



Lumistar LS-29-R2 Series Rack Mount Radio Frequency Recording & Playback System

**A Complete Two/Four Channel System
Capable of Capturing & Reproducing Up to 200 MHz
of RF Spectrum from 50 MHz to 6 GHz**



Three Options:

- > Standard Dynamic Range**
- > High Dynamic Range with AGC and Channel Filtering included**
- > High Dynamic Range with Integrated Receiver Demodulation**

LS-29-R2 Series Rack Mount Radio Frequency Recording & Playback System

**Applications include RF Signal Recording & Playback, Signal Analysis,
Interference Analysis, Remote Spectrum Monitoring, Training,
Receiver Design and Test, Spectrum Allocation, and More**

Features:

- **Number of Channels: 2 or 4 per system**
- **Frequency Range: 50 MHz to 6 GHz**
 - Record Center Frequency Can Be Changed on Playback to Any Center Frequency
- **Instantaneous Channel Bandwidth (IBW): up to 50 MHz per channel**
- **Instantaneous System Bandwidth:**
 - 100 MHz (2-channel) / 200 MHz (4-channel)
- **Instantaneous Dynamic Range (IDR): 74 dB**
 - Preselection Filtering: Sub-Octave Filtering (50-6000 MHz)
 - Optional HDR mode: IDR up to 110 dB with AGC / SAW filtering applied
- **Internal 1 PPS Accuracy: +/- 20 nanoseconds**
- **Processor: i7 Dual Core, 32 GB RAM, Linux OS**
- **Solid State Removable Storage - 8 TB standard @ 6 GB/sec 4 TB per channel)**
 - Optional up to 16 TB
- **Sampling Rate: 61 MS/s**
- **Remote Control / Data Transfer via Network Attached PC**
- **Weight: approx. 34 lbs. (standard version)**
- **Power Consumption: 150 W (typical, standard version, 4 channels)**
- **Power Supply: 100-240 VAC, 47-63 Hz**
- **Temperature: 0 to 50°C (Op); -25 to +65C (Non-Op)**
- **Size: 2U EIA 19" Rack Mount with 22" Depth**
- **Data File Format: VITA 49**
- **Spectrum Analysis (available during recording and playback)**
- **High Dynamic Range and Demodulation Options: from 300 MHz to 6 GHz**
- **Demodulation Format Options: PCM/FM, SOQPSK-TG, Multi-H CPM, BPSK, QPSK, AQPSK, AUQPSK, UQPSK, PCM/PM**

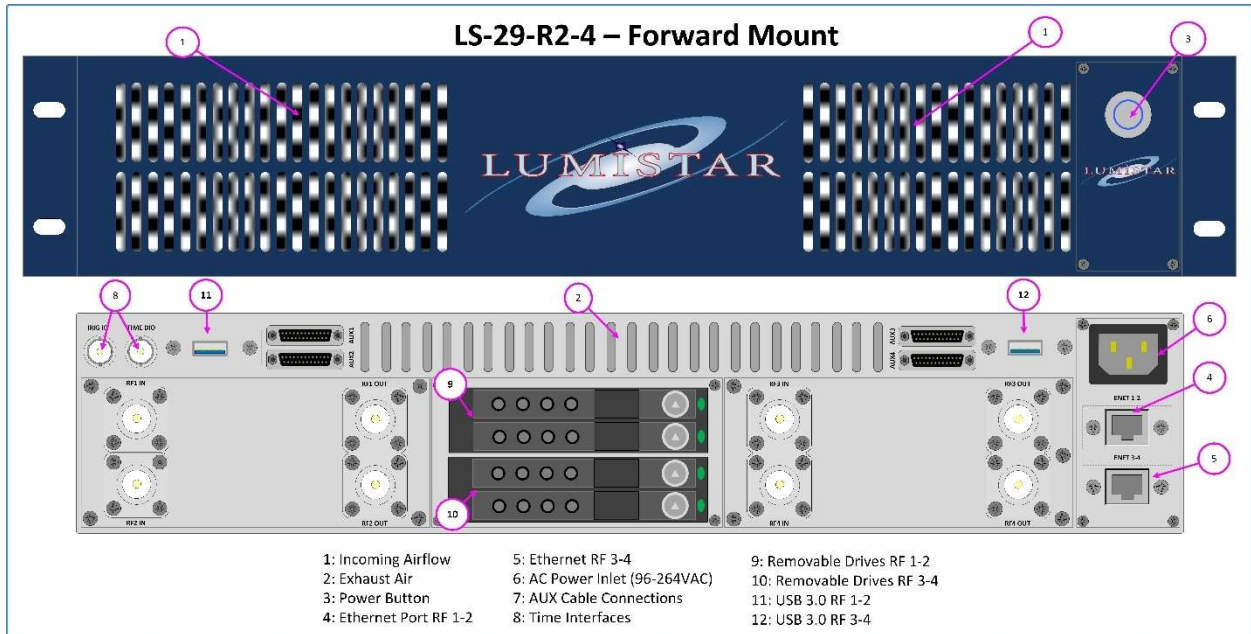


LS-29-R2 Series Rack Mount Radio Frequency Recording & Playback System

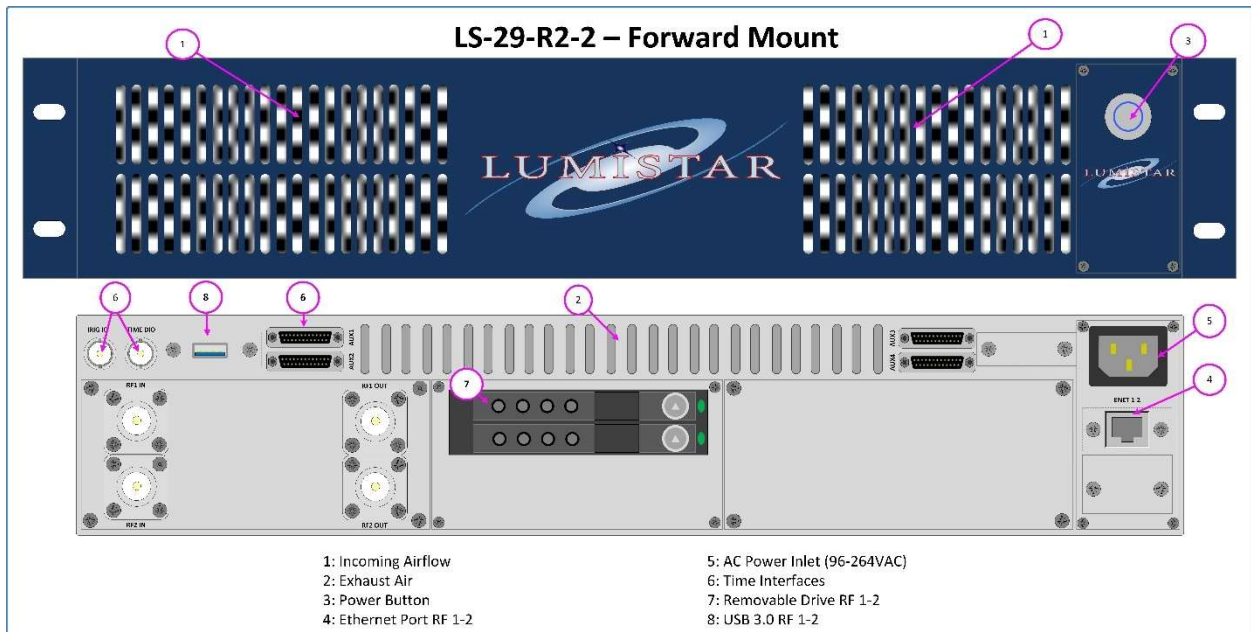
- **Aggregate Recoding Time (8 TB Memory):**
 - Bandwidth 100 MHz: 312 minutes (5 hr 12 min)
 - Bandwidth 80 MHz: 390 minutes (6 hr 30 min)
 - Bandwidth 40 MHz: 780 minutes (13 hr 0 min)
 - Bandwidth 25 MHz: 1180 minutes (19 hr 0 min)
 - Bandwidth 10 MHz: 2952 minutes (49 hr 12 min)
 - Bandwidth 1.0 MHz: 29,520 minutes (492 hr 0 min)

- **Signal and Control IO:**
 - RF Record In, Channel 1-4: N-Female
 - RF Playback Out, Channel 1-4: N-Female
 - Copy of RF available during Recording on Playback Out I/O
 - 1 PPS: BNC-Female
 - IRIG Time I/O: BNC-Female
 - USB 3.0: 1 for two-channel/ 2 for four-channels
 - Removable Solid-State Drives: 1 for two-channel, 2 for four-channel
 - Giga-Bit Ethernet: 1 or 2 - Data/Control/Status (CH 1-2 and CH 3-4)
 - 70 MHz IF Output: SMA-F (with HDR and Demod options)
 - TTL Clock/Data: BNC-F (with Demod option on Playback)
 - RS-422 Clock/Data: Micro-D Sub-25 (with Demod option on Playback)
 - UDP Data Streaming: (with Demod option on Playback)
 - Auto-Tracking Receiver (available in HDR and Demod options)
 - Real Time 70 MHz IF Outputs (available in HDR and Demod options)

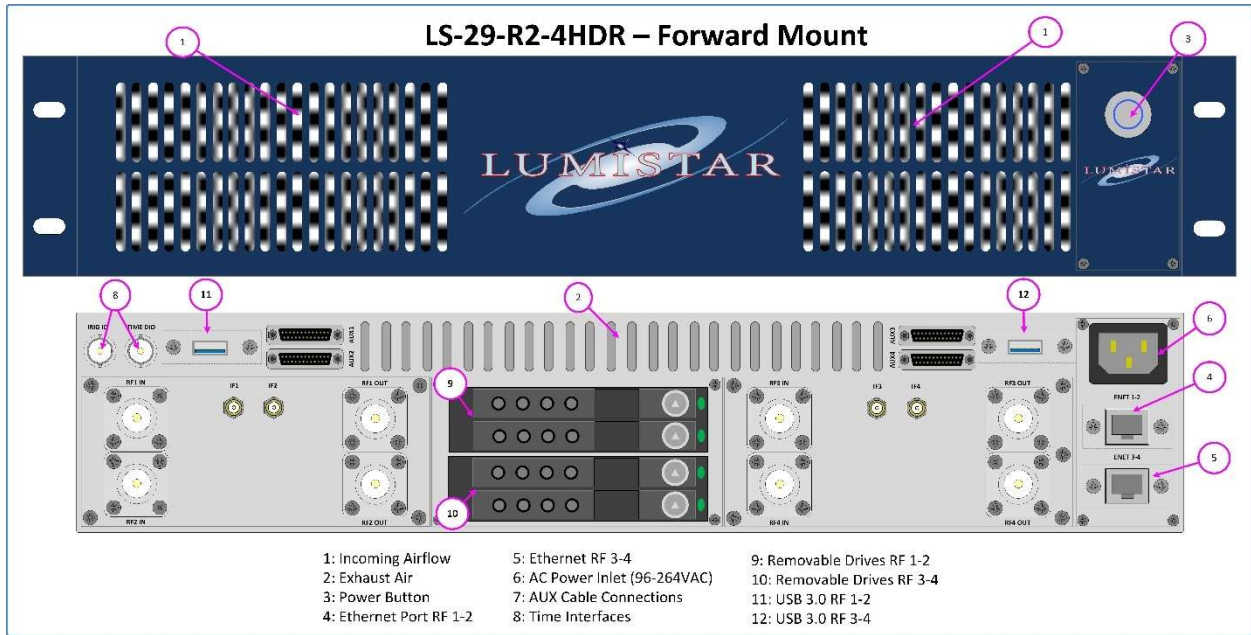
- **Control / Status over Giga-Bit Ethernet**
- **Complete redundancy between CH 1-2 and CH 3-4**
- **Size and Weight**
 - 19" W x 3.5" H 22" D
 - Approx. 34 pounds (Standard Dynamic Range Version)



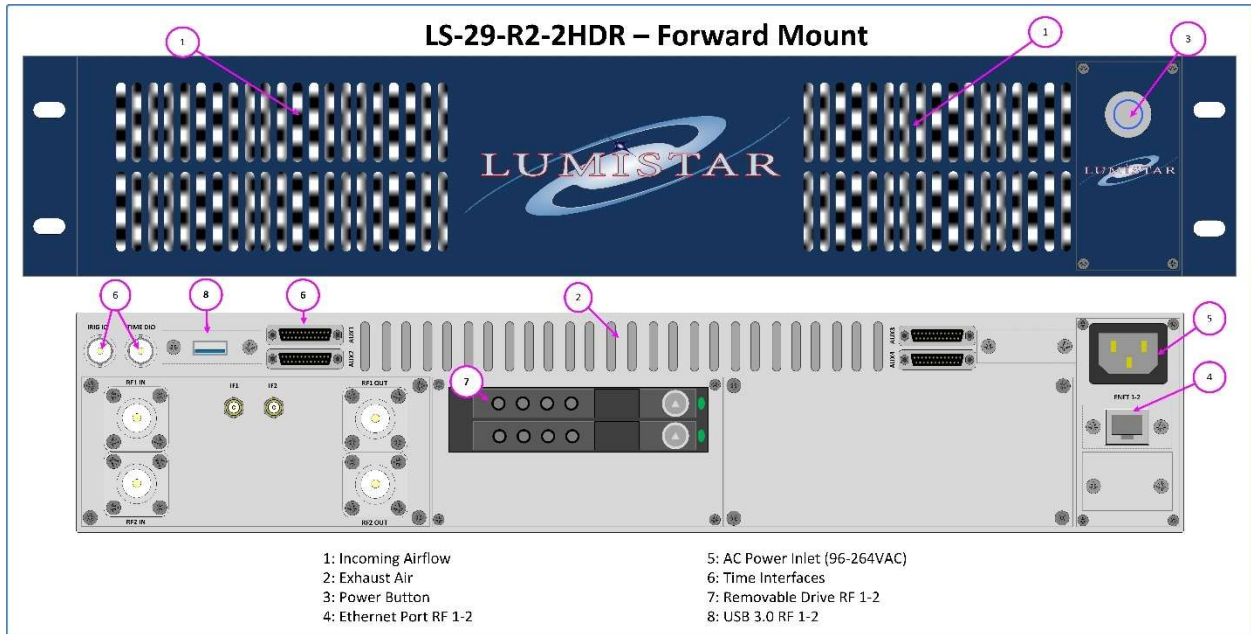
**LS-29-R2 Series RF Recording/Playback System
Four Channel / Standard Dynamic Range Version
Front and Rear Panel Elevations**



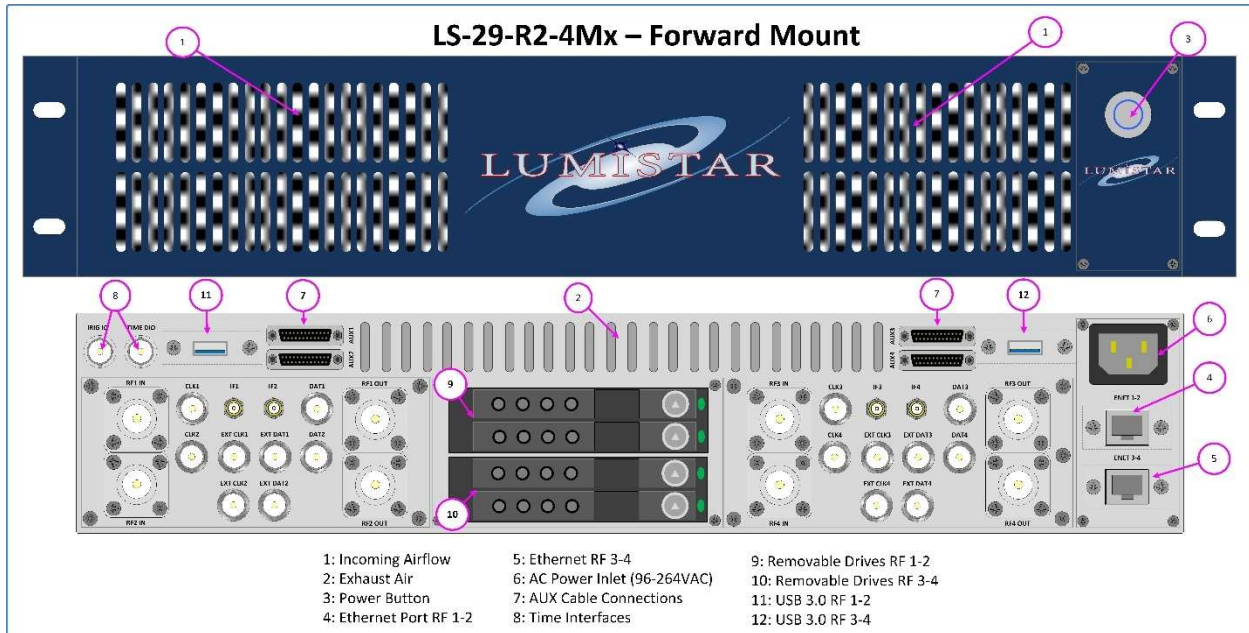
**LS-29-R2 Series RF Recording/Playback System
Two Channel / Standard Dynamic Range Version
Front and Rear Panel Elevations**



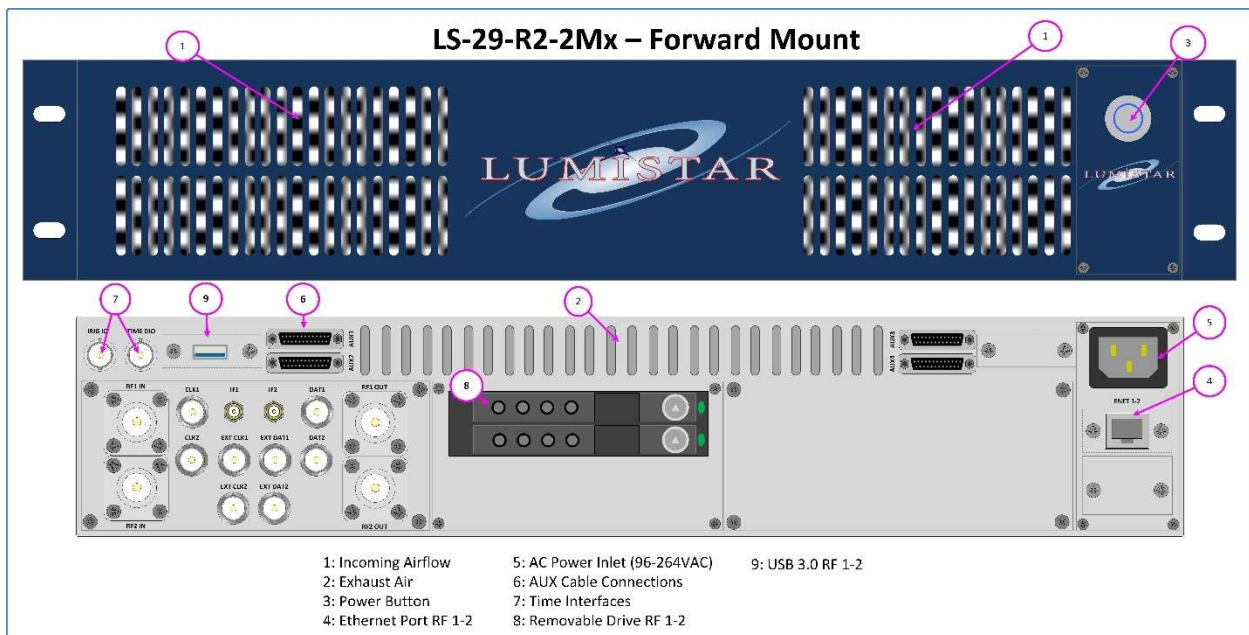
**LS-29-R2 Series RF Recording/Playback System
Four Channel / Enhanced Dynamic Range Version
Front and Rear Panel Elevations**



**LS-29-R2 Series RF Recording/Playback System
Two Channel / Enhanced Dynamic Range Version
Front and Rear Panel Elevations**



LS-29-R2 Series RF Recording/Playback System
Four Channel / Enhanced Dynamic Range Version w/ Playback Demodulation
Front and Rear Panel Elevations



LS-29-R2 Series RF Recording/Playback System
Two Channel / Enhanced Dynamic Range Version w/ Playback Demodulation
Front and Rear Panel Elevations

Standard dynamic range is >70 dB. The LS-29-R2 Series is available in a "High Dynamic Range (HDR) version, which provides >110 dB of dynamic range and provides a real time 70 MHz center frequency copy of the RF waveform from each channel during recording. The HDR version is available with multimode receiver demodulation for use in Playback mode. The demodulated playback is available from TTL/RS-422 clock/data & UDP streaming interfaces.

All High Dynamic Range models are available in up to five frequency bands. Examples of standard bands are Lower L (1435-1540 MHz), Upper L (1710-1850 MHz), S Band (2200-2400 MHz), C1 band (4400-4940 MHz), C2 band 5091-5250 MHz). Custom bands are available, please contact Lumistar Sales to discuss your specific requirements

Ordering Information:

Model Number	Description
LS-29-R2-2	2 channel, standard dynamic range
LS-29-R2-4	4 channel, standard dynamic range
LS-29-R2-2-HDR-LUS	2 channel, enhanced dynamic range, tri-band
LS-29-R2-4-HDR-PLSC	2 channel, enhanced dynamic range, quad-band
LS-29-R2-2M1-HDR-LUS	2 channel, enhanced dynamic range, tri-band, FM demod
LS-29-R2-4M6-HDR-PLSC	2 channel, enhanced dynamic range, quad-band, FM+SOQPSK

The model numbers listed above are examples. Please reach out to Lumistar Sales with your specific application.

Standard Rf Bands for HDR and Demod options:

Lower L: 1435-1540 MHz, Upper L: 1710-1850 MHz, S: 2200-2400 MHz

NATO-E: 2185-2485 MHz, C1: 4400-4950 MHz, C2: 5091-5250 MHz

Custom RF Bands Available, please consult Lumistar for other options.

For More Information, please contact:

Sales@Lumistar.net

