

New!

Model RTR 2748

Two-Channel RF/IF, 1 GS/sec Rugged Rackmount Recorder



Features

- Designed to operate under conditions of shock and vibration
- Recording of IF signals up to 2 GHz.
- Signal bandwidths to 500 MHz
- 1 GHz 12-bit A/Ds
- 1 GHz 16-bit D/As
- Real-time aggregate recording rates up to 4 GB/sec
- 4U 19-inch rugged rackmount PC server chassis
- Available in 21" deep 24-bay rackmount chassis or 26" deep 40-bay rackmount chassis
- Up to 38.4 terabytes of SSD storage to NTFS RAID solid state disk array
- RAID levels of 0, 1, 5, 6, 10 and 50
- Complete high-performance Windows® workstation with Intel® Core™ i7 processor
- SystemFlow® GUI with signal viewer analysis tool
- C-callable API for integration of recorder into application
- File headers include time stamping and recording parameters
- Optional GPS time and position stamping

Contact factory for options, for number and type of analog channels, recording rates, and disk capacity.

General Information

The Talon® RTR 2748 is a turnkey recording and playback system that allows users to record and reproduce signals with bandwidths up to 500 MHz. The RTR 2748 can be configured as a one- or two-channel system to provide real-time recording and playback rates up to 4.0 GB/sec to an array of solid-state drives.

The RTR 2748 uses Pentek's high-powered Virtex-6-based Cobalt® boards that provide the data streaming engine for the high-speed A/D converters.

A built-in synchronization module is provided to allow for multichannel phase-coherent operation.

GPS time and position stamping is optionally available.

SystemFlow Software

The RTR 2748 includes the SystemFlow Recording Software. SystemFlow features a Windows-based GUI (Graphical User Interface) that provides a simple means to configure and control the system.

Custom configurations can be stored as profiles and later loaded when needed, allowing the user to select preconfigured settings with a single click.

SystemFlow also includes signal viewing and analysis tools that allow the user to monitor the signal prior to, during, and after a recording session. These tools include a virtual oscilloscope and a virtual spectrum analyzer.

Built on a Windows 7 Professional workstation, the RTR 2748 allows the user to install post-processing and analysis tools to operate on the recorded data. The RTR 2748 records data to the native NTFS file system that provides immediate access to the recorded data.

Data can be off-loaded via two gigabit Ethernet ports, six USB 2.0 ports or two eSATA ports. Additionally, data can be copied to optical disk, using the 8X double layer DVD±R/RW drive.

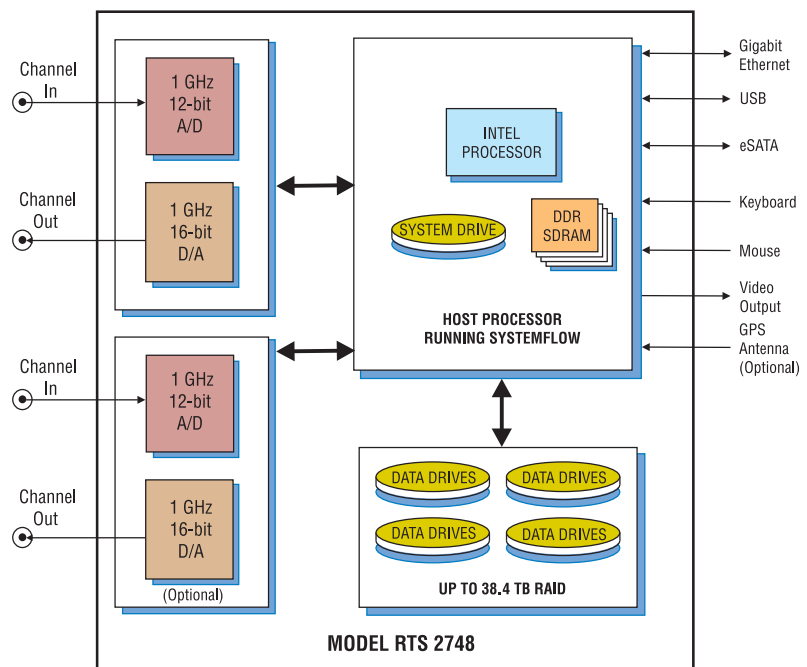
Rugged and Flexible Architecture

Because SSDs operate reliably under conditions of shock and vibration, the RTR 2748 performs well in ground, shipborne and airborne environments. The drives can be easily removed or exchanged during or after a mission to retrieve recorded data. Available in a 21" deep, 24-bay chassis or a 26" deep, 40-bay chassis, the system can be populated with SSD storage up to 38.4 TB.

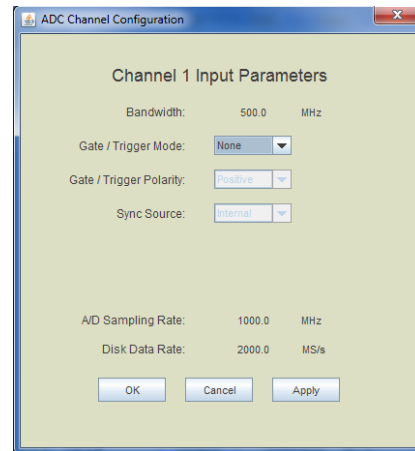
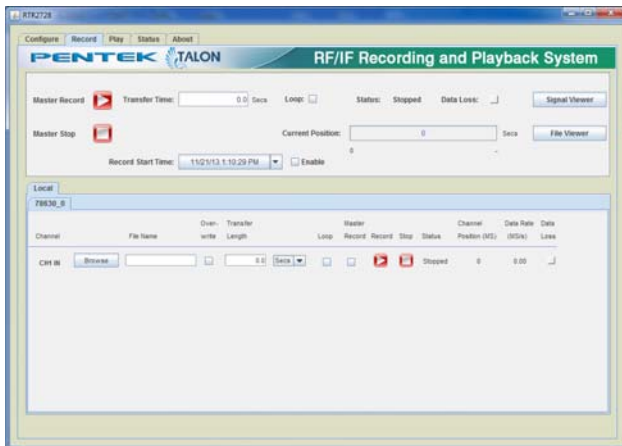
The RTR 2748 is configured in a 4U 19" rugged rackmount chassis, with hot-swappable data drives, front panel USB ports and I/O connectors on the rear panel.

Systems are scalable to accommodate multiple chassis to increase channel counts and aggregate data rates. All recorder chassis are connected via Ethernet and can be controlled from a single GUI either locally or from a remote PC.

Multiple RAID levels, including 0, 1, 5, 6, 10, and 50 provide a choice for the required level of redundancy. ➤



► SystemFlow Graphical User Interface

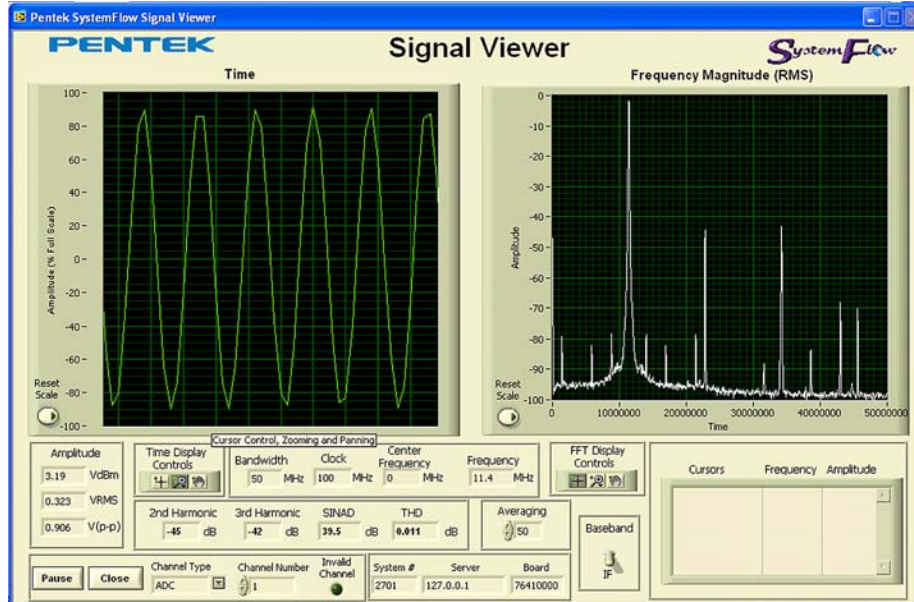


SystemFlow Recorder Interface

The RTR 2748 GUI provides the user with a control interface for the recording system. It includes Configuration, Record, Playback and Status screens, each with intuitive controls and indicators. The user can easily move between screens to set configuration parameters, control and monitor a recording, play back a recorded signal and monitor board temperature and voltage levels. The signal viewer, integrated into the recording GUI, allows the user to monitor real-time signals or signals recorded on disk.

SystemFlow Hardware Configuration Interface

The RTR 2748 configuration screens provide a simple and intuitive means for setting up the system parameters. The A/D configuration screen shown here, provides entries for gate/trigger mode, gate/trigger polarity, and trigger source. All parameters contain limit-checking and integrated help to provide an easier-to-use out-of-the-box experience.



SystemFlow Signal Viewer

The SystemFlow Signal Viewer includes a virtual oscilloscope and spectrum analyzer for signal monitoring in both the time and frequency domains. It is extremely useful for previewing live inputs prior to recording, and for monitoring signals as they are being recorded to help ensure successful recording sessions. The viewer can also be used to inspect and analyze the recorded files after the recording is complete.

Advanced signal analysis capabilities include automatic calculators for signal amplitude and frequency, second and third harmonic components, THD (total harmonic distortion) and SINAD (signal to noise and distortion). With time and frequency zoom, panning modes and dual, annotated cursors to mark and measure points of interest, the SystemFlow Signal Viewer can often eliminate the need for a separate oscilloscope or spectrum analyzer in the field. ►

► Specifications**PC Workstation (standard configuration)****Operating System:** Windows 7 Professional**Processor:** Intel Core i7 processor**Clock Speed:** 3.0 GHz or higher**SDRAM:** 8 GB**RAID****Storage:** 1.9–38.4 TB**Number of Drives:** Up to 40**Drive Type:** SATA III SSDs**Supported RAID Levels:** 0, 1, 5, 6, 10 and 50**Analog Recording Inputs****Analog Signal Inputs****Quantity:** 1**Input Type:** Transformer-coupled, female SSMC connector**Transformer Type:** Macom ETC1-1-13TR**Full Scale Input:** +10 dBm into 50 ohms**3 dB Passband:** 5 MHz to 2 GHz**A/D Converter****Type:** Texas Instruments ADS5400**Sampling Rate (f_s):** 100 MHz to 1 GHz**Resolution:** 12 bits**Analog Playback Output****Analog Signal Outputs****Quantity:** 1**Output Type:** Transformer-coupled, female SSMC connector**Full Scale Output:** +4 dBm into 50 ohms**3 dB Passband:** 300 kHz to 700 MHz**D/A Converter****Type:** TI DAC5681Z**Interpolation:** 1x, 2x or 4x**Input Data Rate to DAC5681Z:** 500 MS/sec max.**Output Sampling Rate:** 1 GHz, max.**Output IF:** 700 MHz, max.**D/A Resolution:** 16 bits**Clock Sources:** Selectable from onboard programmable VCXO or external clock**External Clock****Type:** Female SSMC connector, sine wave, 0 to +10 dBm, AC-coupled, 50 ohms, accepts 100 MHz to 1 GHz input clock or 10 MHz system reference**Internal Clock****Type:** Programmable VCXO**VCXO Frequency Ranges:** 100 to 945 MHz, 970 MHz to 1 GHz**Physical and Environmental****Size****Width:** 19"**Height:** 7"**Depth:** 21" (24 drive chassis)**Depth:** 26" (40 drive chassis)**Weight:** 60-85 lb**Operating Temp:** 0° to +50° C**Storage Temp:** -40° to +85° C**Relative Humidity:** 5 to 95%, non-condensing**Operating Shock:** 15 g max. (11 msec, half sine wave)**Operating Vibration:** 10 to 20 Hz: 0.02 inch peak,
20 to 500 Hz: 1.4 g peak acceleration**Power Requirements:** 100 to 240 VAC, 50 to 60 Hz, 500 W max.**Model RTR 2748 Ordering Information and Options****Channel Configurations**

Option 201	1-Channel recording
Option 202	2-Channel recording
Option 221	1-Channel playback
Option 222	2-Channel playback

Storage Options

Option 241	1.9 TB SSD Storage
Option 242	3.8 TB SSD Storage
Option 244	7.6 TB SSD Storage
Option 245	11.5 TB SSD Storage
Option 247	23 TB SSD Storage
Option 249	38.4 TB SSD Storage

General Options (append to all other options)

Option 261	GPS Time & Position Stamping
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Contact Pentek for compatible Option combinations

Specifications are subject to change without notice.