

# Series Circuits

## JX-3P MIDI Upgrade Kit

### User Manual

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Website: <https://seriescircuits.com>

Email: [support@seriescircuits.com](mailto:support@seriescircuits.com)

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## Introduction

Thank you for purchasing the Series Circuits JX-3P MIDI Upgrade Kit, this manual explains how to use the kit in your Roland JX-3P.

If you are looking for information on how to install the kit into your JX-3P, please refer to the separate installation manual.

## Features

The JX-3P MIDI Upgrade Kit adds the following new features to your JX-3P:

- Real-time control over all JX-3P parameters with standard MIDI CC messages (from a sequencer or MIDI controller)
- Loading new patches into the JX-3P via MIDI (CC)
- Selectable MIDI receive channel (1-3)
- Velocity sensitivity (via MIDI-input, not the keyboard)

Additional features for owners of a PG-200 (or DT-200) programmer:

- Simultaneous control over the JX-3P via MIDI input and programmer
- Transmission of MIDI CC messages from the programmer to record in a sequencer or DAW for automation, and/or to control other MIDI devices
- Saving JX-3P patches as MIDI files onto your computer

## Please Note

- This kit only works with the JX-3P (not the MKS-30).
- This kit does not change the sound of your JX-3P, it only adds new ways of controlling it.

## Disclaimer

Series Circuits cannot be held responsible for, but not limited to, any personal injury, injury to other people, damage, or loss of data, caused during installation or the use of the JX-3P MIDI Upgrade Kit.

***Installing and using the Series Circuits JX-3P MIDI Upgrade Kit means that you accept and understand these terms.***

## Chapter 1. MIDI Channel Select

After installation of the Series Circuits JX-3P MIDI Upgrade Kit, the memory protect function will always be off. The function of the switch is now selecting the MIDI channel.

Switch Position	MIDI Channel
PG-200	1
PG-200 Protect	2
MIDI	3

The JX-3P now selects the MIDI channel while powering up. Changing the position of the switch will therefore not immediately affect the MIDI channel but come into effect once the power has been turned off and back on.

## Chapter 2. Velocity Sensitive Mode

To enter velocity sensitive mode, hold down '7' while powering up the JX-3P. The keyboard and sequencer will be disabled in this mode. The JX-3P will now receive MIDI velocity values.

## Chapter 3. Sending and Receiving Parameters

With the JX-3P MIDI Upgrade Kit, you can now control the instrument's parameters with MIDI CC messages. Since this is generic to any MIDI-CC capable device, this manual will not cover the details of how to set this up. The mapping of MIDI CC numbers to the parameters of your modified JX-3P can be found in the tables below.

## Chapter 4. Patch Loading and Storage

With the JX-3P MIDI Upgrade Kit installed, all parameters of the JX-3P are now under MIDI CC control. Because of this, you can now load new patches into your JX-3P from an external device (e.g., a computer), or store patches you made on the JX-3P externally. This works on a per-patch basis via the JX-3Ps edit buffer.

### *Loading a patch from your computer into your JX-3P*

1. You need a computer program capable of transmitting MIDI CC data. Most DAWs (Cubase, ProTools, Logic) can, but there are also dedicated editors for the JX-3P that can transmit MIDI CCs, such as the JOX'3P editor, and dedicated MIDI programs like MIDI-OX.
2. In the software you can load up a file containing all MIDI CCs for a specific JX-3P patch. This could be a patch that you saved previously, or one that you received via the Internet.
3. Transmit this data to your JX-3P with the program (make sure MIDI channel on PC matches MIDI channel on JX-3P).
4. The patch is now loaded into the 'edit buffer' of the JX-3P, which means the current patch has had its values modified. Use the save function of the JX-3P to can store it in the JX-3Ps internal memory for later use (see JX-3P manual if you don't know how).

### *Storing a patch from your JX-3P in your computer (requires a PG-200 or DT-200 programmer)*

1. Again, you need a program capable of working with MIDI CC data, in this case receiving it.
2. Set the program up to receive the incoming stream of MIDI CC data. In a DAW this means pressing 'record' (make sure MIDI channel on PC and JX-3P match).
3. Press the 'manual' button on your PG-200 or DT-200 programmer. This button transmits all CCs for the current patch.
4. Your computer should now have received the data, and you can save it to a file.

## Chapter 5. Troubleshooting and FAQ

***Q: After installing the JX-3P MIDI Upgrade Kit, is it possible to use SysEx to control the JX-3P?***

A: No, the JX-3P MIDI Upgrade Kit uses standard MIDI CC messages rather than SysEx. It is much easier to achieve real-time control with MIDI CCs (compared to SysEx), and many MIDI controllers and sequencers interface more reliably via CCs than via SysEx.

***Q: Why is the LFO Delay not working when I play a note through MIDI?***

A: This is a classic bug in the original JX-3P firmware, and since the JX-3P MIDI Upgrade Kit acts as a supplement to this firmware, this original bug cannot be corrected. Fortunately, the bug was fixed in velocity mode. But in normal usage, it is still there.

***Q: I know that parameters on the PG-200 work at a resolution of 8-bit. Since MIDI usually only utilizes 7 bits, will the resolution of my PG-200 be reduced after installation of the JX-3P MIDI Upgrade Kit?***

A: No, the PG200 still sends parameters into the JX-3P with its original 8-bit resolution. Only parameters sent from the PG-200 to the MIDI-OUT, or parameters received from the MIDI-IN are in 7-bit resolution.

***Q: Help! I have installed the kit and my JX-3P randomly hangs, and after that the LED's are flickering and there is no sound.***

A: This problem is typically caused by an incorrect installation of parts of the MIDI Upgrade Kit. Please refer to the installation manual (FAQ section) for possible solutions.

## Chapter 6 – MIDI Specifications

### Message Types

#### - Note Events

##### Note Off

Status	Second	Third
8nH	kkH	vvH
9nH	kkH	00H

*kkH: Note number 24H – 60H (36 – 96) C2 – C7*

*vvH: Doesn't matter*

##### Note On

Status	Second	Third
9nH	kkH	vvH

*kkH: Note number 24H – 60H (36 – 96) C2 – C7*

*vvH: Velocity 1H – 7FH (1 – 127) (Only in velocity mode)*

#### - Continuous Controller (CC)

##### Hold 1

Status	Second	Third
BnH	40H	vvH

*vvH:*

1) *Hold Pedal Off (0H – 3FH) (0 – 63)*

2) *Hold Pedal On (40H – 7FH) (64 – 127)*

##### Synthesizer Parameter

Status	Second	Third
BnH	ppH	vvH

*ppH: Parameter control number (see "Parameters" table below for detailed information)*

*vvH: Value 0H – 7FH (0 – 127)*

#### - Program Change

Status	Second	Third
CnH	ppH	-

*ppH: Program Number 0H – 40H (0 – 64)*

- **Pitch Bender**

<b>Status</b>	<b>Second</b>	<b>Third</b>
EnH	mmH	nnH

*mmH: 0H – 7FH (0 – 127) Least significant byte*

*nnH: 0H – 7FH (0 – 127) Most significant byte*

## Message Types

### Parameters

CC Number	Description	Value – Dec (Hex)
12 (0CH)	Fine Tune	0 – 127 (00H – 7FH)
13 (0DH)	Tune	0 – 127 (00H – 7FH)
14 (0EH)	DCO Envelope Mod.	0 – 127 (00H – 7FH)
15 (0FH)	DCO LFO Mod.	0 – 127 (00H – 7FH)
16 (10H)	Source Mix	0 – 127 (00H – 7FH)
17 (11H)	High Pass	0 – 127 (00H – 7FH)
18 (12H)	Resonance	0 – 127 (00H – 7FH)
19 (13H)	Cutoff Frequency	0 – 127 (00H – 7FH)
20 (14H)	VCF Envelope Mod.	0 – 127 (00H – 7FH)
21 (15H)	VCF LFO Mod.	0 – 127 (00H – 7FH)
22 (16H)	Pitch Follow	0 – 127 (00H – 7FH)
23 (17H)	VCA Level	0 – 127 (00H – 7FH)
24 (18H)	LFO Rate	0 – 127 (00H – 7FH)
25 (19H)	LFO Delay	0 – 127 (00H – 7FH)
26 (1AH)	Attack	0 – 127 (00H – 7FH)
27 (1BH)	Decay	0 – 127 (00H – 7FH)
28 (1CH)	Sustain	0 – 127 (00H – 7FH)
29 (1DH)	Release	0 – 127 (00H – 7FH)

### Switches

CC Number	Description	Value – Dec (Hex)
72 (48H)	DCO-1 Range	0 (00H) – 16' 32 (20H) – 8' 64 (40H) – 4'
73 (49H)	DCO-1 Wave	0 (00H) – Saw 32 (20H) – Pulse 64 (40H) – Square
74 (4AH)	DCO-2 Range	0 (00H) – 16' 32 (20H) – 8' 64 (40H) – 4'
75 (4BH)	DCO-2 Wave	0 (00H) – Saw 32 (20H) – Pulse 64 (40H) – Square
76 (4CH)	DCO-2 Cross Mod.	0 (00H) – Off 32 (20H) – Sync 64 (40H) – Metal
77 (4DH)	VCF Envelope Polarity	0 (00H) – Inverted 64 (40H) – Normal
78 (4EH)	VCA Mode	0 (00H) – Gate 64 (40H) – Envelope
79 (4FH)	DCO-2 Envelope Mod.	0 (00H) – Off 64 (40H) – On



80 (50H)	DCO-2 LFO Mod.	0 (00H) – Off 64 (40H) – On
81 (51H)	DCO-1 Envelope Mod.	0 (00H) – Off 64 (40H) – On
82 (52H)	DCO-1 LFO Mod.	0 (00H) – Off 64 (40H) – On
83 (53H)	LFO Wave	0 (00H) – Triangle 32 (20H) – Square 64 (40H) – Random 96 (60H) – Fast Random
84 (54H)	DCO Envelope Polarity	0 (00H) – Inverted 64 (40H) – Normal
85 (55H)	Chorus	0 (00H) – Chorus Off 64 (40H) – Chorus On

## MIDI Implementation Chart

Function	Transmitted	Received	Comments
Basic Channel	1, 2, 3	1, 2, 3, OMNI	User defined.
Note Number	36 – 96	36 – 96	C2 – C7 notes received outside this range will be transposed.
Note On Velocity Note Off Velocity	Yes Yes	Yes Yes	A preset velocity of 64 is transmitted.  Velocity values are only received in velocity mode.
Pitch Bend	Yes	Yes	
Control Change	Parameters: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27  Hold: 64  Switches: 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85	Parameters: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27  Hold: 64  Switches: 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85	
Program Change	Yes	Yes	
System Exclusive (SysEx)	No	No	
System Common	No	No	
System Real Time	No	No	

<p>Aux Messages</p> <ul style="list-style-type: none"> <li>- All Sound Off</li> <li>- Reset Controllers</li> <li>- Local ON/OFF</li> <li>- All Notes Off</li> <li>- Active Sense</li> <li>- Reset</li> </ul>	<p>No No No Yes No No</p>	<p>No No No Yes No No</p>	
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