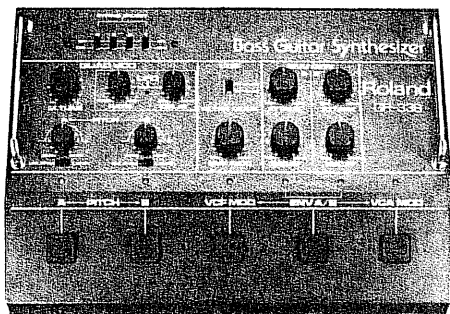


 Roland

Polyphonic

Bass Guitar Synthesizer

GR-33B OWNER'S MANUAL




Guitar Synthesizer

FEATURES

- Any bassist can play the GR-33B, using all standard bass techniques, hammering, glissandos, harmonics, chopping, bowing, etc.
- A small, compact unit (like an effects box) with all the electronic-type foot-controlled switch major functions; great for live performances.
- Totally polyphonic: one VCO for each string.
- Instant and accurate transposing to two preset pitches.
- A duet switch for a chorus effect.
- Synthesizer ON/OFF for each string.

INDEX

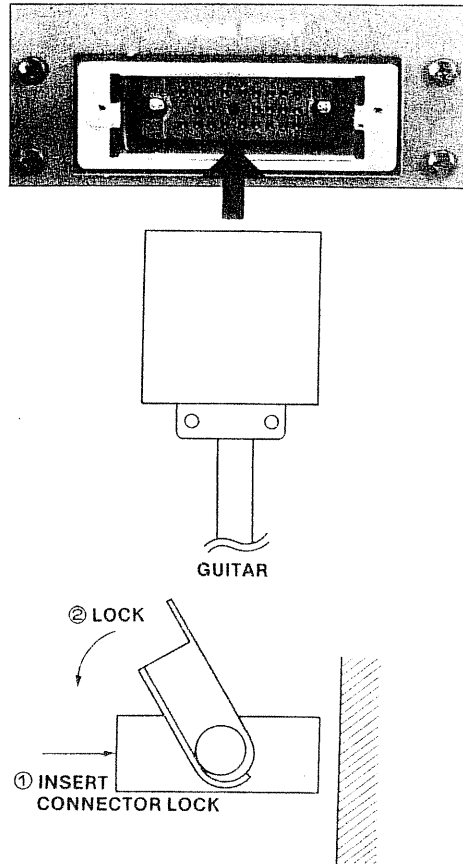
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Before Starting

- Use a transformer to produce the correct line voltage if the line voltage in your area does not match the value specified on the nameplate.
- Keep away from fluorescent lamps, neon lights, and high-power transformers as these will induce high noise levels in the Guitar Synthesizer.
- Avoid the use of this instrument in places that are dusty, of high temperature or high humidity.
- Clean the control panel with neutral detergent. Use a soft, dry cloth for the wooden parts. Do not use solvents such as paint thinner.
- The GR-33B Bass Guitar Synthesizer has been designed to work with the G-33 or G-88 Bass Guitar and will not work with the GR-500 and GR-300.
- The length of the sound may be shorter than normal, or the synthesized sound may be one octave higher than normal with certain styles of picking and stopping the strings.

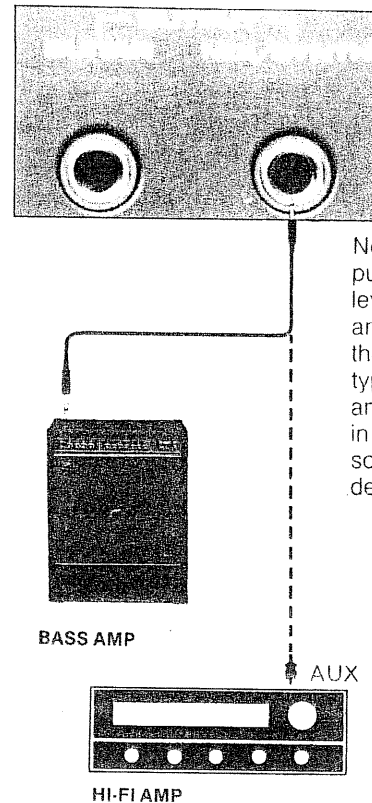
STANDARD CONNECTIONS

GUITAR CONNECTIONS



Connect the G-33 or G-88 as shown in the drawing using the chrome guitar connector. The connector is keyed and must be inserted correctly (lock lever up) for a proper fit. (The NORMAL OUTPUT jack on the Bass Guitar is not connected to the Bass Guitar Synthesizer.)

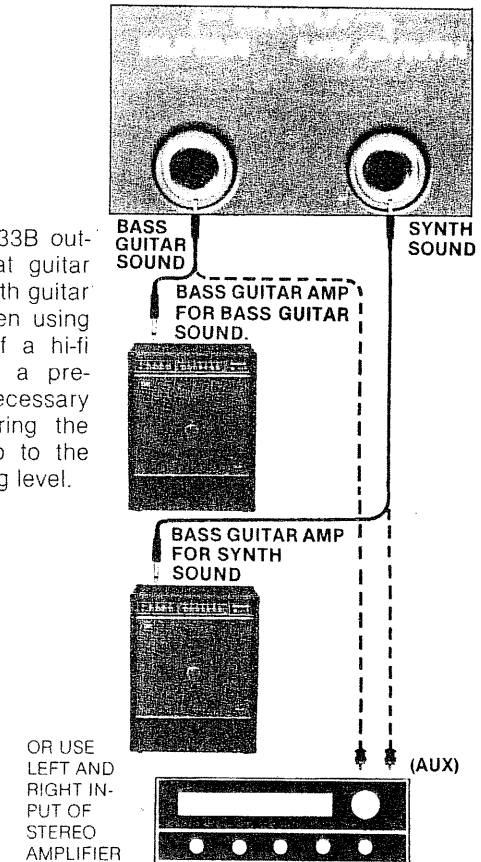
MIXED OUTPUT USING ONE AMPLIFIER



When there is no connection to the BASS GUITAR OUTPUT jack on the rear panel of the Bass Guitar Synthesizer, the output at the MIX/SYNTH jack consists of an equal mixture of the guitar and synthesizer sounds.

Note: The GR-33B outputs are set at guitar level for use with guitar amplifiers. When using the AUX IN of a hi-fi type amplifier, a pre-amp may be necessary in order to bring the sound level up to the desired listening level.

GUITAR OUTPUT USING TWO AMPLIFIERS

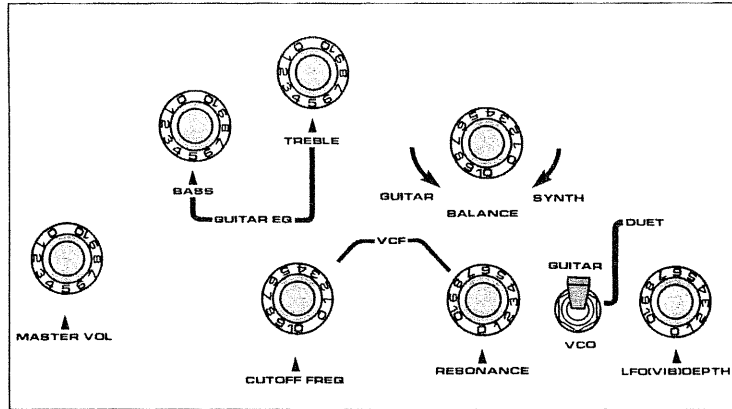


OR USE LEFT AND RIGHT INPUT OF STEREO AMPLIFIER

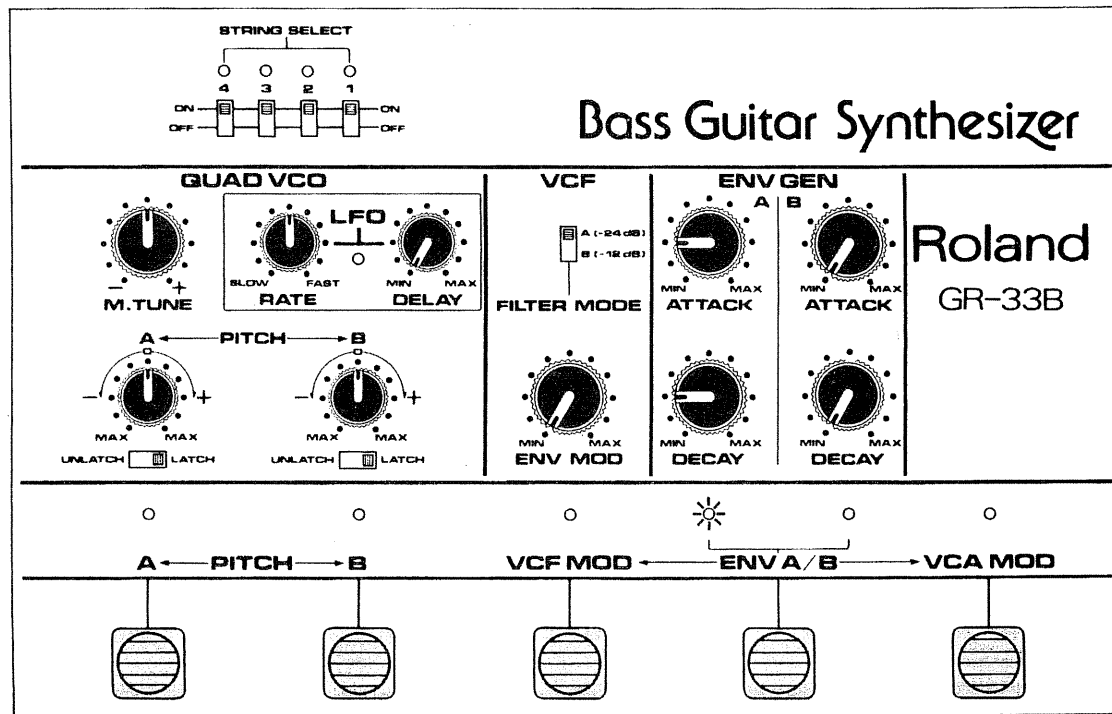
When both output jacks are used, the outputs are separated with the bass guitar sound at the OUTPUT jack and the synthesizer sound at the MIX/SYNTH jack. These separate outputs can be passed through separate effects devices and amplifiers for stereo sound.

STANDARD SETTING

G-33/88



GR-33B



PRODUCING SOUND

Set the controls as shown on the left. Set the external amplifier volume at the minimum level and turn on all the power switches. Turn up the volume control; playing the bass guitar should produce the bass guitar sound. If needed, tune the Bass Guitar in exactly the same way as an ordinary electric bass is turned.

To produce the synthesizer sound,

The sound produced now is the unprocessed sound from the synthesizer VCO's (voltage controlled oscillators).

The VOICE SELECT switch at the DUET position, adds the fundamental pitches of the bass guitar strings to the VCO sounds to produce a chorus effect. It is necessary to tune the VCO's using the MASTER TUNING, controls so that they match the pitches of the strings. For accurate tuning use at least ten minutes for a warm-up period after first turn on the power switch. Turn the BALANCE control, counterclockwise to increase the normal bass guitar sound. Setting the BALANCE CONTROL, at "0", will produce the normal bass guitar sound only.

USING THE VCF

Let's try the VCF (voltage controlled filter) section next. Set the BALANCE control at "10". Try slowly lowering the Bass Guitar CUTOFF FREQ control to "0". Note that the sound becomes softer with fewer harmonics.

The purpose of the VCF is to control the tone color of the synthesizer sound. Next, raise the Bass Guitar RESONANCE control a little at a time while trying different positions of the CUTOFF FREQ control. This produces an electronic type of sound usually associated with synthesizers. The two controls, CUTOFF FREQ and RESONANCE combine to control the tone color of the sound passing through the VCF.

*VCF Filter Mode

This switch changes the roll-off characteristics of the VCF, either -12dB/OCT or -24dB/OCT , and controls the envelope modulation of the VCF.

1.

4. 5.

6.

9. 10.

If a foot volume pedal (Roland FV-20; sold separately) is connected to the VCF PEDAL jack on the rear panel, the VCF cutoff frequency (in other words, the tone color of the output sound) can be controlled manually with your foot.

Raise the ENV MOD control to maximum. Set the RESONANCE control at "4", and the CUTOFF control at "8".

While repeatedly picking a string, try pressing the VCF MOD foot switch. In this mode of operation, the filtering action of the VCF is controlled by the picking of the bass guitar strings instead of manually, as before to produce a "WOW" sound.

The LED's for the VCF MOD light up when the effect is ON, and flicker when the effect is OFF.

The depth of the modulation is determined by the VCF MOD knob.

Try slowly lowering the VCF MOD control to "0".

ENVELOPE GENERATOR

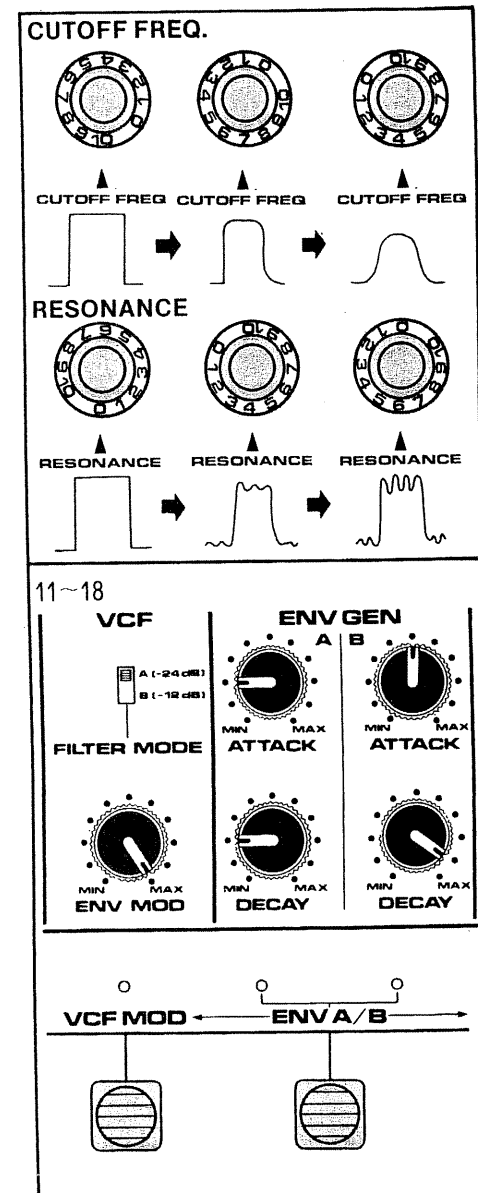
Set the ENV MOD at "MAX", and ENV GEN "A", ATTACK knob at "MIN" and DECAY at "MAX". Try picking one of the strings and raising the ATTACK control. This causes the raising (attack time) of the "WOW" sound become longer.

Set the ENV GEN "A" ATTACK knob at "MIN" and DECAY at "MIN". Try picking one of the strings and with raising the DECAY. The envelope generator generates a control voltage with time according to the control settings.

This control voltage is used to control the VCF cutoff frequency point so as to vary the tone color during the production of a note, and/or is used to control the VCA to give the output sound its loudness contour.

ATTACK.....This knob controls the amount of time which is required for the voltage to reach its maximum level. This is called an attack time.

DECAY.....This knob controls the amount of time required for voltage to fall to the level. This time is called a decay time.

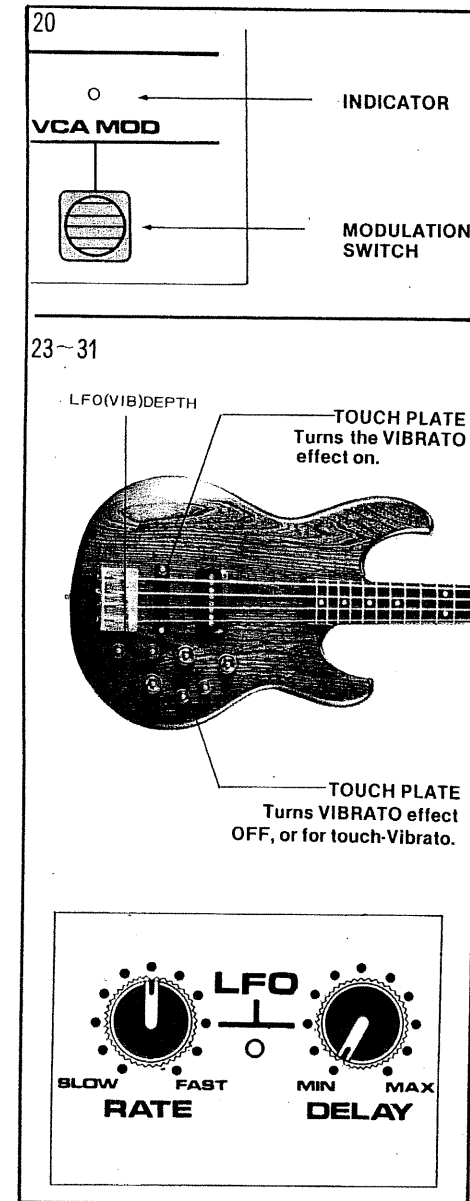


The Envelope Generator has two channels, A and B, both with the same function. Controls are provided for attack and decay, and the selected envelope curve can be used for modulating the VCF or the VCA. Channel A or B may be selected by a foot switch. It is impossible to use the different envelopes for both the VCF and the VCA. The LED indicates which channel has been selected. When the power source is turned ON, A is automatically selected.

VCO VIBRATO

Next, let's try different ways of modulating or controlling the VCO's. First is vibrato, which is a slight wavering of pitch. Vibratos can be produced in the normal bass guitar way by using the finger to vary the tension on the string, or it can be produced electronically for a wide number of effects. Set the VIB DEPTH (vibrato depth) knob on the Bass Guitar at "10". This may or may not produce the vibrato effect. If not, touch the upper metal end (Touch Plate A) of the divided pickup of the Bass guitar to turn the vibrato effect ON. To turn it OFF, touch the opposite end (Touch Plate B) of the pickup. The vibrato will decay slowly after releasing the touch plate.

With the vibrato ON, try various positions for both the VIB DEPTH control on the Bass Guitar and the LFO RATE (LFO = low frequency oscillator) and the LFO DELAY control on the Bass Guitar Synthesizer and note the effects. VIB DEPTH controls the depth of the vibrato effect and the LFO RATE controls the speed of the vibrato. The LFO DELAY control determines the delay time of the delay vibrato.



The electronic vibrato affects only the VCO's. IN the DUET mode, the combination of the non-vibrato fundamental strings pitches with the vibrato VCO pitches produces the chorus effect sound.

The Bass Guitar OWNER'S MANUAL contains additional information on the vibrato ON/OFF function.

PITCH SHIFT

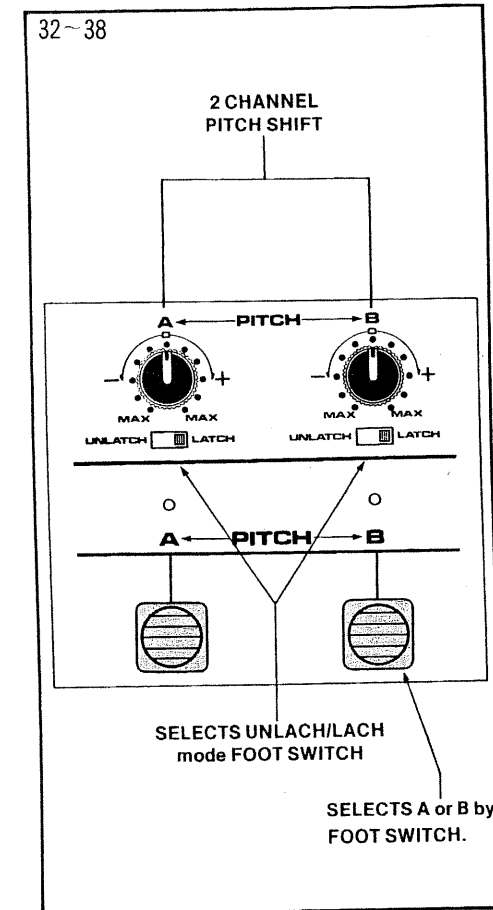
Another VCO effect is pitch shift, an effect where the VCO's can be shifted to pitches other than the string pitches. Set the VOICE SELECT switch at the "DUET", the fundamental pitches will be the same as the string pitches, and the VCO's can be tuned to other pitches so that one instrument produces the effect of a very large group.

Set the Bass Guitar Synthesizer and Bass Guitar for the standard settings shown on page 4, but with the BALANCE control fully clockwise. Press the PITCH "A" foot switch and take note of the LED above the switch and the LED above the switch lights. While producing sound, try tuning the PITCH "A" knob up and down and note that this now controls the VCO pitches. Try tuning the VCO's to a perfect octave below the fundamental string pitch. For this, the PITCH "A" knob will be set somewhere near "-3".

Next, try PITCH "B" by pressing the PITCH "B" foot switch and adjusting the PITCH "B" knob so as to produce the interval of a major fifth the fundamental.

The VCO tuning can now be switched instantly and accurately between these two preset pitches and unison by pressing the appropriate PITCH foot switch. Pressing PITCH "A" produces the "A" tuning; pressing again cancels the "A" tuning. Pressing PITCH "B" produces the "B" tuning, and pressing again cancels it. It is possible to switch from "A" to "B" or from "B" to "A" without passing through unison by merely pressing the new pitch foot switch.

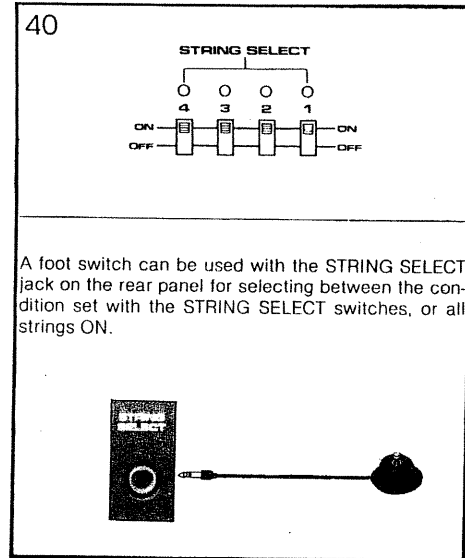
The UNLATCH/LATCH switch below each PITCH knob controls the latching function of the related PITCH foot switch. At LATCH, the pitch change function will alternate between the foot switch as described in the preceding paragraph. At UNLATCH, the tuning function will be ON only while the foot switch is held down and OFF when it is released.



STRING SELECTOR

When using the bass guitar and synthesizer sounds simultaneously (Bass Guitar BALANCE control somewhere near center), the STRING SELECT switches can be used to determine which strings are to produce the synthesizer sounds. There are four switches, one for each string. Only those switches that are ON will produce synthesizer sounds. These switches can be used where it is desired to play a melody or a bass line against guitar chords, for example, or for other effects where the synthesizer notes are to be relatively independent of the bass guitar notes.

When playing the arpeggio with the VCF and VCA modulation on, if the string of the first sound is still vibrating when the second note is played, the sound of the first note will be affected. If this effect is not desired, play the string of the second note after the vibrations of the string of the first note have been stopped.

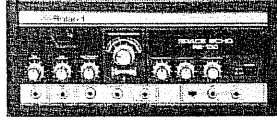
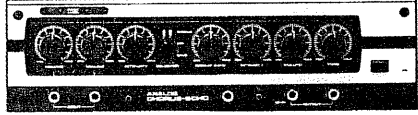



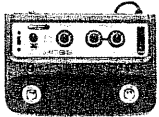

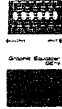
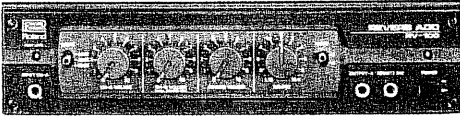
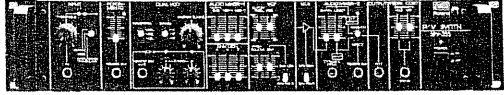


•USING ATTACHMENTS

Attachments can be connected between the Guitar Synthesizer and the external amplifier. Since the GR-33B is a synthesizer, try devices designed for use with synthesizers, such as phase shifters, flangers, chorus and echo machines.

GR-33B + SPV-355

When a solo type synthesizer sound is desired, try the Roland P/V Synthesizer SPV-355. Use the NORMAL OUTPUT on the Bass Guitar, or use the GUITAR OUTPUT FROM THE GR-33B.

ECHO CHAMBER		RE-501 RE-201 RE-150
ANALOG ECHO		DC-30 DC-20
PHASER	 	SPH-323 PH-1R
FLANGER		SBF-325
CHORUS		CE-1 CE-2
EQUALIZER	 	GE-10 GE-6
REVERB		RV-100
P/V SYNTH		SPV-355

SAMPLE SOUNDS

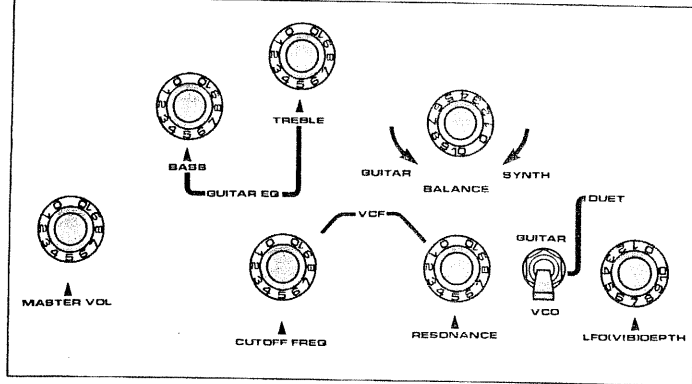
Following are a very few of the infinite range of possibilities with the Bass Guitar Synthesizer. Try altering the sounds shown

by changing controls slightly and using pitch shift, vibrato, duet mode, etc.

1 BOWING BASS

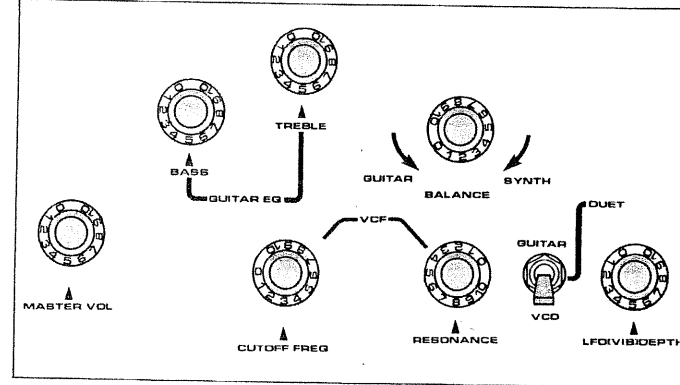
Turn on the vibrato of the Bowing Bass and play it as if you're playing the cello.

▼ G-33/88

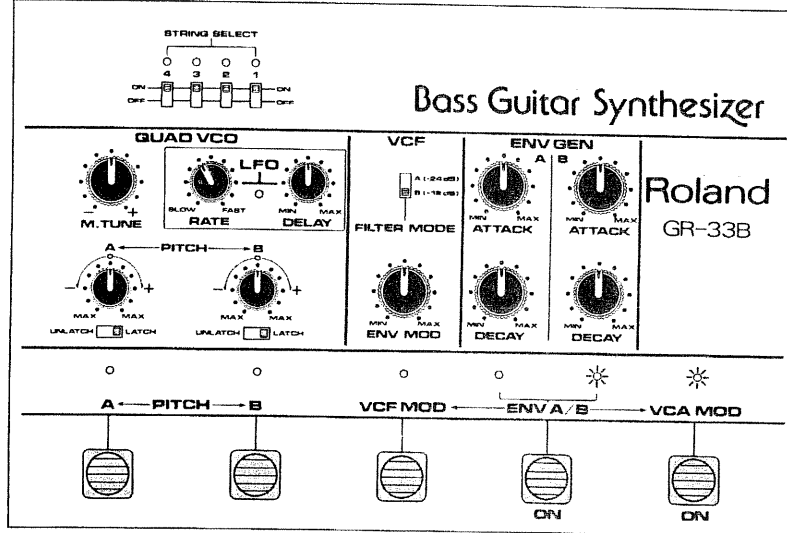


2 Synth-Bass (ala Herbie Hancock)

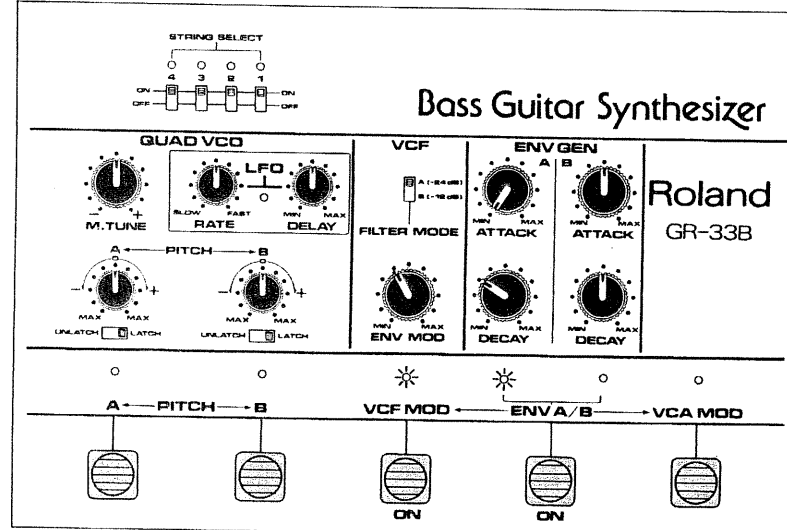
▼ G-33/88



▼ GR-33B



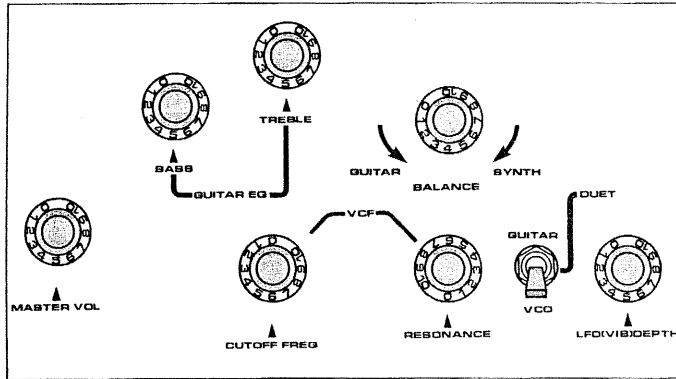
▼ GR-33B



3 SUB SONIC BASS

Lower the octave of the pitch of the synth. Mix the normal bass sound with **BALANCE**. This is effective for playing the high notes.

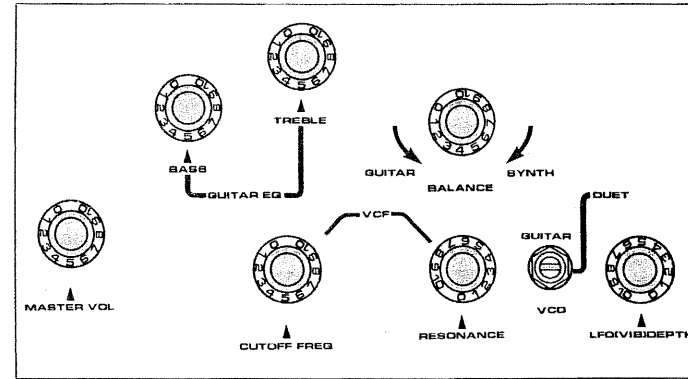
▼G-33/88



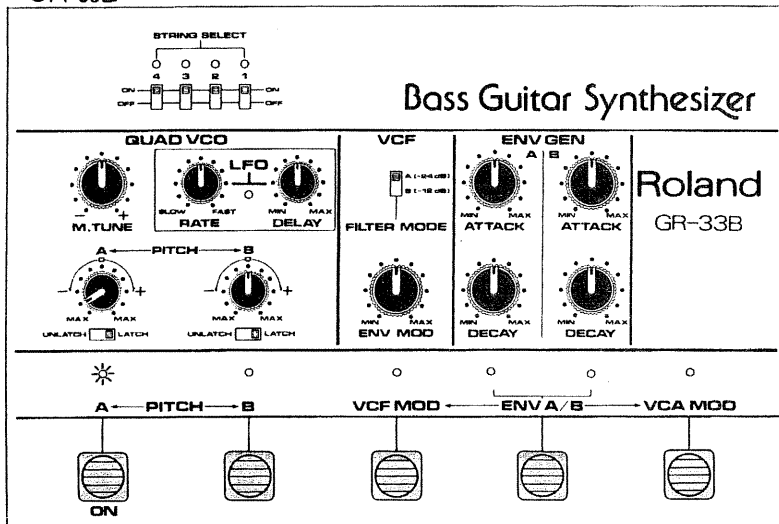
4 Eight-String Bass

Set the synth pitch to a major fifth above. Mix the normal bass sounds with **BALANCE**.

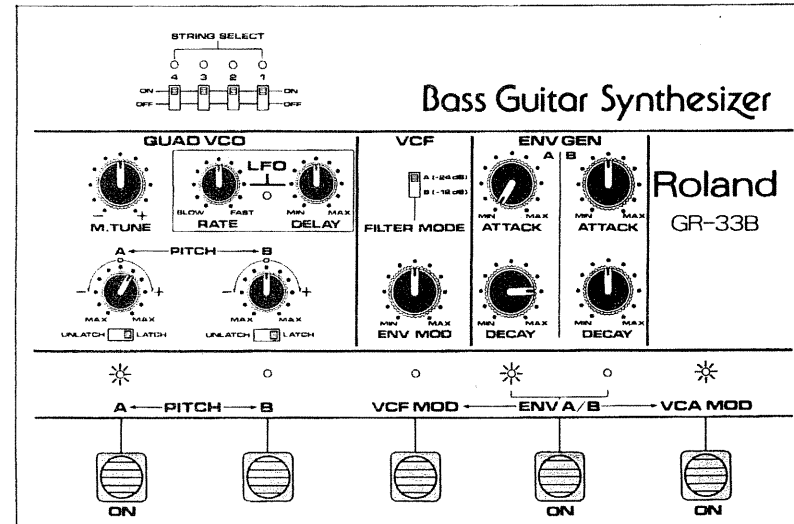
▼G-33/88



▼GR-33B



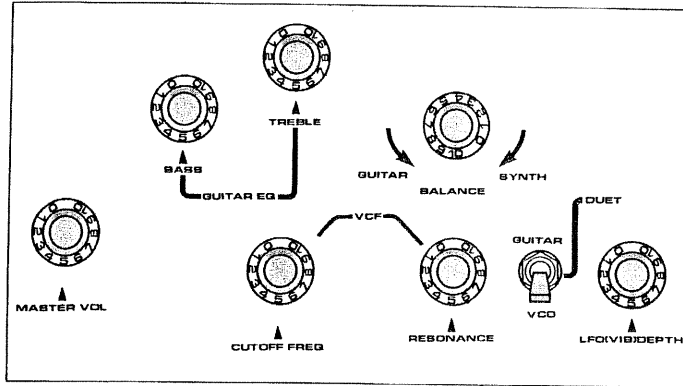
▼GR-33B



5 SYNTH-VOICE

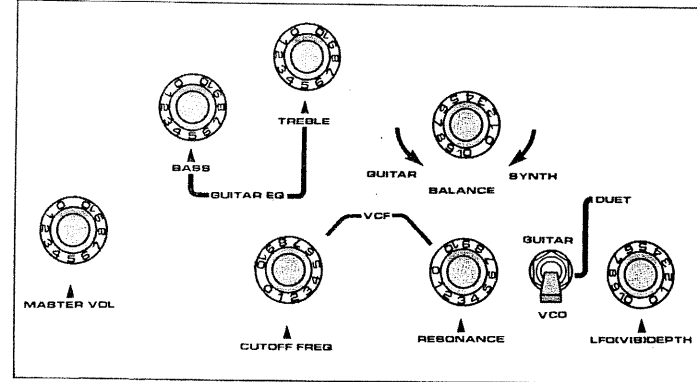
Set the synth pitch to above one octave.
Turn on the vibrato and try different positions of the CUTOFF FREQ control.

▼G-33/88

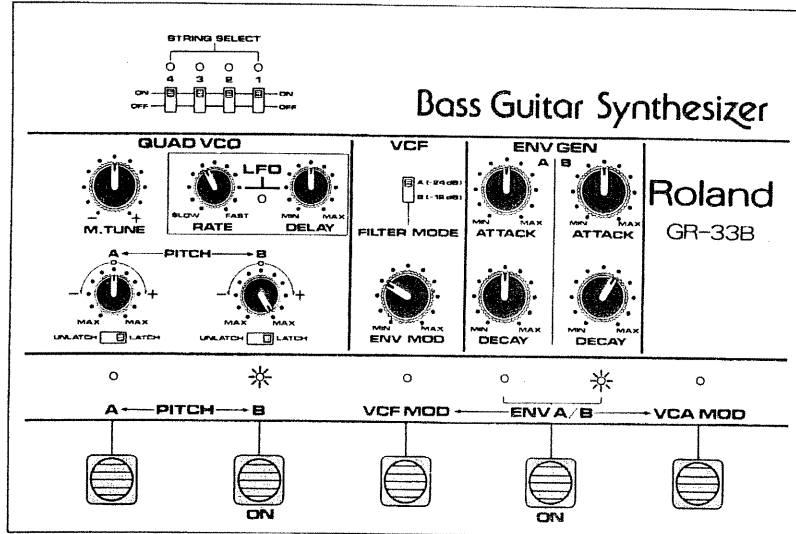


6 TUBA

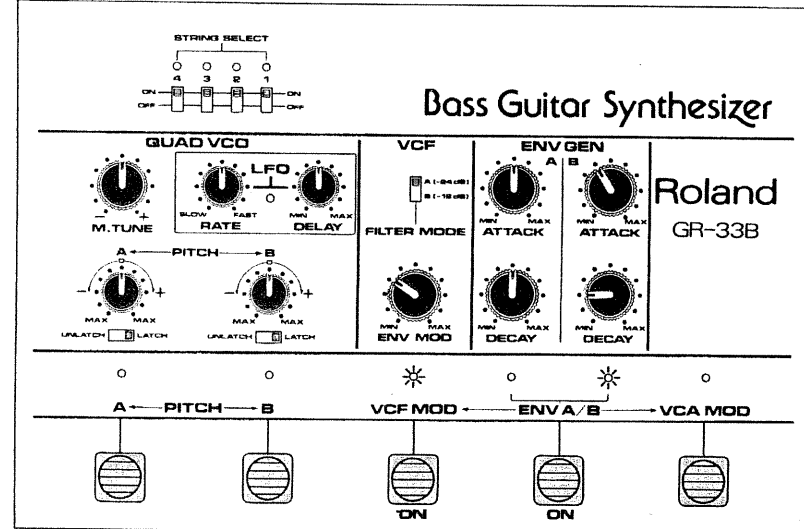
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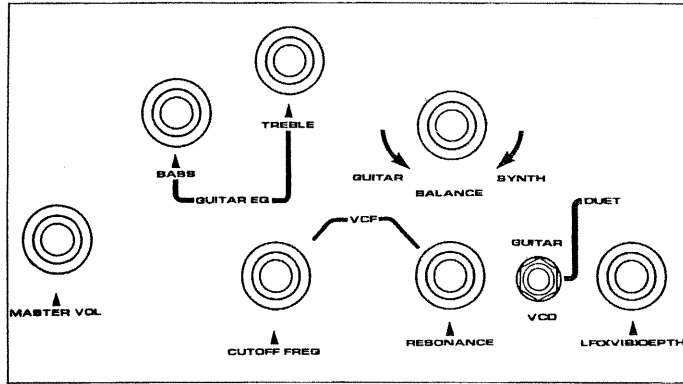


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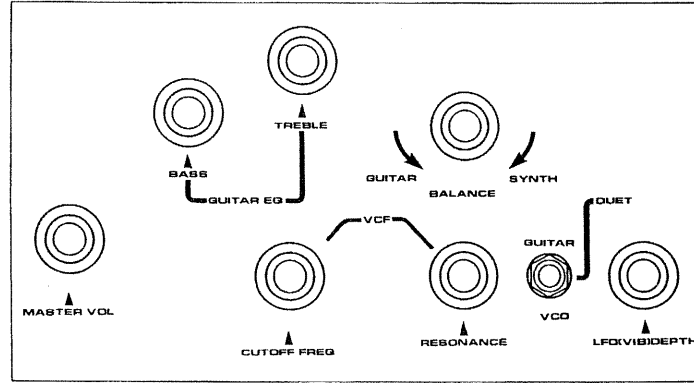


SAMPLE NOTES

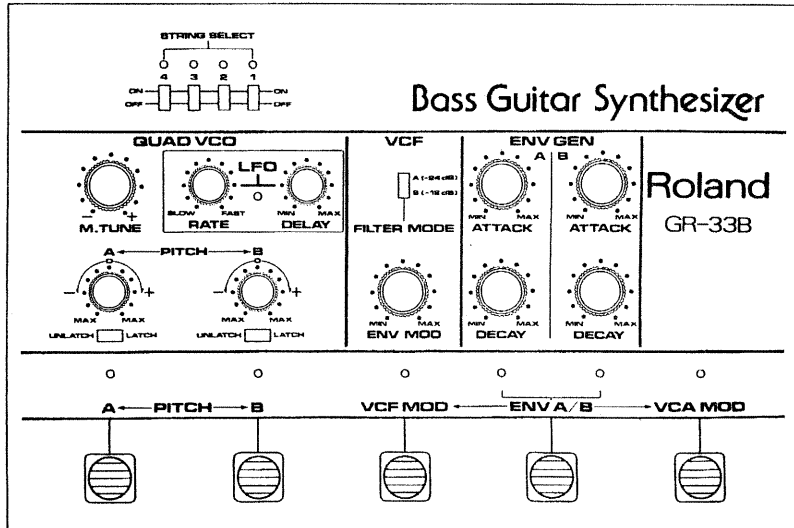
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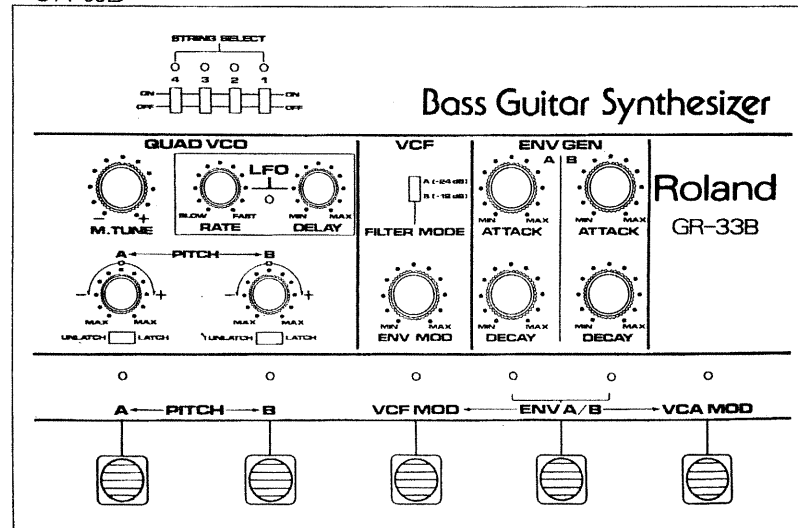
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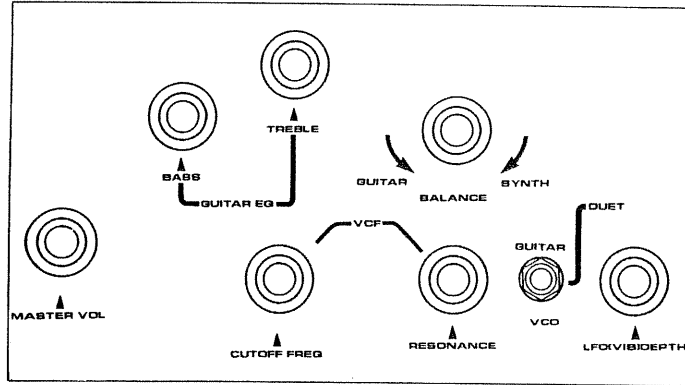
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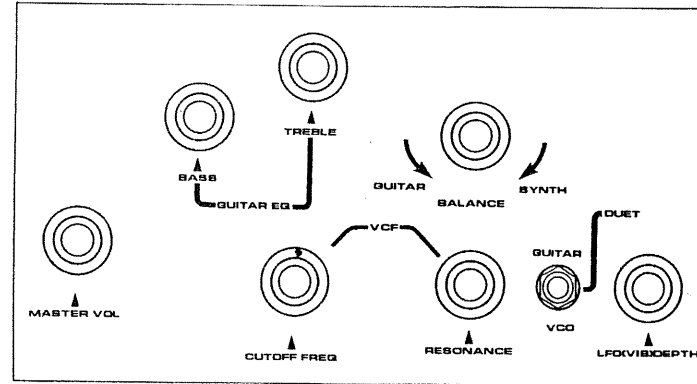
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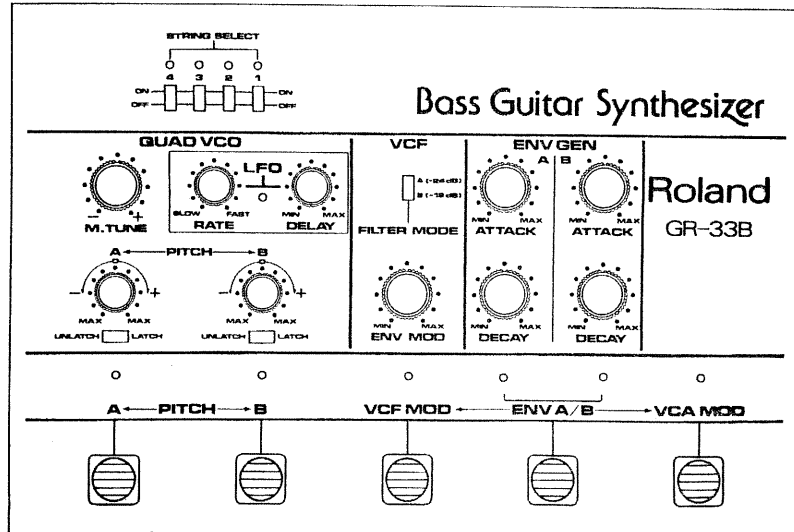
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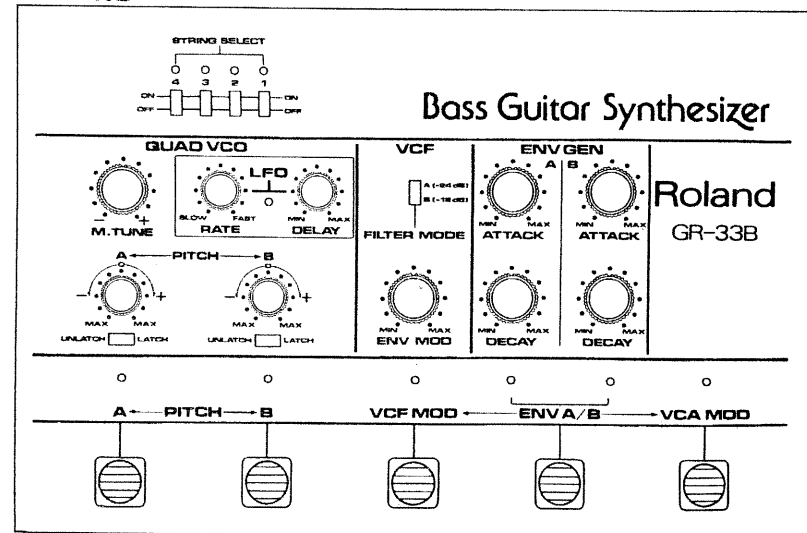
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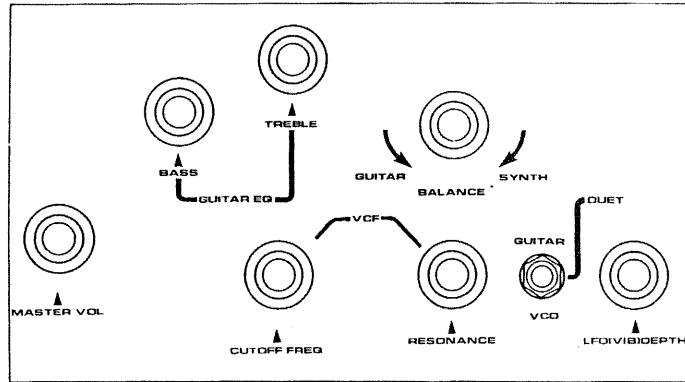
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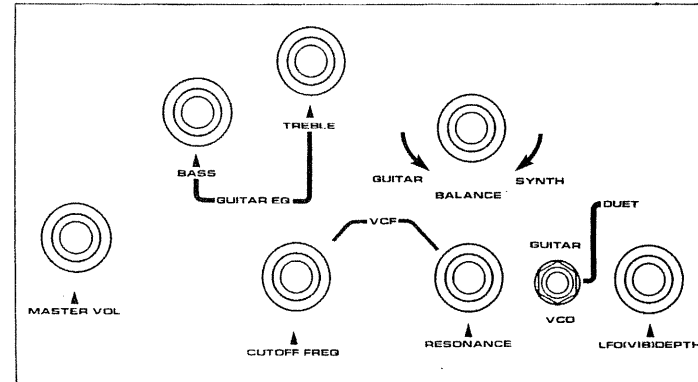
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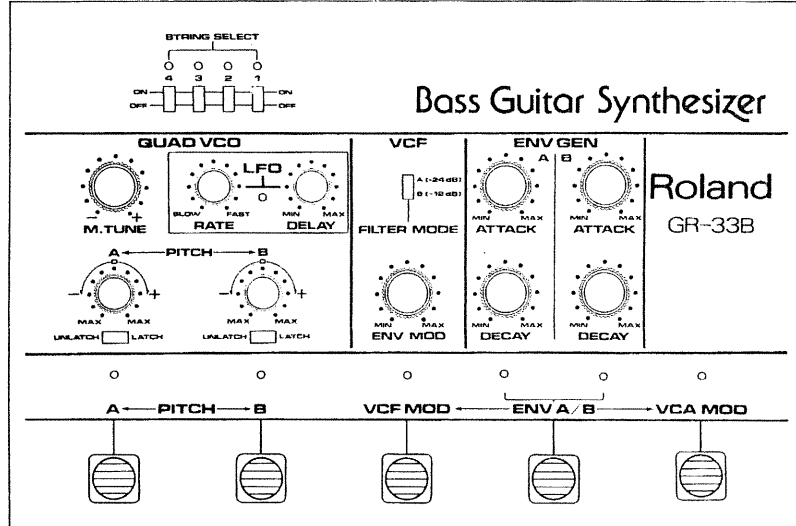
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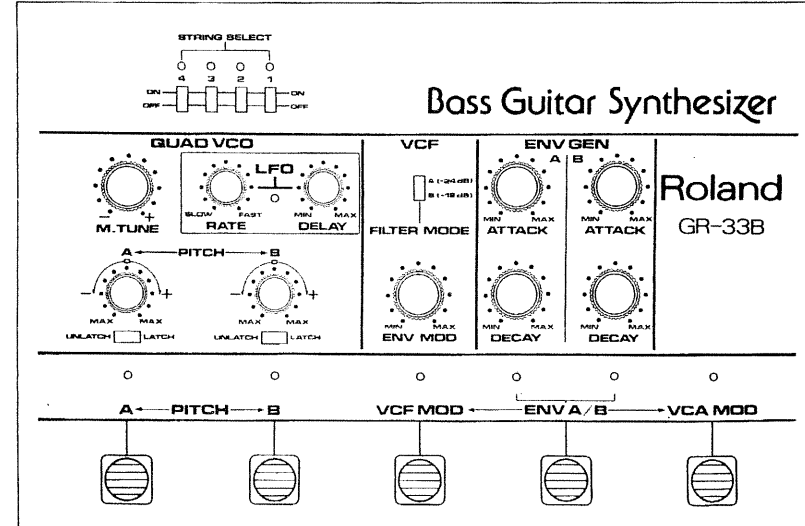
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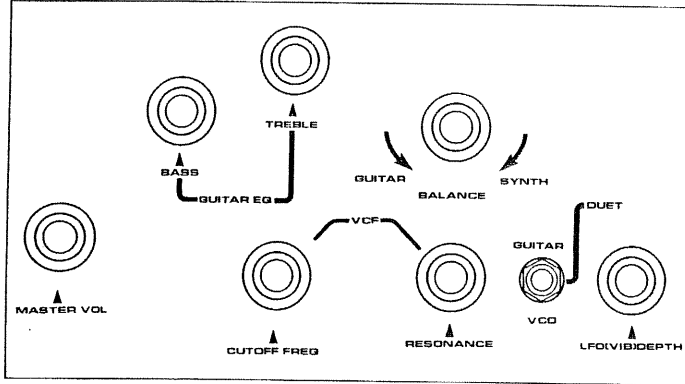
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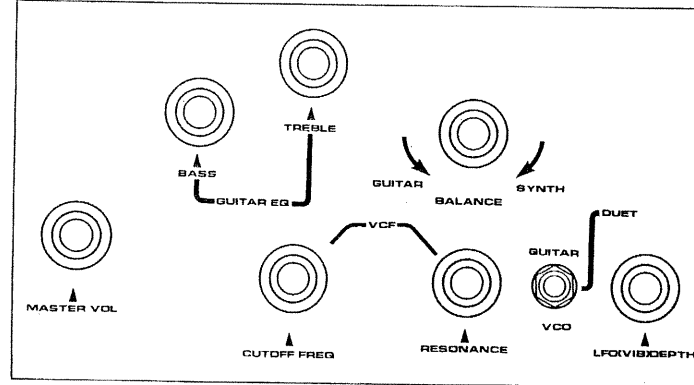
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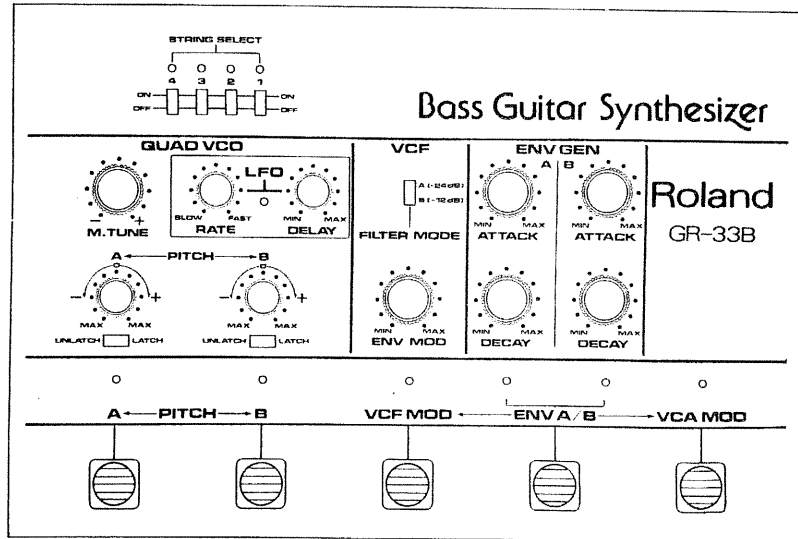
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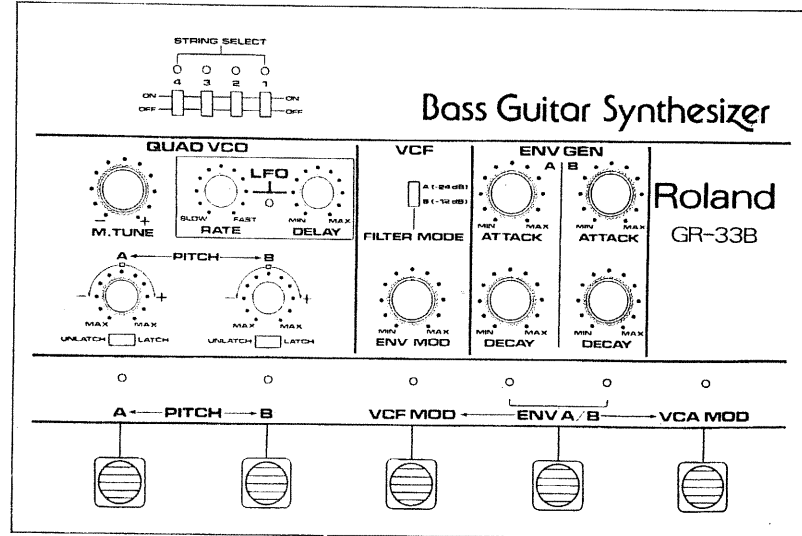
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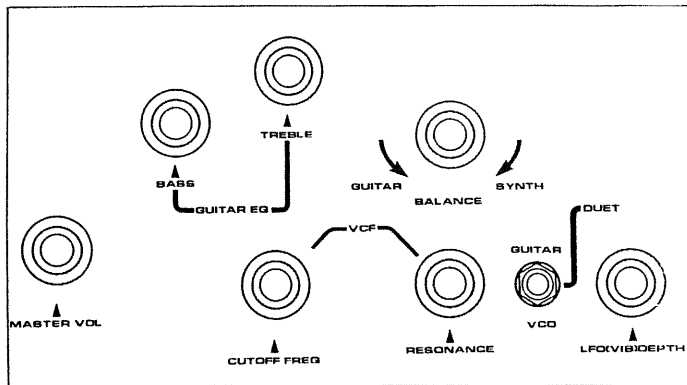
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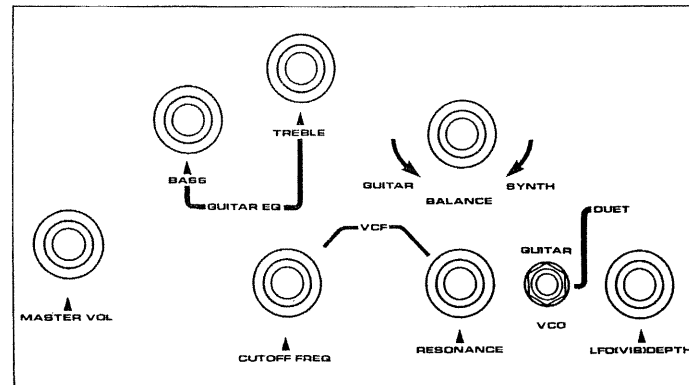
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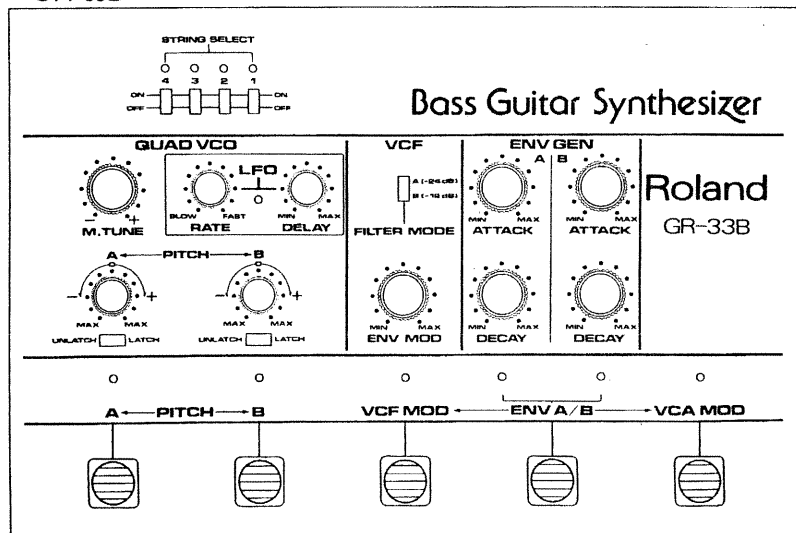
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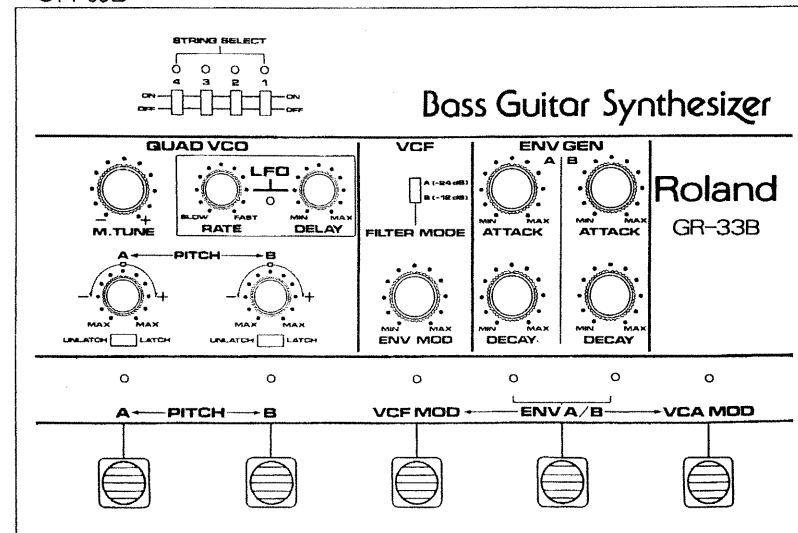
▼G-33/88



▼GR-33B



▼GR-33B



SPECIFICATIONS

QUAD VCO

MASTER TUNNING
PITCH A (± 1300 CENT)
PITCH B (± 1300 CENT)
PITCH LACH/UNLACH SWITCH
LFO RATE
LFO DELAY

VCF

ENV MOD
FILTER MODE SW

ENV GEN

ATTACK A
ATTACK B
DECAY A
DECAY B

STRING SELECT

1-4 SELECT SWITCH

FOOT SWITCH

QUAD VCO
PITCH A (PITCH A/OFF SELECT)
PITCH B (PITCH B/OFF SELECT)
ENV GEN (ENVELOPE A/B)
VCF MOD (ON/OFF)
VCA MOD (ON/OFF)

INPUT

24-PIN CONNECTOR

OUTPUT

MIX/SYNTH
GUITAR

EXT. FOOT CONTROL

STRING SELECT SWITCH
VCF PEDAL

POWER CONSUMPTION 24 W

DEMENSION 400(W) x 290(D) x 100(H)mm

NET WEIGHT 5 kg

 Roland®

10150

GR-33B OWNER'S MANUAL '81 JULY E-2

UPC 10150



1896:

Roland Corporation