

MULTISTOMP

MS-70CDR Chorus / Delay / Reverb

OPERATION MANUAL

Thank you very much for purchasing the ZOOM **MS-70CDR**.
Please read this manual carefully to learn about all the functions of the **MS-70CDR** so that you will be able to use it fully for a long time.

Keep this manual in a convenient place for reference when necessary.

* A printed list of effect parameters is not included with the **MS-70CDR**.
Please download a copy from the ZOOM website. → <http://www.zoom.co.jp/downloads/>

If the MS-70CDR is not used for 10 hours, it will turn off automatically by default.

If you want the power to stay ON all the time, please see "4 To set the Power Management function" on page 19 and set the value to OFF.

Contents

Usage and Safety Precautions	3	Tapping the Tempo	16
Part Names	4	Changing Various Settings	18
Turning the Power ON	6	Updating the Firmware	23
Adjusting Effects	8	Effect Types	24
Selecting and Saving Patch Memories	10	Restoring the MS-70CDR to its Factory Default Settings ...	31
Changing Patch Memories with the Footswitch ...	11	Troubleshooting	32
Using 2 or More Effects	12	Specifications	33
Using the Tuner	14	Tuner Types	34

Terms used in this manual

Patch memory

The ON/OFF status and the parameter settings of each effect are stored as "patch memories". The **MS-70CDR** can store 50 patch memories.

Effect unit

The **MS-70CDR** can use between 1 and 6 effects at a time and you can change the number used as you like. Each one of these is called an "effect unit".

Copyrights

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SAFETY PRECAUTIONS

In this manual, symbols are used to highlight warnings and cautions that you must read to prevent accidents. The meanings of these symbols are as follows:



Warning

Something that could cause serious injury or death.



Caution

Something that could cause injury or damage to the equipment.

Other symbols



Required (mandatory) actions



Prohibited actions



Warning

Operation using an AC adapter

- ① Use only a ZOOM AD-16 AC adapter with this unit.
- ⊘ Do not use do anything that could exceed the ratings of outlets and other electrical wiring equipment.

Operation using batteries

- ① Use 4 conventional 1.5-volt AA batteries (alkaline or nickel-metal hydride).
- ① Always close the battery compartment cover when using the unit.

Alterations

- ⊘ Never open the case or attempt to modify the product.



Precautions

Product handling

- ① Do not drop, bump or apply excessive force to the unit.
- ① Be careful not to allow foreign objects or liquids to enter the unit.

Operating environment

- ⊘ Do not use in extremely high or low temperatures.
- ⊘ Do not use near heaters, stoves and other heat sources.
- ⊘ Do not use in very high humidity or near splashing water.
- ⊘ Do not use in places with excessive vibrations.
- ⊘ Do not use in places with excessive dust or sand.

AC adapter handling

- ① When disconnecting the AC adapter from an outlet, always pull the body of the adapter itself.

Battery handling

- ① Install the batteries with the correct +/- orientation.
- ① Use a specified battery type. Do not mix new and old batteries or different brands or types at the same time. When not using the unit for an extended period of time, remove the batteries from the unit.
- ① If a battery leak should occur, wipe the battery compartment and the battery terminals carefully to remove all battery residue.

Connecting cables with INPUT and OUTPUT jacks

- ① Always turn the power OFF for all equipment before connecting any cables.

Volume

- ⊘ Do not use the product at a loud volume for a long time.

Usage Precautions

Cleaning

Use a soft cloth to clean the panels of the unit if they become dirty. If necessary, use a damp cloth that has been wrung out well.

Malfunction

If the unit becomes broken or malfunctions, immediately disconnect the AC adapter, turn the power OFF and disconnect other cables. Contact the store where you bought the unit or ZOOM service with the following information: product model, serial number and specific symptoms of failure or malfunction, along with your name, address and telephone number.

DC9V AC adapter jack

To power the unit from an outlet, connect an AD-16 adapter here (→P6).

OUTPUT jacks

Connect to an amp or another effector.
Use the MONO jack for a mono connection.

ON/OFF indicator

Lights when the current effect is ON.
Does not light when the effect is OFF (→P8).

Cursor keys

(→P5)

USB connector

Use to connect to a computer and update firmware (→P23).

INPUT jack

Connect the output of a guitar, bass, other electronic instrument or effector here.
Use the MONO jack for a mono connection.

Display

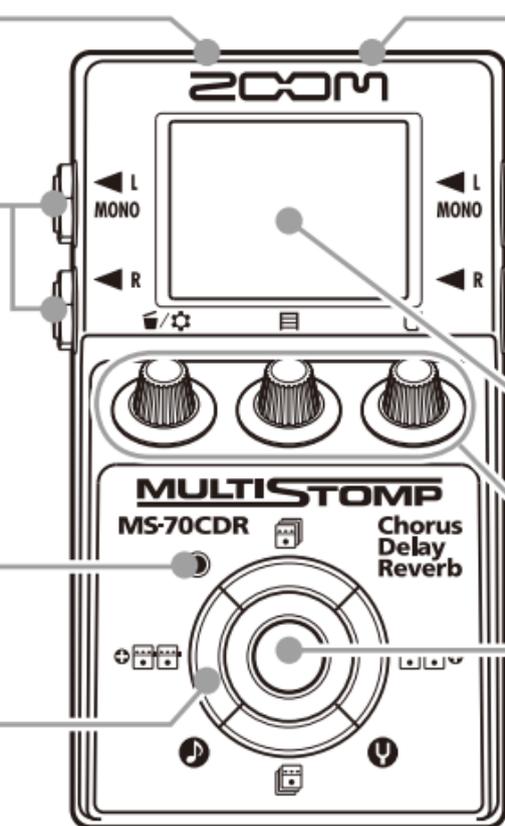
Shows the currently selected effect and various other screens (→P7).

Parameter knobs

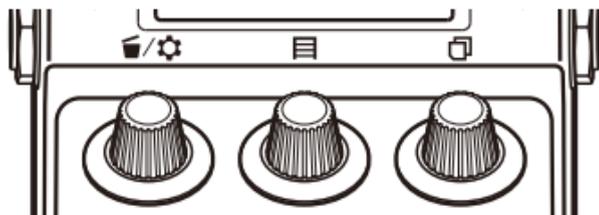
(→P5)

Footswitch

Turns the effect shown on the display ON and OFF (→P8).
Press and hold for 1 second to open the Tuner or Tap Tempo (→P14, 16).



■ Parameter knobs



From the left

Parameter knob 1 [/]

Turn left and right to adjust the parameter.

Press to open the MENU where you can remove and rearrange effects and make various settings (→P12, 18).

You can also check the firmware version (→P22).

Parameter knob 2 []

Turn left and right to adjust the parameter.

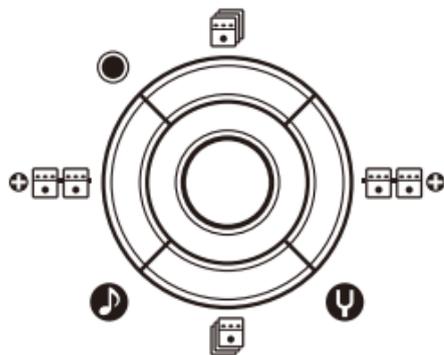
Press to open the MEMORY screen where you can select and save patch memories, and change patch memories using the footswitch (→P10, 11).

Parameter knob 3 []

Turn left and right to adjust the parameter.

Press to change the parameter page (→P9).

■ Cursor keys



Up and down cursor keys [/]

Press to change the effect type.

Press and hold for 1 second to select the effect category (→P8).

Left and right cursor keys [/]

Press to show the effect to the left or right.

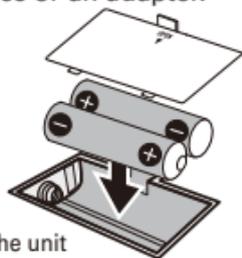
Press and hold for 1 second to add a new effect left or right of the current effect (→P12).

1 To turn the power ON

1. Lower the amplifier's volume all the way.
2. Power the unit with batteries or an adapter.

<When using batteries>

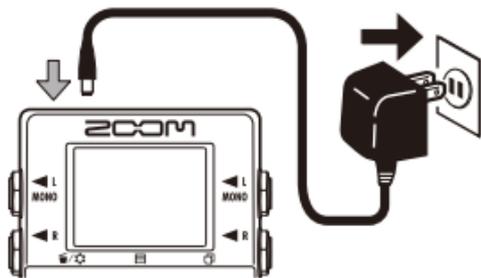
Open the cover on the bottom of the unit and insert batteries in the compartment.



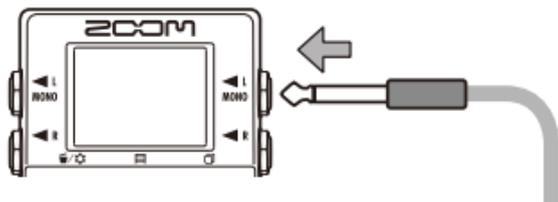
Bottom of the unit

<When using an adapter>

Connect an AD-16 adapter.



3. Plug a guitar cable into the INPUT jack.



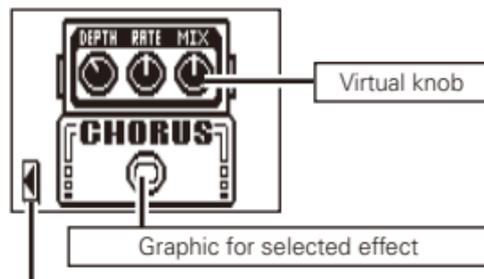
HINT

- When using batteries, the pedal will power on when a cable is connected to the L input jack.

4. Connect to an amp, then turn the amp on and raise the volume.

2 Display information

■ The Home Screen shows the current effect

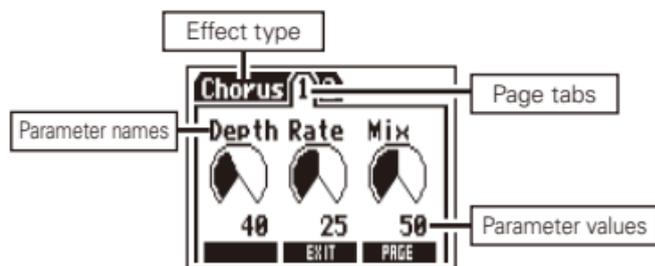


Shows other effects are in this direction.

HINT

- The positions of the virtual knobs change with the parameter values.

■ Edit Screen shows parameter being edited

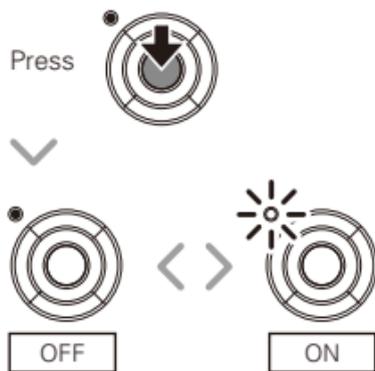


HINT

- If there are 4 or more parameters that can be adjusted, multiple page tabs will be shown.

Confirm that the Home Screen is shown.

1 To turn an effect ON and OFF



NOTE

- When an effect is ON, the footswitch LED lights.
- When an effect is OFF, the footswitch LED is unlit.

2 To select an effect type



HINT

- Press and hold to select the effect category.
See step 2 of "To add an effect" . (See page 12.)

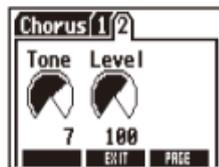
3 To adjust parameters



4 To change the page



The next page opens.



Effect processing limit

The **MS-70CDR** allows you to combine 6 effects as you like. However, if you combine effect types that require great amounts of processing power (HD Reverb, for example), the available processing capacity might not be enough. If the processing required for an effect exceeds the available capacity, the effect is bypassed and a "DSP Full!" message appears. This can be avoided by changing 1 or more of the effect types or setting them to THRU.



NOTE

- An effect requires the same amount of processing power whether it is ON or OFF.

HINT

- Press and hold the  button for at least 1 second to immediately set an effect to THRU.

Confirm that the Home Screen is shown.

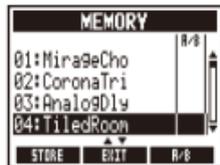
1 To select a patch memory

When shipped from the factory, the automatic patch memory saving function is active. As soon as a parameter is adjusted this change is automatically saved.

1. Open the MEMORY list.



2. Select a patch memory.

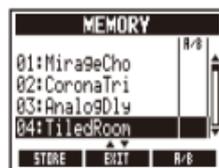


2 To save a patch memory with a new name

1. Open the MEMORY list.



2. Select the patch memory to be saved with a new name.



3. Change the name and select where to save the patch memory.

- Turn to move the cursor :



- Turn to change the character :



- Press to change the type of character/symbol :



- Turn to select where to save the patch memory :



4. Save the patch memory with the new name.



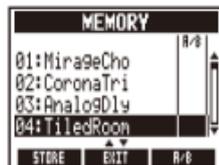
Confirm that the Home Screen is shown.

1 To add or remove patch memories to a list that the footswitch cycles through

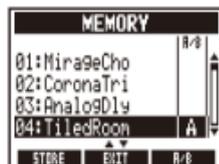
1. Open the MEMORY list.



2. Select a patch memory to add to or remove from the footswitch (A/B) list.



3. Add or remove it.



HINT

- Press and hold  to remove all patch memories from the footswitch list.

2 To cycle through patch memories in the list in order using the footswitch

1. Open the MEMORY list.



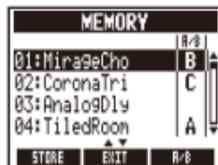
2. Change the patch memory.



HINT

- In the example on the right, pressing the footswitch cycles through the patch memories in alphabetical order like this.

[04:TiledRoom]
↓
[01:MirageCho]
[02:CoronaTri]
[04:TiledRoom]
↓
[01:MirageCho] ...



Confirm that the Home Screen is shown.

1 To add an effect

1. Open the ADD EFFECT UNIT screen.

Press and hold either



for 1 second

2. Select the effect category.

Press any



Press



HINT

- Select EXIT to return to the Home Screen without adding any effect.

2 To remove an effect

1. Open the MENU.

Press

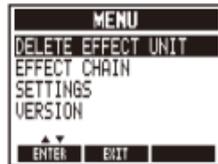
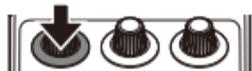


2. Select DELETE EFFECT UNIT.

Turn



Press

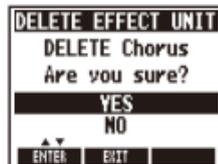


3. Select YES.

Turn

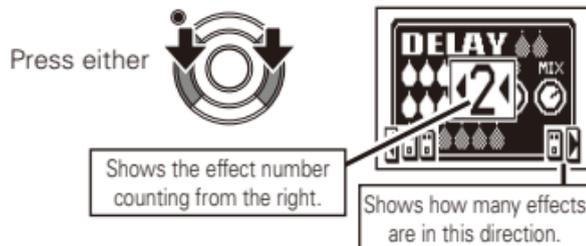


Press



3 To scroll through the effects shown

When multiple effects are in use, scroll to change the visible one.

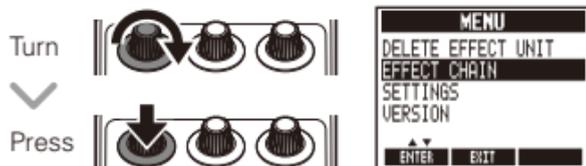


4 To change the order of effects

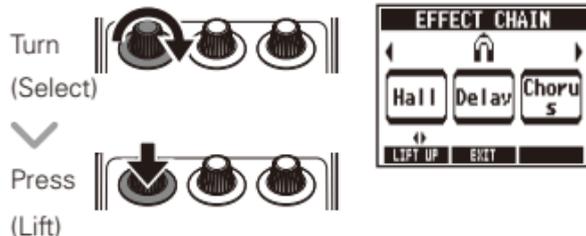
1. Open the MENU.



2. Select EFFECT CHAIN.



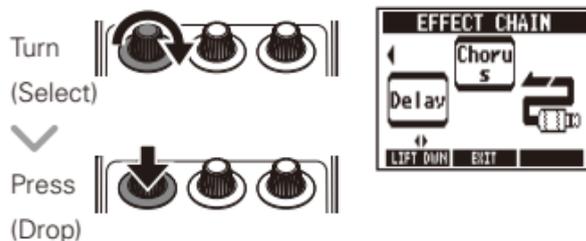
3. Select the effect to move and "lift" it.



HINT

- Effects that are OFF appear gray.

4. Select the new location for the effect and "drop" it.

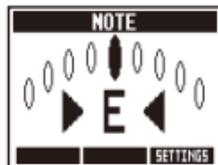


5. To complete these procedures



1 To activate the Tuner

Press and hold  for 1 second



NOTE

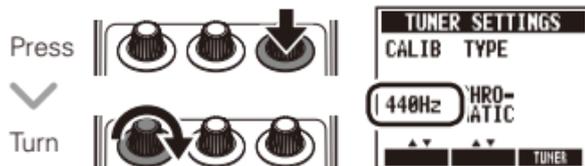
- A setting must be changed to make pressing and holding the footswitch activate Tap Tempo. (See page 18.)

2 To end tuning

Press 

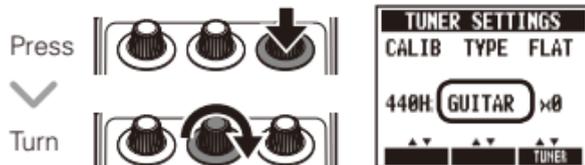
3 To change the tuner's standard pitch

Confirm that the Tuner Screen is open.



4 To select the tuner type

Confirm that the Tuner Screen is open.



CHROMATIC

The chromatic tuner shows the nearest pitch name (semitone) and how far the input sound is from that pitch.

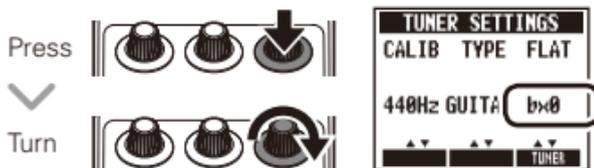
Other tuner types

Depending on the selected type, the nearest string name and how far the sound input is from that pitch are shown.

Please see the table at the end of this manual for the types that can be selected. (See page 34.)

5 To use a drop tuning

Confirm that the Tuner Screen is open.



NOTE

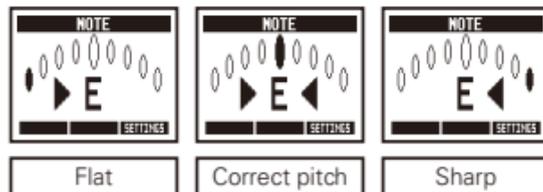
- Drop tuning is not possible when the TYPE is set to CHROMATIC.

6 To tune an instrument

Play the open string that you want to tune and tune it.

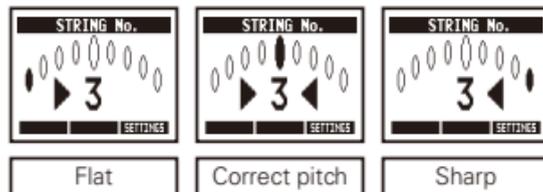
Chromatic tuner

The name of the nearest note and the pitch accuracy are shown.



Other tuners

The number of the nearest string and the pitch accuracy are shown.



Delay effects and some modulation effects can be synchronized to the tempo. Select an effect that can be synchronized, and set its Time, Rate or other parameter that can be synchronized to a ♩ or ♪ note value.

The tempo can be set by tapping the footswitch or a knob.

- 1 To set the tempo by tapping the footswitch

NOTE

- By default, **when pressed and held, the footswitch is set to activate the Tuner.** To tap the tempo with the footswitch, the setting must be changed so that it activates Tap Tempo when pressed and held. (See page 18.)

1. Open the Tap Tempo Screen.



2. Tap the footswitch 2 or more times at the desired tempo.



The ON/OFF indicator flashes in time with the tempo.

3. Complete the setting.



NOTE

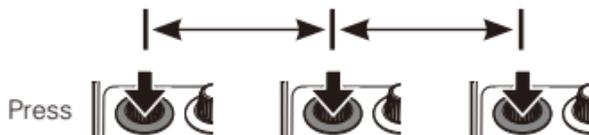
- If you press the footswitch when the effect is ON, the ON/OFF indicator becomes unlit and the effect turns OFF for 1 second.

2 To tap tempo by hand

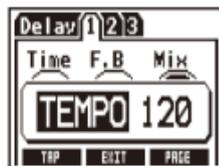
1. Open an effect that can be synchronized to the tempo on the Home Screen. (See page 8, 24.)
2. Open the parameter editing screen.



3. Tap the knob 2 or more times at the desired tempo.



The ON/OFF indicator flashes in time with the tempo.



NOTE

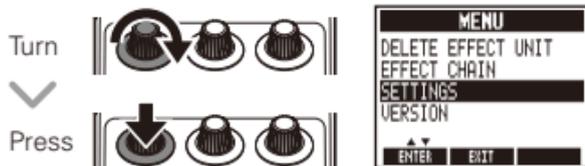
- Tempo settings are saved separately for each patch memory.

1 To change various settings

1. Open the MENU.



2. Select SETTINGS.



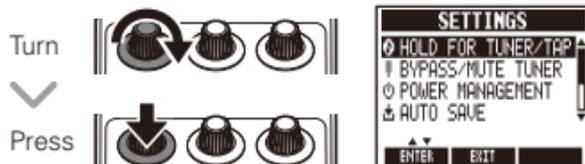
NOTE

- These settings are shared by all patch memories.

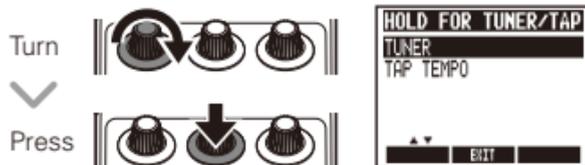
2 To set the function activated by pressing and holding the footswitch

Set the function activated by pressing the footswitch continuously for 1 second to TUNER or TAP TEMPO.

1. Select HOLD FOR TUNER/TAP from the SETTINGS menu.



2. Set the function activated by pressing and holding the footswitch

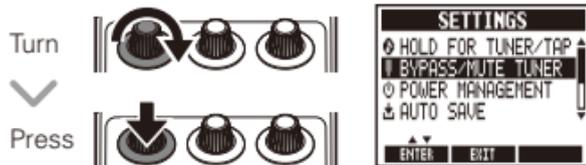


HINT

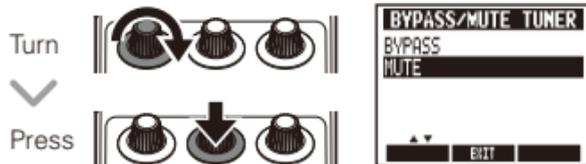
- TUNER: Activates the Tuner (default setting).
- TAP TEMPO: Activates Tap Tempo.

3 To set the tuner mode

1. Select BYPASS/MUTE TUNER from the SETTINGS menu.



2. Set the tuner mode



HINT

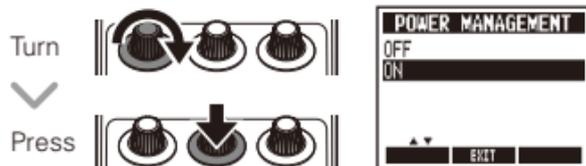
- BYPASS: The effects are bypassed when the tuner is being used.
- MUTE: The output is muted when the tuner is being used.

4 To set the Power Management function

1. Select POWER MANAGEMENT from the SETTINGS menu.



2. Set the Power Management function.

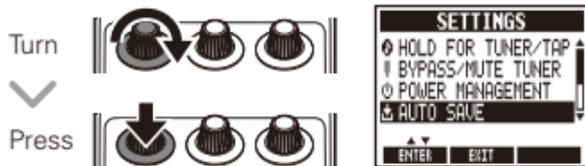


HINT

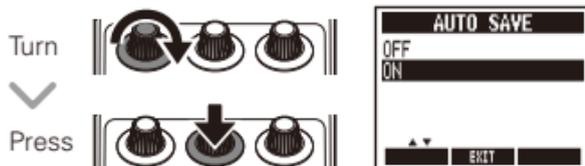
- ON (default): The Power Management function is enabled. If left unused for 10 hours, it turns off automatically.
- OFF: The Power Management function is disabled.

5 To set the Auto Save function

1. Select AUTO SAVE from the SETTINGS menu.



2. Set the Auto Save function.

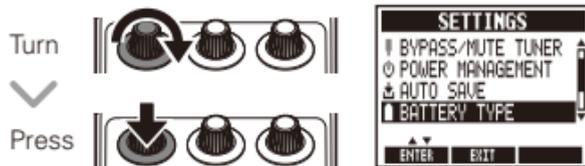


HINT

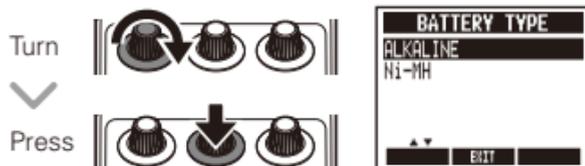
- ON (default): Changes to presets are automatically saved.
- OFF: Changes to presets are not saved until they are saved manually. (See page 10.)

6 To select the battery type

1. Select BATTERY TYPE from the SETTINGS menu.

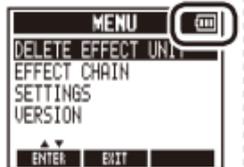


2. Set the type of batteries used.



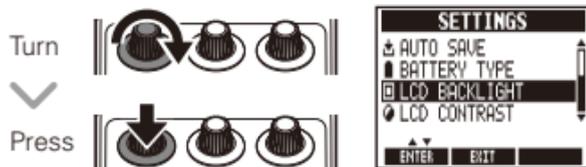
HINT

- You can confirm the remaining battery charge on the MENU.
- "Low Battery!" appears when the batteries need to be changed.

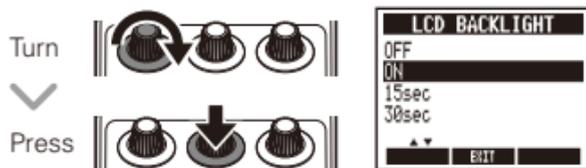


7 To set the amount of time until the backlight dims

1. Select LCD BACKLIGHT from the SETTINGS menu.



2. Set the amount of time until the backlight dims.

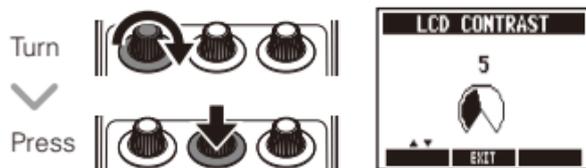


8 To adjust the display contrast

1. Select LCD CONTRAST from the SETTINGS menu.



2. Adjust the display contrast.



9 To view the firmware versions

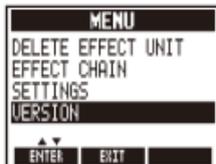
1. Open the MENU.



2. Select VERSION.



The firmware version is shown.



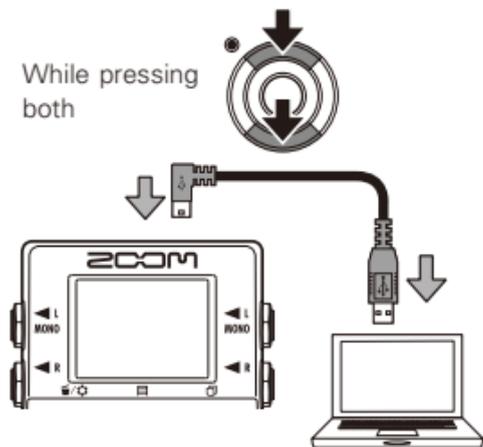
HINT

- Check the ZOOM website (<http://www.zoom.co.jp>) for the latest firmware versions.

1 To update the firmware

1. While pressing both the up and down cursor keys, use a USB cable to connect the USB connector to the computer.

While pressing both



The FIRMWARE UPDATE screen appears.



2. Launch the firmware update application on your computer, and execute the update.

NOTE

- Do not disconnect the USB cable while the firmware is being updated.

HINT

- See the ZOOM website for instructions about how to use the application.

3. Confirm that the firmware has been updated.

When the **MS-70CDR** has finished updating, "Complete!" appears on the display.



Disconnect the USB cable.

HINT

- Updating the firmware will not erase saved patch memories.

Category	Effect type	Effect explanation	Tempo sync.
CHORUS	CoronaCho	This is a model of tc electronic's CORONA CHORUS.	
	Chorus	This effect mixes a shifted pitch with the original sound to add movement and thickness.	
	VintageCE	This is a simulation of the BOSS CE-1.	
	ANA234Cho	This analog chorus sound models the MXR M234.	
	CE-Cho5	This chorus is a model of the BOSS CE-5.	
	CloneCho	This analog chorus sound models the Electro-Harmonix SmallClone.	
	SuperCho	This models the sound of a BOSS CH-1 SUPER CHORUS.	
	MirageCho	This chorus shimmers like a mirage.	

Category	Effect type	Effect explanation	Tempo sync.
CHORUS	StereoCho	This is a stereo chorus with a clear tone.	
	CoronaTri	This is a model of tc electronic's CORONA Tri-Chorus.	
	Ensemble	This is a chorus ensemble that features three-dimensional movement.	
	SilkyCho	This chorus effect combines 2 bands of detuning and chorus for precise control.	
	Detune	By mixing an effect sound that is slightly pitch-shifted with the original sound, this effect type has a chorus effect without much sense of modulation.	
	Ba Chorus	You can cut the low frequencies of this bass chorus effect sound.	

Category	Effect type	Effect explanation	Tempo sync.
CHORUS	Ba Detune	By mixing a small amount of the pitch-shifted effect sound with the original sound, a natural bass chorus effect is achieved.	
	Ba Ensmbl	This bass chorus ensemble features a sense of three-dimensional movement.	
	Flanger	This is a jet sound like an ADA Flanger.	
	BaFlanger	Modeled after the ADA Flanger, this effect has an added parameter that allows you to adjust the volume balance between the original and effected sounds.	
	Vibrato	This effect automatically adds vibrato.	
	Phaser	This effect adds a phasing variation to the sound.	

Category	Effect type	Effect explanation	Tempo sync.
CHORUS	TheVibe	This vibe sound features unique undulations.	
	PitchSHFT	This effect shifts the pitch up or down.	
	HPS	This intelligent pitch shifter outputs the effect sound with the pitch shifted according to scale and key settings.	
	Ba Pitch	This pitch shifter was designed specifically for playing single notes in the bass frequency range.	
	DuoTrem	This effect combines two tremolos.	
	AutoPan	This effect cyclically moves the panning position of the sound.	
	Rt Closet	Simulates a rotary speaker.	

Category	Effect type	Effect explanation	Tempo sync.
DELAY	DualDigiD	This effect combines 2 delays and is based on the Eventide TimeFactor DigitalDelay.	♪
	Delay	This long delay has a maximum length of 4000 ms.	♪
	StompDly	By turning the feedback up on this stomp-style delay, you can make it self-oscillate.	♪
	StereoDly	This stereo delay allows the left and right delay times to be set separately.	♪
	CarbonDly	This analog delay sound is a model of the MXR Carbon Copy.	♪
	AnalogDly	This analog delay simulation has a long delay with a maximum length of 4000 ms.	♪
	TapeEcho	This effect simulates a tape echo. Changing the "Time" parameter changes the pitch of the echoes.	♪

Category	Effect type	Effect explanation	Tempo sync.
DELAY	TapeEcho3	This tape echo effect models the MAESTRO ECHOPLEX EP-3.	♪
	DriveEcho	This echo effect that can be driven is modeled on the LINE6 M9 TubeEcho.	♪
	SlapBackD	This delay, which features a short delay time that is good for muted rhythm playing and rockabilly, is modeled on a tc electronic FLASHBACK set for SLAP delay.	♪
	SmoothDly	This wide delay is modeled on the BOSS DD-20 in SMOOTH mode.	♪
	MultiTapD	This effect produces several delay sounds with different delay times.	♪
	ReverseDL	This reverse delay is a long delay with a maximum length of 2000 ms.	♪

Category	Effect type	Effect explanation	Tempo sync.
DELAY	LO-FI Dly	This delay, which is based on the LO-FI mode of the strymon TIMELINE, allows you to degrade the sound quality using the bit rate and sampling rate parameters.	♪
	SlwAtkDly	This effect, which gently brings on the delay, is modeled on the LINE6 M9 Auto-Volume Echo.	♪
	DynaDelay	This dynamic delay adjusts the volume of the effect sound according to the input signal level.	♪
	TremDelay	This effect, which is based on the strymon TIMELINE TREM mode, adds a tremolo to the delay sound.	♪
	ModDelay	This delay effect allows the use of modulation.	♪
	TrgHldDly	This delay samples and holds using picking as the trigger.	

Category	Effect type	Effect explanation	Tempo sync.
DELAY	FLTR PPD	Based on the Eventide TimeFactor FilterPong, this effect combines filter and delay effects.	♪
	FilterDly	This effect filters a delayed sound.	♪
	PhaseDly	This effect applies a phaser to a delayed sound.	♪
	A-Pan DLY	This combines auto pan and delay to create the effect of the stereo image moving cyclically.	♪
	PitchDly	This effect applies pitch shift to a delayed sound.	
	ICE Delay	Based on the strymon TIMELINE ICE mode, this effect combines pitch shifting and delay.	♪
ModDelay2	You can adjust the depth of this modulation delay effect.	♪	

Category	Effect type	Effect explanation	Tempo sync.
REVERB	HD Reverb	This is a high-definition reverb.	
	Spring	This reverb effect simulates a spring reverb.	
	Spring63	This spring reverb sound is modeled on a '63 Fender Reverb.	
	Plate	This simulates a plate reverb.	
	Room	This reverb effect simulates the acoustics of a room.	
	TiledRoom	This reverb effect simulates the acoustics of a tiled room.	
	Chamber	This effect simulates the reverberations of a chamber-sized room.	
	LOFI Rev	This rough in-your-face reverb is modeled on the LOFI setting of the tc electronic HALL OF FAME.	

Category	Effect type	Effect explanation	Tempo sync.
REVERB	Hall	This reverb effect simulates the acoustics of a concert hall.	
	HD Hall	This is a dense hall reverb.	
	Church	This effect simulates the reverberations of a church.	
	Arena	This reverb effect simulates the acoustics of a large enclosure such as a sports arena.	
	Cave	This effect simulates the reverberations of a cave.	
	Ambience	This effect adds a natural ambience (air) to the sound.	
	Air	This effect reproduces the ambience of a room, to create spatial depth.	

Category	Effect type	Effect explanation	Tempo sync.
REVERB	EarlyRef	This effect reproduces only the early reflections of reverb.	
	GateRev	This gate reverb, which is suited to percussive playing, is modeled on the DigiTech RV-7 (Lexicon) Gated setting.	
	ReverseRv	This effect, which is modeled on the DigiTech RV-7 (Lexicon) Reverse setting, sounds like reverb in reverse.	
	SlapBack	This reverb creates a repeating echo effect.	♪
	Echo	This effect can generate gorgeous echoes.	
	ModReverb	This reverb generates fluctuating echoes.	

Category	Effect type	Effect explanation	Tempo sync.
REVERB	TremoloRv	This effect adds tremolo to reverb and is based on the TREMOLO VERB setting of an Eventide SPACE.	
	HolyFLERB	This effect combines reverb and flanger in a model of an Electro-Harmonix Holy Grail set to FLERB.	
	DynaRev	This reverb, which is modeled on the tc electronic NOVA REVERB, changes volume according to the dynamics of the input sound.	
	ShimmerRv	Modeling the strymon blueSky in Shimmer mode, this effect adds pitch-shifting and delay to reverb.	
	ParticleR	This unique complex reverb effect models the LINE6 M9 Particle Verb.	

Category	Effect type	Effect explanation	Tempo sync.
REVERB	SpaceHole	This effect, which is based on the Eventide SPACE BlackHole algorithm, combines delay and reverb.	
	MangledSp	Based on the Eventide SPACE MangledVerb algorithm, this reverb produces wild echoes.	
	DualRev	Based on the Eventide SPACE DualVerb algorithm, this effect combines 2 reverbs.	

Category	Effect type	Effect explanation	Tempo sync.
DYN/ FLTR	ZNR	ZOOM's unique noise reduction cuts noise during pauses in playing without affecting the tone.	
	St Gt GEO	This stereo graphic equalizer has 6 bands that suit guitar frequencies.	
	St Bs GEO	This stereo graphic equalizer has 7 bands that suit bass guitar frequencies.	
	LineSel	Sound input into the LineSel effect is sent directly to the OUTPUT jacks when OFF and to the next effect in order when ON.	

1 To execute the All Initialize function

The All Initialize function restores all the factory default settings.

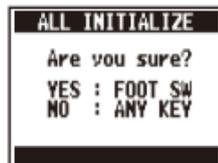
NOTE

- Executing the All Initialize function will restore all the settings of the **MS-70CDR**, including its patch memories, to factory defaults. Do not use this function unless you are certain that you want to do this.

1. While pressing and holding turn the power ON.



The All INITIALIZE screen appears.



2. Press the footswitch to execute it.

Press



The unit will not turn ON

- When running on batteries, connect a cable to the INPUT jack to start the unit.

No sound or very low volume

- Check the connections (→P6).
- Adjust the levels of the effects being used (→P8).
- Confirm that unit is not in mute mode (→P19).

There is a lot of noise

- Check shielded cables for defects.
- Use only a genuine ZOOM AC adapter (→P6).

An effect is not working

- If the effect processing capacity is exceeded, "DSP Full!" appears on the effect graphic. In this case, the effect is bypassed (→P9).

Batteries lose their charge quickly

- Confirm that you are not using manganese batteries. The continuous operation time is about 7 hours with mono input and about 5 hours with stereo input when using alkaline batteries.
- Check the battery setting (→P6). Set the type of battery being used to enable the remaining charge to be shown more accurately (→P20).
- Due to the characteristics of the batteries, they might be used more quickly in cold.

Effect types	86 types	
Maximum number of simultaneous effects	6	
Number of patch memories	50	
Sampling frequency	44.1kHz	
A/D conversion	24-bit with 128x oversampling	
D/A conversion	24-bit with 128x oversampling	
Signal processing	32-bit floating point & 32-bit fixed point	
Frequency characteristics	20-20kHz (+1dB/-3dB) (10kΩ load)	
Display	LCD	
Input	Standard monaural phone jack x 2 Rated input level: -20dBm, Input impedance 1MΩ	
Output	Standard monaural phone jack x 2 Maximum output level: Line +5dBm (with output load impedance of 10 kΩ or more)	
Power	AC adapter	DC9V (center minus plug), 500 mA (ZOOM AD-16)
	Batteries	Continuous operation using 2 AA alkaline batteries for about 7 hours with mono input or about 5 hours with stereo input
	USB	
Dimensions	130.3mm(D) x 77.5mm(W) x 58.5mm(H)	
USB	Firmware update	
Weight	360g	

• 0dBm=0.775Vrms

■ Tuner Types

Display	Meaning	String number / Note name						
		7	6	5	4	3	2	1
GUITAR	Standard tuning for guitars, including 7-string guitars	B	E	A	D	G	B	E
OPEN A	In open A tuning, the open strings make an A chord	-	E	A	E	A	C#	E
OPEN D	In open D tuning, the open strings make a D chord	-	D	A	D	F#	A	D
OPEN E	In open E tuning, the open strings make an E chord	-	E	B	E	G#	B	E
OPEN G	In open G tuning, the open strings make a G chord	-	D	G	D	G	B	D
DADGAD	This alternate tuning is often used for tapping, etc.	-	D	A	D	G	A	D
BASS	Standard-bass tuning, including 5-string basses	-	-	B	E	A	D	G

FCC regulation warning (for U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For EU Countries



Declaration of Conformity:

This product complies with the requirements of EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC and ErP Directive 2009/125/EC and RoHS Directive 2011/65/EU



Disposal of Old Electrical & Electronic Equipment

(Applicable in European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

ZOOM®

ZOOM CORPORATION

4-4-3 Surugadai, Kanda, Chiyoda-ku, Tokyo 101-0062 Japan

<http://www.zoom.co.jp>