EDIROL

Products by **Roland**

R-4

4 CHANNEL PORTABLE RECORDER and WAVE EDITOR

- **4-Channel Recording**

- **24-bit/96-kHz Resolution**

- **40GB Hard Disk Drive**

- **Wave Editing Function**

Edirol R-4 — Introducing the new generation portable recorder

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

The R-4 brings you a new generation of portable recording. Enjoy superb sound quality. Use the 40GB hard disk drive for extended recording. Record up to four channels at once. Edit waveforms on the recorder itself. All this plus a compact size and light weight that assure outstanding mobility in the field. The Edirol R-4. Gear up for the new generation of portable recording.

Top Panel

Hold Switch
Locks all control switches, including power switch.

Effects Button
Press to enter Effect mode.

Wave Edit Button
Press to enter Wave Edit mode.

Marker Set/Operate Buttons
Use to set markers or to index previously set markers.

A-B Repeat Button
Press once to set point A, again to set point B, and again to cancel the set points.

Display Selector
Use to select current playback time, remaining time, or current playback position bar.

Built-In Stereo Mics
Select between input channels 1/2 and the built-in mics.

Built-In Speakers
The speakers play the same sound as the headphones.

Limiter Switch
Turns the limiter of all channels ON or OFF.

Phantom Power Switch
Turns the phantom power ON or OFF for channels 1/2 and 3/4 during mic input.

Shuttle Dial
Use to vary forward or reverse speed in playback or in waveform editing.

Jog Dial
Use to select files and set parameters.

Cursor Buttons
Use to select files and menu items and to set parameters.

4 CHANNEL PORTABLE RECORDER and WAVE EDITOR

R-4

Front Panel

Prev Button
Press to select previous file. Hold it down to rewind.

Next Button
Press to select the next file. Hold it down to fast-forward.

Rec Button
Press to start recording. Press while holding down the PAUSE button to enter standby recording.

LCD
Large 128 x 64 dot display

Monitor Level Dial
Volume control for built-in speakers and headphones.

Input Gain Dials
Use to set input gain. Each channel can be set independently at the analog stage.

Left Panel

USB Terminal
Mass storage class USB 2.0/1.1 terminal

CompactFlash™ Slot
Use to transfer data from HDD to CompactFlash™.

Digital Audio Terminal
Coaxial digital audio in/out.

L Terminal
Use to link to a digital video camera for synchronized recording/playback start and stop.

Headphone Jack
Standard headphone jack

Right Panel

Input Terminals (channels 1 to 4)
XLR/Phone combo jacks with switchable phantom power.

Mic/Line Selector
Selects the input level of the mic or line input.

Line Out Terminal
Use to select or mix playback channels from the four recorded channels.

Advanced Recording

Extended Recording with 40GB Hard Disk Drive
Equipped with a 40GB hard disk drive, the R-4 can record up to 17 hours at maximum sound quality or up to 58 hours at CD quality.

Superior 24-bit/96-kHz Linear Recording
Totally uncompressed recording assures outstanding sound quality. Choose 16-bit or 24-bit quantization and a sampling rate of 44.1 kHz, 48 kHz, or 96 kHz. Save data as WAV files.

■ Recording Time (approx.) (Stereo)

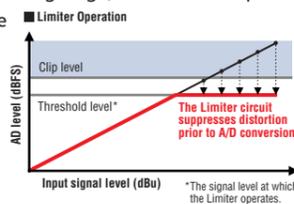| 16-bit/44.1-kHz	16-bit/48-kHz	24-bit/96-kHz
58 hours	53 hours	17 hours

Simultaneous 4-Channel Recording
The 4 XLR/Phone combo jacks come with switchable phantom power and give you a choice of MONO, STEREO, STEREO X2, or 4CH recording. Digital input/output is also provided. Four-channel recording gives you exceptional flexibility. For example, you can use mics to capture the ambience of a performance hall while using line input to record the performance itself. Or you can record at several different level settings simultaneously.

On-Board Limiter
Built into the analog stage, the Limiter helps deliver a stable and reliable recording free of clipped noise from sudden input surges.

■ Limiter Operation

Clip level

Threshold level*

The Limiter circuit suppresses distortion prior to A/D conversion.

AD level (dBFS)

Input signal level (dBu)

*The signal level at which the Limiter operates.

Built-In Nondirectional Stereo Microphones
The R-4's nondirectional, back electret condenser microphones offer superb transient characteristics and vibration resistance.

Pre-Recording Function
When the REC button is pressed, the current material is appended to a buffer that contains recorded material from a few seconds earlier. This helps prevent missed recording opportunities or sound bites at the beginning of a recording.

Five High-Quality Effects
The R-4 lets you tailor the sound during both recording and playback.

■ Built-In Effects

3-Band EQ	3-band parametric EQ; allows sharp equalizing with high/low shelving and mid peaking
Graphic EQ	6-point frequency band equalizing — ideal for recording
Noise Gate	Minimizes noise during silences, cuts low-frequency noise
Enhancer	Clearly defines and enhances sounds — good for dialogue
Comp & DeEsser	Cuts hissing, smoothens the sound, makes the sound level uniform

*Only one effect can be used at a time. Effect ON/OFF and parameters can be set for each track.
*Effects are not available in 96-kHz operation.

L Terminal for Linking a Digital Video Camera
The R-4's L terminal lets you connect a similarly equipped digital video camera to synchronize the camera start/stop while R-4 is recording. Counting the camera's two channels, this configuration gives you a total of six audio channels — a wealth of audio data to get creative with.

Wave Editing

Waveform Editing Using Only the R-4
The R-4 is all you need to edit waveforms. Just watch the waveform on the LCD as you edit. Scrubbing playback with the shuttle dial lets you set the edit points precisely by sound.

■ Waveform Editing Functions

Trim (Delete)	Select two points and remove the waveform between them
Divide (Split)	Select one point and divide the file there
Combine (Append)	Combine a file with the one before it
Merge (Bounce)	Merge several channels into one

Easy Playback

Index Any Point Instantly
Press the mark button anytime during recording or playback to mark that point for easy, instant indexing later. With the A-B repeat function you can set two points and repeatedly play back the material between them.

Easy Playback with the Jog Dial
Use the jog dial to fast-forward or rewind at any of seven speed levels.

Built-In Stereo Speakers
The R-4's built-in speakers make it easy to monitor recorded sound without headphones.

Computer Linking

USB 2.0 Terminal Provides a High-Speed Computer Data Link
The USB 2.0 high-speed mode transfers data about 20 times faster than DAT. You can also use the R-4 as a 40GB storage device. Edit R-4 files directly from DAWs and other applications.

Advanced Linking with the EDIROL DV-7DL
A USB cable is all you need to connect directly to an EDIROL DV-7DL Video Editor and exchange files.

CompactFlash™ Slot
The CompactFlash™ slot makes it easy to read or write recorded files. You can use CompactFlash™ memory to give data to colleagues or to transfer data to equipment not equipped with a USB interface.

And More

2-Way Power Supply
The R-4 runs on eight AA batteries or with the AC adaptor.

Digital Audio Input/Output
Exchange data with other digital equipment while maintaining fidelity with the coaxial digital audio in/out.

Soft Carrying Case
The R-4 comes with a soft carrying case with a shoulder strap for safe, comfortable use in the field.

■ Specifications

Signal Part	
Input	
Connectors	Channel 1/2 3/4: XLR/PHONE type (phantom powered: XLR only)
Impedance	4 k Ohms or more
Frequency Response	44.1 kHz: 20 Hz to 20 kHz (0 dB/-2 dB), 48 kHz: 20 Hz to 22 kHz (0 dB/-2 dB), 96 kHz: 20 Hz to 40 kHz (0 dB/-3 dB)
Nominal Input Level	Channel 1, 2, 3, 4: -60 to +4 dBu (variable)
Output	
Connectors	RCA phono type (L, R)
Headphones Jack	Stereo 1/4 inch Phone Type
Impedance	L, R: 950 Ohms, PHONES: 10 Ohms
Output Level	L, R: -7.8 dBu (-10 dBV), PHONES: 30 mW + 30 mW (32 Ohms load)
Digital Input/Output	
Connectors	Digital Output Jacks: Coaxial Type (conform to IEC60958), Digital Input Jacks: Coaxial Type (conform to IEC60958)
Other Connectors	
USB Connector	B Type
L-connector	Mini-Miniature Phone Type *Receive Only.
Card Slot	CompactFlash™
Effect Unit	
Tone Control	Shelving EQ, Graphic EQ, Enhancer, Noise Reducer, Compressor * 96 kHz : Invalid

Control	
Controls	Input Gain Knobs (CH1, CH2, CH3, CH4), Input Level Switch (CH1/2, LINE, MIC), Input Level Switch (CH3/4, LINE, MIC), Monitor Knob, Jog Shuttle, Transport Buttons (PREV, NEXT, STOP, PAUSE, PLAY, REC), Function Buttons, Hold Switch , Phantom Switch (CH1/2, CH3/4), Limiter Switch
Display	128 x 64 Graphic LCD
Signal Processing	
Bit Depth	
AD/DA Conversion	24 bits
Headroom	12 dB
Sample Rate	
AD/DA Conversion	44.1 / 48 / 96 kHz
Digital Output	44.1 / 48 / 96 kHz
Digital Input	32 kHz to 96 kHz (convert to internal sample rate)
Others	
Hard Disk Drive Capacity	40 GBytes
Recording Time	16 bits 44.1 kHz: 58 hours, 16 bits 48 kHz: 53 hours, 24 bits 96 kHz: 17 hours
Power Supply	DC 9 V (AC adaptor), AA battery x 8
Dimensions, Weight	254 (W) x 221.8 (D) x 72.2 (H) mm, 1.7 kg
Accessories	USB Cable, AC Adaptor (PSB-1U), AC Cord, Owner's Manual, Carrying Case

System Requirements : Windows® XP/2000/Me, MacOS9.2 or MacOS X, OS standard driver

* 0 dBu = 0.775 Vrms

■ Block Diagram

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