I-3 RHYTHM & PLAY ASSIST

3-(1) PROGRAMMABLE RHYTHM

This section is for obtaining realistic percussion sounds from the AWM sound source, allowing you to assign 22 Preset patterns as well as to create your own original patterns.

(Preset Patterns)

Press a Dotted Button.

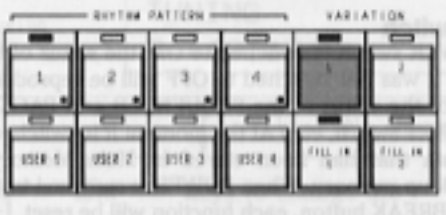
RHY.PTN.MENU
01:8 BEAT 1

Use the "∨" and "∧" keys to select the pattern to be assigned.

RHY.PTN.MENU
02:8 BEAT 2
03:8 BEAT 3
: :
: :
22:WALTZ 1
01:8 BEAT 1

Also assign patterns respectively to the other Dotted buttons.

Select either VARIATION 1 or 2.



(USER Patterns)

Use the RHYTHM PATTERN EDIT of MULTI MENU to program an original pattern, then press one of the USER buttons. [→Page 50]

- When a Dotted button is pressed, the LCD changes to the display shown on the left. The LCD bottom line displays the number and name of the Rhythm pattern currently assigned to the pressed button.
  Note that, when Reset is performed, the following are assigned:
  1→[01: 8 BEAT 1], 2→[03: 8 BEAT 3],
  3→[13: LATIN], 4→[16: SAMBA]
- One of the Pattern Select buttons is always ON. To assign a pattern to a Dotted button that is already ON (or to confirm the assigned pattern), press the button once more.
- When the "∨" key is pressed, the number displayed on the LCD is incremented by one and the pattern changes correspondingly. Start the rhythm to confirm the pattern.
- In place of the "∨" and "∧" keys, the pattern can also be selected using the SUB DATA numeric buttons. Enter the number of the pattern to be assigned using the SUB DATA numeric buttons, then press the ENTER key.
- The Preset Rhythm patterns consist of the 22 types below. [→HX RHYTHM LIST]

01: 8 BEAT 1	07: BOUNCE 1	13: LATIN	19: MARCH 1
02: 8 BEAT 2	08: BOUNCE 2	14: SALSA	20: MARCH 2
03: 8 BEAT 3	09: SLOW ROCK	15: BOSSANOVA	21: WALTZ 1
04: 16 BEAT 1	10: BALLAD	16: SAMBA	22: WALTZ 2
05: 16 BEAT 2	11: 4 BEAT 1	17: TANGO	
06: DISCO	12: 4 BEAT 2	18: COUNTRY	

- Each pattern consists of eight measures forming a single unit: [A]→[B]→[A]→[C]→[A]→[B]→[A]→[D] (Each pair of brackets represents one measure.)
- After displaying the pattern to be assigned on the LCD, either proceed to operation of other Dotted buttons, etc., or press the ENTER key. The pattern last displayed will be assigned. Moreover, the assignment data can be stored in Registration Memory.
- Each Preset pattern also consists of two types of patterns. After pattern assignment, select the button of VARIATION 1 or 2.
- It is also possible to copy the Preset patterns (22 × 2 patterns) to the USER buttons for editing. [→Page 58]

RHYTHM CONTROLS

Set the VOLUME.

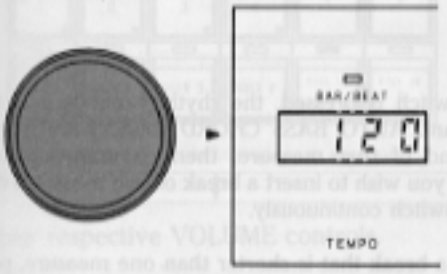
- The volume is maximum when set to MAX at the top position, and no sound is produced when set to MIN at the bottom position.

To set VOLUME to a finer level [→Page 15]

Set the BALANCE.

- BALANCE can be used to control the volume balance of the percussion sounds comprising a Rhythm pattern.
  Toward top: The cymbal sounds become louder, and no drum sounds are produced when set to the top position.
  Toward bottom: The drum sounds become louder, and no cymbal sounds are produced when set to the bottom position.

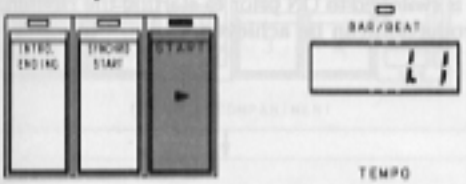
Set the TEMPO.



- When POWER is switched to ON, the currently set tempo is indicated on the Display. Use the knob at the left of the Display to adjust the tempo.
  Clockwise rotation: The numeric value on the display is incremented one step at a time, and the tempo is increased. (Max: 240)
  Counter-clockwise rotation: The numeric value on the display is decreased one step at a time, and the tempo is decreased. (Min: 40)

To control TEMPO using the 2nd Expression Pedal [→Page 72]

Start the rhythm.



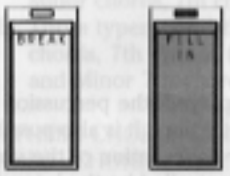
- When the START switch at the left of the lower keyboard is pressed, the rhythm is started; when it is pressed once more, the rhythm is stopped.
- When the SYNCHRO START switch is pressed in place of the START switch, the rhythm does not start immediately but starts concurrently with the pressing of the lower or pedal keyboard.
- When the rhythm is started, the Display that was indicating the tempo will change to indicate "Bar/Beat." (Max: 256 bars)
- The indicator above the Display lights up at the first beat (down beat) of each measure after the rhythm is started. From the time SYNCHRO START is pressed until the rhythm is started, the indicator lights up at each quarter note.

FILL IN

Select either FILL IN 1 or 2, then start the rhythm.

- Each Preset Rhythm pattern consists of two types of Fill In patterns. After completing pattern assignment, select the Fill In pattern by pressing FILL IN 1 or 2.
- Using RHYTHM PATTERN EDIT of MULTI MENU, you can also create and program your own original Fill In patterns. [→Page 50]
  It is also possible to copy and edit the Preset Fill In patterns (22 × 2 patterns). [→Page 58]

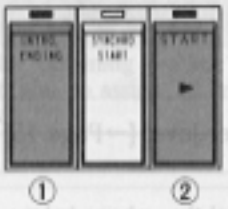
Switch the FILL IN switch to ON.



- When the switch is pressed, the Fill In pattern will sound until the end of that measure and the original Rhythm pattern will start again from the next measure. If you wish to play the Fill In pattern for two or more measures, depress the FILL IN switch continuously.
- When the Rhythm pattern switches over to the Fill In pattern, the CHORD ACCOMPANIMENT pattern and the bass pattern of AUTO BASS CHORD also change.
- The Fill In pattern can also be used as an introduction by pressing the FILL IN switch prior to starting the rhythm.

INTRO./ENDING

Press the INTRO./ENDING switch to start the rhythm.



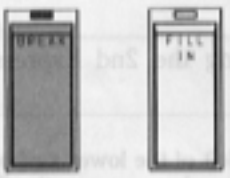
- When the INTRO./ENDING switch is pressed before starting the rhythm, the Intro. pattern suited to the currently selected Rhythm pattern will play for two measures after which the rhythm will start automatically.

When you are almost finished with a song, press the INTRO./ENDING switch.

- When the INTRO./ENDING switch is pressed after starting the rhythm, a maximum-length two-measure Ending pattern will play after which the rhythm will stop automatically.
- When switching over to the Ending pattern, the CHORD ACCOMPANIMENT pattern and the bass pattern of AUTO BASS CHORD also change.

BREAK

Start the rhythm, then switch BREAK to ON.



- When the BREAK switch is pressed, the rhythm sounds (and CHORD ACCOMPANIMENT and AUTO BASS CHORD sounds) are temporarily stopped until the end of that measure, then recommence from the following measure. If you wish to insert a break of two measures or more, depress the BREAK switch continuously.
- If you wish to insert a break that is shorter than one measure, press the BREAK switch once and stop the rhythm, then press it once more prior to the point where the rhythm should start again.
- If the BREAK switch is switched to ON prior to starting the rhythm, a one-measure "silent" introduction can be achieved.

3-(2) KEYBOARD PERCUSSION

This function enables the percussion sounds to be produced by pressing the keyboards. The various percussion sounds can also be assigned to any keys among the three keyboards.

[ENTER]

Assign the percussion sounds to the keyboards in advance, using KEYBOARD PERCUSSION ASSIGN fo MULTI MENU. [→Page 64]

- The data assigned by MULTI MENU can be saved together with the registration data in the RAM Pack. [→Page 74]

Switch KEYBOARD PERCUSSION to ON.

When the assigned keys are played, the percussion sounds are produced.

- When the assigned keys are played, the percussion sounds are produced together with the currently set voices. It is also possible to produce a drum solo by setting the temporary cancellation of the voices. The volume and timbre of percussion can be controlled by the intensity (Initial Touch) with which the keys are pressed.

3-(3) CHORD ACCOMPANIMENT

This function automatically produces an accompaniment synchronized with the rhythm on the basis of the chords played on the lower keyboard, and consists of two groups: RHYTHMIC CHORD and MELODIC CHORD.

Select one pattern each for RHYTHMIC CHORD and MELODIC CHORD.

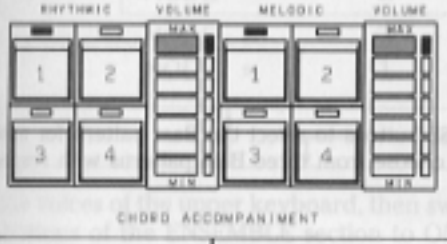
(Fig. of HX-1)

↓

Select the Rhythm pattern, Variation pattern, and Fill In pattern. [→Page 30]

↓

Set their respective VOLUME controls.



→ To set VOLUME to a finer level [→Page 15]

↓

Set the Digital Effectors, as required.

→ [→Page 20]

↓

When the rhythm is started and the lower keyboard is played, auto accompaniment will be produced.

- At the CHORD ACCOMPANIMENT section, two types of auto accompaniment that are synchronized with the rhythm can be obtained. You can produce either one type alone or both types simultaneously.

RHYTHMIC CHORD	Produces a strumming chord pattern synchronized with the rhythm, using the notes played on the lower keyboard.
MELODIC CHORD	Produces an arpeggio pattern synchronized with the rhythm, based on the notes played on the lower keyboard.

- The RHYTHMIC CHORD and MELODIC CHORD patterns and voices for HX-1 and HX-3 are as follows:

[HX-1]	Pattern (A)	Pattern (B)
Voice (a)	1	—
Voice (b)	—	2
Voice (c)	3	—
Voice (d)	—	4
[HX-3]	Pattern (A)	Pattern (B)
Voice (a)	1	—
Voice (b)	—	2

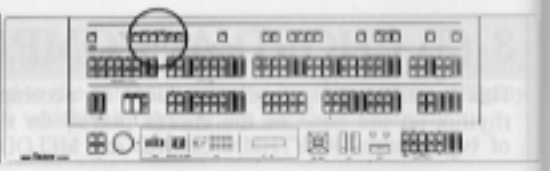
- The patterns and voices of RHYTHMIC CHORD and MELODIC CHORD are determined according to the Rhythm pattern selected. [→HX RHYTHM LIST]
- When FILL IN is switched to ON, the patterns of RHYTHMIC CHORD and MELODIC CHORD change. Even from the same Rhythm pattern, however, you can obtain different patterns using FILL IN 1 and 2.
- **CAUTION**: If the Rhythm pattern is changed after assigning a Digital Effector, the assigned Effector will assume the OFF status.
- If RHYTHMIC CHORD and MELODIC CHORD will not be used, set VOLUME to MIN at the bottom position.
- If the LOWER MEMORY of AUTO BASS CHORD is switched to ON, the sounds of RHYTHMIC CHORD and MELODIC CHORD will continue even if you release your fingers from the lower keyboard. Moreover, when the rhythm is stopped at such time, the RHYTHMIC CHORD and MELODIC CHORD sounds will also stop.

NOTES:

- The RHYTHMIC CHORD and MELODIC CHORD patterns and the bass patterns of AUTO BASS CHORD are also designed to change according to the type of chords played on the lower and pedal keyboards.
  - RHYTHMIC CHORD: Two types, consisting of the 7th chords and other chords
  - MELODIC CHORD: Four types, consisting of Major chords, Minor chords, 7th chords, and other chords
  - AUTO BASS CHORD: Three types, consisting of Major and Minor chords, 7th chords (and unformed chords), and Minor 7th chords
- Sound range of RHYTHMIC CHORD: G3 to F♯4
  Sound range of MELODIC CHORD : D♯2 or higher
- With the HX Electones, the RHYTHMIC CHORD and MELODIC CHORD patterns and the bass patterns of AUTO BASS CHORD are referred generically as the "ABC pattern." This ABC pattern is determined according to which Preset Rhythm pattern (22 × 2 patterns) is selected. [→HX RHYTHM LIST]
- While the USER button of RHYTHM is ON, the ABC pattern assumes the ABC pattern assigned to that USER button at the moment the RHYTHM PATTERN EDIT operation is started.
  To change the ABC pattern using the RHYTHM PATTERN EDIT operation, recall another ABC pattern using the RHYTHM PATTERN COPY function. [→Page 58]

3-(4) AUTO BASS CHORD

This function automatically produces the chord and bass accompaniment, and consists of three different modes. With MULTI BASS, you can obtain the Bass pattern suited to your selected Rhythm pattern.

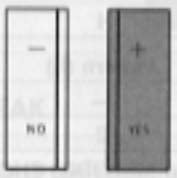


Switch the ABC button to ON.


```
AUTO BASS CHORD
MODE =    CUSTOM
```

(Change mode) (No change)

Use the "+" and "−" keys to select the mode.




```
AUTO BASS CHORD
MODE =    S.F.
MODE =    F.C.
MODE =    CUSTOM
```

Switch either MULTI BASS 1, 2 or 3 to ON.

Switch LOWER MEMORY and/or PEDAL MEMORY to ON, as required.

Select the Rhythm pattern, Variation pattern, and Fill In pattern.

Start the rhythm, then play the lower keyboard (and the pedal keyboard, in case of CUSTOM ABC).

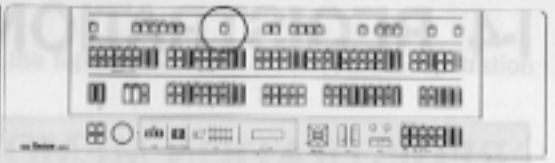
- When the ABC button is switched to ON, the LCD bottom line indicates the currently assigned mode for auto accompaniment. To change the mode, follow the procedure described below.
- When the ABC button is pressed once more and switched to OFF, "OFF" is displayed at the LCD bottom line.
- Use the "+" and "−" keys to select the auto accompaniment mode. The accompaniment method of each mode is as follows:

S.F. (SINGLE FINGER)	By pressing the lower keyboard as follows, four chord types are detected and automatic chord and bass accompaniment are produced. Maj chords: Press the root of the chord. Min chords: Press the root of the chord together with the black key on its left. 7th chords: Press the root of the chord together with the white key on its left. Min 7th chords: Press the root of the chord together with the black and white keys on its left.
F.C. (FINGERED CHORD)	The chords pressed on the lower keyboard are detected to produce auto bass accompaniment.
CUSTOM (CUSTOM ABC)	The chords pressed on the lower keyboard plus the note pressed on the pedal keyboard are detected to produce auto bass accompaniment.

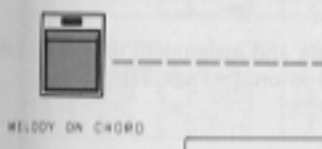
- Use the MULTI BASS buttons to select the Bass pattern for auto accompaniment. You can choose from three Bass patterns with respect to one Rhythm pattern.
- **LOWER MEMORY**: Even after releasing your fingers from the lower keyboard, the notes played up to such time will continue.
  PEDAL MEMORY: Even after releasing your foot from the pedal keyboard, the note played up to such time will continue.
- If the rhythm has been started, the LOWER MEMORY and PEDAL MEMORY will function even if the ABC button is switched to OFF.
- The Bass patterns of AUTO BASS CHORD are determined according to the Rhythm pattern selected.
- When FILL IN is switched to ON, the Bass pattern of AUTO BASS CHORD will change. Even from the same Rhythm pattern, however, you can obtain different patterns using FILL IN 1 and 2.
- With FINGERED CHORD or CUSTOM ABC, the following 15 types of chords can be detected as the chords for auto bass accompaniment: major, minor, 7th, minor 7th, major 7th, minor major 7th, aug (+5), aug 7th (7+5), dim, 7th sus4, min 7th-5, major-5, 7th-5, 6th, and minor 6th.

3-(5) MELODY ON CHORD

This function enables the automatic addition of harmony to the melody you play on the upper keyboard, and consists of three different modes.



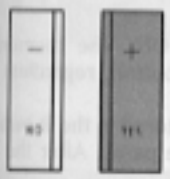
Switch MELODY ON CHORD to ON.




```
MELODY ON CHORD
MODE =      1
```

(Change mode) (No change)

Use the "+" and "−" keys to select the mode.




```
MELODY ON CHORD
MODE =      2
MODE =      3
MODE =      1
```

Set the voices of the upper keyboard, then switch the buttons of the ENSEMBLE section to ON.

When chords are pressed on the lower keyboard and the melody is played on the upper keyboard, harmony is added.

- When MELODY ON CHORD is switched to ON, the LCD bottom line indicates the currently assigned mode (harmony application method) of MELODY ON CHORD. To change the mode, follow the procedure described below.
- When MELODY ON CHORD is pressed once more and switched to OFF, "OFF" is displayed at the LCD bottom line.
- Select the mode using the "+" and "−" keys. The method of applying harmony in each mode is as follows:

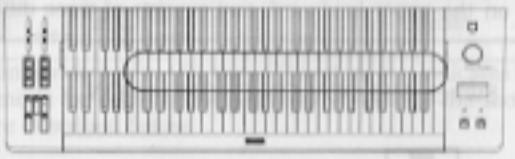
1	Harmony up to the two highest notes can be achieved within a range close to the melody.
2	Harmony up to the three highest notes can be achieved within a range close to the melody.
3	Harmony up to the four highest notes can be achieved within a range somewhat apart from the melody.

- The voices of the upper keyboard, excluding the LEAD section voices, are produced as the harmony of the MELODY ON CHORD.
- The harmony will be added only during the period wherein chords are pressed on the lower keyboard and the melody is played on the upper keyboard. Note that, while LOWER MEMORY of AUTO BASS CHORD is ON, the harmony will be added even if you release your fingers from the lower keyboard.

I-4 REGISTRATION MEMORY

REGISTRATION MEMORY

This function allows the storage of 16 types of registrations so that a stored registration can be recalled by pressing a single button.



Set the registration to be used for performance at each section of the panel. [→Pages 9-35]

- It is possible to store the ON/OFF data and assignment data of the voice sections, effects, rhythm section, and so on. [→Page 37]

While pressing the MEMORY/TO PACK button, press one of the numbered buttons (1-16).

- When one of the numbered buttons is pressed while pressing the MEMORY/TO PACK button, the pressed numbered button will flash to indicate memorization has been performed.

Set the other registration at the panel.

While pressing the MEMORY/TO PACK button, press another numbered button.

(Repeat)

- One of the 16 numbered buttons is always ON. The memorization operation can be performed any time for any button, regardless of the illumination status of the button.
  Memorization done for a lit button: The data stored in the lit button will replace the registration data currently set at the panel. After the button flashes, it will remain lit.
  Memorization done for an unlit button: The data of the lit button will remain unchanged, and only the data of the memorized button will be replaced. After the memorized button flashes, it will remain unlit (lighting up if pressed once more).

To program the playback sequence to SEQUENCER [→Page 39]

To control the Registration Memory using the Foot Switch (RIGHT), switch REGIST JUMP or REGIST SHIFT to ON. [→Page 26]

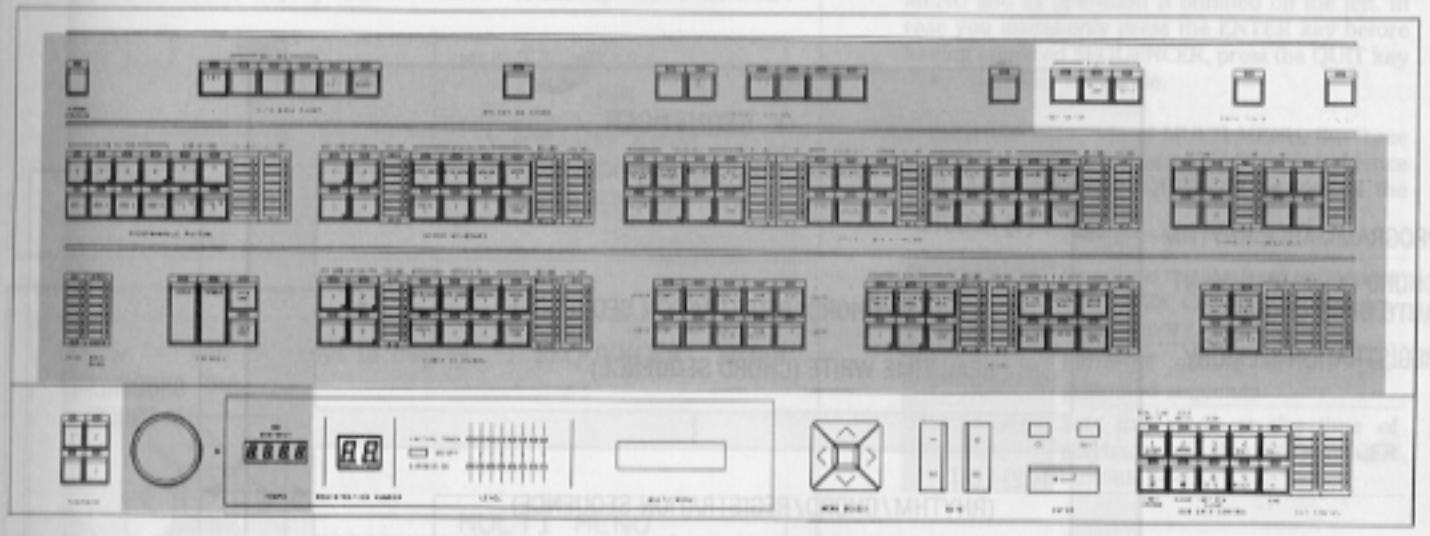
After recalling the registration to be used at the beginning of the song, start the music, then switch another numbered button to ON at the point you wish to change the registration.

NOTES:

- The data stored in the 16 numbered buttons are retained in back-up memory even after the system power is switched OFF. This data can also be saved in the RAM Pack. [→Page 74]
- When one of the buttons from 1 to 16 has been pressed and the stored registration has been reproduced at the panel, the registration can be changed by operating the panel. At such time, the pressed numbered button will remain lit; if it is pressed once more, the registration prior to editing at the panel will be restored.
- The REGISTRATION NUMBER display on the right of the TEMPO display indicates the number of the currently selected button.

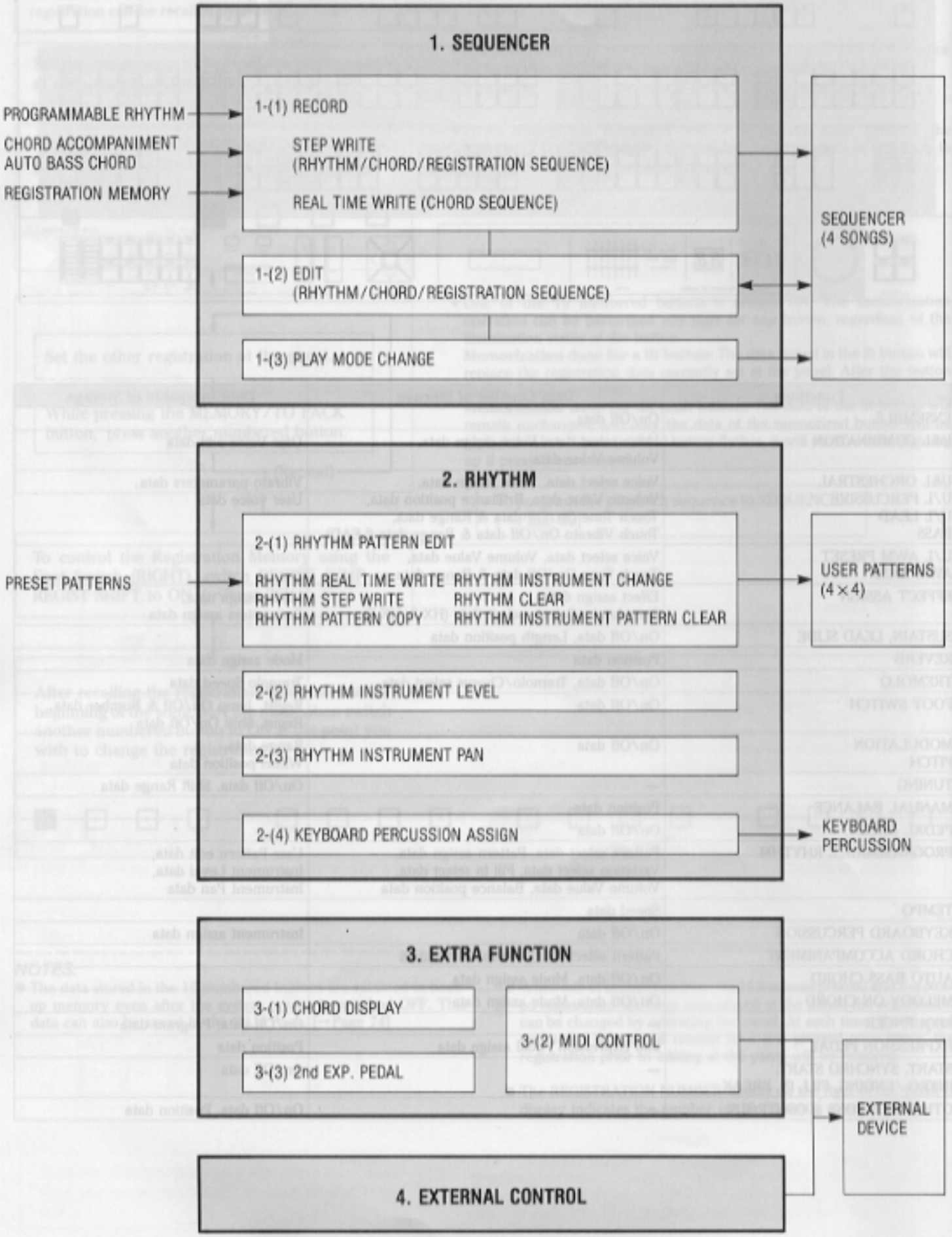
Functions and Data that can be stored in Registration Memory

The ON/OFF data and assignment data corresponding to the shaded section of the figure below can be stored in Registration Memory.



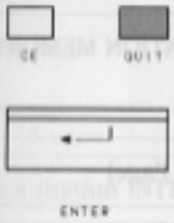
Functions	Data Capable of Storage	Data Incapable of Storage
ENSEMBLE	On/Off data	
U&L COMBINATION	Voice select data, Voice assign data, Volume Value data	User Voice edit data
U&L ORCHESTRAL U/L PERCUSSIVE U/L LEAD BASS	Voice select data, Voice assign data, Volume Value data, Brilliance position data, Touch Tone On/Off data & Range data, Touch Vibrato On/Off data & Range data (LEAD)	Vibrato parameters data, User voice data
U/L AWM PRESET AWM BASS	Voice select data, Volume Value data, Touch Tone On/Off data & Range data	
EFFECT ASSIGN	Effect assign data, Symphonic/Celeste select data (HX-3, HX-5)	Mode assign data, Parameters assign data
SUSTAIN, LEAD SLIDE	On/Off data, Length position data	
REVERB	Position data	Mode assign data
TREMOLO	On/Off data, Tremolo/Chorus select data	Tremolo Speed data
FOOT SWITCH	On/Off data	Regist. Jump On/Off & Number data, Regist. Shift On/Off data
MODULATION PITCH	On/Off data	Range data, Wheel position data
TUNING	—	On/Off data, Shift Range data
MANUAL BALANCE	Position data	
PEDAL D.R.C.	On/Off data	
PROGRAMMABLE RHYTHM	Pattern select data, Pattern assign data, Variation select data, Fill In select data, Volume Value data, Balance position data	User Pattern edit data, Instrument Level data, Instrument Pan data
TEMPO	Speed data	
KEYBOARD PERCUSSION	On/Off data	Instrument assign data
CHORD ACCOMPANIMENT	Pattern select data, Volume Value data	
AUTO BASS CHORD	On/Off data, Mode assign data	
MELODY ON CHORD	On/Off data, Mode assign data	
SEQUENCER	—	On/Off data, Program data
EXPRESSION PEDAL	2nd Expression Pedal assign data	Position data
START, SYNCHRO START, INTRO./ENDING, FILL IN, BREAK	—	On/Off data
OTHER BUTTONS & CONTROLS	—	On/Off data, Position data

II. MULTI MENU



II-1 SEQUENCER

Press the QUIT key to display "MULTI MENU" at the top line of the LCD.




```
MULTI MENU
 2.RHYTHM
 3.EXTRA FUNCT.
 4.EXT.CONTROL
 1.SEQUENCER
```

Use the "∨" and "∧" keys to display "1. SEQUENCER" at the LCD bottom line.


```
MULTI MENU
 1.SEQUENCER
```

Press the ENTER key.


```
SEQUENCER
1.RECORD
```

[QUIT]

Use the "∨" and "∧" keys to select a Sequencer job, then press the ENTER key.


```
SEQUENCER
2.EDIT
3.PLAY MODE CHNG
1.RECORD
```

1-(1) RECORD [→Next Page]

1-(2) EDIT [→Page 47]

1-(3) PLAY MODE CHANGE [→Page 49]

EDIT

PLAY MODE CHANGE

PLAY MODE CHANGE

When the START switch [►] is pressed, the data programmed into the Sequencer is played back.

Start the melody in time with the playback of the Sequencer.

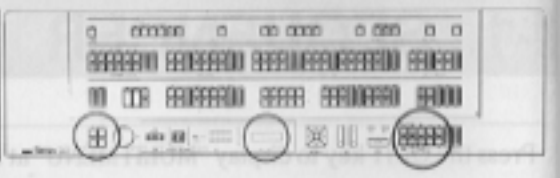
To save the data in the RAM Pack [→Page 74]

- SEQUENCER is the first function of the MULTI MENU and its operation is outlined on the left. In case you mistakenly press the ENTER key before having operated SEQUENCER, press the QUIT key to escape from the mode.
- In SEQUENCER mode of MULTI MENU, the three jobs below can be performed in correspondence with the respective SEQUENCER buttons of the panel.

RECORD	Programs the playback sequences of Rhythm, Chords, and Registration Memory.
EDIT	Performs editing of the programmed sequence.
PLAY MODE CHANGE	Sets the mode at the time of playback of the SEQUENCER buttons 1—4.

1-(1) RECORD

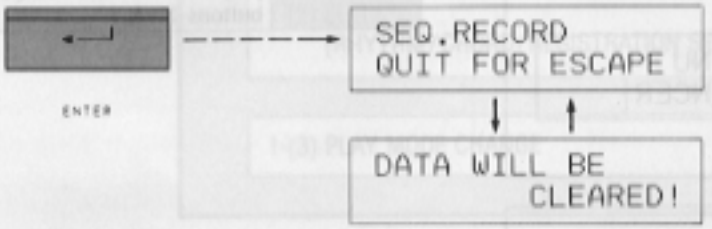
In accordance with the melodies (maximum: four melodies) to be played, this function respectively pre-programs a Rhythm, Chord or Registration sequence.



First of all, perform the setting of the contents (PROGRAMMABLE RHYTHM and REGISTRATION MEMORY) to be programmed into the Sequencer.

Display "1. SEQUENCER" at the LCD bottom line, then press the ENTER key. [→Previous Page]

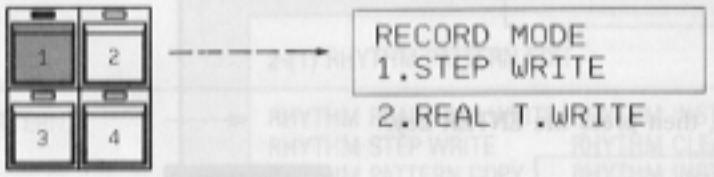
Press the ENTER key. (The two messages below are alternately displayed at the LCD.)



[QUIT]

Enter a RECORD job

Press one of the four flashing SEQUENCER buttons.

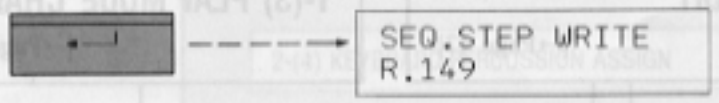


- Pressing the ENTER key causes the two messages on the left to be alternately displayed at the LCD and the SEQUENCER 1 - 4 buttons on the panel to start flashing.
  First, decide whether or not to perform a RECORD operation.
  When RECORD is not required: Press the QUIT key.
  When RECORD is required: Press one of the four flashing SEQUENCER buttons.

- **CAUTION**: When one of the flashing SEQUENCER buttons is pressed, all data that was programmed to that button will be cleared.

- When one of the SEQUENCER buttons on the panel is pressed, only the pressed button will continue flashing. The data entry methods are displayed at the LCD bottom line, allowing you to use the "∨" and "∧" keys to select "STEP WRITE" or "REAL TIME WRITE".

STEP WRITE

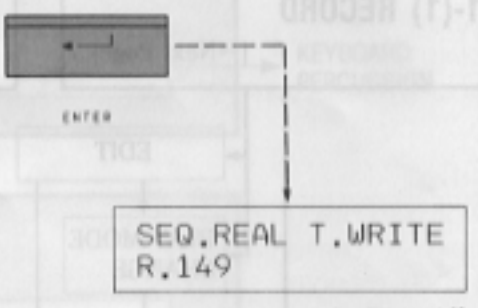


RHYTHM SEQUENCE PROGRAMMING	CHORD SEQUENCE PROGRAMMING	REGIST. SEQUENCE PROGRAMMING
[→Page 42]	[→Page 44]	[→Page 45]

RHYTHM/CHORD/REGIST. SEQUENCE PROGRAMMING [→Next Page]

- With STEP WRITE, you can respectively input a Rhythm, Chord or Registration Memory sequence one step at a time. All three sequences can be concurrently input or you may also input only one sequence.

REAL TIME WRITE
(CHORD SEQUENCE PROGRAMMING)



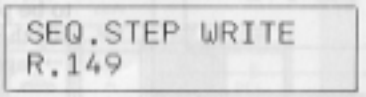
[→Page 46]

- With REAL TIME WRITE, you can input a Chord sequence by playing it in the same timing desired for playback.

STEP WRITE

RHYTHM/CHORD/REGIST. SEQUENCE PROGRAMMING

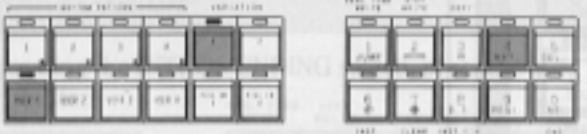
Select STEP WRITE mode, then press the ENTER key. [→Previous Page]



Program a rhythm INTRO., as required. [→Next Page]

CHORD SEQUENCE PROGRAMMING [→Page 44]

RHYTHM SEQUENCE PROGRAMMING [→Next Page]



(Repeat)

REGISTRATION SEQUENCE PROGRAMMING [→Page 45]

(Repeat)

Program a rhythm FILL IN (or BREAK), as required. [→Page 43]

Program a rhythm ENDING, as required. [→Page 43]

When the programming is completed, press the ENTER key.

Perform an EDIT operation, as required. [→Page 47]

Perform PLAY MODE CHANGE, as required. [→Page 49]

When the START switch [▶] is pressed, the programmed Rhythm, Chord, and Registration sequences are played back.

- The "R." displayed at the LCD bottom line is an abbreviation for "Remain," and indicates by numeric value the remaining memory capacity of the Sequencer. This value will decrease as you continue programming. (The value will be 149 when no data is programmed into SEQUENCER buttons 1-4.)
  When the SEQUENCER memory becomes full (Remain=0), an alarm is sounded three times, and "F" is displayed on the BAR/BEAT display.

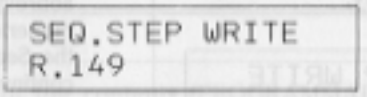
- Data that can be programmed into SEQUENCER

Rhythm Sequence	Selection data of the Rhythm patterns (Dotted buttons 1-4, USER buttons 1-4, VARIATION buttons, and FILL IN buttons) and the respective ON data of the INTRO./ENDING, FILL IN, and BREAK switches.
Chord Sequence	Type and duration of the chords to be sounded from the lower and pedal keyboards and the Repetition Symbol data.
Registration Sequence	Selection data of REGISTRATION MEMORY buttons 1-16 (the registration data stored at Buttons 1-16, however, are not programmed).

- When the ENTER key is pressed at the end of programming, the SEQUENCER button that was flashing changes to a lit status and playback becomes possible. Though playback is begun if the START switch is pressed in such status, perform EDIT or PLAY MODE CHANGE, as required.

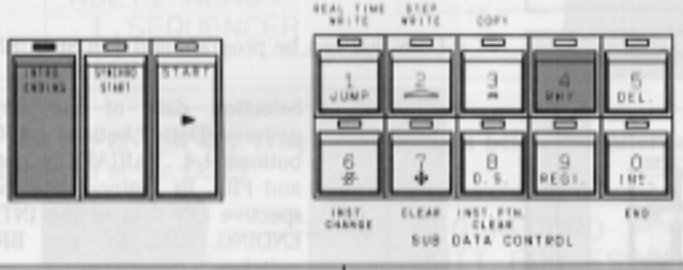
RHYTHM SEQUENCE PROGRAMMING (STEP WRITE)

Set the Rhythm pattern to be programmed at the beginning of the song. Next, select STEP WRITE mode, then press the ENTER key. [→Page 40]

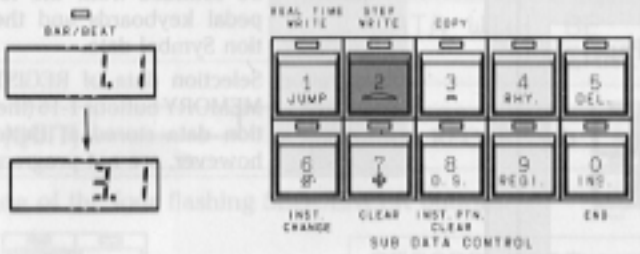


INTRO. PROGRAMMING

While depressing the INTRO./ENDING switch, press the SUB DATA "4/RHY." button.

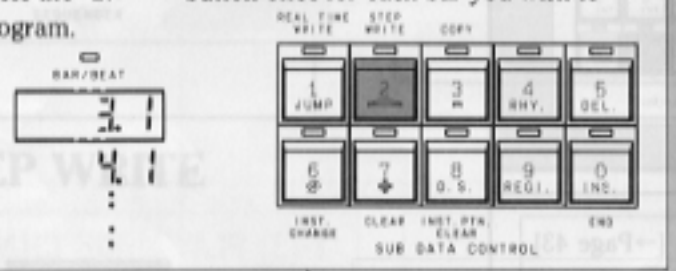


Press the "2/⟵" button twice.

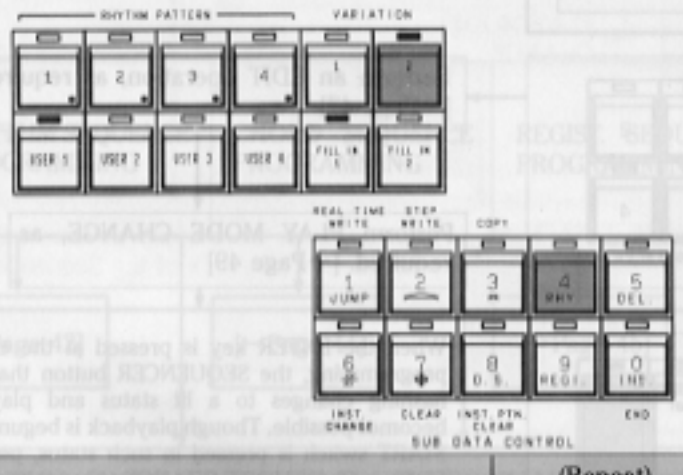


RHYTHM PATTERN PROGRAMMING

Press the "2/⟵" button once for each bar you wish to program.



Change the Rhythm pattern, then press the "4/RHY." button.



(Repeat)

(From Next Page)

(To Next Page)

- **CAUTION**: When the ENTER key is pressed and STEP WRITE mode is assumed, it becomes impossible to change the patterns currently assigned to the Dotted buttons and USER buttons 1-4. Before starting a RECORD operation, assign the patterns to be programmed to the Dotted buttons [→Page 30], then store the edited patterns at USER buttons [→Page 50].

- Since the INTRO. is a two-bar pattern, after pressing the "4/RHY." button and inputting the ON data, be sure to press the "2/⟵" button and input the duration data.

- **CAUTION**: When an INTRO. is programmed, the numeric value of the bar at the BAR/BEAT display is incremented by two. If you are counting and recording the number of bars, therefore, be sure to include the two-bar INTRO. section in the count. In contrast to the BAR display during a RECORD operation, the BAR display during INTRO. playback becomes "0".

- First, press the "2/⟵" button the required number of times, while viewing the BAR/BEAT display to program the currently set Rhythm pattern. The BAR/BEAT display shows which beat of which bar is to be programmed next.

- **CAUTION**: If the "3/ ⇔ " button is pressed in place of the "2/⟵" button, you can input a Rhythm pattern in one-beat units. If the Rhythm pattern is changed during a bar, however, the timing may not synchronize well, so try to perform input in bar units insofar as possible.

- Rhythm pattern data that can be programmed:

Dotted buttons	Selection data and Pattern Assign data (the data at the point where RECORD mode is entered)
USER buttons	Selection data (excluding Pattern Edit data)
VARIATION or FILL IN buttons	Selection data (excluding Pattern Edit data)

- When another Dotted button is pressed to change the Rhythm pattern, the name of the Rhythm pattern currently assigned to that button is displayed at the LCD bottom line.

- When the "2/⟵" button is pressed and the duration data is programmed, you can record the Repetition Symbol data using the "6/ 𝄋 ", "7/ 𝄎 ", and "8/D.S." buttons. [→Page 44]

(To Previous Page)

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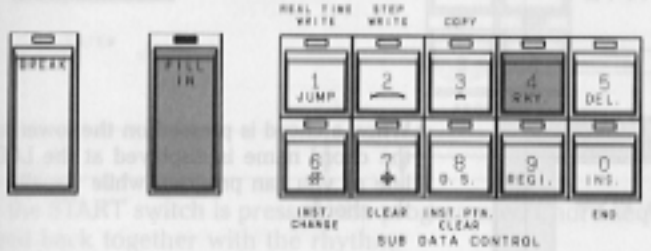
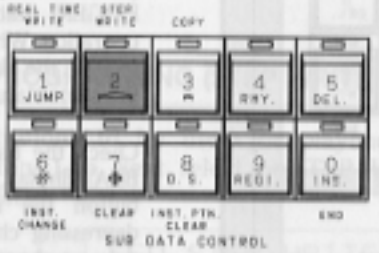
FILL IN (or BREAK) PROGRAMMING

While depressing the FILL IN (or BREAK) switch, press the "4/RHY." button.



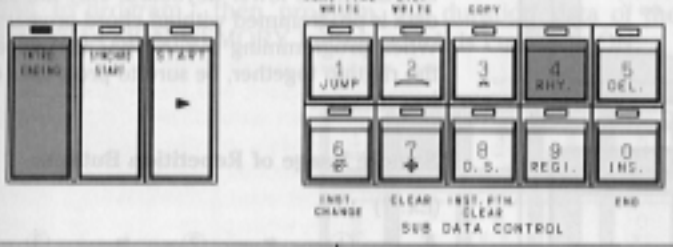
Press the "2/⟵" button.



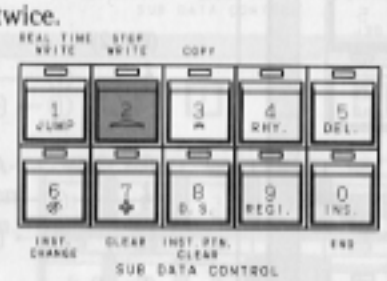
- To program FILL IN (or BREAK), input the ON data using the "4/RHY." button, then press the "2/⟵" button once and input its duration data. If you wish to program a FILL IN (or BREAK) pattern over multiple bars, just repeat the above operation.
- By performing the operation on the left after switching FILL IN Button 1 or 2, you can program another FILL IN pattern.

ENDING PROGRAMMING

While depressing the INTRO./ENDING switch, press the "4/RHY." button.



Press the "2/⟵" button twice.

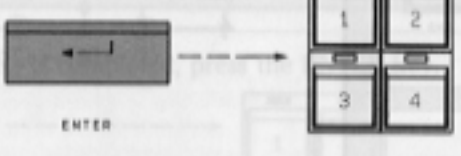


- To program an ENDING, similarly to INTRO., after inputting the ON data using the "4/RHY." button, press the "2/⟵" button twice, then input the duration data.

NOTE:

- If chords are pressed on the lower keyboard at the time you press the "2/⟵" button and input the rhythm duration data, you can program a Chord sequence together with the Rhythm sequence. [→Next Page]

When the programming is completed, press the ENTER key.



Perform an EDIT operation, as required. [→Page 47]

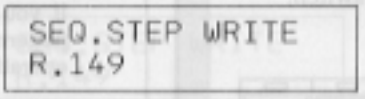
Perform a PLAY MODE CHANGE operation, as required. [→Page 49]

When the START switch [►] is pressed, the programmed Rhythm sequence is played back.

- When the programming is completed and the ENTER key is pressed, the SEQUENCE button changes to a lit status and playback becomes possible. Perform an EDIT and/or PLAY MODE CHANGE operation, as required.

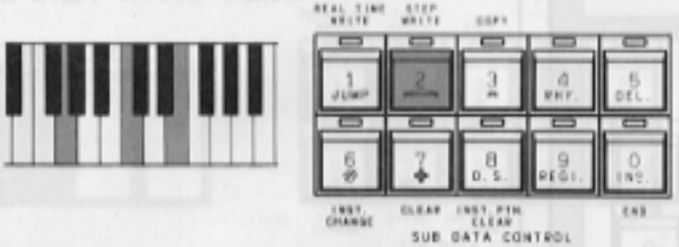
CHORD SEQUENCE PROGRAMMING (STEP WRITE)

First, preset the registrations to be used for the performance in REGISTRATION MEMORY. Next, select the STEP WRITE mode, then press the ENTER key.

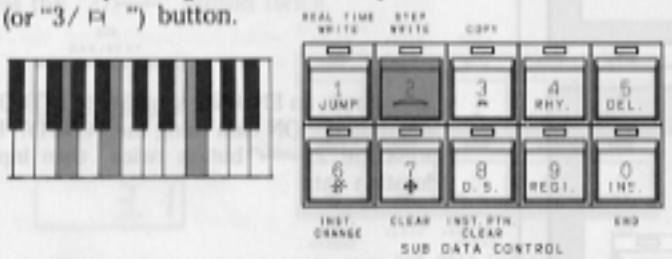


CHORD PROGRAMMING

While depressing a chord on the lower keyboard, press the "2/⟵" (or "3/𝄽") button.



While depressing the next chord, press the "2/⟵" (or "3/𝄽") button.



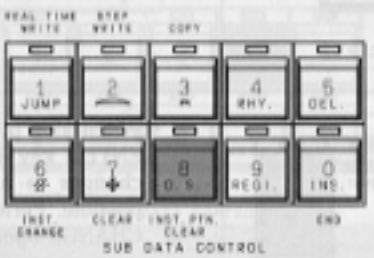
(Repeat)

REPETITION SYMBOL PROGRAMMING

Press the "6/𝄋" button at the point where "𝄋" or "𝄇" should appear.

Press the "7/𝄌" button at the point where "to 𝄌", "𝄆" or "Fine" should appear.

Press the "8/D.S." button at the point where "D.S.", "D.C." or "—𝄇" should appear.



(Repeat)

(To Next Page)

- When the ENTER key is pressed and the STEP WRITE Mode is entered, the number of the REGISTRATION MEMORY button that is lit at that time is automatically memorized.

- When a chord is pressed on the lower keyboard, the chord name is displayed at the LCD bottom line so you can program while visually checking the chords.

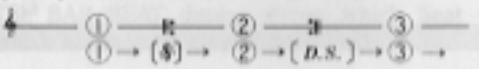
- The method of detecting chords during recording conforms to the AUTO BASS CHORD mode (CUSTOM ABC, FINGERED CHORD, and SINGLE FINGER) that is set upon entering a RECORD operation. While AUTO BASS CHORD is switched to OFF, the above chord detection will conform to the same status as when FINGERED CHORD is set.

- Check the bar to be programmed at the BAR/BEAT display, then press the "2/⟵" or "3/𝄽" button the required number of times while depressing chords on the lower keyboard. The data on chord type and the duration data will be programmed.
  "2/⟵": Programs a one-bar duration.
  "3/𝄽": Programs a one-beat duration.

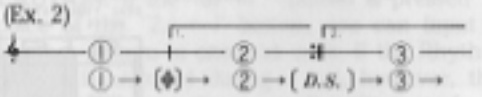
- **Chordless program**: When the "2/⟵" or "3/𝄽" button is pressed without depressing any chords on the lower keyboard, only the duration data is programmed without chord programming. When programming the INTRO., BREAK, etc., of the rhythm together, be sure to program a chordless measure.

- **Sample Usage of Repetition Buttons:**

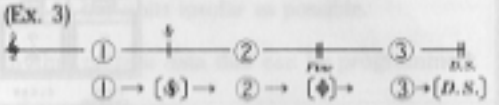
(Ex. 1)



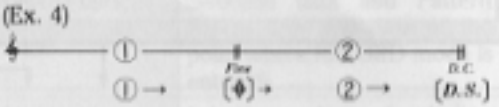
(Ex. 2)



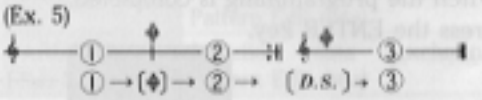
(Ex. 3)



(Ex. 4)

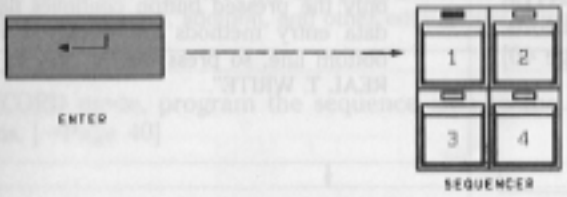


(Ex. 5)



(From Previous Page)

When the programming is completed, press the ENTER key.



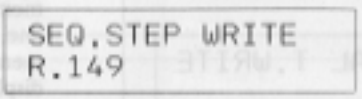
Perform an EDIT operation, as required. [→Page 47]

Perform a PLAY MODE CHANGE operation, as required. [→Page 49]

When the START switch is pressed, the programmed Chord sequence is played back together with the rhythm.

REGISTRATION SEQUENCE PROGRAMMING (STEP WRITE)

In advance, store the registrations to be used for playback at REGISTRATION MEMORY buttons 1-16. Next, select the STEP WRITE mode, then press the ENTER key.



REGISTRATION PROGRAMMING

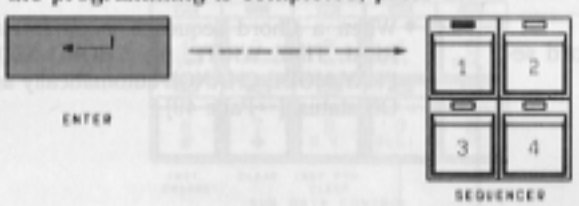
Press the "2/⟵" (or "3/ ⋈ ") button once for each bar you wish to program, then program the duration data of the REGISTRATION MEMORY button which is currently ON.

Press another REGISTRATION MEMORY button, then press the "9/REGI." button.

(Repeat)

- **CAUTION**: The Registration Memory data that can be programmed to the SEQUENCER consists only of its selection data; the registration data stored at Buttons 1-16 cannot be memorized. At SEQUENCER playback, therefore, when data differing from that of RECORD operations has been stored in Registration Memory, the RECORD registrations cannot be played back. If you wish to store the RECORD registration data, be sure to save it in the RAM Pack. [→Page 74]
- While checking the bar to be programmed at the BAR/BEAT display, press the "2/⟵" or "3/ ⋈ " button the required number of times. If chords are simultaneously pressed on the lower keyboard at this time, you can program a Chord sequence together with the Registration sequence. [→Previous Page]
- When another REGISTRATION MEMORY button is pressed, then the "9/REGI." button is pressed, the selection button of the most recently pressed REGISTRATION MEMORY button is programmed.
- When programming the duration data using the "2/⟵" or "3/ ⋈ " button, you can record the Repetition Symbol data using the "6/ 𝄋 ", "7/ 𝄎 " and "8/D.S." buttons. [→Previous Page]

When the programming is completed, press the ENTER key.



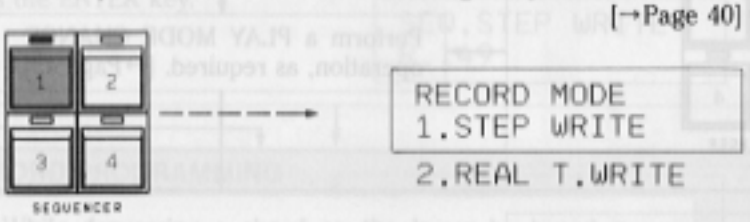
Perform an EDIT operation, as required. [→Page 47]

Perform a PLAY MODE CHANGE operation, as required. [→Page 49]

When the START switch is pressed, the programmed Registration sequence is played back together with the rhythm.

REAL TIME WRITE (CHORD SEQUENCE)

Display "SEQUENCER 1. RECORD" at the LCD, then press the ENTER key. Next, press one of the four flashing SEQUENCER buttons. [→Page 40]

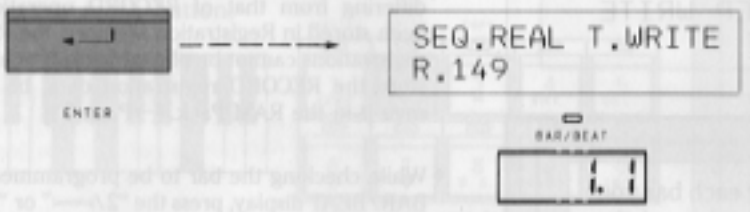


- When one of the SEQUENCER buttons is pressed, only the pressed button continues flashing. The data entry methods are displayed at the LCD bottom line, so press the "∨" key to display "2. REAL T. WRITE".

Use the "∨" key to display "2. REAL T. WRITE" at the LCD bottom line.

- **CAUTION**: The data to be programmed using REAL TIME WRITE consists only of the Chord sequence data and the registration data set at RECORD Start. Rhythm sequence data and Registration sequence data will not be memorized.

Press the ENTER key.

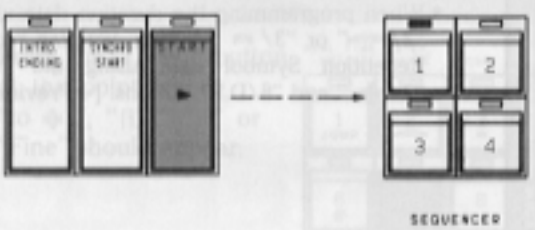


- When the ENTER key is pressed, the remaining memory capacity is displayed at the LCD bottom line, and the bar number and beat number to be memorized are displayed at the BAR/BEAT display.

Press the START switch [►] to start the rhythm, then play chords on the lower keyboard in real time.

- Recording is begun at the point where the START switch is pressed and the rhythm is started (the RECORD Start status). The interval up to the time when you begin playing chords, therefore, will also be memorized as a blank interval.
  If you do not want a blank interval inserted, start the rhythm while pressing the first chord.
- **CAUTION**: When recording is started by setting the SYNCHRO START switch to ON instead of the START switch, only the initially pressed chord is not recorded. If you wish to record the first chord, set the SYNCHRO START switch to ON while pressing a chord.
- **CAUTION**: With REAL TIME WRITE, chords are memorized in one-beat units. Data for durations shorter than one beat will not be memorized.

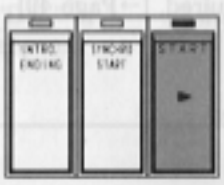
After playing chords until the end of the song, press the START switch [►] to stop the rhythm and terminate programming.



Perform an EDIT operation, as required. [→Next Page]

Perform a PLAY MODE CHANGE operation, as required. [→Page 49]

When the START switch [►] is pressed, the programmed Chord sequence is played back together with the rhythm.



- When a Chord sequence is programmed using REAL TIME WRITE, the CHORD SEQUENCE of PLAY MODE CHANGE automatically assumes the ON status. [→Page 49]

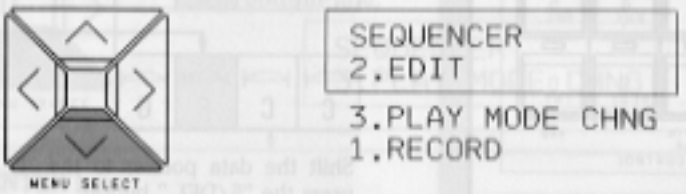
1-(2) EDIT

This mode allows you to retrieve the data programmed to the SEQUENCER to perform data correction, deletion, addition, and other editing operations.

In RECORD mode, program the sequence data to the SEQUENCER buttons. [→Page 40]

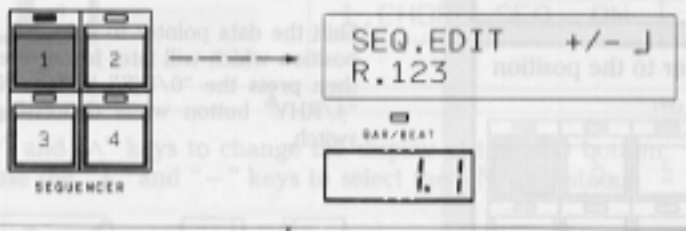
Display "MULTI MENU 1. SEQUENCER" at the LCD, then press the ENTER key. [→Page 39]

Use the "∨" and "∧" keys to display "2. EDIT" at the LCD bottom line.



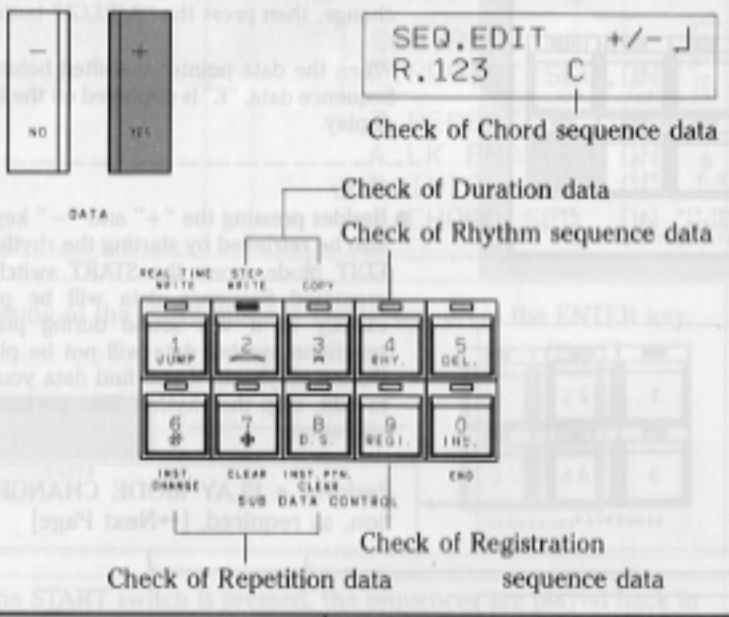
Press the ENTER key.

Press one of the four flashing SEQUENCER buttons.



Data Retrieval

Use the "+" and "−" keys to shift the data pointer and check the data.



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NOTE:

- Even when data has been programmed in STEP WRITE mode, data can be retrieved or edited by the EDIT mode operations described below. Any editing performed after leaving the RECORD mode, however, must be performed in EDIT mode.

- When the ENTER key is pressed, SEQUENCER Buttons 1-4 begin flashing. Press the button programmed with the data you wish to edit.

- When one of the SEQUENCER buttons is pressed, the registration at the time of RECORD Start reappears at the panel and the sequence data memorized at the beginning of the sequence is played back.

♦ Method of Shifting the Data Pointer:

"+" key	Each time it is pressed, the data pointer advances once.
"−" key	Each time it is pressed, the data pointer moves backward once.
"1/JUMP" button + "+" key	In one operation, the data pointer is advanced to its final position.
"1/JUMP" button + "−" key	In one operation, the data pointer is returned to its leading position.

♦ Methods of Checking Data:

Rhythm Sequence	At the position where the pattern is changed, "4/RHY." lights up and the recently pressed Pattern Select buttons light up. At the point where INTRO./ ENDING, FILL IN, and BREAK are input, "4/RHY." lights up and the respective switches light up.
Chord Sequence	The input chords are sounded from the lower keyboard, and chord names are displayed at the LCD bottom line.
Registration Sequence	At the position where a registration is changed, "9/REGI." lights up and the recently pressed REGISTRATION MEMORY button lights up.
Duration and Repetition data	During data input, the pressed button lights up.

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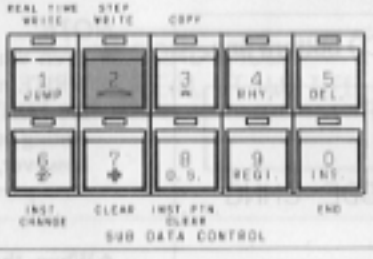
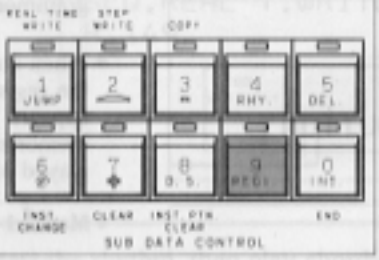
Data EDIT Operation

Correcting the rhythm: While the "4/RHY." button is lit, set the correct Rhythm pattern and press the "4/RHY." button.

Correcting a chord: While the "2/⟍" (or "3/ ⩘ ") button is lit, press the "2/⟍" (or "3/ ⩘ ") button while depressing the correct chord.



Correcting a registration: While the "9/REGI." button is lit, press the correct REGISTRATION MEMORY button, then press "9/REGI." button.



Deletion: Advance (or reverse) the data pointer to the position of the data to be deleted, then press the "5/DEL." button.

Insertion: Advance the data pointer to the position following the position where the data is to be inserted, then press the "0/INS." button. Next, program the data to be inserted.

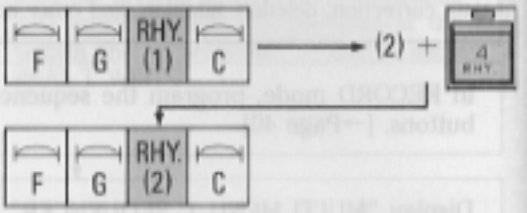
After editing is completed, press the ENTER key.

When the START switch is pressed, the edited program is played back.

Perform a PLAY MODE CHANGE operation, as required. [→Next Page]

◆ **EDIT Examples**:

(Ex. 1) Changing Rhythm Pattern "1" to "2".

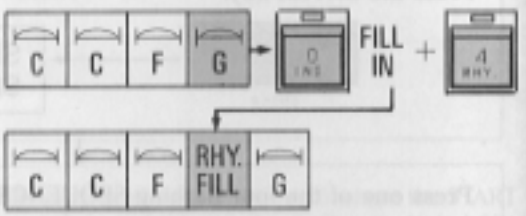


Shift the data pointer to the position where "4/RHY." lights up. Next, set Pattern "2", then press the "4/RHY." button.

(Ex. 2) Deleting the unnecessary chord "E"

Shift the data pointer to the "E" position, then press the "5/DEL." button.

(Ex. 3) Inserting a FILL IN pattern



Shift the data pointer to data "G", located at the position which will later follow the inserted data, then press the "0/INS." button. Next, press the "4/RHY." button while depressing the FILL IN switch.

◆ The registration memorized at the beginning of the sequence can also be changed. First, shift the data pointer to the beginning of the sequence, switch ON the REGISTRATION MEMORY button corresponding to the registration you wish to change, then press the "9/REGI." button.

◆ When the data pointer is shifted behind the final Sequence data, "E" is displayed on the BAR/BEAT display.

NOTE:

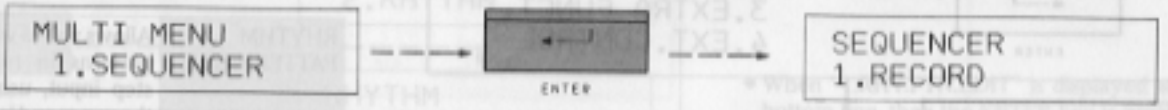
● Besides pressing the "+" and "−" keys, data can also be retrieved by starting the rhythm. While in EDIT mode, press the START switch. The programmed Sequence data will be played back exactly as it will sound during playback (the repetition symbol data will not be played back). During playback, if you find data you would like to edit, stop the rhythm then perform the EDIT operation.

1-(3) PLAY MODE CHANGE

This mode allows you to set the conditions for playback of the programmed SEQUENCER, memorizing such conditions at each of the four SEQUENCER buttons.

In RECORD mode, program the sequence data to the SEQUENCER buttons. [→Page 40]

Display "MULTI MENU 1. SEQUENCER" on the LCD, then press the ENTER key. [→Page 39]



Use the "∨" and "∧" keys to display "3. PLAY MODE CHNG" at the LCD bottom line.

```
SEQUENCER
3.PLAY MODE CHNG
```

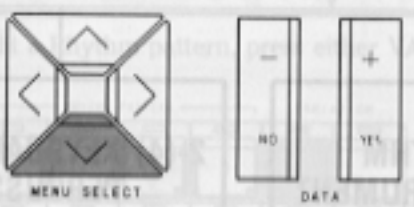
Press the ENTER key.


```
SEQ.PLAY MODE
SELECT BUTTON
```

Press one of the four flashing SEQUENCER buttons.

```
SEQ.PLAY MODE
1.CHORD SEQ. ON
```

Use the "∨" and "∧" keys to change the display of the LCD bottom line, then use the "+" and "−" keys to select the ON/OFF status.




```
SEQ.PLAY MODE
2.REGIST SEQ.ON
3.REPEAT      OFF
4.LK ENABLE   ON
5.INTRO.TACT  OFF
1.CHORD SEQ.  ON
```

After setting of the PLAY mode is completed, press the ENTER key.

When the START switch is pressed, the sequences are played back in the set mode.

- When the ENTER key is pressed, SEQUENCER buttons 1-4 begin flashing. Press the button for which you wish to change the PLAY mode.

- When a SEQUENCER button is pressed, the ON/OFF status of the currently set PLAY mode is displayed on the LCD bottom line. Use the "∨" and "∧" keys to change the display and check how the five items have been set.

- **Operations in PLAY Mode:**

	ON	OFF
CHORD SEQUENCE	The programmed Chord sequence is played back. (Default)	The programmed Chord sequence is not played back.
REGIST SEQUENCE	The programmed Registration sequence is played back. (Default)	The programmed Registration sequence is not played back.
REPEAT	After playback is ended, it is repeated from the beginning.	After playback is ended, playback is stopped. (Default)
LK ENABLE	During playback, the notes played on the lower keyboard are sounded. (Default)	During playback, the notes played on the lower keyboard are not sounded.
INTRO. TACT	The leading count of one bar is sounded at the start of playback.	The leading count is not sounded. (Default)

- One PLAY mode setting is memorized for each set of SEQUENCE data, so a different PLAY mode can be set at each of the SEQUENCER Buttons 1-4. Note that, at the point a RECORD operation is performed, the PLAY mode setting is initialized to its default value.

NOTE:

- If playback is started after setting multiple SEQUENCER buttons to ON status, multiple sequences can be consecutively played back. In such case, the playback order begins from the sequence of the button with the lowest number.