



DENSITÉ 3+ FR1 FRAME

Compact 1 RU Frame for Four Modules

Space-saving, modular platform for advanced signal processing.

The 1 RU Densité 3+ FR1 Frame from Grass Valley offers true multiformat operation, with the ability to process simultaneously 12G, 3G, HD, SD and analog video, as well as AES and analog audio. The frame provides advanced monitoring and backup capabilities. It can be fitted with 3 RU and 2 RU (using an extender panel) Densité modules. The frame features dual hot-swappable power supplies and fans. The modules for the frame are also hot-swappable. The frame is air-cooled and all modules, redundant PSUs and fans

are monitored to provide status via GPI or the Ethernet port. The frame configuration includes two PSUs and a controller card, which allows card adjustments from the front panel. Front panel multicolor LEDs provide status reporting.

The REF-1801-D3+FR1 reference module that distributes a universal reference signal (URS) to all the cards within a Densité 3+ FR1 frame. The unique URS concept provides significant advantages as it generates a digital reference

signal, and also simplifies inter-format processing by using a unique reference signal for all video and audio frame rates. The REF-1801-D3+FR1 has the ability to extract timecode from the input as per SMPTE ST 318 standard, which allows for perfect audio/video phasing. The REF-1801-D3+FR1 is installed in the dedicated system slot of a Densité 3+ FR1 frame.



Key Features

- Multiple video and audio formats can be fitted in a single chassis
 - Up to 4 cards in a single 1 RU frame, including an additional system slot
 - Low noise operation
 - Backwards compatible with Densité 2 or Densité 3 modules
 - Easy configuration from the front panel or remotely via Ethernet
 - Remote control by PC-based GV Orbit and iControl
 - Two hot-swappable power supply, with optional redundant power supply
 - Supports full range of interfacing, distribution and monitoring modules
 - Can be stacked without additional cooling spaces
 - Redundant Ethernet connection
- When configured with REF-1801-D3+FR1 module:**
- Digitally generated reference for intra-frame distribution
 - Timecode extraction and embedding
 - Supports SMPTE ST 318 for perfect audio/video phasing
 - Easy control and monitoring
 - URS simplifies interformat processing

Specifications

Mechanical

Dimensions: 1 RU x 485 mm (19 in.) x 286 mm (11.25 in.) with connectors

Weight: 3.3 kg (7.2 lbs.) with 2 PSUs and controller card installed

Power

Input range: AC 50-60 Hz, 100-240V

Rating: 150W max.

Control and Monitoring

Communication ports: 2x Ethernet 10/100 Base-T

Alarm: GPI contact

Cooling

Fans:

- 2 on frame, serviceable
- 1 on each PS

Operating temp. range: 0° to 40°C (32° to 104°F)

REF-1801-D3+FR1 Module

Reference Input

Load: Passive loop-through

Impedance: 75Ω bridging

Return loss: >30 dB up to 30 MHz

Signal type: Composite NTSC-M, PAL-B blackburst with optional VITC

Standard: SMPTE ST 170, ITU-R BT.1700-1, SMPTE ST 318

Signal level: 1 Vp-p

Signal type: HD tri-level sync

Standard: SMPTE ST 274, SMPTE ST 296

Signal level: 600 mVp-p

Signal type: DARS AES-11 (48 kHz sampling frequency only)

Standard: SMPTE ST 276

Signal level: 1 Vp-p

Signal type: Word Clock

Standard: AES-11 Annex B (Informative)

Signal level: 2 Vp-p

LTC-IN

Signal type: LTC

Standard: SMPTE ST 12

Signal level: 0.5 Vp-p to 4.5 Vp-p

Electrical

Power: 2.1 W



Ordering

Densité 3+ FR1

1 RU modular frame, 4 slots, 2 power supplies, controller card with redundant Ethernet ports and front control panel, blank rear panels.

Note: Rear panels must be specified and ordered with appropriate card.

Options

REF-1801-D3+FR1

Reference module for Densité 3+ FR1 Frame with rear

Densité-CPU-ETH2-OPT-LINK

Full link redundancy using channel bonding on Densité-CPU-ETH2

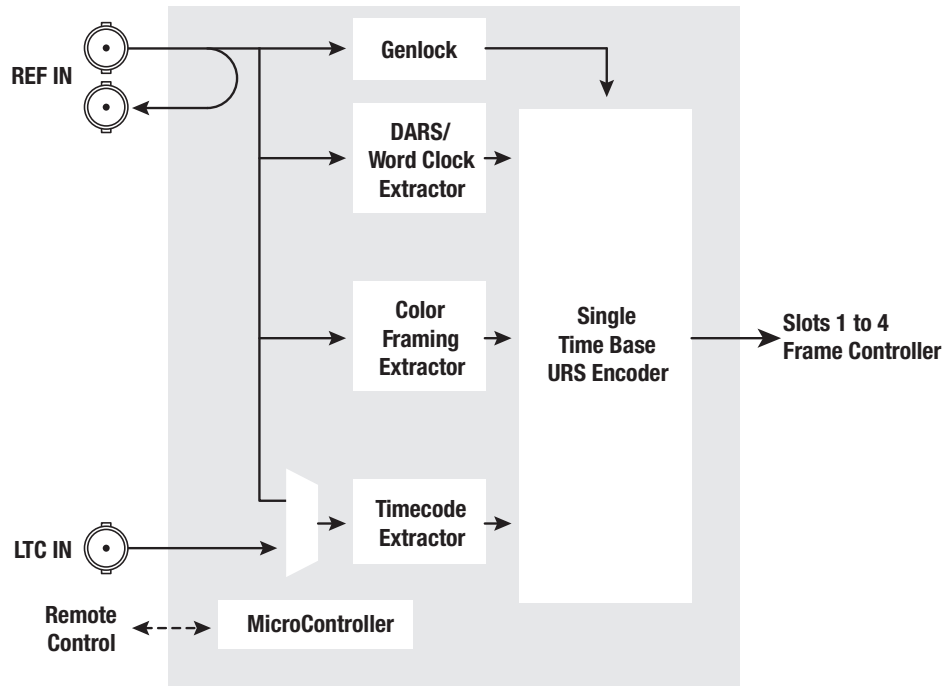
Remote Control

GV Orbit

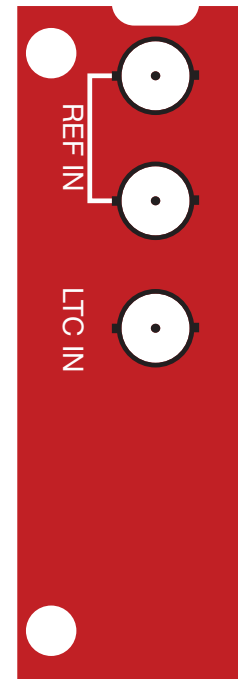
Configuration, control and monitoring

iControl Solo

Standalone remote control software



REF-1801-D3+FR1 Functional Block Diagram



This product may be protected by one or more patents. For further information, please visit: www.grassvalley.com/patents

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