

MODULATION MD-500

Owner's Manual

- Thanks to 32-bit high-precision processing at a 96 kHz sampling rate from input to output, the MD-500 gives you stunningly high-quality modulation effect.
- With an easily readable screen and an independent [TAP/CTL] switch, it delivers both high functionality as well as ease of use during live performances.
- Standard effects such as chorus, flanger, and phaser have been enhanced using cutting-edge Boss technology. The MD-500 provides a total of 12 modulation effects, including models of the Boss CE-1 and scanner vibrato.
- The memory function lets you store and recall 297 different setups from internal memory.
- The MD-500 provides “simul mode” which lets you use two effects simultaneously, and an “insert loop function” which lets you shape your sound in conjunction with an external effect unit.
- By connecting the MD-500 via a USB cable or MIDI cables, you can switch sounds and control parameters in synchronization with your computer DAW or an external MIDI device.

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Getting Ready

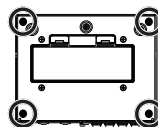
Installing the Batteries

Install four alkaline batteries (AA, LR6) in the battery compartment located on the bottom of the unit.

- * When turning the unit over, be careful so as to protect the buttons and knobs from damage. Also, handle the unit carefully; do not drop it.
- * If you handle batteries improperly, you risk explosion and fluid leakage. Make sure that you carefully observe all of the items related to batteries that are listed in "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (separate sheet "USING THE UNIT SAFELY" and Owner's manual (p. 30)).
- * We recommend that you keep batteries installed in the unit even though you'll be powering it with the AC adaptor. That way, you'll be able to continue a performance even if the cord of the AC adaptor gets accidentally disconnected from the unit.
- * "BATTERY LOW" will appear on the display if the batteries are low. Replace them with new ones.

Attaching the Rubber Feet

You can attach the rubber feet (included) if necessary. Attach them in the locations shown in the illustration.



Connecting the Equipment

- * To prevent malfunction and equipment failure, always turn down the volume, and turn off all the units before making any connections.

USB (←) port

Use a commercially available USB 2.0 cable to connect this port to your computer.

You can synchronize with a DAW via MIDI.



MIDI IN, OUT connectors

Connect an external MIDI device here.

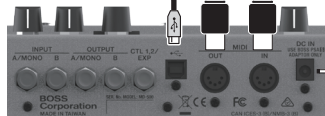
You can synchronize with an external MIDI device via MIDI.



DC IN jack

Accepts connection of an AC Adaptor (PSA-S series; sold separately). By using an AC Adaptor, you can play without being concerned about how much battery power you have left.

- * Use only the specified AC adaptor (PSA-S series; sold separately), and connect it to an AC outlet of the correct voltage. Do not use any other AC adaptor, since this may cause malfunction.
- * If the AC adaptor is connected while power is on, the power supply is drawn from the AC adaptor.



INPUT A/MONO, B jacks

Connect your electric guitar, or another instrument or effect unit, to these jacks.

- * Use the INPUT A/MONO jack and B jack when connecting a stereo-output effects unit. Use only the INPUT A/MONO jack if you're using a mono source.

Turning the power on/off

The INPUT A/MONO jack doubles as the power switch. Power to the unit is turned on when you plug into the INPUT A/MONO jack; the power is turned off when the cable is unplugged.

When powering up:

Turn on the power to your amp last.

When powering down:

Turn off the power to your amp first.

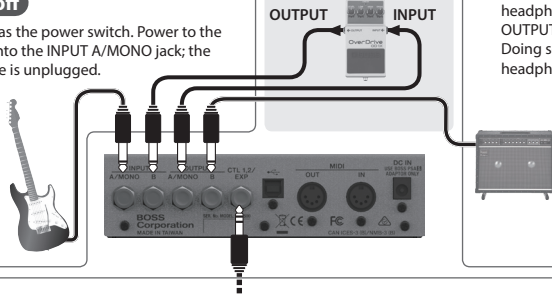
MEMO

You can connect an external effect unit and use it in conjunction with the MD-500's effects (p. 24).

OUTPUT A/MONO, B jacks

Connect these jacks to your amp or monitor speakers. If you're using a mono setup, use only the OUTPUT A/MONO jack.

- * Do not connect headphones to the OUTPUT A/MONO, B jacks. Doing so may damage the headphones.



CTL 1, 2/EXP jack

You can control various parameters by connecting a footswitch (FS-5U, FS-5L, FS-6, FS-7: sold separately) or an expression pedal (such as the EV-30, Roland EV-5; sold separately) to the CTL 1, 2/EXP jack (p. 25).

When Connecting an FS-5U (or FS-5L)

1/4" phone type ↔ 1/4" phone type



CTL 1

When Connecting Two FS-5Us (or FS-5Ls)

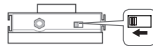
Stereo 1/4" phone type ↔ 1/4" phone type x 2



CTL 2

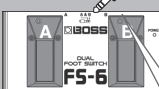
CTL 1

POLARITY switch



When Connecting an FS-6

Stereo 1/4" phone type ↔ Stereo 1/4" phone type



CTL 2

CTL 1

When Connecting an FS-7

Stereo 1/4" phone type ↔ Stereo 1/4" phone type



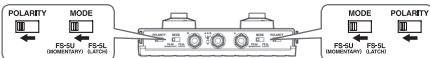
When connecting expression pedal

- * Use only the specified expression pedal (EV-30, Roland EV-5; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.

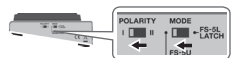


EXP

MODE/POLARITY switch



MODE/POLARITY switch



Basic Operation

Adjusting the Effect

[MODE] knob

Selects the type of effect.

CHORUS	A chorus unit that can simulate anything from a vintage chorus unit to a chorus effect powered by BOSS's cutting-edge technology. Generates a flanging effect. Turn the TURBO SW "ON" to create an even more intense sound.
FLANGER	Generates a phase effect. This can also give you the light sound of a vintage phaser.
CLASSIC-VIBE	Models a Uni-vibe.
VIBRATO	A vibrato with a unique effect. This can also simulate the scanner vibrato of a tonewheel organ.
TREMOLO	An effect that cyclically varies the volume. This can also simulate the tremolo of a vintage guitar amp.
DIMENSION	Models the Roland DIMENSION D (SDD-320).
RING MOD	Produces an unpitched sound with a metallic character.

ROTARY	A realistic simulation of a rotary speaker's sound.
FILTER	Lets you use the input to control the filter, or program the filter's modulation cycle.
SLICER	Repeatedly cuts the sound to produce a variety of slice patterns.
OVERTONE	Adds new overtones to create resonance and depth that was not present in the original sound.

[RATE/VALUE] knob

Adjusts the rate at which the effect sound is modulated.

To make larger changes in the value, turn the knob while pressing it.

[PARAM 1] knob

Adjusts a parameter that is assigned to each mode.

[DEPTH] knob

Adjusts the depth to which the effect sound is modulated.

[E. LEVEL] knob

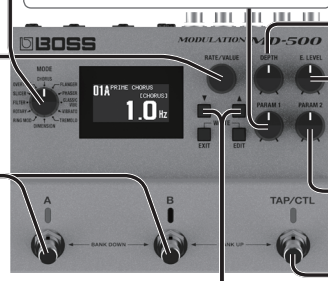
Adjusts the volume of the effect sound.

[A] [B] switches

Switch banks/patches (p. 6).

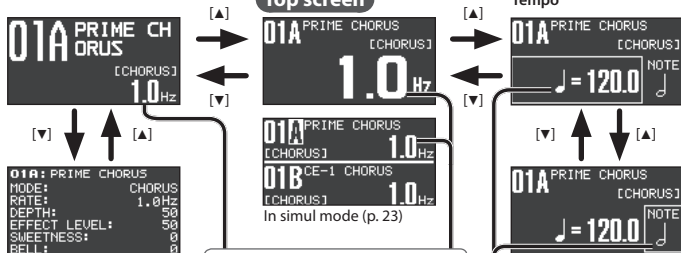
[PARAM 2] knob

Adjusts a parameter that is assigned to each mode.



[▼] [▲] buttons

Switch screens.



Turn the [RATE/VALUE] knob to adjust the value.

Note
Note length relative to the tempo

[TAP/CTL] switch

You can press this switch to vary the way in which the effect is applied (p. 7). By pressing this switch in time with the tempo of the song you're playing (tap input), you can easily set the modulation rate to match your song.

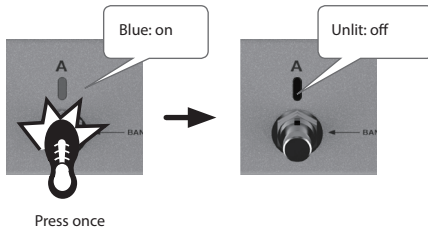
Turning Effect On/Off

Patch A effect

Each time you press the [A] switch, the effect alternately turns on (lit blue) / off (unlit).

Patch B effect

Each time you press the [B] switch, the effect alternately turns on (lit blue) / off (unlit).

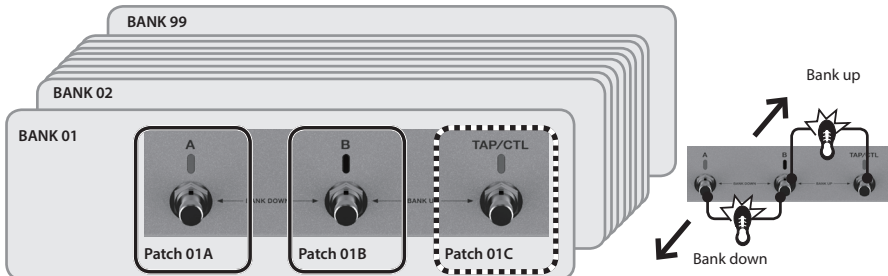


MEMO

You can also make settings so that patches A and B are used simultaneously (p. 22).

Patches and Banks

Settings for MODE, DEPTH, and EFFECT LEVEL are collectively called a “patch.” You can select patches using [A], [B], and [TAP/CTL] switches (p. 22). A combination of patches A, B, and C is called a “bank.”

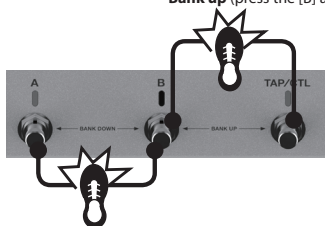


* If you want to use the [TAP/CTL] switch to select patch C, refer to “Assigning the Functions of the [A], [B], and [TAP/CTL] Switches” (p. 22).

Switching Banks/Patches

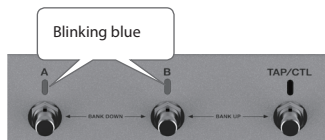
1. Switch banks (01–99).

Bank up (press the [B] and [TAP/CTL] switches simultaneously)



Bank down (press the [A] and [B] switches simultaneously)

2. Press a blinking switch ([A] or [B]) to switch patches.



MEMO

You can recall a different patch by turning the [RATE/VALUE] knob while you hold down the [EXIT] button.



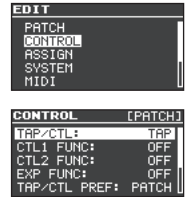
MEMO

You can change the functions that are controlled by the [A], [B], and [TAP/CTL] switches; for example, you can make the [A] switch turn effect on/off.

Using the [TAP/CTL] Switch to Control the Effect

By default, the [TAP/CTL] switch is used for tap input, but you can change the setting and use this switch to vary the way in which the effect is applied.

1. Press the [EDIT] button.
2. Use the [▲] [▼] buttons to select “CONTROL” and then press the [EDIT] button.
3. Use the [▲] [▼] buttons to select a parameter, and use the [RATE/VALUE] knob to edit the value.



Parameter	Value	Explanation
TAP/CTL		Specifies the function of the [TAP/CTL] switch.
TAP/CTL PREF	PATCH	Different settings can be made for each patch.
	SYSTEM	The same settings are shared by all patches.

TAP/CTL Settings

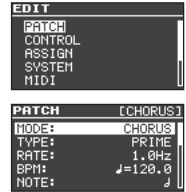
Value	Explanation
OFF	No assignment.
TAP	Lets you specify the modulation rate by tap input.
RESET	When you press the pedal, the LFO's phase returns to the value of INIT PHASE (p. 10).
MOMENT	Outputs the effect sound only while you hold down the switch.
BANK UP	Change banks.
BANK DOWN	

4. Press the [EXIT] button to return to the top screen.

Editing a Patch

You can edit a variety of patch-related parameters.

1. Press the [EDIT] button.
2. Use the [▲] [▼] buttons to select "PATCH," and then press the [EDIT] button.
3. Use the [▲] [▼] buttons to select a parameter, and use the [RATE/VALUE] knob to edit the value.
4. Press the [EXIT] button to return to the top screen.



* Save the edited patch as described in the procedure on "Saving a Patch" (p. 9).

Basic [EDIT] operations



[EDIT] button

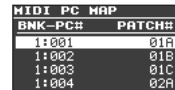
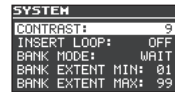
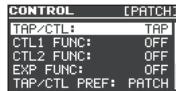
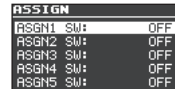
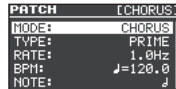


[EDIT] button

[EXIT] button

Use the [▲] [▼] buttons to move the cursor

Use the [▲] [▼] buttons to move the cursor
Use the [RATE/VALUE] knob to edit the value



Saving a Patch

Here's how to save a patch that you've edited.

1. Press the [EXIT] button and [EDIT] button simultaneously.
2. Use the [RATE/VALUE] knob to select the save-destination number.

Bank	[A] switch	[B] switch	[TAP/CTL] switch
Bank 01	01A	01B	01C
Bank 02	02A	02B	02C
:	:	:	:
Bank 99	99A	99B	99C

* Patch C can be selected only if FSW MODE (p. 22) is set to "A/B/C."

3. Press the [▲] button to select the patch name.
4. Edit the patch name.

[▲][▼] buttons	Move the cursor
[RATE/VALUE] knob	Edit the character

5. Press the [EDIT] button to save the patch.

If you decide to cancel, press the [EXIT] button.

By moving the cursor to "WRITE TO" and turning the [RATE/VALUE] knob, you can initialize a patch (INIT) or exchange patches (EXCHANGE).

```

INITIALIZE
[EDIT]: EXECUTE

INIT
01A:PRIME CHORUS
    
```

```

EXCHANGE
[EDIT]: EXECUTE

01A:PRIME CHORUS
EXCHANGE
01A:PRIME CHORUS
    
```

```

WRITE
[EDIT]: EXECUTE
NAME:
PRIME CHORUS
WRITE TO
01A:PRIME CHORUS
    
```

```

WRITE
[EDIT]: EXECUTE
NAME:
PRIME CHORUS
WRITE TO
01A:PRIME CHORUS
    
```

Parameter List

PATCH

Parameters Common to All Modes

Parameter	Value	Explanation
MODE	Selects the type of effect (p. 4). The same function as the [MODE] knob.	
EFFECT LEVEL (*1)	0–100	Adjusts the volume of the effect sound.
DIRECT LEVEL	0–100	Adjusts the volume of the direct sound.
INIT PHASE (*2)	0–345 deg	Adjusts the LFO's phase.
TEMPO HOLD (*3)	OFF, ON	Specifies whether the tempo (BPM) changes or is maintained when you switch patches. Maintaining the tempo lets you maintain the RATE setting. However, if the NOTE setting (such as ♩ or ♪) of the newly selected patch is different, the RATE also changes.
INSERT SW	Specifies the insert position when using the insert loop function with an external effect unit (p. 24).	
	OFF	The insert loop function is not used.
	PRE	The insert loop is connected before the patch.
	POST	The insert loop is connected after the patch.
OUTPUT GAIN	-6→+6 dB	Adjusts the output level.


*1: Except when MODE is "OVERTONE"

*2: Except when MODE is "DIMENSION," "FILTER (T-WAH G/B, PATTERN FILTER)," "SLICER" or "OVERTONE"





*3: Except when MODE is "DIMENSION," "RING MOD," "FILTER (T-WAH G/B)," or "OVERTONE"

Parameters for Each Mode

CHORUS

Parameter	Value	Explanation
TYPE	Selects the type of chorus.	
	PRIME	A chorus sound unique to the MD-500.
	CE-1 CHORUS	The chorus sound of the CE-1.
	CE-1 VIBRATO	The vibrato sound of the CE-1.
	TRI-CHO	Models the SONGBIRD TSC-1380S, a three-phase chorus unit that took the world by storm in the '80s.
PRIME		
RATE	0.01–20.00 Hz	Adjusts the rate of the chorus.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE	 -100	Adjusts the rate of the chorus, specified as a note value relative to BPM.
DEPTH	0–100	Adjusts the depth of the chorus.
PRE-DELAY	0.0–40.0 ms	Adjusts the time from when the direct sound is output until when the effect sound is output.
WAVEFORM	1–10	Adjusts the sense of modulation for the chorus.
SWEETNESS	0–100	Higher values produce a more enveloping sound.
BELL	0–100	Higher values produce a more brilliant sound.
LOW LEVEL	-50→+50	Adjusts the low frequency range tone.
LOW FREQ	20.0–800 Hz	Specifies the frequency adjusted by the LOW LEVEL setting.
HIGH LEVEL	-50→+50	Adjusts the high frequency range tone.
HIGH FREQ	630–16.0 kHz	Specifies the frequency adjusted by the HIGH LEVEL setting.
LOW CUT	FLAT, 20–800 Hz	This sets the frequency at which the low cut filter begins to take effect. When FLAT is selected, the low cut filter will have no effect.
HIGH CUT	630 Hz–16.0 kHz, FLAT	This sets the frequency at which the high cut filter begins to take effect. When FLAT is selected, the high cut filter will have no effect.
OUTPUT MODE	MONO, STEREO	Specifies whether the output is mono (MONO) or stereo (STEREO).

Parameter List

Parameter	Value	Explanation
CE-1 CHORUS, CE-1 VIBRATO		
RATE	0.01–20.00 Hz	Adjusts the rate of the chorus.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE	 – 	Adjusts the rate of the chorus, specified as a note value relative to BPM.
DEPTH	0–100	Adjusts the depth of the chorus.
LOW LEVEL	-50–+50	Adjusts the low frequency range tone.
LOW FREQ	20.0–800 Hz	Specifies the frequency adjusted by the LOW LEVEL setting.
HIGH LEVEL	-50–+50	Adjusts the high frequency range tone.
HIGH FREQ	630–16.0 kHz	Specifies the frequency adjusted by the HIGH LEVEL setting.
PREAMP SW	OFF, ON	Specifies whether the CE-1's preamp is simulated (ON) or not simulated (OFF).
PREAMP GAIN	1–100	Adjusts the gain of the preamp. Higher settings will produce distortion.
PREAMP LEVEL	0–100	Adjusts the volume of the preamp.
OUTPUT MODE	Specifies the output of the chorus.	
	MONO	Mono output.
	STEREO	Direct sound is output from the OUTPUT A/MONO jack, and effect sound is output from the B jack.
TRI-CHO		
RATE (*1)	0.01–20.00 Hz	Adjusts the rate of the chorus.
BPM (*1)	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE (*1)	 – 	Adjusts the rate of the chorus, specified as a note value relative to BPM.
LFO MODE	Selects the LFO mode.	
	PRESET	The RATE is fixed (4.98 Hz).
	MANUAL	RATE adjusts the rate of the chorus.
	P+M	The PRESET and MANUAL LFOs are summed.
INTENSITY1 (*2)	0–100	Adjust the depth of the three-phase chorus.
INTENSITY2 (*2)	0–100	
INTENSITY3 (*2)	0–100	
BRIGHT	OFF, ON	Specifies whether the high-frequency region of the effect sound is boosted (ON) or not boosted (OFF).
LOW LEVEL	-50–+50	Adjusts the low frequency range tone.
LOW FREQ	20.0–800 Hz	Specifies the frequency adjusted by the LOW LEVEL setting.
HIGH LEVEL	-50–+50	Adjusts the high frequency range tone.
HIGH FREQ	630–16.0 kHz	Specifies the frequency adjusted by the HIGH LEVEL setting.
OUTPUT MODE	MONO, STEREO	Specifies whether the output is mono (MONO) or stereo (STEREO).

*1: Unavailable if LFO MODE is "PRESET"

*2: Shown if LFO MODE is "MANUAL" or "P+M"

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Parameter List

FLANGER

Parameter	Value	Explanation
TYPE	Selects the type of flanger.	
	PRIME G	For guitar
	PRIME B	For bass
RATE	0.01–20.00 Hz	Adjusts the speed of modulation.
BPM	6.0–600.0	Specifies the tempo.
NOTE	$\frac{1}{n}$ – $\frac{1}{n}$	The range of this setting depends on the RATE or NOTE value.
DEPTH	0–100	Adjusts the depth of modulation.
RESONANCE	0–100	Adjusts the amount of resonance (feedback).
MANUAL	0–100	Adjusts the center frequency at which the effect is applied.
TURBO	OFF, ON	If this is "ON," a more intense effect is produced.
LOW DAMP	-100–0	Adjusts the amount of feedback for the low-frequency region.
HIGH DAMP	-100–0	Adjusts the amount of feedback for the high-frequency region.
LOW CUT	FLAT, 20–800 Hz	This sets the frequency at which the low cut filter begins to take effect. When FLAT is selected, the low cut filter will have no effect.
HIGH CUT	630 Hz–16.0 kHz, FLAT	This sets the frequency at which the high cut filter begins to take effect. When FLAT is selected, the high cut filter will have no effect.
SEPARATION (*1)	0–180 deg	Adjusts the spread. Higher settings increase the left/right spread.
STEP RATE	OFF, $\frac{1}{n}$ – $\frac{1}{n}$	Adjusts the rate of the step function which varies the rotation in a step-wise manner. Higher settings make the change occur in smaller steps. Turn this "OFF" if you don't want to use the step function.
WAVEFORM	1–10	Selects the type of wave.
INPUT SENS	0–100	The width of the sweep changes according to the input. Higher settings extend the sweep.
POLARITY	UP, DOWN	Specifies whether the sweep extends upward (UP) or downward (DOWN) when INPUT SENS is raised.
OUTPUT MODE	MONO, STEREO	Specifies whether the output is mono (MONO) or stereo (STEREO).

*1: Unavailable if OUTPUT MODE is "MONO"

PHASER

Parameter	Value	Explanation
TYPE	Selects the type of phaser.	
	PRIME G	For guitar
	PRIME B	For bass
	SCRIPT	Models the MXR Phase 90 which was manufactured during the '70s.
PRIME G, PRIME B		
RATE	0.01–20.00 Hz	Adjusts the speed of rotation.
BPM	6.0–600.0	Specifies the tempo.
NOTE	$\frac{1}{n}$ – $\frac{1}{n}$	The range of this setting depends on the RATE or NOTE value.
DEPTH	0–100	Adjusts the speed of rotation, specified as a note value relative to BPM.
RESONANCE	0–100	Adjusts the depth of the rotation effect.
MANUAL	0–100	Adjusts the amount of resonance (feedback).
LOW DAMP	0–100	Adjusts the center frequency at which the rotation effect is applied.
HIGH DAMP	-100–0	Adjusts the amount of feedback for the low-frequency region.
HIGH CUT	-100–0	Adjusts the amount of feedback for the high-frequency region.
LOW CUT	FLAT, 20–800 Hz	This sets the frequency at which the low cut filter begins to take effect. When FLAT is selected, the low cut filter will have no effect.
HIGH CUT	630 Hz–16.0 kHz, FLAT	This sets the frequency at which the high cut filter begins to take effect. When FLAT is selected, the high cut filter will have no effect.
SEPARATION	0–180 deg	Adjusts the spread. Higher settings increase the left/right spread.
WAVEFORM	1–10	Selects the type of wave.
INPUT SENS	0–100	The width of the sweep changes according to the input. Higher settings extend the sweep.
POLARITY	UP, DOWN	Specifies whether the sweep extends upward (UP) or downward (DOWN) when INPUT SENS is raised.
STAGE	2, 4, 8, 16, 24	Selects the structure of the phaser.

Parameter	Value	Explanation
STEP RATE	OFF, $\frac{1}{2}$	Adjusts the rate of the step function which varies the rotation in a step-wise manner. Higher settings make the change occur in smaller steps. Turn this "OFF" if you don't want to use the step function.
Bi-PHASE	OFF, ON	Specifies whether the two phase shift circuits are connected in series (ON) or not (OFF).
OUTPUT MODE	MONO, STEREO	Specifies whether the output is mono (MONO) or stereo (STEREO).
SCRIPT		
RATE	0.01–20.00 Hz	Adjusts the speed of rotation.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE	$\frac{1}{2}$ – $\frac{1}{16}$	Adjusts the speed of rotation, specified as a note value relative to BPM.
DEPTH	0–100	Adjusts the depth of the rotation effect.

CLASSIC-VIBE



Parameter	Value	Explanation
	Selects the type of output.	
TYPE	CHORUS VIBRATO	Direct sound and effect sound are mixed and output. Only effect sound is output.
RATE	0.01–20.00 Hz	Adjusts the rate at which the effect is applied.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE	$\frac{1}{2}$ – $\frac{1}{16}$	Adjusts the rate at which the effect is applied, specified as a note value relative to BPM.
DEPTH	0–100	Adjusts the depth at which the effect is applied.

VIBRATO

Parameter	Value	Explanation
	Selects the type of vibrato.	
TYPE	PRIME SCANNER	A vibrato unique to the MD-500. A wide range of settings are possible. Simulates the scanner vibrato of a tonewheel organ.
PRIME		
RATE	0.01–20.00 Hz	Adjusts the rate of vibrato.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE	$\frac{1}{2}$ – $\frac{1}{16}$	Adjusts the rate of vibrato, specified as a note value relative to BPM.
DEPTH	0–100	Adjusts the depth at which vibrato is applied.
COLOR	0–100	Higher settings produce a more complex modulation.
TRIGGER	OFF, ON	Turns the vibrato on/off.
RISE TIME	0–100	Specifies the time from when trigger turns on until the specified vibrato effect is obtained.
ENVELOPE SENS	0–100	Adjusts the time over which the vibrato depth reaches the maximum according to the input.
WAVEFORM	1–10	Selects the type of wave.
INPUT SENS	0–100	The vibrato depth changes according to the input. If this is set to "0," vibrato is applied at a fixed depth regardless of the input. With higher values, less vibrato is applied for louder input.
SCANNER		
SCAN SPEED	0.01–20.00 Hz	Adjusts the speed of vibrato.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the SCAN SPEED or NOTE value.
NOTE	$\frac{1}{2}$ – $\frac{1}{16}$	Adjusts the speed of vibrato, specified as a note value relative to BPM.
	Selects the SCANNER mode.	
MODE	V1–V3 C1–C3	Applies vibrato. Higher values produce a deeper effect. Applies chorus. Higher values produce a deeper effect.
	Mixes effect sound with direct sound, adding depth to the sound.	

Parameter List

TREMOLO

Parameter	Value	Explanation
TYPE	Selects the type of tremolo.	
	PRIME T	A tremolo unique to the MD-500. A wide range of settings are possible.
	PRIME P	Alternates the volume of the left and right channels; when played in stereo, this produces the impression that the sound is moving back and forth between the left and right speakers (pan). * This does not produce the intended effect unless you use stereo output.
	TWIN	Models the tremolo of the Fender Twin Reverb.
DELUXE Models the tremolo of the Fender Deluxe Reverb.		
PRIME T, PRIME P		
RATE	0.01–20.00 Hz	Adjusts the rate of the tremolo.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE		Adjusts the speed of the tremolo, specified as a note value relative to the BPM.
DEPTH	0–100	Adjusts the tremolo depth.
TRIGGER	OFF, ON	Turns the tremolo on/off.
RISE TIME	0–100	Specifies the time from when trigger turns on until the specified tremolo effect is obtained.
ENVELOPE SENS	0–100	Adjusts the time over which the tremolo depth reaches the maximum according to the input.
WAVEFORM	1–100	Selects the type of wave.
INPUT SENS	0–100	The tremolo depth changes according to the input. If this is set to "0," tremolo is applied at a fixed depth regardless of the input. With higher values, less tremolo is applied for louder input.
TWIN, DELUXE		
SPEED	0.01–20.00 Hz	Adjusts the speed of the tremolo.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the SPEED or NOTE value.
NOTE		Adjusts the speed of the tremolo, specified as a note value relative to the BPM.
INTENSITY	0–100	Adjusts the tremolo depth.

DIMENSION

Parameter	Value	Explanation
DIMENSION MODE	Selects the mode of the Roland DIMENSION D (SDD-320).	
	1–4, USER	Models the mode switches of the Roland DIMENSION D (SDD-320). If this is set to "USER," you can freely combine the various mode switches.
MODE 1–4 SW	OFF, ON	Turn each mode switch on/off. Each switch can be turned on simultaneously.
MODE 5 SW	OFF, ON	A mode that is unique to the MD-500 and is not found on the SDD-320.
OUTPUT MODE	MONO, STEREO	Specifies whether the output is mono (MONO) or stereo (STEREO).

RING MOD

Parameter	Value	Explanation
FREQUENCY	82.4–3136.0 Hz	Adjusts the oscillation frequency of the internal oscillator.
FREQUENCY MOD RATE	0.01–20.00 Hz	Adjusts the rate at which the internal oscillator is modulated.
FREQUENCY MOD DEPTH	0–100	Adjusts the depth to which the internal oscillator is modulated.
INTELLIGENT	Varies the oscillator frequency according to the pitch of the input sound, producing a sound with a different sense of pitch than usual.	
	OFF, GUITAR, BASS	"GUITAR" is for guitar, and "BASS" is for bass. * This effect will not produce the expected effect unless the pitch of the guitar sound is correctly detected. We recommend that you use it with single notes.


ROTARY

Parameter	Value	Explanation
SPEED SELECT	SLOW, FAST	Switches the speaker rotation speed between SLOW (slow) and FAST (fast).
SLOW RATE	0.01–20.00 Hz	Adjusts the speed of rotation when SPEED SELECT is set to SLOW.
FAST RATE	0.01–20.00 Hz	Adjusts the speed of rotation when SPEED SELECT is set to FAST.
RISE TIME	1–100	Adjusts the transition time over which the rotation speed changes when SPEED SELECT is switched from SLOW to FAST.
FALL TIME	1–100	Adjusts the transition time over which the rotation speed changes when SPEED SELECT is switched from FAST to SLOW.
MIC DISTANCE	0–100	Adjusts the distance between the horn/rotor and the mic.
ROTOR/HORN	100;0–0:100	Adjusts the volume balance between the horn and rotor.
DRIVE	0–100	Adjusts the amount of distortion in the preamp.

FILTER


Parameter	Value	Explanation
TYPE	Selects the type of wah effect and filter.	
	A-WAH G	Automatically produces a wah effect by cyclically modulating the filter (for guitar).
	A-WAH B	Automatically produces a wah effect by cyclically modulating the filter (for bass).
	T-WAH G	Produces a wah effect by modulating the filter according to the volume of the input signal (for guitar).
	T-WAH B	Produces a wah effect by modulating the filter according to the volume of the input signal (for bass).
PATTERN		Lets you freely program how the filter changes.
A-WAH G, A-WAH B		
RATE	0.01–20.00 Hz	Adjusts the rate of the wah.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE	$\frac{1}{n}$ – n	Adjusts the rate of the wah, specified as a note value relative to the BPM.
FILTER MODE	Selects the wah mode.	
	LPF	Low pass filter. Passes only the low-frequency region.
	HPF	High pass filter. Passes only the high-frequency region.
	BPF	Band pass filter. Passes only the specified frequency region.
DEPTH	0–100	Adjusts the wah depth.
FREQUENCY	0–100	Adjusts the center frequency of the wah effect.
RESONANCE	0–100	Adjusts how the wah effect is applied in the region of the center frequency. Higher values boost the filter effect, producing a strongly distinctive character. A value of “50” produces the typical wah sound.
WAVEFORM	SIN, TRI, SQR, SAW-UP, SAW-DOWN, RAMP	Selects the type of wave.
T-WAH G, T-WAH B		
FILTER MODE	Selects the filter mode.	
	LPF	Low pass filter. Passes only the low-frequency region.
	HPF	High pass filter. Passes only the high-frequency region.
	BPF	Band pass filter. Passes only the specified frequency region.
POLARITY	Selects the direction in which the filter changes according to the input.	
	DOWN	The filter moves toward a lower frequency.
	UP	The filter moves toward a higher frequency.
SENS	0–100	Specifies the sensitivity with which the filter moves in the direction specified by the POLARITY setting. Higher values increase the response; with a setting of “0,” the wah effect does not respond to your picking.
FREQUENCY	0–100	Adjusts the center frequency of the wah effect.
RESONANCE	0–100	Adjusts how the wah effect is applied in the region of the center frequency.
DECAY	0–100	Adjusts the rate at which the filter is moved.

Parameter List

Parameter	Value	Explanation
PATTERN FILTER		
RATE	0.01–20.00 Hz	Adjusts the rate of the filter.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE	 - note	Adjusts the rate of the filter, specified as a note value relative to the BPM.
PATTERN	PAT1–PAT10, USER	Selects the pattern. PAT1–10: Selects a preset pattern. USER: Lets you create an original pattern.
STEP NUMBER	8, 12, 16, 24	Selects the number of steps into which the sound is divided.
FILTER MODE	Selects the filter mode.	
	LPF	Low pass filter. Passes only the low-frequency region.
	HPF	High pass filter. Passes only the high-frequency region.
	BPF	Band pass filter. Passes only the specified frequency region.
RESONANCE	0–100	Adjusts the resonance.
TRANSITION	0–100	Adjusts the time (smoothness) of the transition between steps.
STEP1–STEP24 FREQ (*1)	0–100	Adjusts the frequency of each step.

*1: Shown if PATTERN is “USER”

SLICER

Parameter	Value	Explanation
RATE	0.01–20.00 Hz	Adjusts the rate at which the sound is sliced.
BPM	6.0–600.0	Specifies the tempo. The range of this setting depends on the RATE or NOTE value.
NOTE	 - note	Adjusts the rate at which the sound is sliced, specified as a note value relative to the BPM.
PATTERN	P1–30, H1–H20, USER	Selects the slice pattern at which the sound is sliced. P1–30, H1–H20: Selects a preset pattern. USER: Lets you create an original pattern.
FX TYPE (*1)	Selects the effect type.	
	OFF	Effect off
	PITCH	Pitch change
	FLANGER	Flanger
	PHASER	Phaser
	SWEEP	Sweep filter
	FILTER	Filter
	RING	Ring modulator
STEP NUMBER (*1)	8, 12, 16, 24	Selects the number of steps that play back as a pattern. For example, if this is “8,” one measure is equally divided into eight steps for playback.
STEP1–STEP24 LENGTH (*1)	0–100	Adjusts the length (duration) of each step. 0: No sound is heard. 1–99: The sound is heard for the duration specified here. 100: The sound is connected with the next step.
STEP1–STEP24 LEVEL (*1)	0–100	Adjusts the volume of each step.
STEP1–STEP24 BAND (*1)	THRU, BAND1–BAND6	Specifies how the bandwidth of each step is limited. THRU: The bandwidth is not limited. BAND1–BAND6: Smaller values allow a higher bandwidth to pass.
STEP1–STEP24 EFFECT (*1)	0–100	Adjusts the volume of the effect sound for each step. If FX TYPE is set to “PITCH,” this adjusts the pitch (-12–+12).
ATTACK	0–100	Adjusts the volume of the attacks for the slice pattern.
DUTY (*2)	1–99	Adjusts the duration of the sound for the slice pattern.
OUTPUT MODE	MONO, FIXED, RANDOM, PngPong, AUTO	Selects how output occurs.

*1: Shown if PATTERN is “USER”

*2: Unavailable if PATTERN is set to “USER.”

OVERTONE

Parameter	Value	Explanation
	Selects the type of overtones.	
TYPE	OVERTONE	Thickens the sound by adding overtones.
	DETUNE	Thickens the sound by adding slightly pitch-shifted sound.
OVERTONE		
LOWER LEVEL	0–100	Adjusts the volume of the overtones one octave below.
UPPER LEVEL	0–100	Adjusts the volume of the overtones one octave above.
UNISON LEVEL	0–100	Adjusts the volume of added sound whose pitch is slightly shifted relative to the direct sound.
DETUNE	0–100	Adjusts the depth to which the entire effect sound is modulated.
LOW	-50+50	Adjusts the low frequency range tone.
HIGH	-50+50	Adjusts the high frequency range tone.
DETUNE		
PITCH 1	-50+50	Adjusts the pitch (1-cent units).
PITCH 2		
EFFECT LEVEL 1	0–100	Adjusts the volume of the effect sound.
EFFECT LEVEL 2		

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Parameter List

CONTROL

You can specify the functions of the [TAP/CTL] switch and of a footswitch or expression pedal connected to the CTL 1,2/EXP jack.

- “Using the [TAP/CTL] Switch to Control the Effect” (p. 7)
- “Assigning a Function to an External Pedal” (p. 25)

ASSIGN

ASSIGN INPUT SENS



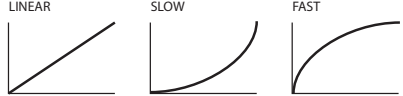
Parameter	Value	Explanation
ASGN INPUT SENS	0–100	Adjusts the input sensitivity when “INPUT” is selected for SRC.

ASSIGN 1–8

Parameter	Value	Explanation
SW	OFF, ON	Turns the ASSIGN 1–8 on/off.
SRC (SOURCE)	Specifies the controller (source).	
	TAP/CTL	[TAP/CTL] switch.
	EXP PDL (EXP PEDAL)	External expression pedal (EV-30, EV-5 etc.; sold separately) connected to the CTL 1,2/EXP jack.
	CTL1, 2 PDL	External footswitch connected to the CTL 1,2/EXP jack.
	INT PDL	Internal pedal The virtual expression pedal will begin operating when started by the specified trigger (TRIGGER), modifying the parameter specified by “TARGET” For details on the parameters that can be assigned to the internal pedal, refer to “TIME” and “CURVE” (p. 19)
	WAVE PDL	Wave pedal The virtual expression pedal will cyclically modify the parameter specified by “TARGET” in a fixed wave form.
	INPUT (INPUT LEVEL)	The assigned target parameter will change according to the input level. * If you want to adjust the input sensitivity, set the SENS (INPUT SENS).
CC#1–31, CC#64–95	Controller number from an external MIDI device	
MODE (SOURCE MODE)	Specifies the operation of the controller.	
	MOMENT	The value will normally be OFF (minimum value), and will be ON (maximum value) only while the control is being operated. * If you want to use the internal pedal or wave pedal, set to “MOMENT.”
	TOGGLE	The value will toggle between OFF (minimum) and ON (maximum) each time the control is operated.
TRG (TARGET)	This selects the parameter to be changed.	
MIN (TARGET MIN)	Specifies the range of change for the parameter. The values will depend on the parameter that’s assigned by “TARGET.”	
MAX (TARGET MAX)		



Parameter List

Parameter	Value	Explanation
ACT LOW	0-126	Within the operating range of the source, this specifies the range that will control the target parameter.
ACT HIGH	0-127	The target parameter will be controlled within the range specified. Normally, you should leave ACT LOW at "0" and ACT HIGH at "127."
WAVE RATE (*1)	0-100, 	Specifies the time for one cycle of the wave pedal. * If, due to the tempo, the time is longer than the range of allowable settings, it is then synchronized to a period either 1/2 or 1/4 of that time.
WAVE FORM (*1)	SAW, TRI, SIN	Select one of the following to specify the change produced by the wave pedal. 
TRIGGER (INT PEDAL TRIGGER) (*2)	Specifies how the motion of the internal pedal will be triggered.	
	PAT CNG (PATCH CHANGE)	This is activated when a patch is selected.
	EXP LOW	This is activated when an external expression pedal connected to the CTL 1,2/ EXP jack is set to the minimum position.
	EXP MID	This is activated when the external expression pedal connected to the CTL 1,2/ EXP jack is moved through the middle position.
	EXP HIGH	This is activated when the external expression pedal connected to the CTL 1,2/ EXP jack is set to the maximum position.
	CTL1, 2 PDL	This is activated when an external footswitch connected to the CTL 1,2/EXP jack is operated.
	CC#1-#31 CC#64-#95	This is activated when a control change is received.
TIME (INT PEDAL TIME) (*2)	0-100	This specifies the time over which the internal pedal will move from the toe-raised position to the toe-down position.
CURVE (INT PEDAL CURVE) (*2)	LINEAR, SLOW (SLOW RISE), FAST (FAST RISE)	Select one of the following curves to specify the change produced by the internal pedal. 

*1: SRC=WAVE PDL only

*2: SRC=INT PDL only

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Parameter List

BANK

You can specify how patches A and B are connected and output when using simul mode.

- “Using Two Patches Simultaneously (Simul Mode)” (p. 23)

SYSTEM

Parameter	Value	Explanation
CONTRAST	1–16	Adjusting the contrast of the display
INSERT LOOP	OFF, ON	Specifies whether the insert loop function (p. 24) is used (ON) or not used (OFF).
BANK MODE	Specifies the timing at which the patch is changed when you change banks.	
	WAIT	Switching the bank only changes the indication of the screen, and does not switch the patch at that point. When you press the [A] or [B] switch, the bank and number are finalized, and operation switches to the next patch.
	IMMEDIATE	Operation immediately switches to the next patch when you switch banks.
BANK EXTENT MIN	01–99	Sets the lower limit for the banks.
BANK EXTENT MAX	01–99	Sets the upper limit for the banks.
KNOB LOCK	OFF, ON	Specifies whether knob operations are disabled (ON) or not disabled (OFF).
KNOB MODE	IMMEDIATE, HOOK	When you move a knob, this setting specifies whether control data for that knob position is always output (IMMEDIATE) or is output only after the knob position has passed through the current value of the parameter (HOOK).
BYPASS	BUFFERED, TRUE	Specifies how the bypass sound is output (buffered bypass or true bypass).
PEDAL ACT	PUSH, RELEASE	Specifies whether the operation occurs when you press the [A], [B], or [TAP/CTL] switch or when you release the switch.
FSW MODE		Specifies how the footswitch is used (p. 22).
USB MODE		Specifies the USB operating mode (p. 27).

MIDI

Parameter	Value	Explanation
Rx CHANNEL	Ch.1–16, OFF	Specifies the receive channel. If this is “OFF,” MIDI messages are not received.
Tx CHANNEL	Ch.1–16, Rx, OFF	Specifies the transmit channel. If this is “OFF,” MIDI messages are not transmitted.
PC IN	OFF, ON	Specifies whether program changes are received.
PC OUT	OFF, ON	Specifies whether program changes are transmitted.
BANK SEL OUT	MSB, M+L	Specifies the bank select message that is transmitted simultaneously with the program change. If you select MSB, only MSB (CC#0) is transmitted. If you select M+L, both MSB and LSB (CC#32) are transmitted.
CC IN	OFF, ON	Specifies whether control changes are received.
CC OUT	OFF, ON	Specifies whether control changes are transmitted.

Parameter	Value	Explanation
RATE CC	OFF, CC#1-31, 64-95	[RATE] knob
DEPTH CC		[DEPTH] knob
E.LEVEL CC		[E. LEVEL] knob
PARAM 1 CC		[PARAM 1] knob
PARAM 2 CC		[PARAM 2] knob
EFFECT SW		Specifies the controller number that switches between effect-on and bypass.
EFFECT A SW		
EFFECT B SW		
CTL1 CC		
CTL2 CC		External CTL2 switch
EXP CC	External EXP pedal	
SYNC	Selects the tempo clock input that is used for synchronization.	
	INTERNAL	Synchronizes to the internal tempo.
	EXT (USB)	Synchronizes to the tempo from the USB port.
	EXT (MIDI)	Synchronizes to the tempo from the MIDI IN connector.
REALTIME SRC	AUTO	Normally synchronizes to the internal tempo, but if MIDI clock is being input from the MIDI IN connector or the USB port, the tempo is synchronized to MIDI clock (AUTO). If the MD-500 is a slave device, choose the "AUTO" setting.
	Selects the source of the realtime messages that are transmitted from the MIDI OUT connector or the USB port.	
	INT	Internal realtime messages are the source.
	USB	Realtime messages from the USB port are the source.
MIDI IN->OUT USB IN->OUT	MIDI	Realtime messages from the MIDI IN connector are the source.
	OFF	MIDI messages are not output.
	USB	MIDI messages are output to the USB port.
	MIDI	MIDI messages are output to the MIDI OUT connector.
DEVICE ID	U+M	MIDI messages are output to the USB port and the MIDI OUT connector.
	1-32	Sets the MIDI Device ID used for transmitting and receiving System Exclusive messages.

MEMO

For details on MIDI, refer to "MIDI Implementation" (PDF).

<http://www.boss.info/manuals/>

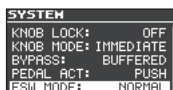
MIDI PC MAP

Parameter	Value	Explanation
BNK-PC# 1:001-3:128	01A-99C	Specifies the program number that corresponds to each patch number.

Convenient Functions

Assigning the Functions of the [A], [B], and [TAP/CTL] Switches

1. Press the [EDIT] button.
2. Use the [▲] [▼] buttons to select “SYSTEM” and then press the [EDIT] button.
3. Use the [▲] [▼] buttons to select “FSW MODE,” and use the [RATE/VALUE] knob to select the mode.



Mode	Explanation
NORMAL	Use the [A] and [B] switches to select patch A or patch B, and use the [TAP/CTL] switch for tap input.
A/B/C	Use the [TAP/CTL] switch to select patch C. * In this case, you can't use the [TAP/CTL] switch to change how the effect is applied.
A/B SIMUL	Patches A and B can be used simultaneously (p. 23). Press the unit [A] or [B] switch to make both light.
SW DN/UP	Use the [A] switch to turn effect on/off, and use the [B] switch and [TAP/CTL] switch to change patches.

4. Press the [EXIT] button to return to the top screen.

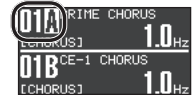
Using Two Patches Simultaneously (Simul Mode)

If FSW MODE is set to "A/B SIMUL," you can use two patches A and B simultaneously (simul mode).

1. Set FSW MODE to "A/B SIMUL" (p. 22).
2. Press the unlit [A] or [B] switch to make them both light.

Now you can use two patches simultaneously.

Selected patch



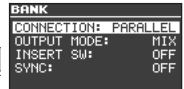
MEMO

- The patch that's selected in the screen (selected by the [▼] [▲] buttons) is the patch that your editing will affect.
- The TAP/CTL (p. 7) and external footswitch setting (p. 25) apply to both patches A and B. The lit/blinking state of the [TAP/CTL] switch follows the setting of the patch that's selected in the screen.

Simul mode settings (BANK)

Here's how to specify how patches A and B are connected and output when in simul mode.

1. Press the [EDIT] button.
2. Use the [▲] [▼] buttons to select "BANK," and then press the [EDIT] button.
3. Use the [▲] [▼] buttons to select a parameter, and use the [RATE/VALUE] knob to edit the value.



Parameter	Value	Explanation
CONNECTION		Specifies how patches A and B are connected.
	SERIES	Patches A and B are connected in series, in the order A → B.
	PARALLEL	Patches A and B are connected in parallel.
OUTPUT MODE (*1)		Specifies how sound is output from the OUTPUT A/MONO and B jacks.
	MIX	Patches A and B are mixed and output.
	A/B	Sound that is input to the INPUT A/MONO jack passes through patch A and is output to the OUTPUT A/MONO jack. Sound that is input to the INPUT B jack passes through patch B and is output to the OUTPUT B jack.
INSERT SW		Specifies the connection position at which an external effect unit is inserted by the insert loop function (p. 24).
	OFF	Not connected.
	PRE	Connected before patches A and B.
	POST	Connected after patches A and B.
	MIDDLE (*2)	Connected between patches A and B.
SYNC (*3)	OFF, ON	Selects whether the tempo of patch B is synchronized to the tempo of patch A (ON) or is not synchronized (OFF). NOTE can be adjusted for each patch.

*1: Shown if CONNECTION is "PARALLEL"

*2: Shown if CONNECTION is "SERIES"

*3: Not available for modes that do not have RATE or BPM

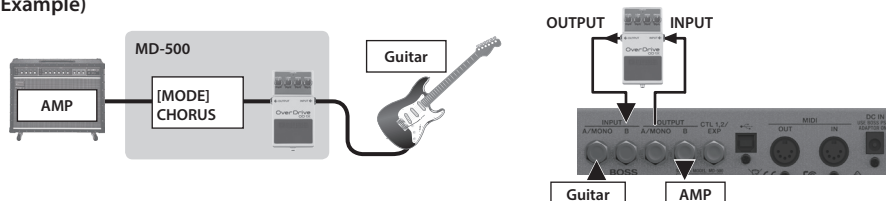
4. Press the [EXIT] button to return to the top screen.

Inserting an External Effect Unit

You can connect an external effect unit between the OUTPUT A jack and INPUT B jack, and use it in conjunction with the MD-500's effect (insert loop function).

You can also change the connection order of the effects.

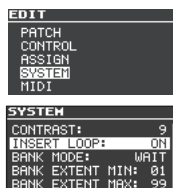
(Example)



Setting the Insert Loop Function

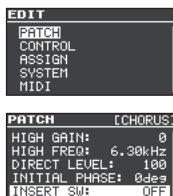
Turning the insert loop function on

1. Press the [EDIT] button.
2. Use the [▲] [▼] buttons to select "SYSTEM," and then press the [EDIT] button.
3. Use the [▲] [▼] buttons to select "INSERT LOOP," and use the [RATE/VALUE] knob to turn the setting "ON."
4. Press the [EXIT] button to return to the top screen.



Specifying the connection position of the external effect unit

1. Press the [EDIT] button.
2. Use the [▲] [▼] buttons to select "PATCH," and then press the [EDIT] button.
3. Use the [▲] [▼] buttons to select "INSERT SW," and use the [RATE/VALUE] knob to edit the value.



Value	Explanation
PRE	Connect before the MD-500's effect.
POST	Connect after the MD-500's effect.

4. Press the [EXIT] button to return to the top screen.

* Save the edited patch as described in "Saving a Patch" (p. 9).

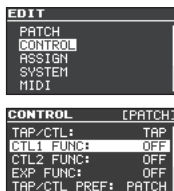
MEMO

You can also use the insert loop function in simul mode (p. 23).

Assigning a Function to an External Pedal

You can assign a function to a footswitch (sold separately: FS-5U, FS-5L, FS-6, FS-7) or expression pedal (sold separately: EV-30, Roland EV-5 etc.) connected to the CTL 1,2/EXP jack.

1. Press the [EDIT] button.
2. Use the [▲] [▼] buttons to select “CONTROL,” and then press the [EDIT] button.
3. Use the [▲] [▼] buttons to select a parameter, and use the [RATE/VALUE] knob to edit the value.



Parameter	Value	Explanation
CTL 1/2 FUNC		Specifies the function of a footswitch connected to the CTL 1,2/EXP jack.
EXP FUNC		Specifies the function of an expression pedal connected to the CTL 1,2/EXP jack.
TRG MIN		Specify the minimum value (MIN) and maximum value (MAX) of the parameter that is controlled by the expression pedal. The values depend on the parameter that is assigned in EXP FUNC.
TRG MAX		Specify the minimum value (MIN) and maximum value (MAX) of the parameter that is controlled by the expression pedal. The values depend on the parameter that is assigned in EXP FUNC.
CTL 1/2 PREF	PATCH	Different settings can be made for each patch.
EXP PREF	SYSTEM	The same settings are shared by all patches.

CTL1 FUNC and CTL2 FUNC Settings

Value	Explanation
OFF	No assignment.
TAP	Lets you specify the modulation rate by tap input.
RESET	Pressing the pedal returns the LFO phase to the INIT PHASE (p. 10) value.
MOMENT	Outputs the effect sound only while you hold down the switch.
BANK UP	
BANK DOWN	Change banks.

EXP FUNC Settings

Value	Explanation
OFF	No function is assigned. Select this if you're using the ASSIGN1–8 setting (p. 18).
RATE	Adjusts the rate at which the effect sound is modulated.
DEPTH	Adjusts the depth to which the effect sound is modulated.
E.LEVEL	Adjusts the volume of the effect sound.
PARAM1/2	Adjust the parameters that are assigned to the [PARAM 1] knob and the [PARAM 2] knob.

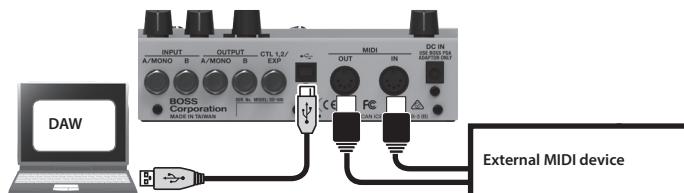
4. Press the [EXIT] button to return to the top screen.

Synchronizing with a DAW or External MIDI Device

You can synchronize your MD-500 performance with a computer or an external MIDI device by sending and receiving MIDI messages.

For example, an external MIDI device or DAW could switch patches on the MD-500 or control its tempo.

Connection Example



MIDI Messages That Can Be Transmitted and Received

Patch changes

Bank select (CC#0, #32) and program change



Must be ON

Synchronization

Tempo clock (F8)

Patch data

System exclusive messages

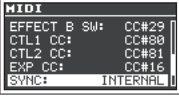
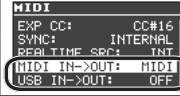
Other messages

Switch, knob	MIDI message	Value	Remarks
[RATE/VALUE] knob	Controller Number 17	0-127	-
[DEPTH] knob	Controller Number 18		
[E. LEVEL] knob	Controller Number 19		
[PARAM 1] knob	Controller Number 20		
[PARAM 2] knob	Controller Number 21		
CTL 1 switch	Controller Number 80	0, 127	Transmits "127" when pressed, "0" when released
CTL 2 Switch	Controller Number 81		
EXP pedal	Controller Number 16	0-127	-
Effect on, Bypass	Controller Number 27	ON, OFF	ON = Effect on, OFF = Bypass In simul mode, this turns the selected patch on/off.
Effect A on, Bypass	Controller Number 28	ON, OFF	ON = Effect (patch A) on, OFF = Bypass
Effect B on, Bypass	Controller Number 29	ON, OFF	ON = Effect (patch B) on, OFF = Bypass

MIDI Routing

For details on how to set the MIDI parameters, refer to “Basic [EDIT] operations” (p. 8).

Main Setting Items

Item	Parameter	Explanation
Synchronization source	SYNC	Specifies whether the synchronization source is the MD-500 (INTERNAL), USB, or an external device connected via MIDI. 
Realtime messages	REALTIME SRC	Specifies whether realtime messages generated by the MD-500 are transmitted, and whether realtime messages received via the MIDI IN connector or the USB port are transmitted.
MIDI message output destination	MIDI IN->OUT	Specifies the MIDI messages that are transmitted from the MIDI OUT connector. 
	USB IN->OUT	Specifies the MIDI messages that are transmitted from the USB port.

If you experience problems connecting with your DAW

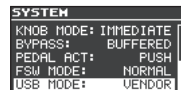
Normally, you don't need to install a driver in order to connect the MD-500 to your computer. However, if some problem occurs, or if the performance is poor, using the BOSS original driver may solve the problem.

In this case, setting “USB MODE” to “VENDOR” on the MD-500, install the driver on your personal computer.

For details on downloading and installing the BOSS original driver, refer to the BOSS website. For further details, refer to the Readme.htm file that comes with the download.

➔ <http://www.boss.info/support/>

The program you need to use, and the steps you need to take to install the USB driver will differ depending on your computer setup, so please carefully read and refer to the Readme.htm file that comes with the download.



Restoring the Factory Default Settings

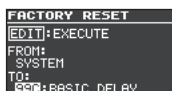
Here's how to reset the settings to their factory state. If you like, you can also reset the system settings or just a specific range of patches.

1. Press the [EDIT] button.
2. Use the [▲] [▼] buttons to select "FACTORY RESET," and then press the [EDIT] button.
3. Use "FROM" and "TO" to specify the range that you want to reset.

Parameter	Value	Explanation
FROM	SYSTEM	System parameter settings.
TO	01A-99C	Settings for Patches.
	BANK01-99	Settings for Banks (Patch A-C, BANK parameters).

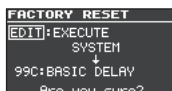


```
EDIT
SYSTEM
MIDI
MIDI PC MAP
MIDI BULK DUMP
FACTORY RESET
```



```
FACTORY RESET
[EDIT]: EXECUTE
FROM: SYSTEM
TO:
99C: BASIC DELAY
```

4. Press the [EDIT] button.
A confirmation message appears.
5. Press the [EDIT] button to reset the settings.
If you decide to cancel without resetting, press the [EXIT] button.



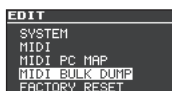
```
FACTORY RESET
[EDIT]: EXECUTE
SYSTEM
99C: BASIC DELAY
Are you sure?
```

Transmitting Data to an External MIDI Device

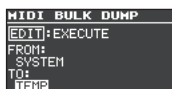
You can use Exclusive messages to set another MD-500 to the same settings or to save effect sound settings to MIDI sequencers and other such devices. This transmission of data is referred to as bulk dump.

1. Press the [EDIT] button.
2. Use the [▲] [▼] buttons to select "MIDI BULK DUMP," and then press the [EDIT] button.
3. Use "FROM" and "TO" to specify the range that you want to reset.

Parameter	Value	Explanation
FROM	SYSTEM	System parameter settings.
TO	01A-99C	Settings for Patches.
	BANK01-99	Settings for Banks (Patch A-C, BANK parameters).
	TEMP	Current effect settings in the panel display.



```
EDIT
SYSTEM
MIDI
MIDI PC MAP
MIDI BULK DUMP
FACTORY RESET
```



```
MIDI BULK DUMP
[EDIT]: EXECUTE
FROM: SYSTEM
TO:
TEMP
```

4. Press the [EDIT] button.
The bulk dump is executed.

Troubleshooting

Problem	Items to check	Action
Power does not turn on	Is your guitar correctly connected to the INPUT A/MONO jack?	Check the connection once again.
	Could the batteries be low?	Install fresh batteries.
	Is the specified PSA-S series AC adaptor connected correctly?	Check the connection once again.
No sound is output	Could the insert loop function be assigned?	If the insert loop function is on, there will be no sound unless the external effect unit is correctly connected and its power is on (p. 24).
Footswitch does not change sounds as you expect	Is the SYSTEM: FSW MODE (p. 22) setting correct?	The FSW MODE (p. 22) setting determines what happens when you press the [A], [B], and [TAP/CTL] switches. Check the setting.

Main Specifications

BOSS MD-500: Modulation

Power Supply	Alkaline battery (AA, LR6) x 4 AC adaptor
Current Draw	225 mA
Battery Life for Continuous Use	Alkaline batteries (AA, LR6): Approximately 4.5 hours * This figure will vary depending on the actual conditions of use.
Dimensions	170 (W) x 138 (D) x 62 (H) mm 6-3/4 (W) x 5-7/16 (D) x 2-1/2 (H) inches
Weight (including batteries)	1.0 kg 2 lbs 4 oz
Accessories	Owner's manual, Leaflet "USING THE UNIT SAFELY," Alkaline Batteries (AA LR6) x 4
Options (sold separately)	AC adaptor: PSA-S series Footswitch: FS-5U, FS-5L Dual Footswitch: FS-6, FS-7 Expression pedal: FV-500H, FV-500L, EV-30, Roland EV-5

* 0 dBu = 0.775 Vrms

* This document explains the specifications of the product at the time that the document was issued. For the latest information, refer to the Roland website.

USING THE UNIT SAFELY

Keep small items out of the reach of children

To prevent accidental ingestion of the parts listed below, always keep them out of the reach of small children.

- Included Parts
- Rubber feet (p. 2)



IMPORTANT NOTES

Power Supply: Use of Batteries

- Batteries should always be installed or replaced before connecting any other devices. This way, you can prevent malfunction and damage.
- If operating this unit on batteries, please use alkaline batteries.

Repairs and Data

- Before sending the unit away for repairs, be sure to make a backup of the data stored within it; or you may prefer to write down the needed information. Although we will do our utmost to preserve the data stored in your unit when we carry out repairs, in some cases, such as when the memory section is physically damaged, restoration of the stored content may be impossible. Roland assumes no liability concerning the restoration of any stored content that has been lost.

Additional Precautions

- Any data stored within the unit can be lost as the result of equipment failure, incorrect operation, etc. To protect yourself against the irretrievable loss of data, try to make a habit of creating regular backups of the data you've stored in the unit.
- Roland assumes no liability concerning the restoration of any stored content that has been lost.
- Never strike or apply strong pressure to the display.
- Do not use connection cables that contain a built-in resistor.

Intellectual Property Right

- This product contains eParts integrated software platform of eSOL Co.,Ltd. eParts is a trademark of eSOL Co., Ltd. in Japan.
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- The product names mentioned in this document are registered trademarks or trademarks of their respective owners. In this manual, these names are used because it is the most practical way of describing the sounds that are simulated using COSM technology.