



Roland

Professional Audio and Video Field Recording Catalog



F-1
VIDEO FIELD RECORDER



R-44
4-CHANNEL PORTABLE RECORDER



R-4PRO
4-CHANNEL PORTABLE RECORDER with SMPTE TIMECODE



R-09HR
24bit 96kHz WAVE/MP3 RECORDER

Better Sound – Accelerated Workflow

F-1 Video Field Recorder

HDV DV 2+2ch AUDIO USB 2.0 i.LINK Windows® Vista®/XP/2000 Mac OS X



With a design centered on portability and durability, this recorder will streamline your video production workflow.

Equipped with a shock-resistant floating HDD, the EDIROL F-1 also includes two channels of additional audio, multiple power supply options, remote control via LAN, thumbnail clip review, unlimited file size, and numerous innovative functions that will streamline your recording and accelerate your post-production workflow.



Shock-resistant floating HDD
for secure & stable recording despite shocks and vibrations

Removable HDD
provides hours of recording in the field

Seamless 9 hours
recording with external battery

Additional 2 Channels of Audio
recording in hi-quality linear PCM WAV

Remote Control of Multiple Units
via LAN for managing multi-camera shoots or remote locations

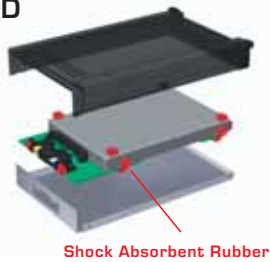
Removable HDD provides hours of recording in the field

The F-1 records to removable shock-resistant floating hard drive. Simply remove the full drive, plug into your computer via bus-powered USB and immediately begin editing your drives (F1-HD120) can be purchased age.



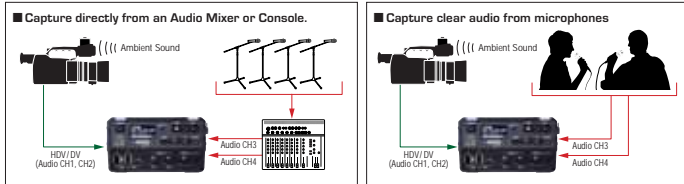
Worry-Free Recording with Shock Resistant Floating HDD

To protect the disk from inevitable rigors and shocks, the F-1's removable HDD uses full floating architecture. The floating technology allows for worry-free recording in locations with loud & heavy PA sound or shocks from rough terrain and handling.



Additional 2 Channels of Audio Recording in Linear PCM

The two independent analog audio inputs on the F-1 enables simultaneous recording of stereo audio from an audio mixer or two microphones. The recording format is Linear PCM broadcast WAV (BWF) at 16-bit/48kHz, providing professional recording quality.



Three Types of Power Supply Options

The F-1 can be operated with AC adaptor, external battery or AA batteries. The AA battery power pack supplies seamless failover power in case you lose external battery or AC power.



Thumbnail Display on External Monitor

Recorded clips can be shown as thumbnails on an external monitor. This enables last minute previewing to prevent "missed-shots" without connecting to computers. Mouse connection to front panel USB port provides quick and intuitive control.



Quick Backup of Recorded Data to USB Devices

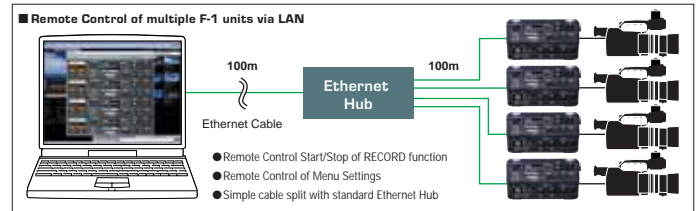
The F-1's USB port provides on-site connection to USB devices for quick backups. Copy time is shorter than real-time, offering speedy transfer of recorded data to your editing suites.



Control via LAN enables Multi-Camera Shoots Remotely.

From a PC using the control software, you can remotely control Start/Stop functions on up to four F-1 units. Operators can now control multi-camera shoots with minimal staff and in remote locations. You can copy the recorded clips to your computer immediately after recording via LAN.

* Control Software is a free download available at www.rolandssystemsgroup.net



Free and Convenient F-1 Utility Software

The F-1 Utility Software provides quick previewing and cut editing with two modes, Browser Mode and Editor Mode.



* F-1 Utility is a free download available at www.rolandssystemsgroup.net
Editor Mode will be available 2008 4Q.

Microsoft® Windows Vista®/Windows® XP

Front Panel

Side Panel (R)

Side Panel (L)



■ USB(PC) Jack
■ USB(HOST) Jack
■ i.LINK Jack





■ DISPLAY OUT Jack
■ AUDIO IN Jacks (CH3/4)
■ HOLD Switch
■ AUDIO CONTROL Switches
■ DC IN Jack



■ LAN Port

R-44 4-CHANNEL PORTABLE RECORDER

USB 2.0  Windows® Vista®/XP/2000 



A compact, solid state, four channel field recorder

The EDIROL R-44 is designed for professional use within a very conveniently sized package. Capture up to 4 channels of uncompressed audio with selectable bit depth and sampling frequencies. R-44 employs SD card or Large capacity SDHC cards as recording media. No moving parts enables the most silent and reliable operation possible.



Uncompressed
24-bit / 192kHz
Linear PCM

Light-weight
1.3kg
compact body

Supports
SDHC
large capacity media

AA batteries for
4 hours
of recording

Built-in Stereo Microphones and Monitor Speakers

Although the R-44 is compact, all the necessary functions are included. Built-in high quality microphones and speakers make the recording and monitoring without external devices possible.



Built-in Limiter, Low-Cut Filter and Studio Class Effects

On-board limiter helps suppress sudden peaks in sound from an input source. Low-cut filter is included to help prevent wind noise etc. Studio class effects (as below) can be used to improve audio quality. Effects can be applied while recording or simply for monitoring/play-

Built-In Effects

3-Band EQ	3-band parametric EQ ; allows precise equalization with high/low shelving and peaking
6-Band Graphic EQ	6 point frequency band equalization; ideal for recording
Noise Gate	Minimizes noise during low audio levels, cuts low frequency noise
Enhancer	Clearly defines and enhances sound; good for dialogue
Comp & DeEsser	Cuts hissing, smoothens the sound, makes audio level uniform
MS Mic Mixing	Generates stereo mix with specified spread from inputs of Mid-Side Microphones

* Effects can be applied on both input and output
* Effects are not available while sample rate is set to 192kHz

Pre-Record Function

The pre-record function buffers input signal for a certain amount of time. When the REC button is pressed, the material from the previous few seconds (selectable) is included. This helps prevent missed recording opportunities or sound bites at the beginning of recording.

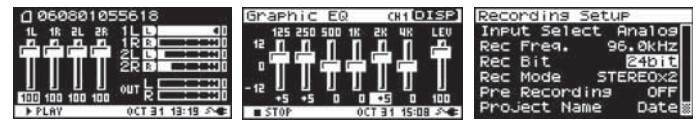
Connect with Variety of Source Devices

The combo input jack x 4 supports the connection of both XLR (with phantom power supply) and 1/4 inch plugs. Variety of source devices from microphones to musical instruments can be connected. High quality preamp ensures superior recording results.



High Contrast Organic LED Display

The high contrast, high response organic LED, viewable from wide angles ensures fluid operation in field. The high response of level meters makes precise level adjustment possible.



▲ Mixer Display

▲ 6-Band Graphic EQ Display

▲ Recording Setup Display

Capture 8 Channels by Linking 2 Units

The control sync terminal enables synchronized operation of 2 units. The Master unit can remotely control REC standby, REC start and REC stop of the Slave unit. This function enables 8-channel recording in a compact space.



Link to Computer via Hi-Speed USB

The R-44 can simply be connected to a Mac or PC using a USB 2.0 connection. You can copy data back and forth with a simple drag & drop operation.



3 Types of Power Supply Options

The R-44 can be operated with 3 types of power supply, AC adaptor, external battery and AA batteries. 4 hours* of operation is possible with NiMH or alkaline Batteries.



* At 16-bit/44.1kHz stereo. No phantom power and pre-record is disabled.

Top Panel

- Built-in mics
- PHANTOM POWER Switches
- HOLD Switch
- EXIT Button
- EFFECTS Button
- MARKER/CURSORS Buttons
- A-B REPEAT Button
- Built-in Speakers
- LIMITER Switch
- LOW-CUT Switch
- SCRUB Dial
- MENU Button
- ENTER/FINDER Button
- PREV/NEXT/PLAY Buttons

Front Panel

- Display
- INPUT SENSITIVITY & LEVEL Knobs
- DISPLAY Button
- STOP/PAUSE/REC Buttons
- PHONE Jack & LEVEL Knob

Side Panel (R)

- Combo Type Input Jacks

Side Panel (L)

- Memory Card Slot
- USB Port
- CONTROL SYNC
- DIGITAL OUTPUT Jack
- DIGITAL INPUT Jack
- LINE OUTPUT Jacks

R-4 Pro

4-CHANNEL PORTABLE RECORDER
with SMPTE TIMECODE

USB 2.0 Windows® Vista®/XP/2000 Mac OS X

SMPTE Timecode
In/Out for Video Sync

80GB Hard Disk Drive
built-in

24-bit/192kHz
Linear PCM

AES/EBU
Input/Output

Portable 4 Channel Recorder with Superior Sound Quality and SMPTE Timecode Sync Function.

The R-4 Pro delivers professional sound and features in a package that everyone can afford. It supports SMPTE timecode and AES/EBU input/output. Record up to 4 channels and monitor each channel discretely. The 80GB hard disk drive will store up to 116 hours of high quality audio.



Master or Slave Sync with SMPTE Timecode

The R-4 Pro sends or accepts SMPTE timecode which enables it to act as master or slave with video cameras or VCRs. Four channels of high quality audio can be fully synchronized with video.



High Quality Pre-amps

The high quality R-4 Pro pre-amps specially designed for field recording ensures superior sound quality.



AES/EBU Input/Output

The R-4 Pro is equipped with XLR style AES/EBU digital input and output for connection with pro Audio and Video recorders or sources.



Extended Recording with 80GB Hard Disk Drive

Equipped with 80GB HDD, the R-4 Pro can record a stereo audio file for many hours.

Recording Time (Stereo)

	44.1 kHz	48 kHz	88.2 kHz	96 kHz	192 kHz
16 bit	116 hours	106 hours	58 hours	53 hours	26 hours
24 bit	77 hours	70 hours	38 hours	35 hours	17 hours

* Recording times are approximate. Actual results may vary.
* If more than one recorded file exists, the total recordable time will be less than listed.

Instant Backup via USB 2.0

The USB host terminal of R-4 Pro enables high speed and instant backup of recorded data to USB devices. Easy and high speed duplication improves production workflow across multiple locations.



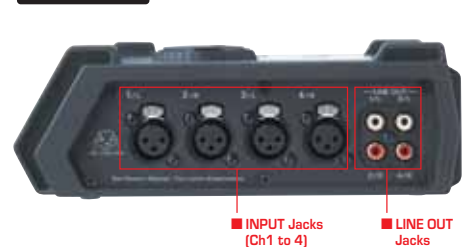
Top Panel



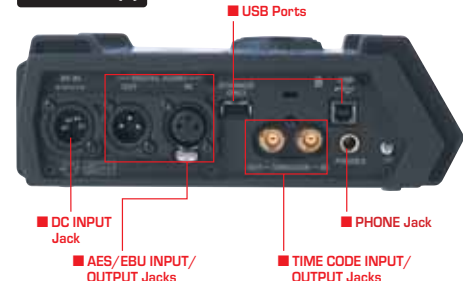
Front Panel



Side Panel (R)



Side Panel (L)



R-09HR

24 bit 96 kHz
WAVE/MP3 RECORDER
USB 2.0

Windows® Vista®/XP/2000 Mac OS X

24-bit/96kHz
Linear PCM

Records to
SD or SDHC Memory cards

Wireless Remote Controller
included

built-in
Stereo Condenser Microphone



Professional-grade, High-Resolution Recording

The R-09HR is a professional, high-definition recorder that travels light and performs like a heavyweight.

- 24-bit/96kHz linear PCM high-resolution, low-noise recording
- Up to 320kbps MP3 playback and recording
- Newly-developed Isolated Adaptive Recording Circuit (I.A.R.C.)
- Professional-grade, high-sensitivity stereo condenser microphone built-in
- Records to SD or SDHC memory card (up to 32GB)
- Wide view-ability on large OLED (Organic Light-Emitting Diode) display
- Built-in preview speaker
- Wireless remote controller included
- Hi-speed file transfer via USB 2.0 to computer



R-4

4 CHANNEL PORTABLE RECORDER
and WAVE EDITOR

USB 2.0 CompactFlash® Windows® Vista®/XP/2000 Mac OS X



Simultaneous
4-Channel Recording

Extended Recording with
40GB Hard Disk Drive

built-in
Nondirectional Stereo Mics

Linking to Video Camera
With L Terminal

Superior Sound and Extended Recording Time with 40GB Hard Disk Drive. 4-Channel Portable Recorder for Professional Use.

- Simultaneous 4-channel recording
- Extended recording with 40GB hard disk drive
- Superior 24-bit/96kHz linear recording
- On-board limiter
- Built-In nondirectional stereo microphones
- Pre-recording function
- Long battery life
- High-quality effects
- L terminal for linking a digital video camera



R-09

24 bit WAVE/MP3 RECORDER

USB 2.0 Windows® Vista®/XP/2000 Mac OS X



24-bit/48kHz
Linear PCM

Records to
SD or SDHC Memory cards

built-in
Stereo Condenser Microphone

Mic and Line
Audio Inputs

Pristine 24-bit Recording to Go

- 24-bit/48kHz (or 44.1kHz) uncompressed recording
- Up to 320kbps MP3 playback and recording
- Records to SD or SDHC memory card (Up to 16 GB)
- High-grade stereo condenser microphone built in
- Mic and Line audio inputs; USB 2.0 I/O
- Easy operation, user-friendly graphic display
- Long battery life



Specifications

F-1

●Video Recording Format: HDV (m2t), DV (dv) ●Audio Recording Format: WAV (Supports BWF), Sampling: 16-bit/48kHz ●Audio Control: Switch + Gain (MIC/20dB/LINE), Phantom Power +48V (ON/OFF) Volume = Ch3 Input, Ch4 Input, Headphones ●Audio Input Impedance: 4 k ohms ●Headphones Output Impedance: 16 ohms ●Headphones Output Level: 45 mW ●Recording Media: Hard Disk Drive (120 GB) removable unit ●Max Recording Time: Approx 9 hours (F1-HD120 as recording media, without audio) ●Input/Output Jacks: [Front Panel] L/LINK = 6-pin type conforms to IEEE1394 USB A Type (For USB Storage device, USB Mouse) *Supports 2.0 Hi-Speed, USB mini B Type (For Computer) *Supports 2.0 Hi-Speed [Right Side Panel] Display Output = 15-pin mini D-sub type (Analog RGB, 800x600 fixed resolution), Audio Input (Ch3/4) = 3-pin XLR Type x 2, DC Input = 4-pin XLR Type [Left Side Panel] LAN = RJ45 Type (Ethernet 10/100Base-Tx) ●Display: 128 x 64 dots (Organic LED) ●Power Supply: DC 9 V (AC Adaptor) * 9-16V 2.0A or HR15/51 x 8 or LR6 (AA) x 8 ●Max Operation Time: Nickel Hydride Battery x 8 ≈ Approx 2 hours, External Battery (IDX Endura10 Li-Ion Battery) ≈ Approx 10 hours *These operation times are approximate. Actual time may vary somewhat. ●Current Draw: 1,500 mA ●Dimensions: 111 (W) x 179 (D) x 61 (H) mm, 4-3/8 (W) x 7-1/8 (D) x 2-3/8 (H) inches ●Weight: 870 g (1 lb 15 oz) including HDD, excluding AC Adaptor and batteries

R-44

●Channels: 4 ●Data Type: Format = WAV/BWF ●Sampling Bit Rate: 16/24 bits ●Sampling Frequency: 44.1/48/88.2/96/192 kHz (Limited to Stereo x 1 at 192kHz) *16 or 24 bit sampling rate can be selected with any frequency ●Recording Media: SDHC memory card (compatible with 64 MB - 32 GB) ●Analog Input: Ch 1 - 4 = XLR/TRS Combo type, XLR type (phantom powered), TRS type (balanced/unbalanced), Stereo Built-in Microphones ●Analog Output: Ch 1 - 4 = RCA Pin type (Line output), Headphone = Stereo Phone type (1/4 inch) ●Digital Input/Output: RCA Pin type (IEC 60958-3) ●Input Impedance: XLR = 4k ohms or greater (balanced), TRS = 6k ohms or greater (balanced) ●Nominal Input Level: 11 steps = -56, -50, -44, -38, -32, -26, -20, -14, -8, -2, +4 (Input Level Knob = Center) ●Maximum Input: +24 dBu (Input Sens Knob = +4 dBu) ●Output Impedance: Line Output = 600 ohms ●Recommended Load Impedance: Line = 4k ohms or greater, Headphone = 16 ohms or greater ●Output Level: Line Output = -20 dBu (fixed), Headphone = 40 mW + 40 mW ●Total Harmonic Distortion + Noise: Line Output = 0.02 % (Input Sens = +4 dBu) ●Noise Level: Line Output = -100 dBu (Input Sens = +4 dBu, Input Level = Center) ●Residual Noise Level: Line Output = -103 dBu (Input Sens = +4 dBu, Input Level = Minimum) ●Frequency Response: 20Hz - 40kHz (0/-3 dB) ●Dynamic Range: AD = 100 dB, DA = 104 dB ●Phantom Power: 48 V ± 4 V, 8 mA per 1 channel (20 mA or less in all channels) ●USB Port: Mini-B Type Connector, USB 1.1 or 2.0 High Speed (Mass Storage Class) ●Control Sync Jack: Stereo Mini Type Jack, Word clock sync and start/stop remote control of 2 units *Remote control function does not guarantee the exact same REC start time ●Effect Unit Part: Effect Type = 3-BAND SHELVING EQ, 6-BAND GRAPHIC EQ, NOISE GATE, ENHANCER, COMPRESSOR AND DE-ESSOR, MS MIC MIXING *Available to either recording or playing *Not available to recording in 192 kHz sampling frequency. ●Display: 128 x 64 dots OLED (Organic Light Emitting Diode) Graphic Display ●Power Supply: AC Adaptor (PSB-1U), AA type battery x 4 (Alkaline or Nickel Hydride) ●Current Draw: 1.2 A ●Dimensions: 157(W) x 183(D) x 61(H) mm, 6-3/16(W) x 7-1/4(D) x 2-7/16(H) inches ●Weight: 1.3 kg (2 lbs 14 oz) including batteries

R-4PRO

●Channels: 4 ●Signal Processing: AD/DA Conversion = 24 bits, Sampling Frequency = 44.1/48/88.2/96/192 kHz *Limited to Stereo x 1 when 192 kHz ●Data Type: Format = BWF/WAV, Sampling Frequency = 44.1/48/88.2/96/192 kHz, Bit Depth = 16/24 bits ●Recording Media: Internal Hard Disk Drive (80 GB) ●Analog Input: Channel 1/2/3/4 = XLR type (Phantom powered), Internal Microphones (Stereo) ●Analog Output: LINE Output = RCA phono type (Channel 1/2/3/4), Headphones = Stereo 1/4 inch phono type ●Digital Input/Output: XLR type (AES/EBU, conforms to IEC 60958-4) ●Nominal Input Level (Input Level Knob = Center) (Variable): -56, -50, -44, -38, -32, -26, -20, -14, -8, -2, +4 dBu (Input Level Knob = +) ●Input Impedance: Analog Input = 4 k ohms ●Output Level: Line Output = -10 dBu, Headphones = +40 mW + 40 mW ●Output Impedance: Line Output = 950 ohms, Headphones = 10 ohms ●Residual Noise Level: Line Output = -90 dBu (SENS Knob = +4 dBu, Input Level Knob = Min) ●Impedance: Analog Audio = 950 Ohms, Headphone = 10 Ohms ●Total Harmonic Distortion (THD + N): 0.01 % (SENS Knob = +4 dBu, Input Level Knob = Center) ●Recommended Load Impedance for Headphones: 32 ohms ●Frequency Response: 20 Hz to 40 kHz (0/-3 dB) ●Phantom Power: 48 V ± 4 V, 8 mA (Available 4 Channels simultaneously) *Should be less than 25mA in total ●USB Interface: A Type Connector (For USB Storage device), Supports USB 1.1 and 2.0 Mass Storage Device Class. B Type Connector (For Computer), Supports USB 1.1 and 2.0 Mass Storage Device Class. ●SMPTE Timecode connectors: BNC Connectors (Conforms SMPTE 12M-1999) ●Effect Unit Part: Effect Type = 3-BAND SHELVING EQ, 6-BAND GRAPHIC EQ, NOISE GATE, ENHANCER, COMPRESSOR AND DE-ESSOR, MS MIC MIXING *Available to either recording or playing *Not available to recording in 192 kHz sampling frequency. ●Display: 128 x 64 dots Graphic LCD (backlit LCD) ●Power Supply: AC Adaptor (PSB-1U), Alkaline dry battery LR6 (AA) type x 8, or Nickel Hydride battery (HR15/51) x 8, External Power Supply: 4-pin XLR type (9-16 V) ●Current Draw: 2.0 A ●Dimensions: 240 (W) x 217 (D) x 77 (H) mm, 9-1/2 (W) x 8-9/16 (D) x 3-1/16 (H) inches ●Weight: 1.7 kg (3 lbs 12 oz)

R-4

●Channels: 4 ●Signal Processing: AD/DA Conversion = 24 bits, Sampling Frequency = 44.1/48/96 kHz ●Data Type: Format = WAV/BWF, Sampling Frequency = 44.1/48/96 kHz, Bit Depth = 16/24 bits ●Recording Media: Internal Hard Disk Drive (40 GB) ●Analog Input: Channel 1/2/3/4 = XLR type (Phantom powered), 1/4 inch TRS phono type (balanced/unbalanced), Internal Microphone (Stereo) ●Analog Output: Line Output = 1/4 inch phono type (L, R), RCA phono type (L, R), Headphones = Stereo 1/4 inch phono type ●Digital Input/Output: Coaxial type (conforms to IEC60958) ●Input Impedance: 4 k ohms ●Nominal Input Level (Variable): Line Level = -33-- +4 dBu, MIC Level = -60-- -23 dBu ●Output Impedance: Line Output = 950 ohms, Headphones = 10 ohms ●Output Level: Line Output = -10 dBu, Headphones 40 mW + 40 mW ●Residual Noise Level: Line Output = -85 dBu, Digital Data = -90 dBFS (fs = 96 kHz, Input = 1 k ohms terminated, Level Switch = MIC, Input Level Knob = Min, Input = 4 channels simultaneously) ●Total Harmonic Distortion (THD + N): 0.03 % (fs = 96 kHz, Input = 1 k ohms terminated, Level Switch = Line, Input Level Knob = Min, Input = 4 channels simultaneously) ●Band Width = 22 kHz ●Recommended Load Impedance for Headphones: 32 ohms ●Frequency Response: 20 Hz to 40 kHz (0/-3 dB) ●Phantom Power: 48V/2 V / 8 mA (Available 4 Channels simultaneously) ●USB Interface: B Type Connector, Supports USB 1.1 and 2.0 Mass Storage Device Class. ●CompactFlash Slot: Supports Type I only ●L Connector: Receiving only (Supports Start/Stop Sync only. Not Supports Timecode.) ●Effect Type: 3-BAND SHELVING EQ, 6-BAND GRAPHIC EQ, NOISE GATE, ENHANCER, COMPRESSOR AND DE-ESSOR, NO EFFECT (Available to either recording or playing. Not available to recording in 96 kHz sampling frequency.) ●Display: 128 x 64 dots Graphic LCD (backlit LCD) ●Power Supply: AC Adaptor (PSB-1U), Alkaline dry battery LR6 (AA) type x 8, or Nickel Hydride battery (HR15/51) x 8 ●Power Consumption: 1.2 A ●Dimensions: 240 (W) x 217 (D) x 77 (H) mm, 9-1/2 (W) x 8-9/16 (D) x 3-1/16 (H) inches ●Weight: 1.7 kg (3 lbs 12 oz)

R-09HR

●Tracks: 2 (stereo) ●Signal Processing: AD/DA conversion = 24 bits, 44.1/48/88.2/96 kHz ●Data Type: <For Recording> Stereo only Format = MP3(MPEG-1 Audio layer 3), Sampling Rate = 44.1/48 kHz, Bit Rates = 64/96/128/160/192/224/320 kbps <For Playback> Stereo only Format = WAV, Sampling Rate = 44.1/48 kHz, Bit Depth = 16/24 bits ●For Playback-Format = MP3(MPEG-1 Audio layer 3), Sampling Rates = 32/44.1/48 kHz, Bit Rates = 64/96/128/160/192/224/256/320 kbps or VBR (Variable Bit Rate), Format = WAV, Sampling Rates = 32/44.1/48 kHz, 32 to 320 kbps or VBR (Variable Bit Rate) ●Memory Card: SD Memory Card (SDHC format compatible) ●Audio Input: Internal Stereo Microphone, Mic input (Stereo miniature phono type, plug-in powered mic), Line input (Stereo miniature phono type) ●Nominal Input Level (Variable): Mic Input = -33 dBu (Default input level), Line Input = 2 dBu (Default input level) ●Input Impedance: Mic input = 30 k ohms, Line input = 15 k ohms ●Output Level: 20 mW (in case 16 ohms load) ●Recommended Load Impedance: 16 ohms or greater ●Frequency Response: 20 Hz to 40 kHz ●USB Interface: Mini-B type *support USB 2.0/1.1 mass storage device class ●Effects: Playback only. Excludes playback in 88.2 kHz or 96 kHz ●Playback Reverb: 4 types (Hall 1, Hall 2, Room, Plate) ●Speed change: 50 to 150% of playback speed ●Display: 128 x 64 dot OLED (Organic Light Emitting Diode) Graphic Display ●Power Supply: AC Adaptor, Alkaline dry battery LR6 (AA) type x 2, or Nickel Hydride battery (HR15/51) x 2 ●Current Draw: 370 mA ●Dimensions: 62 (W) x 113 (D) x 27 (H) mm, 2-1/2 (W) x 4-1/2 (D) x 1-1/8 (H) inches ●Weight: 174 g (7 oz) *including batteries and memory card.

R-09

●Tracks: 2 (stereo) ●Signal Processing: AD/DA conversion = 24 bits, 44.1/48 kHz ●Data Type: <For Recording> Stereo only Format = MP3(MPEG-1 Audio layer 3), Sampling Rate = 44.1/48 kHz, Bit Rates = 64/96/128/160/192/224/320 kbps, Format = WAV, Sampling Rate = 44.1/48 kHz, Bit Depth = 16/24 bits ●For Playback-Format = MP3(MPEG-1 Audio layer 3), Sampling Rates = 32/44.1/48 kHz, Bit Rates = 64/96/128/160/192/224/256/320 kbps or VBR (Variable Bit Rate), Format = WAV, Sampling Rates = 32/44.1/48 kHz, Bit Depth = 16/24 bits ●Memory Card = SD Memory Card (supports 64 MB-2 GB), SDHC Memory Card (4-8GB) format compatible. ●Audio Input: Internal Stereo Microphone, Mic input (Stereo miniature phono type, plug-in powered mic), Line input (Stereo miniature phono type) ●Audio Output: Phones* (Stereo miniature phono type), Digital Out Connector* (Optical miniature phono type) *Phones and Digital Out use a common jack. ●Nominal Input Level (Variable): Mic Input = -36 dBu (Default input level), Line Input = 0 dBu (Default input level) ●Input Impedance: Mic input = 20 k ohms, Line input = 17 k ohms ●Frequency Response: 20 Hz to 22 kHz ●USB Interface: Mini-B type *support USB 2.0/1.1 mass storage device class ●Effects: Playback Reverb = 3 types (Hall1, Hall2, Room, Plate) ●Display: 120 x 64 dots OLED (Organic Light Emitting Diode) Graphic Display ●Power Supply: AC Adaptor, Alkaline dry battery LR6 (AA) type x 2, or Nickel Hydride battery (HR15/51) ●Current Draw: 360 mA ●Dimensions: 63 (W) x 102 (D) x 29 (H) mm, 2-1/2 (W) x 4-1/16 (D) x 1-3/16 (H) inches ●Weight: 145 g (6 oz) *including batteries and memory card.

(*0 dBu = 0.775 V rms)

Optional Items

For F-1



V-Mount Kit
F1-VMK1

* Solutions for other battery mounting devices are being investigated at this time.



Removable Hard Disk
F1-HD120

* An F1-HD120 is included with each F-1 purchase.



Carrying Bag
CB-F1

For R-44



Carrying Bag
CB-R44

For R-4PRO/R-4



Semi Hard Case
SHC-R4

For R-09HR/R-09



Silicone Rubber Case
OP-R09HR-S/OP-R09-S



Carrying Pouch
OP-R09HR-P/OP-R09-P

Microphone



Stereo Shotgun Microphone
CS-50



Stereo Microphone
CS-15/CS-15R



Condenser Microphone
DR-80C



Dynamic Microphone
DR-50

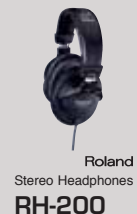


Dynamic Microphone
DR-30

Headphone



Stereo Headphones
RH-300



Stereo Headphones
RH-200



In-Ear Headphones
RH-IE3

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