Overview
The RT Logic 500 Recorder System (T500RX) is a modular real-time recording and playback system that accurately stores a variety of signal types and associated time, while maintaining Time-Data Correlation (TDC) for simultaneous or post-processing replay.

High-Performance Modular Architecture
The T500RX is built on a modular and configurable architecture. The system is available in a 1U, 2U, 4U, or 5U chassis, and can be configured with different interface modules to support record and playback of Digital PCM data, Analog Baseband signals, IF signals, Timing signals, Video signals, and IP traffic. The chassis can include any combination of modules. The high-performance backplane supports real-time data recording of more than 19 Gbps.

Interface Modules
The T500RX can be configured with different interface modules to support record and playback of:
- Digital PCM data
- Analog Baseband signals
- 70 MHz and 1.2 GHz IF signals
- Timing signals
- IP traffic
## Features

- Simultaneous record and playback
- Internal storage up to 38 TB
- Limitless storage capacity with external storage systems using NAS or SAN
- Automatic move or copy of data to other storage areas
- Open file system supports network access to stored data
- Supports real-time IP transport of data being recorded (TMoIP, IF over IP)
- Optional integrated bit sync, frame sync, and switching capability
- High-availability platform, ruggedized available
- Hot-swappable power supplies and RAID media
- Supports RAID 0, 1, 5, 6, and 10
- Autodetects input rates on digital channels
- Supports Wrapped Storage Area (WSA) and Managed Storage Areas (MSA)
- WSA automatically deletes oldest data when full
- MSA user-managed data deletion
- Built-in input and output spectrum analyzer for Analog recorders and BERT capability for Digital Recorders

### Low-Rate Digital Clock and Data
- Four (4) digital channels per module
- Includes one (1) IRIG channel

### High-Rate Digital Clock and Data
- Two (2) digital channels per module
- Includes one (1) IRIG channel
- Rate Auto Sensing; no need to program a bit rate
- Data recorded exactly as received; no need to specify encoding scheme (NRZ, Bi-Phase, etc.)

### Analog Baseband
- Four (4) analog channels per module; multiple 4-Ch modules can be installed per server
- User-selectable lower bandwidths for more data to disk and signal filtering
- Includes one (1) IRIG channel
- Can be used for AGC, voice, or other low bandwidth signals

### Analog 70 MHz IF
- One (1) IF channel per module; up to four (4) Channels/modules per chassis
- 40 MHz max bandwidth
- User-selectable lower bandwidths for more data to disk and narrower active signal filtering
- Includes one (1) IRIG channel Ext Ref In/Out
- Input AGC available
- IF Channel to Channel Skew control on playback (±10 ns to ±1 sec)
- IF over IP - record to playback
- Built-in input and output spectrum analyzer

### Analog 1.2 GHz IF
- 1.2 GHz center frequency, tunable 780 to 1520 MHz
- 1.6 GHz input sample rate
- User-selectable bandwidth 5 to 640 MHz
- User-selectable 6, 8, 10, or 12-bits per sample
- Record to playback SFDR: > 55 dB typical
- Input / Output signal range: +15 to -12 dBm
- IRIG-B Input / Output channel – data timestamp
- Built-in input and output spectrum analyzer

### IP
- Record and playback of TCP, UDP, Multicast, PGM, and Raw Sockets
- User-selectable playback socket type (different than recorded)
- Playback maintains relative packet timing and transmit rates
- Packet viewer/search
- Record IP field-filter
- IP Socket-based Control and Status API/Web-based User Interface
- Four (4) Ethernet connectors built into chassis; additional copper and fiber optic NIC modules available