KAWAI

ACR-20

Owner's Manual

Preface

Thank you for purchasing the Kawai ACR-20. The ACR-20 allows you to record, play back and edit MIDI performances. If MIDI and its recording possibilities are a new world for you, you'll find fundamental information about MIDI on page 12. Use a keyboard (ex. Digital Piano) equipped with MIDI to make full use of the ACR-20. The ACR-20 features Auto-Accompaniment, MIDI Sequencer and Sound Module functions in one unit. The Auto-Accompaniment capability gives you the musical resources to create exciting "full band" performances. The Sequencer allows you to record, playback and edit MIDI performances. The Sequencer records MIDI performance events, NOT SOUND. You cannot use a Sequencer in place of a tape recorder to record your voice or an acoustic instrument. The Sequencer plays back the performance through the internal Sound Module or any other MIDI equipped sound source.

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 the 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.

Important Safety Instructions
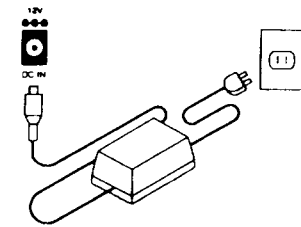
* Read Instructions -- This Owner's Manual contains valuable information that will help you make full use of the instrument's many capabilities. All the safety and operating instructions should be read before the product is operated.
* Retain Instructions -- The safety and operating instructions should 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.

⚠ WARNING

* Use only AC adaptor shipped with the instrument and connect it only to a power supply with a voltage within the limits stated on the ratings plate on the backs.
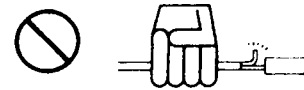
* When the AC adaptor is left unattended and unused for long period of time, unplug it from the wall outlet.
  Otherwise, fire or other hazards may be caused due to lightning and power-line surges, etc.
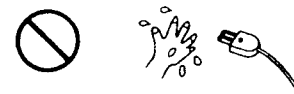
* Do not unplug the AC adaptor by yanking on the cord; grab the plug itself and pull it out.
  Otherwise, the cord may be damaged that could result in a fire or other hazards.

* Do not operate the product with wet hands.
  That could result in electric shock or other hazards.

* Do not disassemble or attempt to modify the appliance.
  Opening or removing covers may expose you to dangerous voltage. Refer all servicing to qualified service personnel.

* Never push objects of any kind into this product through openings.
  They may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product. The product 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; near a swimming pool, etc.

* Unplug this product and AC adaptor from the wall outlet immediately and refer servicing to qualified service personnel under the following conditions:
  a) When the power-supply cord or plug is damaged.
  b) If liquid has been spilled, or objects have been fallen into the product.
 c) If the product has been exposed to rain or water.
  d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by this manual as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
  e) If the product has been dropped or damaged in any way.
  f) When the product or AC adaptor exhibits a distinct change in performance - this indicates a need for service.
* Do not operate for a long period of time at a high volume level, especially if you are using headphones or earphones.
  This product may be capable of producing sound levels that could cause permanent hearing loss when used in combination with other products like speakers or headphones. If you experience any hearing loss or ringing in the ears, you should consult a hearing specialist.
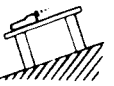
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⚠ CAUTION

* Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

* Protect the product 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 product should be kept away from hot, dry places (such as near a radiator or heater.)

* When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part.
Unauthorized substitution may result in fire, electric shock, or other hazards.

* Do not place this product on an unstable or slant cart, stand, tripod, bracket, or table.
The product may fall, causing serious injury to a child or adult, and serious damage to the product. Besides, the unit may malfunction. Use only with a cart, stand, tripod, bracket, or table recommended by KAWAI, or sold with the product.

* Always turn down the volume(s) of all instruments (such as guitar or keyboard) before connecting or disconnecting to the instrument.

* Protect the appliance from physical shocks and impact.

* 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.

Data Backup
This unit contains special circuits that protect some of the system settings while the power to the unit is off. However, there is no guarantee against data loss. Besides, song data is erased and some parameters are reset to default value when the power is turned off. You are therefore advised to save song data on a floppy disk before turning off the power.

Parameter Reset
To reset all of the parameters for the instrument to their factory default values, turn the power on using the POWER switch while holding down the YES button and NO button in the SOUND section simultaneously.

Note: Be careful not to carelessly clear important data.

Care of the Floppy Disk
A floppy disk is one of the media for storing data in computers and word processors. When using a floppy disk, observe the following precautions:

* This model uses 3.5 inch 2DD 720KByte or 2HD 1.44 MByte floppy disks.
* Do not open the floppy disk's shutter. If the shutter is opened by hand, the interior of the disk may be damaged or foreign matter may enter, causing incorrect storage of data.
* Do not place near a magnetic source. The floppy disk uses magnetism to store data. If the disk is placed near a speaker, televisions or other magnetic sources, the stored data may be destroyed.
* Disks can wear out with repeated use. For maximum security, make multiple copies of your valuable data and store them in separate locations.
* Don't remove a disk or turn off the ACR-20 power while the disk drive is in operation (while the indicator light is flashing) or the disk and the ACR-20 may be damaged.
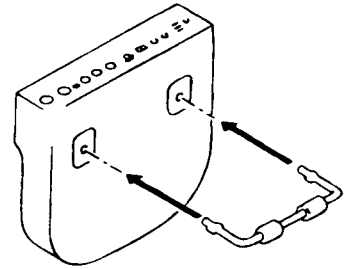
Write Protect
The purpose of the square window on the lower edge of floppy disk is to prevent data from being written over. When the window is closed, data may be written to the disk. When it is open, data writing is impossible.
Leave the window open on disks whose contents are not to be written over or deleted.

Inserting and removing the Floppy Disk
With the label facing up, insert the floppy disk into the slot, shutter first, until it clicks into place. Slowly press the Eject button to remove the disk.

Attaching lift back stand and LCD display Contrast Adjustment

Your ACR-20 comes equipped with a lift back stand.
You can attach the stand on the bottom of the ACR-20
to give the display a better viewing angle.
You can also adjust the contrast of the LCD display.
Refer to the "LCD Contrast" section on page 57 of
this manual for details.

Note:
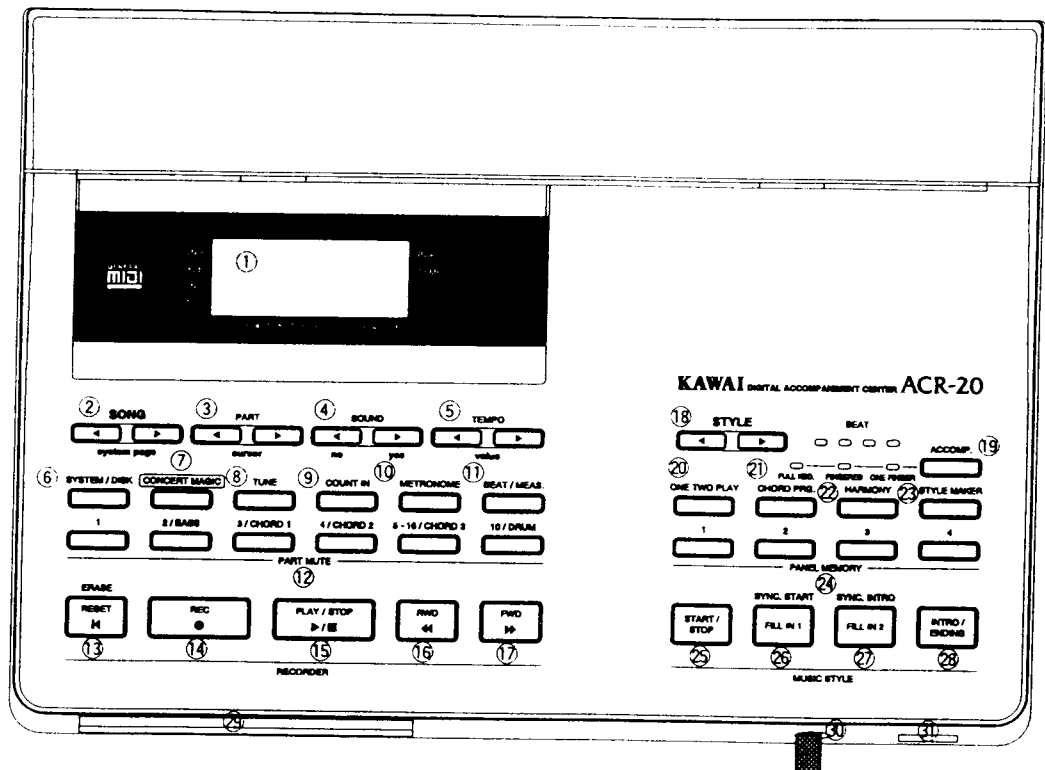
** Insert the lift back stand slowly and carefully.
Inserting the stand with excessive force can result
in damage.*

Contents

Name of Parts

Front Panel

1. DISPLAY: Shows various messages.
2. SONG/SYSTEM PAGE buttons : Change song numbers. Also used for selecting various menus.
3. PART/CURSOR buttons: Used to change the position of the cursor in the display and select current Part
4. SOUND/YES/NO buttons: Used to select a sound. Also used to select YES or NO value in the display.
5. TEMPO/VALUE buttons: Used to change values in the display and the tempo.
6. SYSTEM/DISK button: Used to enter and exit System mode.
7. CONCERT MAGIC button: This activates or deactivates the CONCERT MAGIC function.
8. TUNE button: Used for selecting the Tuning Control menu.
9. COUNT IN button: Allows you to activate COUNT IN function.
10. METRONOME button: Allows you to activate the Metronome function.
11. BEAT/MEAS. button: Used for selecting the Time Signature menu.
12. PART MUTE buttons: Allows you to select ON, OFF or HALF-MUTE status of a Part.
13. RESET button: Pressing this resets the location counter to the beginning of the song.
14. REC button: This activates the Record function.
15. PLAY/STOP button: This starts and stops song playback.
16. RWD button: Rewinds a song.
17. FWD button: Fastforwards through a song.
18. STYLE buttons : Change Style numbers.
19. ACCOMP. button: Allows you to select chord detection types.
20. ONE TWO PLAY button: Automatically selects sounds to match the Style.
21. CHORD PRG. button: Automatically plays a chord progression matching the Style.
22. HARMONY button: Adds harmony notes to melodies played in single notes.
23. STYLE MAKER button: Allows you to create your own Accompaniment Styles.
24. PANEL MEMORY button: Stores a combination of sounds, Styles and volume, etc.
25. START/STOP button: This starts and stops a Style.
26. FILL IN 1 button: This adds FILL IN 1 Pattern.
27. FILL IN 2 button: This adds FILL IN 2 Pattern.
28. INTRO/ENDING button: Adds INTRO Pattern or Ending Pattern.
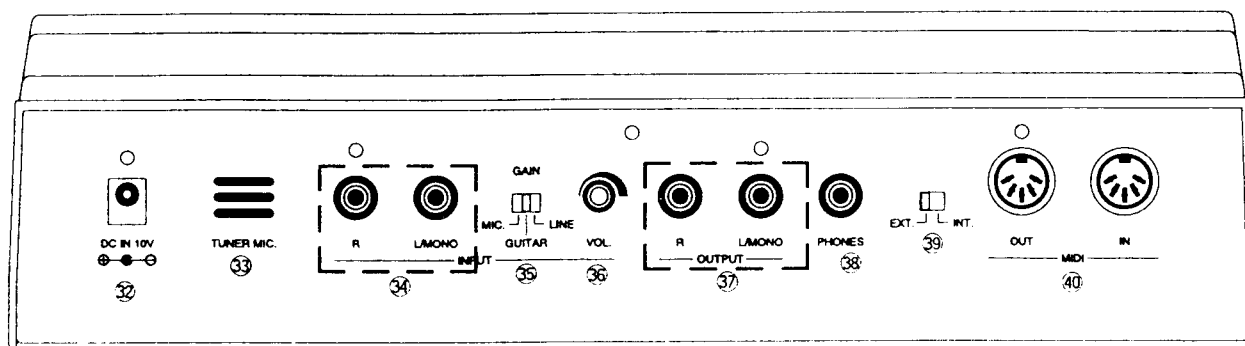
Indicator   Eject button

㉙   Disk slot: Used to insert a 3.5" floppy disk (2DD 720KByte or 2HD 1.44 MByte). Don't remove a disk or turn off the ACR-20 power while the disk drive is in operation (while the indicator light is flashing) or the disk and the ACR-20 may be damaged. Slowly press the Eject button to remove the disk.

㉚   MASTER VOLUME knob: Controls output volume of internal sounds.

㉛   POWER button: Turns the unit's power on or off.

Rear Panel
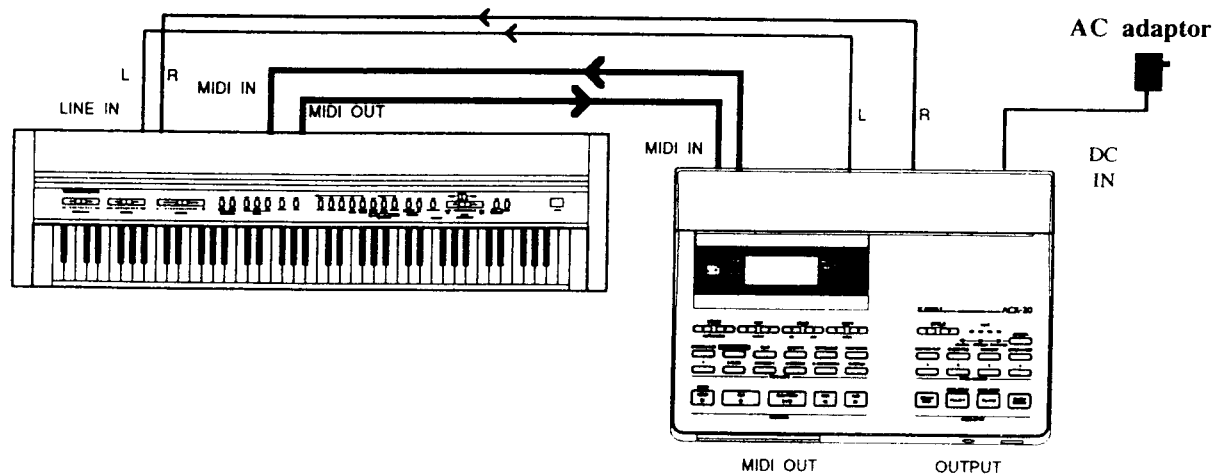
㉜   DC IN jack: Used to connect the included AC adaptor.

Note: Use only the AC adaptor that came with your ACR-20. If you lose it or damage it somehow, don't attempt to use any other type or you might damage the unit. You can order another as a replacement part from your Kawai dealer.

㉝   TUNER MIC: Built-in microphone for the Auto Tuning Control function.

㉞   INPUT jacks: Accept signals from an external instrument such as guitar, bass, or keyboard.

㉟   GAIN switch: Changes Gain for a device connected to the INPUT jacks of the ACR-20.

㊱   INPUT VOLUME knob: Controls the signal level received from the INPUT jacks.

㊲   OUTPUT jacks : Output internal signals and signals of an external instrument connected to the INPUT jack of the ACR-20.

Note: If you use the L/MONO, but not the R jack, signals for both jacks will be output from the L/MONO jack as monaural.

㊳   PHONES jack: Used to connect a stereo headphone.

㊴   EXT/INT switch: Determines whether the MIDI signals received on channel 1 will play the internal sound module of the ACR-20. Select INT to play the internal sound module. Select EXT if you want to hear only the sound of an external device.

㊵   MIDI jacks: used to connect the ACR-20 to other MIDI devices.

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Connections

Connections to a Digital Piano with MIDI function

Note: If MIDI and its recording possibilities are a new world for you, you'll find fundamental information about the MIDI on the page 12.

Power Supply

Connect the included AC adaptor to the DC IN jack of the ACR-20. Then, connect the adaptor to a wall socket.

Audio Connection

The ACR-20 must be connected to a sound reinforcement system to be heard because the ACR-20 has no speakers. Use an external audio device to enjoy listening to the sound of your ACR-20. Connect the OUTPUT jack of the ACR-20 to the LINE IN jack of the other instrument (ex. Digital Piano) using the included audio cable (and the adaptors, if necessary). Connect headphones to the PHONES jack if you want to use headphones.

MIDI Connections

To receive MIDI data from another MIDI instrument (ex. Digital Piano) to the ACR-20, connect the MIDI OUT jack of the other instrument to the MIDI IN jack of the ACR-20 using the included MIDI cable. Be sure to use only standard MIDI cables. Avoid cables longer than 15m (50 ft.) as signal quality deteriorates beyond that length.

To transmit MIDI data from your ACR-20 to another MIDI instrument, connect the MIDI OUT jack of your ACR-20 to the MIDI IN jack of the other MIDI instrument using the MIDI cable.

Note:

If you connect your ACR-20 with your Digital Piano with two MIDI cables as shown in the illustration of page 10 and set the Soft Through setting to "ON", the Digital Piano may be triggered twice- once by the keyboard directly (as if it weren't hooked up to any other MIDI device at all) and then again by the MIDI information the Digital Piano is sending to the ACR-20. This can cause an information loop and you may hear a lot of double hits where you play single notes.

To prevent a MIDI information loop, try one or more of the following measures:

* *Disconnect the MIDI cable connected to the MIDI OUT jack of the ACR-20.*
* *Use the Soft Through, Channel Separate functions described later in this manual.*
* *Set the Soft Through of the ACR-20 to "OFF" and then to "ON". "Local Control OFF" message (see page 13) will be automatically sent from the ACR-20 when you set the Soft Through to "ON".*
* *Set the INT/EXT button (see page 23 for details) of the ACR-20 to EXT.*

Background MIDI Information

MIDI is an acronym for Musical Instrument Digital Interface, an international standard for connecting musical instruments so that they can exchange performance data. Any machine equipped with MIDI can communicate with any other MIDI device. The ACR-20 features both MIDI Sequencer and Sound Module functions. The Sequencer allows you to record, playback and edit MIDI performances. The Sequencer plays back the performance through the internal Sound Module or any other MIDI equipped sound source.

Connections
You'll always make your connections correctly when considering the flow of information.
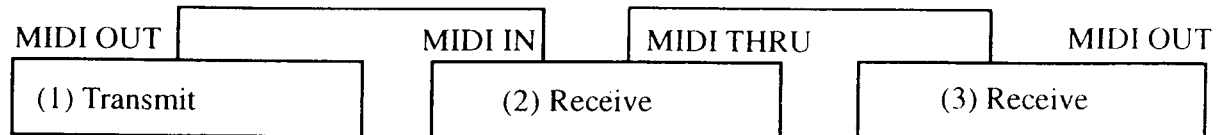
* Information is transmitted from a machine through the OUT port.
* Information is received by a machine through the IN port.
* Information passes through unaltered by way of the THRU port.

Note: The ACR-20 has no THRU jack.

Channels
MIDI channels serve to direct the information from the transmitter to the proper receivers. Be sure to set the channel of a transmitting device to that of the receiving device or the MIDI data will be ignored.

For instance, let's say that three instruments are connected for playing in this way.

MIDI OUT		MIDI IN	MIDI THRU		MIDI OUT
(1) Transmit		(2) Receive		(3) Receive	

Instrument (1), which is sending, transmits data on the send channel to instruments (2) and (3), which are receiving. The data is sent to instruments (2) and (3), but the data will not be received unless the receive channel for these instruments matches the send channel used by instrument (1). There are 16 channels each (1 through 16) available for both sending and receiving.

Information
The ACR-20 can record and play back the following types of messages:

* Key information - What key is played, how hard it's struck and how long it's held.
* Program changes - What sound is called up from the memory of the instrument.
* Controller information - Various control messages, like volume pedal changes, pitch bends, modulation or the sustain pedal.

Soft Through
If you have a MIDI device which has MIDI THRU jack, all data received by the device is passed through and sent out exactly as it was received via the THRU jack.
The ACR-20 has no THRU jack. However, the Soft Through function determines whether MIDI information received by the ACR-20 from your keyboard will pass through the ACR-20 to an external MIDI device. There are two ways to set Soft Through:

ON - MIDI data received from the MIDI IN jack of the ACR-20 will be sent to the internal sound module of the ACR-20 and sent out via the MIDI OUT jack. The internal sound will be played when receiving MIDI data.

OFF- MIDI data received from the MIDI IN jack of the ACR-20 will be sent neither to the internal sound module of the ACR-20 nor to the MIDI OUT jack. The internal sound will not be played when receiving MIDI data. This setting is convenient when you want to record the performance of your keyboard only without playing the ACR-20.

Refer to page 60 of this manual for procedures of the Soft Through setting.

Local Control On/Off
Local Control describes whether or not the messages sent from the keyboard to control the sound module within the MIDI instrument itself. Turning this to Off sends all data from the keyboard directly to the MIDI OUT port, bypassing the internal tone generator and making no sound. Meanwhile, the internal sound module can still be played by signals coming in the MIDI IN port. If you set the Soft Through setting to "ON" and turn on the Local Control of your Digital Piano, the Digital Piano may be triggered twice. However, if you turn off the Local Control of your Digital Piano, internal sounds of the Digital Piano don't respond to the keyboard. The Digital Piano will be played once only by the MIDI information the Digital Piano is sending through the ACR-20.

Implementation Charts
MIDI devices can only transmit and receive the messages they have in common. That is, MIDI will not give a device the ability to do something (say, aftertouch) which it isn't already designed to do. So if, for example, a device that can't do aftertouch receives an aftertouch message, it simply ignores it.
Every MIDI device comes with a "MIDI Implementation Chart" that summarizes what data that device is capable of "implementing" or acting on. By matching up the Implementation Charts of two different devices, you can see at a glance what kinds of messages they both can use, and so what messages can be received and transmitted.

1. Getting Started

1. Turn on the power. The display will show "KAWAI ACCOMPANIMENT CENTER ACR-20" and then the PLAY mode screen as right below.

```
KAWAI
ACCOMPANIMENT
CENTER
ACR-20
```

```
[1]New Song
[2]001 Pops 1   [3]116
[4]P01[5]001 GrPiano
[6]
```

- [1] Song Name
- [2] Style Number/Name
- [3] Tempo: 20 - 300
- [4] Part number: 01-16
- [5] Sound Number/Name
- [6] Status of each Part. The most left field shows the status of Part 1. The most right field shows the status of the Part 16. (See the PART VOLUME section on page 23 for details)

● :ON   ♥ :HALF MUTE   ▾ :MUTE   - : No Data

You can select one of the three settings (ON, HALF MUTE, MUTE) for a part which contains data. One of the four marks above will be displayed for a Part which contains no data. The "-" mark will be displayed as you press a PART MUTE switch repeatedly, as mentioned on page 23 of this manual, if the Part has no data.

The upper most line on the display shows the song name. The internal memory of the ACR-20 can contain 1 song. The "New Song" on the display shows that the internal memory location is selected. You can record your own song in this memory location using the "Recording" function described later in this manual.

Part is the area where you can record your performance in the same manner as you might use a tape recorder. You can record each of the 16 Parts individually and play all of them at once.

Notes:
* *You can change the values of above fields using the procedures mentioned below.*
* *Refer to the internal Tone list on page 66 for the Sound number 001-235.*
* *Refer to the Internal Style list on page 66 for the Style number 001-100.*
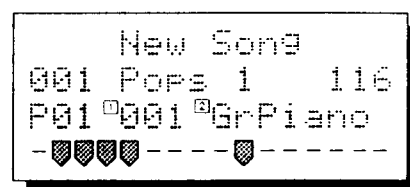
2. Playing a Style

There are 100 internal backing patterns (which we will refer to as "Styles") programmed into the ACR-20. Each Style consists of eight Patterns (INTRO Maj, INTRO Min, FILL1, FILL2, BASIC1, BASIC2, ENDING Maj, and ENDING Min). Each Pattern consists of five Parts (DRUM, BASS, CHORD1, CHORD2, and CHORD3). You can control the Style chords from an external MIDI keyboard.

The ACR-20 allows you to enjoy exciting "full band" performances using a MIDI keyboard (ex. digital piano).

1) Selecting a Style

1. Use the STYLE buttons to select a Style. Press the right STYLE button to increase the Style number by a value of one. Press the left STYLE button to decrease the Style number by a value of one. If you press and hold a STYLE button, the Style number changes in steps of ten. See page 66 for the Style list.
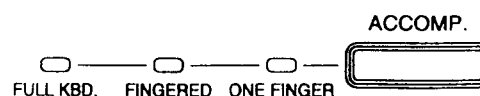
STYLE

1. Style number : 001-100 (Internal Style), 101-116 (User Style), 117-150 (Style Assign)
2. Style name

Notes:

* *If you want to play a Style saved on a floppy disk, load the Style in one of the User Style area using the "Style Load" function described later in this manual and then select the Style. The "DRP-10/ACR-20 Supplement disk" that came with your ACR-20 contains 25 Styles and 39 songs (refer to the "Playing a Song" section of this manual for details). See page 68 for the Style list on the "DRP-10/ACR-20 Supplement disk".*

2) Set Up for Changing Chords

1. Connect your ACR-20 with an external MIDI keyboard as mentioned on page 10.
2. Press the ACCOMP. button as many times as necessary until the appropriate light beside the ACCOMP. button is lit. There are three types of chord: (When no light is lit, no chord part will be played.)

ACCOMP.

FULL KBD.   FINGERED   ONE FINGER

FULL KBD (Keyboard): Chord is detected when three or more keys at any pitch are pressed. The lowest key pressed controls the Bass. To play a chord with an altered bass, press a key at the left of the SPLIT POINT (refer to the "SPLIT POINT" section on page 64 for details) while playing a chord by pressing three or more keys with the right hand.

FINGERED: Chord is detected when three or more keys at the left of the SPLIT POINT are pressed. It is impossible to play a chord with an altered bass.
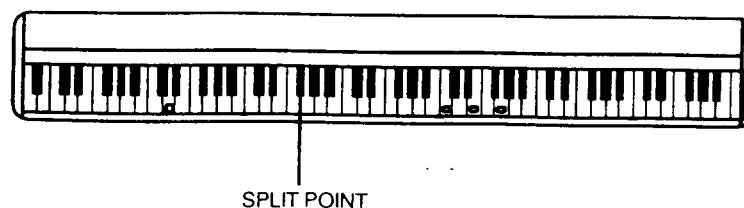
ONE FINGER: This mode lets you play a complete chord by pressing one note at the left of the SPLIT POINT. Major chord will be played by pressing one key. Minor or seventh chord can be played by pressing two keys (see Chord Table on page 17). It is impossible to play a chord with an altered bass.

2. Set your keyboard's MIDI transmit channel to "1". If you cannot change the MIDI channel, see the notes below.

Notes:

* *If the Channel Convert function (described later in this manual) is set to "OFF", the ACR-20 detects chords when receiving MIDI channel 1 only. If the Channel Convert function (described later in this manual) is set to "ON", the ACR-20 detects chords when receiving data in any MIDI channel. If it is impossible to change the MIDI channel of your keyboard, set the Channel Convert function of the ACR-20 to "ON".*
* *When the CHORD PRG button is lit, each Style will be accompanied by a preset progression of chords that plays automatically regardless of the chords you play on the keyboard. Press the CHORD PRG button to turn off the button light to change chords using an external MIDI keyboard. See page 20 for details.*
* *It is impossible to play chords during INTRO or ENDING patterns. See page 18 for details.*
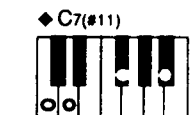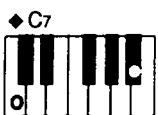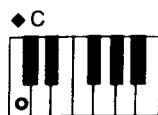
If you want to play C/D with FULL KBD mode, press a D note at the left of the SPLIT POINT while playing C chord with the right hand.

SPLIT POINT
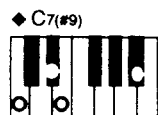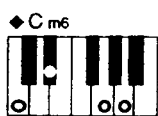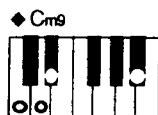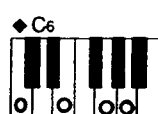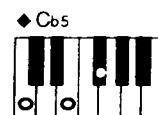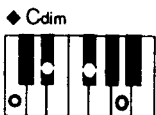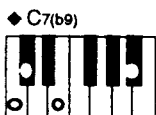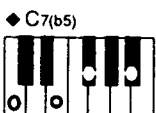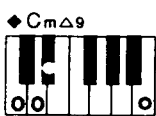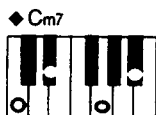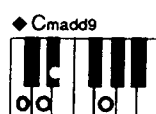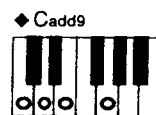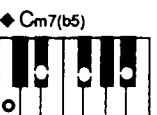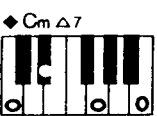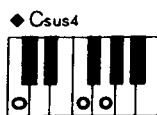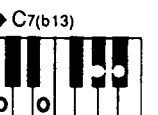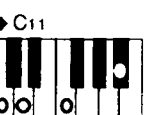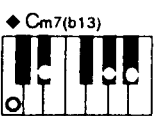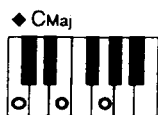
CHORD TABLE

The following are 32 types of chord forms which can be recognized by your ACR-20. The chord forms below are all in the key of C. Transposed into any key. Chords can be detected when you play inversions of the following.

17
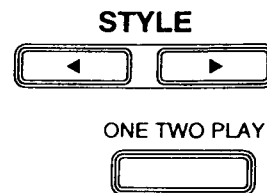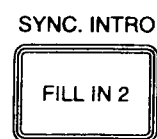
3) One Two Play

The ONE TWO PLAY function automatically selects settings for tempo and sounds to match each Style.

STYLE

1. Use the STYLE buttons to select a Style.
2. Press the ONE TWO PLAY button so that it lights. A suitable combination of sounds, effects, etc. which matches the Style you selected is automatically chosen.
3. If you want to recall the settings which were in effect before pressing the ONE TWO PLAY button, press the ONE TWO PLAY button once more so that the button lamp goes out.

ONE TWO PLAY

4) Let's Play a Style

1. Let's start the Style with an INTRO Pattern with your touch on the keyboard. Press the SYNC. INTRO/FILL IN 2 button while the Style is not playing. Then, play keys on the MIDI keyboard connected with the ACR-20. The moment you press a key on the keyboard, the INTRO Pattern will begin to play followed by a BASIC Pattern.

SYNC. INTRO

FILL IN 2
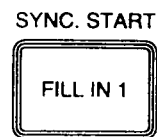
Notes:
* *It is impossible to play chords during INTRO patterns.*
* *There are two types of INTRO Patterns (INTRO Maj, INTRO Min). If you play a Major chord to start the INTRO pattern, INTRO Maj pattern will be played. If you play a Minor chord to start the INTRO pattern, INTRO Min pattern will be played. If you do not press chord that the ACR-20 can recognize, INTRO Maj or INTRO Min will be played according to the last chord you played. If the last chord you played was Major, M7, etc., INTRO Maj will be played. If the last chord you played was Minor, Minor7, etc., INTRO Min will be played.*
* *You cannot play a USER Style whose data is empty.*

You can also start playing a Style using one of the following:

* To start the BASIC 1 Pattern instantly, press the START/STOP button while the Style is not playing.

START / STOP

* To start the BASIC 1 Pattern with your touch of the keyboard, press the FILL IN 1 button while the Style is not playing. The BASIC 1 Pattern will begin to play the moment you press a key on the MIDI keyboard connected with the ACR-20.

SYNC. START

FILL IN 1

* To start the INTRO Pattern instantly, followed by a BASIC Pattern, press the INTRO/ENDING button while the Style is not playing.

INTRO / ENDING

18

CHANGING CHORDS

2. When a BASIC Pattern is playing, you can change chords with your keyboard.

Notes:

* *The BEAT LEDs lighting will move from left to right while the Style is playing.*
* *When the CHORD PRG button is lit, it is impossible to change chords using an external MIDI keyboard.*

FILL IN 1/2

3. If you press the FILL IN 1 button while the Style is playing, you'll hear the FILL IN 1 Pattern, followed by the BASIC 1 Pattern. If you press the FILL IN 2 button while the Style is playing, you'll hear the FILL IN 2 Pattern, followed by the BASIC 2 Pattern.

ENDING

4. If you press the INTRO/ENDING button while the Style is playing, the ENDING Pattern will play to finish the Style. If you want the Style to stop the Style immediately without the ENDING, press the START/STOP button.

Note:
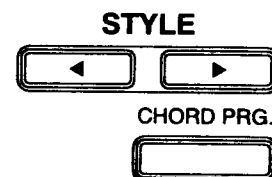
* *There are two types of ENDING Patterns (ENDING Maj, ENDING Min). ENDING Maj or ENDING Min will be played according to the last chord you played. If the last chord you played was Major, M7, etc., ENDING Maj will be played. If the last chord you played was Minor, Minor7, etc., ENDING Min will be played.*

5) Auto Chord Progression

The ACR-20 offers 100 internal Styles -- with automatic chord progressions for each Style.
If you activate the Auto Chord Progression function, each Style will be accompanied by a preset progression of chords that plays automatically (see the attached Chord Progression Chart). Let's practice ad-lib performance using the Auto Chord Progression function.
You can also create your own chord progressions (refer to the "Style Making" section of this manual for details).

Setting Auto Chord Progression function

1. Use the STYLE buttons to select a Style.

STYLE

2. If you want to turn on the Auto Chord Progression function, press the CHORD PRG button until the button lights.

CHORD PRG.

When the CHORD PRG button is lit:
Each Style will be accompanied by a preset progression of chords that plays automatically. Chord name and bar number will be displayed when playing back a Style.

```
         D  M7          2
001  Pops  1      116
P01  001  GrPiano
-◈◈◈◈----◈------
```

If you want to turn off the Auto Chord Progression function, press the CHORD PRG button until the button light goes off.
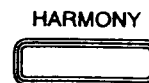
When the CHORD PRG button is not lit:
One chord plays repeatedly (useful for practicing one-chord ad-lib) when you play a Style.
Only when a Style is playing, chord type can be changed using an external MIDI device.

6) Harmony

The HARMONY function adds two harmony notes to any melody played with one finger of your right hand on an external keyboard. The harmony notes are determined by the chords you play with your left hand on the external keyboard or the chords from Auto Chord Progression.

1. Use the STYLE buttons to select a Style.
2. Press the ACCOMP. button as many times as necessary until one of the lights beside the ACCOMP. button is lit.

HARMONY

3. If you want to turn on the HARMONY function, press the HARMONY button until the button lights. Play a chord using keys at the left of the SPLIT POINT (refer to the "CHANGING THE SPLIT POINT" section of this manual for details) while playing notes using keys at the right of the SPLIT POINT. When a chord is held down on the lower keyboard, two harmony notes are added to the lowest note played on the keys at the right of the SPLIT POINT.
3. If you want to turn off the HARMONY function, press the HARMONY button until the button lamp goes off.
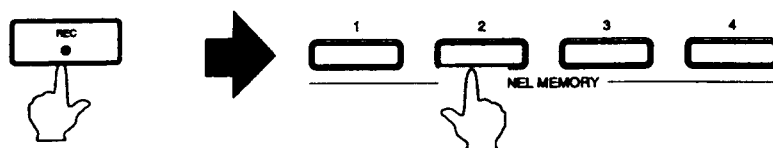
7) Panel Memory

Each Style has its own settings such as tempo, sounds, etc. You can create up to four of your own settings and store them so that you can recall all the information with the touch of a button. The following items can be stored.

CHORD PRG button on/off, HARMONY button on/off, Status of ACCOMP button, On/off status and sound of each Style Part (DRUM, BASS, CHORD 1/2/3), Style tempo

1. Create your own settings.
2. Press and hold down the REC button.
3. While holding down the REC button, press the appropriate PANEL MEMORY button and release the PANEL MEMORY button to store your settings. Be sure to hold the REC button, until the PANEL MEMORY button is released. (If you want to store your settings as PANEL MEMORY #2, press the #2 button while holding down the REC button.)

Notes:
* *You cannot use PANEL MEMORY function for USER styles (Style 101-116) or STYLE 117-150.*
* *If you store your new settings on a PANEL MEMORY button, old data stored on that button will be replaced by the new data..*

4. If you want to recall a setting stored in the PANEL MEMORY, press the desired PANEL MEMORY button so that it lights.
5. To return to the setting in effect before recalling the stored data, press that number button again to turn off the button light.

21

3. Playing a Song

1. Playing a Demo Song (from the included disk)

1. Insert the "DRP-10/ACR-20 Supplement disk" that came with your ACR-20 into the disk slot.
2. Use the SONG buttons to select a Song. Press one of the
   SONG buttons until an appropriate song name appears on
   the first line of the display. Refer to page 68 for the song
   list.

```
      VIBE
001  Pops 1        130
P01  001  GrPiano
-□□□□□---□------
```

SONG

◄ ►

system page

Notes:
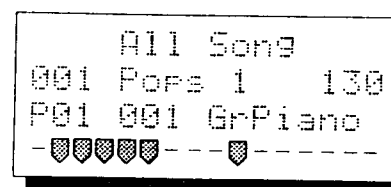
* *The ACR-20 can also play back song data whose format type is SMF format 0 and 1 (see page 69 for details) on a floppy disk which is formatted with IBM or compatible computers with the following specifications:*

  3.5" 2DD (720 kilobyte) floppy disk or 3.5" 2HD (1.4 Mbyte) floppy disk

  The ACR-20 cannot play back song data (SMF format 0 or 1) on a floppy disk which is formatted with other types of computers (such as Macintosh computers).

* *IBM is a registered trade mark of International Business Machines Corporation. Macintosh is a registered trade mark of Apple Computer Inc.*

* *If the song's data type is not a Standard MIDI File format 0, the "*" mark may appear at the left side of the song name. The "□" mark will appear if the song data is compatible with the Concert Magic function described later in this manual. Concert Magic songs can be played normally in the same way as the Standard MIDI File format 0 songs for which no mark will appear at the left of the song name.*

* *Press the right SONG button repeatedly until the "ALL SONG" will be displayed if you want to play back all the songs on the floppy disk continuously and repeatedly.*

```
      All Song
001  Pops 1        130
P01  001  GrPiano
-□□□□□---□------
```
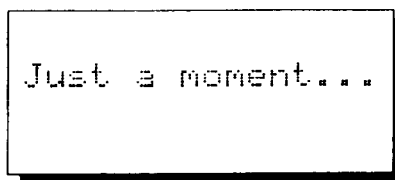
3. Press the PLAY/STOP button to begin playback. Press the PLAY/STOP button again to stop the song.

    Press the FWD button to move forward and the RWD button to move backward in the song while the song is not playing. Press the RESET button to return to the beginning of the song. If you press the FWD button during playback, the song will play at high speed. The RWD button will not work during playback.

```
┌─────────┐  ┌─────────┐  ┌─────────────┐  ┌─────────┐  ┌─────────┐
│  RESET  │  │   REC   │  │ PLAY / STOP │  │   RWD   │  │   FWD   │
│   ◄◄│   │  │    ●    │  │    ►/■      │  │   ◄◄    │  │   ►►    │
└─────────┘  └─────────┘  └─────────────┘  └─────────┘  └─────────┘
```
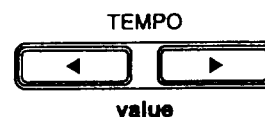
Notes:

* *The FWD button and the RWD button will not work for a song saved as a Standard MIDI File Format 1.*
* *If you press the PLAY/STOP button after selecting a song which contains no data, "Empty Song" may be displayed. Just select another song.*
* *The display may show "Just a moment ..." if you use the FWD or the RWD button just after selecting a song. This indicates that the ACR-20 is loading the song data from the floppy disk. The display will automatically return to the normal condition when loading is complete.*

```
┌──────────────────────┐
│                      │
│  Just a moment...    │
│                      │
└──────────────────────┘
```
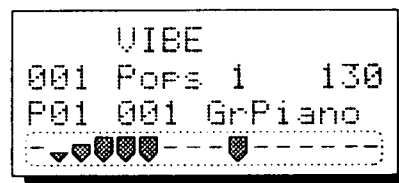
TEMPO

Press the left Tempo button to decrease the tempo or the right Tempo button to increase the tempo.

```
        TEMPO
┌───────┐ ┌───────┐
│   ◄   │ │   ►   │
└───────┘ └───────┘
        value
```

PART MUTE

The ACR-20 features 16 Parts. Use the PART MUTE buttons to select the appropriate status of each Part. If you want to practice one of the Part using your Digital Piano, mute the Part (i.e. - turn the Part off) and play the Part by yourself.

The lowest line of the display shows the status of each Part. For example, the left most mark indicates the status of the Part 1 and the right most mark indicates the status of the Part 16.

```
┌──────────────────────┐
│         VIBE         │
│ 001 Pops 1      130  │
│ P01 001 GrPiano      │
│ -▾♡♥♥♥---♥------      │
└──────────────────────┘
```

- ▾ (MUTE): The Part will be muted.
- ♥ (HALF MUTE): The Part will be played back at half volume.
- ♥ (ON): The Part will be played back at full volume.
- - (No Data): This indicates that there is no data on this Part in the song.

```
    1          2          3          4        5 - 16     10 / DRUM
┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐
│        │ │        │ │        │ │        │ │        │ │        │
└────────┘ └────────┘ └────────┘ └────────┘ └────────┘ └────────┘
─────────────────────────────── PART MUTE ───────────────────────
```

If you want to adjust the status of Parts number 1-4 or 10, press the corresponding PART MUTE button as many times as you want. For example, press the 10/DRUM button to change the status of Part 10. The cursor moves to the Part 10 field indicating that you can change the value of Part 10. The status of Part 10 will change each time you press the 10/DRUM button.

If you want to adjust the status of Parts 5-16, use CURSOR buttons (same as the PART buttons) to move the cursor to the appropriate Part field and then press the "5-16" button in the PART MUTE section as many times as needed .

You can select one of the three settings (MUTE, HALF MUTE, ON) for a Part which contains data.

As you press the PART MUTE button for a Part which contains no data repeatedly, MUTE, HALF MUTE, ON and No Data signs will appear on the display.

Note: You can change the volume level of the Half Mute function. Refer to page 57 of this manual for details.

2. Playing the Internal Sounds of the ACR-20 from an External MIDI Device

(1) MIDI Channel Assignment

1. To receive MIDI data from another MIDI instrument (ex. Digital Piano) on the ACR-20, connect the MIDI OUT jack of the other instrument to the MIDI IN jack of the ACR-20 using the included MIDI cable.
2. Connect the OUTPUT jack of the ACR-20 to the LINE IN jack of the other instrument (ex. Digital Piano) using the included audio cable (and the adaptors, if necessary).
3. The ACR-20 features 16 Parts. The ACR-20 always assigns the same MIDI channels to each Part. You cannot change the assignments. If you want to play Part 3, adjust the MIDI transmit channel of your Digital Piano to 3. Refer to the operation manual of your Digital Piano to check if you can change the MIDI transmit channel.

MIDI Channel Assignment of the ACR-20
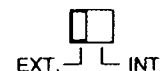
Part Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIDI Channel Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Note:
* *You can play the currently selected Part without changing the MIDI transmit channel of your Digital Piano if you use the Channel Convert function described later in this manual. The Channel Convert function automatically converts incoming MIDI channels to match the currently selected Part. Refer to page 59 for details.*

(2) EXT./INT. switch

4. Setting the EXT./INT. switch on the rear panel of the ACR-20 to ...

EXT. ⌐_¬ L INT.

EXT: Part 1 will be deactivated. If you set up your Digital Piano to transmit
on channel 1, the MIDI data received is blocked inside the ACR-20
and the built-in sound module of the ACR-20 does not respond. Use this setting to
play your Digital Piano without playing Part 1 of the ACR-20.

INT: Part 1 will be activated. If you set up your Digital Piano to transmit on channel 1,
you will hear the sound of your Digital Piano and Part 1 of the ACR-20.
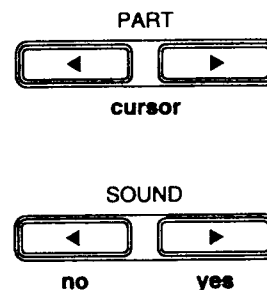
*Note: When the "Soft Through" parameter (see page 60) is set to "Off", all 16 Parts will not
be played. Part 1 will not be played at the following setting irrespective of the EXT./INT.
switch position.*

  * *Part Volume of Part 1 is set to "Mute".*
  * *The "Channel Separate" parameter (see page 61) of Part 1 is set to "x (OFF)".*
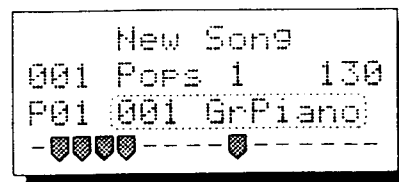
(3) Selecting Sounds

5. Select a Part using the PART buttons. Use the SOUND buttons to
change the sound for the Part. Let's select a sound for Part 1.
Press the left PART button until the cursor moves to the Part 1 field.
The display should show "P01" indicating that Part 1 is selected.
Then, use the SOUND buttons to change the sound for Part 1. Press
the right SOUND button to increase the sound number by a value of
one. Press the left SOUND button to decrease the sound number by a
value of one. If you press and hold a SOUND button, the sound
number changes in steps of ten.
Sound numbers 1-235 can be selected for any Part except for
Part 10 only. Only sound numbers 227-235 can be selected
for Part 10. Refer to page 66 for the tone list.
The ACR-20 features 226 sounds (Sounds 1-226) and 9 types
of "Drum Kit" (Sounds 227-235). Sounds 1-128 are
arranged in GM (General MIDI) order.

PART
◄   ►
cursor

SOUND
◄   ►
no   yes

```
    New  Song
001 Pops 1     130
P01  001  GrPiano
-▨▨▨▨----▨------
```

6. Start playing your Digital Piano. If you set your Digital Piano to transmit on Channel 1 at step
3 above and set the EXT./INT switch to "INT" at step 4 above, you should be able to play
Part 1 of the ACR-20.

Note
* *If you set the Soft Through setting (see page 60 of this manual for details) to "ON", the Digital
Piano may be triggered twice, as mentioned on page 11. In that case, please try one or some of
the measures mentioned on page 11.*

Program Change

A Program Change is another way of changing the tones being played on the ACR-20. If you change tone of your Digital Piano, Program Change message may be automatically transmitted which changes sound of the ACR-20. If you transmit Program Change No. (0-127), Sound number (1-128) will be selected for a Part (except for the Part 10) as shown below:

Sound Assignment of the ACR-20

Program Change Number	0	1	2	3	4	5	6	...	125	126	127
Sound Number	1	2	3	4	5	6	7	...	126	127	128

(4) Playing Drum Sounds

Let's play drum sounds on Part 10.

7. Set your Digital Piano to transmit on Channel 10.
8. Start playing your keyboard. As you play different keys, different percussion sounds will be played. Refer to page 67 for the assignment. Part 10 is reserved for playing drum sounds only. You can select any one of the nine Drum Kits (Sound number 227-235) for Part 10.

Note:

* *You can play the currently selected Part without changing the MIDI transmit channel of your Digital Piano if you use the Channel Convert function described later in this manual. The Channel Convert function automatically converts incoming MIDI channels to match the currently selected Part. Refer to page 59 for details.*

3. Recording

1) Recording your performance

The ACR-20 features both MIDI Sequencer and Sound Module functions. The Sequencer allows you to record, playback and edit MIDI performances. The Sound Module produces sound when it receives MIDI performance data from the built-in Sequencer or from other MIDI devices. The Sequencer records MIDI performance events, not sound. You cannot use the Sequencer in place of a tape recorder to record your voice or an acoustic instrument. To input data into the Sequencer, you must use an instrument that transmits MIDI information.

Unlike a tape recorder where playback is an exact duplicate of the performance, you can play a difficult passage at a slower tempo and then speed it up to hear how it is supposed to sound at the correct tempo.

The powerful Sequencer function of the ACR-20 also allows you to alter your performances in a wide variety of ways after they are recorded.
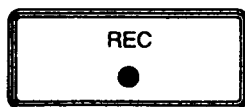
1. Connect the ACR-20 with other devices (Digital Piano, etc.) as mentioned on page 10.
2. Adjust the MIDI channel of the keyboard. Set your keyboard to transmit channel 3 if you want to record on Part 3. Set your keyboard to transmit channel 10 if you want to record a drum Part.
3. If you want to change a prerecorded song, insert a disk containing the song into the disk slot and then use the SONG buttons to select the song you want to change.

Note:
* *It is impossible to change song data other than SMF (Standard MIDI File) format 0 songs or Concert Magic songs. An error message may be displayed if you attempt to select other types of songs.*

If you want to record a new song from scratch, press the left SONG button until the display shows "NEW SONG". You do not have to insert a disk into the disk slot if you want to record a new song from scratch.

4. Press and hold down the REC button. The display will show the amount of memory left in the internal memory of the ACR-20. PART MUTE buttons should begin to flash.

```
┌─────────────┐          ┌─────────────────────┐
│             │          │ 100 % Free          │
│    REC      │          │ 001 Pops 1      130 │
│             │          │ P01 001 GrPiano     │
│     ●       │          │ -▓▓▓▓----▓------     │
└─────────────┘          └─────────────────────┘
```
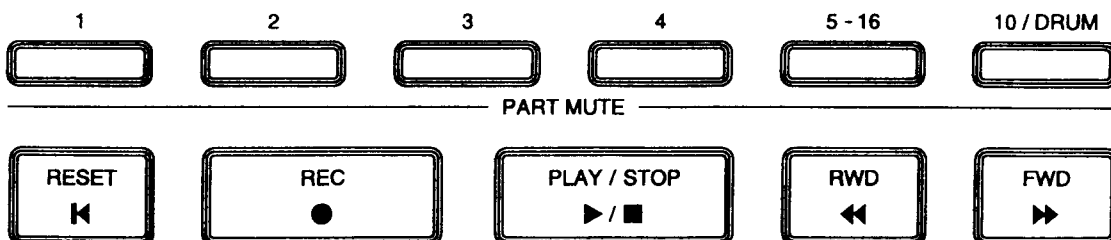
Notes:
* *When you activate the PUNCH REC function described later in this manual, "P-REC" will be displayed when you press the REC button.*
* *If you set the Soft Through setting (see page 60 of this manual for details) to "ON", the Digital Piano may be triggered twice, as mentioned on page 11. In that case, please try one or more of the measures mentioned on page 11.*
* *Error message may be displayed if you attempt to change song data which is protected. It is impossible to change protected data.*

5. Select a Part to record while holding down the REC button.
   While holding down the REC button, press and then release the appropriate PART MUTE button 1-4, or 10/DRUM when you want to select a Part from 1 to 4, or 10. If you want to select other parts, press the PART MUTE 5-16 button as many times as necessary while holding down the REC button. By repeatedly pressing the PART 5-16 button, you will step through the Part numbers in the following manner. By selecting "all", all of the 16 parts will be ready to record.
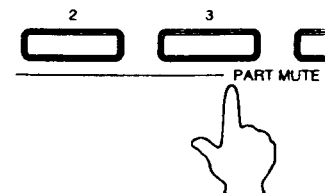
   5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, all, 5, 6, ...

Be sure to hold down the REC button until the PART button is released.
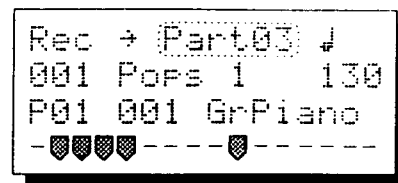
If you release the REC button without selecting a Part, Part 1 will be automatically selected for recording.

If you press and release the "3" button in the PART MUTE section while holding down the REC button, "Part 03" will be displayed. The quarter note mark will appear at the right of the Part number if the Part contains any data. If you change your mind and want to cancel the record standby mode, press the REC or RESET button now until the REC button light goes off.
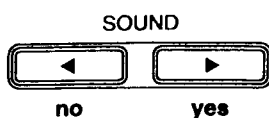
Notes:
* *Be sure to match the MIDI channel for the record Part to the transmit channel from your MIDI keyboard. If the record Part MIDI channel and your keyboard channel are not the same, data cannot be recorded onto the ACR-20.*
* *If you record your performance on the Part which contains data, the new data replaces the old data.*
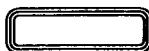
6. Select the appropriate sound number using the SOUND buttons. Pressing the left button decreases the sound number by a value of one while pressing the right button increases the value by a value of one. The sound name will change accordingly.

SOUND

◄ ►

no   yes

```
Rec → Part03 ♩
001 Pops 1    130
P03 001 GrPiano
-◙◙◙◙----◙------
```

7. You can scroll through the following Time Signature values in order by pressing the BEAT/MEAS. button as many times as necessary. (This button does not light when pressed.)

BEAT / MEAS.

```
Rec → Part03 ♩
4/4 Pops 1    130
P03 001 GrPiano
-◙◙◙◙----◙------
```
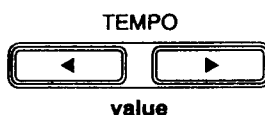
   4/4, 3/4, 2/4, 6/8, 5/4, 4/4

Note:
* If the song you're recording has more than one Part, all Parts must be set to the same time signature. For example, it is not possible to record a Part in "4/4" if the time signature of any other Part is NOT "4/4".

8. Press the left Tempo button to decrease the tempo value. Press the right Tempo button to increase the tempo value.

TEMPO

◄ ►

value

```
Rec → Part03 ♩
001 Pops 1    130
P03 001 GrPiano
-◙◙◙◙----◙------
```
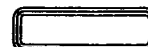
Note:
* If the song you're recording has more than one Part, all Parts must be set to the same tempo.

Metronome
Press the METRONOME button until it lights to turn on the metronome function. Press the METRONOME button one more time to turn off the metronome function. The Time Signature of the metronome is changed as mentioned in step 7 above. Metronome volume can be changed using the procedures mentioned on page 57 of this manual.

METRONOME
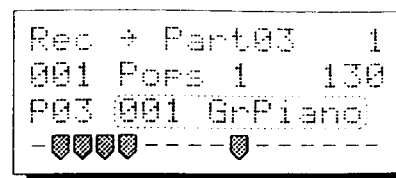
Count In
Press the COUNT IN button until it lights to turn on the Count In function. Press the COUNT IN button one more time to turn off the Count In function. If you turn on the Count In function and then press the PLAY/STOP button, you'll hear the Count In before a recording begins.

COUNT IN
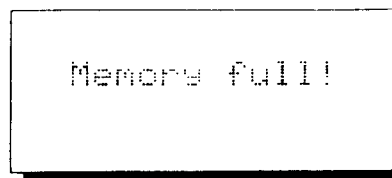
9. Press the PLAY/STOP button and recording will begin. The right side of the display will show the bar number of the current location. Play your keyboard and transmit your performance data. The ACR-20 will record the data received from the MIDI IN jack.

```
PLAY / STOP
 ▶ / ■
```

```
Rec → Part03    1
001 Pops 1     130
P03 001 GrPiano
-◙◙◙◙----◙-----
```

Note:
* If you input too much data in the RECORDING, "Memory full" may be displayed and you cannot input any more data. If necessary, save the data using the SAVE operation described later in this manual.

```
Memory full!
```
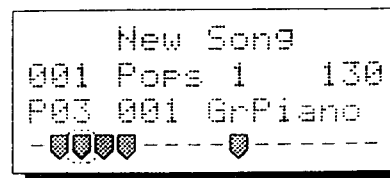
Important Note:
* If you change tempo during recording, the tempo change messages will be added on the recorded data.

10. Press the PLAY/STOP button again to stop recording.

11. Let's playback the song you have just recorded by pressing the PLAY/STOP button. Press the PLAY/STOP button again to stop playback.

```
   New Song
001 Pops 1     130
P03 001 GrPiano
-◙◙◙◙----◙-----
```

Overdubbing
"Overdubbing" is a term used in professional recording studios. It means "recording one track over another" to achieve a multitrack recording. The ACR-20's Sequencer gives you this capability.

```
PLAY / STOP
 ▶ / ■
```

12. Select another Part while holding down the REC button. (Refer to the step 5 above for details. You do not have to adjust the transmit channel of your Digital Piano to the MIDI channel of the Part. The ACR-20 will automatically convert the MIDI channel to match the Part during overdubbing.
    You can select previously recorded Parts to play back during the recording of another Part. Use the PART MUTE buttons to control the appropriate Part Volume of Parts which contain previously recorded data.

Note: If you rerecord onto a Part which already contains recorded data, the new data replaces the old data.

13. You can also record your performance on the floppy disk included with the ACR-20. Be carefu not to record on a Part which already contains data, or the new data replaces the old data in the recorded Part.

2) Save

You can store the song you have recorded onto a floppy disk as Standard MIDI File Format 0 data. Song data is erased when the power is turned off. You are therefore advised to save song data on a floppy disk before turning off the power.

Floppy disks are commonly used by computers as a means of saving data and can be purchased at computer shops. Formatting must be carried out when using a new disk or a disk other than one for the ACR-20. Refer to the "Formatting a Floppy Disk" section of this manual for details.

Notes:

* *Do not remove the floppy disk when the light on the disk drive slot is flashing. If it is removed, not only may the data be lost, but there is a chance that the disk or disk drive may be damaged and unable to be used again.*

* *If a floppy disk with data stored on it is formatted, the contents will be deleted. Be careful not to format the disk supplied with the ACR-20 or the contents will be deleted.*

Write Protect

The purpose of the square window on the lower edge of floppy disk is to prevent data from being written over. When the window is closed, data may be written to the disk. When it is open, data writing is impossible. Turn the disk write protect off (close the window) during saving.

Inserting and removing the Floppy Disk

With the label facing up, insert the floppy disk, shutter first, into the slot until it clicks into place. Slowly press the Eject switch to remove the disk.

1. Insert a disk into the Disk Slot.
2. Press the SYSTEM/DISK button to enter the SYSTEM mode. The display will show the "Song Save" or other System menu. The SYSTEM/DISK button light should light.
3. If necessary, press one of the System Page buttons (same as the SONG buttons) until the "Song Save" menu appears.

SYSTEM / DISK

```
1.Song Save
      To Disk
Name→
    OK ?→<Yes/No>
```
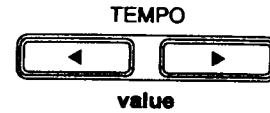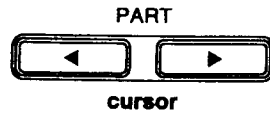
SONG

system page

4. Name your song using the CURSOR and TEMPO buttons.

The following letters, symbols or space can be entered with the TEMPO buttons. (Press the left TEMPO button after selecting the "!" if you want to select a "space".) Then, use the CURSOR buttons so that the appropriate field flashes and select a letter or symbol for the field. Repeat this procedure as many times as necessary. Up to eight letters or symbols can be entered for each song.

PART

cursor

TEMPO

value

! " # $ % & ' ( ) * + , - . / 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 { | } → ←

5. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". Then, press the YES button again to execute the SAVE operation. (Press the NO button if you want to cancel the operation.)

SOUND

no   yes

```
1.Song Save
       To Disk
Name→SONG1
Sure ?→<Yes/No>
```

Notes:

* *If the floppy disk contains a song whose name is the same as that of the song you are attempting to save, "Name OK?" will be displayed. If you execute the SAVE operation using the YES button, the new data replaces the old data. If you do not want to erase the old data, press the NO button and then select another name for the new song.*

```
1.Song Save
       To Disk
Name→SONG1
NameOK?<Yes/No>
```
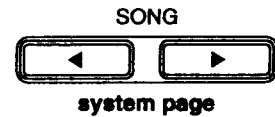
* *If you attempt to save data on a floppy disk whose write protect is on, the display will show "Write protected!" indicating that you cannot save the data.*
* *If there is not enough room on the disk for the data transfer, "Disk Full" will be displayed. If necessary, try saving with another disk.*
* *Please use only Capital (A B C D ... X Y Z) and numeric characters (0 1 2 3 .. 8 9) to prevent any troubles if you want to load the song data with any other device (like a personal computer).*

6. Press the SYSTEM/DISK button again to leave the SYSTEM mode. The SYSTEM/DISK button light will go off.

3) Playback

Let's play back the song you saved on a floppy disk.

1. Insert the floppy disk containing data for the ACR-20 into the Disk Slot.

2. Use the SONG buttons to select a Song. Press one of the SONG buttons until an appropriate song name appears on the first line of the display.

SONG

◄ ►

system page

3. Press the PLAY/STOP button to start replay. Adjust the volume level using the PART MUTE buttons of the ACR-20. Press the PLAY/STOP button again to stop the song. Press the FWD button to move forward and the RWD button to move backward in the song in the same way as you did for playing back songs on the included floppy disk (see page 22 of this manual). Press the RESET button to return to the beginning of the song.

RESET	REC	PLAY / STOP	RWD	FWD
◄◄	●	►/■	◄◄	►►

4. Special Functions
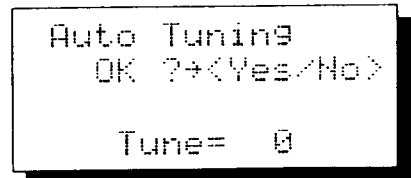
1) Tuning

The instrument incorporates two types of tuning functions.

AUTO TUNING allows you to adjust the pitch of the ACR-20 automatically to match the pitch of other instruments.
NORMAL TUNING allows you to adjust the pitch of the ACR-20 by entering a value you want.
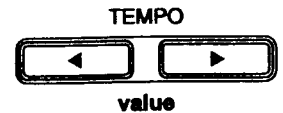
1. Press the TUNE button and the display will show the TUNING display. Reference tone (near 440 Hz) will be played through the speaker of the device connected to the ACR-20.

TUNE

```
Auto Tuning
OK ?→<Yes/No>

Tune=   0
```
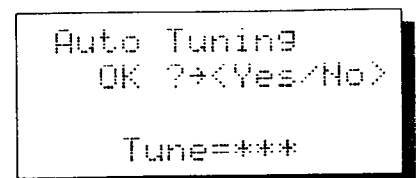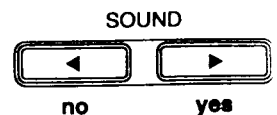
2. **NORMAL TUNING**

   If you want to execute the NORMAL TUNING, use the TEMPO/VALUE buttons to change the value at the bottom of the display. If you press the right TEMPO/VALUE button, the number in the display will increase by 1 and the pitch will raise slightly. If you press the left TEMPO/VALUE button instead, the number in the display will decrease by 1 and the pitch will decrease slightly. Press the appropriate button as many times as necessary. The tune setting can range from -16 to + 15 (approximately -25 cents to +25 cents).

TEMPO

◄ ►

value

   AUTO TUNING

   Press the YES button if you want to select AUTO TUNING. The value will change to asterisks and reference tone will stop.
   Then, play the A4 note (near 440 Hz) of an external instrument until the asterisks change to a number. The ACR-20 will automatically adjust the pitch of its A note to match the pitch of the sound received from the INPUT jacks or the TUNE MIC, the built-in small microphone at the rear panel of the ACR-20. (If a number does not appear in the display, you may be playing a note whose pitch is not near 440 Hz. If you play a note whose pitch is outside the range of 390-490 Hz, the asterisks will remain in the display indicating that AUTO TUNING has not been executed. The A note at the center of most Digital Pianos is the A4 note. If the asterisks remains even if you play the center A key, try other A notes.

SOUND

◄ ►

no   **yes**

```
Auto Tuning
OK ?→<Yes/No>

Tune=***
```

3. Press the TUNE button again to leave the TUNING display.

Note: This unit contains special circuits that protects the Tuning parameter while the power to the unit is off.

2) Concert Magic

The Concert Magic Feature allows you to perform the 31 songs of the floppy disk included with the ACR-20 even if you've never taken a piano lesson in your life.
You can play any Concert Magic song by tapping any key on your keyboard or the RWD or FWD button. You will hear the song played according to your own rhythm.

1. Insert the floppy disk that came with your ACR-20 into the Disk Slot.
2. Use the SONG buttons to select a Concert Magic Song. Refer to page 68 of this manual for the song list on the floppy disk included with the ACR-20. The floppy disk contains 39 songs in total and 31 of them can be played with Concert Magic. The " □ " mark will appear at the left of the song name. Song name appears on the first line of the display.
3. Let's listen to the song without using the Concert Magic function following the operations mentioned on page 22 of this manual.
4. Press the CONCERT MAGIC button to activate the Concert Magic function. The CONCERT MAGIC button and the PLAY/STOP button will light up.

CONCERT MAGIC

```
 □ ANNIE        1
C.M.Playing    92
P01 001 GrPiano
-@@@@----@------
```

5. Tap out the rhythm of the selected song on any key on your keyboard or the RWD or FWD button. The song will play as you wish. It may be easier to alternate between two or more keys. Try different tempos by striking the key in rapid or leisurely succession. The upper right corner of the display will show the current measure number.

```
 □ ANNIE        1
C.M.Playing    92
P01 001 GrPiano
-@@@@----@------
```

6. Press the PLAY/STOP button to leave the Concert Magic standby mode. The PLAY/STOP button light will go off and you can use the FWD button to move forward and the RWD button to move backward in the song. Press the PLAY/STOP button again to turn on the button light. You can use any key on your keyboard or the RWD and FWD buttons to play the Concert Magic song.

PLAY / STOP
▶ / ■

Notes:
* If you selected "Auto" mode (see page 62 for details) in the SYSTEM Concert Magic setting, you may hear some notes playing even after releasing keys.

* The display may show "Now Loading..." when you press the Concert Magic button. This indicates that the ACR-20 is loading the song data from the floppy disk. The display will automatically return to the normal condition when the load is completed.

```
Now Loading...
```

Notes:

* *If you do not press any key for more than one minute, you will return to the top of the song.*
* *Press the RESET button to return to the top of the song.*
* *"Recording function" is not available in the Concert Magic mode.*
* *The display will show "Stop please" if you try to deactivate the Concert Magic function by pressing the Concert Magic button while the PLAY/STOP button light is on. Press the RESET button to turn off the PLAY/STOP button light and then press the Concert Magic button to deactivate the Concert Magic function.*

7. To select another song, press the PLAY/STOP button to turn off the button light. Then, press and hold down one of the SONG buttons until the appropriate song name is displayed. If you release the SONG button, the PLAY/STOP button light will automatically light and you're in the Concert Magic standby mode.

Notes:

* *If you selected an unwanted song by mistake, repeat Step 7 above. Be sure to turn off the PLAY/STOP button light before selecting another song.*
* *The display will show "Can't Enter" if you try to activate the Concert Magic function while the SYSTEM/DISK button light is on. Press the SYSTEM/DISK button to turn off the button light and then press the Concert Magic button to activate the Concert Magic function.*
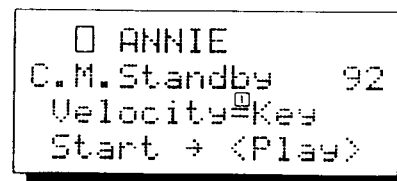
8. Press the CONCERT MAGIC button again to deactivate the Concert Magic function.

Selecting Velocity mode

You can select two different velocity settings (Key and SEQ) for the Concert Magic function. If you select "Key", you can control the volume level as you wish. If you find it difficult to adjust volume level with "touch", select "SEQ". If you select "SEQ", the DRP-10 will automatically control the volume level so that you can play song with Concert Magic musically regardless of the strength with which keys are struck.

1. Press the CONCERT MAGIC button to activate the Concert Magic function. Then, press the RESET button.
2. Use the VALUE buttons to select "Key" or "SEQ" in the Velocity Value field.

```
  0 ANNIE
C.M.Standby      92
Velocity=Key
Start → <Play>
```

    1. Velocity Value: Key, SEQ

Key: The volume level of the music varies according to how hard you hit keys on your keyboard if your keyboard can transmit MIDI velocity messages.
SEQ: The volume level of the music varies according to the parameters programmed on the song data irrespective of the MIDI velocity messages of your keyboard.

5. Style Making

Each Style has eight Patterns (BASIC 1/2, INTRO MAJOR, INTRO MINOR, ENDING MAJOR, ENDING MINOR, FILL IN 1/2) and a Chord Progression. Using the Style Make function, you can freely modify Styles or create your own Styles from scratch. The following menus are available in the Style Make function:

1) Selecting a Style: You can select a Style to edit or start creating a Style from scratch.
2) Selecting measure length: You can define number of measures for each Pattern of the Style if you are creating your own Style from scratch.
3) Style Edit: You can record Style data using an external MIDI device in real-time. Use the Style Edit function as many times as necessary to create a Pattern. For example, record DRUM Part and then BASS Part and then other Parts to create BASIC 1 Pattern. The ACR-20 records Part data as you play it on your MIDI keyboard. Then, use the same procedures to record other Patterns.
4) Style Erase: You can delete unnecessary Style data.
5) Chord Edit: You can program chord progressions for each Style. For example, you can change the chord from "C Major" to "D minor" at the location you specify. You can also input or edit Pattern change messages. For example, you can insert "ENDING" message to change the BASIC 1 Pattern to ENDING Pattern. CHORD CHANGE and PATTERN CHANGE messages can be input, one at a time.
6) Write : You can save up to 16 Styles you created in the USER STYLE area.

The ACR-20 uses the following method to operate Style Making functions.

1) Selecting a Style

STYLE MAKER

1. Press the STYLE MAKER button and the display will show "Edit Style" screen.

    1. Source Style Number: 001 - 116, NEW
    2. Source Style Name

```
Edit Style = 001
         Pops 1

OK ?→<Yes/No>
```

TEMPO

value

If you want to modify a current Style, select the Style number. Use the VALUE buttons to select the Source Style Number (001-116) and then skip to the step 3 below.

If you want to create your own Style from scratch, select "NEW" for the Source Style Number.
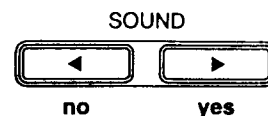
2) Selecting measure length

1. If you select "NEW" for the Source Style Number, the display will change as follows.

```
┌──────┐ ┌──────┐
│  ◄   │ │  ►   │
└──────┘ └──────┘
  no       yes
```

```
Edit Style = New
BAR⁽¹⁾B1=1  ⁽²⁾INT=1
    ⁽³⁾B2=1  ⁽⁴⁾END=1
B/M≜4/4 <Yes/No>
```

    1. Number of measures of the B1 (BASIC 1) Pattern
    2. Number of measures of the INT (INTRO) Pattern
    3. Number of measures of the B2 (BASIC 2) Pattern
    4. Number of measures of the END (ENDING) Pattern
    5. Time signature of the new Style
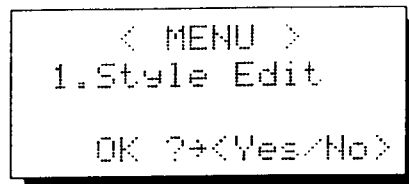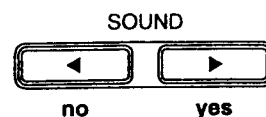
Use the CURSOR buttons to select a field and change the value using the VALUE buttons.

Note:
* Length of the FILL IN 1/2 Patterns is 1 measure. It is impossible to change the length of the FILL IN 1/2 Patterns.

3) Style Edit

1. Press the YES button (same as the right SOUND button) and the display will show the "Style Edit" screen. You can scroll through all the following functions in order by pressing one of the SYSTEM PAGE buttons (same as the SONG buttons) as many times as necessary after selecting the "Style Edit" screen.

Style Edit, Style Erase, Chord Edit, Write

```
< MENU >
1.Style Edit

OK ?→<Yes/No>
```

SOUND

◄ ►

no   yes
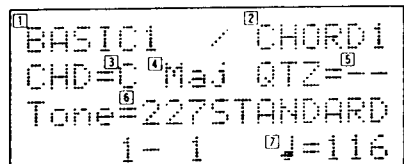
2. Recording Preparations

Before actual recording of a Style Part can begin, certain preparations must be made to insure a proper recording environment.
First, press the YES button to enter the Style Edit mode. The display will show as follows.
Use the CURSOR buttons to move the cursor to the appropriate field and select a value using the VALUE buttons.

1. Pattern: BASIC 1, BASIC 2, FILL 1, FILL 2, INT Maj (INTRO Major), INT Min (INTRO Minor), END Maj (ENDING Major), END Min (ENDING Minor)
2. Part: DRUM, BASS, CHORD 1, CHORD 2, CHORD 3
3. Root Chord: C, C#, D, D#, E, F, F#, G, G#, A, A#, B
4. Chord Type: Maj (Major), 7th, m (Minor), m7, crm (cromatic)
5. Quantize: --, 48, 32, 24, 16, 12, 8, 6, 4 (see page 41)
6. Sound Number/Name: 001-128 (Instrumental), 227 (Drums)
7. Tempo: 20 - 300

```
BASIC1  / CHORD1
CHD=C  Maj QTZ=--
Tone=227STANDARD
   1- 1    ♩=116
```

Selecting Pattern
You can select the Pattern to create.
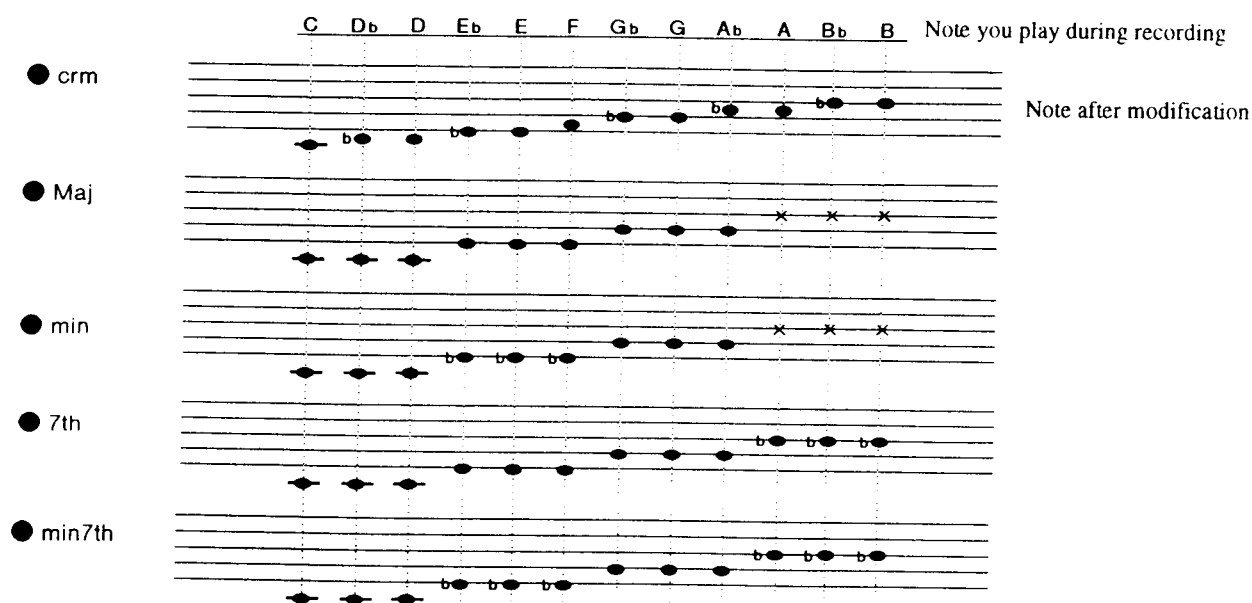
Selecting Part
You can select which Part of the Pattern to create.

Selecting Root Chord
You can select a key convenient for recording your Style Part.

Selecting Chord Type

Select "crm (cromatic) " for the "Chord Type" if you want to record your Style just as you play. You can only select "crm (cromatic) " for the INT Maj (INTRO Major), INT Min (INTRO Minor), END Maj (ENDING Major), and END Min (ENDING Minor) Patterns.
If you select a value other than "crm (cromatic) ", your input will be modified during recording according to the chord you specify with "Root Chord" and "Chord Type" fields. When you are recording the CHORD 1 part, you can record only elemental notes of the chord you set. If you input other note, it will be automatically changed to an elemental note. The following chart shows how the notes will be modified in the key of C.

For example, when you select C for the Root Chord and Maj for the Chord Type and then play Db or D note during recording, it will be recorded as C note.

Note: x in the above chart indicates that it is impossible to play the note. When you select "Maj" or "min" for the "Chord Type" of CHORD 1 and then play A, Bb, or B note during recording, no note will be recorded

When you are recording the CHORD 2, CHORD 3, or BASS part, you can record only scale notes of the chord. However, you can sometimes record only the elemental notes of the chord for CHORD 2 part. The chart in the following page shows how the notes will be modified in the key of C.

C Db D Eb E F Gb G Ab A Bb B Note you play during recording

● crm

Note after modification

● Maj

● min

● 7th

● min7th

Quantize

You can select the Quantize value to be used when recording. The Quantize function moves all notes to the nearest selected Quantize value. "4" represents quarter note. "8" represents 8th note. For example, if you selected "8" (an eight note) as the Quantize value, then all notes are moved to the nearest 8th note beat division. This produces a perfectly precise rhythmic performance. To move notes to a particular note division, see the chart below.

4: quarter note, 6: quarter note triplet, 8: 8th note, 12: eighth note triplet, 16: 16th note, 24: sixteenth note triplet, 32: 32nd note, 48: 32nd note triplet, --: No quantize will be executed

Selecting Sound Number/Name

You can select sound for recording.

Selecting Tempo

You can select Tempo for recording.
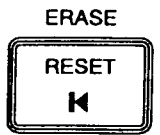
Recording Style

3. Press the START/STOP button. After a two measure count-off the ACR-20 begins recording. A Pattern will repeat continuously during recording. New data can be overdubbed without erasing existing data.

START / STOP

If you press and hold down the RESET/ERASE button, all data in this part will be deleted as long as you hold down the RESET/ERASE button.
When you are recording a DRUM Part, you can delete a particular drum sound by pressing an appropriate key on the external MIDI keyboard while holding down the RESET/ERASE button. If you press the RESET/ERASE button without pressing any key on the external MIDI keyboard all drums will be deleted as long as you hold down the RESET/ERASE button.

ERASE

RESET
◄◄

Notes:
* *You do not have to stop recording to record other parts. You can change the value of any field (except for the Pattern field) during recording.*
* *If you input too much data in the EDIT mode, "MEMORY FULL" may be displayed and you can no longer input data. If necessary, save the data using the Write operation.*

4. Press the START/STOP button to stop recording.
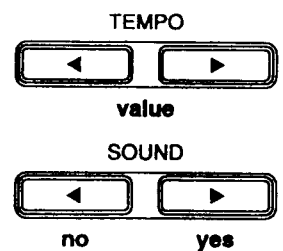
4) Style Erase

1. Press one of the SYSTEM PAGE buttons until Style Erase menu appears.
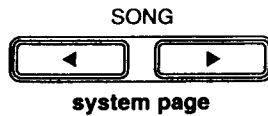
   1. Pattern: ALL (all the 8 Patterns), BASIC 1, BASIC 2, FILL 1, FILL 2, INT Maj (INTRO Major), INT Min (INTRO Minor), END Maj (ENDING Major), END Min (ENDING Minor)

```
   < MENU >
2.Style Erase
PTN =BASIC1
   OK ?→<Yes/No>
```

2. Select the Pattern you want to delete using the VALUE buttons. Select ALL if you want to delete all the 8 Patterns of a Style.
3. Press the YES button. The ACR-20 will prompt you "SURE?". (Press the NO button if you want to cancel the operation.)
4. Press the YES button to execute the Style Erase operation. (Or, press the NO button to cancel the operation.) When the operation is completed, "Completed!" will be displayed.

TEMPO
◄ ►
value
SOUND
◄ ►
no   yes

42
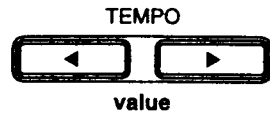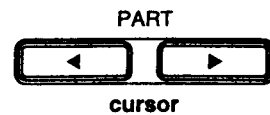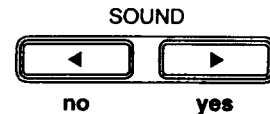
5) Chord Edit

1. Press one of the SYSTEM
   PAGE buttons in the Style Erase
   display until Chord Edit menu
   appears.

SONG

system page

```
<  MENU  >
3.Chord Edit
Edit/Clear&Edit
OK ?→<Yes/No>
```

2. If you want to create your Chord Progression by modifying
   the current one, select "Edit" with the VALUE buttons. If
   you wish to create your Chord Progression from scratch,
   select "Clear & Edit" with the VALUE buttons.

3. Press the YES button. Then, use the CURSOR buttons to move the
   cursor to the appropriate field and select a value using the VALUE
   buttons.

SOUND

no   **yes**

PART

cursor

Chord Change

The display will show as follows if you select "CHORD" for the
"Item" field.

TEMPO

value

1. Item: CHORD, PTNCHG (Pattern Change)
2. Search mode: >
3. Bar number : 001-999, INTRO
4. Beat number
5. Clock Pulse: 00 - 47
6. Chord Root: C-B
7. Chord Type: Maj, M7, min, cromatic, etc.
8. Bass note
9. Tempo

```
       INPUT=CHORD
>  001 - 1  001
F#              /C
=120    ENT→<Y/N>
```

Notes:
* *Each quarter note is divided into 48 divisions. These are called Clock Pulses and they
  represent the smallest beat division possible on the ACR-20 during Chord Edit.*
* *As mentioned in page 18, you can start a Style from the BASIC 1 or INTRO Pattern. The
  Bar number above shows the bar number from the start bar of the BASIC 1 Pattern.If you
  want to change chord of "INTRO" Pattern, select "INTRO" for Bar Number and select
  "Maj" or "min" for "Chord Type".*

When you move the cursor to the ">" mark, each CHORD message and its location in the
Chord Progression will be displayed as you press the VALUE buttons repeatedly. If you want
to delete a CHORD message, press the RESET/ERASE button while the message is displayed.
Press the YES button to enter a set of chord messages. (Or, press the NO button to cancel the
operation.) Repeat the above operation to input or change each chord and press the YES
button each time you finish inputting values for a chord.

Note: If you press the START/STOP button while editing CHORD, you can hear the data you are editing.

Pattern Change

The display will show as follows if you select "PTNCHG (Pattern Change)" for the "Item" field. Use the CURSOR buttons to move the cursor to the appropriate field and select a value using the VALUE buttons.

1. Item: CHORD, PTNCHG (Pattern Change)
2. Search mode: >
3. Bar number
4. Beat number
5. Clock Pulse: 00 - 47
6. Pattern Change Data: This allows you to select which STYLE element you wish to go to at this point in the Chord Progression.

   FILL 1: switches to FILL IN 1 and then to BASIC 1
   FILL 2: switches to FILL IN 2 and then to BASIC 2
   ENDING: switches to ENDING
   RETURN: returns to the beginning after playing the bar
   STOP : stops playback
   CHAIN: changes to the Style number of your choice after playing the selected bar. (If you select the CHAIN, Style number to be played after playing the selected bar can be displayed beside this field. Use the CURSOR buttons to move the cursor to the "Style number" and select a value using the VALUE buttons.)
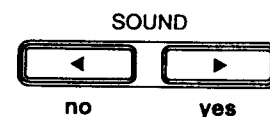
7. Tempo

3. Press the YES button to enter the message.
   (Or, press the NO button to cancel the operation.)
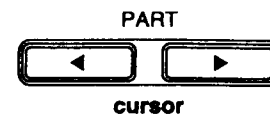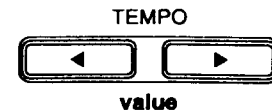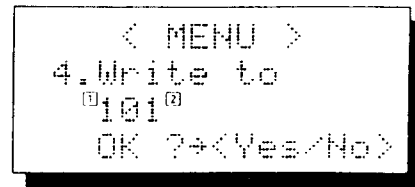
4) Write

Store the Style you created to one of the 16 User Style area.

1. Select the Write menu using the SYSTEM PAGE buttons.
   Then, use the VALUE buttons to select the destination
   USER area.

   ```
   <  MENU  >
   4.Write to
      [1]101[2]
      OK ?→<Yes/No>
   ```

   1. USER Style Number: 101 - 116
   2. USER Style Name

   TEMPO

   ```
   [ ◄ ] [ ► ]
   ```
   value

   PART

   ```
   [ ◄ ] [ ► ]
   ```
   cursor
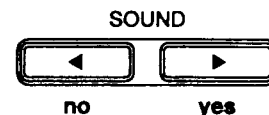
2. Name your song using the CURSOR and TEMPO buttons.
   The following letters, symbols or space can be entered with the
   TEMPO buttons. (Press the left TEMPO button after selecting the "!"
   if you want to select a "space".) Then, use the CURSOR buttons so that the appropriate field
   flashes and select a letter or symbol for the field. Repeat this procedure as many times as
   necessary. Up to eight letters or symbols can be entered for each song.

   ! " # $ % & ' ( ) * + , - . / 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 { | } → ←
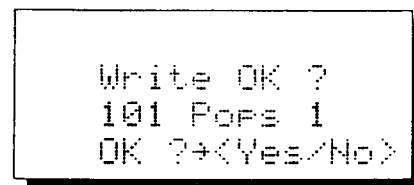
3. Press the YES button. The ACR-20 will prompt you "SURE?". Then,
   press the YES button again to execute the Write operation. (Or,
   press the NO button to cancel the operation.)

   SOUND

   ```
   [ ◄ ] [ ► ]
   ```
   no   yes

4. When the operation is completed, "Completed" will be displayed.

Notes:
* *User Styles you stored using the Write operation will remain after turning off the unit. If*
  you turn off the unit without executing the Write operation, User Style you created will be
  cleared.
* *If you try to leave Style Edit mode without executing the Write operation, the following*
  message will appear. Press the YES button as mentioned above if you want to save the Style
  you have created. Press the NO button (same as left SOUND button) if you want to cancel
  the Style edit.

```
Write OK ?
101 Pops 1
OK ?→<Yes/No>
```

45

6. System

You can use the following menus in the SYSTEM mode.

(1) Song Save (2) Transpose (3) Repeat (4) Punch Rec (5) Reverb (6) Volume Change
(7) Tone Change (8) Quantize (9) Format Disk (10) Song Delete (11) Tempo Set (12) Half Mute
(13) Metronome (14) LCD Contrast (15) Merge (16) Channel Convert (17) Soft Through
(18) Channel Separate (19) MIDI Clock (20) Concert Magic (21) Style Save (22) Style Load
(23) Split Point

You can scroll through all the above menus in order using the following procedure.

1. If you want to edit a song, select the song using the SONG buttons. If the song location is not at
   the top of the song, press the RESET button to reset the location to the beginning
   of the song.

2. Press the SYSTEM/DISK button to select the SYSTEM mode.
   The SYSTEM/DISK button light should light.

3. Press one of the SYSTEM PAGE buttons (same as the SONG buttons) as
   many times as necessary to reach your desired
   menu.

4. Adjust values of the menu using the VALUE
   buttons, etc. If necessary, use the PART/
   CURSOR buttons to move the cursor to the
   appropriate field.

5. Press the SYSTEM/DISK button again to leave the SYSTEM mode. The
   SYSTEM/DISK button light will go off.

Notes:

* *If you attempt to edit data of a song which is not SMF format 0 in the SYSTEM mode, the
  display will show an error message such as "Data unavailable" or "Can't Edit File" indicating
  that you cannot edit the data.*

* *The display will show "Can't Enter" if you press the SYSTEM/DISK button while the Concert
  Magic button light is on. Press the RESET button and Concert Magic button to turn off the
  Concert Magic button light and then press the SYSTEM/DISK button to activate the System
  mode.*
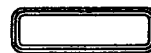
1) Song Save

Song data can be saved to a floppy disk. Refer to the "SAVE " section on page 31 of this manual for details.
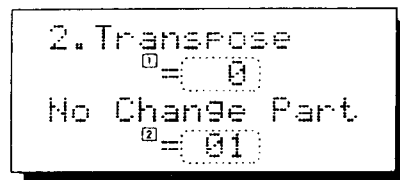
2) Transpose

1. Press the SYSTEM/DISK button to enter the SYSTEM mode.

2. Press the SYSTEM PAGE buttons (same as the SONG buttons) until the display shows the TRANSPOSE menu.

SONG

system page

```
2.Transpose
    ①= 0
No Change Part
    ②= 01
```

    1. Transpose : -12 to 0 to +12
    2. No Change Part :1 - 16, No

3. Use the VALUE buttons to change the Transpose value. If you press the right VALUE button, the number in the display will increase by 1 and the pitch will raise by a half step. If you press the left VALUE button instead, the number in the display will decrease by 1 and the pitch will decrease by a half step.
You can adjust the ACR-20's pitch up or down by one full octave (that is, from -12 half steps to +12 half steps).

TEMPO

value

4. You can select a Part for which the transpose function will not take effect. Use the PART/CURSOR buttons to move the cursor to the "No Change Part" field and select value using the TEMPO/VALUE buttons. Select "NO" if you want to transpose all of the 16 parts.

PART

cursor

5. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

Note: Transpose does not work for drum sounds.

3) Repeat

This function allows you to repeat a specified number of measures within a song. You can insert up to three REPEAT messages (A, B, and C) in a song.

Important Note: The REPEAT function is designed mainly for rehearsal purposes. It's a good idea to practice a specified number of measures using this function. The REPEAT parameters cannot be saved to a floppy disk when saving a song using the SONG SAVE function.

1. Use the procedures mentioned on page 46 of this manual to select the REPEAT menu.
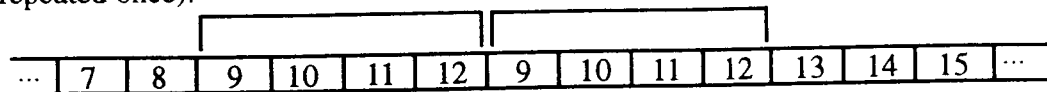
    1. REPEAT Function: ON, OFF
    2. Measure Number of the beginning of the REPEAT
    3. Measure Number of the ending of the REPEAT
    4. Number of times the REPEAT will repeat: 1- 10

```
3.Repeat    =Off
(A)  9- 12 X 2
(B)  1-  1 X 1
(C)  1-  1 X 1
```
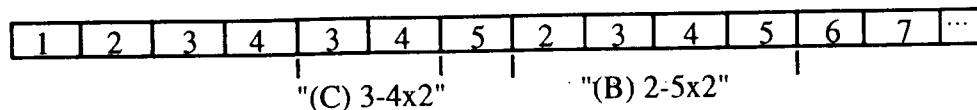
Notes:
* *If you set the number of the beginning of the REPEAT larger than that of the ending, the song will jump to the measure number of the beginning of the REPEAT after the Measure of the ending. The jump takes effect once only regardless of the Number of REPEAT times value.*
* *If you select the "1" in the "Number of repeating times" field, the specified area will be played once and REPEAT function will not take effect.*
* *If you attempt to edit data of a song which is not SMF format 0, the display will show an error message such as "Data unavailable" indicating that you cannot edit the data.*

If you set values for the REPEAT (A) as above display, the measures 9 - 12 will be played twice (repeated once).

···	7	8	9	10	11	12	9	10	11	12	13	14	15	···

As soon as playback reaches the End Bar of a REPEAT message , the REPEAT message takes effect. For example, if you use "(B) 2-5x2" and "(C) 3-4x2", the measures 3 - 4 will be played twice (repeated once), and then the measure 5 will be played, and then measures 2-5 will be repeated once.

1	2	3	4	3	4	5	2	3	4	5	6	7	···
          "(C) 3-4x2"   "(B) 2-5x2"

2. Use the CURSOR buttons to move the cursor to the appropriate field and select a value using the VALUE buttons.
   If the End Bar of some REPEAT messages are the same, the REPEAT messages take effect in alphabetical order. For example, if the Ending measure numbers of (A) and (C) are the same, (A) will take effect first.
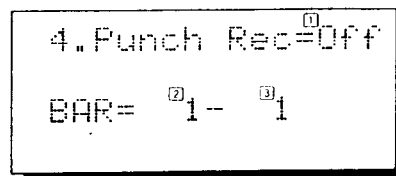
3. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

4) Punch Rec
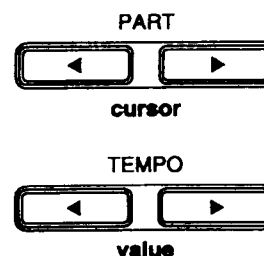
PUNCH REC is a technique for rerecording specific portions of a previously recorded Part. If you made a mistake during your performance, this feature allows you to select the specific measures where the mistake occurred and rerecord only these measures without having to redo the entire Part.

1. Use the procedures mentioned on page 46 to select the PUNCH REC menu.

   1. PUNCH REC Function: ON, OFF
   2. Punch In Bar number
   3. Punch Out Bar number

```
4.Punch Rec=Off

BAR=   1 --  1
```

2. Use the CURSOR buttons to move the cursor to the appropriate field and select a value using the VALUE buttons. Move the cursor to the Punch In Bar field and select the measure number where you want to begin recording. Move the cursor to the Punch Out Bar field and select the measure number where you want recording to stop. Move the cursor to the "Punch Rec on/off" field and select "ON".

PART

cursor

TEMPO

value

3. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

4. Start recording using the procedures on page 26.
   When you press the REC button, "P-REC" will be displayed to indicate that PUNCH REC Function is activated. Pressing the PLAY/STOP button starts playback from the beginning of the song . When the Punch In Bar is reached, recording will begin. The new data replaces the old in the record region. At the end of the Punch Out Bar, recording stops and the ACR-20 resumes playback.

```
 90 % Free  P-REC
001 Pops 1     116
P01 001 GrPiano
```

If you set the display as (BAR = 4 - 6), the recording region starts on bar 4 and stops on bar 6.

1	2	3	4	5	6	7	...
Playback			Recording			Playback	

Notes:
* *If you press the REC button when the location is after the Punch In Bar, Punch In recording may not work. You must start recording before the Punch In Bar.*
* *The PUNCH REC parameters are reset to default value when the power is turned off.*

5) Reverb

The reverb gives you an instant concert hall type of sound. You can assign either High or Low level of reverb (echo) for each of the 16 parts of the ACR-20.

1. Use the procedures mentioned on page 46 to select the REVERB menu.

```
5.Reverb Set
 =High
```
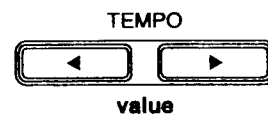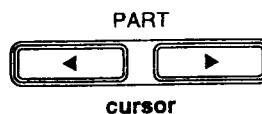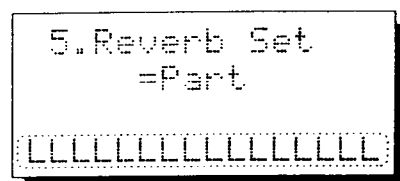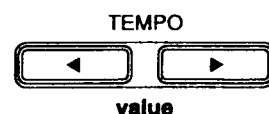
     1. Value: High, Low, Part
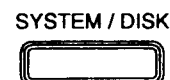
Select a value using the VALUE buttons.
Select "High" to assign high level of reverb to all the 16 parts of the ACR-20.
Select "Low" to assign low level of reverb to all the 16 parts of the ACR-20.

TEMPO

value

Select "Part" to assign high or low levels of reverb Part by Part. If you select "Part", "H" or "L" will be displayed at the bottom of the display for all Parts. "H" indicates that "Higher" reverb is assigned to that Part. "L" indicates that "Lower" reverb is assigned to that Part. Use the CURSOR buttons to move the cursor to the appropriate field and select "H" or "L" for the Part using the VALUE buttons.

```
5.Reverb Set
 =Part
LLLLLLLLLLLLLLLL
```

PART

cursor

TEMPO

value

2. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

SYSTEM / DISK
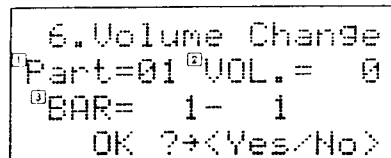
Note: The REVERB parameters are reset to default value when the power is turned off.

6) Volume Change

This function changes the Velocity value for all notes within the edited region by the same amount. Selecting a negative VOLUME CHANGE value lowers the Velocity within the edited region and selecting a positive VOLUME CHANGE value raises the Velocity.

Note: The VOLUME CHANGE parameters can be saved to a floppy disk using the SONG SAVE function.

1. Use the procedures mentioned on page 46 to select the VOLUME CHANGE menu.
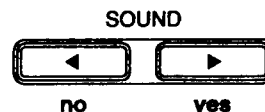
    1. Part: 1-16
    2. Volume Change value: -64 to 0 to 64
    3. Measure Numbers of the region to edit

2. Use the CURSOR buttons to move the cursor to the appropriate field and select a value using the VALUE buttons. If you want to change the VOLUME CHANGE value of BAR 4 to 6, set the region to edit as "BAR= 4-6".

3. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". Then, press the YES button again to execute the operation. When the operation is completed, "Completed!" will be displayed. (Or, press the NO button if you want to cancel the operation.)

4. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

Notes:
* *This function cannot alter a volume value outside the maximum range of 0 - 127. If there are notes within your edited region with recorded velocity of 100, and you select a volume change value of 30 (raises volume by 30 degrees), those notes will be raised to the maximum velocity of 127 and no further.*
* *If you attempt to edit data of a song which is not SMF format 0, the display will show an error message such as "Data unavailable" or "Can't Edit File" indicating that you cannot edit the data.*

7) Tone Change

The TONE CHANGE parameters command the built-in sound module to use the sound you select for a Part at the beginning of a song.

1. Use the procedures mentioned on page 46 to select the TONE CHANGE menu.

    1. Part: ALL, 1-16
    2. Tone Change value: 1-235

2. Use the CURSOR buttons to move the cursor to the appropriate field and select a value using the VALUE buttons.

3. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". Then, press the YES button again to execute the operation. When the operation is completed, "Completed!" will be displayed. (Or, press the NO button if you want to cancel the operation.)

4. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

Note: If you attempt to edit data of a song which is not SMF format 0, the display will show "Can't Edit File" indicating that you cannot edit the data.
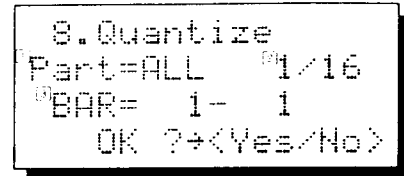
8) Quantize

The Quantize function moves all notes within the edit region to the nearest quantize value. This produces a perfectly precise rhythmic performance.

The edit region can be restricted to a specified number of bars within a Part.

(Please note: for the best musical results, you should set the 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 a QUANTIZE value of 1/8.)

1. Use the procedures mentioned on page 46 to select the QUANTIZE menu.
2. Use the CURSOR buttons to flash the appropriate field and select a value using the VALUE buttons.

```
8.Quantize
Part=ALL      1/16
BAR=   1-   1
     OK ?+<Yes/No>
```

    1. Part: ALL, 1-16
    2. Quantize value: 1/4, 1/8, 1/12, 1/16, 1/24, 1/32
    3. Start Bar and End Bar of the edit region

Note: Quantize value "1/12" represents an eighth note triplet. Quantize value "1/24" represents a sixteenth note triplet.

Select the Part you want to quantize by changing the Part field value. Select "ALL" for the Part field if you want to edit all 16 parts.

Define the edit region by selecting the start bar and end bar.

Select the quantize value for the region. For example, if you select "1/8" as the quantize value, then all notes within the edit region will be moved to the nearest 8th note beat division. The quantize value defines the smallest beat division possible for the edit region. For instance, 16th notes are changed to 8ths when all notes are moved to the nearest 8th note. This means you must select the smallest beat division present in your edit region as the quantize value. If there are 16ths, but no smaller divisions, then select "1/16" and so on.

3. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". Then, press the YES button again to execute the operation. When the operation is completed, "Completed!" will be displayed. (Or, press the NO button if you want to cancel the operation.)

4. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

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9) Formatting a Floppy Disk

Formatting must be carried out when using a new disk or a disk other than one for the ACR-20.
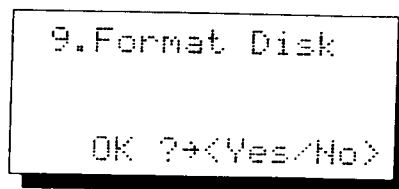
Notes:

* *Turn the disk write protect off (close the window) during formatting. "Write protected" will be displayed if the write protect is on.*
* *The disk supplied with the ACR-20 does not need to be formatted.*
* *If a disk with data stored on it is formatted, the contents will be deleted.*
* *If you want to play song data (SMF format 0) on a floppy disk with the ACR-20, the floppy disk should be formatted with ACR-20 or IBM compatible computers with the following specifications:*

3.5" 2DD (720 kilobyte) floppy disk or 3.5" 2HD (1.4 Mbyte) floppy disk

* *The song data recorded with DRP-10 will be stored with SMF (Standard MIDI Files) Format 0. Refer to page 69 for the explanation of the Standard MIDI File.*
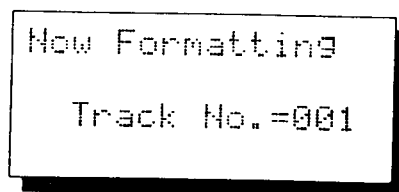
1. Insert a disk into the Disk Slot.

2. Use the procedures mentioned on page 46 to select the FORMAT DISK screen.

```
9.Format Disk

OK ?→<Yes/No>
```

3. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". (If you want to cancel the operation, press the NO button now).

Note: "No Disk!" will be displayed if the disk is not inserted into the disk slot properly.

Then, press the YES button again to execute the operation. Numbers gradually count down on the display during formatting. When the formatting is finished, the display will show "Completed!".

```
Now Formatting

Track No.=001
```

4. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

Data Format   The ACR-20 can play the following data. However, some functions are not available when you want to record or play back data as shown below.

	Display	PLAY	MUTE	REW/FWD	REPEAT	Concert Magic	Record/ Save
SMF Format 0	blank	O	O	O	O	O	O
SMF Format 1	*	O	O	×	×	×	×
Concert Magic	□	O	O	O	O	O	O

Notes

* *No mark will appear beside the song name for the Standard MIDI File format 0 data.*

* O *in the above chart indicates that the function is available. X in the above chart indicates that the function is not available.*

10) Song Deletion

This is to delete unnecessary songs from the floppy disk.

Note: Turn the disk write protect off (close the window) during deleting.

1. Insert a disk into the Disk Slot.

2. Use the procedures mentioned on page 46 to select the SONG DELETE screen.

3. Use the VALUE buttons to select the song name to delete in the display.
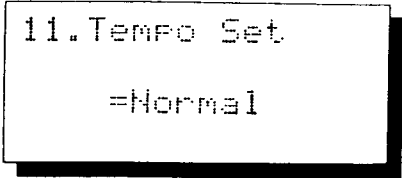
```
10.Song Delete

=SONG NAME
OK ?→<Yes/No>
```

4. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". (If you want to cancel the operation, press the NO button now).

5. Press the YES button again to execute the operation. When the operation is completed, "Completed!" will be displayed. (Or, press the NO button if you want to cancel the operation.)

6. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

11) TEMPO SET

This function allows you to control how the tempo commands in a song will be affected.

1. Use the procedures mentioned on page 46 to select the Tempo Set screen.

```
11.Tempo Set

=Normal
```

2. Use the VALUE buttons to select a value (Normal, Auto, Off) in the display.

If you select AUTO, all tempo change messages in a song will be changed by a selected percentage. The percentage is determined by the ratio between the initial tempo value you set at the playback of the song and the initial tempo value in the song data.
For example, if you change the initial tempo of a song to 200 whose original initial tempo value is 100, all the tempo values in the song will be doubled. If the song contains a tempo change value of 120 at the beginning of the 2nd bar, the tempo will be changed to 240 at the second bar.

If you select NORMAL, you can still set the starting tempo at playback, but the song will be played back at the tempo change value from the next value in the song data.
For example, you can change the initial tempo of a song to 200 whose original initial tempo value is 100. If the song contains a tempo change message whose value is 50 at the beginning of the 2nd bar, the tempo will be changed to 50 at the second bar.

If you select OFF, all tempo change messages in a song will not take effect. Songs will be played back at the initial tempo you set at playback.
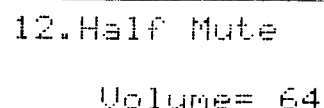
3. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

Note: If you execute overdubbing with the Tempo Set value "Off", current tempo messages will be deleted and tempo changes made during recording will be remembered.

12) Half Mute

This controls the volume level of the HALF MUTE function. Refer to the "Part Volume" section of this manual for details.

1. Use the procedures mentioned on page 46 to select the Half Mute screen.

2. Select a value (1-127) using the VALUE buttons.

3. Press the SYSTEM/DISK button again to leave the SYSTEM mode.
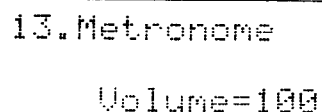
```
12.Half Mute

    Volume= 64
```

13) Metronome

This controls the volume level of the metronome on the ACR-20.

1. Use the procedures mentioned on page 46 to select the Metronome screen.

2. Select a value (0-127) using the VALUE buttons.

3. Press the SYSTEM/DISK button again to leave the SYSTEM mode.
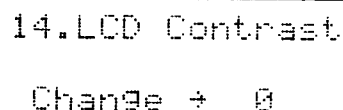
```
13.Metronome

    Volume=100
```

14) LCD Contrast

This controls the contrast of the LCD display.

1. Use the procedures mentioned on page 46 to select the LCD Contrast screen.

2. Select a value (from -4 to 0 to 4) using the VALUE buttons.

3. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

```
14.LCD Contrast

Change →  0
```

15) Merge

This function combines data from one Part to another.
•

1. Use the procedures mentioned on page 46 to select the Merge screen.

2. Use the CURSOR buttons to move the cursor to the appropriate field and select a value using the VALUE buttons.
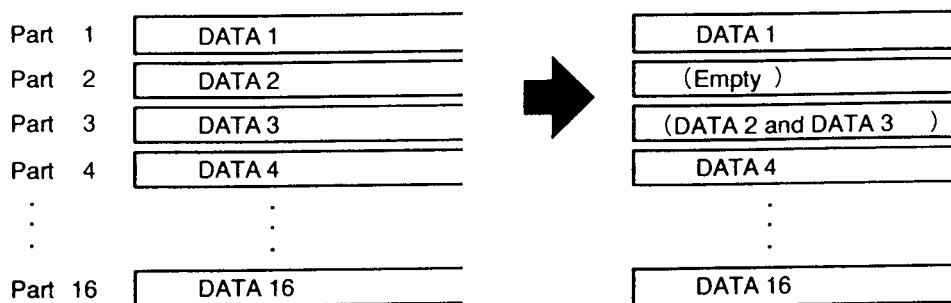
```
15.Merge
Part=02 →Part=03

OK ?→<Yes/No>
```

      1. Source Part number: 1-16
      2. Destination Part/Channel number: 1-16

This function layers the source Part data on top of the destination Part/Channel. The combined data on the destination Part is played back on the destination Part's MIDI channel. Data will be removed from the source Part.
The above display indicates that the data on Part 2 will be added to Part 3. The MIDI channel of the combined data will be set to 3. Data will be removed from Part 2.

3. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". (If you want to cancel the operation, press the NO button now).

Part	1	DATA 1		DATA 1
Part	2	DATA 2	➡	(Empty)
Part	3	DATA 3		(DATA 2 and DATA 3)
Part	4	DATA 4		DATA 4
		.		.
		.		.
		.		.
Part	16	DATA 16		DATA 16
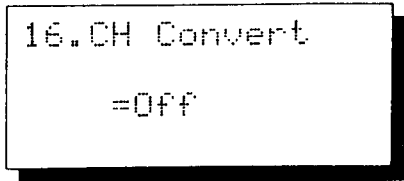
4. Press the YES button again to execute the operation. When the operation is completed, "Completed!" will be displayed. (Or, press the NO button if you want to cancel the operation.)

5. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

16) Channel Convert

This function automatically converts the MIDI channel of the data received from the MIDI IN jack of the ACR-20 to match the currently selected Part. If you activate this function, you do not have to change the transmit channel of the keyboard.

1. Use the procedures mentioned on page 46 to select the Channel Convert screen.

2. Select a value using the VALUE buttons. "ON" activates the Channel Convert function. "OFF" deactivates the function. Let's select "ON" as an example.
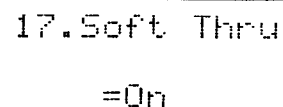
```
16.CH Convert
       =Off
```

3. Press the SYSTEM/DISK button again to leave the SYSTEM mode. If you are selecting Part 6, any MIDI data received from the MIDI IN jack of the ACR-20 will be converted to channel 6. If a guitar tone is selected for Part 6, the ACR-20 will play guitar sounds regardless of the MIDI channel of data received from the MIDI IN jack.
If you use the CURSOR buttons and move the cursor to the Part 1 field in the display, the display will show P01 indicating that Part 1 is selected. If a Bass tone is selected for Part 1, the ACR-20 will play Bass sounds regardless of the MIDI channel of data received from the MIDI IN jack. If you activate this function, you do not have to change the transmit channel of the keyboard during recording, etc.

17) Soft Through

This function determines whether MIDI information received by the ACR-20 from your keyboard will be passed through and sent out via the MIDI OUT jack.

1. Use the procedures mentioned on page 46 to select the Soft Through screen.
2. Select a value using the VALUE buttons.

```
17.Soft Thru

=On
```

There are two ways to set Soft Through:

ON - MIDI data received from the MIDI IN jack of the ACR-20 will be sent to the internal sound module of the ACR-20 and sent out via the MIDI OUT jack. The internal sound will be played when receiving MIDI data.

OFF- MIDI data received from the MIDI IN jack of the ACR-20 will be sent neither to the internal sound module of the ACR-20 nor to the MIDI OUT jack. The internal sound will not be played when receiving MIDI data. This setting is convenient when you want to record your performance of your keyboard only without playing the ACR-20.

Note:

* *If you attempt to change the value while playing music on your keyboard, the display may show "Note off please". When MIDI data is received from the MIDI IN jack of the ACR-20, you cannot change the value. When you see this message, please check if something is pressing keys on your keyboard or playing back some music.*

3. Press the SYSTEM/DISK button again to leave the SYSTEM mode.
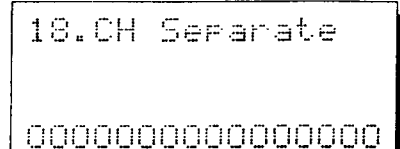
Notes:

* *Set the Soft Through value to "ON" when you want to activate the Channel Separate function described below.*
* *Depending on the "EXT./INT button position" (see page 25) or "Channel Separate settings, some Parts' data may be sent neither to the internal sound module of the ACR-20 nor to the MIDI OUT jack irrespective of the "Soft Through" parameter.*
* *If you set the Soft Through value to "ON", "Local Control OFF" message will be transmitted from the ACR-20. If you set the Soft Through value to "OFF", "Local Control ON" message will be transmitted from the ACR-20. Refer to the explanations for "Local Control" on page 12. If your Digital Piano cannot receive "Local Control OFF" message, sounds will be played twice - once by the keyboard directly (as if it weren't hooked up to any other MIDI device at all) and then again by the MIDI information the Digital Piano is sending through the ACR-20 when you set the Soft Through to "ON".*

18) Channel Separate

This function determines which Part of the data received by the ACR-20 will be sent to the built-in sound module or to the MIDI OUT jack of the ACR-20.

1. Use the procedures mentioned on page 46 to select the Channel Separate screen.
2. Use the CURSOR buttons to move the cursor to the appropriate field and select a value for each Part using the VALUE buttons.

```
18.CH Separate


OOOOOOOOOOOOOOOO
```

There are two ways to set Channel Separate:

O - Selecting this value for a Part allows the Part data received from the MIDI IN jack of the ACR-20 to be sent to the internal sound module of the ACR-20, but not to the MIDI OUT jack if you set the Soft Through to "ON" and set the INT./EXT. button on the rear panel of the ACR-20 to "INT". However, if you set the INT./EXT. button to "EXT", information received as <u>MIDI Channel 1 only</u> will be sent to the MIDI OUT jack instead of the internal sound module of the ACR-20.
Refer to page 25 of this manual for explanations of the "EXT./INT button".

X - If you select this value for a Part, the Part data received by the ACR-20 will be sent to the MIDI OUT jack, but not to the internal sound module of the ACR-20. If you play back a song using the internal Sequencer, the Part data will be sent to the MIDI OUT jack without playing the Part of the internal sound module. This setting is convenient when you want to play the Part using an external instrument only.
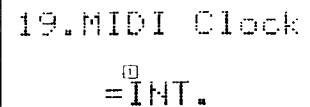
3. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

Notes:
* *If you set the Soft Through to "OFF", information of all the 16 Parts is blocked inside the ACR-20 regardless of the Channel Separate settings of each Part.*

19) MIDI Clock

1. Use the procedures mentioned on page 46 to select the MIDI
   Clock screen. Then, use the TEMPO/VALUE buttons to
   change value.

   ```
   19.MIDI Clock
        0
      =INT.
   ```

   1. Value: INT, EXT

      INT: The songs of the ACR-20 can be played with the panel buttons on the instrument.
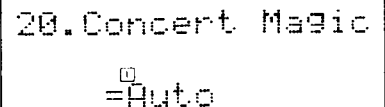
      EXT: Songs or patterns will be synchronized to MIDI clock signals from an external MIDI
            device. The songs cannot be played with the panel buttons on the ACR-20. Tempo is
            controlled by the external device.

2. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

20) Concert Magic

You can select two modes (Auto and Legato) for the Concert Magic function.

1. Use the procedures mentioned on page 46 to select the Concert
   Magic screen. Then, use the TEMPO/VALUE buttons to
   change value.

   ```
   20.Concert Magic
        0
      =Auto
   ```

   1. Value: Auto, Legato

      Auto: When you activate the Concert Magic function, notes
             will be played even after you release a key. Beginners who do not know about key
             release timing can play Concert Magic songs easily.

      Legato: The ACR-20 will respond to your key release. It may take some practice to play with
              Legato mode because notes will stop playing when you release your key.

2. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

Notes:
** If you selected "Auto" mode in the SYSTEM Concert Magic setting, you may hear some notes
playing even after releasing keys.*
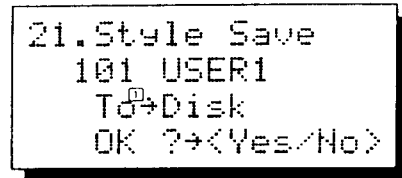
21) Style Save

You can store the Style you have created onto a floppy disk.

Notes:
* *Formatting must be carried out when using a new disk or a disk other than one for the*
  ACR-20. If a floppy disk with data stored on it is formatted, the contents will be deleted. Be
  careful not to format the disk supplied with the ACR-20 or the contents will be deleted.
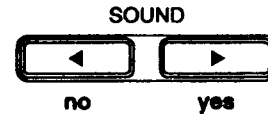
1. Insert a disk into the Disk Slot.

2. Use the procedures mentioned on page 46 to select the "Style Save" menu. Then, use the TEMPO/VALUE buttons to change value.

    ```
    21.Style Save
       101 USER1
       T♪→Disk
       OK ?→<Yes/No>
    ```

    1. Style Name

3. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". Then, press the YES button again to execute the SAVE operation. (Press the NO button if you want to cancel the operation.)

SOUND

◄ ►

no   yes

Notes:
* *If the floppy disk contains a Style whose name is the same as that of the song you are*
  attempting to save, "Name OK?" will be displayed. If you execute the SAVE operation using
  the YES button, the new data replaces the old data.
* *If you attempt to save data on a floppy disk whose write protect is on, the display will show*
  "Write protected!" indicating that you cannot save the data.
* *If there is not enough room on the disk for the data transfer, "Disk Full" will be displayed. If*
  necessary, try saving with another disk.

4. Press the SYSTEM/DISK button again to leave the SYSTEM mode. The SYSTEM/DISK button light will go off.

22) Style Load

You can transfer the Style data from a floppy disk to the USER area of the ACR-20.

1. Insert a disk into the Disk Slot.

2. Use the procedures mentioned on page 46 to select the "Style Load" menu.

```
22.Style Load
Name→     ①
To→101 USER1
OK ?→<Yes/No>
```

    1. Style Name of the source style on the floppy disk
    2. Destination Style number on the internal memory of the ACR-20

3. Use the TEMPO/VALUE buttons to change value.

TEMPO

4. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". Then, press the YES button again to execute the operation. (Press the NO button if you want to cancel the operation.)

5. Press the SYSTEM/DISK button again to leave the SYSTEM mode. The SYSTEM/DISK button light will go off.

23) Split Point

You can adjust the location of the Split Point.

1. Use the procedures mentioned on page 46 to select the Split Point screen. Then, use the TEMPO/VALUE buttons to change value.

```
23.Split Point

=G# 3
```

Note:
Pitches are labeled by the chromatic pitch name and the octave the pitch is in. For example, middle C is called C3.

TEMPO

2. Press the SYSTEM/DISK button again to leave the SYSTEM mode.
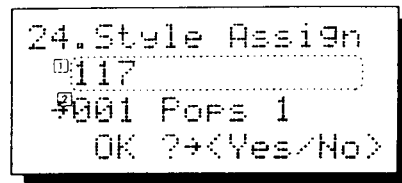
24) Style Assign

Sometimes it may be useful to switch between two different Styles quickly, but their style numbers may be far apart. Style Assign makes it easy to do this switch by allowing you to assign any Style number (from 001-116) to the Style locations 117-150.

For instance, if you need to switch from Style 007 to Style 089 quickly, just assign Style 007 to Style location 117 and assign Style 089 to Style location 118, then you can perform the switch by pushing one of the Style button only once.
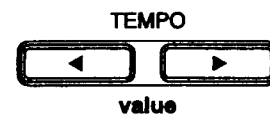
1. Use the procedures mentioned on page 46 to select the Style Assign screen.

    1. Destination Style number to be assigned
    2. Source style number

```
24.Style Assign
 ①117
 ②001 Pops 1
    OK ?→<Yes/No>
```

2. Use the PART/CURSOR buttons to move the cursor to the appropriate field and select value using the TEMPO/VALUE buttons.

PART   cursor   TEMPO   value

3. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". Then, press the YES button again to execute the operation. When the operation is completed, "Completed!" will be displayed. (Press the NO button if you want to cancel the operation.)

4. Press the SYSTEM/DISK button again to leave the SYSTEM mode.
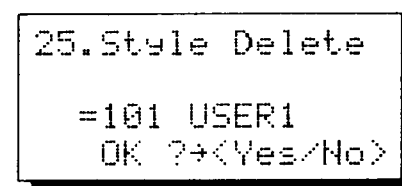
25) Style Deletion

This is to delete unnecessary songs from the USER Style area (Style 101-116).

1. Use the procedures mentioned on page 46 to select the Style Delete screen.

2. Use the VALUE buttons to select the Style to delete in the display.

```
25.Style Delete

=101 USER1
   OK ?→<Yes/No>
```

4. Press the YES button (same as the right SOUND button). The instrument will prompt you "SURE?". (If you want to cancel the operation, press the NO button now).

5. Press the YES button again to execute the operation. When the operation is completed, "Completed!" will be displayed. (Or, press the NO button if you want to cancel the operation.)

6. Press the SYSTEM/DISK button again to leave the SYSTEM mode.

Internal Tone List

|							
■Piano	031. Distortd	061. FrenchHr	092. ChoirPd	123. Seashore	■Guitar	182. Saw	214.Siren
001. GrPiano	032. Harmnics	062. BrasSect	093. BowedPd	124. BrdTweet	154. Ukulele	183. Dr.Solo	215.Train
002. BrPiano	■Bass	063. SynBras1	094. MetalPd	125. Telphone	155. Nylon G.r	■Synth SFX	216.Jetplane
003. ElGrand	033. WoodBass	064. SynBras2	095. HaloPd	126. Helicptr	156. NylonGt2	184. SynMallt	217.Starship
004. HnkyTonk	034. FngrBass	■Reed	096. SweepPd	127. Applause	157. 12strGtr	185. EchoBell	218.BurstNiz
005. ElPiano1	035. PickBass	065. SprnoSax	■Synth SFX	128. Gunshot	158. Mandolin	186. EchoPad	219.Laughing
006. ElPiano2	036. Fretless	066. AltoSax	097. Ice Rain	■Piano	159. HawaiiGt	187. Sitar2	220.Scrming
007. Hrpschrd	037. SlapBas1	067. TenorSax	098. SoundTrk	129. Det Piano	160. ChorusGt	188. TaishoKT	221.Punch
008. Clavi	038. SlapBas2	068. BariSax	099. Crystal	130. Mel Piano	161. FunkGtr1	■Percussive	222.HeartBt
■Chromatic	039. SynBass1	069. Oboe	100. Atmosphr	131. Det Br Pn	162. FunkGtr2	189. Castanet	223.Footstep
Perc.	040. SynBass2	070. EnglHorn	101. Bright	132. Det El Gra	163. FdBackGt	190. CncertBD	224.MachinGn
009. Celesta	■Stings	071. Bassoon	102. Goblin	133. Det Hk Tnk	164. GtFdBack	191. MeloTom2	225.LaserGun
010. Glocken	/ Orch.	072. Clarinet	103. Echoes	134. DetEP 1	■Bass	192. BOBTom	226.Explose
011. MusicBox	041. Violin	■Pipe	104. SciFi	135. EPianov1	165. Syn Bass 3	193. Ele Perc	■Drun Set
012. Vibes	042. Viola	073. Piccolo	■Ethnic	136. 60'sEP	166. Syn Bass 4	■SFX	227.STANDARD
013. Marimba	043. Cello	074. Flute	105. Sitar	137. DepEP2	167. Syn Bass 5	194. GtCtNoiz	228.ROOM
014. Xylophon	044. Contra	075. Recorder	106. Banjo	138. EPianov2	168. Syn Bass 6	195. StrSlap	229.POWER
015. TubulBel	045. TremStrg	076. PanFlute	107. Shamisen	139. CpldHpsi	■Strings	196. FltKyClk	230.ELECTRO
016. Dulcimer	046. Pizzicto	077. Bottle	108. Koto	140. Det Hrpsi	/ Orch.	197. Rain	231.BOB
■Organ	047. Harp	078. Shakhach	109. Kalimba	141. Harpsi.r	169. SlowVn	198. Thunder	232.JAZZ
017. DrawOrg 1	048. Timpani	079. Whistle	110. Bagpipe	■Chromatic	■Ensemble	199. Wind	233.BRUCH
018. PercOrg 1	■Ensemble	080. Ocarina	111. Fiddle	Perc.	170. Orchstra	200. Stream	234.ORCHSTRA
019. RockOrgn	049. StrgEns1	■Synth Lead	112. Shanai	142. Det Vibes	171. Syn Strg 3	201.Bubble	235.SFX
020. ChrcOrg 1	050. StrgEns2	081. SquareLd	■Percussive	143. Det Mrmba	172. Det Aah	202.Dog	
021. ReedOrgn	051. SynStrg1	082. SawLd	113. TnklBell	144. ChrchBel	■Brass	203.HsGallop	
022. Acordion	052. SynStrg2	083. CaliopLd	114. Agogo	145. Carillon	173. Trombon2	204.Bird2	
023. Harmnica	053. AahChoir	084. ChiffLd	115. StlDrum	■Organ	174. FrHorn2	205.Telphon2	
024. TangoAcd	054. OohChoir	085. CharanLd	116. WoodBlok	146. Det DrawO	175. Brass2	206.Creaking	
025. NylonGtr	055. SynChoir	086. VoiceLd	117. TaikoDrm	147. 60'sOrg	176. SynBras3	207.Door	
■Guitar	056. OrchHit	087. FifthLd	118. MelodTom	148. Draw Org 2	177. Syn Bras 4	208.Scratch	
026. SteelGtr	■Brass	088. Bass&Ld	119. SynthTom	149. Det Perc O	178. Syn Bras 5	209.WndChime	
027. JazzGtr	057. Trumpet	■Synth Pad	120. RevCymbl	150. Perc Org 2	179. Syn Bras 6	210.Engine	
028. CleanGtr	058. Trombone	089. NewAgePd	■SFX	151. Det Chrc O	■Synth Lead	211.CarStop	
029. MuteGtr	059. Tuba	090. WarmPd	121. FretNoiz	152. ChrcOrg 2	180. Square	212.CarPass	
030. Ovrdrive	060. MuteTrmp	091. PolySyPd	122. BrthNoiz	153. Acordnlt	181. Sine	213.CarCrash	

Internal Style List

1. Pops 1	16. R&B 2	31. Ballad	46. Gospel 2	61. Samba 2	76. Joropo	91. EngWaltz
2. Pops 2	17. R&B 3	32. Dance 1	47. Fusion	62. Bossanv 1	77. Merenge	92. VienaWlz
3. Pops 3	18. R&B 4	33. Dance 2	48. Swing 1	63. Bossanv 2	78. Bachata	93. FrnchWlz
4. Pops 4	19. Rock	34. Dance 3	49. Swing 2	64. Bossanv 3	79. Socca	94. Flamenco
5. Pops 5	20. SofRock 1	35. Show 1	50. JzWaltz 1	65. Latin 1	80. Tango 1	95. Gypsi
6. Pops 6	21. SOfRock 2	36. Show 2	51. JzWaltz 2	66. Latin 2	81. Tango 2	96. Oriental
7. 8 Beat 1	22. Shuffle 1	37. Folk 1	52. JzWaltz 3	67. Latin 3	82. Polonese	97. Sirtaki
8. 8 Beat 2	23. Shuffle 2	38. Folk 2	53. JzWaltz 4	68. Jamaica 1	83. Bavarian	98. Italo 1
9. 16 Beat 1	24. Blues 1	39. B-Grass 1	54. Dixie 1	69. Jamaica 2	84. KrnPolka	99. Italo 2
10. 16 Beat 2	25. Blues 2	40. B-Grass 2	55. Dixie 2	70. Salsa 1	85. TradPlka	100. Italo 3
11. R&R 1	26. Blues 3	41. Country 1	56. NewOrns 1	71. Salsa 2	86. Schlagr 1	
12. R&R 2	27. Oldies 1	42. Country 2	57. NewOrns 2	72. Mambo	87. Schlagr 2	
13. R&R 3	28. Oldies 2	43. Country 3	58. Big Band 1	73. Beguine	88. Schlagr 3	
14. R&R 4	29. Boogie 1	44. Country 4	59. Big Band 2	74. Cumbia	89. Schlagr 4	
15. R&B 1	30. Boogie 2	45. Gospel 1	60. Samba 1	75. Balenato	90. Schlagr 5	

Drum Key Assignment

Key		Standard /JAZZ	Room	Power	Electronic	Bob	Brush	Orchestra	SFX
27	C#0	High Q						Orch HHC	
28	E0	Slap						Orch HHP	
29	F0	Scratch Push						Orch HHO	
30	F#0	Scratch Pull						Orch Ride	
31	G0	Sticks							
32	G#0	Square Click							
33	A0	MetronomClick							
34	A#0	Metronom Bell							
35	B0	Std1 BD1	Room BD1	Power BD1	Elect BD1	Bob BD1	Brush BD1	Orch BD1	
36	C1	Std1 BD2	Room BD2	Power BD2	Elect BD2	Bob BD2	Brush BD2	Orch BD2	
37	C#1	Rim				Bob Rim			
38	D1	Std1 SD1	Room SD1	Power SD1	Elect SD1	Bob SD1	Brush Tap	Orch SD1	
39	D#1	Hand Clap					Brush Slap	Castanets	High Q
40	E1	Std1 SD2	Room SD2	Power SD2	Elect SD2	Bob SD2	Brush Swirl	Orch SD2	Slap
41	F1	Std1LowTom2	RoomLoTom2	PowerLoTom2	ElectLoTom2	Bob LoTom2	BrushLoTom2	Timpani F	Scratch Push
42	F#1	Std1 HHC	Room HHC	Power HHC	Elect HHC	Bob HHC	Brush HHC	Timpani F#	Scratch Pull
43	G1	Std1Low Tom1	RoomLoTom1	PowerLoTom1	ElectLoTom1	Bob LoTom1	BrushLoTom1	Timpani G	Sticks
44	G#1	Std1 HHP	Room HHP	Power HHP	Elect HHP	Bob HHP	Brush HHP	Timpani G#	Square Click
45	A1	Std1Mid Tom2	RoomMiTom2	PowerMiTom2	ElectMiTom2	Bob MiTom2	BrushMiTom2	Timpani A	Metro Click
46	A#1	Std1 HHO	Room HHO	Power HHO	Elect HHO	Bob HHO	Brush HHO	Timpani A#	Metro Bell
47	B1	Std1Mid Tom1	RoomMiTom1	PowerMiTom1	ElectMiTom1	Bob MiTom1	BrushMiTom1	Timpani B	Gtr Fret Noise
48	C2	Std1Hi Tom2	RoomHiTom2	PowerHiTom2	ElectHiTom2	Bob HiTom2	BrushHiTom2	Timpani c	FlkCutNoiseUp
49	C#2	Std1 Crash1	Room Crash1	Power Crash1	Elect Crash1	Bob Crash1	Brush Crash1	Timpani c#	FlkCutNoiseDn
50	D2	Std1 Hi Tom1	RoomHiTom1	PowerHiTom1	ElectHiTom1	Bob HiTom1	BrushHiTom1	Timpani d	Slap Of Bass
51	D#2	Std1 Ride1	Room Ride1	Power Ride1	Elect Ride1	Bob Ride1	Brush Ride1	Timpani d#	FlKey Click
52	E2	Chaina			Rv Cymbal1			Timpani e	Laughing
53	F2	Cup						Timpani f	Scream
54	F#2	Tambourine							Punch
55	G2	Splash							Heart Beat
56	G#2	Cowbell				Bob Cowbell			Footstep1
57	A2	Crash2						Orch Cymbal2	Footstep2
58	A#2	Vibra slap							Applause
59	B2	Ride2						Orch Cymbal1	Door Creaking
60	C3	Hi Bongo							Door
61	C#3	Low Bongo							Scratch
62	D3	Mute Hi Conga				Bob Hi Conga			Windchime
63	D#3	Hi Conga				Bob Mid Conga			Car Engine
64	E3	Low Conga				Bob Low Conga			Car Stop
65	F3	Hi Timbale							Car Pass
66	F#3	Low Timbale							Car Crash
67	G3	Hi Agogo							Siren
68	G#3	Low Agogo							Train
69	A3	Cabasa							Jet Plane
70	A#3	Maracas				Bob Maracas			Helicopter
71	B3	Short Whistle							Starship
72	C4	Long Whistle							Gun Shot
73	C#4	Short Guiro							Machine Gun
74	D4	Long Guiro							Laser Gun
75	D#4	Claves				Bob Claves			Explosion
76	E4	Hi Wood Blk							Dog
77	F4	Low Wood Blk							Horse Gallop
78	F#4	Mute Cuica							Birds
79	G4	Open Cuica							Rain
80	G#4	Mute Triangle							Thunder
81	A4	Open Triangle							Wind
82	A#4	Shaker							Seashore
83	B4	Jingle Bell							Stream
84	C5	Bell Tree							Bubble
85	C#5	Castanets							
86	D5	Mute Surdo							
87	D#5	Open Surdo							
88	E5							Applause	

Song/Style List of The Included Floppy Disk

Song Name	Song Name that appears on the display	Data type
1. VIBRAPHONE	VIBE	SMF 0
2. GRAND PIANO	GR-PIANO	SMF 0
3. FLUTE	FLUTE	SMF 0
4. STRINGS	STRINGS	SMF 0
5. SLAPBASS	SLAPBASS	SMF 0
6. HONKYTONK PIANO	H-PIANO	SMF 0
7. ANNIE LAURIE	ANNIE	CM
8. BLUE BELLS OF SCOTLAND	BLUEBELL	CM
9. MY BONNIE LIES OVER THE OCEAN	BONNIE	CM
10. LITTLE BROWN JUG	BROWN	CM
11. CAMPTON RACES	CAMPTON	CM
12. CLEMENTINE	CLEMENTN	CM
13. BEAUTIFUL DREAMER	DREAMER	CM
14. EMPEROR WALTZ	EMPEROR	CM
15. GRANDFATHER'S CLOCK	G-FATHER	CM
16. GREEN SLEEVES	GREEN	CM
17. HABANERA	HABANERA	CM
18. HOME SWEET HOME	HOME	CM
19. TEN LITTLE INDIANS	INDIAN	CM
20. MARCH MILITAIRE	MARCH	CM
21. MICHAEL ROW THE BOAT AHORE	MICHAEL	CM
22. HERE WE GO ROUND THE MULBERRY BUSH	MULBERRY	CM
23. YAMA NO ONGAKUKA	MUSIC	CM
24. OLD FOLKS AT HOME	OLDFOLK	CM
25. RED RIVER VALLEY	R-RIVER	CM
26. I'VE BEEN WORKING ON THE RAILROAD	RAILROAD	CM
27. HOME OF THE RANGE	RANGE	CM
28. SANTA LUCIA	S-LUCIA	CM
29. WHEN THE SAINT S GO MARCHING IN	SAINTS	CM
30. OH SUSANNA	SUSANNA	CM
31. TANNENBAUM	TANNEN	CM
32. THUNDER AND BLAZES	THUNDER	CM
33. TURKEY IN THE STRAW	TURKEY	CM
34. VOICE OF SPRING	VOICE	CM
35. WHISTLER AND HIS DOG	WHISTLER	CM
36. YANKEE DOODLE	YANKEE	CM
37. SHE WORE A YELLOW RIBBON	YELLOW	CM
38. MENUET G DUR	G-MENUET	SMF 0
39. AH! VOUS DIRAI-JE, MAMAN KV265	TWINKLE	SMF 0

Note: The data Type "SMF 0" indicates that the song data is Standard MIDI File Format 0. The data Type "CM" indicates that the song data is specially arranged for the Concert Magic function.

Style Name

01.R&R 5	02.Metal	03.Blues 4	04.Oldies	05.Ballad 2	06.JazzFunk 1
07.Jazz Funk 2	08.Punta	09.Merenge 2	10.Polka 1	11.Polka 2	12.March 1
13.March 2	14.Gospel 3	15.Pardise 1	16.Pardise 2	17.Waltz 1	18.Waltz 2
19.Waltz 3	20.Italo 4	21.FstSwing	22.Foxtrot	23.Jiterbug	24.LcyMambo
25.Polka 3					

Glossary or terms

SMF (Standard MIDI File)
The Standard MIDI Files format allows disks containing song data recorded on a sequencer to be played back on any other SMF-compatible sequencer. Two types (Format 0 and Format 1) are popular.

Format 0: the file contains a single multi-channel track
Format 1: the file contains one or more simultaneous tracks (or MIDI outputs) of a sequence

Mode
This is important when you are transmitting or receiving MIDI data. There are two modes, Poly and Mono, that control whether performance messages sent to the MIDI receive channels are received polyphonically or monophonically. There is also an indicator for Omni On/Off. If it's On, the unit will play all MIDI messages on all channels, regardless of what the actual receive channel setting is.

Note Messages
This is the most basic of the messages by which MIDI transmits musical performance data. Each message contains information about which key was pressed (Note Number), how hard (Velocity), and exactly when it was pressed (Note On) and released (Note Off).

Note Number
Each key on the keyboard has been assigned a number, called its "Note Number." Middle C (C-3) has a note number of 60, and this increases by one for every half-step up the scale, or decreases by one for every half-step down. Note Numbers 0-127 correspond then to all the notes from C-2 to G-8 on the keyboard, in that order.

Velocity
This message transmits how hard the key was struck.

Pressure
After you have struck a key, but before you release it, you can add interesting effects that are controlled by the amount of pressure applied to that key. This message transmits that information. It's also called "aftertouch."

Program Change
Most MIDI devices these days, complicated as they are, come equipped with "programs" that store and remember for later use a certain set up, certain tones, and certain parameter settings. A controlling device can send a message to button between these programs on a controlled device. Naturally enough, this is called a "Program Change" message.
Since the MIDI standard is not very explicit about Program Change numbers (except to say that they are numbered from 0 to 127), the way these numbers correspond to tones stored in memory will be different for different MIDI instruments.

Control Change
MIDI devices can deal with a lot more than just Note On and Off messages; there's also Volume and Vibrato, Hold, Damper Pedal and Soft Pedal On/Off, and Pressure, just to name a few. These are encoded in the form of Control Change messages. (Pitch Bend messages make for very dense streams of data, and so there is a separate message type just for pitch bend data.)

Pitch Bend
This message describes how far the pitch bend wheel is moved. The effect of a pitch bend wheel movement can be set differently on every synthesizer (usually with an adjustment called "Pitch Bend Range" or something similar. So the effect of a Pitch Bend message will also be different on different devices, and will depend on this setting.

Local Control On/Off
Local Control describes whether or not the messages sent from the keyboard to control the sound module within the MIDI instrument itself. Turning this to Off sends all data from the keyboard directly to the MIDI OUT port, bypassing the internal tone generator and making no sound. Meanwhile, the internal sound module can still be played by signals coming in the MIDI IN port. If you set the Soft Through setting to "ON" and turn on the Local Control of your Digital Piano, the Digital Piano may be triggered twice. However, if you turn off the Local Control of your Digital Piano, internal sounds of the Digital Piano don't respond to the keyboard. The Digital Piano will be played once only by the MIDI information the Digital Piano is sending through the ACR-20.

Implementation Charts
MIDI devices can only transmit and receive the messages they have in common. That is, MIDI will not give a device the ability to do something (say, aftertouch) which it wasn't already designed to do. So if, for example, a device that can't do aftertouch receives an aftertouch message, it simply ignores it.
Every MIDI device comes with something called a "MIDI Implementation Chart" that summarizes what data that device is capable of "implementing" or acting on. By matching up the Implementation Charts of two different devices, you can see at a glance what kinds of messages they both can use, and so what messages can be received and transmitted.

Message Lists

* **"Data unavailable", "Can't Edit File"**: If you attempt to edit data of a song which is not SMF format 0 in the SYSTEM mode, the display will show an error message such as "Data unavailable" or "Can't Edit File" indicating that you cannot edit the data.
* **"No Disk"**: If you attempt to load song data or to format a disk without inserting the disk properly, the display will show "No Disk".
* **"Just a moment ..."**: The display may show "Just a moment ..." if you use the FWD or the RWD button just after selecting a song. This indicates that the ACR-20 is loading the song data from the floppy disk. The display will automatically return to the normal condition when the loading will be completed.
* **"Can't Enter"**: The display will show "Can't Enter" if you try to activate the Concert Magic function while the SYSTEM/DISK button light is on. Press the SYSTEM/DISK button to turn off the button light and then press the Concert Magic button to activate the Concert Magic function.
* **"Write protected!"**: If you attempt to save data on a floppy disk whose write protect is on, the display will show "Write protected!" indicating that you cannot save the data.
* **"Memory full"**: If you input too much data in the RECORDING, "Memory full" may be displayed and you can not input data any more. If necessary, save the data using the SAVE operation.
* **"Now Loading..."**: The display may show "Now Loading..." when you press the Concert Magic button. This indicates that the ACR-20 is loading the song data from the floppy disk. The display will automatically return to the normal condition when the loading will be completed.
* **"Stop please"**: The display will show "Stop please" if you try to deactivate the Concert Magic function by pressing the Concert Magic button while the PLAY/STOP button light is on. Press the RESET button to turn off the PLAY/STOP button light and then press the Concert Magic button to deactivate the Concert Magic function.
* **"Note off please"**: If you attempt to change System value while playing music on your keyboard, the display may show "Note off please". When MIDI data is received from the MIDI IN jack of the ACR-20, you cannot change System value. When you see this message, please check if something is pressing keys on your keyboard or playing back some music.
* **"Disk Full"**: If there is not enough room on the disk for the data transfer, "Disk Full" will be displayed. If necessary, try saving with another disk.

Specifications

Tones	226 sounds and 9 DrumKits
Polyphony	28 (8 for drums, 20 for others)
Effects	Reverb
Time signature	2/4, 3/4, 4/4, 6/8, 5/4
Recorder	1 Song (50,000 notes) Recorder, 16-Track
Styles	100 preset Styles and 16 User Styles
Display	16 characters x 4 line LCD (variable LCD contrast)
Accessories	Demo disk, Audio cable, MIDI cable, AC adaptor, Lift-back stand
Jacks	MIDI In/Out, Headphone, Output (L/Mono, R), Input (L/Mono, R), DC IN (10VDC, 1A)
Dimensions	77 x 316 x 231 (mm), 3 1/8" x 12 1/2" x 9 1/8"
Weight	2.1 kg, 4.6 lbs

Disk Storage Each 3.5" 2DD (720 kilobyte) floppy disk stores up to 112 songs, 80,000 notes
Each 3.5" 2HD (1.4 Mbyte) floppy disk stores up to 224 songs, 160,000 notes

MIDI System Exclusive Data

NO.	Description	Value
1	Exclusive	F0H
2	Kawai ID	40H
3	Channel no.	0nH (n = 0~FH)
4	Function no.	0~7FH
5	Group no.	00H
6	Machine no.	0AH
•	data	0~7FH
•	data	0~7FH
•	EOX	F7H

Group [A] Parameter Send
[A-1]   System Functions
Format : F0 40 0n 10 00 0A 00 <NO.> 00 <DH> <DL> F7
Data(8bit)=16x<DH>+<DL>

PARAMETER		No.	DATA
Depth Lo	(REVERB DEPTH LO)	03	[00H =1]~[7FH =128]
Depth Hi	(REVERB DEPTH H I)	04	[00H =1]~[7FH =128]
Main Volume	(MAIN VOLUME)	0A	[00H =1]~[7FH =128]

ex)   Send System Functions Depth Lo (1)
             F0 40 00 10 00 0A 00 03 00 00 00 F7
                Ch1   Depth Lo   1

[A-2]   Setting Functions
Format : F0 40 00 10 00 0A 04 <NO.> <Set> <DH> <DL> F7
<Set> =Setting No.(00H~0FH)
- Data(8bit) =16x<DH>+<DL>

PARAMETER		No.	DATA
Status	(STATUS)	00	00H =OFF / 01H =ON

ex)   Send setting Functions status (ON)
         F0 40 00 10 00 0A 04 00 00 00 01 F7
            Ch1   Status ON

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	1 - 1 6	1 - 1 6	
	Changed	×	×	
Mode	Default	×	1	
	Messages	×	×	
	Altered	* * * * * * * * *	×	
Note Number		×	0 — 1 2 7	
	True Voice	* * * * * * * * *	0 — 1 2 7	
Velocity	Note ON	×	○	
	Note OFF	×	×	
After Touch	Key's	×	×	
	Channel's	×	○	
Pitch Bend		×	○	
Control Change	0, 32	×	○*1	Bank LSB, MSB
	1	×	○	Modulation
	6	×	○	Data Entry
	7	×	○*1	Volume
	1 0	×	○	Panpot
	1 1	×*3	○*1	Expression
	6 4	○	○	Hold (Damper)
	6 6	×	×	Sostenuto
	6 7	×	×	Soft
	9 1	×	○*2	Reverb
	1 0 0, 1 0 1	×	○	RPN LSB,MSB
	1 2 0	×	○	All Sound Off
	1 2 1	×	○	Reset All Controllers
Program Change		×	○ (0 — 1 2 7)	
		* * * * * * * * *		
System Exclusive		×	○	
Common	Song Position	×	×	
	Song Select	×	×	
	Tune	×	×	
System Real Time	Clock	×	×	
	Commands	×	×	
Aux	Local ON/OFF	×	×	
	All Notes OFF	○*3	○	
	Active Sensing	×	○	
	Reset	×	×	
Notes		*1 Except for channel 10		
		*2 0: Pitch Bender Sensitivity, 1: Master Fine Tuning, 2: Master Coarse Tuning		
		*3 Transmitted on every channels in case of receive error		

Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY   Mode 4 : OMNI OFF, MONO

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	1 - 1 6	1 - 1 6	
	Changed	×	×	
Mode	Default		×	
	Messages	×	×	
	Altered	* * * * * * * *		
Note Number		0 — 1 2 7	0 — 1 2 7	
	True Voice	* * * * * * * *	0 — 1 2 7	
Velocity	Note ON	○	○	8n or 9n V=0 for Note OFF
	Note OFF	○ 8n, ×9n V=0	×	
After Touch	Key's	○	○	
	Channel's	○	○	
Pitch Bend		○	○	
Control Change	0~63	○	○	
	64~120	○	○	
	121	○	○	Reset All Controllers
Program Change		○	○	
		* * * * * * * *	(0 — 1 2 7)	
System Exclusive		○	○	F0-F7 should be less than 16 bytes
Common	Song Position	×	×	
	Song Select	×	×	
	Tune	×	×	
System Real Time	Clock	○	○*1	
	Commands	○	○*1	
Aux	Local ON/OFF	○*2	×	
	All Notes OFF	×	○ (123~127)	
	Active Sensing	×	×	
	Reset	×	×	
Notes		*1 Enabled when you set the SYSTEM MIDI Clock to "EXT". *2 Local ON will be transmitted when you set the SYSTEM Soft Through to "OFF". Local OFF will be transmitted when you set the SYSTEM Soft Through to "ON".		

Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY   Mode 4 : OMNI OFF, MONO