Roland JU-06

Unofficial User Guide

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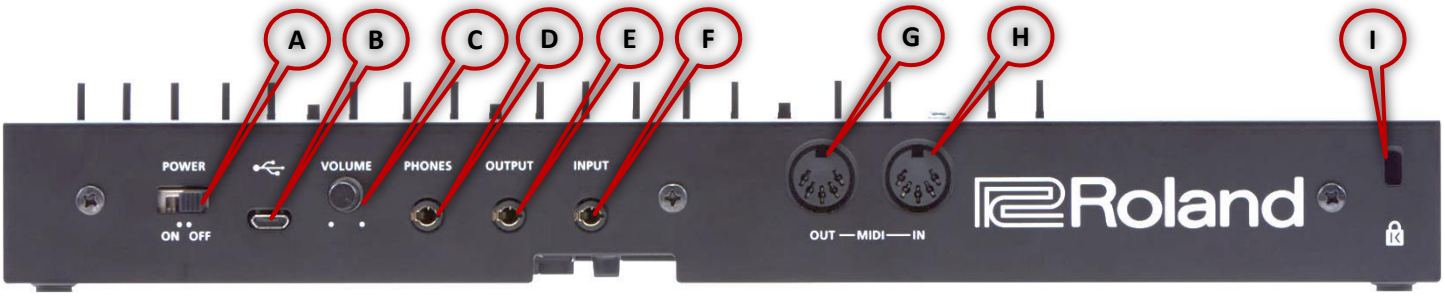
1. Connecting Your Equipment



A **POWER Switch**

Turns on the unit's power.

- After you've made connections correctly, turn on the **JU-06** first and then the connected system. Powering on in any other order could cause a malfunction or damage. When turning the power off, turn off the connected system first and then the **JU-06**.
- The unit has a protection citcuit that causes a short delay between powering the unit on, and normal operation of the unit.
- Lower the volume before turning the unit on or off. Even with the volume turned down, you may hear sound when switching the unit on/off. This is normal and does not indicate a malfunction.

B **Micro-USB Port**

Allows you to connect the unit to an external power source or computer via a USB 2.0 (A-microB) cable.

Use a commercially available USB 2.0 cable (A-microB) to connect this port to your computer. It can be used to transfer MIDI and audio data over USB. The USB driver needs to be installed when connecting the **JU-06** to your computer, and can be downloaded from the Roland website. For details, refer to the *Readme.htm* file included in the download from **http://www.roland.com/support/**.

C **VOLUME Knob**

Adjusts the output volume of the unit.

D **PHONES Jack**

Connect headphones or equivalent monitoring equipment.

E **OUTPUT Jack**

Connect an external amplifier, monitors, or mixer.

F **INPUT Jack**

*Connect an external audio device. Sound will be routed through the headphone and output jacks of the **JU-06**.*

G **MIDI Out Jack**

*Connect a 2nd **JU-06** unit to increase polyphony using Chain Mode.*

H

MIDI In Jack

*Plug in your external MIDI device (controller or keyboard) using a standard MIDI cable to control the **JU-06**.*

I

Kensington Lock

Standard Kensington lock to secure the unit from theft.

2. Panel Descriptions

1

Common Section

Allows selection of sound patches and banks, along with programming the step sequencer and selecting other general effects.

Default Mode

The Default mode is when the unit is not in step sequencer mode.

Note: In the below selections if you see **MANUAL + [3] → [1], [2]** *for example, this means press the MANUAL button at the same time as pressing the [3] button, and then let go and press either button [1] or [2].*

BANK/PATCH NUMBER [1] – [8] **PATCH SELECTION**

Loading a Stored patch

You can recall up to 64 stored patches using a combination of bank and patch numbers. There are a total of 8 banks, selectable using BANK numbers 1 to 8, and each bank has a total of 8 patches, selectable using PATCH numbers 1 to 8. For example pressing BANK [1] followed by PATCH [3] will recall patch number 13 (patch 3 of bank 1) into the unit's memory. Likewise selecting BANK [7] followed by PATCH [6] will recall patch number 76 (patch 6 in bank 7). This totals 64 patches comprising numbers 11 thru 88.

Saving the Current patch

You can save up to 64 patches using the bank and patch numbers. An edited patch is indicated by a dot in the BANK PATCH display. To permanently save an edited patch, press and release one of the BANK buttons [1] to [8], and then press and hold down (long-press) a PATCH button [1] to [8] until the dot on the BANK PATCH display disappears - This indicates that the patch has been saved. For example to save the current patch to slot 27, press and release BANK [2] and then press and hold PATCH [7] until the dot in the BANK PATCH display disappears, confirming the save is complete. There are 64 slots available to save custom patches 11 thru 88. *Note that saving a patch will overwrite the contents of the original.*

CHORUS 1 / CHORUS 2 **CHORUS SELECTION**

The JU-06 has two chorus effects that can be selected by pressing the CHORUS 1 or CHORUS 2 button. When the button is lit, the chorus effect is on. You can also press both CHORUS 1 and 2 for an additional chorus effect.

MANUAL **SYNC PHYSICAL TO VIRTUAL**

Pressing the MANUAL button will copy the physical settings of the buttons, knobs, sliders, and switches, to the current patch. This allows the physical settings to be copied to the virtual memory so they are in sync and the sound of the patch represents the physical settings of the buttons.

CHORUS 2 + [14] **MONOPHONIC MODE**

Enters solo mode where playback is monophonic. Ie. Only a single note can sound at any given time.

CHORUS 2 + [15] **UNISON MODE**

Enters unison mode where all sounds are played in unison. Ie. All 4 notes of polyphony are played with one key press.

CHORUS 2 + [16] **POLYPHONIC MODE**

Enters Polyphonic mode where up to 4 notes of polyphony can be played. Playing more than 4 notes results in "note stealing", where each successive note above 4-note polyphony cuts off prior notes to maintain the 4-note maximum.

CHORUS 2 + [4] thru [13] **KEYBOARD RANGE**

Shifts the keyboard range in steps of one octave from button [4] (-4) thru button [13] (+5). The default of ±0 is [8].

CHORUS 2 + C1 **PORTAMENTO ON/OFF**

Switches portamento on and off to create a smooth change in pitch between notes played.

CHORUS 2 + C2 **PORTAMENTO TIME**

Adjusts the portamento time for the pitch change from 1 (slow) to 100 (fast). This affects how quickly the pitch changes between note plays.

MANUAL + [1] → [1] thru [16] **MASTER TUNING**

Specifies the master tuning from [1] (433Hz) to [16] (448Hz). The default of 440Hz is [8].

MANUAL + [2] → [1] thru [16] **MIDI CHANNEL**

Specifies the MIDI receive/transmit channel 1 thru 16.

MANUAL + [3] → [1], [2] **MIDI CLOCK**

Specifies the MIDI Clock source.

[1] → AUTO (default). This will synchronize the **JU-06**'s tempo to the external MIDI clock signal coming from the MIDI IN connector.
[2] → INTERNAL. This will cause the **JU-06** to operate at the tempo of the unit itself.

MANUAL + [4] → [2] thru [13] TRANSPOSE

Transpose the keyboard range up or down in semitones, where the default of ±0 is [8]. This only applies when using the K-25m keyboard.

MANUAL + [5] → [1] thru [3] KEY VELOCITY VALUE

Adjusts the key velocity value that will be transmitted when playing the keyboard. This only applies when using the K-25m keyboard.

[1] → TOUCH. Transmits the actual keyboard velocity.
[2] → (64). Transmits a fixed velocity of 64 (half) regardless of the actual velocity.
[3] → (127). Transmits a fixed velocity of 127 (max) regardless of the actual velocity.

MANUAL + [6] → [1] thru [3] VELOCITY CURVE

Sets the velocity curve of the keyboard. This only applies when using the K-25m keyboard.

[1] → LIGHT. Sets the keyboard to a light touch.
[2] → MEDIUM. Sets the keyboard to the standard touch.
[3] → HEAVY. Sets the keyboard to a heavy touch.

MANUAL + [7] → [1], [2] AUTO OFF

Sets Auto Off.

[1] → OFF. Prevents the unit from powering down automatically.
[2] → 30 min. Causes the unit to turn off automatically after 30 minutes of inactivity. *Auto Off will not occur while the unit is plugged in via USB.*

MANUAL + [8] → [1] thru [4] LED DEMO

Specifies the length of inactivity before the LED demo turns on.

[1] → OFF. Prevents the unit from entering the LED demo.
[2] → 1 min. Causes the LED demo to engage after 1 minute.
[3] → 3 min. Causes the LED demo to engage after 3 minutes.
[4] → 10 min. Causes the LED demo to engage after 10 minutes.

MANUAL + [9] → [1], [2] CHAIN MODE

Sets Chain Mode on or off. Chain Mode can be used to increase polyphony by connecting more **JU-06** units via MIDI cable.

[1] → OFF. Prevents communication with additional **JU-06** units.
[2] → ON. Allows additional polyphony with more **JU-06** units attached via MIDI cable. In this mode, the 5th and subsequent notes are passed through to additional **JU-06** units via MIDI out.

MANUAL + [10] → [1] thru [16] RIBBON CONTROLLER NOTE SCALE

Sets the ribbon controller note scale. The default is [1].

MANUAL + [11] → [1], [2] MODULATION HOLD

Sets the modulation hold of the C2 ribbon controler.

[1] → HOLD OFF (default)
This is like having a spring on the mod-wheel – the second you take your finger off it, the modulation effect jumps back down to zero.

[2] → HOLD ON
This forces the mod wheel to remain at the point you take your finger off it, which is like a standard mod-wheel without a spring.

MANUAL + [12] → [1] thru [3] **CHORUS NOISE**

Allows you to adjust the chorus noise, as simulated from the original Juno 106.

[1] → NOISE OFF. Turns off the simulated chorus noise.
[2] → HALF. Turns on the simulated chorus noise but sets it to half-volume.
[3] → ORIGINAL JUNO CHORUS. This is the default Juno 106 chorus with noise.

MANUAL + [13] → [1] thru [13], [16] **PITCH BEND RANGE**

Specifies the Pitch Bend range in semitones.

[1] thru [12] → 1 thru 12 semitones, with a default of [2]
[13] → 2 Octaves
[16] → OFF

MANUAL + [14] → [1] thru [16] **DELAY VOLUME**

Adjusts the delay level applied to the patch. [1] is no delay, and [2] thru [16] adjust it incrementally for a more pronounced effect.

MANUAL + [15] → [1] thru [16] **DELAY TIME**

Adjusts the delay time applied to the patch in incremental adjustments of [1] thru [16]. Note that this delay time refers to the length of time before the delay takes effect, not how long the delay effect is.

MANUAL + [16] → [1] thru [16] **DELAY FEEDBACK**

Adjusts the delay feedback applied to the patch. [1] is no feedback, and [2] thru [16] adjust it incrementally for a longer delay.

Step Sequencer Mode

The step sequencer lets you input notes in up to 16 steps, and then play the notes back in a repeating loop. The number of steps can be adjusted from 1 to 16, and a maximum of 16 individual patterns can be stored.

Entering/Exiting Step Sequencer Mode

Press both the CHORUS 2 and MANUAL buttons (SEQ) simultaneously to enter or exit step sequencer mode.

Step Buttons [1] thru [16]

In Step Sequencer mode, the BANK and PATCH NUMBER buttons represent the 16 steps of the sequencer. While in this mode, the following button press options are available:

MANUAL

Starts and stops playback of the sequence.

CHORUS 2 + C1

Sets the tempo of the playback sequence. Up on the C1 ribbon controller is faster and down is slower.

[1] thru [16]
These represent the 16 steps of the sequencer. Press one of the 16 buttons to toggle the step on (lit) or off (unlit). Lit steps will sound during sequence playback, while unlit steps will not.

[1] thru [16] + C1 (or a note on the keyboard)
Assigns the note to the selected step. Hold down the step button and press a note on the keyboard, or use the C1 ribbon controller to select a note.

Step Button + Next Step Button (eg. [1] + [2])
Enters a tie between the two step buttons.

[1] thru [16] + C2
Adjusts the gate time of the selected step/note. This is the length of the note, where UP on the C2 ribbon controller is longer, and DOWN is shorter.

CHORUS 2 + C2
Adjusts the gate time of all steps in the sequence. This is the length of all notes in the sequence, where UP on the C2 ribbon controller is longer, and DOWN is shorter.

CHORUS 2 + [1] thru [16]
Selects one of the stored sequencer patterns.

CHORUS 2 + [1] thru [16] (long press)
Saves and assigns the current sequencer pattern to the button selected.

MANUAL + [1] → [1] thru [16]
Assigns the number of steps in the sequence (min 1, max 16).

MANUAL + [2] → [4] thru [12]
Sets the shuffle (default is 8). This plays the notes "out-of-time" or a little offbeat. The higher the number, the more pronounced the shuffle is.

MANUAL + [3] → [1] thru [4]
Sets the scale (default is 2).

MANUAL + [15] → [1] thru [7]
Sets the step order, much like an arpeggiator. Choices are:

1 → Normal (default)
2 → Even/Odd reverse
3 → Odd Only
4 → Even Only
5 → Odd Only → Even Only
6 → Even Only → Odd Only
7 → Random

MANUAL + [16] → [1] thru [2]
Sets Off Step mode as follows:

1 → Rest (Default)
2 → Skip

2a Ribbon Controller C1 – Pitch Bend

*This is a touch-type ribbon controller that emulates a pitch bend wheel, and will preview sound when the **JU-06** is not connected to a controller. I can also adjust settings in various modes. Sliding up increases the pitch of the note, while sliding down decreases the pitch.*

2b Ribbon Controller C2 – Modulation

This is a touch-type ribbon controller that emulates a modulation wheel. It is also used to adjust settings in various modes. Sliding up increases the modulation effect, while sliding down decreases the effect.

3 LFO

The LFO section can be used to create cyclic changes (modulation) in the sound over time, by applying a Low Frequency Oscillator (LFO).

RATE Slider

This determines the speed of the LFO, or how fast the cyclic changes take place.

DELAY TIME Slider

This determines how long it takes before the LFO kicks in after playing the sound.

4 DCO

Here you can select the pitch of the sound, as well as the waveform that determines the timbre or "character" of the sound.

RANGE [16] [8] [4]

This specifies the octave of the digitally controlled oscillator. This simply changes the root octave of the DCO, with 4 being the highest pitch, and 16 being the lowest.

LFO Slider

This allows the LFO to modulate the pitch of the sound, producing vibrato. Moving the slider up makes the LFO effect more pronounced while moving it down reduces the effect.

PWM Slider / [LFO/MAN] Switch

The slider modifies the Pulse-Width of the DCO in the following manner, based on the [LFO/MAN] switch setting:

MAN → The PWM Slider adjusts the value of Pulse-Width of the DCO.
LFO → The PWM Slider adjusts the depth of the Pulse-Width modulation.

⟋ Button

Selects the Sawtooth wave for the DCO

⊔ Button

Selects the Square wave for the DCO

SUB Slider

Adjusts the volume of the sub-oscillator, which is a waveform 1 octave below the DCO. The sub-oscillator is like having a second DCO but with limited functionality, and is great for adding bass to the sound.

NOISE Slider
Adjusts the volume of the noise added to the sound.

5

HPF

HPF is a High-Pass Filter that only allows higher frequencies to pass through to the output.

FREQ Slider
This sets the cutoff frequency of the high-pass filter. Frequency bands below the cutoff are filtered out while those above are allowed to pass through, removing bass and giving the sound a “thinner” timbre.

6

VCF

VCF is a Low-Pass Filter that only allows lower frequencies to pass through to the output.

FREQ Slider
This sets the cutoff frequency of the low-pass filter. Frequency bands above the cutoff are filtered out while those below are allowed to pass through, removing higher frequencies and giving the sound a mellower, subtle, or rounded timbre.

RES Slider
This controls the resonance, which boosts the sound around the filter’s cutoff frequency. Higher resonance provides more emphasis to the frequencies around the filter cutoff frequency, producing more electronic or synthesizer textures. To an extent, it also deemphasizes some of the lower frequencies in the sound.

ENVELOPE Switch
This selects the polarity (direction) of the filter envelope.

ENV Slider
Adjusts the depth by which ⑧ENV controls the cutoff frequency.

LFO Slider
Adjusts the depth by which ③LFO modulates the cutoff frequency.

KBD Slider
This allows the cutoff frequency to be adjusted automatically depending on the notes you play. It is needed to counteract some of the impact that a filter can have on frequencies as you play up and down a keyboard. For example with a low-pass filter, the sound becomes more muted and less precise as you play higher notes. To counteract this, moving the KEY FOLLOW slider upward will cause the cutoff frequency to increase as you play progressively higher notes.

7

VCA

VCA is a Voltage Controlled Amplifier that allows you to adjust the volume of the patch.

LEVEL Slider
This adjusts the amplitude (volume) of the patch.

ENVELOPE Switch
This selects the polarity (direction) of the amplitude envelope.

8

ENV

This allows you to adjust how the amplitude (volume) of the sound changes over time using an ADSR (Attack, Decay, Sustain, and Release) envelope.

A **Attack**

Attack Time. How quickly the amplitude envelope reaches the maximum value after pressing a key.

D **Decay**

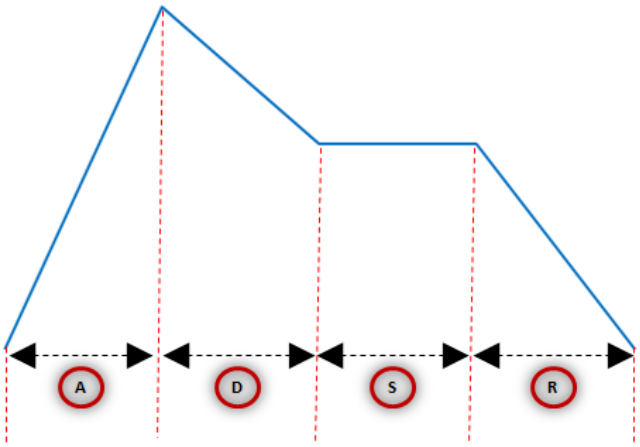
Decay Time. How quickly the amplitude envelope reaches the Sustain Level while a note is held down.

S **Sustain**

Sustain Level. The amplitude level at which the sound will remain while a note is held down.

R **Release**

Release Time. How quickly the envelope reaches minimum amplitude value after the note is released.



3. Factory Reset

Perform the following steps to return your **JU-06** back to the default factory settings:

1. Turn the POWER button [A] to ON while holding down the BANK [1] button.
   The MANUAL button should blink, indicating that the unit is ready to be reset. Simply turn the POWER button to the OFF position if you choose to cancel the reset at this point, otherwise continue with step 2.
2. Press the MANUAL button to perform the factory reset.
3. When all buttons blink, switch the **JU-06**'s power button to OFF, and then back to ON again.
   The unit is now reset back to the default factory settings.

4. Backing Up/Restoring Data

Backing Up

To make a backup copy of your **JU-06** data, perform the following steps:

1. Turn the POWER button [A] to ON while holding down the PATCH NUMBER [2] button.
2. Connect the **JU-06** USB port to your computer via USB cable.
3. Once recognized, open the "**JU-06**" driver on your computer.
4. Navigate to the "BACKUP" folder under the "**JU-06**" drive.
5. Copy the backup files from this folder to your computer.
6. When the copy has completed, safely eject the USB drive and disconnect the USB cable from the computer.
   Windows Right-Click on the "**JU-06**" icon in "My Computer" and execure "Eject".
   Mac OS Drag the "**JU-06**" icon to the trash icon in the Dock.
7. Turn the POWER button [A] to OFF.

Restoring

To restore a previos backup copy of your **JU-06** data, perform the following steps:

1. Turn the POWER button [A] to ON while holding down the PATCH NUMBER [2] button.
2. Connect the **JU-06** USB port to your computer via USB cable.
3. Once recognized, open the "**JU-06**" driver on your computer.
4. Navigate to the computer folder containing your backed-up **JU-06** data.
5. Copy the **JU-06** backup files from this folder to the "RESTORE" folder on the "**JU-06**" drive.
6. When the copy has completed, safely eject the USB drive and disconnect the USB cable from the computer.
   Windows Right-Click on the "**JU-06**" icon in "My Computer" and execure "Eject".
   Mac OS Drag the "**JU-06**" icon to the trash icon in the Dock.
7. Press the MANUAL button.
8. After the LED's have completely stopped blinking, turn the POWER button [A] to OFF.
9. When you turn on the unit, the sounds will be restored.

5. Specifications

Unit Specifications

Maximum Polyphony	4 Voices
Power Supply	USB Power; 4xAA batteries
Current Draw	500mA (USB Power)
Dimensions	300 (W) x 128 (D) x 45 (H) mm / 11-13/16 (W) x 5-1/16 (D) x 1-3/4 (H) inches
Weight (incl batteries)	940g / 2lbs 2oz
Accessories	Owner's Manual, "Using the Unit Safely" leaflet, 4xAA batteries
Options	Keyboard Unit K-25m

Patch Specifications

The 64 patches are stored in the BACKUP folder on the **JU-06** in text files named JU06_PATCH**x**.PRM where **x** is 1 thru 64 for each patch. Since the patch files are text files, they are easy to read and understand.

Below is an example of the contents of one of these patch files.

```
LFO RATE         (161);
LFO DELAY TIME   (0);
LFO WAVE         (0);
OSC LFO MOD      (0);
OSC ENV MOD      (0);
OSC FREQ MOD DST(1);
PWM              (131);
PWM SOURCE       (2);
OSC1 CROSS MOD   (0);
OSC1 RANGE       (2);
OSC1 WAVE        (3);
OSC2 SYNC        (0);
OSC2 RANGE       (164);
OSC2 TUNE        (146);
OSC2 WAVE        (1);
MIX BALANCE      (128);
HPF              (193);
CUTOFF           (197);
RESONANCE        (0);
FLT LPF SLOPE    (0);
FLT ENV MOD      (0);
FLT ENV MOD SRC (1);
FLT LFO MOD      (0);
FLT KEY FOLLOW   (90);
AMP LEVEL        (191);
AMP LFO MOD      (0);
ENV1 ATTACK      (144);
ENV1 DECAY       (123);
ENV1 SUSTAIN     (149);
ENV1 RELEASE     (95);
ENV1 POLARITY    (1);
ENV2 ATTACK      (83);
ENV2 DECAY       (255);
ENV2 SUSTAIN     (102);
ENV2 RELEASE     (102);
ENV2 KEY FOLLOW (3);
DELAY LEVEL      (0);
DELAY TIME       (0);
DELAY FEEDBACK   (0);
PORTA SW         (0);
PORTA TIME       (100);
ASSIGN MODE      (2);
BEND RANGE       (2);
PATCH_NAME(Big Saw Lead    );
```

The names if each are self-explanatory, and the following table lists each parameter with the corresponding minimum and maximum values for each.

Controller	Min	Max
LFO RATE	0	255
LFO DELAY TIME	0	255
LFO WAVE	0	5
OSC LFO MOD	0	255
OSC ENV MOD	0	255
OSC FREQ MOD DST	0	2
PWM	0	255
PWM SOURCE	0	2
OSC1 CROSS MOD	0	255
OSC1 RANGE	0	5
OSC1 WAVE	0	5
OSC2 SYNC	0	1
OSC2 RANGE	0	255
OSC2 TUNE	0	255
OSC2 WAVE	0	5
MIX BALANCE	0	255
HPF	0	255
CUTOFF	0	255
RESONANCE	0	255
FLT LPF SLOPE	0	1
FLT ENV MOD	0	255
FLT ENV MOD SRC	0	1
FLT LFO MOD	0	255
FLT KEY FOLLOW	0	255
AMP LEVEL	0	255
AMP LFO MOD	0	3
ENV1 ATTACK	0	255
ENV1 DECAY	0	255
ENV1 SUSTAIN	0	255
ENV1 RELEASE	0	255
ENV1 POLARITY	0	1
ENV2 ATTACK	0	255
ENV2 DECAY	0	255
ENV2 SUSTAIN	0	255
ENV2 RELEASE	0	255
ENV2 KEY FOLLOW	0	3
DELAY LEVEL	0	15
DELAY TIME	0	15
DELAY FEEDBACK	0	15
PORTA SW	0	1
PORTA TIME	0	255
ASSIGN MODE	0	2
BEND RANGE	0	24
PATCH_NAME	<Name of patch>	