Model RTR 2736

Serial FPDP Rugged Portable Recorder

TALON RTR RUGGED RECORDER

SystemFlow

Features

- Designed to operate under conditions of shock and vibration
- Portable system measures 16.9" W x 9.5" D x 13.4" H
- Rugged aluminum alloy chassis
- Lightweight, approximately 30 pounds
- Shock- and vibration-resistant SSDs perform well in vehicles, ships and aircraft
- Up to eight I/O channels
- Supports Flow Control, CRC, and Copy/Loop Mode as a receiver and transmitter
- Supports 1.0625, 2.125, 2.5, 3.125 and 4.25 GBaud link rates
- Copper, single-mode and multi-mode fiber interfaces available
- Real-time aggregate recording rates of up to 2.4 GB/sec
- Up to 7.6 terabytes of storage to NTFS RAID disk array
- RAID levels of 0 ,1, 5 and 6
- SystemFlow® GUI virtual instrumentation panel for fast, intuitive operation
- C-callable API for integration of recorder into application
- File headers include time stamping and recording parameters
- Optional GPS time and position stamping
- Windows® 7 Professional workstation with high-performance Intel® Core™ i7 processor

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

General Information

The Talon® RTR 2736 is a complete turn-key recording system capable of recording and playing back multiple Serial FPDP data streams in a rugged, lightweight portable package. It is ideal for capturing any type of streaming sources including live transfers from sensors or data from other computers and is fully compatible with the VITA 17.1 specification. Using highly-optimized disk storage technology, the system achieves aggregate recording rates up to 2.4 GB/sec.

The RTR 2736 can be populated with up to eight SFP connectors supporting Serial FPDP over copper, single-mode, or multi-mode fiber, to accommodate all popular Serial FPDP interfaces. It is capable of both receiving and transmitting data over these links and supports real-time data storage to disk.

Programmable modes include flow control in both receive and transmit directions, CRC support, and copy/loop modes. The system is capable of handling 1.0625, 2.125, 2.5, 3.125 and 4.25 GBaud link rates supporting data transfer rates of up to 420 MB/sec per Serial FPDP link.

Optional GPS time and position stamping allows the user to mark the beginning of a recording in the recording file's header.

SystemFlow Software

The RTR 2736 includes the 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 7 Professional workstation, the RTR 2736 allows the user to install post-processing and analysis tools to operate on the recorded data.

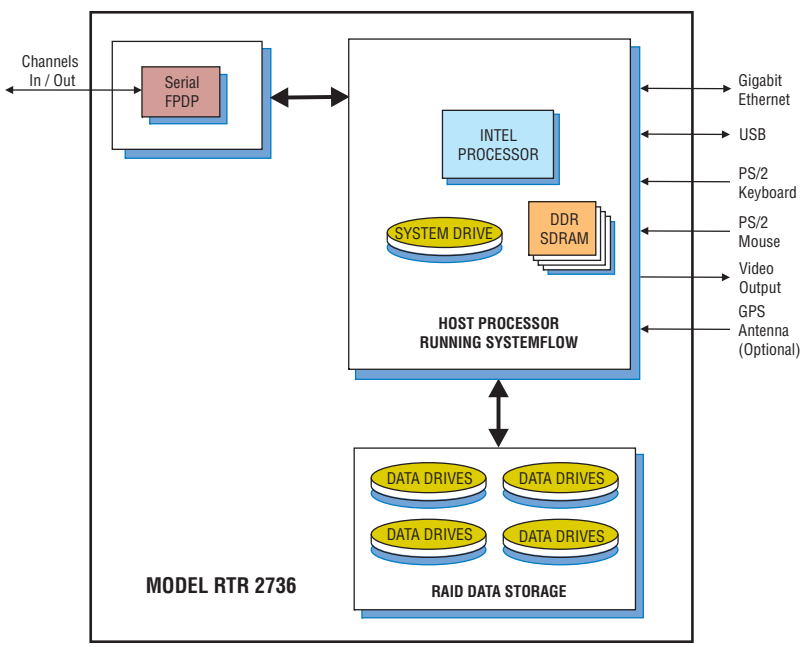
The RTR 2736 records data to the native NTFS file system, providing immediate access to the recorded data.

Data can be off-loaded via a gigabit Ethernet port, eight USB 2.0 ports, two USB 3.0 ports or two eSATA 3 Ports. Additionally, data can be copied to optical disk, using the 8X double layer DVD±R/RW drive.

Rugged and Flexible Architecture

The RTR 2736 is configured in a portable, lightweight chassis with hot-swap SSDs, front panel USB ports and I/O connections on the side panel. It is built on an extremely rugged, 100% aluminum alloy unit, reinforced with shock absorbing rubber corners and an impact-resistant protective glass. Using shock- and vibration-resistant SSDs, the RTR 2736 is designed to reliably operate as a portable field instrument.

The hot-swappable SSDs provide storage capacities of up to 7.6 TB. Drives can be easily removed or exchanged during or after a mission to retrieve recorded data. Multiple RAID levels, including 0, 1, 5 and 6, provide a choice for the required level of redundancy. ➤



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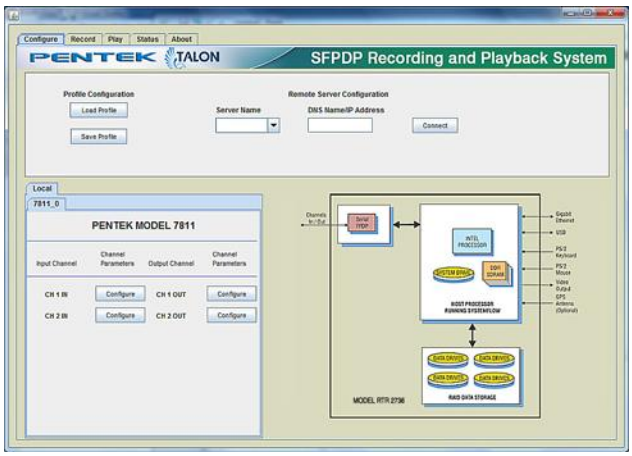
➤ SystemFlow Graphical User Interface

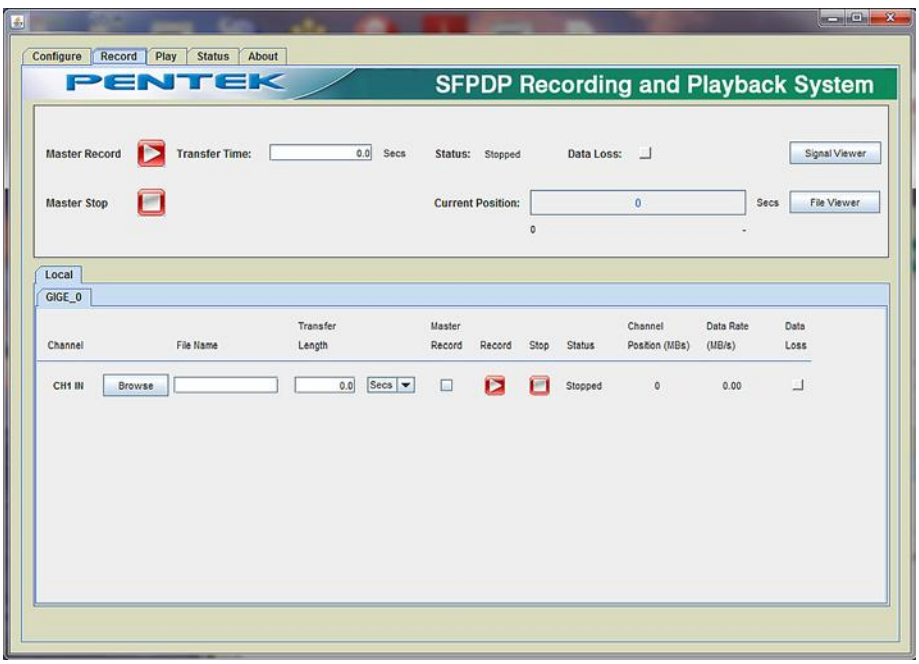


SystemFlow Main Interface

The RTR 2736 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 the flow control settings and the recognition of a CRC in the data stream. Each channel can also be set up to utilize Serial FPDP's copy/loop mode. 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. ➤

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➤ SystemFlow API

SystemFlow includes a complete API (Application Programming Interface) supporting control and status queries of all operations of the RTR 2736 from a custom application.

High-level C-language function calls and the supporting device drivers allow users to incorporate the RTR 2736 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

Operating System: Windows 7 Professional
Processor: Intel Core i7 processor
Clock Speed: 2.0 GHz or greater
SDRAM: 6 GB
Monitor: Built-in 17" high-resolution LCD, 1440 x 900 pixels, 200 nits
RAID
Storage: 1.9, 3.8, or 7.6 TB
Supported RAID Levels: 0, 1, 5 and 6
Drive Bays: Hot-swap, removable, rear panel
USB 2.0 Ports: Eight left side, two front panel
USB 3.0 Ports: Two left side
1 Gb Ethernet Port: One left side
eSATA Ports: Two left side
Aux Video Output: 15-pin VGA left side

Serial FPDP Interface

Copper - Option 280
Cable: 100-ohm shielded twin-ax
Connector Type: SFP+
Max. Cable Length: 20 m
Multi-mode Fiber Optical - Option 281
Cable: Multi-mode fiber, 850 nm
Connector Type: LC
Max. Cable Length: Up to 300 m
Single-mode Fiber Optical - Option 282
Cable: Single-mode fiber
Connector Type: LC
Max. Cable Length: Up to 10 km

Physical and Environmental

Dimensions: 16.9" W x 9.5" D x 13.4" H
Weight: 30 lb, approximately
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 2736 Ordering Information and Options

Channel Configurations

Option -204	4-channel recording
Option -208	8-channel recording

Storage Options

		Max. Data Rate
Option -405	1.9 TB SSD storage capacity	2.0 GB/sec
Option -410	3.8 TB SSD storage capacity	2.4 GB/sec
Option -415	7.6 TB SSD storage capacity	2.4 GB/sec

Serial FPDP Interface (append to all options)

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

General Options (append to all options)

Option -261	GPS time & position stamping
Option -264	IRIG-B time stamping

Contact Pentek for compatible Option combinations
Storage and Channel-count Options may change, contact Pentek for the latest information

Specifications are subject to change without notice

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