



Features

- Designed to operate under conditions of shock and vibration
- Removable SSDs
- 32 bits of LVDS digital I/O
- LVDS clock, Data Valid and Data Suspend signals
- Supports clock rates up to 250 MHz
- Real-time aggregate recording rates up to 1.0 GB/sec
- Up to 46 terabytes storage to NTFS RAID disk array
- RAID levels of 0 , 1 , 5 , 6 , 10 and 50
- Optional N+1 redundant power supply
- 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, recording rates, and disk capacity.

General Information

The Talon® RTR 2758 is a complete turn-key system for recording and playing back digital data using the Pentek Model 78610 LVDS digital I/O board. Using highly optimized disk storage technology, the system achieves sustained recording rates of up to 1.0 GB/sec.

The RTR 2758 utilizes a 32-bit LVDS interface that can be clocked at speeds up to 250 MHz. It includes Data Valid and Suspend signals and provides the ability to turn these signals on and off as well as control their polarity.

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

SystemFlow Software

The RTR 2758 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.

Built on a Windows 7 Professional workstation, the RTR 2758 allows the user to install post-processing and analysis tools to operate on the recorded data.

The RTR 2758 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 ports. Additionally, data can be copied to optical disk using the 8X double layer DVD±R/RW drive.

Rugged and Flexible Architecture

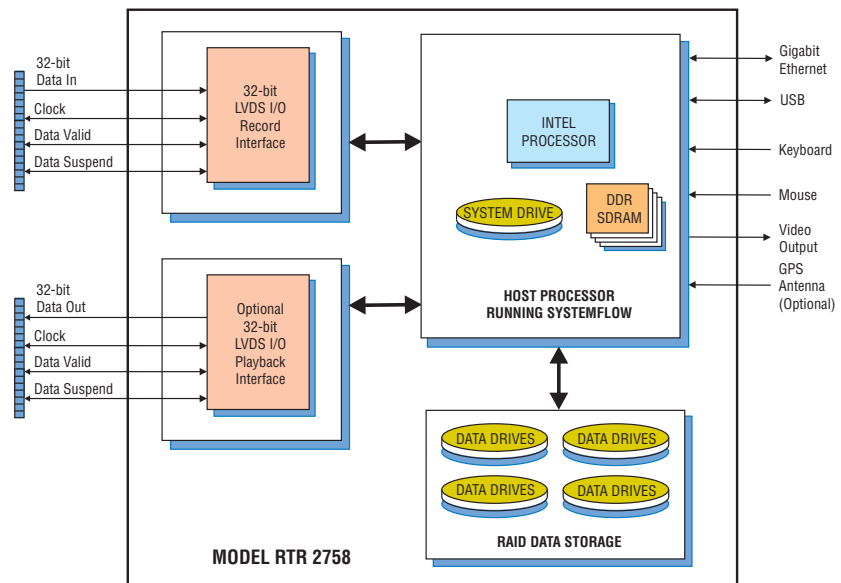
Because SSDs operate reliably under conditions of shock and vibration, the RTR 2758 performs well in ground, shipborne and airborne environments. Configurable with hot-swappable SSDs, the RTR 2758 can provide storage capacities of up to 46 TB in a rugged 4U chassis. Drives can be easily removed or exchanged during or after a mission to retrieve recorded data.

The RTR 2758 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.

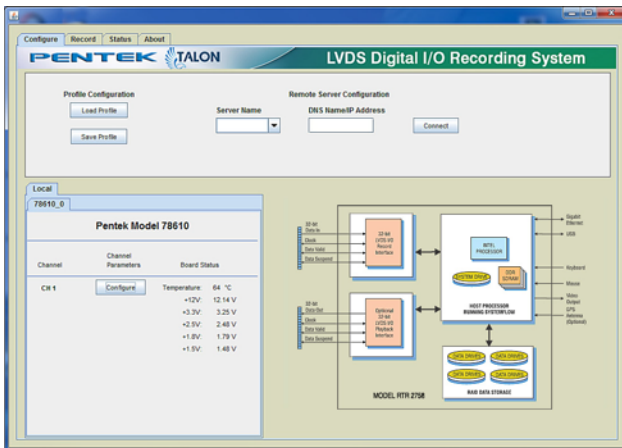
Systems are scalable to accommodate multiple chassis to increase channel counts and aggregate data rates.

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, 6, 10 and 50 provide a choice for the required level on redundancy. Redundant power supplies are optionally available to provide a robust and reliable high-performance recording system. ➤

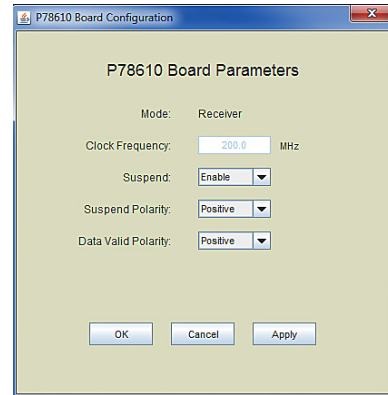


► SystemFlow Graphical User Interface



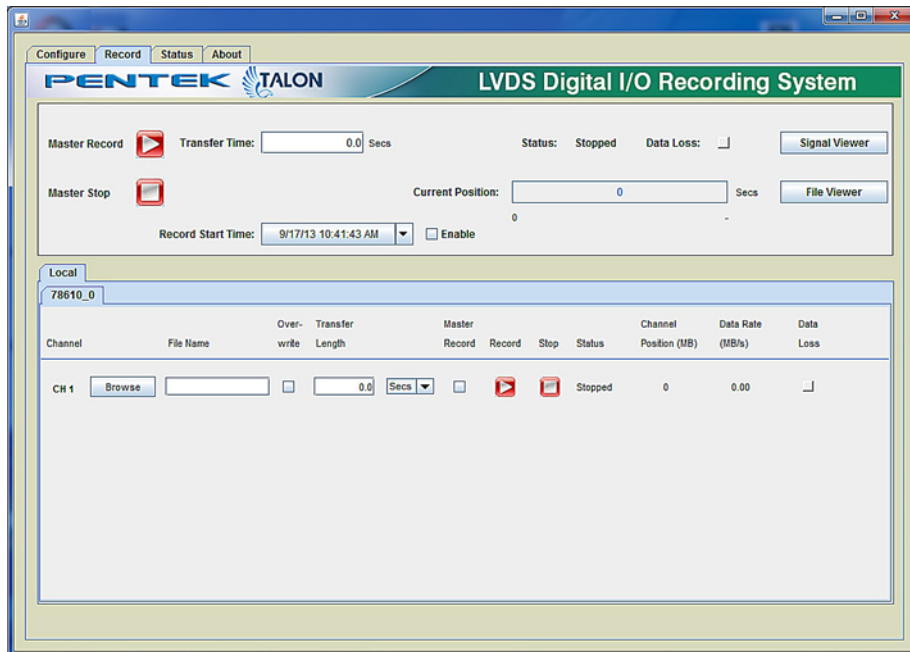
SystemFlow Main Interface

The RTR 2758 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. These parameters include data valid and suspend enables, as well as polarity control for both signals. 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) that supports control and status queries of all operations of the RTR 2758 from a custom application.

High-level C-language function calls and the supporting device drivers allow users to incorporate the RTR 2758 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: 3.0 GHz or higher

SDRAM: 8 GB

RAID

Storage: 3.8, 7.6, 15.3, 30.7 or 46.0 TB

Supported Levels: 0, 1, 5, 6, 10 and 50

LVDS Interface

Cable: 80-pin ribbon cable

Connector Type: 2x40 pin IDC

Data Lines: 32 LVDS pairs, 2.5 V compliant

Clock: One LVDS pair, 2.5 V compliant

Data Valid: One LVDS pair, 2.5 V compliant

Data Suspend: One LVDS pair, 2.5 V compliant

Physical and Environmental

Dimensions & Weights

Dimensions: 19" W x 21" D x 7" (4U) 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

Model RTR 2758 Ordering Information and Options

Channel Configurations

Option -201	Recording interface
Option -221	Playback interface

Storage Options

Option -410	3.8 TB SSD storage capacity	1.0 GB/sec
Option -415	7.6 TB SSD storage capacity	1.0 GB/sec
Option -420	15.3 TB SSD storage capacity	1.0 GB/sec
Option -430	30.7 TB SSD storage capacity	1.0 GB/sec
Option -440	46.0 TB SSD storage capacity	1.0 GB/sec

Max. Data Rate

Note: Options -430 and -440 require 26-inch deep chassis

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