

Owner's Manual

Stereo rack monitor

RM-3



Thank you very much for purchasing a Fostex product.
This manual provides instructions for basic use of the unit.
Read this before using the unit for the first time.

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Introduction

RM-3 is a rack mount powered monitor that monitors digital and analog audio signals.

■ WARNINGS and PRECAUTIONS

- **CAUTION:** The symbol ⚡ To prevent electric shock hazard, do not connect to mains power supply while grille is removed.
- **WARNING:** An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.
- **CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.
- **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- **CAUTION:** Use of any controls or adjustments or performance of procedures other than those herein specified may result in hazardous radiation exposure.
- **WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- **WARNING:** Do not place the unit on top of any soft, porous, or sensitive surfaces to avoid damaging the surface. Use a protective barrier between the unit and surface to protect the surface.
- **WARNING:** Use of this unit near fluorescent lighting may cause interference regarding use of the remote. If the unit is displaying erratic behavior move away from any fluorescent lighting, as it may be the cause.
- **CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

- **WARNING:** Do not install this equipment in a confined space such as a book case or similar unit.
- **WARNING:** Mains plug is used as disconnect device and it should remain readily operable during intended use. In order to disconnect the apparatus from the mains completely, the mains plug should be disconnected from the mains socket outlet completely.
- Do not mix old and new batteries. Do not mix alkaline, standard (carbonzinc), or rechargeable (ni-cad, ni-mh, etc) batteries.



WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

■ SAFETY INSTRUCTIONS

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions - All operating and use instructions should be followed.
5. Water and Moisture - The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer. The appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
7. Wall or Ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation - The appliance should be situated so that its location or position does not obstruct proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization - The precautions that should be taken so that the grounding or polarization means of the appliance is not compromised.
12. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.



13. Cleaning - The appliance should be cleaned only as recommended by the manufacturer.
14. Nonuse Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
15. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
16. Damage Requiring Service - The appliance should be serviced by qualified service personnel when:
 - A. The power supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
17. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
18. The appliance should be situated away from drops of water or spraying water.
19. Objects containing liquid such as vases must not be put on the appliance.
20. The appliance is not completely isolated from the power supply even if the power switch is in the off position.
21. Appliance shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the appliance.
22. Only use attachments/accessories specified by the manufacturer.
23. Appliances with a protective earth terminal should be connected to a mains outlet with a protective earth connection.
24. The appliance should be placed in a position where an AC plug / inlet can be easily pulled out by hand.
25. The main plug is used as the disconnection device. It shall remain readily operable and should not be obstructed during intended use. To completely disconnect the appliance from supply mains, the mains plug of the appliance shall be disconnected from the mains socket outlet completely.

■ Features of the RM-3

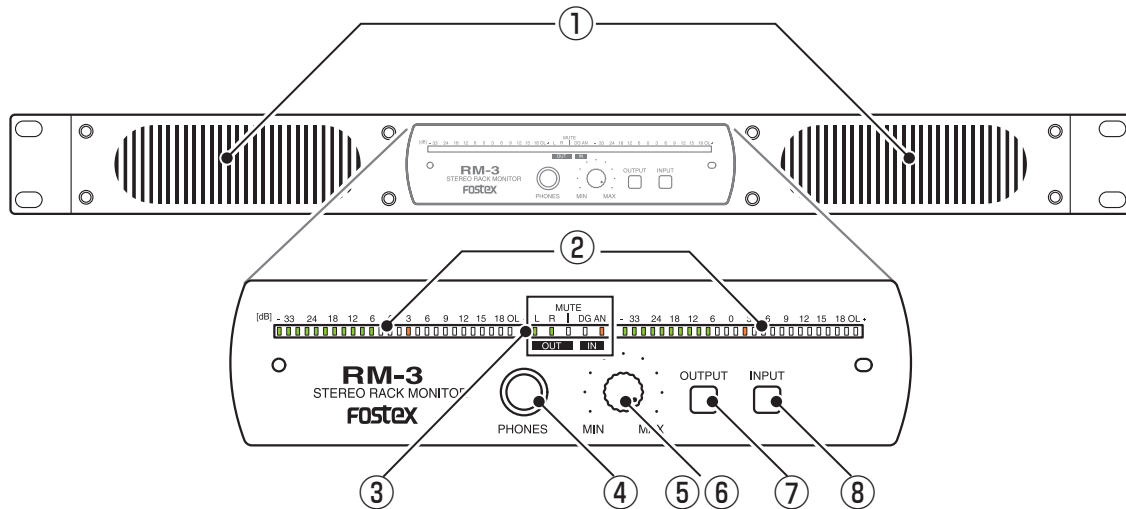
- The unit supports balanced/unbalanced analog input and AES/EBU digital input.
- It has a power saving design with a digital amplifier and switched-mode power supply.
- The 26 dot LED meter supports 4 different display modes: VU, VU+PEAK, VU+PEAK HOLD, PEAK+PEAK HOLD.
- The display has 4 brightness settings.

■ Accessories

- Power cable × 1
- Rubber feet × 4
- Safety information sheet × 1
- Owner's manual (this manual) × 1

Part names and functions

■ Front



① Speakers

The speakers do not emit any sound while headphones are connected to the [PHONES] jack.

② Level meter

③ Status display

④ [PHONES] jack

⑤ Volume knob

⑥ Mute button

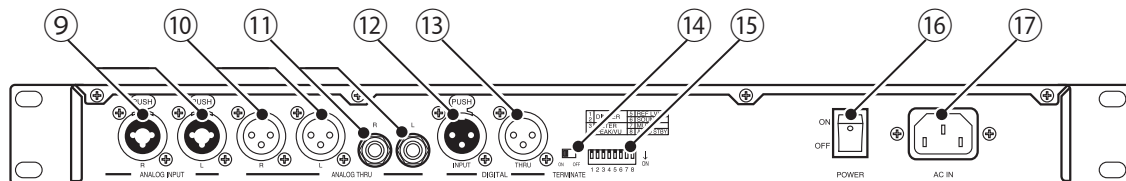
Press the button for approximately one second to mute (⇒ page 6). Cancel mute by briefly pressing the button again.

⑦ [OUTPUT] switch

Select an output channel from stereo, L, R, and L+R.

⑧ [INPUT] switch

■ Back



⑨ [ANALOG INPUT] terminals (for both XLR/TS phone)

⑩ [ANALOG THRU] terminals (XLR)

Outputs the signal being input through the [ANALOG INPUT] (XLR) terminal.

⑪ [ANALOG THRU] terminals (TS phone)

Outputs the signal being input through the [ANALOG INPUT] (TS phone) terminal.

⑫ [DIGITAL INPUT] terminal

⑬ [DIGITAL THRU] terminal

Outputs the signal being input through the [DIGITAL INPUT] terminal.

⑭ [TERMINATE] switch

Turn off if you wish to connect the [DIGITAL THRU] terminal to a digital input terminal on another device.

⑮ DIP switches

Used to configure various settings (⇒ page 4).

⑯ [POWER] switch

⑰ [AC IN] terminal

DIP switch settings

DIP switch
(default settings)



Switch position guide

OFF

ON



Display brightness (DIMMER)

1	2	Setting
OFF	OFF	Bright
ON	OFF	
OFF	ON	
ON	ON	
		Dark



Level meter type (METER PEAK/ VU)

3	4	Setting
OFF	OFF	VU+PEAK
ON	OFF	VU+PEAK HOLD
OFF	ON	PEAK+PEAK HOLD
ON	ON	VU



Reference level (REF LVL)

Choose an analog reference level indicated by 0 dB on the level meter.

5	Setting
OFF	+4 dBu (balanced)/-10 dBV (unbalanced)
ON	0 dBu (balanced)/-14 dBV (unbalanced)

The digital reference level is fixed at -20 dBFS.



Source sound type (SOUND)

There are two sound types. Choose the appropriate sound type.

6	Setting
OFF	MUSIC
ON	VOICE

MUSIC: Ideal for sound sources that have a wide frequency range, such as music.

VOICE: Ideal for sound sources that have a narrow frequency range, such as speech.



Volume when muted (⇒ page 6) (MUTE)

7	Setting
OFF	Volume: $-\infty$
ON	Volume: -20dB



Turn the auto standby function on/off (AUTO STBY)

8	Setting
OFF	Auto standby function: Off
ON	Auto standby function: On

The auto standby function

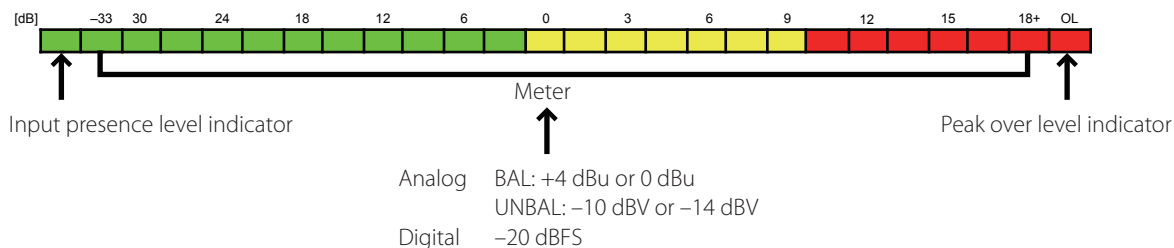
When the "AUTO STBY" DIP switch on the back is set to "on", if input to the unit stays below a certain level for approximately 4 hours, the unit automatically goes into standby.

When in standby, power consumption is reduced to 0.5 W or below. The unit will revert to its normal state when the mute button is pressed.

The auto standby function does not work when the DIP switch is set to "off".

Meter

Meter scale



The meter scale has 26 dot LED consisting of a 24 dot level meter, an input presence level indicator and a peak over level indicator. You can choose from four combinations of PEAK and VU to be displayed on the meter ("DIP switch settings" (⇒ page 4)).

24 dot LED (VU meter, PEAK meter)

Scale	Alignment Level	Permitted Level
-33 to +18	@0 dB = standard	@+9 dB

- Reference level

Reference level display position: 0 dB

You can choose the reference level from +4 dBu/-10 dBV or 0 dBu/-14 dBV using the DIP switches.

Peak meter specifications

Attack Time	Fall Time	Peak hold time
0.1 msec	1.7 sec/20 dB	2.0 sec

VU meter specifications

Attack/Fall Time
300 msec/@0 dB

Input presence level indicator

Presence level	Presence hold time
@-46 dB	1.0 sec

Peak over level indicator

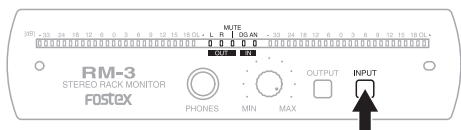
Peak over level
Reference level +20 dB

Switches and buttons on the front of the unit

1 [INPUT] switch

Select the input (analog or digital) to monitor.

The unit will automatically store the switch status within approximately three seconds.

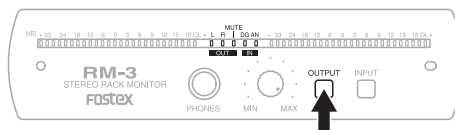


Indicator	Status
DG AN [Green Light] [Green Light] IN	Analog input
DG AN [Green Light] [Green Light] IN	Digital input
DG AN [Red Light] [Green Light] IN	Digital input (unlocked)

2 [OUTPUT] switch

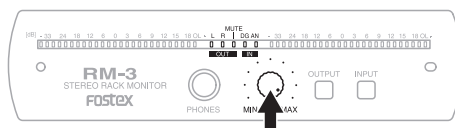
Select the output channel.

The unit will automatically store the switch status within approximately three seconds.



Indicator	Status
L R [Green Light] [Green Light] OUT	Stereo
L R [Green Light] [Green Light] OUT	L
L R [Green Light] [Green Light] OUT	R
L R [Red Light] [Green Light] OUT	Monaural (L+R)

3 Mute button

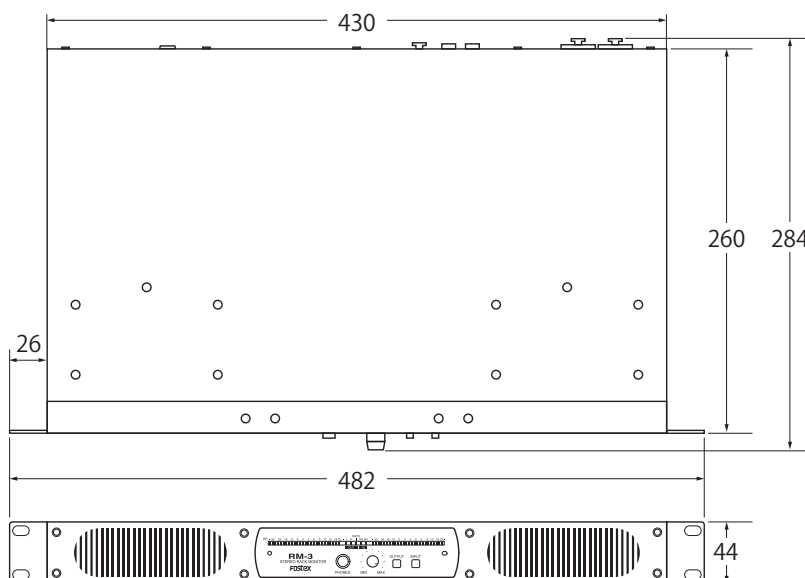


Press the mute button for approximately one second to mute the unit. You can set the unit to standby by pressing the mute button for more than 5 seconds.

When in mute or standby, briefly press the mute button again to return to the normal state.

The unit is never muted (sound can be heard) when it is turned on.

Dimensions



(Unit: mm)

Specifications

Speakers

Built-in unit	110 × 40 mm antimagnetic cone speakers
Impedance	8 Ω
Output sound pressure level	84 dB/W (1 m)
Frequency characteristic	200 Hz to 20 kHz

Power amplifier

Maximum output	10 W × 2		
Residual noise	−50 dB or less (DIN AUDIO)		
Distortion rate	0.1% or less		
Digital input	Connector	XLR-3-31 type	
	Format	IEC 60958 (AES/EBU)	
	Sampling frequency	44.1 kHz to 96 kHz	
Analog input	Connector	for both XLR/Φ6.3 mm (1/4") TS phone	
	Rated input level	XLR (balanced) +4/0 dBV TS phone (unbalanced): −10/−14 dBV	
	Input impedance	10 kΩ or more	
Digital THRU	Connector	XLR-3-31 type	
Analog THRU	Connector	XLR-3-31 type Φ6.3 mm (1/4") TS phone	
Phones	Connector	Φ6.3 mm stereo phones	
	Adapted load impedance	16 Ω or more	
	Maximum output	20 mW+20 mW (32 Ω, 1 kHz)	
Level meter	Display	26 dot LED × 2	
	Reference level	Digital	−20 dBFS
		Analog	XLR: +4/0 dBu TS phone: −10/−14 dBV

General

External dimensions (mm)	482 (W) × 44 (H) × 284 (D) (includes protruding parts)
Unit weight	approx. 3.5 kg
Power	AC 100 V to 240 V 50/60 Hz
Power consumption	10 W

Declaration of EC Directive

This equipment is compatible with the EMC Directive (2004/108/EC) - Directive on approximation of member nation's ordinance concerning the electromagnetic compatibility and with the Low Voltage Directive (73/23/EEC) - Directive on approximation of member nation's ordinance concerning electric equipment designed to be used within the specified voltage range.

The Affect of Immunity on This Equipment

The affect of the European Specification EN61000-6-1 (coexistence of electromagnetic waves - common immunity specification) on this equipment are as shown below.

In the electrical fast transient/burst requirements, surge, conducted disturbances by radio-frequency fields, power frequency magnetic field, radiate electromagnetic field requirements and static electricity discharging environment, this could be affected by generation of noise in some cases.

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* Including non-EU countries (as of Jan. 2014)

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Web Site: <http://www.sc-sound.dk>

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TEL: (+33) 1 4987 0300, FAX: (+33) 1 4987 0324
Web Site: <http://www.sennheiser.fr>

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NAME: Selectronic (Speaker Components Only)
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Email: contact@selectronic.fr

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NAME: Hamy Sound (Headphones and USB DAC Only)
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Web Site: <http://www.backline.it>

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Web Site: <http://www.ms-max.ru>

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