

Roland[®]

**MIDI POLYPHONIC SYNTHESIZER
SUPER JX**

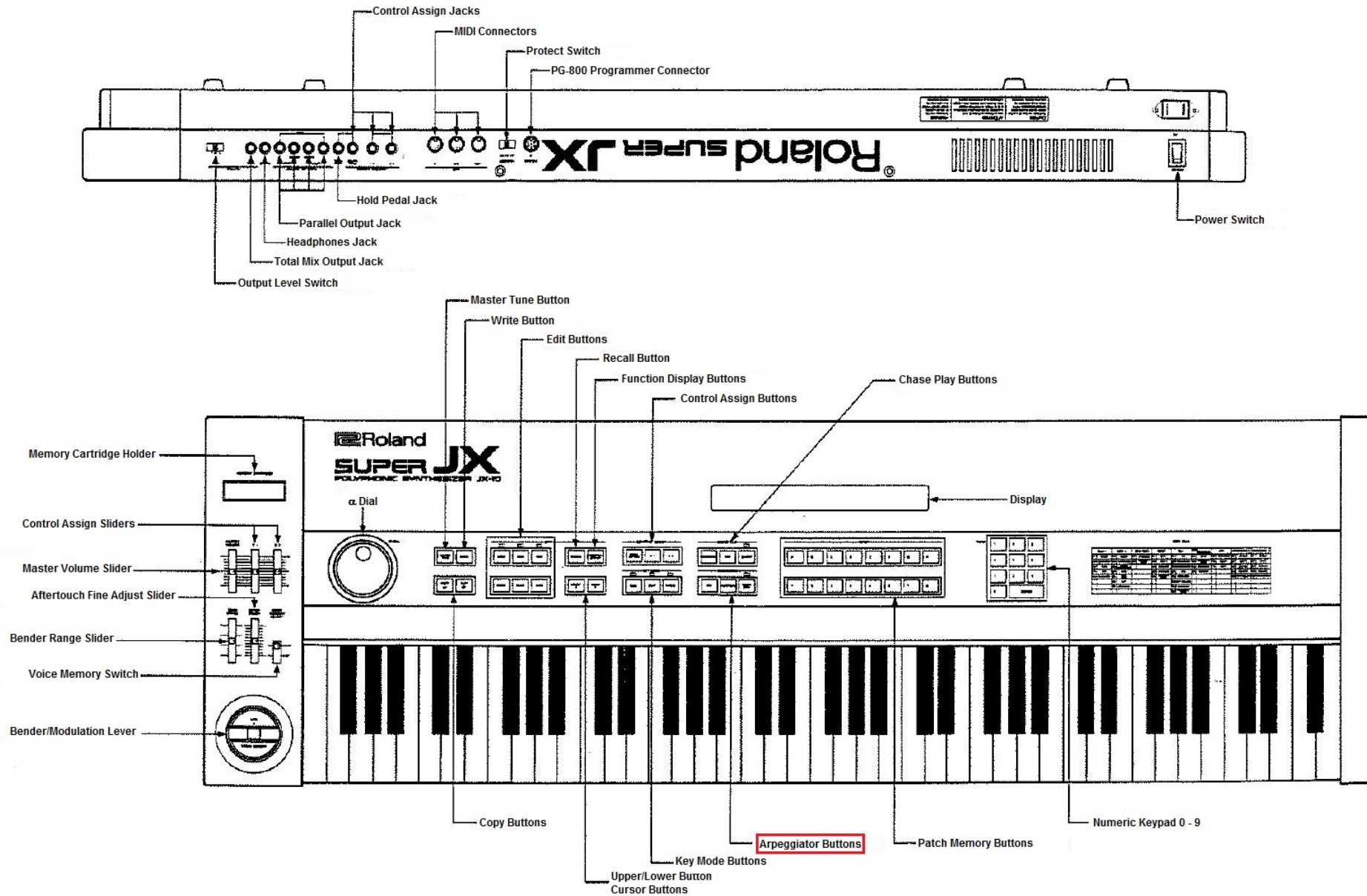
JX-10

OWNER'S MANUAL - 2016 UPDATE

VECOVEN UPGRADES 3.X AND 4.X



SECTION 1 - PANEL DESCRIPTION



1.1 INTRODUCTION

This manual is intended for all users that have upgraded their JX-10 to the new Vecoven firmware. If you're not sure what extra features are now available, read on. Or, if you are interested in something specific, you can jump straight to the index to find what you're looking for. To go to the index, click [HERE](#).

To help with navigation, all words that are underlined and have hyperlinks on them can be used to jump directly to the respective page.

The Roland JX-10 is a fully programmable 12 voice polyphonic synthesizer. Various sounds and performance control functions can be stored, which can be immediately recalled and used.

- The JX-10 features a memory capacity that can retain up to 64 different programs (called "Patch Memory") which are the combinations of sounds (Tones) and performance control functions.
- Any of the Patch Memories can be recalled simply by pressing the appropriate buttons.
- Patch Memory you have written into memory can be easily edited at any time.
- Using optional M-64C Memory Cartridges, it is possible to expand the storage capacity.
- Thanks to the new and refined MIDI implementation the JX-10 can now be edited via sysex and dedicated Editor Librarians such as *EMAGIC SoundDiver®*, *SoundQuest MidiQuest®* and other editors specially designed for the Apple iPad. To dump and load patches there's now no need to keep the M-64C cartridge inserted.
- The 76 note keyboard and improved associated MIDI functions now serve to make the JX-10 an excellent master keyboard.

New MIDI implementation

- Each parameter is now OFF/RECV/SEND/ON, allowing fine control of what gets sent and what is filtered.
- Sysex support : allows edit of patch, Tone A and Tone B individually. (No need for M-64C cartridge).
- Fast bulk dump/load : 4-5 seconds to dump everything. Can dump to/from cartridge and internal memory.
- Parameter edits (patch and tones) send sysex, so all edits can be sequenced. The PG-800 programmer is now supported, so edits made from the PG-800 can also be sequenced.
- Copy from/to cartridge to create a full backup of the internal memory (all settings can now be copied to the cartridge or restored from it).
- Later versions of firmware also have a few more additions. Check out the [Firmware Versions - Page 64](#) for further details.

Controls C1 and C2 enhancements

- Any tone parameter can now be assigned to C1 or C2.
- Any arpeggiator parameter can be assigned to C1 or C2.
- C1 and C2 can be used, in tone edit mode, to modify upper/lower tone parameters. This is a new feature and allows quick editing of tones for those who do not own a PG-800 programmer.

Arpeggiator

- 8 arpeggiator "patches".
- Internal or external synchronisation.
- Supports up, down, up/down, as played and random note ordering.
- Various arpeggio types.
- Velocity setting (fixed or as played).
- Note duration (1-15 or legato).
- Use of lower split point to control which notes are arpeggiated.

PG-800 programmer support

- New display options.
- Control whether updates from sysex, PG-800 or controllers are displayed temporarily on-screen.

Compatibility mode

- Allows disabling of new features for full compatibility with old software (for example, sysex changes made to tone A can be redirected to the currently selected tone, etc...)

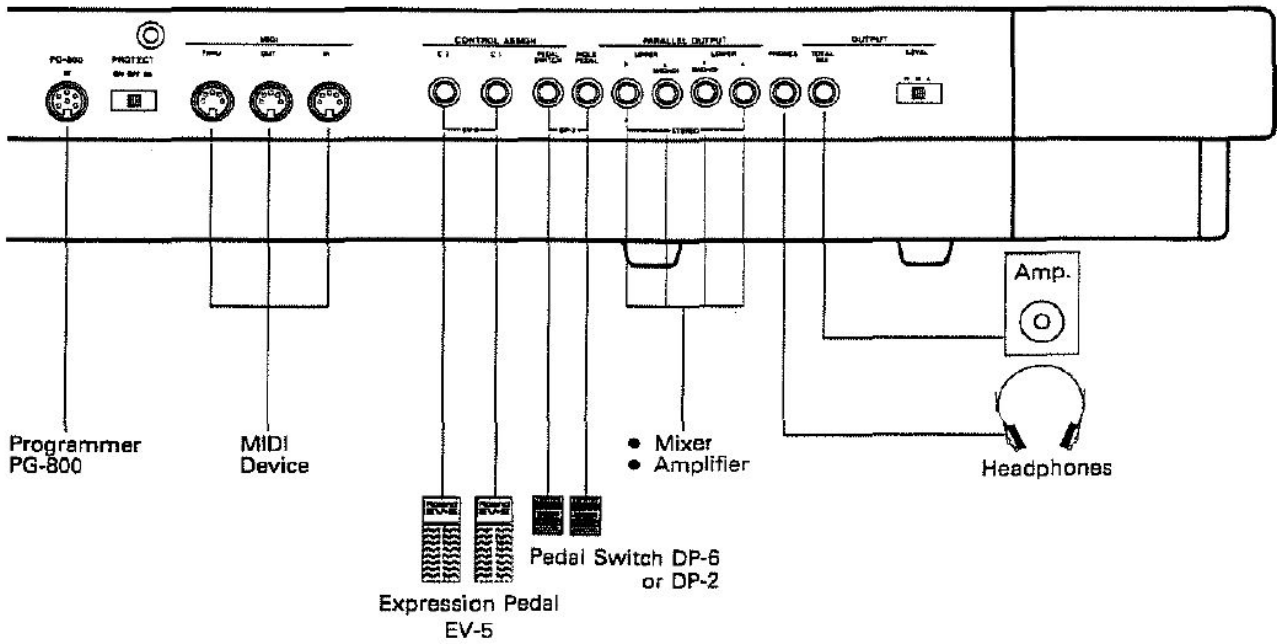
Test modes

- Test hardware controllers (Voices, A/D controllers (Aftertouch, Bender, C1/C2), Keyboard)
- Test memory chips

1.2 IMPORTANT NOTES

- The appropriate power supply for this unit is shown on its name plate. Ensure that the line voltage in your country meets the requirement.
- Do not use the same mains power socket as any device which inherently generates noise (such as high voltage switching, motors, lighting system dimmers etc.).
- The unit may not work correctly if turned on immediately after it is turned off. If this happens, simply turn it off, wait 10 seconds and turn it on again.
- Before connecting the unit to other devices, switch all of them off.
- The unit may generate slight heat when in operation. However, this is not cause for concern.
- To clean, use a soft cloth and use only mild detergent.
- Avoid use of any solvents (such as paint thinners etc.) on any surface of the device.
- Avoid using the unit in excessive heat or humidity conditions or where it may be affected by direct sunlight or excessive dust.
- Save your sound data to a cartridge or make a data dump before having the JX-10 repaired, in case the internal memory should happen to be accidentally erased.
- Before connecting or disconnecting the cartridge, be sure to set the Protect Switch to the ON position. To prevent the accidental loss of the data, never move the Protect Switch to the OFF position, unless specifically instructed to in the manual.

SECTION 2 – REAR CONNECTIONS AND SWITCHES

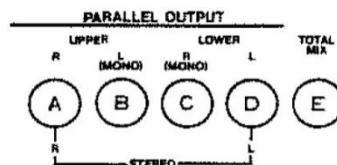


2.1 Total Mix Output Jack

Connect this jack to an amplifier. To make the best use of the JX-10, use an amplifier and speaker with wide frequency response and dynamic range such as a keyboard amplifier or a pair of powered studio monitors.

2.2 Parallel Output Jacks

These are also for connecting amplifiers. Different methods of connection will yield various sound effects. The following shows several different ways to use the Output Jacks.



Connection	Jack	Output Power
1 Jack	E	Monaural Output
2 Jacks	A D	Mixed output of Upper and Lower
	B C	B: Monaural Output of Upper C: Monaural Output of Lower
	A B	Stereo Output of Upper
	C D	Stereo Output of Lower
4 Jacks	A B C D	Stereo Output of Upper and Lower

➔ When the JX-10 is set to Whole mode, connecting a stereo amplifier to the UPPER MONO and LOWER MONO of the Parallel Output Jacks (*output jacks B and C shown in the above picture*) will cause the sounds to be output irregularly through L or R. This is normal behaviour. In this case, use a different configuration.

2.3 Output Level Switch

Use this switch to select the best output level depending on the amplifier connected to the Total Mix Output.

* This switch does not work on signals sent from the Parallel Output Jacks.

2.4 Headphone Jack

Connect stereo headphones to this jack.

2.5 Hold Pedal Jack

By connecting the optional pedal switch DP-6 or DP-2, the Hold effect can be turned on or off by pressing the pedal. "Hold" is the effect of holding the sound "on" even after a key is released (useful for piano sustain effects).

2.6 MIDI Connectors (In / Out / Thru)

These are for connection to other MIDI devices using MIDI/SYNC cables (optional).

2.7 Programmer Connector

Connect this to the optional PG-800 programmer using the supplied 6 Pin DIN cord.

2.8 Protect Switch (Internal Memory)

Always make sure that this switch is set to the ON position to protect the data in the JX-10, except when saving or loading data.

2.9 Control Assign Jack

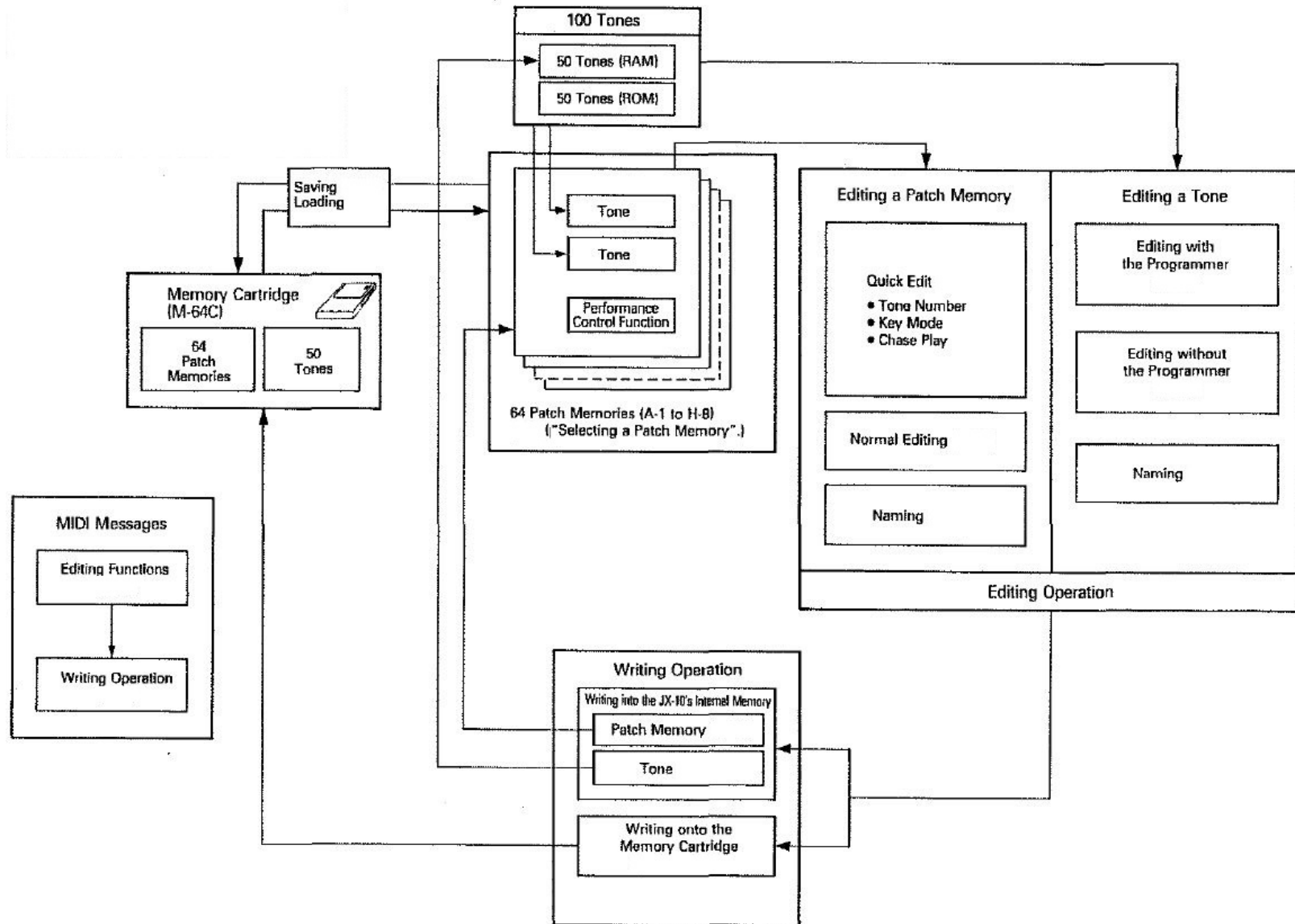
Use this jack when assigning Control Changes with the expression pedal or pedal switch.

SECTION 3 - OUTLINE OF JX-10 FUNCTIONS

The JX-10 features functions that are quite different from those of older synthesizers. Therefore, it is very important to understand these functions. Read the following explanations, then go to ["SECTION 4 - OPERATION"](#).

- 3.1 The JX-10 stores 100 different sounds (**Tones**) – 50 of them can be rewritten, the other 50 are non-volatile. There are 64 combinations of Tones and various performance control functions (this combination is called **Patch Memory**). That is, a Patch Memory consists of a Tone or a pair of Tones and performance control functions which we call **Factors** in this manual. Normally, to change sounds during a live performance, you would select a different Patch Memory.
[\(See page 10 "Selecting a Patch Memory"\)](#)
- 3.2 The Factors of a Patch Memory can be edited easily whenever you want.
[\(See page 17 "Editing a Patch Memory"\)](#)
- 3.3 The Tone of a Patch Memory can be edited just like you would on a normal synthesizer, A tone consists of various parameters and a tone is edited by changing these parameters.
[\(See page 20 "Editing a Tone"\)](#)
- 3.4 To write the edited Patch Memory into the JX-10's memory, follow the appropriate WRITE procedure.
[\(See page 30 "Writing a Patch Memory"\)](#)
- 3.5 Using a Memory Cartridge (M-64C), the following data transfer is possible:
a) Saving of each Patch Memory/Tone to the memory cartridge and loading it back to the JX-10.
b) Saving the entire data (50 Tones and 64 Patch Memories) on the JX-10 to the memory cartridge and loading it back to the JX-10.
[\(See page 35 "Memory Cartridge"\)](#)
- 3.6 Note that with the new firmware, the Sequencer (supplied as standard in the original unmodified JX-10) is not present any more.
This has been replaced with a programmable 8 memory arpeggiator.
[\(See page 29 "Arpeggiator"\)](#)
- 3.7 All the Patch Memories and Tones can have their own unique names which can be changed as necessary.
[\(See page 32 "Naming a Patch Memory"\)](#)
- 3.8 The JX-10 features MIDI functions necessary for operating with or being operated by, other MIDI devices. The MIDI functions can be changed according to your requirements.
[\(See page 41 "MIDI"\)](#)
- 3.9 To make the above operations quicker and easier, the JX-10 has a display window. If you perform an incorrect operation, the display will respond with an appropriate error message.
[\(See page 40 "Error Messages"\)](#)

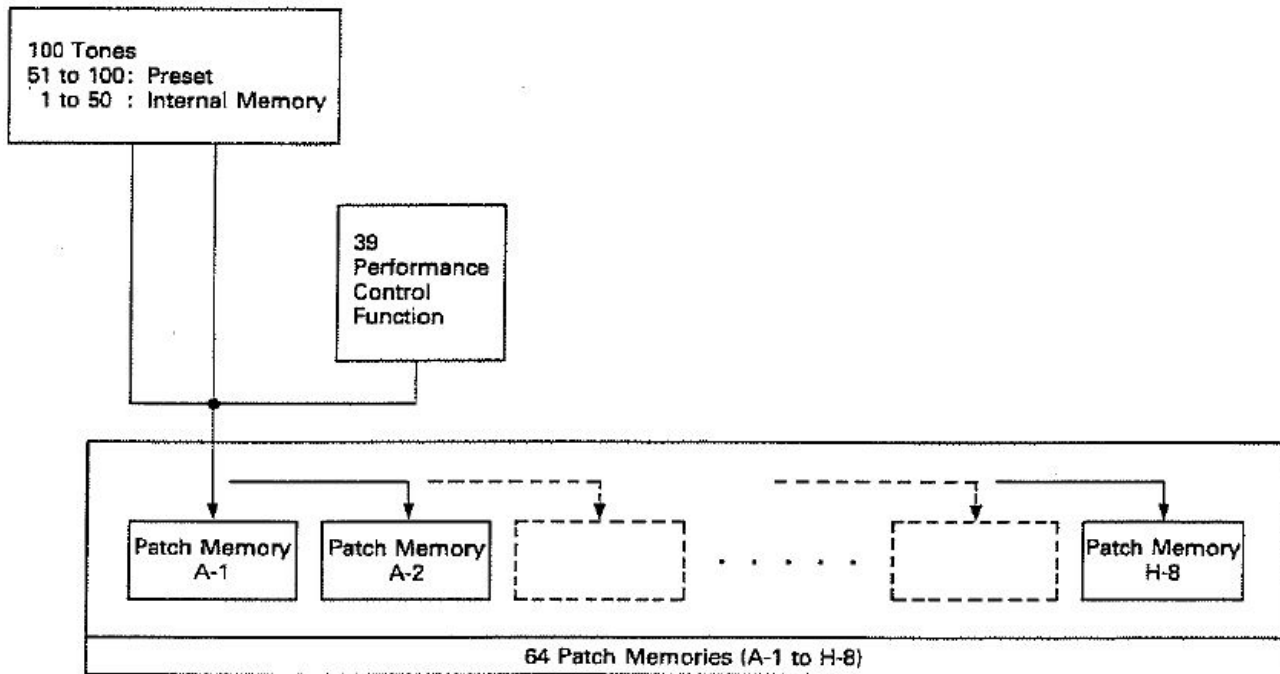
JX-10 BASIC OPERATION TABLE



SECTION 4 - OPERATION

Connect the JX-10 to the external devices (e.g. an amplifier and speaker), then switch it on. The JX-10 is now ready to be played using any of the 64 Patch Memories.

A Patch Memory is made of one, or a pair, of the 100 different Tones and various performance control functions such as Split Point, Bender Sensitivity, etc.



4.1 SELECTING A PATCH MEMORY

Make sure that the connections are made securely and correctly then switch the JX-10 on.

The Display will show “**ROLAND JX-10**” (plus the current version of firmware) for several seconds then change to as shown below. Note each of the display areas A to E below:



- A. The 64 Patch Memories are stored either in the JX-10's internal memory or on the optional Memory Cartridge (M-64C). The display above (*Area A*) shows whether the Patch Memory currently selected is in the JX-10 or on the Cartridge.

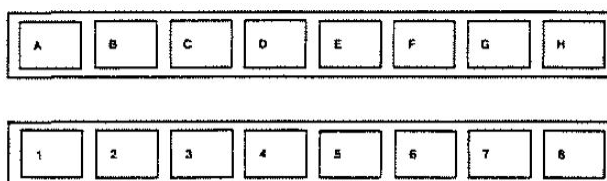
I : **Internal Memory of the JX-10**

C : **Cartridge Memory**

- B. The 64 Patch Memories are stored in the locations of 8 Banks (A to H) and 8 Numbers (1 to 8). The above display (*Area B*) shows the Bank and the Number of each Patch Memory.
- C. Each Patch Memory can be named with up to 18 characters (this is called Patch Name). The patch name is displayed in *Area C*.
- D. The numbers 1 to 100 are assigned to the 100 Tones in the JX-10's memory. The numbers of the Tones used for the Patch Memory currently selected are displayed here. The Tone number of the LOWER section of the keyboard is shown in *Area D*.
- E. The numbers 1 to 100 are assigned to the 100 Tones in the JX-10's memory. The numbers of the Tones used for the Patch Memory currently selected are displayed in *Area E* as are the Tone numbers of the UPPER section.

*The characters shown at Area A (Memory Mode) and at Area B (Bank / Number of Patch Memory) are always displayed, except when in Writing ([see page 30](#)) and Master Tuning ([see page 38](#)) modes.

To select a Patch Memory, assign the Bank and Number using the Patch Memory Buttons. Using these buttons, press a *letter* then a *number* (e.g. A, 2, - Patch memory A2 will be selected).



The JX-10 is designed to produce no sound while you are changing Patch Memories. This serves to mute the transition noise from one preset to another which otherwise would be heard. If you do not want the sound to be muted, instead of changing Patch Memories, change the Tones ([See page 15](#)). This method allows recall of the required sound without any muting.

4.2 CONTROL KNOB FUNCTIONS

The following controls can be operated whilst you are playing the JX-10.

a. Control Assign sliders

Each of these two sliders can be used for controlling the performance control function you select with the Control Assign button. [\(See page 12 “Control Assign”\)](#)

b. Bender lever - Bend Range switch

This Bender lever can be used during live performance for creating a guitar “choke-bend” effect. The left and right extremes of movement create the same amount of pitch bend effect up or down. The maximum effect of the bender can be selected with the Bend Range switch: major 2nd, minor 3rd, major 3rd, perfect 5th, perfect octave higher or lower.

Pressing the Bender lever forward will create a vibrato effect. When the tone you are using already has vibrato assigned to it, the effect will be deepened (unless it is already set to max).

c. Aftertouch Fine Adjust slider

The Aftertouch effect is the ability to change the sound by the amount of downward pressure applied to the key (or keys). When a note or chord is played, pressing harder generates an Aftertouch signal proportional to how “hard” you press. The JX-10’s Aftertouch effect works on the Vibrato, Brilliance and/or Volume.

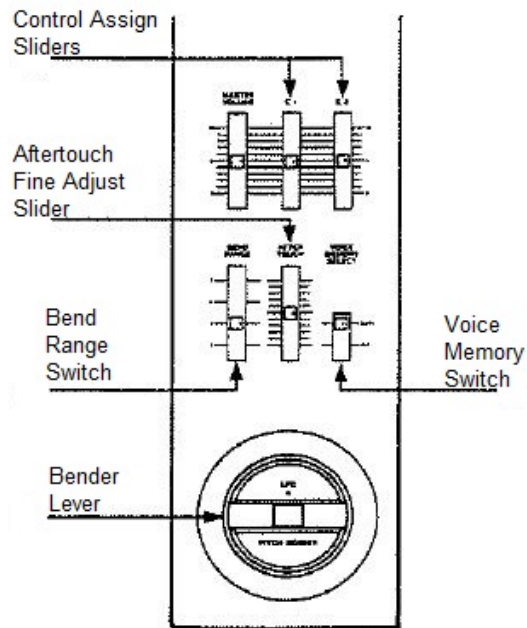
Vibrato: The depth of the vibrato effect is deepened.

Brilliance: The tone will become brighter.

Volume: The volume of the sound will increase.

The On/Off setting or value of each Aftertouch effect can be written to each Patch Memory independently but the Aftertouch Fine Adjust knob allows even more delicate adjustment of the effect. When this knob is set to the center position, the same effect as set in the Patch Memory can be obtained, and no effect is obtained at the lowest position [-].

* Different On/Off settings and values of the Aftertouch and Bender are written to each of the 64 Patch Memories. Therefore, the actual effect you hear can differ depending on how these are set up in each of the Patch Memories: No effect may be obtained in some particular settings.



d. Voice Memory switch

This switch selects which memory mode; the JX-10’s Internal memory or the Cartridge memory is to be used.

	CART	INT	
Patch Memory	You can recall a Patch Memory from the Cartridge to the JX-10	You can recall an Internal Patch Memory to the JX-10	
Tone	Tone Numbers 1 to 50 = Tones in the Cartridge	Tone Number 1 to 50 = Tones in the JX-10	
	Tone Number 51 to 100 = Tones in the JX-10 ROM only		

Even after you have changed Memory modes with the Voice Memory switch, the new selected position does not affect the memory until you select a NEW Patch Memory.

When you select a new Patch Memory, “I” (Internal) or “C” (Cartridge) is shown at the left end of the Display, (Area A) depending on which position has been selected with the Voice Memory switch.

* When the Memory Cartridge is not connected, be sure to set the Voice Memory switch to the "INT" position.

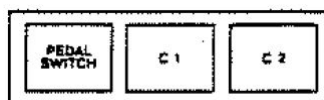
4.3 CONTROL ASSIGN

The JX-10 allows you to control some of the performance control functions with the **Control Assign knobs** on the control panel and the Pedal Switch (DP-6 or DP-2). This is excellent for live performance. However, the functions which can be controlled are only **two** of the four with the two Control Assign knobs and **one** of the four by the pedal switch at a time. [\(See the table shown on the next page\)](#). The following explains how to assign the functions to the knobs and the pedal switch. The function assigned to each knob is controlled by moving the slider, and the function assigned to the pedal switch is controlled with the pedal operation.

We call these eight functions "Control Assign functions".

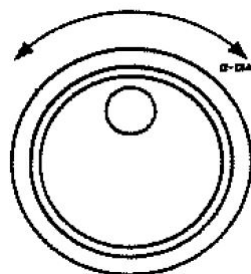
PROCEDURE

1. Select the Control Assignment C1, C2 or Pedal Switch where you wish to assign the function by pressing the appropriate Control Assign button; C1, C2 or PEDAL SWITCH.



The Display will now show the Control Assign function that has been selected.

2. Rotating the α Dial, call the new function to be assigned.
[\(See the table shown on the next page\)](#)
3. To continue to assign other functions, repeat steps 1 and 2.
4. When you have completed assigning all the Control Assign functions, press the Control Assign button currently in use.



The Display will return to its normal indication. Whilst the Display shows the Control Assign function, nothing can be done on the JX-10 except for playing the keyboard.

Note: When Expression Pedal EV-5 is connected to the Control Assign jack on the rear panel, the assigned Control Assign function cannot be controlled with the Control Assign knob - only with the pedal.

Writing the Control Assignments

The Control Assign functions you have set can now be written into the JX-10's internal memory as follows: After step 3, set the Protect Switch on the JX-10 to the OFF position, then press the WRITE Button.

WRITTEN CONTROL

The Display will respond as above, then return to its normal indication.

TIP: C1 and C2 can now be assigned to any tone parameter (Tone A, B or both) by pressing the TONE button : or you can use the method shown below to edit the patch.

When C1 or C2 is selected, any of the following four functions can be assigned:

<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; width: 30px; text-align: center;">c1</div> <div style="border: 1px solid black; padding: 2px; width: 30px; text-align: center;">c2</div> </div>	<p>“-” in the Display actually shows 1 or 2 depending which of c1 or c2 is pressed</p> <p>✖✖ shows the value set in the Patch Memory</p>	
Display	Description	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">C - ASSIGn 11 u/l bal</div> <p style="text-align: center;">✖✖</p>	Adjusts the volume balance of the Upper and Lower. Raising the knob increases the Upper volume, and lowering the knob increases the Lower volume.	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">C - ASSIGn 15 porta time</div> <p style="text-align: center;">✖✖</p>	Adjusts the Portamento time. Raising the knob increases the Portamento time.	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">C - ASSIGn 18 total vol</div> <p style="text-align: center;">✖✖</p>	Adjusts the volume within the range of the maximum volume set with the Master Volume. Raising the knob raises the volume, reaching the maximum volume. At the same time, the MIDI volume of the Upper and the Lower change.	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">C - ASSIGn 65 up midivol</div> <p style="text-align: center;">✖✖</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">C - ASSIGn 66 lo midivol</div> <p style="text-align: center;">✖✖</p>	Controls the MIDI messages of the Upper or Lower section Refer to the “MIDI” section on page 41 .	

- With the new firmware, once C1 and C2 are assigned two different Factors, they will be controllable by C1 and C2 sliders respectively, in real time.

*When PEDAL SWITCH is selected, any of the following four functions can be assigned.

<div style="border: 1px solid black; padding: 2px; width: 50px; text-align: center;">PEDAL SWITCH</div>		
Display	Description	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">P5 ASSIGn patch shift</div>	Pressing the pedal changes the Bank and the Number of the Patch Memory. A1 → A2 AB → B1 → B2	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">P5 ASSIGn portamento</div> <p style="text-align: center;">✖✖</p>	Turns the Portamento ON or OFF.	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">P5 ASSIGn chase play</div> <p style="text-align: center;">✖✖</p>	Turns the Chase Play function (p. xx) ON or OFF.	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">P5 ASSIGn upper hold</div> <p style="text-align: center;">✖✖</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">P5 ASSIGn lower hold</div> <p style="text-align: center;">✖✖</p>	Turns the Hold Effect ON or OFF for the Upper and/or the Lower section.	

4.4 PATCH MEMORY - QUICK EDIT

The following three Factors can be quickly edited (even during live performance) simply by pressing the relevant button.

- **Key Mode Select:** Whole (Upper, Lower), Dual and Split
- **Tone Number:** Tone(s) in a Patch Memory
- **Chase Play:** When the Key Mode is set to Dual, delay-like effect can be obtained

*The above editing function does not automatically rewrite the data to memory unless you select the appropriate WRITE procedure. ([See page 33](#)). Therefore, selecting a new Patch Memory will erase the just-edited data.

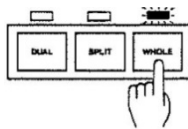
a. Key Mode

There are 6 Key Modes:

1. UP WHOLE
2. LO WHOLE
3. DUAL
4. SPLIT
5. T-VOICE
6. X-FADE

Key Modes 1 – 4 can be recalled with Quick Edit. Key Modes 5 - 6 can be set only when editing the Patch Memory.

The three Key Mode Buttons are used for setting Key Mode. Press a button and it will illuminate.



Split Mode

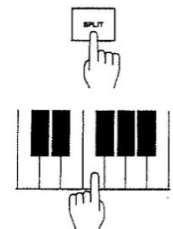
This mode divides the keyboard of the JX-10 into the upper and lower sections where two different Tones can be used. This means that the JX-10 works like two 6 voice synthesizers each with different sounds.

The JX-10's unique Split system allows setting of the lowest key in the Upper section and the highest key of the Lower section separately on the same keyboard. Quick Edit, however, does not include this function. This is possible only when editing a Patch Memory.

PROCEDURE

Hold the SPLIT Key mode Button down, then press the key which is to be the Split Point.

- Whilst holding the button down:
- Press the Key where the keyboard should be divided into two sections, Upper and Lower.
- The right side (including the pressed key) will become the Upper keyboard and the left side will become the Lower keyboard.



Whole Mode

In this mode, the JX-10 can be used as a 12 voice polyphonic synthesizer. That is, all 76 keys will have the same Tone. Therefore, it is required to select one of the two different Tones provided for the Upper and the Lower sections. When the Tone for the Upper section is selected, it is called Upper Whole Mode, and when the Lower Tone is selected, called Lower Whole Mode. Pressing the Whole Button will alternately select the Lower and Upper Tones. The Display shows the Tone Number currently selected.

Dual Mode

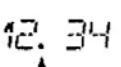

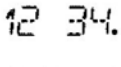
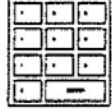
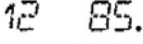
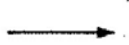
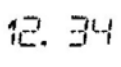

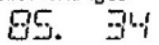
Dual Mode turns the JX-10 into 6 voice synthesizer mode which allows both the Upper and the Lower Tones to sound simultaneously. A richer sound is obtained. There are two independent parallel outputs for the Upper and Lower Tones, which serve to create an effect as if two synthesizers were being played simultaneously.

b. Tone Number

To change the Tones in a Patch Memory, simply assign the Tone Number of the relevant Tone by using the Ten Keys (i.e. the Numeric Keypad).

PROCEDURE

1. Press the Upper or the Lower Button to select the Upper or Lower Tone which you wish to change.
2. Pressing the appropriate Ten Keys, assign the new Tone Number, then press the ENTER Key.

Tone Numbers of the Patch Memory currently selected are displayed	Select the Upper or Lower Section		Assign the Tone Number you want by using the Ten Keys	
 <p>A dot is shown at the right to the Lower Tone Number</p>				<p>The Tone Number of the Upper Section changes</p> 
				<p>The Tone Number of the Lower Section changes</p> 

*"0" of the Ten Keys can be used instead of the UPPER and LOWER Buttons.

Even when using the Patch Memory (the JX-10's internal memory), the Tone Number of a Cartridge can be recalled.

After taking step 1, change the Voice Memory Switch to the CART position. Then return it to the INT position after taking step 2.

If you call another Patch Memory without writing the current one into memory first, the Tone called from the Cartridge memory will be erased.

To call the Tone from the Memory Cartridge (M-64C), use exactly the same procedure as above. The available Tone Numbers, however, are from 1 to 32.

c. Chase Play

The Chase Play function makes it possible to output the Lower sound slightly later than the Upper sound. This function, however, is available only in Dual Mode.

Depending on the delay time and the Tone in use, the effects created can differ; delay-like effect, sound-on-sound effect etc.

PROCEDURE

1. Press the Chase Play ON/OFF Button: The corresponding indicator will light up, showing that the Chase Play function is turned on.
2. Set the following 3 functions: Time, Level and Mode so that the desired effect is obtained.

The "Level" and "Mode" are alternately selected by pressing the FUNCTION Chase Play Button.

The Display shows the function selected. The "Time" function can be selected by pressing the TIME Chase Play Button. The value of the selected function can be changed by using the α Dial.

1) Level

This sets the level of the delayed sound (= Lower sound). Rotate the α Dial, to set the required value. The value can be set from 00 to 99. The higher number sets a higher level.

51 *chase play level*

* *

* *: 00 to 99

2) Mode

This sets how the delayed sounds are output sequentially. As you rotate the α Dial, the Display changes as follows:

“U - L - U” / “U - L - L” / “U - L”

- **Key Mode Select:** Whole (Upper, Lower), Dual and Split
- **Tone Number:** Tone(s) in a Patch Memory
- **Chase Play:** When the Key Mode is Dual, delay-like effect can be obtained



3) Time

This sets the time between the first (Upper) sound and the second (Lower) sound.

Press the TIME Chase Play Button to select Time Adjust mode, then change the value using the α Dial. Choose a value from 01 to 99. The higher number represents a longer time.



When you have completed editing all the functions, press the ENTER Key.

*If the level described on the previous page in “1) Level” is set high and the key aftertouch is set to a high value, more delay sound from the “Lower” sound can be obtained. If the Tone Parameter Number 63 “VCA Dynamics Range” is set to OFF, the volume of the sound does not change, but repeats at the same volume.

4.5 EDIT PATCH PARAMETERS

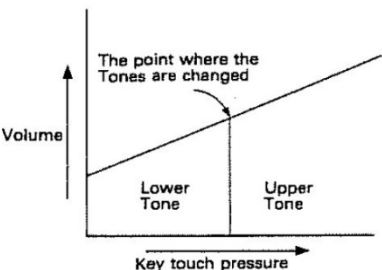
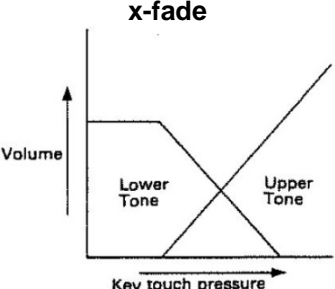
The Tones and Patch Memories written to the JX-10's internal memory or to the cartridge memory can be edited to your taste. This editing does not automatically rewrite the previous data. To write the edited data, execute the WRITE procedure ([See page 30](#))

a. Editing a Patch Memory

Each of the A-1 to H-8 Patch Memories consists of 39 different Factors and changing the values of these Factors will edit a Patch Memory. Editing is quite simple; the value of each Factor has two figure number, so use the appropriate number to call the Factor whose value you wish to change, then change it.

Patch Factors can be recalled through the numeric keypad 0 – 9.

Patch Factors can be assigned to C1/C2 sliders, pressing C1/C2 buttons and selecting the relevant Patch Factor via the α Dial. In this way, two selected Patch Factors can be controlled in real time.

#	Parameter	Range	Description
11	UPPER/LOWER BALANCE	00 to 99	This Factor determines the volume balance of the Upper and the Lower. When the value is about 50, the volumes of the both sections are the highest, and as the value increases, the Lower volume decreases, the Upper volume remaining the highest. That is, when the value in the Display is 99, only the Upper sound will be heard. When the value is smaller than 50, the opposite effect will be obtained.
12	DUAL DETUNE	-50 to 00 to +50	This Factor can detune the Lower sound from the Upper sound. At a "+" value, the Lower sound pitch is raised. At zero, the pitch is the same as the Upper, and at a "-" value, the pitch is lowered.
13	UPPER SPLIT POINT	E1 to G7	The Split Point set with Quick Edit is restricted to the lowest note of the Upper section. Here, however, these two Factors are used for setting two different Split Points; the lowest note of the Upper section, and the highest note of the Lower section. (The value and the note name). The lowest note is E1, middle C is C4 and the highest note is G7. ("+" indication represents #.)
14	LOWER SPLIT POINT	E1 to G7	
15	PORTAMENTO TIME	00 to 99	This Factor adjusts the Portamento time. Higher values increase Portamento time.
16	BENDER RANGE	2, 3, 4, 7, 12	This Factor sets the maximum effect of the Bender. The value in the Display represents semi-tones. "2" is Major 2 nd , "3" is Minor 3 rd , "4" is Major 3 rd , "7" is Perfect 5 th and "12" is Perfect Octave.
17	KEY MODE	Up Whole Lo Whole Dual Split	<p>The Key Modes which can be selected with the Quick Edit function are restricted to four modes: Upper Whole, Lower Whole, Dual and Split. 6 modes however can be set.</p> <p>T. Voice and X-Fade can be selected by rotating the α Dial counterclockwise. Other modes can be selected by rotating it clockwise.</p> <p>Touch Voice Select Mode (T. VOICE) In this mode, either the Upper or Lower Tone is output depending how you play the keyboard. That is, when you play the keyboard hard, the Upper Tone is selected, and when you play softly, the Lower Tone sounds. As shown in the left picture, the key touch pressure that selects the Upper or the Lower Tone changes depending on the Upper Split Point (= Factor 13). When the Split Point is set to a higher note, heavier key touch will be required to obtain the Upper Tone.</p> <p>Cross Fade Mode (X-FADE) This is a kind of Dual mode. In this mode, the volume of the Lower Tone decreases with heavier key touch, and the volume of the Upper Tone decreases by weaker key touch. This mode, therefore, can be effectively used to change the volume balance of the Tones by changing the manner of playing when you are using different Tones for Upper and Lower.</p>
		<p>T.Voice</p>  <p>x-fade</p> 	

#	Parameter	Range	Description
18	TOTAL VOLUME	00 to 99	This Factor allows setting of an individual volume for each Patch Memory. This is useful to reduce the volume difference between Patch Memories. 00 is the minimum value and 99 the maximum.

21	AFTER TOUCH VIB	00 TO 99	The sensitivity of each Aftertouch can be set. At 00 the effect is OFF. The higher the value, the deeper the effect.
22	AFTER TOUCH BRD	00 TO 99	
23	AFTER TOUCH VOL	00 TO 99	

31	UPPER TONE	1 TO 100	These Factors select the Tone levels for the Upper and Lower sections.
41	LOWER TONE	1 TO 100	

32	UP CHROMATIC SHIFT	-24 TO 0 TO +24	Using these Factors, you can shift the pitches of the Upper and the Lower keyboards separately in semi-tone steps over a range of 4 octaves; 2 octaves upper and lower. If a number higher than +5 is assigned, the highest octave substitutes it, and if a value lower than -7 (such as -8, -9 etc.) is assigned, the lowest octave substitutes it.
42	LO CHROMATIC SHIFT	-24 TO 0 TO +24	

33	UPPER KEY ASSIGN	POLY 1 POLY 2 UNISON 1 UNISON 2 MONO 1 MONO 2	<p>POLY 1 This mode turns each of the Upper and the Lower Keyboards of the JX-10 into a 6 voice polyphonic synthesizer assigning one synthesizer module to each key pressed. This is suitable for a sound whose envelope curve is similar to a piano or guitar and is therefore chosen for usual performance.</p> <p>POLY 2 This mode is very similar to Poly mode above assigning only one synthesizer voice to each key pressed. However, the same module as assigned to the key previously played is assigned to the note played later. So, this mode is suitable for performance with using a portamento effect.</p> <p>UNISON 1 In this mode, two sound modules are assigned to each key, therefore the created sound is richer than in Poly mode. i.e: each of the Upper and the Lower sections becomes a 3 voice synthesizer.</p> <p>UNISON 2 This is similar to Unison 1 mode above, but one of the two modules is assigned to be one octave lower than the other.</p> <p>MONO 1 This mode turns each of the Upper and the Lower keyboard into a single voice synthesizer that assigns one module to each key.</p> <p>MONO 2 This mode turns each of the Upper and the Lower keyboard into a monophonic synthesizer that assigns 6 modules to one key pressed.</p>
43	LOWER KEY ASSIGN	POLY 1 POLY 2 UNISON 1 UNISON 2 MONO 1 MONO 2	

The Upper and the Lower sections of the keyboard can have different Key Assign modes, which gives various interesting combinations. However, please note that when Whole key Mode is selected, the Key Assign Factor you set will be ignored. When Portamento is turned ON, Poly 2 is automatically selected. When it is OFF, Poly 1 mode is selected. Also, when Key Mode is either set to Touch Voice or Cross Fade, the Key Assign parameter selected on the Lower will be ignored and the Upper Key Assign of the Upper takes effect.

#	Parameter	Range	Description
34	UP UNISON DETUNE	-50 TO 00 TO +50	When the Key Assign is set to either Unison 1 or Unison 2, either of the two modules can be detuned using these Factors. "+" serves to raise the pitch and "-" to lower it.
44	LO UNISON DETUNE	-50 TO 00 TO +50	

35	UPPER HOLD	ON OFF	When the Pedal Switch is used to select the Hold effect, these Factors can turn the Hold effect ON or OFF separately on Upper and Lower.
45	LOWER HOLD	ON OFF	

36	UPPER LFO MOD DEPTH	00 TO 99	These Factors set the depth of the Vibrato effect obtained with the Bender lever. At 00, no effect is obtained. Increasing the value deepens the effect.
46	LOWER LFO MOD DEPTH	00 TO 99	

#	Parameter	Range	Description
37	UPPER PORTAMENTO	ON OFF	These Factors turn the Portamento ON or OFF. The Portamento effect for the Upper and Lower can be switched ON or OFF separately.
47	LOWER PORTAMENTO	ON OFF	

38	UPPER BENDER	ON OFF	These Factors turn the Bender ON or OFF. The Bender effect for the Upper and Lower can be switched ON or OFF separately.
48	LOWER BENDER	ON OFF	

CHASE PLAY

#	Parameter	Range	Description
51	CHASE PLAY LEVEL	00 TO 99	See pages. 15 - 16
52	CHASE PLAY MODE	U-L-U-, U-L-L-, U-L	
53	CHASE PLAY TIME	01 TO 99	

The Chase Play function makes it possible to output the Lower sound slightly later than the Upper sound. This function, however, is available only in Dual Mode. Depending on the delay time and the Tone in use, the effects created can differ; delay-like effect, sound-on-sound effect etc.

PROCEDURE

1. Press the Chase Play ON / OFF Button. The corresponding indicator will light up, showing that the Chase Play function is turned on.
2. Set the following 3 functions: Time, Level and Mode so that the desired effect is obtained.

The "Level" and "Mode" are alternately selected by pressing the FUNCTION Chase Play Button. The Display shows the function selected.

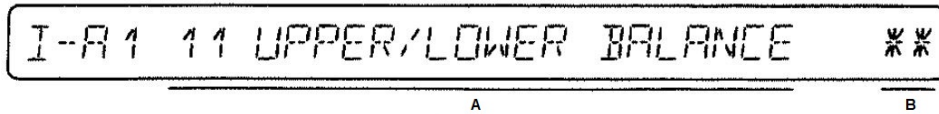
The "Time" function can be selected by pressing the TIME Chase Play Button. The value of the selected function can be changed by using the α Dial.

#	Parameter	Values - Range	Notes
51	CHASE PLAY LEVEL	00 TO 99	This sets the level of the delayed sound (= Lower sound). Rotate the α Dial, to set the required value. The value can be set from 00 to 99. The higher number sets a higher level.
52	CHASE PLAY MODE	U-L - U-L-L - U-L-U	This sets how the delayed sounds are output sequentially. As you rotate the α Dial, the Display changes as follows: "U-L-U", "U-L-L" or "U-L". <ul style="list-style-type: none"> • U-L-U: In this mode, Upper sound is output first, then Lower, Upper, Lower repeatedly. • U-L-L: In this mode, Upper sound is output first, then Lower sounds repeatedly. • U-L: In this mode, Upper sound is first output then Lower. No more sound is output.
53	CHASE PLAY TIME	01 TO 99	This sets the time between the first (Upper) sound and the second (Lower) sound. Press the TIME Chase Play Button to select Time Adjust mode, then change the value using the α Dial. Choose a value from 01 to 99. The higher number represents a longer time. When you have completed editing all functions, press the ENTER Key.
54	CHASE PLAY SWITCH	ON OFF	Same as Chase Play button ON / OFF.

4.6 EDITING PROCEDURE – PATCH MODE (a)

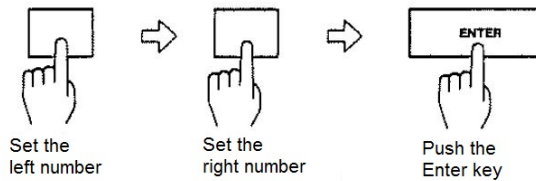
1. Press the PATCH Edit button.

The PATCH button indicator lights up showing that you are now in EDIT mode. The Display changes as shown below.



- A. Factor Number and Factor Name are displayed
- B. The value of each Factor is displayed

2. Using the Ten Keys, assign the number of the Factor whose value is to be changed. As shown below, press the Ten Keys in the correct order to select the Factor number, then press the ENTER Key.



3. Using the α Dial, change to the desired value. It may be necessary to actually listen to the sound while changing the value.
4. To continue to edit other Factors, repeat steps 2 and 3.

It is also possible to use the α Dial to call a Factor. After pressing the PARAM button, rotate the α Dial, and the Factor shown in the Display will change sequentially. When the Factor you wish to edit appears in the Display, press the VALUE edit button, then change the value with the α Dial.

This method is useful for when you are editing the Factor of a number close to what is already selected. However, to continue to edit other Factors, be sure to press the PATCH then the PARAM buttons - then call the Factor you want by using the α Dial.

When you have completed editing the Patch Memory, press the PATCH button. The PATCH indicator goes out and the display returns to the usual indication except that the Bank and the Number of the Patch Memory flash - showing that the Patch Memory has been edited but not yet written into memory. If you call another Patch Memory at this stage, the edited Patch Memory will be erased. If you wish to keep your edit, execute the WRITE procedure.

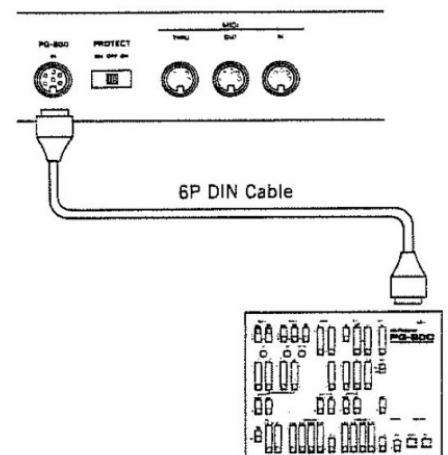
b. Editing a Tone

A Tone consists of various parameters. Like any normal synthesizer, the JX-10 allows editing of these parameters for sound synthesis. The JX-10, however, does not feature knobs or switches on its panel for you to touch or move. Instead, there are two methods of synthesizing. One is to call each parameter and change the value. This method does not allow editing of more than one parameter at a time, so may be used for making a slight edit during live performance. Another method is to use the optional PG-800 programmer which works just like the panel controls on a regular synthesizer. For quicker and easier editing or synthesis from scratch, the PG-800 may be essential.

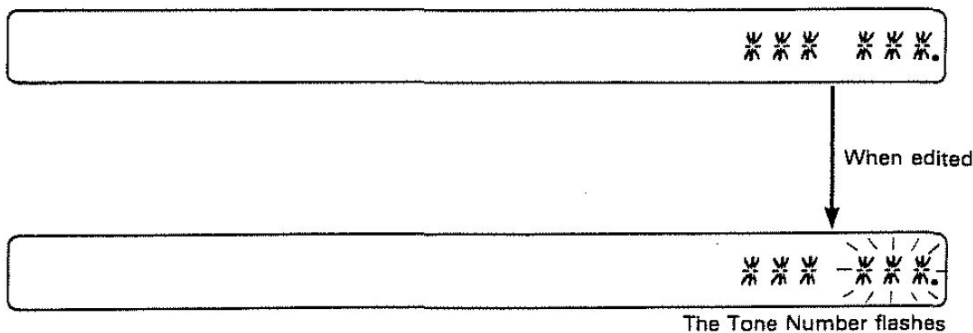
1. Editing using the PG800 Programmer

As shown, connect the programmer and the JX-10 using the 6 pin DIN cable.

The PG-800 works just like the control panel of a normal synth, i.e., you can edit the existing Tone or make a complete new Tone from scratch by actually using physical sliders, knobs and buttons. Note: The PG-800 does not work when the JX-10 is in WRITE mode.



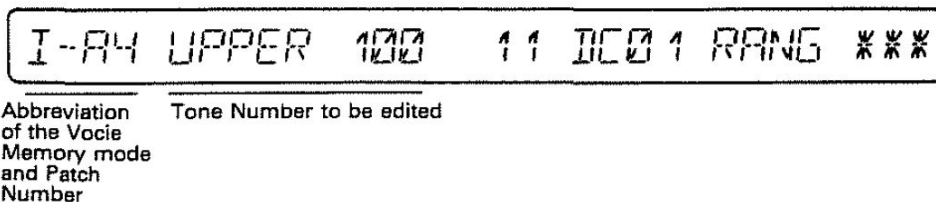
In the Display, the Tone numbers of the Patch Memory currently selected are shown and a dot is shown at the lower corner of one of the Tone numbers. The Tone number with a dot in the lower corner shows which can be immediately edited. If the dot is seen at the corner of the other Tone number, simply press the Upper or Lower Button to choose which is relevant.



If any of the switches or buttons on the programmer is even slightly moved, the Tone number in the Display will flash. This means that the Tone has been edited and therefore is different from the one in memory.

To see the name or the value of the parameter which you are now editing:

1. Press the TONE edit button. The Display will respond with:



2. Make an edit with the PG-800. The parameter name and its value will be shown in the Display.

MANUAL MODE

The JX-10 features a Manual Mode in which the whole panel setting of the programmer decides the Tone. In this mode, the existing Tone written in memory has nothing to do with your sound synthesis. The PG-800 is in complete control. To switch the JX-10 to this mode, simply press the Manual button on the PG-800.

- If there is no change by moving the knob or switch on the programmer, it is because the position you have set is exactly the same as is pre-programmed. If this happens, just ignore it and move to the next procedure.
- It may be quicker and easier to select a Tone that is similar to the one you want to synthesise, then modify it.

2. Editing without using the Programmer

The parameters of a Tone have two figure numbers. To edit a Tone without using the programmer, call each parameter by assigning the appropriate number and change the value with the α Dial.

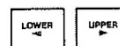
1. Press the TONE button
2. Press the PARAMETER button
 - a. If necessary press the UPPER or LOWER button to select the Tone that is to be edited.
 - i. Pressing the UPPER or LOWER button again, the display will now show:



Where I = internal - XX = Patch number

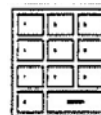
3. Select the parameter to edit with the α Dial
4. Press the VALUE button
5. Change the value with the α Dial

Alternatively, to scroll through the parameters 11 DCO RANG ~ 95 ENV2 KEY use:



then press the VALUE button and change the value with the α Dial.

4.7 PARAMETER TABLE



The Upper/Lower Tone Parameters can be reached and edited by:

- Typing the corresponding number with the numeric keypad 0 – 9
When the Factor you wish to edit appears in the Display, press the VALUE edit button, then change the value with the α Dial.
- Pressing the PARAM button, rotate the α Dial, and the Factor shown in the Display will change in sequence. When the Factor you wish to edit appears in the Display, press the VALUE edit button, then change the value with the α Dial.
- Assigning 2 selected Factors to C1 and C2 buttons:
 - Press the PATCH button, press the TONE button, press C1 or C2 button, then select the Factor with the α Dial. In this way 2 different Factors can be controlled in real time with C1 or C2 buttons.
- Directly and in a more straightforward way with a PG-800 programmer.
(The current, edited Factor will be temporarily shown if MIDI - 42 EDIT DISPLAY is set on the PG-800)

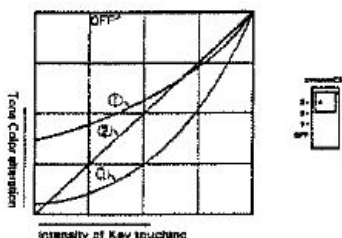
DCO (Digitally Controlled Oscillator)

The DCO is a digitally controlled oscillator that controls the pitch and generates the waveforms that are the sound source of the synthesizer. Owing to its digitally controlled system, this offers superior pitch stability compared with a VCO (Voltage Controlled Oscillator). The JX-10 has 2 DCO's.

Number	Parameter	Data Value	Function	Programmer
	Display			
11	DCO 1 RANG	2'	This is used to change the pitch range of the DCO in exact one octave steps from 2' to 16' (2',4',8',16'). - 8' is the standard pitch.	
	DCO-1 Range	4'		
21	DCO 2 RANG	8'		
	DCO-2 Range	16'		
12	DCO 1 WF	SAWT	This is used to choose the output waveform type of the DCO. (Sawtooth, Pulse, Square, Noise)	
	DCO-1 Waveform	PULS		
22	DCO 2 WF	SQUA		
	DCO-2 Waveform	NOIS		
13	DCO 1 TUNE	+ 12	This changes the frequency (pitch) of the DCO, in semitone steps. • Variable Range: ± 12 (± 1 Octave)	
	DCO-1 Tune	0		
24	DCO 2 TUNE	- 12		
	DCO-2 Tune			

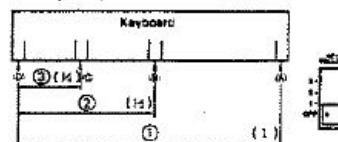
Note 1

Depending on the position of the Dynamics Range Selector, the tone color alteration differs as shown below.










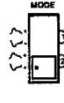




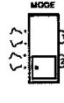
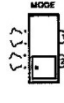
Note 2

Envelope Key Follow






OFF: All Keys have the same Envelope time.

- ①: The highest Key ① has the ENV time exactly half length of the lowest Key ③'s.
- ②: The Key ② has the ENV time exactly half length of the lowest Key ③'s.
- ③: The Key ③ has the ENV time exactly half length of the lowest Key ③'s.

Parameter		Data Value	Function	Programmer		
Number	Display					
14	DCO 1 LFO	99	When the LFO output is modulating the DCO, this parameter is used to adjust the depth of the modulation. For vibrato effect, select "SINE" as the LFO Waveform.			
	DCO-1 LFO Depth					
26	DCO 2 LFO			00	When the ENV output is modulating the DCO, this parameter is used to adjust the depth of modulation.	
	DCO-2 LFO Depth					
15	DCO 1 ENV	XMOD SYNC 2 SYNC 1 OFF	<ul style="list-style-type: none"> XMOD: The pitch is determined by DCO-1, and the harmonic contents by DCO-2. The waveform is determined by DCO-2's synchronization to DCO-1. SYNC 2: Both SYNC 1 and X MOD work together. SYNC 1: DCO-1 and DCO-2 affect each other, harmonic contents and waveform. OFF: Each DCO-1 and DCO-2 can have different pitch and waveform characteristics. 			
	DCO-1 Envelope Depth					
23	DCO 2 ENV			+50	The frequency (pitch) of DCO-2 can be adjusted with this parameter. *Variable range ±50%	
	DCO-2 Envelope Depth					
27	DCO 1 XMOD	3	When the DCO's pitch is controlled by ENV, and the amount of the ENV is controlled by Dynamics (Key Touch), this parameter adjusts the sensitivity of Key Touch.			
	Cross Modulation					
25	DCO 2 FTUN			2	This selects the polarity of the Envelope curve. Normally,  is used. In  mode, the ADSR pattern will be inverted. (ADSR = Attack, Decay, Sustain, Release)	
	DCO-2 Fine Tune					
31	DCO DYNR	1	0-1 : ENV 1  0-1 : ENV 1  0-2 : ENV 2  0-2 : ENV 2 			
	DCO Dynamics Range					
32	DCO MODE			OFF		
	DCO Envelope Mode					

MIXER

This is where the volume balance of DCO-1 and DCO-2 is controlled.

Parameter		Data Value	Function	Programmer
Number	Display			
41	MIX DCO 1	00	This adjusts the level of DCO-1.	
	DCO-1 Level			
42	MIX DCO 2	99	This adjusts the level of DCO-2.	
	DCO-2 Level			
43	MIX ENV	3	When ENV controls DCO-2's level, this sets the amount of the ENV signal.	
	DCO-2 Envelope Depth			
44	MIX DYNR	2	When DCO-2's level is controlled by ENV Depth and then by Dynamics, this sets the sensitivity of the Key Touch.	
	DCO-2 Dynamics Range	1		
		OFF		
45	MIX MODE	^-- 1	This selects the polarity of the Envelope curve. Normally, ^ is used. In v mode, the ADSR pattern will be inverted.	
	DCO-2 Envelope Mode	v-- 2		
		^-- 2		
		v-- 2		



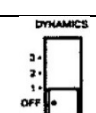

VCF (Voltage Controlled Filter)

The output signal goes to the Mixer then to the VCF to be filtered. Each VCF lets lower frequency harmonics pass and cuts off the higher ones. In other words, it is a regular low pass filter. By controlling the cutoff point and resonance, the waveform changes, thereby the tone colour alters.

Parameter		Data Value	Function	Programmer
Number	Display			
51	HPF FREQ High-pass Filter Cutoff Frequency	3 2 1 0	The HPF (High-Pass Filter) is a filter that passes higher frequency harmonics and cuts off the lower ones. As you increase the value, the cutoff point goes up, lower frequency harmonics being cut off.	
52	VCF FREQ Cutoff Frequency	99 00	This is for changing the cutoff point of the VCF. As you decrease the value, cutoff frequency will come down, and the waveform gradually becomes an approximation of a sine wave, then the sound will fade out.	
53	VCF RES Resonance		This emphasises the cutoff point. As you increase the value, the created sound will become more unusual, more electronic in nature.	
54	VCF LFO LFO Depth		This controls the cutoff point by the waveform selected at the LFO section. Increasing the value deepens the modulation.	
55	VCF ENV Envelope Depth	99 00	This controls the cutoff point of the VCF of each note with the ENV curve set in the ENV section. As you increase the value, tone colour within one note changes more drastically.	
56	VCF KEY Key Follow		This can shift the cutoff point by key position (pitch). At 100%, it prevents any inconsistency in the harmonic contents caused by pitch alteration. Parameter value 83 (=Programmer's Knob "8"=100%	
57	VCF DYNA Dynamics Range	3 2 1 OFF	When the VCF is controlled by ENV and Key Touch (Dynamics), this parameter determines the sensitivity of the Key Touch.	
58	VCF MODE Envelope Mode	∩-1 ∪-2 ∩-2 ∪-2	This selects the polarity of the Envelope curve. Normally, ∩ is used. In ∪ mode, ADSR pattern will be inverted. ∩-1 : ENV 1 ∩ ∪-1 : ENV 1 ∪ ∩-2 : ENV 2 ∩ ∪-2 : ENV 2 ∪	


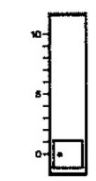
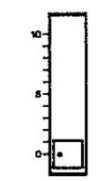
VCA (Voltage Controlled Amplifier) / Chorus

After being filtered in the VCF, the signal is fed to the VCA where the volume (amplitude) of the sound is controlled.

Parameter		Data Value	Function	Programmer
Number	Display			
61	VCA LEVEL	99 00	This parameter is used to adjust the volume level. It can be effectively used in WRITE mode to fix the output level of the stored sound to ensure level consistency across presets. Note: If it is set too high, the sound may be distorted.	
	VCA Level			
62	VCA MODE	ENV2 GATE	This parameter is used to select whether to control the VCA using the signal from ENV-2 (⌒) or by the Gate signal (⌒).	
	VCA Mode			
63	VCA DYNA	3 2 1 OFF	This parameter determines the sensitivity of the Key Touch (Dynamics effect).	
	VCA Dynamics Range			
64	CHORUS			
	Chorus Mode			
		2 1 OFF	OFF: Chorus is OFF. 1: Expansive Chorus effect is obtained. 2: Rich Chorus effect is obtained.	

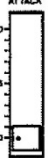
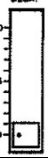
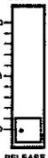
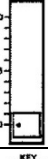

LFO (Low Frequency Oscillator)

This oscillator generates extremely low frequency, and therefore can produce a vibrato or growl effect by controlling the DCO or VCF.

Parameter		Data Value	Function	Programmer
Number	Display			
71	LFO WF	SINE SQUAR RAND	This is used to select the LFO output waveform: SINE: ⌒ (Sine Wave) SQUA: ⌒ (Square Wave) RAND: Random	
	LFO Waveform			
72	LFO DELAY	99 00	This sets the delay time (pause) before the LFO modulation starts.	
	Delay Time			
73	LFO RATE	99 00	This sets the rate (frequency) of the LFO.	
	Rate			

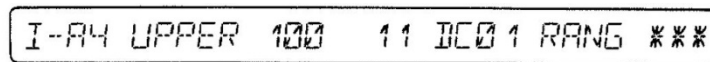
ENV (Envelope Generator - ADSR)

The Envelope Generator generates the control voltage (Envelope) which controls the DCC, VCF and VCA and is able to alter the pitch, tone colour and volume for each note.

Parameter		Data Value	Function	Programmer
Number	Display			
81	ENV 1 ATT	99	ATTACK time: This parameter determines the time required for the voltage to reach its maximum from the moment a key is played.	
	ENV-1 Attack Time			
91	ENV 2 ATT			
	ENV-2 Attack Time			
82	ENV 1 DECAY	99	DECAY time: This determines the time required for the voltage to drop from the maximum to the sustain (when key is held down) level.	
	ENV-1 Decay Time			
92	ENV 2 DECAY	00	SUSTAIN level: This sets the sustain (when key is held down) level to which the voltage falls at the end of the Decay time. Therefore, at its maximum setting, the Decay time control has no effect.	
	ENV-2 Decay Time			
83	ENV 1 SUS			
	ENV-1 Sustain Level	00	RELEASE time: This sets the time required for the voltage to reach zero from the moment a key is released.	
93	ENV 2 SUS			
	ENV-2 Sustain Level			
84	ENV 1 REL	3 2 1 OFF	This changes the time required for an ENV curve to complete its curve (= ENV time). In the OFF position, all pitches (notes) have the same ENV time. As the value is increased, higher keys have a shorter ENV time.	
	ENV-1 Release Time			
94	ENV 2 REL			
	ENV-2 Release Time			
85	ENV 1 KEY	3 2		
	ENV-1 Key Follow			
95	ENV 2 KEY	1 OFF		
	ENV-2 Key Follow			

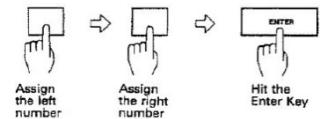
PROCEDURE

1. Press the TONE Edit Button. The Display responds with:



Abbreviation of the Voice Memory mode and Patch Number Tone Number to be edited

2. Using the relevant Ten Keys, assign the number of the parameter you wish to edit. As shown on the right, press the keys in the correct order, then press the ENTER key.
3. Press a key on the keyboard. When you hear the sound, change the value to suit.
4. To continue to edit other parameters, repeat steps 2 – 4.



The α Dial also can be used to call a parameter. Press the TONE, then the PARAM button - then rotate the α Dial. The parameter shown in the Display will change sequentially. When the parameter you require is shown, press the VALUE edit button then edit the value with the α Dial.

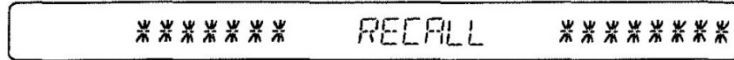
When you have finished editing the Tone, press the TONE button. The TONE button indicator will go out and the Display will then return to its normal indication except that the Tone Number now flashes to show that the Tone has been edited - but not yet written into memory. If you call another Patch Memory at this stage, the edited Tone will be erased. To keep your edit, execute the WRITE procedure.

Recalling a Tone

“Recalling a Tone” is a function which can be very useful during a Tone edit. Whilst you are editing a Tone, you may wish to recall the original Tone which is intact, to compare it with the one you have just edited.

PROCEDURE

1. Press the RECALL button. The Display responds with:



Playing the keyboard will instantly recall the original Tone. * *Naturally, this Tone cannot be edited.*

2. Press the Recall Button again. The *edited* Tone is retrieved.

Likewise, each time you press the Recall Button, the original and the edited Tones are alternately called. This enables a direct sound comparison between the two Tones.

4.8 ARPEGGIATOR

This is a brand new function in place of the original sequencer (useless for today's standards) featured in the JX-10. The original Sequencer buttons [REC] [FUNCTION] and [START/STOP] now are used to trigger and program the arpeggiator. There are 8 *arpeggiator memories* that can be recalled using buttons A–H. Buttons 1–7 are now used to recall *arpeggiator parameters and settings*.

Pressing the FUNCTION button toggles between an ARPEGGIATOR and INT/CART A1-H8 Patch.

To revert to Patch merely press the FUNCTION button again.

To start the arpeggiator press the START/STOP button

To edit arpeggiator parameters 1–7 press the FUNCTION button and edit settings with the α Dial.

To toggle the latch function on the arpeggiator press the REC button.

To save arpeggiator settings press the WRITE button, rotate the α Dial until "**Write Arpeggiator**" is displayed, then press ENTER to save.

Important note:

- The Arpeggiator always works from the Upper Split point.

Button	Parameter	Values - Range	Notes
1	BPM	EXTERNAL, 20 - 250	Default 100
2	MODE	UP, DOWN, UP-DOWN, PLAYED, RANDOM	Default UP
3	OCTAVE SPAN	1, 2, 3, 4	Default 1
4	INSERT	NONE, HIGHEST, LOWEST, UP 3 DOWN 1, UP 4 DOWN 2	Default NONE
5	PLAY RATE	1, 1/2 D, 1/2, 1/4 D, 1/2 T, 1/4, 1/8 D, 1/4 T, 1/8, 1/16 D, 1/8 T, 1/16' 1/16 T, 1/32	Default 1
6	DURATION	1 - 15 - LEGATO,	Default LEGATO
7	VELOCITY	Played, 1 - 127	Default PLAYED
8	MIDI	KEYBOARD, MIDI, ALL, KEYB+OUT, MIDI+OUT, ALL+OUT	-- See Page 63

The new firmware (ver. 3.x, 4.x) allows assigning the C1 and C2 sliders to select arpeggio parameters 1–7. To assign one of the possible seven parameters either to slider C1 or C2:

PROCEDURE

1. Press the FUNCTION button. The Display responds with:

ARP-A 1 BPM

2. Press C1 or C2 button display responds with: (if it doesn't, press ON/OFF button)

C1 ARPEG 11 BPM

C2 ARPEG 11 BPM

3. Using the α Dial, select the parameter 1–7 to assign either to C1 or C2 slider.

i.e. C1 ARPEG 12 MODE Up

C2 ARPEG 15 PLAY RATE 1

These settings are relevant to the eight arpeggio memories available in the JX-10 and can be saved by pressing the WRITE button, selecting "**Write Arpeggiator**" with the α Dial ([see page 34](#)) and pressing ENTER to confirm the operation. Also [see page 63](#) – "arpeggiator addendum" section.

4.9 WRITING INTO MEMORY

Editing a Patch Memory or Tone does not automatically rewrite the existing data into the JX-10 internal memory or the cartridge. Calling another Patch memory or Tone will *erase* the edited data, retaining the existing (already stored) data.

To retain the *edited* data, you can overwrite the existing data in the Internal Memory or overwrite existing data on the Memory Cartridge.

You can also change the names of the Patch Memories and Tones. This is called NAMING.

It is possible to edit the Patch Memory, Tones and Names then *rewrite* them all together with a single **WRITE PROCEDURE** operation.

NOTE:

Rewriting a Tone will naturally change the Patch memories that use that Tone. In other words, if a Tone which is used in a Patch Memory is rewritten, the newly written Tone replaces the original one.

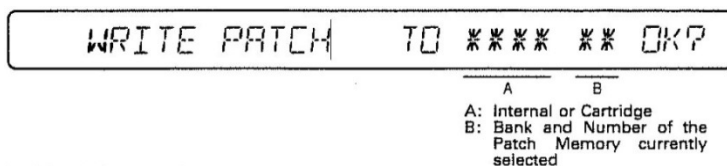
Therefore it follows that the Patch memories which used to contain the original Tone will now contain the new Tone. Remember this - otherwise you may be puzzled by the unexpected alteration of the Patch Memories when you recall them later!

4.9a Writing a Patch Memory

To WRITE the edited Patch Memory, select a location for it from locations A-1 to H-8 *immediately after editing* the Patch Memory (when the PATCH button indicator is lit) and follow the WRITE procedure as follows:

PROCEDURE

1. To write the edited Patch Memory into the JX-10's Internal Memory, set the Protect Switch on the JX-10 to the OFF position. To write onto the Cartridge Memory, set the Protect Switch on the cartridge to the OFF position.
2. Press the WRITE button. The display will respond with:

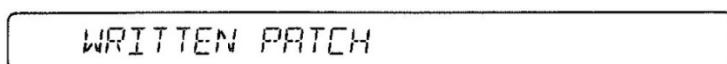


If you wish to write the edited Patch Memory into the same location (in other words, to overwrite the one that is already shown in the display - Bank and Number), skip the next step (3) and go to step 4.

If you wish to write the edited Patch Memory into a different location, take step 3, then go to step 4.

3. Set the Voice Memory Select switch (on the far left side of the synth) to the appropriate position depending on whether you wish to write to the *JX-10's Memory* or the *Cartridge Memory*, then assign the Bank and Number of the new location using the Patch Memory buttons.
4. Press the ENTER key to WRITE the new patch.

The Display will respond as shown below, confirming that the WRITE is complete. Then it will return to its normal indication.



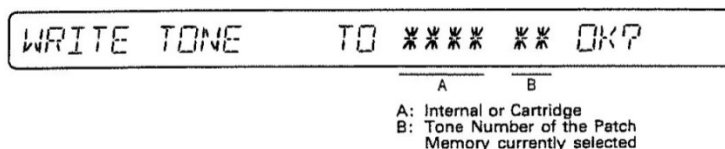
5. Return the relevant Protect Switch (Internal or Cartridge) to the ON position.

4.9b Writing a Tone

Tone numbers 51-100 in the JX-10's internal memory cannot be rewritten. Other Tones (1-51 in the internal memory and all 1-50 Tones in the cartridge) *can* be rewritten.

Immediately after you have edited a Tone (TONE button indicator lit), execute the following WRITE operation:

1. To write the edited Patch Memory into the JX-10's Internal Memory, set the Protect Switch on the JX-10 to the OFF position. To write onto the Cartridge Memory, set the Protect Switch on the cartridge to the OFF position.
2. Press the WRITE button. The display will respond with:



If you wish to write the edited Tone into the same location, in other words, to overwrite it, the Tone number is already shown in the Display. So, skip the next steps (3 and 4) go straight to step 5.

If you wish to write the edited Tone into a different location, take step 3, then go to step 4.

3. Set the Voice Memory Select switch (on the far left side of the synth) to the appropriate position depending on whether you wish to write to the JX-10's Memory or the Cartridge Memory, then assign the new location (Tone Number) using the numeric keypad (Ten Keys).
4. Press the ENTER Key.
5. Press the ENTER Key again.

The Display will respond as shown below confirming that the WRITE is complete. Then it will return to its normal indication.



6. Return the relevant Protect Switch Internal or Cartridge) to the ON position.

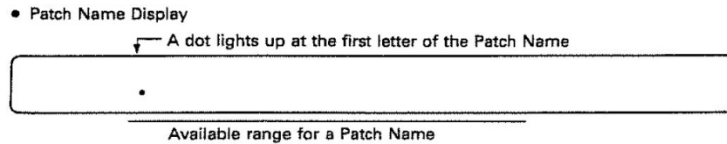
To cancel Tone Write mode before executing the write, press the WRITE button instead of going to step 5. The edited Tone then returns without being written into memory and the Display returns to its normal indication.

4.9c Naming

To NAME a Patch Memory, you can use up to 18 characters and for a Tone, you can use up to 10 characters. Naming procedures are exactly the same for a Patch Memory and a Tone, except for the first few steps which are used to call the respective Patch Memory or Tone to be named.

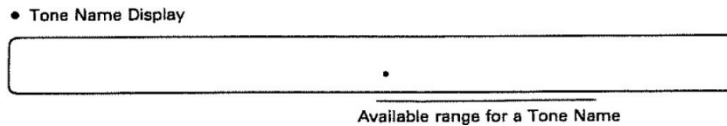
1) How to call the Patch Memory to be named:

- a) Using the Edit buttons...
- b) Press PATCH then NAME. Then go to step 3 - "Naming Procedure".



2) How to call the Tone to be named

- a) Using the Patch Memory buttons, call the Patch Memory containing the Tone to be named.
- b) Select either the Upper or Lower Tone using the Upper or Lower button.
- c) Using the Edit buttons, press TONE then NAME. Then go to step 3 - "Naming Procedure".

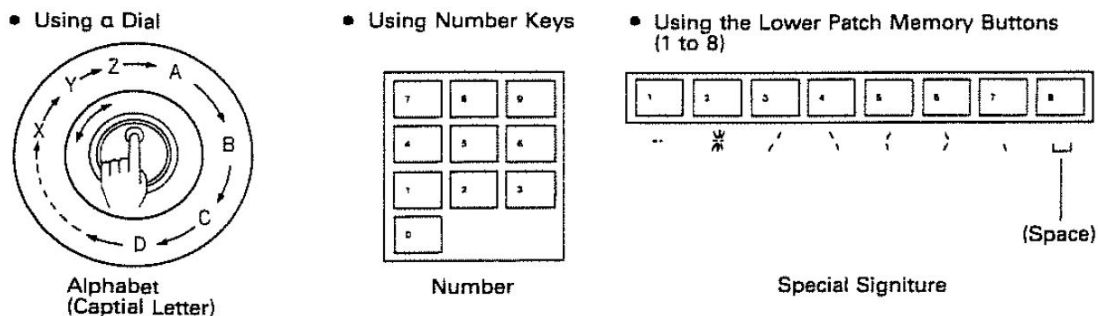


3) Naming procedure

In the Display you will see a dot at the lower right corner of the letter to the left of the name. We call this the **dot cursor**. You can change any letter that has the dot cursor at its lower right corner.

- a) Press either of the Cursor buttons to move the cursor to the letter you wish to change.
- b) To write a letter of the alphabet (capitals only), use the α Dial to select, and to write a number, use one of the Ten Keys. For other characters (see "special signature" below), use the appropriate Patch Memory Button. Note that patch memory button **8** is a **SPACE**.

The available alphabetic characters are shown below



Repeat the above procedure as many times as necessary to complete the name you wish to use. To cancel naming mode, press whichever Edit button is currently lit. The display will return to its normal indication. To WRITE the name of a Patch memory, take the appropriate writing procedure as explained in "[Writing a Patch Memory – Page 30](#)" and for writing the name of a Tone, "[Writing a Tone – Page 31](#)".

NOTE: Even when a Patch Memory or Tone is edited but not yet written into memory, executing the NAME procedure will automatically write the edited Patch Memory or Tone into memory erasing the original data written in memory!

4.9d Writing the whole data

Instead of separately writing each element of edited data (such as Patch Memory, Tone, Name or Quick Edit data), the *whole* edited data can be written into memory all at once.

PROCEDURE

1. When you have finished all the necessary edits, press the EDIT Button

The Display will return to its normal indication, showing the relevant data has been edited.

2. Press the WRITE Button

REWRITE VOICE

3. Press the ENTER Key.

WRITTEN PATCH

After the above display, change to:

WRITTEN TONE

The whole chunk of edited data has now been written into memory and the Display will return to its normal indication.

WRITE MENU

The following displays will show up just by pressing the WRITE button and rotating the α Dial until the desired operation to be accomplished is found. To complete a WRITE operation, you must always press the ENTER button. Pressing WRITE again (without pressing ENTER first), will cancel the operation.

Display	Note
WRITE VOICE	Press ENTER - the corresponding Patch, Upper and Lower Tones will be saved (i.e. overwritten) into their respective memory locations.
WRITE PATCH	Press ENTER - the corresponding Patch will be saved into memory (i.e. overwritten). Otherwise, select with A-H, 0-9 to write to another memory location.
WRITE UPPER	Press ENTER - the corresponding Upper Tone will be saved into memory (i.e. overwritten). Otherwise, select with 0-9 to write to another memory location (00 - 49).
WRITE LOWER	Press ENTER - the corresponding Lower Tone will be saved into memory (i.e. overwritten). Otherwise, select with 0 - 9 to write to another memory location (00 - 49).
WRITE MIDI SETTINGS ?	Press ENTER - MIDI settings will be saved. Refers to ALL settings in the MIDI menu (MIDI 11 → 42).

WRITE MASTERTUNE	Press ENTER - the Master Tune setting will be saved.
WRITE CONTROLS	Press ENTER - all C1/C2 settings (one choice for each) will be saved.
WRITE ARPEGGIATOR?	Press ENTER - the arpeggiator settings 1-7 for arpeggiator memories A-H will be saved.
MIDI BULK DUMP INTERNAL?	Press ENTER - the internal Patch, Tone and relevant Factors data will be sent to the MIDI OUT port. Note that the receiver must be set to MKS-70 not JX-10!
MIDI BULK DUMP CARTRIDGE	Press ENTER - the Cartridge Patch, Tone and relevant Factors data will be sent to the MIDI OUT port. Note that the receiver must be set to MKS-70 not JX-10!
COPY INTERNAL TO CARTRIDGE	Press ENTER - the internal Patch, Tone and relevant Factors data will be copied to the inserted Cartridge. See also page 35.
COPY CARTRIDGE TO INTERNAL	Press ENTER - the Cartridge Patch, Tone and relevant Factors data will be copied to the JX-10 Internal memory. See also page 35.
COPY CARTRIDGE BANK	Press ENTER - the selected BANK of a M1024C cartridge is copied to another selected BANK on the same cartridge. See also page 35
TEST MODE 1	Displays which sound board voices are currently playing. Also on the JX10: Displays the A/D converter raw values in hexadecimal (C1 / C2 / Bender / Aftertouch) and the last note played on the keyboard (Velocity and Note Number)
TEST MODE 2	Tests the memory chips (also tests the cartridge if inserted). Each time ENTER is pressed, the test is re-run. Test is completely safe but for peace of mind (in case of power outage etc.), you may wish to save the memory contents before running these tests.
SEND CARTRIDGE	Press ENTER - the Cartridge Patch, Tone and relevant Factors data will be sent to the MIDI OUT port. Note that the receiver must be set to MKS-70 not JX-10!

SECTION 5 - MEMORY CARTRIDGE

The Memory Cartridge can be used to save additional Patch Memory or Tone data.

The Memory Cartridge is essential if you wish to store more Patch Memory or Tone data than can be accommodated on the JX-10 Internal Memory store. The complete internal memory of the JX-10 can be transferred to the Cartridge Memory and it is possible to reload it back to the Internal Memory. With multiple cartridges there is no limit to the number of Tones and Patches that can be stored.

As an alternative, thanks to the improved and updated MIDI implementation, the bulk/load procedure from/to the instrument can be achieved with dedicated software such as *EMAGIC SoundDiver®* or *SoundQuest MidiQuest®*.

Note: Don't forget to tell the software that you are dumping/loading from an MKS-70 – not a JX-10. The new firmware also now supports **M1024C cartridges** (16 banks, equivalent of 16 M64C directly available). Contact Fred Vecoven if you are interested in getting hold of one. (Note that they aren't available as a "new" purchase as such – he upgrades your old M64C).

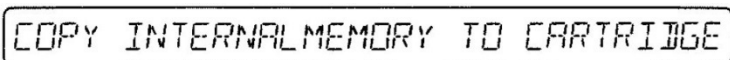
a. Copying the Entire Data store from the JX-10 (All Patch Memories and 50 Tones)

All the 64 Patch Memories and the 50 Tones can be copied to the Memory Cartridge M-64C, and loaded back to the JX-10's internal memory at any time.

1) Saving

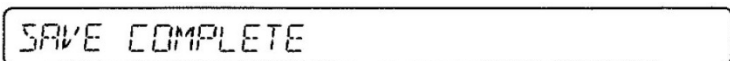
1. Set the Protect switch on the Memory Cartridge to the OFF position.
2. Whilst holding the WRITE button on the JX-10 down, press the INT ▼ CART Copy button.

The Display will respond with:



COPY INTERNAL MEMORY TO CARTRIDGE

3. Press the ENTER Key.



SAVE COMPLETE

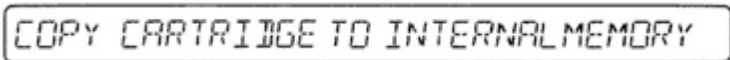
After a few moments, the Display will indicate as above. Saving is now complete. In a few seconds, the Display will return to the normal Patch Memory indication.

4. Return the Protect switch on the Memory Cartridge to the ON position.

2) Loading

1. Set the Protect switch on the JX-10 to the OFF position.
2. Whilst holding the WRITE button on the JX-10 down, press the CART ▲ INT Copy button.

The Display will respond with:



COPY CARTRIDGE TO INTERNAL MEMORY

3. Press the ENTER Key.



LOAD COMPLETE

After a few moments, the Display will indicate as above. Loading is now complete. In a few seconds, the Display will return to the normal Patch Memory indication.

4. Return the Protect switch on the JX-10 to the ON position.

b. Copying a single Patch Memory

The JX-10 allows copying of just one Patch Memory onto the Memory Cartridge or allows you to load just one Patch Memory from the Cartridge Memory to the Internal Memory.

1) Saving a single Patch Memory onto the Cartridge


1. Set the Protect switch on the Memory Cartridge to the OFF position.
2. Set the Voice Memory switch to the INT position.
3. Call the Patch Memory to be saved onto the Cartridge.
4. Press the WRITE button

The Display will respond with:



REWRITE VOICE

5. Using the Edit buttons, press PATCH.



WRITE PATCH TO **** ** OK?

A B
A: Internal or Cartridge
B: Bank and Number of the
Patch Memory currently
selected

6. Set the Voice Memory switch to the CART position.
7. Using the Patch Memory buttons, assign the Bank and the Number of the Patch Memory that is to be the new location for the Patch Memory you have selected in step 3.
8. Press the ENTER Key.
9. Return the Protect switch on the Memory Cartridge to the ON position.

2) Loading a single Patch Memory to the JX-10's Internal Memory

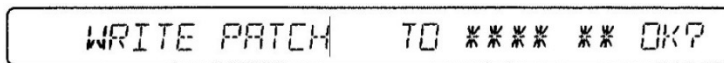
1. Set the Protect switch on the JX-10 to the OFF position.
2. Set the Voice Memory switch to the CART position.
3. Call the Patch Memory to be copied to the JX-10.
4. Press the WRITE Button

The Display will respond with:



REWRITE VOICE

5. Using the Edit buttons, press PATCH.



WRITE PATCH TO **** ** OK?

A B
A: Internal or Cartridge
B: Bank and Number of the
Patch Memory currently
selected

6. Set the Voice Memory switch to the INT position.
7. Using the Patch Memory Buttons, assign the Bank and the Number of the new location on the JX-10 where the Patch Memory you have called in step 3 is to be copied.
8. Press the ENTER Key.
9. Return the Protect switch on the JX-10 to the ON position.

NOTE

When a Patch Memory is copied from the Internal Memory to the Cartridge and vice versa, the Tones used for the Patch Memory are also copied. Therefore, corresponding Tone numbers will be rewritten.

c. Copying a Tone

A Tone in the JX-10's Internal Memory can be copied onto the Memory Cartridge and vice versa.

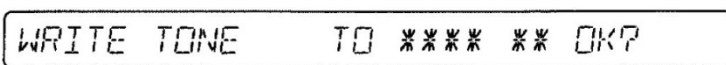
1) Saving a Tone to the Cartridge

1. Set the Protect switch on the Memory Cartridge to the OFF position.
2. Set the Voice Memory switch to the INT position.
3. Call the Patch Memory that contains the Tone you wish to copy.
 - In Dual or Split mode, the Tone with a dot is copied.
 - In Upper Whole mode, the Tone of the Upper section is copied.
4. Press the WRITE Button

The Display will respond with:



5. Using the Edit buttons, press PATCH.



A: Internal or Cartridge
B: Tone Number of the Patch
Memory currently selected

6. Set the Voice Memory switch to the CART position.
7. Using the Ten Keys, assign the new location (=Tone number) where you wish the Tone you called in step 3 to be copied.
8. Press the ENTER Key.
9. Return the Protect switch on the Memory Cartridge to the ON position.

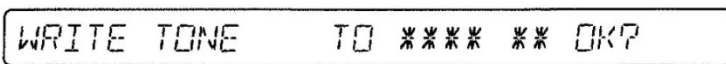
2) Coping a Tone on the Cartridge to the JX-10's internal memory

1. Set the Protect switch on the JX-10 to the OFF position.
2. Set the Voice Memory switch to the CART position.
3. Call the Patch Memory that contains the Tone you wish to copy.
 - In Dual or Split mode, the Tone with a dot is copied.
 - In Upper Whole mode, the Tone of the Upper section is copied.
4. Press the WRITE Button

The Display will respond with:



5. Using the Edit buttons, press TONE.



A: Internal or Cartridge
B: Tone Number of the Patch
Memory currently selected

6. Set the Voice Memory switch to the INT position.
7. Using the Ten Keys, assign the new location (=Tone number) where you wish the Tone you called in step 3 to be copied.
8. Press the ENTER Key.
9. Return the Protect switch on the JX-10 to the ON position.

SECTION 6 - OTHER USEFUL FUNCTIONS

6.1 Tuning

You can tune the JX-10 using the α Dial as follows:

1. With the Display showing the Patch Memory, press the Master Tune button
2. As you play the keyboard, tune the JX-10 by rotating the α Dial.

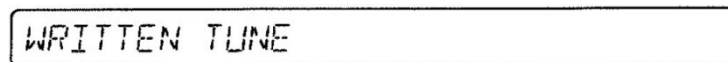
As you rotate the α Dial clockwise, this will raise the pitch. Rotating it counterclockwise will lower the pitch.

The Display will show the set pitch. A440 is the default.



The pitch shown in the Display changes in 1Hz steps, but the actual pitch changes continuously.

3. Set the Protect switch on the JX-10 to the OFF position, and press the Write Button.
4. The Display will respond as below, showing that the tuning WRITE is completed.



5. Return the Protect Switch on the JX-10 to the ON position.

6.2 Display Functions

Even when playing, you can change what is currently shown in the Display to an alternative indication.

Four different "Function Displays" are available as follows:

- **Patch Memory Selected:** This is the normal display shown by default.
- **MIDI Channel:** The MIDI Channel number currently in use is displayed.
- **Tone Name:** The names of the Tones currently in use are displayed.
- **Split Point:** In Split Mode, the split points of the Lower and Upper sections are displayed. Or, shows Key Mode "DUAL".

If you wish to view any of the displays outlined above, simply press the FUNCTION DISPLAY button. The Display changes from the usual indication to Normal mode, MIDI Channel, Tone Name, or Split Point as shown below.

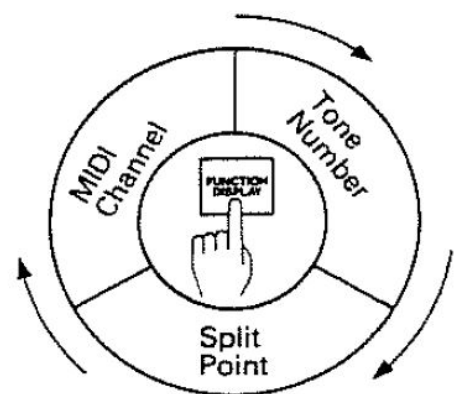
Whilst the Tone number is being displayed, selecting a different Tone will display the new Tone number.

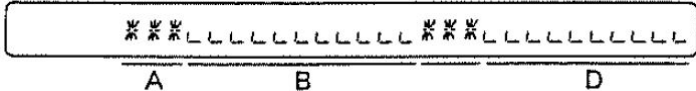
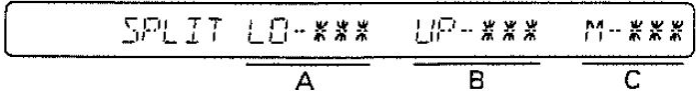
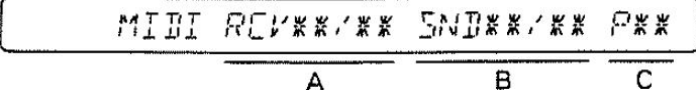
When you call a different Patch Memory, the Function Display will change accordingly.

To return to the usual Display, press the ENTER key (or cycle through each option 1,2,3,4 using the FUNCTION DISPLAY button).

Display option examples are shown on the next page.

(Note that the order of these depends on which version firmware you have currently installed).



<p>Tone Name</p> 	<p>A: Tone Number of Lower Section B: Tone Name of Lower Section C: Tone Number of Upper Section D: Tone Name of Upper Section</p>
<p>Split Point</p> 	<p>A: The highest note of the Lower Section B: The lowest note of the Upper Section C: When the Split Point is set with MIDI Send, it will be displayed</p>
<p>MIDI Channel</p> 	<p>A: MIDI Channel number of the Receiver (LOWER/UPPER) B: MIDI Channel number of the Transmitter (LOWER/UPPER) C: Patch Memory Channel (These are displayed when they have been set with MIDI Send.)</p>

6.3 Error Messages

If the Display reacts differently from what is indicated in the manual, (we call this an *error* message). The most likely reason for this is that you have executed an incorrect operation. The following shows JX-10 error messages and explains how to correct them.

<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center; width: fit-content; margin: auto;">MEMORY PROTECTED</div>	<p>You have tried to execute a WRITE procedure without setting the relevant Protect switch to the OFF position. When the Voice Memory switch on the JX-10 is set to the INT position, the Protect switch on the JX-10 should be set to OFF. When it is in the CART position, the Protect Switch on the Cartridge should be set to the OFF position.</p>
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center; width: fit-content; margin: auto;">INSERT CARTRIDGE</div>	<p>When the Voice Memory Switch is set to the CART position, in other words, when the JX-10 is in Cartridge mode, this error message may be seen if the cartridge is not securely connected (or missing). Remove the cartridge (or insert it) then securely connect it in the correct direction (with the Protect switch side facing upwards).</p>
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center; width: fit-content; margin: auto;">SELECT NO. 1-50</div>	<p>This error message is shown when you have tried to write the edited Tone to a Tone Number other than 1-50. Tone numbers from 51-100 are in ROM (Read-Only memory) and therefore cannot be rewritten.</p>
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center; width: fit-content; margin: auto;">MEMORY ERR</div>	<p>When this is shown several times, the JX-10 is in trouble. You will need to have it repaired!</p>

Note: The **JX8P Cartridge** is no longer supported. As such, the old error messages relating to this cartridge have now been removed.

6.4 JX-10 RESET

To reset JX-10 MIDI, Arpeggiator and Controls to their default values (Patches and Tones will remain untouched) press:

- **WRITE + ◀ LOWER + UPPER ▶** when powering up the JX-10.

Bear in mind: The JX-10 will issue no indication that the reset has been done!

!! If the keyboard doesn't respond after the reset, ensure that LOCAL is set to ON !!

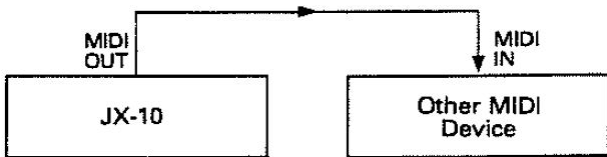
Also, there is NO JX-10 factory reset procedure to re-load all patches and tones to original factory settings! Upon issuing a RESET, this data will not be changed – it remains as it was before the RESET. If you wish patches and tones to be returned to original factory settings then you must either copy the data back to Internal memory from a Cartridge or reload the data via an external software program and sysex.

NOTE: If the internal backup battery requires replacement, ALWAYS copy all settings to a Cartridge first as all patches and settings will be erased at the moment the battery is removed.

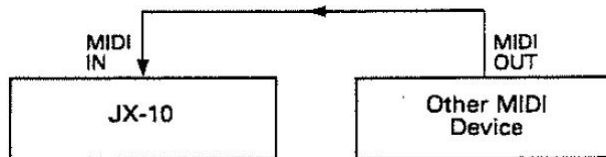
SECTION 7 - MIDI

The JX-10 can be set up with other MIDI devices as shown below:

1. Controlling other MIDI device with the JX-10

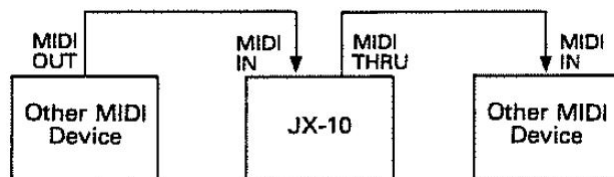


2. Controlling the JX-10 with another MIDI device



- The MIDI signal fed into MIDI IN of the JX-10 is not sent out through MIDI OUT.

3. Using THRU



The JX-10 allows writing of some MIDI functions with each Patch Memory. Therefore, when the JX-10 is controlling another MIDI device, changing Patch Memories on the JX-10 can automatically change the relevant transmitting MIDI functions! In other words, some MIDI functions are *Factors* of Patch Memories.

a. Receiving and Transmitting MIDI Messages

1) Setting MIDI Channels

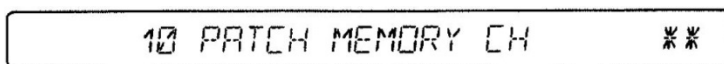
The JX-10's MIDI allows setting of two different channels separately for the Upper and the Lower sections. Even when different channels are assigned to the Upper and the Lower. In Dual Key Mode, the JX-10 will be played with the Note ON/OFF messages (Key Information) sent on the MIDI channel assigned to the Upper. The MIDI channel of the Lower is ignored. Likewise, when the Key mode is set to Lower Whole, the JX-10 is played with the Note ON/OFF messages of the Lower section. When in Split Key mode, the Upper and Lower sections are played independently with messages sent on *each* MIDI channel.

The Program Change messages basically work to change the Tone Numbers. Therefore, if two different MIDI channels are separately set for the upper and the lower sections, the Tone of each section can be changed independently.

The Program Change messages can also change the Patch Memories. This is fully explained later in "[Selecting a Patch Memory with MIDI Program Change](#)".

1. Using the edit buttons, press the MIDI button.

The corresponding indicator will illuminate, and the Display will show the MIDI function previously selected.



Now, using the Ten Keys, assign the number of the MIDI Function you wish to change. Here, we are going to assign the MIDI Channel for the Upper section, so enter the numbers 1, 3.

2. Press 1, 3 and ENTER using the Ten Keys.
3. Using the α Dial, change the MIDI channel number.

To set the MIDI channel for the Lower section, press 1, 4 and ENTER as in step 2.

Note that the MIDI channels you have set above will be erased from the memory of the JX-10 unless you follow the WRITE procedure.

Writing Procedure

1. Set the Protect switch on the JX-10 to the OFF position.
2. Press the WRITE button, then the Enter Key.

WRITTEN MIDI

The Display will react as above, then return to the normal Patch Memory indication.

3. Return the Protect switch on the JX-10 to the ON position.

2) Selecting a Patch Memory with MIDI Program Change

You can select a Patch Memory using the MIDI program change messages. In this case, a MIDI channel different from those used for the Upper and the Lower sections is available. This is useful for when playing the JX-10 with a computer; you can change the Tones of the Upper and the Lower using corresponding channels and change the Patch Memories using the third channel (Patch Memory CH).

- The JX-10 is designed to produce no sound while you are changing Patch Memories. This serves to mute the noise which otherwise would be heard. If you do not like muting the sound, instead of changing Patch Memories, change the Tones. In this way, you can call the sound you like without any silence at all.

If you assign the same channels to the Patch Memory (Patch Memory CH) and the upper section (Upper MIDI CH) the Program Change of the upper MIDI channel can change the Patch Memories. In this case however, the Tone numbers of the upper cannot be changed with the Program Change.

Only when the lower MIDI channel is different from that of the Upper, can the Lower Tone numbers be changed.

To set the MIDI channel for the Patch Memory, call the **Function Number 15** with the Ten Keys and set the Channel Number 11 to 16 or OFF) with the α Dial. Select OFF, if you do not need to change Patch Memories with the Program Change.

3) Program Change ON/OFF

The Program Change ON/OFF function can select whether to use Program Change or not. ON/OFF can be set independently for the Upper and the Lower.

Call the Upper or Lower using the corresponding **Function Number 31 for Upper, 41 for Lower**, then select ON or OFF using the α Dial.

4) Other MIDI Functions

The following MIDI Functions can be set to ON or OFF using the α Dial.

<ul style="list-style-type: none"> • Aftertouch UpperNumber 32 LowerNumber 42 	<ul style="list-style-type: none"> • Bender UpperNumber 33 LowerNumber 43 	<ul style="list-style-type: none"> • Hold UpperNumber 36 LowerNumber 46
<ul style="list-style-type: none"> • Local UpperNumber 11 LowerNumber 12 <p>Usually this function should be set to ON. Local OFF separates the keyboard section from the synthesizer section. Therefore, the keyboard messages sent out from the MIDI OUT does not cause the JX-10 to sound. The JX-10's synthesizer section is played with the messages fed into the MIDI IN.</p>	<ul style="list-style-type: none"> • Modulation UpperNumber 34 LowerNumber 44 • Portamento UpperNumber 35 LowerNumber 45 	<ul style="list-style-type: none"> • Volume UpperNumber 37 LowerNumber 47 <p>The Volume On/OFF can be set with the α Dial, but selecting the MIDI Volume with the Control Assign will automatically set it to ON.</p>

- **System Exclusive**

This message is not affected by channel setting. Call it by assigning its Function Number 21, then turn it ON or OFF with the α Dial

- To assign the Function Number of a MIDI message, the α Dial can be used instead of the Ten Keys. After pressing the MIDI then PARAM buttons, rotate the α Dial and the Function shown in the Display will change in sequence. When the Function you wish to edit appears in the Display, press the VALUE Edit button, then change value with the α Dial. However, to continue to edit other Functions, be sure to press the PARAM button, then call the Function you want by using the α Dial.
- To cancel MIDI function edit mode, simply press the MIDI Edit button.

b. MIDI Functions available for a Patch Memory

The MIDI Functions shown in the following table can be written into memory as Factors of a Patch memory. You may, however, want the JX-10 to send the MIDI messages to the receiver without being affected by the Patch Memory's MIDI setting. If so, you can turn the relevant MIDI Functions in a Patch Memory off. The necessary procedure is exactly the same as when editing a Patch Memory. Note that these MIDI functions are only available from within the Patch Edit section – not via the MIDI edit function.

#	Parameter	Range	Description
61	UP MIDI CH SEND	1 to 16 off	These Factors can select 1-16 number or OFF for the Upper and Lower separately.
62	LO MIDI CH SEND		
63	UP PROG CHANGE SEND	1 to 128 off	These Factors can select 1-128 Program Change or OFF separately for the Upper and the Lower sections.
64	LO PROG CHANGE SEND		
65	UP VOLUME SEND	00 to 99 off	These Factors are used for transmitting the Volume messages in the Control Change separately on the MIDI Channels selected by the Upper and the Lower.
66	LO VOLUME SEND		
67	MIDI SEND KEY MODE	Upper Lower Split Layer off	This Factor can select Upper, Lower, Split, Layer or Off independently of the Key Mode set on the JX-10. The Upper mode sends the JX-10's keyboard information on the MIDI channel selected at the Upper. Likewise, the Lower mode sends it on the channel of the Lower. The Split mode sends it separately on the Upper and Lower at the Split Point set with Number 68. The Layer mode sends the entire information on the both channels of the Upper and Lower. At OFF, no information is sent with MIDI, therefore it is sent with the set Key Mode on the JX-10.
68	MIDI SEND SPLIT	E1 to g7	When SPLIT is selected at Number 67, this Factor 68 serves to set the Split Point. Set it with the Octave number and Note name from E1 to G7.

Although MIDI instructions in Section 7 remain valid and still apply, with firmware ver. 3.0+ the MIDI menu has been improved. Note that MIDI Parameter Numbers have changed compared to the original JX-10!

MIDI MENU

MIDI Factors can be recalled through the ten keys (numeric keypad) or pressing PARAMETER button and rotating the α Dial until the desired Factor is found. Pressing VALUE button and rotating the α Dial will edit the current value.

Display	Values	Note
11 UPPER LOCAL	ON - OFF	ON = Upper part of the keyboard is active* OFF = Upper part of the keyboard is muted* and can transmit MIDI data to an external instrument *According to Upper split point
12 LOWER LOCAL	ON - OFF	ON = Lower part of the keyboard is active* OFF = Lower part of the keyboard is muted* and can transmit MIDI data to an external instrument *According to Lower split point
15 CONTROL CHANNEL	1 - 16	MIDI control channel freely selectable among 1-16

21 SYSTEM EXCLUSIVE	OFF - RCV - SEND - ON	OFF = JX-10 neither receives nor sends sys-ex data RCV = JX-10 receives sys-ex data only SEND = JX-10 sends sys-ex data only ON = JX-10 sends and receives sys-ex data
22 SYSEX APR	OFF - RCV - SEND - ON	OFF = JX-10 neither receives nor sends APR RCV = JX-10 receives APR only SEND = JX-10 sends APR only ON = JX-10 sends and receives APR When a program change is sent, the JX reloads the Patch/Tones. With System Exclusive ON, the JX-10 was also sending all the patch and tones parameters as 3 messages (1 Patch APR, 2 Tones APR). Now, data sent over MIDI can be exactly chosen.
16 PATCH PROGRAM CHANGE	OFF - RCV - SEND - ON	OFF = JX-10 neither receives nor sends program changes RCV = JX-10 receives program changes only SEND = JX-10 sends program changes only ON = JX-10 sends and receives program changes
24 REALTIME	ON - OFF	Set to always ON when arpeggiator is in EXTERNAL mode
13 UPPER CHANNEL	1 - 16	Upper part MIDI channel freely selectable among 1-16
31 UPPER PROGRAM CHANGE	OFF - RCV - SEND - ON	OFF = Upper neither receives nor sends program changes RCV = Upper receives program changes only SEND = Upper sends program changes only ON = Upper sends and receives program changes
32 UPPER AFTERTOUCH	OFF - RCV - SEND - ON	OFF = Upper neither receives nor sends aftertouch RCV = Upper receives aftertouch only SEND = Upper sends aftertouch only ON = Upper sends and receives aftertouch
33 UPPER BENDER	OFF - RCV - SEND - ON	OFF = Upper neither receives nor sends pitch bend RCV = Upper receives pitch bend only SEND = Upper sends pitch bend only ON = Upper sends and receives pitch bend
34 UPPER MODULATION	OFF - RCV - SEND - ON	OFF = Upper neither receives nor sends modulation RCV = Upper receives modulation only SEND = Upper sends modulation only ON = Upper sends and receives modulation bend
35 UPPER PORTAMENTO	OFF - RCV - SEND - ON	OFF = Upper neither receives nor sends portamento RCV = Upper receives portamento only SEND = Upper sends portamento only ON = Upper sends and receives portamento
36 UPPER HOLD	ON - OFF	OFF = Upper neither receives nor sends CC#64 - hold RCV = Upper receives CC#64 - hold only SEND = Upper sends CC#64 - hold only ON = Upper sends and receives CC#64 - hold
37 UPPER MIDI VOLUME	OFF - RCV - SEND - ON	OFF = Upper neither receives nor sends CC#7 RCV = Upper receives CC#7 only SEND = Upper sends CC#7 only ON = Upper sends and receives CC#7
14 LOWER CHANNEL	1 - 16	Upper part MIDI channel freely selectable among 1-16
41 LOWER PROGRAM CHANGE	OFF - RCV - SEND - ON	OFF = Lower neither receives nor sends program changes RCV = Lower receives program changes only SEND = Lower sends program changes only ON = Lower sends and receives program changes
42 LOWER AFTERTOUCH	OFF - RCV - SEND - ON	OFF = Lower neither receives nor sends aftertouch RCV = Lower receives aftertouch only SEND = Lower sends aftertouch only ON = Lower sends and receives aftertouch

43 LOWER BENDER	OFF - RCV - SEND - ON	OFF = Lower neither receives nor sends pitch bend RCV = Lower receives pitch bend only SEND = Lower sends pitch bend only ON = Lower sends and receives pitch bend
44 LOWER MODULATION	OFF - RCV - SEND - ON	OFF = Lower neither receives nor sends modulation CC#1 RCV = Lower receives modulation CC#1 only SEND = Lower sends modulation CC#1 only ON = Lower sends and receives modulation CC#1
35 UPPER PORTAMENTO	OFF - RCV - SEND - ON	OFF = Lower neither receives nor sends portamento RCV = Lower receives portamento only SEND = Lower sends portamento only ON = Lower sends and receives portamento
36 UPPER HOLD	OFF - RCV - SEND - ON	OFF = Lower neither receives nor sends CC#64 - hold RCV = Lower receives CC#64 - hold only SEND = Lower sends CC#64 - hold only ON = Lower sends and receives CC#64 - hold
47 LOWER MIDI VOLUME	OFF - RCV - SEND - ON	OFF = Lower neither receives nor sends CC#7 RCV = Lower receives CC#7 only SEND = Lower sends CC#7 only ON = Lower sends and receives CC#7
51 COMPATIBILITY	OFF - 1 - 2	Used to slow down sysex data transmission from the JX-10 to old librarian software. OFF = sysex data sent at full speed 1 = slower mode 1 2 = slower mode 2 (slower than mode 1) • In compatibility 2, sysex data coming in for Tone-A is redirected to the currently selected tone. Some old software also relies on this.
52 EDIT DISPLAY	OFF - PG800 - SySEX PG800-SYSEX C1 C2 - PG800 C1 C2	Dependent on settings, the JX-10 display will or won't show Edit parameters. OFF = Edit parameters are not shown PG-800 = Edit parameters are shown when PG-800 controls are moved Sysex = Edit is accomplished by an external editor that send and receives sys-ex data PG800 - Sysex = Combination 1 of the above C1 C2 = Edit parameters with C1 C2 assignable sliders PG-800 - C1 C2 = Combination 2 of the above C1 C2 - Sysex = Combination 3 of the above PG - C1 C2 - SYS = All of the above
53 C1 C2 TONE EDIT	ON - OFF	Tone editing can be accomplished with C1 C2 assignable sliders
54 GU280	OFF - 25% - 50% - 75% - 100%	Turns GU280 display support ON or OFF and sets the display brightness. See Page 65 for more details

After the editing session is complete, press the WRITE button, rotate the α Dial until the display shows "Write MIDI Settings?" is found, then press ENTER to save.

12-voice polyphonic synthesizer (Vecoven Firmware Update 3.xx / 4.xx)

All TONE parameters can now be edited with MIDI CC using the Vecoven upgrade. This is a major improvement to how the JX-10 originally operated "out of the box". All parameters are documented fully in this next section.

7.0 c JX-10 MIDI Implementation

Date: May 2014

Version: 3.x/4.x

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	UP: 1-16 LO: 1-16	UP: 1-16 LO: 1-16	memorized
	Changed	UP: 1-16 LO: 1-16	LO: 1-16 LO: 1-16	
Mode	Default Messages Altered	Mode 3 OMNI OFF, POLY *****	Mode 3 ×	memorized
Note Number	Note ON	○	○ v=1-127	
	Note OFF	× 9n v=0	×	
After Touch	Key's	×	×	
	Ch's	○	*	
Pitch Bender		*	* 2/3/4/7/12 semitones	8 bit resolution
Control Change	1	*	*	Modulation
	5	○	○	Portamento Time
	7	*	*	Volume
	64	*	*	Hold SW.
	65	*	*	Portamento SW.
Prog Change	True #	* 0-99 (0-127) *****	* 0-99 (0-127) * 0-99 (0-127)	**
System Exclusive		*	*	
System Common	Song Pos	*	*	
	Song Sel	*	*	
	Tune	*	*	
System Real Time	Clock Commands	○ When arpeggio is ON ○	○ When arpeggio in ○ EXTERNAL Mode	
Aux Messages	Local ON/OFF	×	○	Default ON
	All Notes OFF	○	○	
	Active Sense	×	×	
	Reset	×	×	
Notes		* Can be set to ○ or × manually, and memorized. ** As tone # : 0-99 (100-127 ignored if received.), As patch # : 0-127 ** As optional Prog # (transmitted only) : 0-127 See each implementation note for details.		

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

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

○ = yes
× = no

1. TRANSMITTED DATA

Note OFF

Status	2 nd Byte	3 rd Byte
8nH	key H	00H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
key=Note number 1CH-67H (28-103 decimal)

Note ON

Status	2 nd Byte	3 rd Byte
9nH	key H	value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
key=Note number 1CH-67H (28-103 decimal)
value=Velocity 00H-7FH (0-127 decimal)

Modulation

Status	2 nd Byte	3 rd Byte
BnH	01H	value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
value=Mod depth 00H-7FH (0-127 decimal)

Portamento time

Status	2 nd Byte	3 rd Byte
BnH	05H	value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
value=Porta-Time 00H-7FH (0-127 decimal)

Portamento ON

Status	2 nd Byte	3 rd Byte
BnH	41H	7FH

n=MIDI Channel 00H-0FH (ch1-16 decimal)

Portamento Off

Status	2 nd Byte	3 rd Byte
BnH	41H	00H

n=MIDI Channel 00H-0FH (ch1-16 decimal)

Volume

Status	2 nd Byte	3 rd Byte
BnH	07H	value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
value=Volume 00H-7FH (0-127 decimal)

Hold ON

Status	2 nd Byte	3 rd Byte
BnH	40H	7FH

n=MIDI Channel 00H-0FH (ch1-16 decimal)

Hold OFF

Status 2nd Byte 3rd Byte
 BnH 40H 00H

n=MIDI Channel 00H-0FH (ch1-16 decimal)

Program Change (Patch)

Status 2nd Byte
 CnH value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
 value= Program number 00H-3FH (0-63 decimal) Internal memory
 40H-7FH (64-127 decimal) Cartridge memory

Program Change (Tone)

Status 2nd Byte
 CnH value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
 value= Tone number 00H-63H (0-100 decimal)

Channel Aftertouch

Status 2nd Byte
 DnH value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
 value= Aftertouch pressure 00H-7FH (0-127 decimal)

Pitch Bender change

Status 2nd Byte 3rd Byte
 EnH low H high H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
 lowH, highH= 00 00H—40 00H—7F 7FH (-8192 0 +8192 decimal)

Arpeggiator Start

Status
 FAH

Arpeggiator Stop

Status
 FC

Arpeggiator Clock

Status
 F8H

Notes

MIDI transmit channel is set in MIDI Menus 13 Upper channel and 14 Lower channel.
 Arpeggiator data is only sent when MIDI menu option 24 Realtime is set to ON or SEND.
 Program change Patch is sent when MIDI menu option 16 is set to ON or SEND
 Program change Tone is sent when MIDI menu option 16 is set to OFF or RECV
 All other functions depend on the settings in the MIDI menus set to ON or SEND

2. RECOGNISED RECEIVE DATA

Note OFF

Status	2 nd Byte	3 rd Byte
8nH	key H	00H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
key=Note number 00H-7FH (00-127 decimal)

Note ON

Status	2 nd Byte	3 rd Byte
9nH	key H	value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
key=Note number 00H-7FH (Notes outside 1CH- 67H range will be re-mapped)
value=Velocity 00H-7FH (0-127 decimal)

All notes OFF

Status	2 nd Byte	3 rd Byte
BnH	7BH	00H

Modulation

Status	2 nd Byte	3 rd Byte
BnH	01H	value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
value=Mod depth 00H-7FH (0-127 decimal)

Portamento time

Status	2 nd Byte	3 rd Byte
BnH	05H	value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
value=Porta-Time 00H-7FH (0-127 decimal)

Portamento ON

Status	2 nd Byte	3 rd Byte
BnH	41H	7FH

n=MIDI Channel 00H-0FH (ch1-16 decimal)

Portamento Off

Status	2 nd Byte	3 rd Byte
BnH	41H	00H

n=MIDI Channel 00H-0FH (ch1-16 decimal)

Volume

Status	2 nd Byte	3 rd Byte
BnH	07H	value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
value=Volume 00H-7FH (0-127 decimal)

Hold ON

Status	2 nd Byte	3 rd Byte
BnH	40H	7FH

n=MIDI Channel 00H-0FH (ch1-16 decimal)

Hold OFF

Status 2nd Byte 3rd Byte
 BnH 40H 00H

n=MIDI Channel 00H-0FH (ch1-16 decimal)

Program Change (Patch)

Status 2nd Byte
 CnH value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
 value= Program number 00H-3FH (0-63 decimal) Internal memory
 40H-7FH (64-127 decimal) Cartridge memory

Program Change (Tone)

Status 2nd Byte
 CnH value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
 value= Tone number 00H-63H (0-100 decimal)

Channel Aftertouch

Status 2nd Byte
 DnH value H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
 value= Aftertouch pressure 00H-7FH (0-127 decimal)

Pitch Bender change

Status 2nd Byte 3rd Byte
 EnH low H high H

n=MIDI Channel 00H-0FH (ch1-16 decimal)
 lowH, highH= 00 00H—40 00H—7F 7FH (-8192 0 +8192 decimal)

Local OFF

Status 2nd Byte 3rd Byte
 BnH 7AH 00H

n=MIDI Channel 00H-15H (ch1-16 decimal)

Local ON

Status 2nd Byte 3rd Byte
 BnH 7AH 7FH

n=MIDI Channel 00H-0FH (ch1-16 decimal)

Arpeggiator Start

Status
 FAH

Arpeggiator Stop

Status
 FC

Arpeggiator Clock

Status
 F8H

Notes:

Arpeggiator data is only recognised when MIDI menu option 24 Realtime is set to ON or RECV

Program change Patch is recognised when MIDI menu option 16 is set to ON or RECV

Program change Tone is recognised when MIDI menu option 16 is set to OFF or SEND

All other functions depend on the settings in the MIDI menus set to ON or RECV

3. SYSTEM EXCLUSIVE MESSAGES

When a Program change message is sent and MIDI Menu options 21 System Exclusive, 22 Sysex APR and 16 Patch Prog change are set to ON the following messages are sent and recognised.

MESSAGE 1 PROGRAM NUMBER PATCH (PGR)

A	B	C	D	E	F	G	H	I	J
F0H	41H	34H	mcH	24H	30H	01H	pnH	00H	F7H

- A = Exclusive message start
- B = Roland ID
- C = Operation code PGR
- D = MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
- E = JX10 Format
- F = Level 2 Patch
- G = Group ID
- H = (pnH) Patch number
- I = No operation
- J = End of Exclusive message

MESSAGE 2 ALL PATCH PARAMETERS (APR)

A	B	C	D	E	F	G	H	I
F0H	41H	35H	mcH	24H	30H	01H	valH	F7H

- A = Exclusive message start
- B = Roland ID
- C = Operation code APR
- D = MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
- E = JX10 Format
- F = Level 2 Patch
- G = Group ID
- H = (valH) Parameter value 00H to F7H (0-127 decimal) sent in sequence (51 bytes total)
- I = End of Exclusive message

MESSAGE 3 PROGRAM NUMBER UPPER TONE (PGR)

A	B	C	D	E	F	G	H	I	J
F0H	41H	34H	mcH	24H	20H	01H	toneH	00H	F7H

- A = Exclusive message start
- B = Roland ID
- C = Operation code PGR
- D = MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
- E = JX10 Format
- F = Level 1 Tone
- G = Group number 01H= Upper Tone
- H = (toneH) Tone number 00H-63H (decimal 0-99)
- I = No operation
- J = End of Exclusive message

MESSAGE 4 ALL TONE PARAMETERS UPPER TONE (APR)

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>
F0H	41H	35H	mcH	24H	20H	01H	valH	F7H

- A = Exclusive message start
- B = Roland ID
- C = Operation code APR
- D = MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
- E = JX10 Format
- F = Level 1 Tone
- G = Group number 01H= Upper Tone
- H = (valH) Parameter value 00H to F7H (0-127 decimal) sent in sequence (59 bytes total)
- I = End of Exclusive message

MESSAGE 5 PROGRAM NUMBER LOWER TONE (PGR)

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>	<i>J</i>
F0H	41H	34H	mcH	24H	20H	02H	toneH	00H	F7H

- A = Exclusive message start
- B = Roland ID
- C = Operation code PGR
- D = MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
- E = JX10 Format
- F = Level 1 Tone
- G = Group number 02H= Lower Tone
- H = (toneH) Tone number 00H-63H (decimal 0-99)
- I = No operation
- J = End of Exclusive message

MESSAGE 4 ALL TONE PARAMETERS LOWER TONE (APR)

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>
F0H	41H	35H	mcH	24H	20H	02H	valH	F7H

- A = Exclusive message start
- B = Roland ID
- C = Operation code APR
- D = MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
- E = JX10 Format
- F = Level 1 Tone
- G = Group number 02H= Lower Tone
- H = (valH) Parameter value 00H to F7H (0-127 decimal) sent in sequence (59 bytes total)
- I = End of Exclusive message

INDIVIDUAL PATCH PARAMETERS (IPR)

When editing Patch parameters and the MIDI menu option 21 System exclusive is ON then following messages are sent and recognised

A	B	C	D	E	F	G	H	I	J
F0H	41H	36H	mcH	24H	30H	01H	prmH	valH	F7H

A = Exclusive message start
 B = Roland ID
 C = Operation code IPR
 D = MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
 E = JX10 Format
 F = Level 2 Patch
 G = Group number
 H = (pmH) Parameter 00H-32H (0-51 decimal)
 I = (valH) Value 00H-F7H (0-127 decimal)
 J = End of Exclusive message

Parameter (pmH)	Value (valH)
00H-11H Patch name (char 1-18)	In ASCII format
12H U/L Balance	00H-F7H (0-127 decimal)
13H Dual Detune	00H-F7H (0-127 decimal)
14H Upper split point	00H-F7H (0-127 decimal)
15H Lower split point	00H-F7H (0-127 decimal)
16H Portamento time	00H-F7H (0-127 decimal)
17H Bend Range	00H 20H 40H 60H (2,3,4,7 semitones)
34H Bend Range	00H 01H (12 semitones when 01H set)
18H Key mode aa	See table
33H Key mode bb	See table
19H Total volume	00H-F7H (0-127 decimal)
1AH Aftertouch vibrato	00H-F7H (0-127 decimal)
1BH Aftertouch brilliance	00H-F7H (0-127 decimal)
1CH Aftertouch volume	00H-F7H (0-127 decimal)
1DH Upper tone number	00H-63H (0-99 decimal)
1EH Upper chromatic shift	00H-18H 0..+24 semitones 68H-7FH -24...-1 semitones
1FH Upper key assign	00H Poly 1 01H Unison 1 02H Mono 1 04H Poly 2 05H Unison 2 06H Mono 2
20H Upper unison detune	00H-F7H (0-127 decimal)
21H Upper hold	00H = OFF 01H = ON
22H Upper LFO mod depth	00H-F7H (0-127 decimal)
23H Upper portamento	00H = OFF 01H = ON
24H Upper bender	00H = OFF 01H = ON
26H Lower tone number	00H-63H (0-99 decimal)
27H Lower chromatic shift	00H-18H 0..+24 semitones 68H-7FH -24...-1 semitones
28H Lower key assign	00H Poly 1 01H Unison 1 02H Mono 1 04H Poly 2 05H Unison 2 06H Mono 2
29H Lower unison detune	00H-F7H (0-127 decimal)
2AH Lower hold	00H = OFF 01H = ON
2BH Lower LFO mod depth	00H-F7H (0-127 decimal)
2CH Lower portamento	00H = OFF 01H = ON
2DH Lower bender	00H = OFF 01H = ON
2FH Chase level	00H-F7H (0-127 decimal)
30H Chase mode	00H = U-L 01H = U-L-L- 02H = U-L-U-
31H Chase time	00H-F7H (0-127 decimal)
32H Chase play	00H = OFF 01H = ON

Key mode values

Param 18	Param33	Key mode
00H	00H	Dual
01H	00H	Split
02H	00H	Whole Upper
03H	00H	Whole Lower
00H	01H	X-Fade
00H	02H	T-Voice

INDIVIDUAL TONE PARAMETERS (IPR)

A	B	C	D	E	F	G	H	I	J
F0H	41H	36H	mcH	24H	20H	toneH	prmH	valH	F7H

A =	Exclusive message start
B =	Roland ID
C =	Operation code IPR
D =	MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
E =	JX10 Format
F =	Level 1 Tone
G =	(toneH) Group number 01H = Upper tone 02H = Lower tone
H =	(prmH) Parameter 00H-32H (0-51 decimal)
I =	(valH) Value 00H-F7H (0-127 decimal)
J =	End of Exclusive message

Parameter (pmH)	Value (valH)
00H-009H Tone name (10 char)	In ASCII Format
0BH DCO1 Range	00H=16` 20H=8` 40H=4` 60H=2`
0CH DCO1 Waveform	00H= Noise 20H= Saw 40H= Pulse 60H= Square
0DH DCO1 Tune	00H-F7H (0-127 decimal)
0EH DCO1 LFO mod depth	00H-F7H (0-127 decimal)
0FH DCO1 Env mod depth	00H-F7H (0-127 decimal)
10H DCO2 Range	00H=16` 20H=8` 40H=4` 60H=2`
11H DCO2 Waveform	00H= Noise 20H= Saw 40H= Pulse 60H= Square
13H DCO2 Tune	00H-F7H (0-127 decimal)
14H DCO2 Fine tune	00H-F7H (0-127 decimal)
15H DCO2 LFO mod depth	00H-F7H (0-127 decimal)
16H DCO2 Env mod depth	00H-F7H (0-127 decimal)
12H DCO X-mod	00H= OFF 20H= Sync1 40H= Sync2 60H= Xmod
1AH DCO Dynamics	00H= OFF 20H= Dyn1 40H= Dyn2 60H= Dyn3
1BH DCO Env mode	00H= Env2- 20H=Env2+ 40H= Env1- 60H= Env1+
1CH DCO1 Level	00H-F7H (0-127 decimal)
1DH DCO2 Level	00H-F7H (0-127 decimal)
1EH Mix Env depth	00H-F7H (0-127 decimal)
1FH Mix Dynamics	00H= OFF 20H= Dyn1 40H= Dyn2 60H= Dyn3
20H Mix Env mode	00H= Env2- 20H=Env2+ 40H= Env1- 60H= Env1+
21H HPF Cutoff	00H= 0 020H= 1 040H= 2 060H= 3
22H LPF Cutoff	00H-F7H (0-127 decimal)
23H Resonance	00H-F7H (0-127 decimal)
24H VCF LFO Depth	00H-F7H (0-127 decimal)
25H VCF Env Depth	00H-F7H (0-127 decimal)
26H VCF Key follow	00H-F7H (0-127 decimal)
27H VCF Dynamics	00H= OFF 20H= Dyn1 40H= Dyn2 60H= Dyn3
28H VCF Env mode	00H= Env2- 20H=Env2+ 40H= Env1- 60H= Env1+

Parameter (pmH)	Value (valH)
29H VCA Level	00H-F7H (0-127 decimal)
3AH VCA Env mode	00H= Gate 40H Env 2+
2AH VCA Dynamics	00H= OFF 20H= Dyn1 40H= Dyn2 60H= Dyn3
2BH Chorus	00H= OFF 20H= 1 40H= 2
2CH LFO Waveform	00H= Random 20H= Square 40H= Triangle
2DH LFO Delay	00H-F7H (0-127 decimal)
2EH LFO Rate	00H-F7H (0-127 decimal)
2FH Env 1 Attack	00H-F7H (0-127 decimal)
30H Env 1 Decay	00H-F7H (0-127 decimal)
31H Env 1 Sustain	00H-F7H (0-127 decimal)
32H Env 1 Release	00H-F7H (0-127 decimal)
33H Env 1 Key follow	00H= OFF 020H= 1 040H= 2 060H= 3
34H Env 2 Attack	00H-F7H (0-127 decimal)
35H Env 2 Decay	00H-F7H (0-127 decimal)
36H Env 2 Sustain	00H-F7H (0-127 decimal)
37H Env 2 Release	00H-F7H (0-127 decimal)
38H Env 2 Key follow	00H= OFF 020H= 1 040H= 2 060H= 3

4. BULK DUMP

When a Bulk dump is initiated from the Write menu the following messages are sent.

MESSAGE1 BULK DUMP PATCH (BLD)

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>	<i>J</i>	<i>K</i>
F0H	41H	37H	mcH	24H	30H	grpH	00H	prgH	valH	F7H

A = Exclusive message start
B = Roland ID
C = Operation code BLD
D = MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
E = JX10 Format
F = Level 2 Patch
G = (grpH) Group ID 01H Internal memory 02H Cartridge memory
H = No operation
I = (prgH) Patch number 00H to 3FH (0 to 63 decimal)
J = (valH) Value 00H to 0FH (0 to 15 decimal) Patch data sent as H/L nibble 96 times in sequence
K = End of Exclusive message

Message 1 repeats 64 times to send all data for 64 patch memories.

MESSAGE 2 BULK DUMP TONE (BLD)

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>	<i>J</i>	<i>K</i>
F0H	41H	37H	mcH	24H	20H	grpH	00H	toneH	valH	F7H

A = Exclusive message start
B = Roland ID
C = Operation code BLD
D = MIDI channel (mcH) 00H to 0FH (1 to 16 decimal)
E = JX10 Format
F = Level 1 Tone
G = (grpH) Group ID 01H Internal memory 02H Cartridge memory
H = No operation
I = (toneH) Tone number 00H to 31H (0 to 49 decimal)
J = (valH) Value 00H to 7FH (0-127 decimal) Tone data sent 59 times in sequence
K = End of Exclusive message

Message 2 repeats 50 times to send all data for 50 user tones

COMPATIBILITY MODES.

To improve compatibility with existing software packages and fix some transmission issues V3.0+ can be set via the MIDI menu option 51 Compatibility as follows:

OFF Full speed sysex transmission
1 Transmission slowed to simulate factory speed
2 Transmission slowed to simulate factory speed, Cart dump re-mapped as Internal memory and tone sysex IPR mapped to the currently selected tone (as in V2.3SE)

V3.0+ also corrects a firmware bug which used non standard ASCII characters when naming Patch/Tone memories from the front panel, this led to garbled program names in popular editing/library software.

Simply transferring the program data to the JX10 (which will attempt to correct the data upon loading) and then transferring the data back to your editor/librarian should repair most files.

d. SPECIFICATIONS

The JX-10: 12 Voice Polyphonic Synthesizer
with Dynamics and Aftertouch

Keyboard: 76 keys

Memory:

a. Patch Memory

Internal Memory: 64 Patch Memories
Memory Cartridge: 64 Patch Memories

b. Tone

Preset: 50 Tones
Internal Memory: 50 Tones
Memory Cartridge: 50 Tones

Edit Functions

Patch Memory Factors
Tone Parameters
MIDI Functions
Naming Function
Master Tune Function

Panel Switches

Ten Keys (0 to 9, ENTER)
Patch Memory Selectors (A to H, 1 to 8)
Chase Play Buttons (ON/OFF, FUNCTION, TIME)
Sequencer Buttons used as Arpeggio Buttons
(FUNCTION, START/STOP, REC)
Control Assign Buttons (PEDAL SWITCH, C1, C2)
Key Mode Buttons (WHOLE, DUAL, SPLIT)
Edit Buttons
(PATCH, TONE, MIDI, PARAM, VALUE, NAME)
Function Display
Recall Button
Upper/Lower Select (or Cursor Up/Down) Button
Copy Button
Write Button
Master Tune Button

Control Knobs and Switches

Bender Lever
Bend Range Selector
Voice Memory Selector
Control Assign
Aftertouch Fine Adjust
Volume

Display

32 characters, Fluorescent Indicator

Memory Cartridge Holder

Compatible with M-16C or M-64C

Roland JX-10 (Produced from 1986-1989)

Rear Panel

Mixed Output Jack
Parallel Output Jack x 4
Headphones Jack
Output Level Switch
Hold Pedal Jack
Control Assign Jack
MIDI Connector x 3
Programmer Connector
Protect Switch
Power Switch

Dimensions

1186(W) X 375(D) X 101(H) mm

Weight

14 kg / 30 lb 14 oz

Accessories

Connection Cord x 2
Memory Cartridge
M-16C x 1
M-64C x 1
Edit Map
Music Rest
Owner's Manual
MIDI Guide Book "MIDI"

OPTIONS

Programmer PG-800
Expression Pedal EV-5
Pedal Switch DP-6, DP-2
Memory Cartridge M-16C, M-64C
Carrying Case

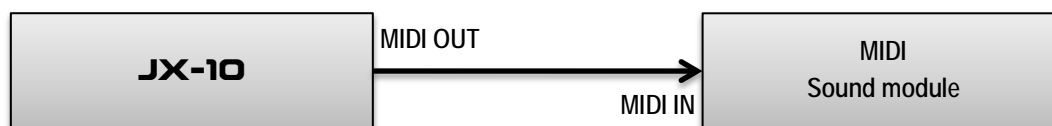
e. JX-10 Supplementary MIDI Explanation

JX-10 MIDI DATA Factory Preset

Patch Memory Factor		
No.	Factor Name	Value
61	UP MIDI CH SEND	OFF
62	LO MIDI CH SEND	OFF
63	UP Progr CHANGE SEND	OFF
64	LO Progr CHANGE SEND	OFF
65	UPPER VOLUME SEND	99
66	LOWER VOLUME SEND	99
67	MIDI KEY MODE	OFF
68	MIDI SPLIT POINT	C4

MIDI FUNCTION		
No.	Factor Name	Value
16	PATCH MEMORY CHANGE	1
21	SYSTEM EXCLUSIVE	ON
13	UPPER MIDI CHANNEL	1
14	LOWER MIDI CHANNEL	2
31, 41	U/L PATCH PROG CHANGE	OFF
32,42	AFTER TOUCH RECEIVE	ON
11, 12	UPPER/LOWER LOCAL	ON
33, 43	UPPER/LOWER BENDER	ON
34, 44	UPPER/LOWER MODULATION	ON
35, 45	UPPER/LOWER PORTAMENTO	ON
36, 46	UPPER/LOWER HOLD	ON
37, 47	UPPER/LOWER VOLUME	ON

1. Sending the Program Change to the MIDI Sound Module by changing Patch Memories on the JX-10.

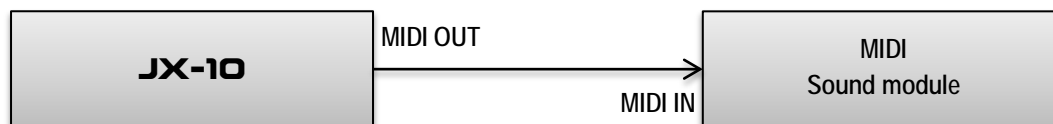


- MIDI Setting on the MIDI Sound Module**
 MIDI CHANNEL 1
 PROGRAM CHANGE ON

In this setting the Program Change Number which corresponds to the Bank and Number of the Patch Memory you have selected is sent on the MIDI CH 1 of the MIDI Sound Module

	Bank and Number of the JX-10		MIDI Program Change No. Which is sent
	(Bank)	(Number)	
INTERNAL	A	1	1
INTERNAL	H	8	64
CARTRIDGE	A	1	65
CARTRIDGE	H	8	128

2. Sending the Program Change to the MIDI Sound Module by changing Tone numbers on the JX-10.

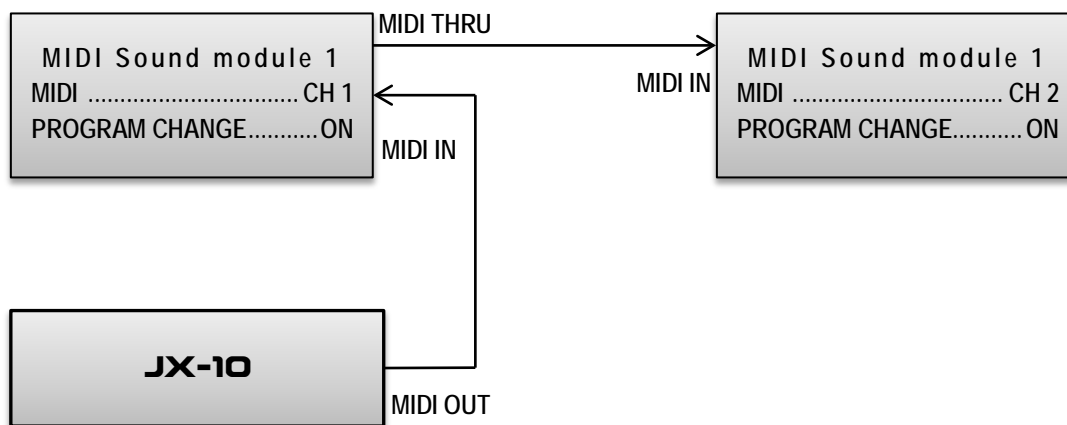


- MIDI Setting on the MIDI Sound Module**
 MIDI CHANNEL 1
 PROGRAM CHANGE ON
- MIDI Setting on the JX-10**
 [16 PATCH MEMORY OFF]
 [13 UPPER MIDI CH 1]
 [31 UP PROGRAM CHANGE..... ON]
 [41 LO PROGRAM CHANGE..... OFF]

In this setting, the Program Change number which corresponds to the Tone number of the Upper section you have selected is sent on the MIDI CH 1 of the MIDI Sound Module.

Tone number of the JX-10	MIDI Program Change number which is sent
1	1
50	50
100	100

3. Sending two different Program Change numbers separately to two MIDI Sound Modules by changing Patch Memories on the JX-10.



- MIDI Setting on the JX-10**
 [16 PATCH MEMORY OFF]
 [13 UPPER MIDI CH 1]
 [14 LOWER MIDI CH 2]
 [31 UP PROGRAM CHANGE..... ON]
 [41 LO PROGRAM CHANGE..... ON]

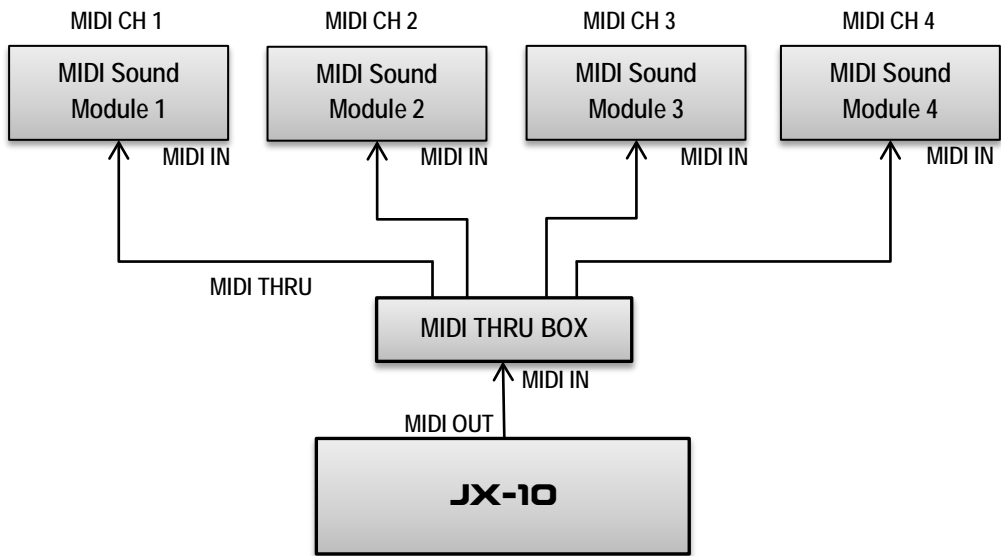
In this setting, the Program Change number which corresponds to the Tone number of the Upper section in the Patch Memory you have selected is sent on the MIDI CH 1 of the MIDI Sound Module 1. Likewise the Program Change number assigned to the Lower Tone number is sent on the MIDI CH 2 of the MIDI Sound Module 2. (only when the Factors 63 and 64 “PROGRAM CHANGE SEND”, of the Patch Memory are set to OFF).

How to assign the Program Change number to the Tone number is the same as described in “2” on [page 44](#).

The Factors 63 and 64 “PROGRAM CHANGE SEND” of the Patch Memory can be set separately to values from 1 to 128. The Upper and Lower Program Change numbers which you have set in Factors 63 and 64 are transmitted independently to each MIDI CH of the MIDI Sound Modules regardless of Program Change ON/OFF messages of the Upper and Lower sections in the MIDI functions.

TONE NUMBER		PROGRAM CHANGE SEND		PROGRAM CHANGE NUMBER	
31 UPPER	41 LOWER	63 UPPER	64 LOWER	UPPER	LOWER
1	2	OFF	OFF	1	2
1	2	3	4	3	4

4. MIDI CHANNEL SEND



- MIDI Setting on the JX-10**
 [13 UPPER MIDI CH1]
 [14 LOWER MIDI CH2]

In this setting, if the factors 61 and 62, "MIDI CH SEND" of a Patch Memory are set separately from the value 1 to 16, the transmitting MIDI Channels of the JX-10 are selected regardless of the Upper and Lower Channels which are set in Factors 13 and 14 (Upper/Lower Channel Send) in the MIDI functions section. If Factor 62 is set to OFF, the Lower CH in Factor 14 (Lower Channel Send) is selected.

(61 UPPER MIDI CH SEND)	(61 LOWER MIDI CH SEND)	Transmitting MIDI CH	
OFF	OFF	1	2
3	4	3	4
2	1	2	1
4	OFF	4	2

In this way, changing Patch Memories selects two of the MIDI Sound Modules to be used.

5. Relation between MIDI CH (transmitting) and Key Mode

[17 KEY MODE]	MIDI CH which sends Key messages
DUAL	Only the Upper MIDI CH.
T-VOICE	Only the Upper MIDI CH.
X-FADE	Only the Upper MIDI CH.
SPLIT	The Upper MIDI CH and the Lower MIDI CH at the set split point.
UP WHOLE	Only the Upper MIDI CH.
LO WHOLE	Only the Upper MIDI CH.

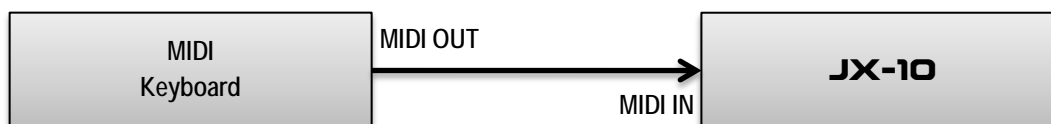
Note:
When the Patch Memory Factor 67 "MIDI KEY MODE" is set to OFF, MIDI CH which sends Key messages is selected with Factor 17 "KEY MODE".

[67 MIDI KEY MODE]	MIDI CH which sends Note On/Off messages
SPLIT	The Upper MIDI CH and the Lower MIDI CH that will vary depending on the setting of Factor 68, "MIDI SPLIT POINT".
UPPER	Only the Upper MIDI CH.
LOWER	Only the Lower MIDI CH.
LAYER	Both the Upper MIDI CH and the Lower MIDI CH's send the same Key messages simultaneously.

Note:
Factor 67, "MIDI KEY MODE"; SPLIT, UPPER, LOWER or LAYER determines the MIDI CH which sends Key messages regardless of the Key Mode of the JX-10.

6. Using the JX-10 as one MIDI Sound Module

a) To use the JX-10 as one MIDI Sound Module



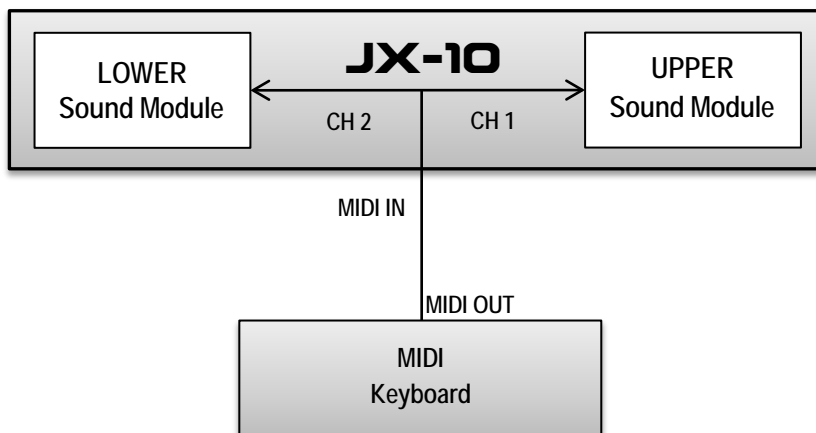
- **MIDI Setting on the MIDI Keyboard**
MIDI CHANNEL 1
PROGRAM CHANGE ON
- **Set the MIDI functions on the JX-10 as follows**
[16 PATCH MEMORY 1]
[13 UPPER MIDI CH 1]
[31 UP PROGRAM CHANGE..... OFF]
[14 LOWER MIDI CH 1]
[41 LO PROGRAM CHANGE..... OFF]

In this setting, Patch Memories of the JX-10 are changed by the Program Change messages transmitted from the external MIDI Keyboard.

Program Change number which is transmitted to the JX-10's MIDI IN	Patch Memory of the JX-10 which will change
1	INTERNAL A - 1
64	INTERNAL H - 8
65	CARTRIDGE A - 1
128	CARTRIDGE H - 8

Unless a Memory Cartridge (M-64C) which contains Patch Memories for the JX-10 is connected to the JX-10, Patch Memories which correspond to Program Change Numbers from 65 to 128 will not change.

b) To use the JX-10 as two MIDI Sound Modules



- **Set the MIDI Keyboard to the Split mode, then set the MIDI Function as follows:**

UPPER MIDI CHANNEL 1
 UPPER PROGRAM CHANGE ON
 LOWER MIDI CHANNEL 2
 LOWER PROGRAM CHANGE ON

- **Set the MIDI functions and Patch Memory Factors on the JX-10 as follows:**

MIDI FUNCTION
 [16 PATCH MEMORY OFF]
 [13 UPPER MIDI CH 1]
 [31 UP PROGRAM CHANGE ON]
 [14 LOWER MIDI CH 2]
 [41 LO PROGRAM CHANGE ON]

PITCH MEMORY FACTOR
 [17 KEY MODE SPLIT]

In the above setting, the Tone number of the Upper section will be .changed by the Program Change Number transmitted on the MIDI CH 1. Likewise, the Tone number of the Lower will be changed by the Program Change number transmitted on the CH 2. The JX-10 works as two 6-voice synthesizers.

Even if any of the Program Change Numbers from 101 to 128 is transmitted, the Tone Number will not change. It is because the JX-10 has the Tone numbers from 1 to 100.

7. Relation between Key Mode of the JX-10 and MIDI CH (receiving)

When using the JX-10 as MIDI Sound Module, the receiving MIDI Channels are set only in Factors 13 and 14 “MIDI CH”. The Patch Memory Factor 17, “KEY MODE” (located in the Patch parameter section), determines which channel will be selected; the Upper MIDI Channel, the Lower MIDI Channel or both the Upper and Lower Channels.

[17 KEY MODE]	Receiving MIDI CH
DUAL X-FADE T-VOICE UP WHOLE	The Upper MIDI CH is selected
LO WHOLE	The Lower MIDI CH is selected
SPLIT	The Upper MIDI CH and the Lower MIDI CH are selected separately

f. MKS-70 Addendum

Operating the arpeggiator in the MKS-70 isn't obvious.

Commands are selected via "shifted" mode.

Press the SHIFT button (shift LED will illuminate).

Once in SHIFT mode:

Select CHASE to enter arpeggiator menu

Select MTUNE to toggle arpeggiator ON or OFF

Select PATCH to toggle arpeggiator HOLD

When you are in the arpeggiator menu:

Selecting SHIFT takes you back to PLAY mode

Selecting CHASE takes you back to PLAY mode

Selecting MTUNE toggles arpeggiator ON or OFF

Selecting PATCH toggles arpeggiator HOLD

Since the MKS-70 doesn't have a keyboard, all instructions are sent to it via MIDI. From Firmware Version 3.14 an 8th parameter was added: MIDI. This can be added to each arpeggiator patch.

Possible values for this parameter are: MIDI or MIDI+OUT.

Essentially what this means is: "*Where the notes are taken from*" (Keyboard, MIDI or both), and if arpeggiated, notes go to MIDI out (+OUT in the string).

All other commands are similar to the JX-10

Extra JX-10 options with Firmware version 3.14 (or 4.08)

The JX-10 also gets the extra (8th) parameter with this version.

On the JX-10, however, there are a few more options: KEYBOARD, MIDI, ALL, KEYB+OUT, MIDI+OUT, ALL+OUT.

Explanation for these options are as the MKS-70 ("*Where the notes are taken from*" – see above).

g. Firmware Release Notes – Vecoven Upgrades

The current released versions are described here, with a list of changes.

Note: *If any erratic behaviour is noticed after an upgrade it's likely that you didn't perform the RESET procedure. [See page 40](#) for instructions.*

"Roland" version (standard electronics – program ROM change only)

3.00

- Initial release.

3.01

- Bug fix [JX10 only] : the cartridge/internal switch was not read at boot time, so if the switch was on cartridge, and a patch is loaded, the patch would be loaded from internal memory. Workaround: toggle the switch back to internal then back to cartridge.

3.02

- MIDI CC (control change) support. This adds two new MIDI setting menus “SYSEX IPR” and “TONE CC”. All tone parameters can now be control with MIDI cc messages and/or sysex ipr messages.
- Bug fix : sysex IPR sent to tone-A or tone-B are properly received on the assigner and modify the tone settings. However, under some circumstances, the update of the parameter could be sent to the wrong sound board (in SPLIT or DUAL modes). The parameter is sent to the lastly accessed sound board.

3.03

- Support to edit both tones at the same time using C1/C2 (JX10 only) and/or from MIDI CC (JX10 and MKS70).

3.04

- MKS70: support filtering notes on/off by ODD or EVEN values, to allow using 2 MKS70 in parallel. No JX10 change.

3.05

- Add support for “big” cartridge (16 banks cartridge). This support is transparent and doesn't affect any other functionality. The only visible change is a new menu entry under the write section, to allow to directly copy a bank to another.

3.06

- Better handling of the internal/cartridge switch on the JX10 (when writing voice/tone, the default value could not reflect the position of the switch).

3.07

- Edit tone/patch parameters done though sysex/pg800/cc : now remember the menu number (if displaying the modified param is ON).

3.08

- Support for the WRITE button on the PG800. The button was previously ignored (by purpose, because there is no confirmation dialog), but has now been enabled due to a few demands.

3.09

- Bug fix: in some circumstances, the arpeggiator could have a stuck note (only in legato mode).

3.10

- Bug fix (JX10 only) : patch parameter "MIDI key mode", when mode is UPPER or LOWER, is considered as LAYER.

3.11

- Added support for the GU280 display modification by Guy Wilkinson. This is a neat modification. Go to: <https://supersynthprojects.com/super-jx-display-replacement/> for details.

NOTE: We have identified a bug in this new GU280 enabled ROM code. Sometimes users with 3.11 onwards (and no GU280 display) will find that the standard display is messed up when booting. Present workaround is to press the ENTER key when booting. This sets GU280 code to OFF and resets the display. Bug fixed post V3.14. Also see V3.12 below.

3.12

- GU280 display is turned off by default after upgrading. You must go to the menu to turn it on, even if the menu says it's already on (reason: this confused people who don't have the GU280).

3.13

Fixed a regression introduced in 3.11. The tone HPF parameter is displayed using GATE/ENV2 instead of 0/1/2/3. This is cosmetic only, so if you turn the alpha-dial, the parameter will be set to 0, 1, 2 and 3, but it won't be displayed correctly.

3.14

- Arpeggiator support for MKS70. 8th Parameter added: MIDI. [See MIDI section](#) for details.
- Unison and Mono key assign modes are now supported in A-WHOLE and B-WHOLE mode.
- JX10: recall mode requires pressing the recall button (going left/right twice is now disabled).

3.15

- Bug fix: GU280 display bug fixed (See 3.11 / 3.12).

"PWM" version (Upgrade of the internal electronics is necessary to add PWM boards)

4.00

- PWM initial release. 4.00 contains everything from 3.08 + support for the PWM daughter board. **YOU NEED THE PWM KIT TO RUN THIS VERSION.** Upgrading is straightforward: the new code understands the old tone format, but you cannot go back (the new format is not compatible with the previous tones). Before upgrading to 4.00, make sure that you dump all your patches/tones.

4.01

- Bug fix: in some circumstances, the arpeggiator could have a stuck note (only in legato mode).

4.02

- Bug fix: when converting Roland tones into 'pwm' tones, the LFO waveform could be wrong. Specifically, random and square are swapped.

4.03

- Bug fix: Editing both tones simultaneously with MIDI CC was done incorrectly (3.x not affected).

4.04

- Bug fix (JX10 only) : patch parameter "MIDI key mode", when mode is UPPER or LOWER, is considered as LAYER.

4.05

- Added support for GU280 display (see 3.11 above for details).

4.06

- GU280 display is turned off by default after upgrading. You must go to the menu to turn it on, even if the menu says it's already on (reason: this confused people who don't have the GU280).

4.07

- The Roland PULS (now used to create real PWM) is back! If you set PWM WIDTH to 00, the old Roland method of generating a pulse (by overdriving the ramp generator) is used, instead of the pwm daughter board. The change is IMHO not audible (or very subtle). But, this allows to install 4.07 without the PWM daughter boards (you still have to update the 8031 cpu to a DS80C320 and use 4.01 sound board eproms).

4.08

- Arpeggiator support for MKS70
- Unison and Mono key assign modes are now supported in A-WHOLE an B-WHOLE mode.

4.09

- Bug fix: GU280 display bug fixed ([See 3.11 / 3.12](#) for explanation).

ROLAND – VECOVEN MIDI ASSIGNMENT CHANGES

Original Roland MIDI parameter assignment numbers are different to those in Vecoven Firmware.
The following charts show the new assignments:

	Vecoven Firmware 3.07	Roland Original JX-10
Parameter	MIDI Parameter No:	MIDI Parameter No:
Upper Local	11	23
Lower Local	12	33
Upper Channel	13	20
Lower Channel	14	30
Control Channel	15	13
Patch Prog Change	16	16
Tone CC	17	-
Sysex On/Off	21	14
Sysex APR	22	15
Sysex IPR	23	-
Realtime	24	17
Upper Program Change	31	22
Upper Aftertouch	32	23
Upper Bender	33	24
Upper Modulation	34	25
Upper Portamento	35	26
Upper Hold	36	27
Upper MIDI Volume	37	28
Lower Program Change	41	32
Lower Aftertouch	42	33
Lower Bender	43	34
Lower Modulation	44	35
Lower Portamento	45	36
Lower Hold	46	37
Lower MIDI Volume	47	38
Compatibility	51	41
Edit Display	52	41
C1/C2 Tone Edit	53	41

Patch/Tone Edit Parameters	Actual Parameter No:
UP MIDI CH SEND	61
LO MIDI CH SEND	62
UP PROG CHANGE SEND	63
LO PROG CHANGE SEND	64
UP VOLUME SEND	65
LO VOLUME SEND	66
MIDI SEND KEY MODE	67
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SECTION 8 - SUPER JX SOUND CHARTS

	1		2		3		4		5		6		7		8	
A	ELECTRIC PIANO 1		BACK and FORTH CHASE		VOICES		AFRICAN MALLET		IS THIS FAT		BREATHING BRASS		LOW STRINGS PAD		DCO WAVE 1	
	83	PIANO 4	49	BACK-SAW	11	VOICES HISS	27	MARIMBA B	74	GOWESTBRS2	1	HORNZ 1	88	STRINGS 1	14	WAVEOLA 2
	39	HARMO 1	41	SHORT SAW 1	10	VOICES A	44	TICK 2	74	GOWESTBRS2	76	POLY BRASS	56	LO STRINGS	32	TABLE 1
B	CHORUSED PIANO		METAL CHASE		EUPHONIUM CHOIR		METAL ON WOOD		OBESE FIFTHS		SLOW BRASS		ORCHESTRATED FLUTE		TIBETAN BELLS	
	52	E.GRAND 1	20	E/PIANO 1	90	CHOIR	92	MARIMBA	4	FAT FIFTH	7	S/BRASS B	69	FLUTE 1	63	MUSIC BOX
	83	PIANO 4	77	GAMELANET	1	HORNZ 1	45	TICK 3	46	TICK 4	6	S/BRASS A	88	STRINGS 1	64	WINDCHIMES
C	METALLIC E. PIANO		SLAPBACK PAD		HOLLOW VOICES		STEEL DRUM BAND		POLY SYNTH		STAB BRASS 8VA		BOWED STRINGS		SYNTH BELLS	
	82	PERKEPIANO	51	PIANO 1	100	GOWESTVOX	62	DRYSTLDRUM	73	POLY SYNTH 2	74	GOWESTBAS2	55	ARCO STRNG	94	SYNTHBELL 2
	43	RESO-TINK 6	70	FRETNOT 1	68	HOLLOW PAD	36	REELSTEEL	76	POLY BRASS	75	GOWESTBAS1	55	ARCO STRNG	40	RESO-TINK 2
D	JAZZ ORGAN		DANCING FLUTES		SOUNDTRACK		CELESTE		BIG DIGITAL		SAMPLE BRASS		REVERB STRINGS		HAND BELL CHOIR	
	58	BEE THREE	69	FLUTE-1	56	LO STRINGS	78	CELESTE 2	16	RASPWAVE 1	11	VOICE HISS	9	R/STRING B	96	VIBES
	38	ORGAN PERC	69	FLUTE-1	67	SOUNDTRACK	43	RESO-TINK 6	48	WAVE-TINK 3	3	MELLOW BRS	8	R/STRING A	39	HARMO 1
E	ELECTRIC PIANO 2		BACKWARDS PAN L>R		CALIOPE		CLOCK VIBES		CATHEDRAL ORGAN		HORN SECTION		CELLO ORCHESTR		DCO WAVE 2	
	29	TINES B	49	BACK SAW	33	BREATH	95	XMAS BELLS	61	PIPE ORGAN	5	SAXOPHONES	54	CELLO SECT	15	WAVEOLA 3
	28	RHODES A	70	FRET NOT 1	60	CALIOPE	43	RESO-TINK 6	61	PIPE ORGAN	2	HORNS 2	88	STRINGS 1	47	WAVE-TINK 2
F	METALLIC E. PIANO 2		SYNTH BASS/PAD		MELLOW PAD		STICK VIBES		TOUCH POLY SYNTH		WINDY FLUTE		SLOW HIGH STRINGS		DCO WAVE 3	
	83	PIANO 4	12	PAD 1	3	MELLOW BRS	24	VIBE TINK	17	TOUCH POLY	33	BREATH	89	STRINGS 2	14	WAVEOLA 2
	79	AGOGO BELL	66	SYNTH BASS	3	MELLOW BRS	23	VIBISH A	17	TOUCH POLY	69	FLUTE 1	57	HI STRINGS	50	TOYZ-TINK 1
G	ROCK ORGAN		E.BASS/E.PIANO		SYNC PAD		BOTTLE MARIMBA		SYNTH SOLO		WOOD MALLET		SLOW HUGE STRINGS		DCO WAVE 4	
	58	BEE THREE	83	PIANO 4	19	SYNC SOLO 1	26	ATTACK 1	18	SYNTHLEAD 1	37	LOG-DRUM A	89	STRINGS 2	13	WAVEOLA 1
	59	ORGAN 1	65	E. BASS	19	SYNC SOLO 1	27	MARIMBA A	18	SYNTHLEAD 1	26	ATTACK 1	57	HI STRINGS	32	TABLE 1
H	ACOUSTIC PIANO		SYNTH BASS/CLAV		STRING/HORN X-FADE		XYLOPHONE		SYNC SOLO		MAY'S PAD		STICK BELLS		HIGH TINEY PIANO	
	22	PIANO 1-B	30	FUNK CLAV 1	1	HORNZ 1	26	ATTACK 1	19	SYNC SOLO 1	91	MAY'S WIND	35	STICKY 1	53	PIANO 3
	21	PIANO 1-A	66	SYNTH BASS	88	STRINGS 1	25	MARIMBA A	19	SYNC SOLO 1	57	SOUNDTRACK	34	BELLS A	42	RESO-TINK 4

	0	1	2	3	4	5	6	7	8	9
00		HORNS 1	HORNS 2	MELLOW BRS	FAT FIFTH	SAXOPHONES	S/BRASS A	S/BRASS B	R/STRINGS A	R/STRINGS B
10	VOICES A	VOICES HISS	PAD 1	WAVEOLA 1	WAVEOLA 2	WAVEOLA 3	RASPWAVE 1	TOUCH POLY	SYNTH LEAD 1	SYNC SOLO 1
20	E/PIANO 1	PIANO 1-A	PIANO 1-B	VIBISH A	VIBE TINK	MARIMBA A	ATTACK 1	MARIMBA B	RHODES A	TINES B
30	FUNK CLAV 1	WAVE TINK 1	TABLE 1	BREATH	BELLS A	STICKY	REEL STEEL 1	LOG-DRUM A	ORGAN PERC	HARMO 1
40	RESO TINK 2	SHORT SAW	RESO TINK 4	RESO TINK 6	TICK 2	TICK 3	TICK 4	WAVE-TINK 2	WAVE-TINK3	BACK SAW
50	TOYZ-TINK 1	PIANO 1	<i>E.GRAND 1</i>	<i>PIANO 3</i>	<i>CELLO SECT</i>	<i>ARCO STRNG</i>	<i>LO STRINGS</i>	<i>HI STRINGS</i>	<i>BEE-THREE</i>	<i>ORGAN 1</i>
60	<i>CALIOPE</i>	<i>PIPE ORGAN</i>	<i>DRYSTLDRUM</i>	<i>MUSIC BOX</i>	<i>WINDCHIMES</i>	<i>E.BASS</i>	<i>SYNTH BASS</i>	<i>SOUNDTRACK</i>	<i>HOLLOW PAD</i>	<i>FLUTE 1</i>
70	<i>FRENOT 1</i>	<i>BIG OL PAD</i>	<i>STAB BRASS 2</i>	<i>POLYSYNTH 2</i>	<i>GOWESTBRS</i>	<i>GOWESTBRS1</i>	<i>POLY BRASS</i>	<i>GAMELANET</i>	<i>CLESTE 2</i>	<i>AGOGO BELL</i>
80	<i>SYNDULCIMR</i>	<i>GUJARCLAV</i>	<i>PERKPIANO</i>	<i>PIANO 4</i>	<i>SYNC LEAD</i>	<i>SEQ 1</i>	<i>RECORDERS</i>	<i>BRIGHT BOW</i>	<i>STRINGS 1</i>	<i>STRINGS 2</i>
90	<i>CHOIR</i>	<i>MAY'S WIND</i>	<i>MARIMBA</i>	<i>METALLET</i>	<i>SYNTHBELL 2</i>	<i>XMAS BELLS</i>	<i>VIBES</i>	<i>CHURCHBELL</i>	<i>RES BELL</i>	<i>KALIMBA 2</i>
100	<i>GOWESTVOX</i>	1 – 50 User Tones; 51 – 100 Preset Tones								

	0	1	2	3	4	5	6	7	8	9
00		HORNS 1	HORNS 2	MELLOW BRS	FAT FIFTH	SAXOPHONES	S/BRASS A	S/BRASS B	R/STRINGS A	R/STRINGS B
10	VOICES A	<i>VOICES B</i>	PAD 1	WAVEOLA 1	WAVEOLA 2	WAVEOLA 3	RASPWAVE 1	TOUCH POLY	SYNTH LEAD 1	SYNC SOLO 1
20	E/PIANO 1	PIANO 1-A	PIANO 1-B	VIBISH A	VIBE TINK	MARIMBA A	ATTACK 1	MARIMBA B	RHODES A	TINES B
30	FUNK CLAV 1	WAVE TINK 1	TABLE 1	BREATH	BELLS A	STICKY	REEL STEEL 1	LOG-DRUM A	ORGAN PERC	HARMO 1
40	RESO TINK 2	SHORT SAW	RESO TINK 4	RESO TINK 6	TICK 2	TICK 3	TICK 4	WAVE-TINK 2	WAVE-TINK3	BACK SAW
50	TOYZ-TINK 1	PIANO 1	<i>E.GRAND 1</i>	<i>PIANO 3</i>	<i>CELLO SECT</i>	<i>ARCO STRNG</i>	<i>LO STRINGS</i>	<i>HI STRINGS</i>	<i>BEE-THREE</i>	<i>ORGAN 1</i>
60	<i>CALIOPE</i>	<i>PIPE ORGAN</i>	<i>DRYSTLDRUM</i>	<i>MUSIC BOX</i>	<i>WINDCHIMES</i>	<i>E.BASS</i>	<i>SYNTH BASS</i>	<i>SOUNDTRACK</i>	<i>HOLLOW PAD</i>	<i>FLUTE 1</i>
70	<i>FRENOT 1</i>	<i>BIG OL PAD</i>	<i>STAB BRASS 2</i>	<i>POLYSYNTH 2</i>	<i>GOWESTBRS</i>	<i>GOWESTBRS1</i>	<i>POLY BRASS</i>	<i>GAMELANET</i>	<i>CLESTE 2</i>	<i>AGOGO BELL</i>
80	<i>SYNDULCIMR</i>	<i>GUJARCLAV</i>	<i>PERKPIANO</i>	<i>PIANO 4</i>	<i>SYNC LEAD</i>	<i>SEQ 1</i>	<i>RECORDERS</i>	<i>BRIGHT BOW</i>	<i>STRINGS 1</i>	<i>STRINGS 2</i>
90	<i>CHOIR</i>	<i>MAY'S WIND</i>	<i>MARIMBA</i>	<i>METALLET</i>	<i>SYNTHBELL 2</i>	<i>XMAS BELLS</i>	<i>VIBES</i>	<i>CHURCHBELL</i>	<i>RES BELL</i>	<i>KALIMBA 2</i>
100	<i>GOWESTVOX</i>	1 – 50 User Tones; 51 – 100 Preset Tones								

Section 9 - CREDITS

Without help from contributors and beta testers, this manual would never have been written. It is an important document and we hope that everyone gets maximum use from it. The JX-10 MIDI implementation has been completely re-written following great work done by Fred Vecoven (<http://www.vecoven.com>) to bring the JX-10 operationally where it deserves to be. Several new features have also been added and work is ongoing to improve operation further.

Initial manual input (2014) provided from wavesequenc@gmail.com with assistance and input from coolveco and quavermass.

Editing and recent layout changes:

To Version 3.20 :

Oct 2016 - Gary Ashton, Malta – (garyjashton@outlook.com)

Complete overhaul of manual. Cleaned up English to make sections easier to read, added MIDI comparison charts, corrected bad graphics, added other useful information and corrected all MIDI assignments for Vecoven Firmware.

Added index and new section numbering system.

To Version 3.21 :

Nov 2016 - Gary Ashton, Malta – (garyjashton@outlook.com)

Added missing additions used in latest firmware versions and other comments from Fred.

This manual has been diligently checked for errors. However please report any errors or omissions you may find to:

Fred at: frederick@vecoven.com

or

Gary at: garyjashton@outlook.com

Useful Links:

<http://super-jx.com/> - Loads of goodies for the JX-10 and MKS-70 and more...

<https://supersynthprojects.com/super-jx-display-replacement/> - Extra Modifications for the JX-10.

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