MIDI Bass Pedals User's Guide

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Software Version 0.5S2

See on-line information at http://modularsynthesis.com/basspedals/basspedals.htm

Operation

Upon power on, the unit enters command mode selection which is indicated by a medium blink rate of the led. Pressing any of the main (brown) keys will select an operational mode indicated by a single 0.5 second blink.

C: Mono mode: This mode functions exactly the same as poly mode except only one key at a time can be active. A note on will be sent on the first key depression. Additional key depressions are ignored until this key has been released.

C#: Portamento Off: This sends a portamento off command followed by two ½ second duration notes an octave apart.

D: Sticky mode: This mode functions exactly the same as poly mode except the current note will hold until the depression of the next key. If this key is the same as the previous then a note off will be sent.

D#: Portamento On: This sends a portamento on command followed by two ½ second duration notes an octave apart.

E: Poly mode: This is a standard MIDI mode where note on is sent on key depression and note off is sent on key release. The led will blink once for each key depression. Gate is true while any key is down. Trigger is true for 5 mS on each key depression. Select will transpose 0, 1, or 2 octaves (up) when all keys are released. Command will return to command mode when all keys are released.

F: Reserved for future

F#: MIDI channel mode: This mode requires two keys be pressed to select the MIDI channel 1-16. The keys are numbered 0 to 9 starting from the left (e.g. D=2). The led flashes once for each key pressed. A sequence of MIDI notes is played indicating the channel (e.g. 4 notes indicates channel 4) and then returns to command mode.

The default MIDI channel is 2. An error in selecting a valid channel will also default to channel 2 and will be indicated by two notes on.

G: Arpeggiator mono mode: The led will go steady on to indicate sequence selection mode which will preview (play) the sequence selected by the main (brown) keys. Value sets the tempo and Select will transpose 0, 1, or 2 octaves (up).

C plays sequence 1 (Pink Floyd Dark Side of the Moon)
D plays sequence 2 (The Doors Riders on the Storm)
E plays sequence 3 (Unknown riff)
F plays sequence 4 (Unknown riff)

G plays sequence 5 (Hendrix Machine Gun)
A plays sequence 6 (User recorded sequence)

Record mode is selected by pressing high C. The led will go off to indicate record mode. The keys played will be recorded as sequence 6. Up to a maximum of 100 notes can be recorded. Pressing Command ends record mode and returns to sequence selection mode. Record mode will also end if all notes are recorded. Sequence 6 is selected unless another sequence selection is made.

Pressing Command ends selection mode and begins arpeggiator mode with the sequence last previewed selected (sequence 1 is selected if no sequence is previewed). The value control sets the tempo of the arpeggiator sequence. The led will blink once for each note sent. Select will transpose 0, 1, or 2 octaves (up) when all keys are released. Command will return to command mode when all keys are released.

G#: Program change mode: This mode requires two or three keys be pressed to select program change 0-127. The keys are numbered 0 to 9 starting from the left (e.g. E=4). The led flashes once for each key pressed. A program change is sent whenever a correct value is entered (e.g. 57, 127, etc.) or an incorrect key (e.g. A# - Hi C) is selected. The default program change is 0. A single MIDI note will be played after the program change so you can hear the selected program. The unit then restarts program change mode. Pressing the command switch after the program change will return to command mode.

A: Arpeggiator sticky mode: This mode functions exactly the same as the arpeggiator mono mode except the current sequence will continue until the depression of the next key which starts the new sequence. If this key is the same as the previous then the sequence will stop.

A#: Panic mode: This mode sends all 128 MIDI note off commands on both the bass pedal and MIDI pass-through channels and then returns to command mode.

B: Arpeggiator once mode: This mode functions exactly the same as the arpeggiator mono mode except the current sequence is played once. The sequence will restart if the same key is down. Notes played during the sequence are ignored.

High C: Reserved for future

MIDI

MIDI pass-thru: MIDI in data is passed through and merged with bass pedal midi data. Running data received through MIDI in is processed and sent as normal uncompressed data. The channel can be transposed to a different MIDI channel (default=on/1 set by a program defined constant) and notes can be transposed (default=0 set by a program defined constant). If a MIDI transpose channel is set, a MIDI all-notes-off command is sent followed by a program change (default=Sawtooth #82 or Clav-3 #22 if enabled by a Roland MT-32 conditional option).

MIDI channel: The MIDI channel for the bass pedals is defined (default=2 set by a program defined constant). A MIDI all-notes-off command is sent on the bass channel followed by a program change (default= Synbass1 #39 or Syn-bass3 #31 if enabled by a Roland MT-32 conditional option).

MIDI clock: A MIDI start or continue command will disable the internal clock and generate a clock from MIDI at 24 clocks per quarter note. A MIDI stop will toggle the mode back to the internal clock.

Connectors

AUX1 jack: The tip is a 25mS +5 volt trigger output on all bass pedal notes. The ring is unused and can be programmed as a +5 volt analog input or digital output through a 470 ohm resistor.

AUX2 jack: The tip is +5 volt gate output when any bass pedal key is pressed, held by sticky mode, or during an arpeggiator sequence.

The ring is a +5 volt analog input through a 470 ohm resistor used for MIDI velocity (default=off set by a program defined constant). This enables a volume pedal to be plugged into AUX2 with the ring connected to the “end” of the attenuating resistor and the tip connected to the “wiper”.

PROGRAM DB9 jack: This jack is used for programming the MIDI Bass Pedals from an RS-232 port on a computer. It can also be used to display the bass pedal note and MIDI-thru note at 57,600 baud TTL with a proper adapter cable (default=off set by a program defined constant).