voice	0 - 127 *****	0 - 127 0 - 127	
Velocity	Note On Note Off	○ × 9n v=0	○ × 8n,9n v=0	
After Touch	Key's Ch's	× ×	× ○	
Pitch Bend		○ (7bit)	○ (7bit)	
Control Change	0, 32 1 6 7 10 11 64 67 69 100, 110	○ × ○ ○ ○ ○ × × × ○	○ ○ ○ ○ ○ ○ ○ ○ ○ ○	Bank MSB, LSB Modulation Data entry Volume Panpot Expression Hold (Damper) Reverb Soft pedal RPN LSB, MSB
Program Change		○ (0 - 127) *****	○ 0 - 127	
System Exclusive		○	○	
Common	: Song Position : Song Select : Tune	× × ×	× × ×	
System Realtime	: Clock : Commands	○ ○	○ ○	
Others	: Local ON/OFF : All notes off : Active sensing : Reset	× × ○ ×	× ○ (123 - 127) ○ ×	
Notes		RPN #0 Pitch bender sensitivity #1 Fine tuning #2 Coarse tuning		

Mode 1 : OMNI ON, POLY
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON, MONO
Mode 4 : OMNI OFF, MONO

Kawai Musical Inst. Mfg. Co., Ltd.
OW721E-R 9501
Printed in Japan