Model RTR 2755

1-, 10-, 40-Gigabit Ethernet Rugged Rackmount Recorder

TALON RTR RUGGED RECORDER

SystemFlow

Features

- Designed to operate under conditions of shock and vibration
- Records gigabit, 10-gigabit or 40-gigabit Ethernet streams
- Removable shock- and vibration-resistant SSDs perform well in vehicles, ships and aircraft
- TCP and UDP protocols
- Copper or optical interfaces
- Aggregate recording rates to 4.0 GB/sec
- 4U short 19-inch rugged rackmount PC server chassis
- Windows® Server 2016 workstation with high-performance Intel® Core™ i7 processor
- Up to 122 terabytes of storage to NTFS RAID solid state disk array
- Multiple RAID levels of 0, 1, 5, and 6
- SystemFlow® GUI with Signal Viewer analysis tool
- C-callable API for integration of recorder into applications
- File headers include time stamping and recording parameters
- Optional GPS time and position stamping
- Optional 18–36 VDC power supply

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

General Information

The Talon® RTR 2755 is a complete turn-key recording and playback system for storing 1-, 10-, and 40-gigabit Ethernet streams. It is ideal for capturing any type of streaming sources including live transfers from sensors or data from other computers and supports both TCP and UDP protocols.

Using highly-optimized disk storage technology, the system guarantees loss-free performance at aggregate recording rates up to 4.0 GB/sec.

Two rear panel SFP+ LC connectors for 850 nm multi-mode or single-mode fibre cables, or CX4 connectors for copper twinax cables accommodate all popular interfaces.

Optional GPS time and position stamping accurately identifies each record in the file header.

SystemFlow Software

The RTR 2755 includes the Pentek SystemFlow Recording Software. SystemFlow features a Windows-based GUI (Graphical User Interface) that provides a simple and intuitive means to configure and control the system.

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

Built on a server-class Windows Server 2016 workstation, the RTR 2755 allows the user to install post-processing and analysis tools to operate on the recorded data.

The RTR 2755 records data to the native NTFS file system, providing immediate access to the recorded data.

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

Rugged and Flexible Architecture

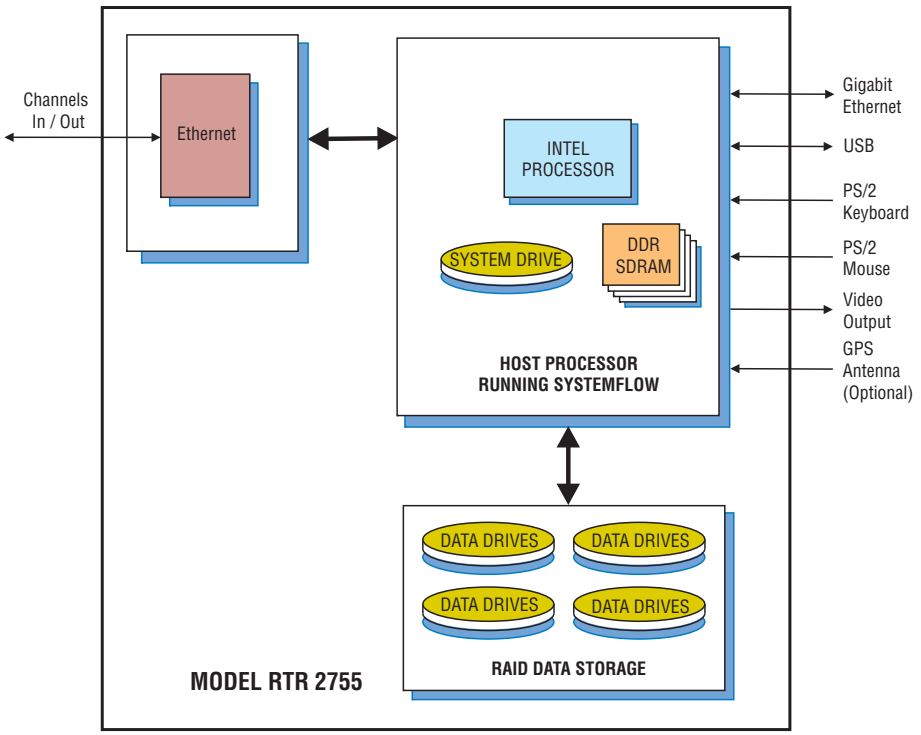
Because SSDs operate reliably under conditions of shock and vibration, the RTR 2755 performs well in ground, shipborne and airborne environments. The hot-swappable SSDs provide storage capacity of up to 122 TB. The drives can be easily removed or exchanged during or after a mission to retrieve recorded data.

The RTR 2755 is configured in a 4U 19" rack-mountable chassis, with hot-swap 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, and 6, provide a choice for the required level of redundancy. ➤



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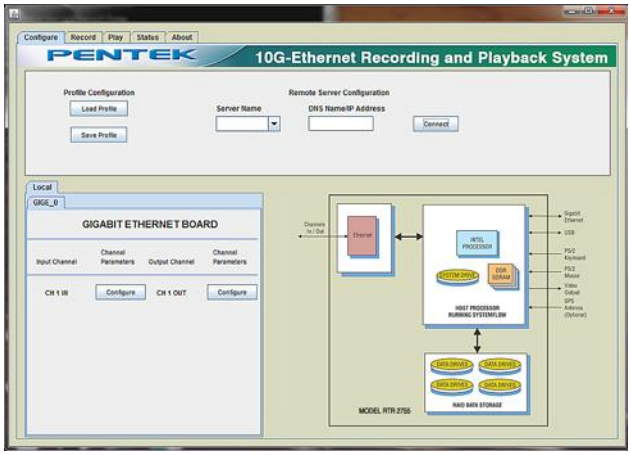
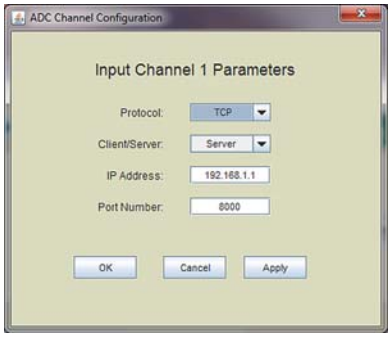
➤ SystemFlow Graphical User Interface



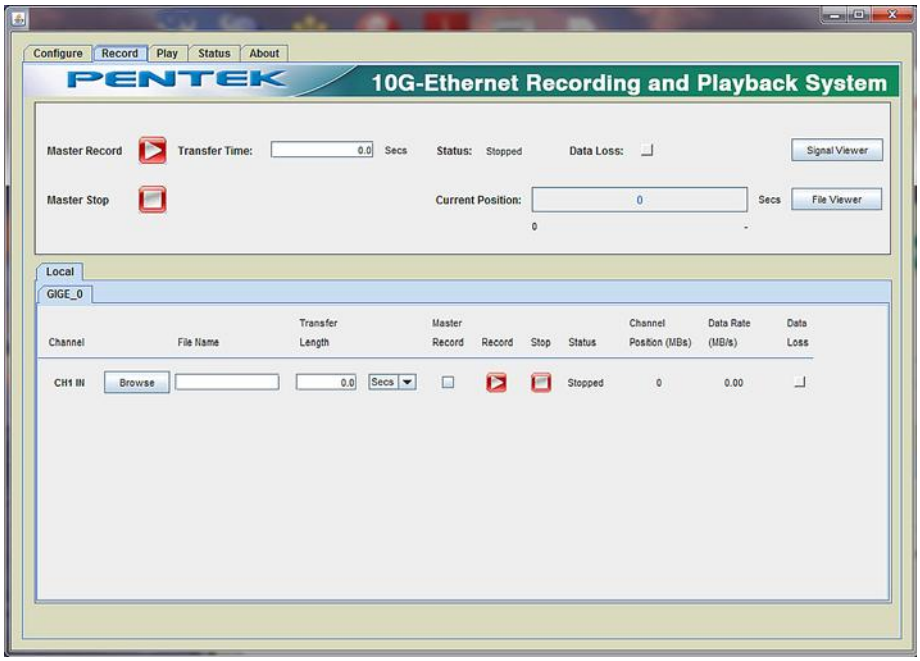


SystemFlow Main Interface

The RTR 2755 GUI shows a block diagram of the system and provides the user with a control interface for the recording system. It includes Configure, Record, Playback, and Status screens, each with intuitive controls and indicators. The user can easily move between screens to configure parameters, control and monitor a recording, and play back a recorded stream.

SystemFlow Hardware Configuration Interface

The Configure screen presents operational system parameters including temperature and voltages. Parameters are entered for each input or output channel specifying UDP or TCP protocol, client or server connection, the IP address and port number. All parameters contain limit-checking and integrated help to provide an easier-to-use out-of-the-box experience.



SystemFlow Record Interface

The Record screen allows you to browse a folder and enter a file name for the recording. The length of the recording for each channel can be specified in megabytes or in seconds. Intuitive buttons for Record, Pause and Stop simplify operation. Status indicators for each channel display the mode, the number of recorded bytes, and the average data rate. A Data Loss indicator alerts the user to any problem, such as a disk full condition.

By checking the Master Record boxes, any combination of channels in the lower screen can be grouped for synchronous recording via the upper Master Record screen. The recording time can be specified, and monitoring functions inform the operator of recording progress. ➤

➤ SystemFlow API

SystemFlow includes a complete API (Application Programming Interface) supporting control and status queries of all operations of the RTR 2755 from a custom application.

High-level C-language function calls and the supporting device drivers allow users to incorporate the RTR 2755 as a high-performance server front end to a larger system. This is supported using a socket interface through the Ethernet port, either to a local host or through an internet link for remote, stand-alone acquisition. Recorded NTFS files can be easily retrieved through the same connection.

Specifications

PC Workstation (standard configuration)

Operating System: 64-bit Windows Server 2016
Processor: Intel Core i7 processor
Clock Speed: 3.0 GHz or higher
SDRAM: 8 GB standard, optionally up to 64 GB
RAID
Storage: Up to 122.8 TB SSDs
Drive Type: Solid-state drive
Supported Levels: 0, 1, 5 and 6

Ethernet Interface

Option 280: SFP+
Quantity: 2 ports
Connector Type: SFP+

Option 281: Multi-mode Fibre Optical
Quantity: 2 ports
Cable: Multi-mode fibre, 850 nm
Connector Type: LC
Max. Cable Length: Up to 300 m

Option 282: Single-mode Fibre Optical
Quantity: 2 ports
Cable: Single-mode fibre, 1310 nm
Connector Type: LC
Max Cable Length: Up to 10 km

Physical and Environmental

Dimensions
4U Short Chassis: 19" W x 21" D x 7" H
Weight: 50 lb, approx.
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 2755 Ordering Information and Options

Interface Options

Option -101	Gigabit Ethernet
Option -102	10-Gigabit Ethernet
Option -103	40-Gigabit Ethernet

Channel Configuration

Option -201	1-Ethernet port
Option -202	2-Ethernet ports
Option -204	4-Ethernet ports
Option -208	8-Ethernet ports

Note: Option -208 available only with Option -101

Interfaces

Option -280	SFP+ connectors
Option -281	Multi-mode optical, LC connectors
Option -282	Single-mode optical, LC connectors
Option -284	RJ45 connectors

Storage Options

Option -410	3.8 TB SSD storage
Option -415	7.6 TB SSD storage
Option -420	15.3 TB SSD storage
Option -430	30.7 TB SSD storage
Option -460	61.4 TB SSD Storage
Option -485	122.8 TB SSD Storage

Note: Options -430, 460 and 485 require a 26-inch deep chassis

General Options (append to all options)

Option -261	GPS time and position stamping
Option -264	IRIG-B Time Stamping
Option -625	Front-panel removable OS drive
Option -680	28 VDC power supply

Contact Pentek for other configurations
Storage and Channel-count Options may change, contact Pentek for the latest information

Specifications are subject to change without notice

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