Roland

PROGRAMMABLE PRESET POLYPHONIC SYNTHESIZER

JX-3P

OWNER'S MANUAL

JX-3P

PROGRAMMABLE PRESET POLYPHONIC SYNTHESIZER

FEATURES

- **The Roland JX-3P is a preset type, 6 voice polyphonic synthesizer.**
- 32 kinds of pre-programmed patches are ready to be used simply by pressing the buttons.
- By setting up the optional programmer PG-200 to this JX-3P, 32 more patches can be synthesized and written into memory. It is also possible to temporarily edit any program in memory.
- The built-in polyphonic sequencer that allows up to 128 automatic playing.
- You can save the patch programs and sequencer data into an ordinary tape recorder.
- Its sound source DCO (Digitally Controlled Oscillator) generates an extremely stable pitch. Moreover, its Dual DCO system (6 voices – 12 DCO's) enables the user to obtain a rich and realistic sound, synchro tone and metalic sound.
- This is the complete 6 voice synthesizer provided with 6 VCF's, 6 VCA's and 6 ENV's.
- The built-in chorus effect makes expansive sounds available.
- Transposition to any key is possible by the Transpose function.
- Battery back up system to retain the programs even when switched off.
- The JX-3P can be set up with any sequencer or synthesizer if it is provided with the MIDI BUS connector.

Contents

1. Important Notes

Power Supply

- The appropriate power supply for this unit is shown on its name plate. Please make sure that the voltage system in your country meets that.
- When setting up the JX-3P with an external amplifier, turn both of them off and plug in the JX-3P first, then the amplifier.
- This unit might not work properly if turned on immediately after turned off. If this happens, simply turn it off again and turn it on a few seconds later.
- This unit might get hot while operating, but there is no need to worry about it.

Location

- Operating the JX-3P near a neon or fluorescent lamp may cause noise interference. If so, change the angle of the JX-3P.
- Avoid using the JX-3P in excessive heat or humidity or where it may be affected by direct sunlight or dust.

Cleaning

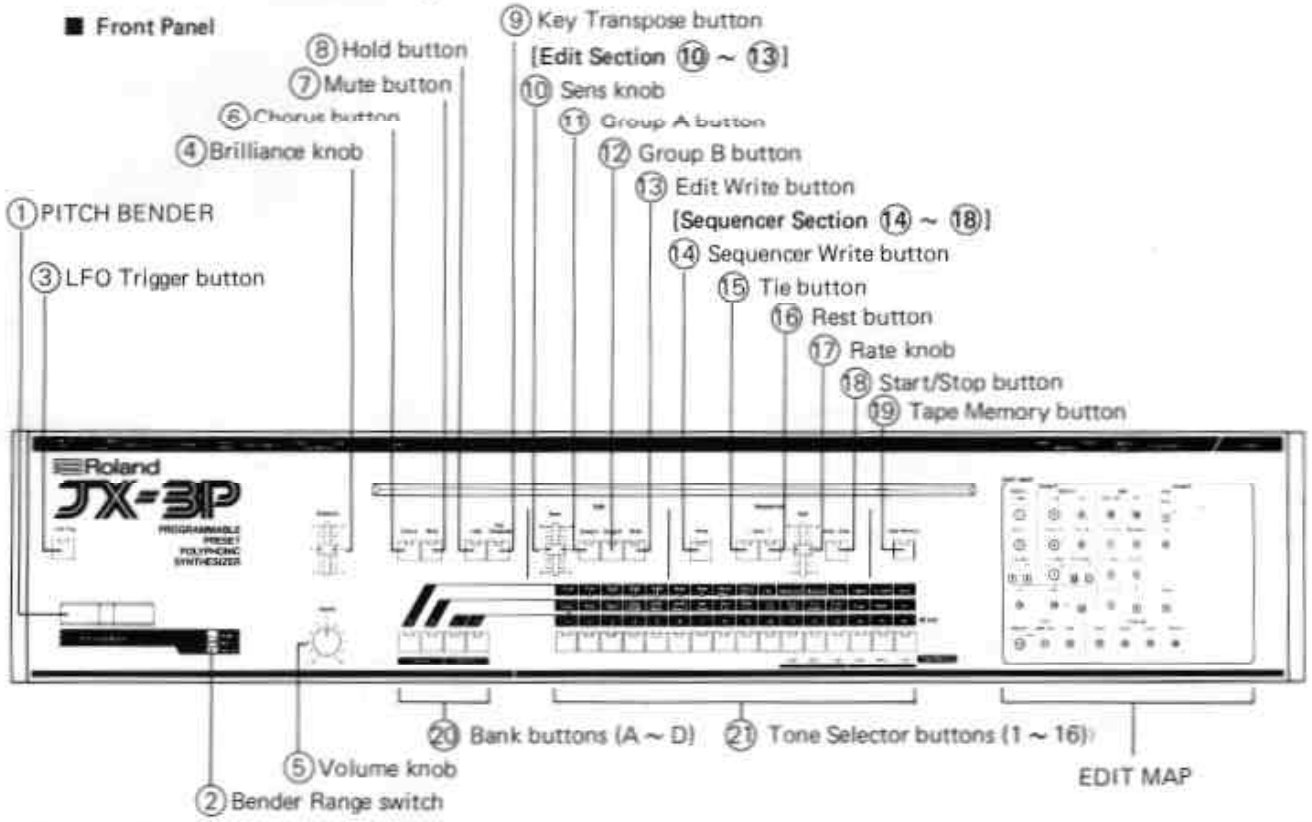
- Use a soft cloth and clean only with a neutral detergent.
- Do not use solvents such as paint thinner.

Repairing

- Save the necessary data before having the JX-3P repaired.

2. Control Description

■ Front Panel



3. Basic Connections

■ Rear Panel

㉓ Ext. Selector switch

Normally, this is set to the Memory Protect On position. Otherwise, the Memory Protect function does not work.

Tune

This is used to tune the pitch with the external musical instrument (at its center position A = 442Hz, variable range = ±1/4 tone).

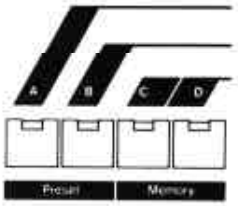
㉒ Power switch

Stereo Headphones RH-10

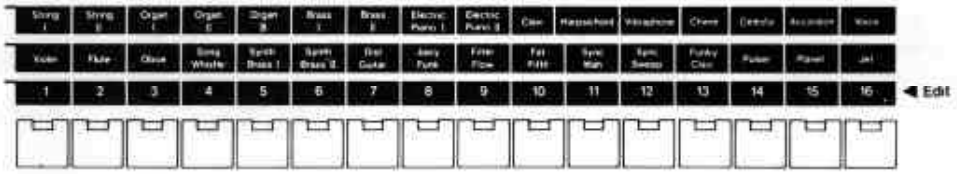
Keyboard	M/H
Audio Amplifier	H
Recording Equipment	H
PA Mixer	L/M/H
Guitar Amplifier	L/M

4. Preset Section

⑳ Bank buttons (A ~ D)

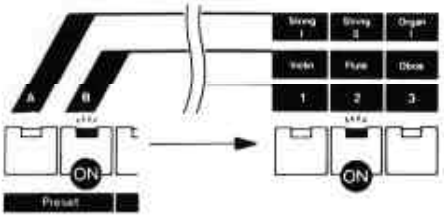


㉑ Tone Selector buttons (1 ~ 16)



32 different patches are pre-programmed in the JX-3P. The 16 patches in the upper row (green part) of the panel are programmed in Bank A, and the lower (blue part) in Bank B. When selecting a patch, press the Bank button (A or B) first, then Tone Selector button (1 ~ 16).

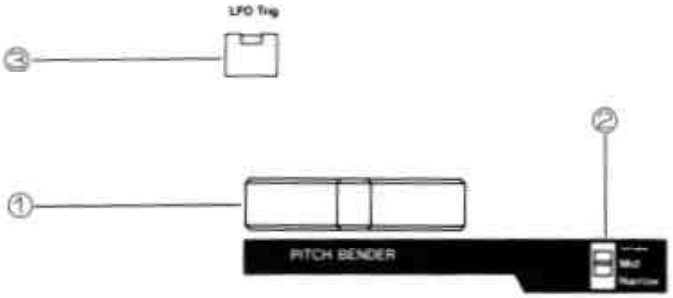
[e.g.] Flute



* You can select only one patch at a time.

* Banks C and D are for you to write your own synthesized sounds, etc. In this case, you need to set up the Programmer PG-200.

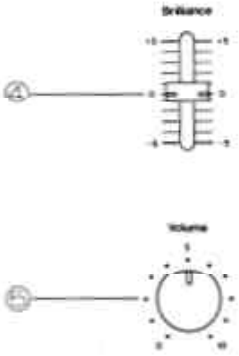
5. Performance Control Section

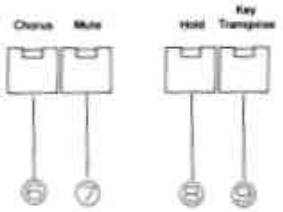


①PITCH BENDER
This allows you to change the pitch of the DCO. By bending this in either direction, you can add a special expression to your performance. This function, however, has no effect on the sequencer sounds.

②Bend Range switch
This sets the maximum effect of the Bender.
- Wide..... Maximum effect is perfect 5th higher or lower.
- Mid ..... Maximum effect is major 3rd higher or lower.
- Narrow ..... Maximum effect is major 2nd higher or lower.

③LFO Trigger button
Hold this button down to obtain a vibrato effect, and release it to stop the effect. This can be applied to the sequencer playing.
* There are some patches in which you cannot obtain a vibrato effect by pressing this button.





④Brilliance knob
A brighter tone color will be obtained by raising this knob, and mellower tone color by lowering it.

⑤Volume knob

⑥Chorus button
Press this button to turn the chorus effect on (the indicator lights up), and press it again to turn it off.

⑦Mute button
If you press this button, the volume of the lower two octaves from the split mark (blank on the red line) on the Front Panel will be decreased. The chord will sound low, and the melody will be emphasized. Each time you press this button, the function is turned on or off.

(8) Hold button

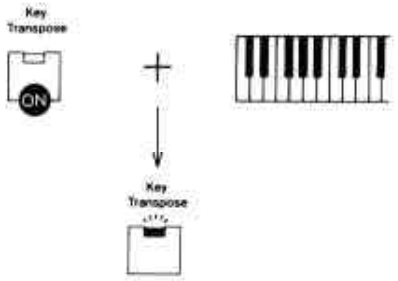
By pressing this button (the indicator lights up), the Hold function is available, so even after a key is released, the sound maintains. The sound level is determined by the sustain level set with the Sustain knob in the Envelope Generator. This hold function is not obtained if the sustain level is set to zero (decay sound). Each time you press the button, the hold function turns on or off (→ P.28).

(9) Key Transpose button

Transposition to any key is possible. By using the appropriate key, you can shift the pitch of the entire keyboard. Therefore, you can play a piece with many ♯'s and ♭'s in the key of C major (A minor).

*** How to transpose**

While holding the Key Transpose button down, press any key in any octave. If the indicator above lights up, transposition is completed and the JX-3P will now play in the key of the chosen note.



*** How to return to the normal key (C key)**

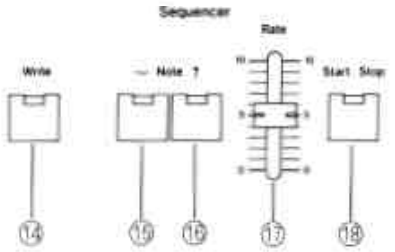
While holding the Key Transpose button down, press any C note, and the indicator will go out and the JX-3P has returned to the normal condition (the key of C).

* This transpose function is also available for the sequencer. (You can transpose the sequencer phrase being played.)

6. Sequencer

The JX-3P contains the polyphonic sequencer that has the capacity of 128 step automatic playing. Up to 6 notes can be played at a time. Also, writing a chord is possible.

* If more than 6 notes are used in one step, the last 6 notes will be played.



⑭ Sequencer Write button
Press this button to write the data into the built-in sequencer.

⑮ Tie button
If you wish to join notes, press this button.

⑯ Rest button
If you wish to write rests, press this button.

⑰ Rate knob
This controls the tempo of the sequencer playing. Raising this knob quicken the tempo.

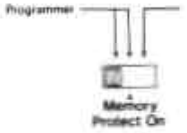
⑱ Start/Stop button
This is to start or stop the sequencer playing. Each time you press this button, the Sequencer starts or stops.

A) Writing

You can write the pitch by playing the keybord, and the rhythm by pressing the Tie button ⑮ and the Rest button ⑯. (The pitch and rhythm should be simultaneously written.)

(1)Find the shortest time value in the phrase you wish to write. Then divide the longer time values by that shortest one.
[e.g.]

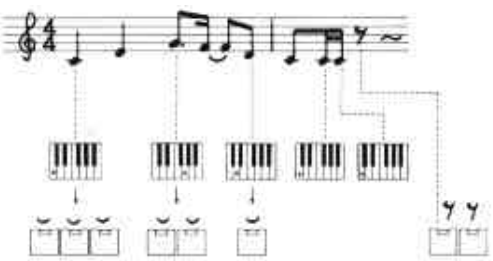
(2)Set the Ext. Selector switch ㉓ on the rear panel to Programmer, then the Memory Protect function will be off.



(3)Press the Sequencer Write button ⑭ (the indicator lights up), then the JX-3P will be in the writing mode.

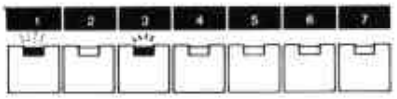
* At this time, if the JX-3P is not released from the Memory Protect function, the indicators of the Tone Selector buttons 1 to 10 will light up showing that writing is impossible. Also, if the Ext. Selector switch ㉓ is set to the MIDI position, the JX-3P is not in the writing mode.

(4)By playing the keyboard and using the Tie button ⑮ and Rest button ⑯, write steps by one after another (the indicators of the Tie and the Rest buttons light up just while these buttons are held down).



Also, the indicators of the Tone Selector buttons (21) tell you the steps (1 to 16) and the measures (1 to 8) that you are writing. (The flashing indicator shows the measure and the lighting one the step.)

[e.g.] Writing the 3rd step in the 1st measure



*No matter how you play the keyboard, the time values will all turn out the same (the shortest time value). It is important to play in a non legato manner (i.e. releasing the key each time you play a key). If you play in a legato manner (i.e. pressing another key without releasing the key that you are pressing now), a chord will be written as shown below.

*This applies to the Tie and the Rest buttons as well. i.e. releasing the key, then pressing the button.

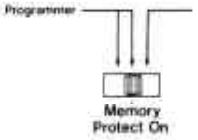
* 𝄾 (eighth rest) is indicated above the Rest button on the panel, but it varies depending on the shortest time value you set. In the example, the shortest time value is 𝅘𝅥𝅯 (1/16 note), so the value of the Rest button will be 𝄿 (sixteenth rest).

(5)If writing is completed, press the Start/Stop button (18) to leave the writing mode (the indicator of the Sequencer Write button (14) will go out and that of the Start/Stop button will light up). At this time, the phrase written will start playing. If pressing the Start/Stop button once more, the indicator will go out and the sequencer will stop (→ Refer to **B) Playing).**

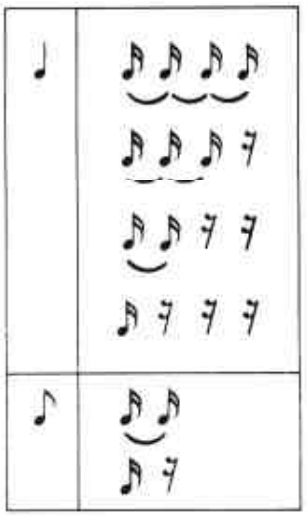
*If you wish to stop writing in the middle, press the Start/Stop button twice.

If you press the Sequencer Write button (14) again after this, all the data previously written will be erased.

(6)Return the Ext. Selector switch to the Memory Protect On position.



When the shortest time value is 𝅘𝅥𝅯 (1/16 note), ♩ (1/4 note) and ♪ (1/8 note) can be replaced as follows.



If 𝅘𝅥𝅯 is 1 step, ♪ is 2 steps and ♩ is 4 steps. Also, the rests will be counted just like the notes (𝄿 = 1 step, 𝄾 = 2 steps, 𝄽 = 4 steps). The maximum capacity of this sequencer is 128 steps, and as soon as all the 128 steps are used up, writing will automatically stop (the indicator of the Sequencer Write button (14) will go out), and writing steps is no longer possible.

B) Playing

If you press the Start/Stop button (18), the indicator will light up and the data written into the sequencer will be played. When all the notes are played, the data will return to the beginning and played again. Pressing the Start/Stop button once more (its indicator will go out) will stop playing. The tempo of the data is adjusted with the Rate knob (17).

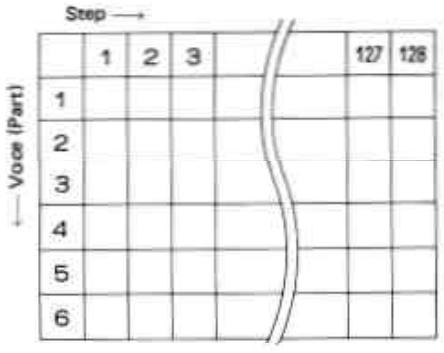
* If you stop the data in the middle and start again, the data will be played from the right beginning.
* If you wish to play the data only once, write some rests in the end of the data, so that it is easier to stop the data in the right place.
* The indicators of the Tone Selector buttons tell you the step and the measure of the data being played. Simply press the Start/Stop button while holding the Rest button down.
* Pressing the Mute button (7) (its indicator will light up) will decrease the volume of the sequencer. In this case, the keyboard is not splited (Refer to →P.6).

[Keyboard Playing with the sequence]
The JX-3P generates up to 6 notes (voices) at a time. For instance, if 4 notes are played in the sequencer, 2 notes are left available on the keyboard. If altogether more than 6 notes are played on the keyboard and in the sequencer, the notes exceeded will be lost. Also, if you play the same notes as the sequencer's, those notes are stacked and sound richer (unison effect).

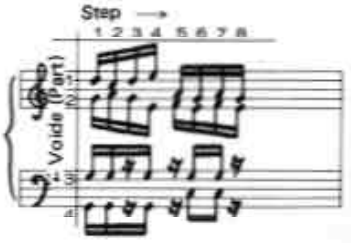
[Synchronization]
The built-in sequencer of the JX-3P can be synchronized with an external rhythm machine, sequencer, etc. In this case, all you need to write in the built-in sequencer is the pitch.

C) Applications

[1] Overdubbing
It is possible to write a new phrase over the phrase previously written. You can write up to 128 steps altogether and up to 6 notes in each step.



(1) Find the shortest time value in the phrase you wish to write. Then divide the longer time values with the shortest one. The example below is the 4 voice phrase having the ♪ (1/16 note) as its shortest time value.



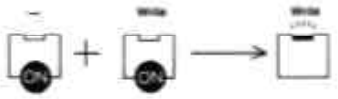
Step →

↓ Voice	1	2	3	4	5	6	7	8
1	D	C	D	E	A	G	A	G
2	G	A	G	E	F	E	F	E
3	G	G	𝄾	G	𝄾	G	G	𝄾
4	G	G	𝄾	G	𝄾	C	C	𝄾

(2)Write one of these voices as instructed in "A) Writing (2) to (5)". Then write the rest of the voices one by one.

– The following is the overdubbing procedures. –

(3)Turn the JX-3P to the overdubbing mode by pressing the Sequencer Write button ⑭ while holding the Tie button ⑮ down.



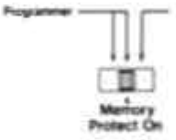
(4)Write the next part (voice).

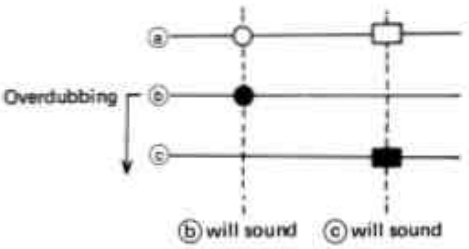
(5)If writing is completed, leave the overdubbing mode by pressing the Start/Stop button, and the written part will be played. Pressing the Start/Stop button once again stops the sequencer.

(6)Repeat the same procedures (3) to (5) and write the rest of the voices.

*When the JX-3P is in the overdubbing mode, you can listen to the part previously written even while writing a new part. It, however, is also possible to hear only the part which you are actually writing, by pressing the Mute button ⑦ (The indicator will go out).

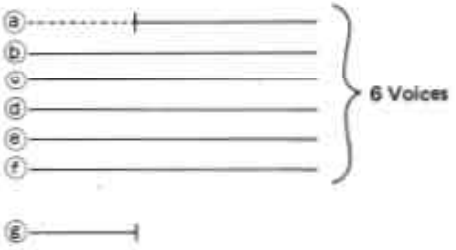
(7)Return the Ext. Selector switch to the Memory Protect On position.





Also, if more than 7 notes (voices) are written, the last 6 notes will stay.

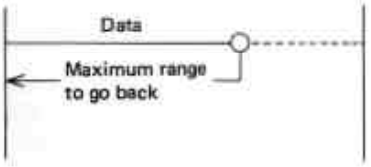
[e.g.] Writing the seventh voice will erase the 1st part.



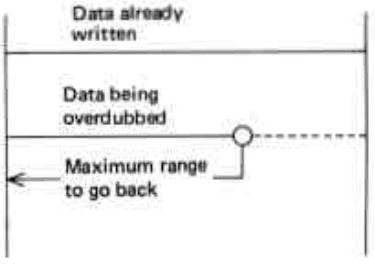
[2] Edit

You can edit the data by pressing the Sequencer Write button ⑭ during writing.

Each time you press the Sequencer Write button ⑭, one step goes back and it is erased at the same time.

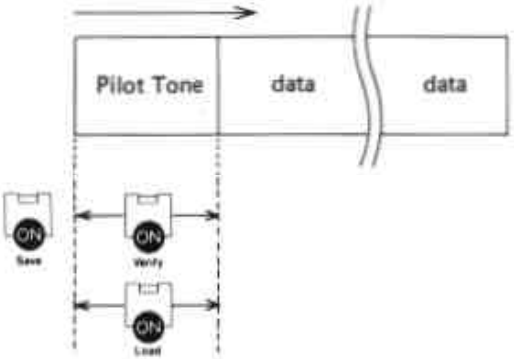


*During overdubbing, the data you can edit by using this function is up to the step where you started overdubbing. You cannot go any further step than this starting position even if keep pressing the button.



7. Tape Memory

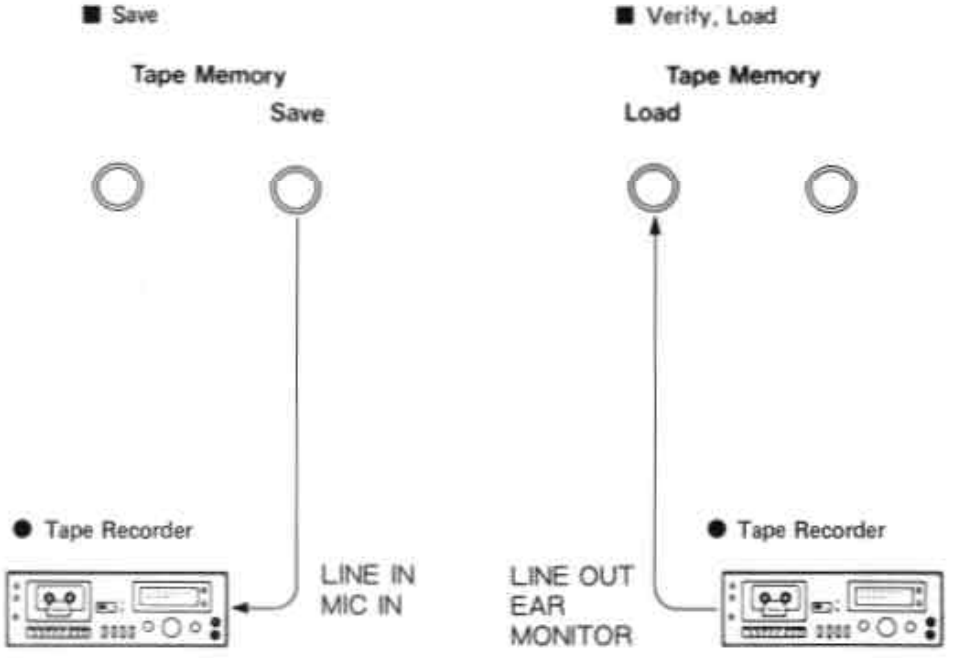
You can save the sequencer data and the patch you have synthesized into an ordinary tape recorder for storage and later retrieval. Also, you can verify if the saving has correctly done. And more, loading the data from the tape into the JX-3P is possible.

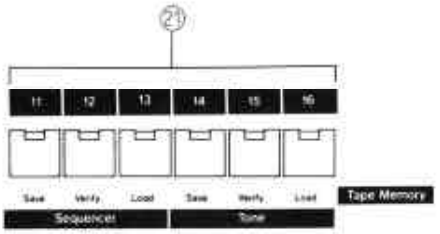


The figure shows when you should press each button. After pressing the Save button, you will hear the Pilot tone for about 5 seconds from the SAVE jack, then saving starts. Please record this Pilot tone as well, so that later verifying and loading will be done more securely. Also, while this Pilot tone is heard, adjust the recording level of the tape recorder. In verifying or loading, press each button before the Pilot tone turns to the modulated tone.

* You cannot save or load both the sequencer data and tone color (patch) at the same time.

▶ Connections





⑲ Tape Memory button
Pressing this button will turn the JX-3P to the Tape Memory mode allowing saving, verifying and loading.

* If you wish to leave this Tape Memory mode, simply press this button again (its indicator will go out).

⑳ Bank buttons (C, D)

㉑ Tone Selector buttons (11 to 16)
In the Tape Memory mode, these buttons function differently.

A) Save

	Sequencer Data	Tone Color
1	Make sure that the built-in sequencer is not working and press the TAPE MEMORY button ⑲ (its indicator will light up). 	
2	Turn the tape recorder to the recording mode (REC).	
3	Select a File Number (The details of this File Number will follow later). * You can skip this procedure.	
4	Press the Tone Selector button 11. 	Press the Tone Selector button 14. 

5	If your tape recorder features the recording level control, set it so that the Pilot tone reads higher than 0 VU.  *The indicators of the Tone Selector buttons 1 to 8 will flash for a while one after another, then those of the Bank button A and the Tone Selector button 1 will light up showing that the saving is completed. *After pressing the TAPE MEMORY button (19), you cannot stop saving in the middle. *You can save the tone colors in a whole Bank, but cannot save a single patch.
6	Stop the tape recorder.

B) Verify

	Sequencer Data	Tone Color
1	Make sure that the built-in sequencer is not working and press the TAPE MEMORY button (its indicator will light up).	
2	Set the tape recorder so that the tape will start from the very beginning of the data (where the Pilot tone is heard). *If your tape recorder features the play back level control, set it to medium.	
3	Set the tape recorder to the playing mode (PLAY).	
4	If you have selected a File Number in saving, select that File Number.	

5	Press the Tone Selector button 12. 	Press the Tone Selector button 15. 
	*The indicators of the Tone Selector buttons 1 to 8 will flash for a while one after another, then the indicators of the Bank button A and the Tone Selector button 1 will light up, displaying that verifying is completed. *If you wish to stop verifying in the middle, press the TAPE MEMORY button ⑲ (the indicator will go out).	
6	Stop the tape recorder.	

If there is an error, the indicators of the Tone Selector buttons 11 to 16 will flash for a while one after another. If so, press the TAPE MEMORY button to leave the Tape Memory mode, then repeat verify procedure taking care of the following points.

a) Be sure to press the Tone Selector buttons (12 or 15) **While the Pilot tone is still heard.**

b) Adjust the playing back level of the tape recorder.

c) Make sure that **the connections** are all made correctly.

If the error is indicated the very beginning of the verify procedure, particularly take care of a). If the verify procedure did not complete even after 1 minutes, b) and c) are specially important.

*If all the procedures have been correctly done, it is likely that there is something wrong with the tape.

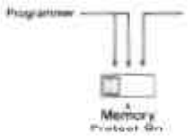
***If the error is again indicated .....**
Carefully repeat the save procedure.

***If the error is indicated again and again no matter how many times you try ...**

- Replace with a new tape.
- Clean and demagnetize the head of the tape recorder.
- Use a different tape recorder and repeat the same procedure.

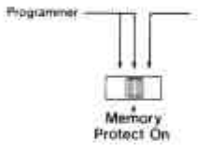
***Preserving the Data Tape**
Please do not keep the data recorded tape in a place of high temperature or humidity or near a strongly magnetic unit such as a speaker or an amplifier.

C) Load

	Sequencer Data	Tone Color
1	Make sure that the built-in sequencer is not working and press the TAPE MEMORY button (its indicator will light up).	
2	Set the tape recorder so that the tape will be played back from the very beginning of the data (where you hear the Pilot tone).	
3	Set the Ext. Selector switch to Programmer, and the Memory Protect function will be cancelled. 	
4	Set the tape recorder to the playing mode (PLAY).	
5	If you have selected a File Number in saving, select that File Number here.	
6	Press the Tone Selector button 13. 	Press the Tone Selector button 16. 
	*If the Memory Protect function is not turned off at this stage, the Tone Selector buttons 1 to 16 will light up displaying that loading is not being done. *If the indicators of the Tone Selector buttons 1 to 16 flash one after another for a while and the indicators of the Bank button A and the Tone Selector button 1 light up, the loading is completed. *If you wish to stop loading in the middle, press the TAPE MEMORY button ⑲ (the indicator will go out).	

7

If loading is finished, set the Ext. Selector switch to the Memory Protect On position, and stop the tape recorder.



***If you select a File Number in verifying or loading . . . . .**

The data will be skipped one after another until you find the one you are looking for. The indicators of the Tone Selector buttons display each data being skipped and its File Number.

[e.g.]

The example below shows while the sequencer data of the File Number 2 is being skipped.

***When the error is indicated . . .**

Carefully repeat the load procedure. Be sure to adjust the play back level of the tape recorder and to press the Tone Selector buttons (13 and 16) at the right time.

[File Number]

You do not necessarily need to put the File Number to each data, but giving a File Number to the data you are saving (in saving) will greatly save time in later verifying and loading.

*Regarding the sequencer data, the File Number 1 will be automatically chosen if you do not select any of the File Numbers.

***Saving, Verifying and Loading of the Tone Color**

If you wish to save, verify or load the data in a certain Bank, press one of the Bank buttons (C or D). If not, the data in either of these Banks will be alternately chosen (in this case, the File Number of the Bank C data is 1 and Bank D is 2).

- Saving

Select either Bank (C or D) by pressing its button before the procedure 4 on page 13.

- Verifying

Select either Bank (C or D) by pressing its button before the procedure 5 on page 14.

- Loading

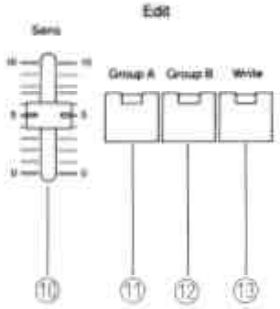
Select either Bank (C or D) by pressing its button before the procedure 5 on page 16 (The data from the tape can be only loaded into the Bank C or D).

8. Edit

By using this Edit function, you can edit the preset tone colors to your taste or synthesize your original patch.

*If you wish to synthesize your own sounds, it is better to use the Programmer PG-200 (optional).

Edit function includes 32 different elements corresponding with the Programmer PG-200 (Refer to P.21 for the details of each control and the PG-200).



⑩ Sens knob

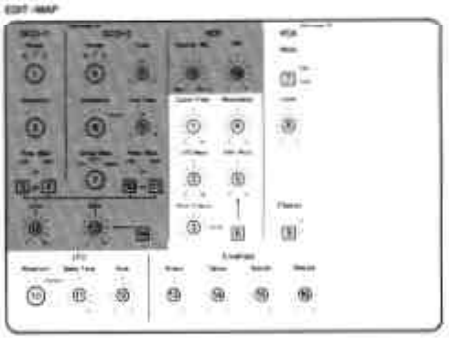
⑪ Group A button
Press this button when you edit any of the elements within the Group A. Each time you press this, it will be alternately turned on and off.

⑫ Group B button
If editing any of the elements within the Group B, press this button. This button will be alternately turned on and off by pressing.

⑬ Edit Write button
You can write the edited patch into memory by pressing this button. Each time you press the button, it will be alternately turned on and off.

Edit Procedure is as follows.

1) Selecting an element to be edited.
The drawing on the JX-3P's Front Panel (EDIT-MAP) is exactly the same as the front panel of the PG-200. All the knobs and switches are devided into 2 groups A and B and moreover, numbered (Group A ··· 16, Group B ··· 16) as shown below. This drawing tells you the Group and Number of the element you wish to edit.



If you wish to find out the Group and Number, simply press the corresponding Group button (A or B) and a Tone Selector button (1 to 16). You can select the number of the element (1 to 16) to be edited by using the Tone Selector buttons (1 to 16).

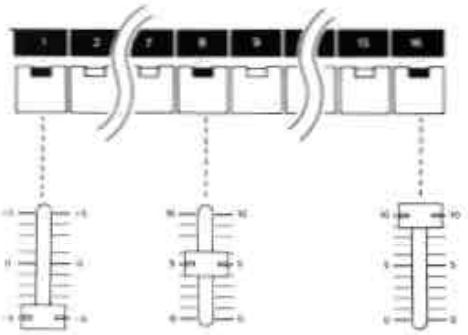
2) Indicators

If you select the editing element by pressing the buttons, the indicator of the Bank button (A to D) or Tone Selector button (1 to 16) will light displaying the level or mode of that chosen element.

3) Actual editing

Press the Bank button (A to D) or move the Sens knob ⑩ until you obtain the desired sound, and the indicators will show you how it is being changed.

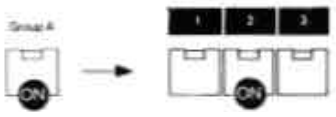
- Bank buttons
  As shown in the table at pages 21 to 27, press the appropritate button (A to D).
- Sens knob
  If this knob is set to zero, the indicator of the Tone Selector button 1 will light up. As you raise the knob, the indicator of the bigger number will light up.



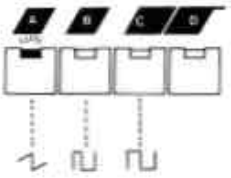
[e.g.] Editing String I

●Changing the Waveform of the DCO-1

(1)The Waveform of the DCO-1 is Number 2 in the Group A, so press the Group A button ⑪ then the Tone Selector button 2. The corresponding indicators will flash displaying that A-2 (Waveform of the DCO 1) is now ready to be changed.



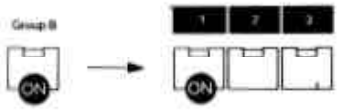
(2)One of the indicators of the Bank buttons (A to D) will light up showing which Waveform is being used in the existing patch (Refer to P.21). If the indicator of the Bank button A lights up, it means that saw tooth wave is used.



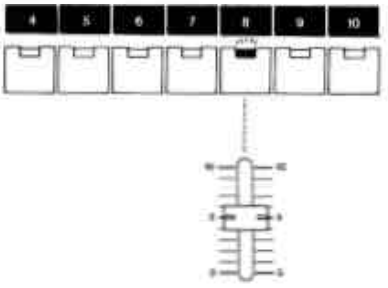
(3)Select the new Waveform by pressing the appropritate Bank button (A to D).

●Changing the Cutoff Frequency of the VCF

(1)The Cutoff Frequency of the VCF corresponds to number 1 in the Group B, so press the Group B button ⑫, then the Tone Selector button 1. The indicator of the both buttons will flash showing that now B-1 (Cutoff Frequency in the VCF) is ready to be changed.



(2)The Cutoff point of the existing patch will be displayed by a lighting indicator of the Tone Selector button (1 to 16). (Refer to the figure on P.19.) If the indicator of the Tone Selector button 8 lights up, it shows that Cutoff Point is being set to 5 in the existing patch.



(3)Set a new Cutoff Point by moving the Sens knob ⑩.

*You cannot edit two elements at a time. If you wish to alter more than two elements, edit one element then another one, and so on.

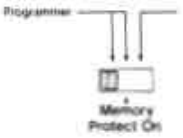
*If you wish to stop editing in the middle, simply press the Group A button or B whose indicator flashes, and its indicator will go out.

*Also, you can edit while listening to the sequencer playing.

■ Writing the tone color

You can write the patch you have edited.

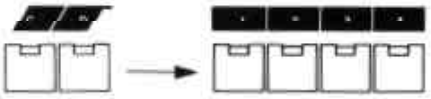
(1)Make sure that the Ext. Selector switch (23) is set to Programmer.



(2)Press the Edit Write button (12).

(3)Choose the patch program by pressing a Bank button (C or D) and a Tone Selector button (1 to 16).

*You cannot use Bank A or B.



*If you wish to stop writing in the middle, press the Edit Write button, and its indicator will go out.

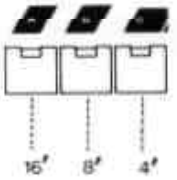
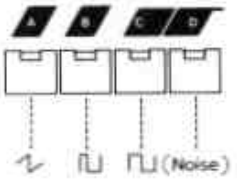
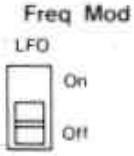
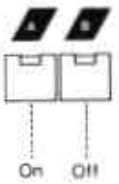
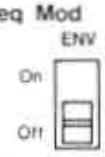
9. Programmer PG-200

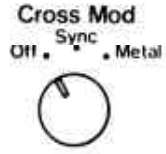
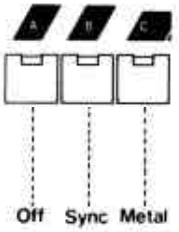
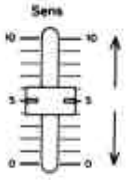
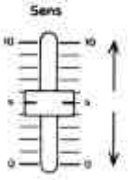
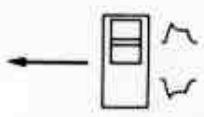
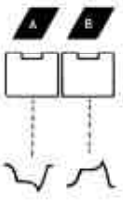
The following table shows all the elements that can be edited in the JX-3P as well as the functions of the Programmer PG-200. The Data knob on the JX-3P corresponds to all the rotary knobs on the PG-200.

Raising or rotating the knobs toward level 10 will deepen the effects. Also, each element to be edited is shown by the Group (A or B) and number (1 to 16) like A-1, A-5, etc.

DCO (Digitally Controlled Oscillator)

DCO is the digitally controlled oscillator that controls the pitch and generates the waveforms that are the sound source of the synthesizers. Owing to its digitally control system, this offers superior pitch stability compared to the VCO (Voltage Controlled Oscillator).

Programmer		Editing in the JX-3P	
Range 	This is to change the pitch range of the DCO in exact one octave steps from 4' to 16' (4', 8', 16'). 8' is standard.	A – 1 A – 5	Bank button (A to C) 
Waveform 	This is to choose the output waveform of the DCO. [NOTE 1]	A – 2 A – 6	Bank button (A to C) 
Frequency Modulation (LFO switch) 	If this is set to ON, the LFO controls the frequency (pitch) of the DCO, therefore, a vibrato effect can be obtained. [NOTE 2]	A – 3 A – 10	Bank button (A or B) 
Frequency Modulation (ENV switch) 	If this is set to ON, the ENV signal controls the frequency (pitch) of the DCO.	A – 4 A – 11	

Cross Modulation 	●Sync: The frequency of the DCO-2 synchronizes with that of the DCO-1, therefore, you can generate a unique waveform that is impossible to obtain if using only one DCO or two DCO's independently. ●Metal: By controlling the DCO-1 with the output signal from the DCO-2, ring modulation style sound can be obtained. [NOTE 4]	A – 7	Bank button (A ~ C) 
Tune 	This adjusts the frequency(pitch) of the DCO-2. ●Variable range ··· Approx. ±1200 cent	A – 8	Sens knob 
Fine Tune 	The frequency (pitch) of the DCO-2 can be adjusted with this knob. ●Variable range ··· ±50 cent	A – 9	The pitch will be higher as you raise this knob.
Depth (LFO Depth) 	When the LFO output is modulating the DCO, this knob is used to adjust the depth of the modulation.	A – 12	Sens knob 
Depth (ENV Depth) 	When the ENV output is modulating the DCO, this knob is used to adjust the depth of the modulation.	A – 13	
Polarity switch 	This selects the polarity of the Envelope curve. Normally, ⌒ is used. In ⌣ mode, the ADSR patterns will be all inverted, therefore, pitch alteration, too.	A – 14	Bank button (A or B) 

[NOTE 1]
Pulse width modulation is possible only in the DCO-2. The appropriate operation procedure is as follows.
(1)Set the Cross Mod to Sync.
(2)Set the Source Mix so that you can hear only the DCO-2 sound.
(3)By rotating the Tune knob, you can change the pulse width. In its center position, the pulse is 50% and at – position, 0% (100%).

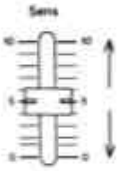
[NOTE 2]
If you wish to turn the vibrato effect on or off by using the LFO Trigger button ③, set these switches to OFF. If the patch (whether preset or you own) already contains the vibrato effect, simply press the LFO Trigger button ③, then the vibrato is turned off and now, with this button, you can turn the vibrato effect on or off as you like. The depth and rate of the vibrato effect can be changed with the LFO Delay Time or Rate knob. Also, if the LFO Depth is set to zero, you cannot obtain the vibrato effect at all by pressing the button.

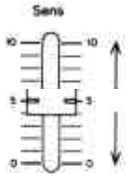
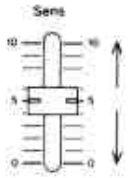
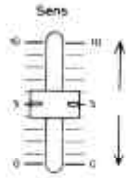
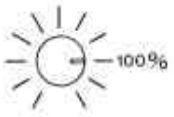
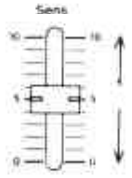
[NOTE 3]
Please set the DCO-1 and DCO-2 to the same pitch levels (16', 8' or 4'). Also, set the DCO-2 to the square wave (⊓⊔).

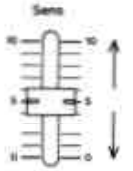
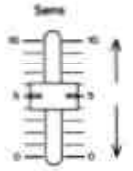
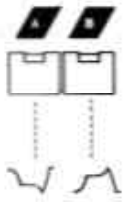
[NOTE 4]
The waveform of the DCO-2 will be automatically saw tooth (◺).

VCF (Voltage Controlled Filter)

This is the filter to change the tone color by cutting or emphasizing harmonics. This filter, however, lets the low frequency harmonics pass and block the high frequency harmonics, and this cutoff point is controlled by voltage.

Programmer		Editing in the JP-3X	
Source Mix **Source Mix**  	This is to adjust the volume balance between the DCO-1 and DCO-2.	A – 15	Sens knob  When this is set to 5, the DCO-1 and DCO-2 are in the same level. Raising this knob will increase the DCO-2 level and at its highest position, only the DCO-2 sound will be heard.

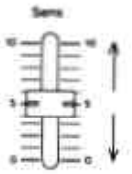
HPF Cutoff Frequency HPF  	This is to set the Cutoff Point of the HPF. *The HPF (High Pass Filter) is the filter that passes high frequency harmonics and cuts off the low frequency harmonics.	A – 16	Sens knob  When this is set to zero, the signal from the DCO will pass unchanged. As you raise the knob, the Cutoff Point will be increased and lower frequencies will be blocked.
Cutoff Frequency Cutoff Freq  	This sets the Cutoff Point of the VCF.	B – 1	Sens knob  As you lower this knob, higher frequencies will be cut. At its lowest position, no sound is heard.
LFO modulation LFO Mod  	The LFO output signal controls the VCF Cutoff Point, therefore, a growl or wah effect can be obtained.	B – 2	Sens knob 
Pitch Follow Pitch Follow  	The VCF Cutoff Point alters depending on which key is played on the keyboard. This Pitch Follow can be used to prevent any inconsistency in the harmonic content caused by pitch alteration.	B – 3	Sens knob 

Resonance 	This is to emphasize the Cutoff Point set by the Cutoff Frequency.	B – 4	Sens knob  Raising this knob will emphasize certain harmonics, producing a unique tone color.
ENV modulation 	The ENV output signal controls the VCF Cutoff Point, therefore, the Cutoff Point of the VCF in each note will be changed by the ADSR pattern previously set.	B – 5	Sens knob 
Polarity switch 	This is to select the polarity of the Envelope curve. Usually ⌒ may be used. In ⌣ mode, ADSR pattern will be inverted, therefore, pitch alteration, too.	B – 6	Bank button (A or B) 

VCA (Voltage Controlled Amplifier)

This is where the volume (amplitude) of the sound is controlled. Normally, it is controlled by the output voltage from the ENV.

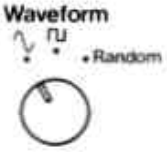
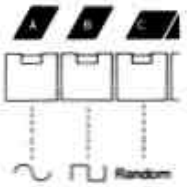
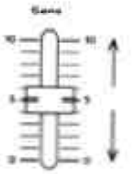
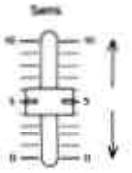
Programmer		Editing in the JX-3P	
VCA mode 	This is to select whether to control the VCA by the signal from the ENV (⌒) or by the Gate signal (⊓).	B – 7	Bank button (A or B) 

VCA level **Level** 	This is to adjust the volume level in the writing mode. [NOTE 5]	B – 8	Sens knob 

[NOTE 5]
Setting this VCA level too high may cause sound distortion.

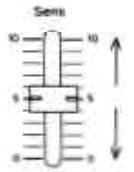
LFO (Low Frequency Oscillator)

This oscillator generates extremely low frequency, so produces a vibrato or growl effect by controlling the DCO or VCF.

Programmer		Editing in the JX-3P	
LFO Waveform **Waveform** 	This is to select the LFO output waveform.	B – 10	Bank button (A ~ C) 
Delay Time **Delay Time** 	This sets the time needed for the modulation by the LFO to start.	B – 11	Sens knob  Raising this knob will delay the time required for the effect to start working.
Rate **Rate** 	This sets the rate (frequency) of the LFO.	B – 12	Sens knob  Raising this knob will quicken the rate.

ENV (Envelope Generator)

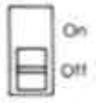
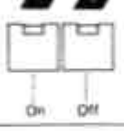
This generates the control voltage (CV) which controls the VCF and VCA, therefore, alters the tone color and volume in each note.

Programmer				Editing in the JX-3P
Attack Time	**Attack** 	This determines the time required for the voltage to reach its maximum from the moment the key is pressed down.	B – 13	Sens knob  Raising this knob will delay the time required.
Decay Time	**Decay** 	This determines the time required for the voltage to drop from the maximum to the sustain level.	B – 14	
Sustain Level	**Sustain** 	This sets the sustain level to which the voltage falls at the end of the decay time.	B – 15	
Release Time	**Release** 	This sets the time needed for the voltage to reach zero.	B – 16	

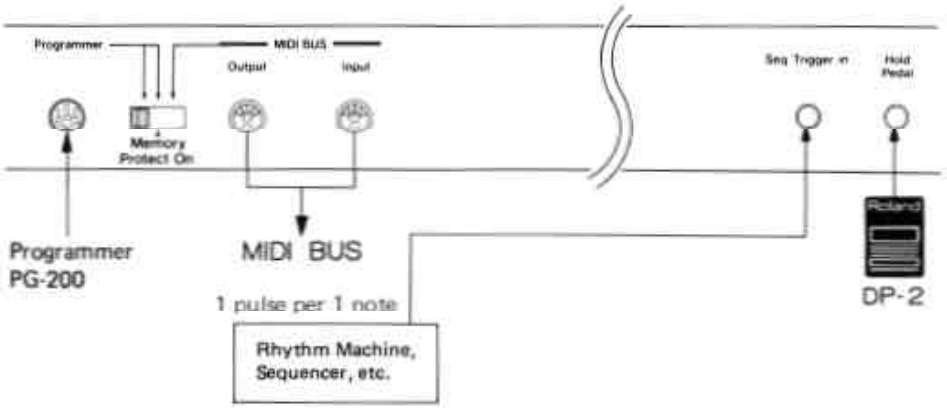
*When all the ADSR are set to zero, the waveform will be an extremely short pulse wave, and only a short "click" is heard.

Chorus

This is to produce rich and expansive sounds.

Programmer			Editting in the JX-3P	
Chorus	**Chorus** 	If this is turned on, a chorus effect is obtained.	B – 9	Bank button (A, B) 

10. Setting up with External Devices



CR-8000, CR-5000 ··· TRIGGER OUT
DR-55 ··· DBS, CSQ
TR-606, TR-909 ··· TRIGGER OUT
TB-303, CSQ-600 ···· GATE OUT
MC-4 ··· GATE OUT
MPX OUT

* You can adjust the tempo, and start or stop the sequencer of the JX-3P with the controls on the external unit.

HOLD PEDAL

If connecting the Pedal Switch DP-2 (optional), you can turn the Hold effect on or off by pressing the pedal. (The effect is on just while the pedal is pressed down.)

* You can use the Hold button on the JX-3P as well as this Pedal Switch.

* Before starting synchronization with the external unit, make sure that the built-in sequencer in the JX-3P is not running. Press the Start/Stop button (18) newly (its indicator will light). Then start the synchronization.

● MIDI BUS

It is possible to connect the device that features MIDI (Connecting the non-MIDI device may cause trouble).

* When the Ext. Selector switch (23) is at the MIDI position, the built-in sequencer of the JX-3P does not work.

MIDI BUS is the interface system that converts the CV or Gate signal to the digital signal for the communication between two connected units. The information available in JX-3P are as follows.

(a) Key (which key is played)
(b) Hold (turning the Hold Pedal on or off)
(c) Bender (Pitch Bender)
(d) Tone Colors (selecting patches)

Therefore, you can have the external device controlled by the JX-3P's keyboard or Hold Pedal (i.e. if pressing the Hold Pedal of the JX-3P, you will benefit a Hold effect even in the external device).

* Although the JX-3P MIDI BUS sends all the information (a) to (d), some of this may not be received by the external device if the relevant functions are missing. For instance, if the external device does not include the Bender function, moving the Pitch Bender on the JX-3P does not affect the external device.

* Cancellation

If you wish to omit any effect of (b), (c) and (d) from the external device, turn the JX-3P off first then do as follows.

- (b) – – – → Turn the JX-3P on, while holding the Tone Selector button 14 down.
- (c) – – – → Turn the JX-3P on, while holding the Tone Selector button 15 down.
- (d) – – – → Turn the JX-3P on, while holding the Tone Selector button 16 down.

If you wish to stop more than 2 effects at a time, simply hold the relevant Tone selector buttons down, and turn the JX-3P on.

Now the information omitted is not exchanged between these two devices.

* If on the contrary the JX-3P is controlled by the other unit, take the same procedures, then the JX-3P will no longer receive the information (b to d) from the unit.

JX-3P 6 Voice Programmable Preset Polyphonic Synthesizer

Keyboard	61 keys, 5 octaves, C scale
Preset Section	Bank A (1 to 16) String I, String II, Organ I, Organ II, Organ III, Brass I, Brass II, Electric Piano I, Electric Piano II, Clavi, Harpsichord, Vibraphone, Chime, Celesta, Accordion, Voice Bank B (1 to 16) Violin, Flute, Oboe, Song Whistle, Synth Brass I, Synth Brass II, Dist Guitar, Juicy Funk, Filter Flow, Fat Fifth, Sync Wah, Sync Sweep, Funky Clavi, Pulser, Planet, Jet
Memory Section	32 Patch Programmable and battery Back-up Bank C (1 to 16) Bank D (1 to 16)
Edit Section	32 Elements Group A (1 to 16) Group B (1 to 16) Data knob Edit Write button
Performance Control Section	Volume knob Brilliance knob Mute button & indicator LFO Trigger button & indicator Bender lever Bend Range switch (Wide, Mid, Narrow)
Chorus	Chorus button & indicator
Hold	Hold button & indicator
Key Transpose	Key Transpose button & indicator
Sequencer	6 Voice Polyphonic, maximum capacity of 128 steps and battery back-up Sequencer Write button & indicator Rest button & indicator Tie button & indicator Start/Stop button & indicator Rate knob
Tape Memory	Sequencer (Save, Verify, Load) Tone color (Save, Verify, Load)
Power	POWER switch
Rear Panel	Output jacks (Mono, Stereo) Ouput Level (L: −30dBm, M: −15dBm, H: 0dBm) Phones jack (Stereo) Hold Pedal jack (DP-2) Sequencer Trigger In jack Tape Memory Save jack Tape Memory Load jack Programmer In (DIN6P) MIDI BUS Input (DIN5P) MIDI BUS Output (DIN5P) * MIDI: Musical Instrument Digital Interface Ext. Selector switch (MIDI, Memory Protect On, Programmer) Tune (±50 cent)

Dimensions	912(W) x 326(D) x 116(H)mm 37-7/8(W) x 12-13/16(D) x 4-1/2(H) in.
Weight	9.8 kg 21 lb. 9 oz.
Consumption	20 W
Accessories	Music Rack 2.5m connection cable (x 2)

* Specifications are subject to change without notice.

OPTIONS

Programmer PG-200

Headphones RH-10

Pedal Switch DP-2