

Features

- Records 10-Gigabit Ethernet streams
- TCP and UDP protocols
- Optical 10GbE interfaces
- Aggregate recording rates to 1.6 GB/sec
- Up to 100 terabytes storage to NTFS RAID disk array
- RAID levels of 0, 1, 5, 6, 10, and 50
- 4U or 5U 19-inch industrial rackmount PC server chassis
- Windows® workstation with a high performance Intel Core™ i7 processor
- SystemFlow® GUI virtual instrumentation panel for fast, intuitive operation
- C-callable API for integration of recorder into applications
- File headers include time stamping and recording parameters
- Optional GPS time and position stamping



General Information

The Talon® RTS 2715 is a complete turnkey recording system for storing one or two ten-gigabit Ethernet (10GbE) 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.

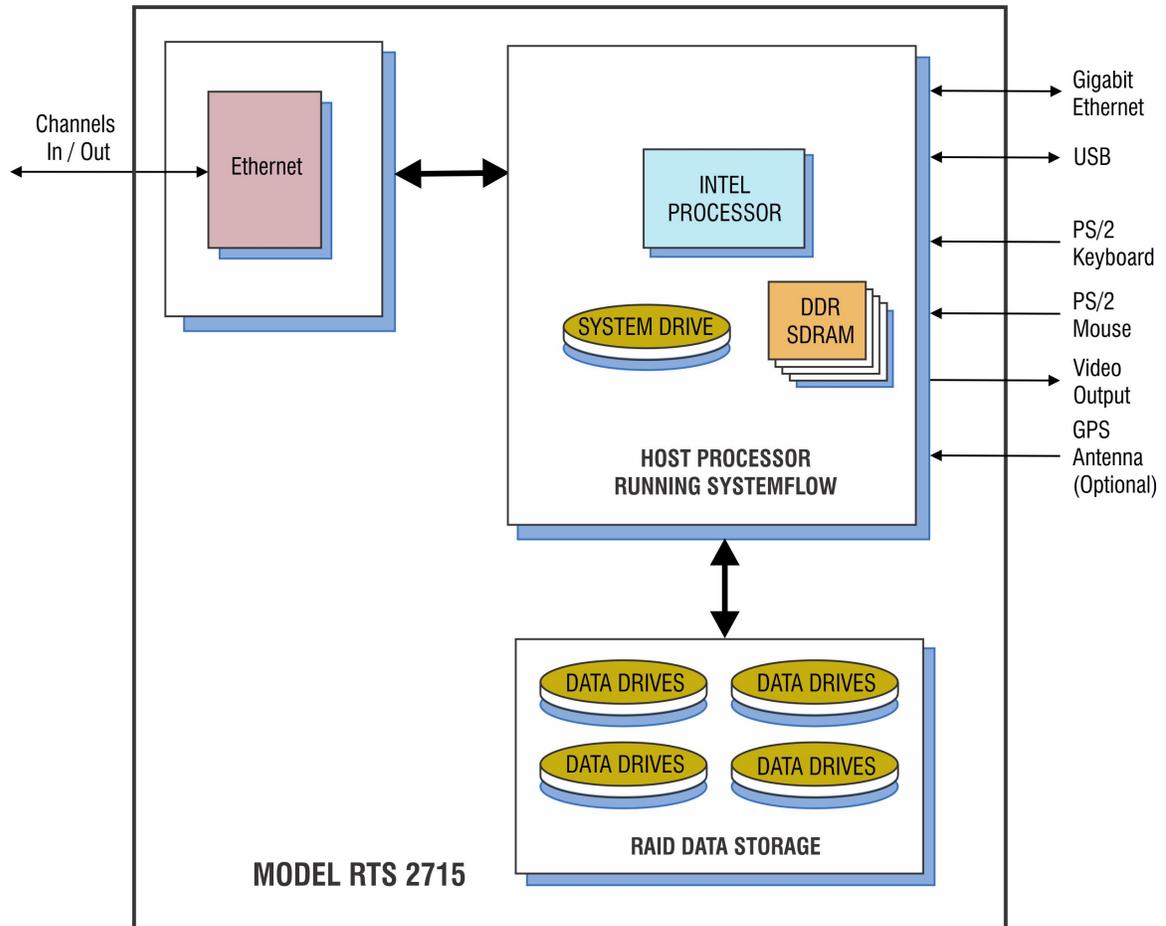
Using highly-optimized disk storage technology, the system achieves aggregate recording rates up to 1.6 GB/sec. Rear panel SFP+ connectors can accommodate multi-mode or single-mode fibre interfaces. Optional GPS time and position stamping accurately identifies each record in the file header.

Flexible Architecture

The RTS 2715 is configured in a 4U or 5U 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 of redundancy. The hot-swappable HDDs provide storage capacities of up to 100 TB in a single 6U chassis.

2715 Block Diagram



SystemFlow Software

All Talon recorders include the Pentek SystemFlow® recording software. SystemFlow software provides three ways for users to configure and control a Talon recorder:

- The SystemFlow GUI provides a point-and-click user interface. 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.
- The [SystemFlow API](#) provides a set of C-callable libraries that allow engineers to develop their own user interface to configure and control their Talon recorder.
- The [SystemFlow Telnet](#) interface provides a simple set of commands to configure and control the recorder. This eliminates the need for any software development and is most suitable for unmanned operation.

SystemFlow software allows the recorder to be set up to run autonomously by implementing scripts using the API or telnet interface. All three interfaces can be run from a remote connection over Gigabit Ethernet.

A simple header that holds the recording parameters is added to the beginning of the file. An optional GPS receiver allows the user to precisely timestamp files and optionally track the recorder's position throughout a mission. The system records all data to the native NTFS file system, allowing for quick and easy access to the data from any computer.

Click below to view a video about SystemFlow.



SystemFlow Simulator

To learn more about the SystemFlow Software, you can [download and install the free SystemFlow Simulator](#) to your desktop or laptop PC. The [SystemFlow Simulator](#) allows you to learn how to use the Talon recording system's SystemFlow software interface before you acquire a recorder or while you are waiting for delivery of a Talon recording system.

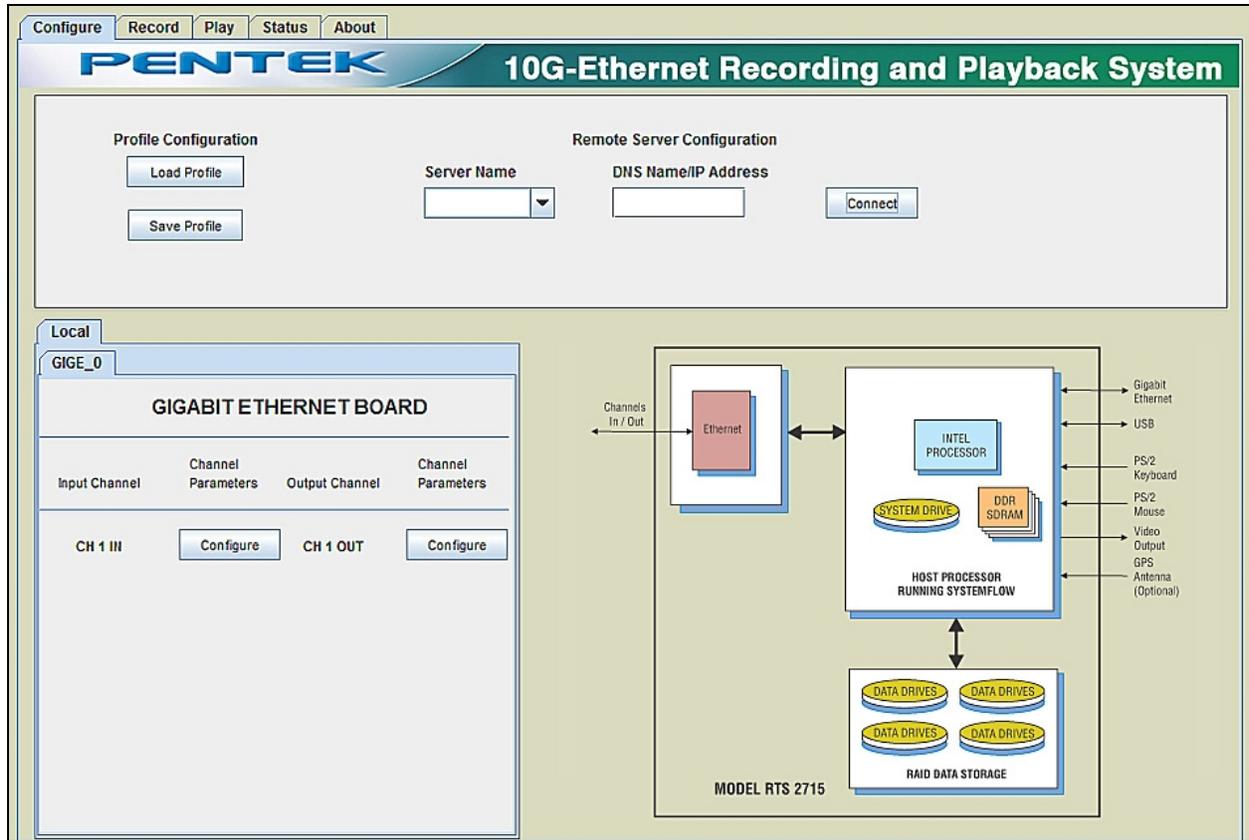
The Simulator can simulate the operating environment of all the different Talon recorder models. The Simulator also demonstrates the [SystemFlow Signal Viewer](#) by playing recorded signals to simulate the appearance of live signals being digitized and recorded by a Pentek analog signal recorder.

Features

- Provides real-time recording system simulation
- Demonstrates SystemFlow signal & file viewer tools
- Capable of simulating all Talon analog and digital recording systems
- Full Talon SystemFlow GUI
- Simulator can be used to develop Talon system profiles for use in the final system
- Can be used with the [SystemFlow API](#) to develop and test custom user interface

SystemFlow Main Interface

The RTS 2715 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.



Setting System Parameters

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.

Input Channel 1 Parameters

Protocol:

Client/Server:

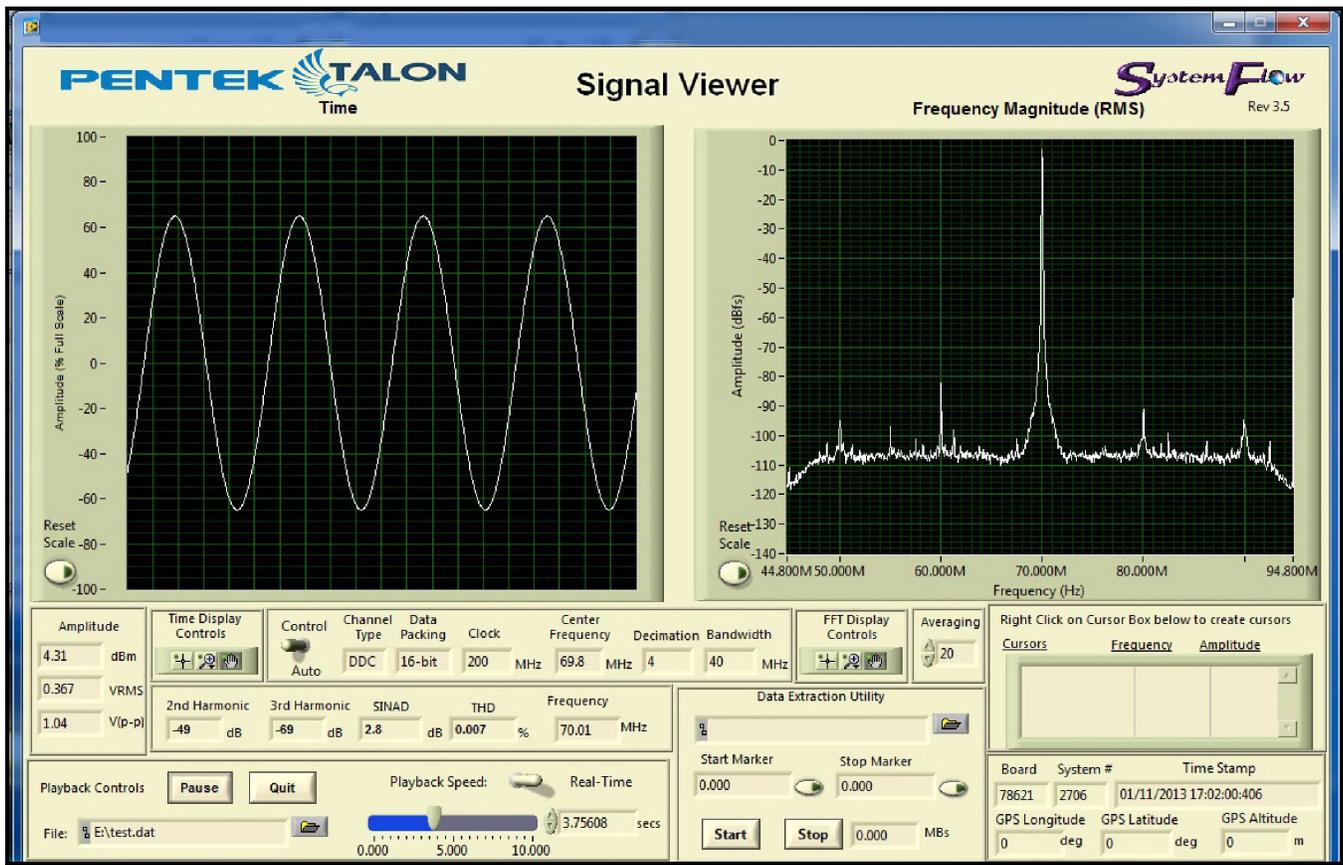
IP Address:

Port Number:

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.



SystemFlow API

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

High-level C-language function calls and the supporting device drivers allow users to incorporate the RTS 2715 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, standalone acquisition. Recorded NTFS files can be easily retrieved through the same connection.

Below is an example of controlling recording via the SystemFlow API.

```

728     }
729     //transfer until end of disk
730     else if (transferType == TRANSFER_END_OF_DISK)
731     {
732         recordParams->transferTime    = 0;           // must set to 0
733         recordParams->transferLength  = 0;           // must set to 0
734     }
735
736     ////////////////////////////////////// Start the record //////////////////////////////////////
737     SetConsoleTextAttribute (hConsole, FOREGROUND_GREEN | FOREGROUND_INTENSITY );
738     printf("\nCase 6: RTS_Record\n");
739     SetConsoleTextAttribute (hConsole, wOldColorAttrs);
740
741     //trigger immediately
742     if(recordParams->trigger == RTS_TRIGGER_IMMEDIATELY)
743     {
744         //send record command
745         if ((error = RTS_Record(++msgNum,
746                               serverInfo,
747                               recordParams,
748                               recordChanId,
749                               fileName[0])) != RTS_SUCCESS)
750         {
751             printf("Record Error # 0x%lx.\n", error);
752             exitHandler(error);
753             goto freeMem;
754         }
755
756         Sleep(500);
757     }
758
759     //wait for SW trigger
760     else if(recordParams->trigger == RTS_WAIT_FOR_SW_TRIGGER)
761     {
762         //send record command which set up record and start DMA
763         if ((error = RTS_Record(++msgNum,
764                               serverInfo,
765                               recordParams,
766                               recordChanId,
767                               fileName[0])) != RTS_SUCCESS)

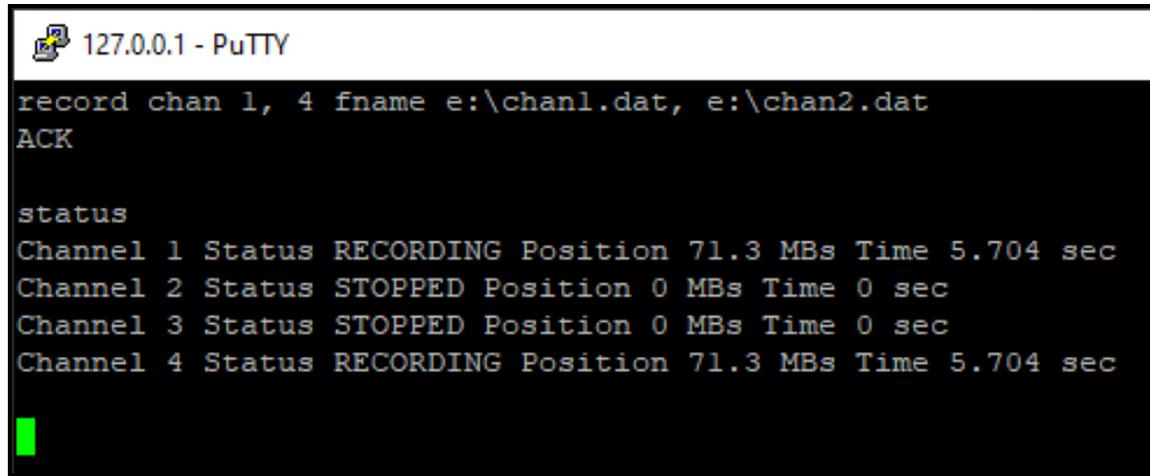
```

SystemFlow Telnet

The Talon telnet facility is an optional feature that can be requested when ordering one of Pentek's Talon recording systems. The Talon telnet facility allows you to control a Talon recorder from a remote computer. You also can use the Talon recorder's SystemFlow [Signal Viewer](#) to remotely monitor real-time data.

Pentek's [Telnet Facility for Talon Recording Systems User's Guide](#) provides instructions for setting up telnet access and describes all the supported commands.

Below is an example of use of the "record" command:



```
127.0.0.1 - PuTTY
record chan 1, 4 fname e:\chan1.dat, e:\chan2.dat
ACK

status
Channel 1 Status RECORDING Position 71.3 MBs Time 5.704 sec
Channel 2 Status STOPPED Position 0 MBs Time 0 sec
Channel 3 Status STOPPED Position 0 MBs Time 0 sec
Channel 4 Status RECORDING Position 71.3 MBs Time 5.704 sec
```

Specifications

PC Workstation

Operating System: Windows

Processor: Intel Core i7 processor

SDRAM: 8 GB

RAID

Storage: 2 - 100 TB

Drive Type: Hard disk drives

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

Physical and Environmental

Dimensions

4U Long Chassis: 19" W x 26" D x 7" H

5U Long Chassis: 19" W x 26" D x 8.75" H

Weight: 50-80 lb

Operating Temp: +5° to +45° C

Storage Temp: -40° to +85° C

Relative Humidity: 5 to 95%, non-condensing

Power Requirements: 100 to 240 VAC, 50 to 60 Hz,
-400 W

Ordering Information

Click [here](#) for more information.

Interface Options	
Option -101	Gigabit Ethernet
Option -102	10-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	
10GbE Interface	
Option -280	SFP+ connectors
Option -281	Multi-mode optical, LC connectors
Option -282	Single-mode optical, LC connectors
Option -284	RJ45 Connector
RAID	
Option -285	RAID 5 configuration
Option -286	RAID 6 configuration
Memory	
Option -309	16 GB system memory
Option -310	32 GB system memory
Option -311	64 GB system memory
Storage Options	
Option -406	2.0 TB HDD storage capacity

Option -411	4.0 TB HDD storage capacity
Option -416	8.0 TB HDD storage capacity
Option -421	16.0 TB HDD storage capacity
Option -423	20.0 TB HDD storage capacity
Option -439	30.0 TB HDD storage capacity
Option -450	45.0 TB HDD storage capacity
Option -460	60.0 TB HDD storage capacity
Option -480	100.0 TB HDD storage capacity
Note: Option -450 and -460 require a 5U Chassis; Options -480, -486, and -488 require a 6U chassis	
General Options (append to all options)	
Option -261	GPS time and position stamping
Option -264	IRIG-B time stamping
Option -625	Removable OS drive enclosure
Contact Pentek for compatible Option combinations. Storage and General Options may change, contact Pentek for latest information.	

Pricing and Availability

To learn more about our products or to discuss your specific application please contact [your local representative](#) or Pentek directly:

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