EDIROL
by Roland

Roland
Systems Group

F-1 *Video Field Recorder*

HDV   DV   2+2ch AUDIO   USB 2.0   i.LINK

DV BLACK DIAMOND AWARD 2008
Digital Video

event DV
Best of NAB 2008

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

The EDIROL F-1 provides reliable, high quality capture of both video and audio when you need it most: out in the field where every shot counts.

Seamless and reliable HDV/DV capture to removable HDD for hours of worry-free recording

■ High-Capacity HDV/DV capture simplifies and accelerates your workflow

The i.LINK connection to your camera provides easy capture of HDV or DV. Begin editing immediately directly off the HDD or enjoy smooth and speedy transfer of recorded data to your NLE system. Continue to use the camera's tape mechanism as an affordable/compact backup media.

■ Removable HDD provides hours of recording in the field

A removable hard drive is the recording media inside the F-1. Remove the full drive and editing or transfer can begin immediately by simply connecting it to your computer via bus-powered USB. Additional drives (F1-HD120) can be purchased for continued recording while other drives are in use elsewhere.
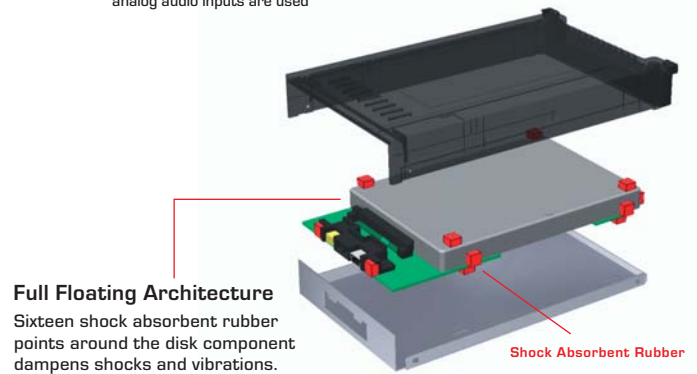
■ Seamless Recording up to full HDD Capacity

The NTFS file format allows recording up to the maximum disk capacity without a file limitation of 2GB or 4GB. You can record up to 9 straight hours with the 120GB HDD.

■ Worry-Free Recording with Shock-Resistant Floating HDD

To protect the disk from the inevitable rigors of field use, the F-1's removable hard drive employs full floating HDD mount architecture with shock absorbent rubber that effectively dampens vibrations and shocks. Enjoy worry-free recording in locations where loud & heavy PA sounds or shocks from rough road surfaces might otherwise present capture problems.

■ POWER button and Indicator

■ DISPLAY button
Cycles between various screen content displays

■ REC Indicator
Lights in red while recording to HDD

■ REC/STOP buttons
Starts and stops recording

■ TRANSPORT buttons
Select previous or next file and play/pause

■ MENU button
Calls up menu screen for setup and other system preferences

■ PHONES jack and level knob
Mini stereo jack for headphone connection and level adjustment knob

■ AUDIO IN knobs
Dial type knobs to adjust input level of external analog audio inputs

■ USB(PC) jack
Connect with PC using USB cable included as part of F-1's accessory

■ USB(HOST) jack
Connect mouse or device compatible with USB mass storage class

■ i.LINK jack
Connect HDV or DV device

■ Status Lights
Shows the format of incoming video signal. CH3/4 is lit when the external analog audio inputs are used

Full Floating Architecture
Sixteen shock absorbent rubber points around the disk component dampens shocks and vibrations.

Shock Absorbent Rubber

Additional Two Audio Inputs for Less Equipment and Better Sound

■ Two Independent Audio Channels of Hi-Quality Linear PCM

The F-1 is equipped with two independent analog audio inputs. This enables simultaneous recording of stereo audio from an audio mixer/console or two microphones. On-mic recording of a reporter or interviewer is possible without having to use an external mixer/recorder. Alternatively, you can use the two additional channels to capture ambient sounds at your shoot or put a mic on yourself and record real-time commentary on material as it is being shot. The F-1 records its audio inputs in linear PCM broadcast WAV (BWF) at 16-bit/48kHz, so you can be assured of high quality sound capture.

■ Phantom Power Supply

The F-1's built-in phantom power supply for sensitive condenser mics provides further improvement of your audio tracks.

■ Three Types of Power Supply Options

The F-1 can be operated with 3 types of power: AC adaptor, external battery and AA batteries. The AA battery power pack supplies seamless failover of power in the event your external battery or AC supply should weaken or fail.

■ Thumbnail Display on External Monitor

Recorded clips can be shown as thumbnails on an external computer monitor using the 15-pin D-Sub output jack of the F-1. This enables last minute previewing to prevent "missed-shots" without the need to connect to a computer. Additionally you can control, setup and view the status on the same display. A mouse port for intuitive and quick control is provided via the front USB port.

■ **DISPLAY OUT jack**
Shows recorded clips as thumbnails on external display

■ **AUDIO IN jacks (CH3/4)**
XLR type audio inputs for connection with mics or other audio devices
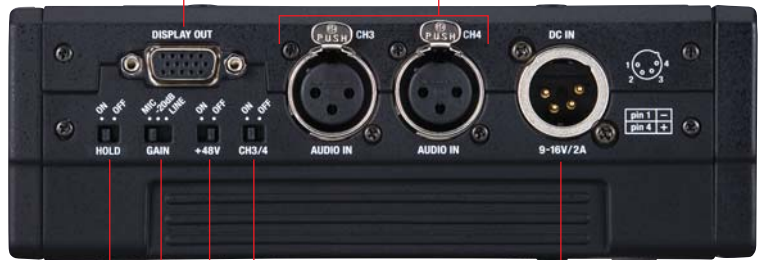
■ **HOLD Switch**
Locks control switches including Power and REC/Stop to prevent inadvertent button presses

■ **GAIN Switch**
Select audio input gain

■ **+48V Switch**
Turn On/Off +48V phantom power supply

■ **CH3/4 Switch**
Turn On/Off external audio input

■ **DC IN jack**
Use to supply DC power from external battery or AC adaptor

■ **Directly Capture Output from an Audio Mixer or Console**

Ambient Sound

HDV/DV
(Audio CH1, CH2)

Audio CH3
Audio CH4

■ **Clear Voice Capture from On-Mics**

Ambient Sound

HDV/DV
(Audio CH1, CH2)

Audio CH3
Audio CH4

Backup and Transfer via USB. Control Multi-Camera Shoots or Locations with Remotely Controlled F-1 Units

■ Quick Backup of Recorded Data to USB Devices

The F-1's USB port provides on-site connection to USB devices like flash memory or external hard drives for quick backups. Copy time is shorter than real-time, offering speedy transfers of recorded data to your editing suite.

■ Recorded Data can be copied via LAN

The F-1's LAN port provides an Ethernet connection to your home or office network. The data in the F-1's HDD can be copied over the network to multiple computers with simplicity and ease.

■ Remote Control via LAN enables Multi-Camera Shoots with Minimal Staff

A PC installed with the dedicated control software* can remotely control the record Start/Stop functions as well as the menu settings of an F-1 in a remote location. You can run an Ethernet cable (up to 100 meters and 200 meters when using a hub) and control multiple F-1 units from your computer. Operators can now control multi-camera shoots with minimal staff and in remote locations.

* Control software is a free download available at **www.rolandsystemsgroup.net**
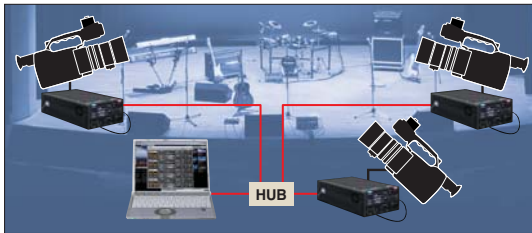
■ LAN port
For connection with computer via LAN cable. Enables remote control or copy of recorded clips to computer

■ Remote Control of multiple F-1 units via LAN

100m
100m
Ethernet Hub
Ethernet Cable

● Remote Control Start/Stop of RECORD function
● Remote Control of Menu Settings
● Simple cable split with standard Ethernet Hub

Simplifies your multi-camera shots in various locations

▲Concerts
▲Events
▲Wedding
▲Education
▲Sport

■ Free and Convenient F-1 Utility Software

Free downloadable software with 2 modes for quick clip preview and cutting.

● **Browser Mode:** Browser Mode enables previewing of video along with the matching four channels of audio. File management functions such as Move, Copy, Delete, etc. can be executed from the Browser Mode.

● **Editor Mode:** Editor Mode is used for quick cut editing of recorded clips. The non-stop editing function enables efficient assembling and reviewing of your cuts' timing immediately after recording.
(*Scheduled release Fall 2008)

Free download from **www.rolandsystemsgroup.net**

Microsoft® Windows Vista®/Windows® XP

▲Browser
▲Editor

■ Optional Items

V-Mount Kit
F1-VMK1

The adaptor kit makes the F-1 mountable to any V-Mount compatible video camera. It can mount together with an external battery that supplies power to both the F-1 and your camera.
* Solutions for other battery mounting devices are being investigated at this time.

Removable Hard Disk
F1-HD120

120GB removable hard disk providing up to 9 hours of seamless recording.
* The capacity and model name is subject to change.
* An F1-HD120 is included with each F-1 purchase.

Carrying Bag
CB-F1

Dedicated carrying bag with shoulder strap and multiple accessibility flaps for safe, comfortable use in the field.

The "Field Oriented" design concept of this Recorder will streamline your video production workflow.

Being "Field Oriented" is at the heart of the EDIROL F-1 design. Features like a shock-resistant floating HDD, two channels of additional audio inputs, multiple power supply options, remote control via LAN, on-site review of clips, unlimited file size, and a number of additional innovative functions will streamline your recording and post-production activities.
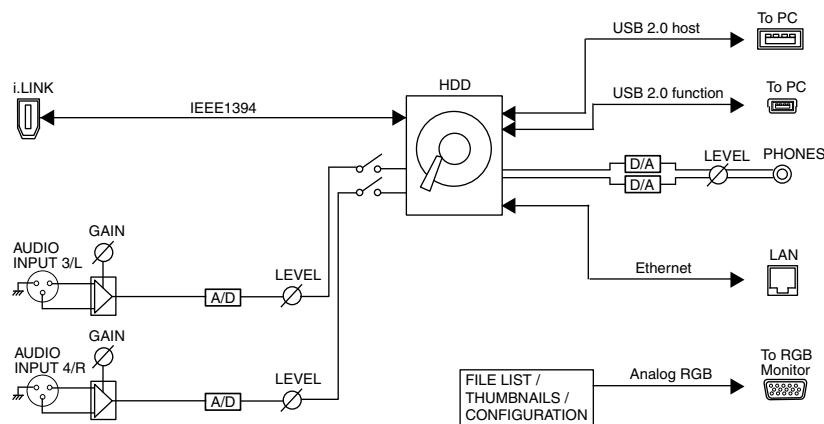
F-1 *Video Field Recorder*

`HDV` `DV` `2+2ch AUDIO` `USB 2.0` `i.LINK`

Specifications

Video Recording Format	HDV (.m2t), DV (.dv)	**Power Supply**	DC 9 V (AC Adaptor) * 9-16V 2.0A or HR15/51 x 8 or LR6 (AA) x 8
Audio Recording Format	WAV (Supports BWF) Sampling : 16-bit/48kHz	**Max Operation time**	Nickel Metal Hydride Battery x 8 : Approx 2 hours Alkaline Dry Battery x 8 : Approx 30 minutes External Battery (IDX Endura10 Li-Ion Battery) : Approx 10 hours * These operation times are approximate. Actual time may vary somewhat.
Audio Control	Switch: Gain (MIC/-20dB/LINE), Phantom Power +48V (ON/OFF) Volume: Ch3 Input, Ch4 Input, Headphones		
Audio Input Impedance	4 k ohms	**Current Draw**	1,500 mA
Headphones Output Impedance	16 ohms	**Dimensions**	111 (W) x 179 (D) x 61 (H) mm 4-3/8 (W) x 7-1/6 (D) x 2-3/8 (H) inches
Headphones Output Level	45 mW		
Recording Media	Hard Disk Drive (120 GB) * removable unit	**Weight**	870 g / 1 lb 15 oz (including HDD, excluding AC Adaptor and batteries)
Max Recording time	Approx 9 hours (F1-HD120 as recording media, without audio)	**Accessories**	Owner's manual, AC Adaptor (PSB-1U), Conversion cable (AC Adaptor — 4pin XLR type), Power Cord, F1-HD120 removable HDD (120GB) x 1, Battery Pack, USB Cable (Y type), Ferrite Core x 2
Input/Output Jacks	Front Panel: i.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	**Free Software** (downloadable from www.rolandsystemsgroup.net)	F-1 Utility / F-1 Remote Control System Requirements : OS : Windows XP / Vista CPU : Core2Duo 2GHz or higher RAM : 2GB or larger Display Resolutions : 1024 x 768 pixels or higher Others : USB Ports
	Left Side Panel: LAN : RJ45 Type (Ethernet 10/100Base-Tx)	**Optional Items**	F1-HD120 (120GB Removable HDD), F1-VMK1 (V-Mount kit), CB-F1 (Carrying Bag)
Display	128 x 64 dots (Organic LED)		

Block Diagram

Dimensions

Unit: mm

111   4.5   61   179
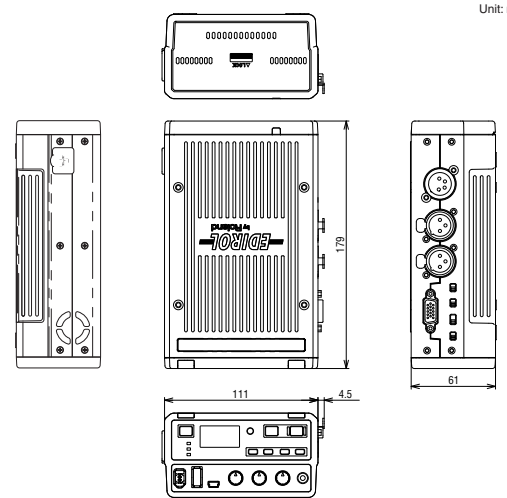
■ Optional Items

V-Mount Kit
F1-VMK1

Removable Hard Disk
F1-HD120
* An F1-HD120 is included with each F-1 purchase.
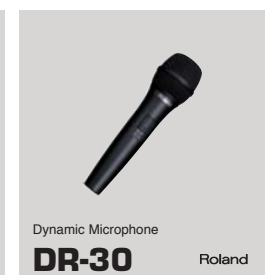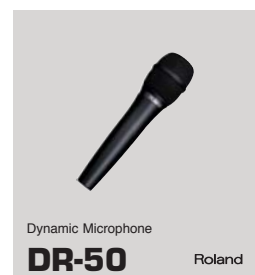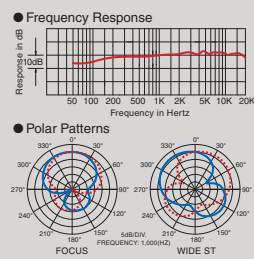
Carrying Bag
CB-F1

Stereo condenser type microphone for stereo recording.

● Frequency Response
● Polar Patterns
FOCUS   WIDE ST

Stereo Shotgun Microphone
CS-50

Condenser Microphone
DR-80C   Roland

Dynamic Microphone
DR-50   Roland

Dynamic Microphone
DR-30   Roland

EDIROL by Roland   **Roland Systems Group**

(Actual Size)

Higher Quality Video Capture with Enhanced Features

Newly added MPEG-2 TS 2Mbps to 50Mbps recording in addition to HDV/DV
Now with Version 2.0 Utility Software

New Version 2.0 Features

■ Support for high bit rate MPEG-2 TS Recording

MPEG-2 TS at 50Mbps allows you to record beyond HDV (25Mbps) quality video and alternatively at 8Mbps you can record around 27 hours of HD video on a 120GB HDD. Enable uncompressed HD-SDI recording and playback when combined with the new VC-50HD Video Field Converter.

■ Newly added Loop Recording and Pre-Record Functions

LOOP REC   PRE REC

Loop Recording mode captures to a file over a selected period of time and then keeps deleting the oldest file based on storage capacity. The Pre-Record mode enables a 3 second buffer that is added on to the front of a recording when the REC button is pressed.

■ Intuitive Editing Utility

The F-1 dedicated Utility Software has a newly added "Editor Mode" which can immediately edit any recorded data. In addition to still images, multiformat video can be edited on the same timeline along with any necessary up/ down conversion.

◎ **Support for Win/Mac Non-Linear Video Editing Systems**
For more details, please see back-page.

F-1 Fundamentals

HDV／DV Recording

Additional Uncompressed 2 channels of Audio Input

Removable HDD/ SSD Enables Long Record Times

Network Control and Data transfer

Three Types of Power
（AC Adaptor, AA Battery, External Battery）

F-1 Ver.2
Video Field Recorder
NEW

HDV   DV   MPEG-2TS

Accessories: F1-HD120 removable HDD (120GB), AC Adaptor

Support for Low to high bit rate MPEG-2 TS Recording

MPEG-2 TS at 50Mbps allows very high quality video capture and alternatively at 8Mbps you can record around 27 hours of HD video on a 120GB HDD. Enable uncompressed HD-SDI recording and playback when combined with the new VC-50HD Video Field Converter.

■Hours of Record Time

Format			F1-HD120	F1-SSD64
HD	MPEG-2 TS	50Mbps	4.5	2
		35Mbps	6.5	3
		8Mbps	27	14
	HDV		9	4.5
SD	DV		9	4.5
	MPEG-2 TS	12Mbps	18.5	9.5
		9Mbps	25	12.5
		2Mbps	112.5	56

Unit: hours
＊Approximate time when additional 2ch audio is OFF.

Newly added Loop Recording and Pre-Record Functions

Loop Recording mode can capture video at selected periods (10/ 30/ 60 minutes) and then keep deleting the oldest file as storage reaches capacity. This function can be controlled remotely via network. The Pre-Record function ensures that sudden or important moment is never missed by adding the previous 3 seconds of material onto the file whenever REC is pressed.

■Loop Recording Function

Capacity of a storage
Delete
Time
Loop period
Now

■Pre-Record Function

press "REC"
-3 -2 -1 0 1 2 3 4 5
3 seconds buffer
Unit: Second
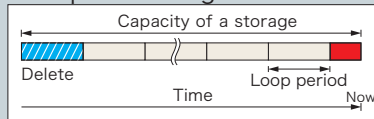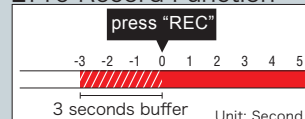
Time Code and Marker Functions

Version 2.0 of the F-1 can now record time code with video regardless of whether the camera can embed timecode or not. Of course, Time code can also be re-generated within an HDV/DV stream. The Marker function stamps the video file with time code and/or recording time when the REC button is pressed during recording. This enables the ability to quickly locate scenes during editing.

New Editing Feature added to Version 2.0 of F-1 Utility Software

The F-1 dedicated Utility Software has now been upgraded to Version 2.0 adding an "Editor Mode". This enables easy and efficient editing of any data recorded by the F-1.

※Free download from **www.edirol.com**

■Quick-cut Editing

Easy and intuitive editing of any recorded video at any rate, including linear PCM audio editing of channels 3 and 4.

■Supported Formats

Video	m2t/dv
Audio	wav
Still	jpg

Material Palette
Still Image Track (JPEG)
Insert Video Track
Main Video Track
4 Tracks for Stereo Audio
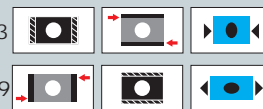(Control volume at frame resolution)

■Selectable Output Formats

Edited video files can be up/down converted. This includes HDV to DV and DV to HDV.

■ Supported output formats

HDV 1080／60i	HDV 720／25p
HDV 1080／50i	DV (NTSC)
HDV 720／30p	DV (PAL)

■Mixed Format Editing

Video material can be converted to other formats and aspect ratios such as HDV⇔SD and 16:9⇔4:3.

16:9 ▶ 4:3

4:3 ▶ 16:9

■Support for still images

Automatically re-size a photo or still image to the designated output format. Also Change the position and aspect ratio of a still image.

Support for Win/Mac Non-linear Video Editors

Using data directly off the F-1 is much faster than real-time capture from tape. All the popular editing software systems support HDV, DV and MPEG-2 TS formats. The F-1 and the removable HDD or SSD media can be directly connected with a computer via bus-powered USB 2.0.

■Import to a non-linear video editing system

Non-Linear Editor	Importing Time※2
Apple "Final Cut Pro"※1	10 sec.
Adobe "Premiere Pro"	10 sec.
Avid "Liquid Pro"	20 sec.
Thomson Canopus "EDIUS Pro"	1 sec.
SONY "Vegas Pro"	1 sec.

※1: Re-wrap as ".mov" file using ClipWrap. ClipWrap is shareware software for Final Cut Pro and is available at www.clipwrap.com
※2: Approximate time required to import 1 minute of HDV video.
◎ Approximate time required for capturing is dependent on computer specs such as CPU speed, available memory, etc.