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Talon RTX Extreme Rackmount Recorders

In This Issue

- Pentek's Talon RTX rackmount series recorders are designed for extremely harsh environments and provide unmatched performance and storage capacity. More in the feature article.

"Nova was the ideal partner for designing a chassis that would meet all of our customers' MIL-spec needs,"

Chris Tojeira, Pentek Talon Systems Director

- **Product Focus:** Pentek launches seven models of extreme rackmount recorders

Free Technical Resources

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- ***Updated*** edition of the *High-Speed Switched Serial Fabrics Handbook*
- ***Updated*** edition of the *SDR Handbook*
- ***Updated*** edition of the *FPGAs for Software Radio Systems Handbook*
- ***Updated*** edition of the *High-Speed A/Ds Handbook*

Pentek's Talon® RTX rackmount series recorders are designed for extremely harsh environments and provide unmatched performance and storage capacity in a new, military-specified rackmount chassis. Designed for field operation, the RTX extreme rackmount series provides aggregate recording rates up to 5 GB/sec with up to 30 TB of SSD storage.

Military Specifications

The Talon RTX rackmount recorders are designed to meet or exceed military specifications for temperature, altitude, shock, vibration, radiated emissions, conducted emissions, ESD, sand and dust. The following list contains these military specifications.

- **Vibration:** MIL-STD-810F, method 514.5
- **Shock:** MIL-STD-810F, method 516.5
- **EMI/EMC:** MIL-STD-461E, CE101, CE102, CS101 CS114, RE101, RE102, RS101, RS103
- **ESD:** MIL-STD-1686A
- **Sand & Dust:** MIL-STD-810F, method 510

Chassis Design

All Talon RTX rackmount chassis are specially designed using heavy-duty wrought aluminum extrusions to provide superior torsional strength. Extrusions are partially overlapped for superior EMC. Shown in Figures 1 and 2, the chassis is 4U in height, with a depth of only 22". A fully-loaded chassis weighs as little as 45 lb.

Rear-panel I/O includes bulk-head-mounted SMA connectors, a 4-pin 38999 power connector as well as motherboard I/O. Rear-panels are modular and customizable allowing the end-user to specify the desired connectors.

The operating system drive can be internally hard-mounted or can be made removable. Additionally an internally-mounted optical DVD writer is optional. All drives, OS, DVD and data, are protected from dust with EMI filters.

This new chassis was designed in collaboration with Nova Integration Solutions. "Nova was the ideal partner for designing a chassis that would meet all of our customers' MIL-spec needs," said Chris Tojeira, Recording Systems Director at Pentek. He continued, "Through months of collaboration, we were able to create a unique product optimized for extremely harsh environments."

"Pentek has the pulse on the market and knows what engineers need when it comes to rugged MIL-spec systems and data recording," said Mike Martyniak, VP of Marketing, Nova Integration Solutions. "We were pleased to satisfy their requirement and create an extremely dynamic chassis for high-volume data recording." ➤

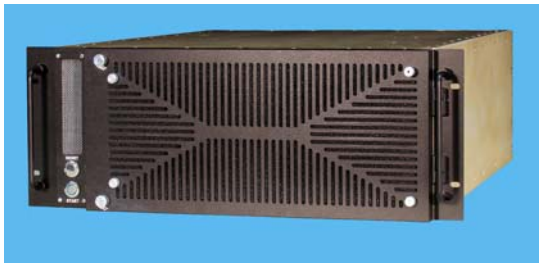


Figure 1. The rackmount RTX chassis is designed to meet or exceed military specifications.

Figure 2. The rear panel includes all analog signal connections and can be customized to suit the application requirements.

Talon RTX Extreme Rackmount Recorders

Floating Inner Chassis

In order to withstand conditions of high vibration and shock, the RTX rackmount chassis is designed to isolate all critical system components by placing them on a floating inner chassis.

This inner chassis is suspended using multiaxis mounts that attenuate externally-transmitted shock and vibration energy. This allows the system to perform flawlessly in aircraft, ships, ground vehicles, UAVs or any other areas of high shock or vibration.

QuickPac Canisters

In order to provide field engineers the ability to quickly remove and replace storage drives in the field, Pentek has developed the QuickPac™ canisters for use in the Talon RTX rackmount chassis. These canisters hold eight SSDs, providing up to 7.68 TB of storage capacity in each canister. Up to four QuickPac canisters can be installed in a Talon RTX rackmount chassis, providing an ample storage capacity of 30 TB.

Fastened by four thumbscrews, QuickPac canisters can easily be swapped in the field, allowing users to replace those filled with data with new, empty ones with very little downtime. QuickPac canisters can be transported to the lab for offload or analysis, using one of Pentek's Talon offload or playback systems.

Cooling and Filtering

Every RTX recorder includes a high-powered forced-air cooling system, to allow the proper transfer of heat from hot system components out the back of the chassis. Cool air is pulled from the front of the system through the QuickPac drive packs and forced over the hottest system components to ensure optimal cooling.

High-powered fans can be controlled via system software to allow the system to run quietly with lower cooling levels or at maximum air-flow levels. This can be adjusted to match the user's application.

Every RTX recorder includes filtering necessary to protect the system as well as the surrounding operating environment. EMI filters are placed on the front and rear of the chassis, to protect the surrounding environment from radiated emissions. A removable front panel filter protects the system against dust and sand.

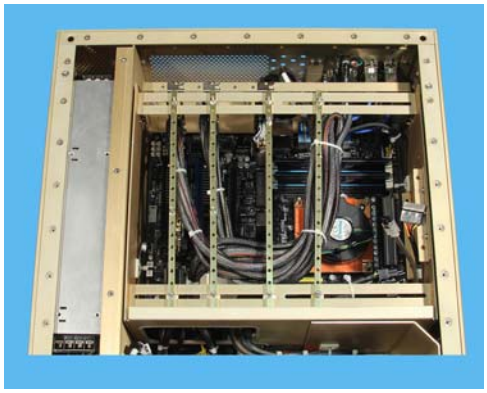


Figure 3. The inner chassis floats with respect to the outer enclosure to improve isolation from shock and vibration.

Figure 4. Chassis View showing one QuickPac canister partially withdrawn.

Figure 5. Front and rear view of the QuickPac canister showing the eight SSDs inside.

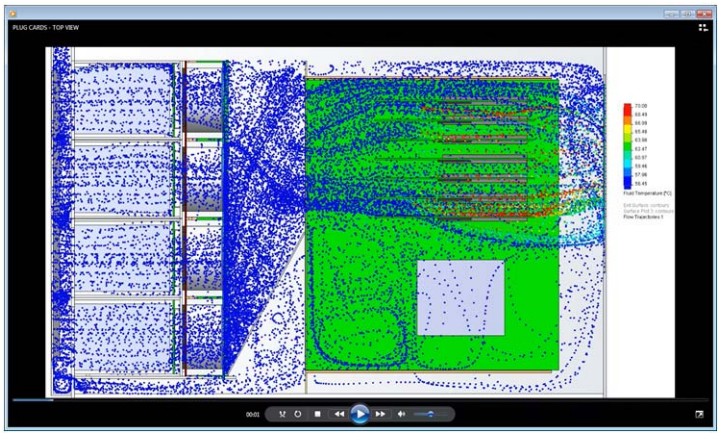


Figure 6. Airflow map shows the extensive ventilation provided to all components inside the RTX rackmount recorder.

Modular Power Supply

Every Talon RTX rackmount recorder includes a 600-Watt, 85 to 264 V, 47 to 400 Hz AC power supply. The power supply has an inline EMI filter to protect against conducted emissions and is isolated from the other electronics in the system, via an isolated chassis compartment. The 400 Hz rating allows every RTX rackmount recorder to operate in aircraft and other environments where smaller, 400 Hz generators are used. For applications that require DC power, 24 V and 28 V DC power supplies are available to replace the AC power supply. ➤

QuickPac Compatible

Talon RTX Extreme Rackmount Recorders

Talon Solutions Chart

The chart below compares Pentek's different Talon Recording System solutions. As seen here, the RTX Rackmount series provide high performance and large storage capacity in a rugged package that meets high-level military specifications.

Talon Chassis Type	RTS-COTS Rackmount	RTR Portable	RTR Rackmount	RTX Rackmount	RTX 1/2 ATR
Dimensions (H"xW"xL")	7x19x26	13.4x16.9x9.5	7x19x21/26	7x19x22	8.1x7.1x16.5
Weight (lb)	60–85	30–35	45–85	45–60	30–35
Cooling	Forced-air	Forced-air	Forced-air	Forced-air	Conduction
Storage Drive Type	HDD	SSD	SSD	SSD	SSD
Max. Storage Capacity (TB)	60	7.6	38.4	30.7	3.8
Max. Record Rate (MB/sec)	1600	1600	5000	5000	500
Drive Removal	Individual (with trays)	Individual (no trays)	Individual (with trays)	QuickPac Canisters	Internal (needs disassembly)
Operating Temperature (deg C)	5 to 45	0 to 50	–10 to 55	–20 to 55	–40 to 71
Operating Altitude (ft)	10,000	10,000	10,000	15,000	65,000
Shock	–	15 g	15 g	MIL-STD-810F Method 516.5	MIL-STD-810F Method 516.5
Vibration	–	1.4 g 20–500 Hz	1.4 g 20–500 Hz	MIL-STD-810F Method 514.5	MIL-STD-810F Method 514.5
EMI/EMC	–	–	–	MIL-STD-461E CE101, CE102, CS101 CS114, RE101, RE102 RS101, RS103	MIL-STD-461E CE101, CE102, CS101 RE101, RE102, RS101
ESD	–	–	–	MIL-STD-1686A	–
Sand and Dust	–	–	–	MIL-STD-810F Method 510	MIL-STD-810F Method 510

Appendix A - RTX System Specifications

Parameter	Condition	Specification
Temperature	Operating Non-operating	-20^0 C to $+55^0$ C -40^0 C to $+70^0$ C
Altitude	Operating Non-operating	0 to 15,000 ft 0 to 40,000 ft
Humidity	Operating	0–95%, non-condensing
Fungus	Operating	No fungus nutrient material shall be used
Shock	Operating	MIL-STD-810F, Method 516.5, Procedure I (functional shock), 20 g half sine, 12 msec in each axis
Vibration	Operating	MIL-STD-810F, Method 514.5, Procedure I
Airborne Noise	Operating	60 dBA max at 1 meter from the equipment
Structure-borne Noise	Operating	Maximum structure-borne noise per MIL-STD-704-2 is no greater than 60 dB one-third octave L_a, (Type III)
Blowing Dust	Operating	The unit shall resume specified performance after exposed to settling-dust conditions defined in MIL-STD-810F, Method 510, Procedure II - See Note 1
Inclination Angles	Operating	The unit shall maintain specified performance when subjected to: • A static pitch angle of $\pm 5^0$ • A list angle of 15^0 • A roll angle of 45^0

Note 1: Standard maintenance includes cleaning of the dust filter(s) as required.

Appendix B - RTX Emission Specifications

CE101:	Conducted Emissions, Power Leads, 30 Hz to 10 kHz
CE102:	Conducted Emissions, Power Leads, 10 kHz to 10 MHz
CS101:	Conducted Susceptibility, Power Leads, 30 Hz to 50 kHz
CS114:	Conducted Susceptibility, Bulk Cable Injection, 10 kHz to 400 MHz
CS116:	Conducted Susceptibility, Damped Sinusoidal Transients, Cable and Power Leads, 10 kHz to 100 MHz
RE101:	Radiated Emissions, Magnetic Field, 30 Hz to 100 kHz
RE102:	Radiated Emissions, Electric Field, 10 kHz to 18 GHz
RS101:	Radiated Susceptibility, Magnetic Field, 30 Hz to 100 kHz
RS103:	Radiated Susceptibility, Electric Field, 10 kHz to 40 GHz

Test Drive Pentek's Talon Recording Systems

with the Free SystemFlow Simulator

SystemFlow

FREE Talon SystemFlow Simulator Download Now!

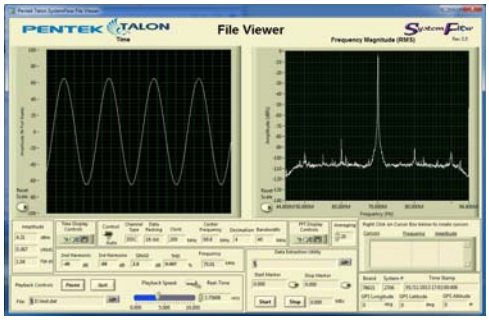
The SystemFlow Simulator

The SystemFlow® Simulator demonstrates the Configuration, Record, Playback and Status screens to illustrate the intuitive controls and indicators of the recorder. It also includes the SystemFlow Signal Viewer to display simulated live signals being digitized and recorded by a Pentek analog signal recorder. The SystemFlow Signal Viewer includes a virtual oscilloscope and a virtual spectrum analyzer for signal monitoring in both the time and frequency domains.

SystemFlow API

The virtual server provides live, interactive operation for training or development. The user can easily switch between different recording systems in the Talon recording system product line. The intuitive user interface and API provide a simple transition from one Talon recorder to another.

- Live, interactive Talon recording system simulation
- SystemFlow API for developing and testing custom user interfaces
- Evaluation and training tool



Pentek's SystemFlow Simulator for Talon analog and digital recording systems includes a virtual recorder server application that simulates disk and I/O transactions for a complete and realistic recording environment.

Develop a Custom User Interface

Developers can use the SystemFlow API as a tool for developing their own UI to control the Talon recording system prior to delivery, saving valuable development time.

Remote Control Made Easy

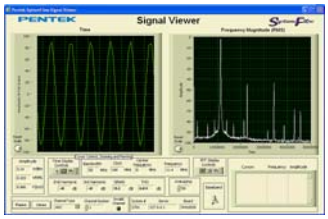
The socket-based client-server architecture allows system engineers to get a headstart for the setup and test of the remote control of their Talon recording system.

Jump Start Development

With the SystemFlow Simulator, users can create system profiles containing all parameters and operational modes for easy recall in future recording sessions. All this, before ordering their recorder!

Video Spotlight

*View **SystemFlow Software** for Talon Recorders*



Topics include: API, GUI, Signal Viewer and Analyzer, Libraries, and the NTFS file system

Start Application Development Today!

Model 8266 PC Development System for PCIe Onyx and Cobalt Boards

The Model 8266 resolves the typical hardware and software compatibility obstacles inherent in new PC development platforms. All hardware is installed in appropriate slots with proper cabling, power and cooling strategies, and optimized BIOS. For more information: pentek.com/go/pipe8266

Video Spotlight

View Virtex-6 Board Ideal for Multichannel Waveform Generation

Cobalt Model 78670
Quad 1.25 GHz, 16-bit D/A

Downloadable Segment & Product Catalogs


Analog & Digital I/O


Clock & Sync Generators


Radar & SDR I/O


Software & FPGA Tools


High-Speed Recorders


Onyx/Cobalt Catalog

Product Focus

Model RTX 2766

Eight-Channel RF/IF, 200 MS/sec Extreme Rackmount Recorder

Features

- Designed to meet MIL-STD- 810 shock and vibration
- Designed to meet EMC/EMI per MIL-STD-461 EMC
- Windows® 7 Professional workstation with high-performance Intel® Core™ i7 processor
- 200 MHz max. 16-bit A/D sampling for recording, up to to eight channels
- 800 MHz max. 16-bit D/A sampling for playback, up to eight channels
- Real-time aggregate recording rates up to 5.0 GB/sec
- Up to 30 terabytes of QuickPac SSD storage to NTFS RAID disk array

TALON RTX EXTREME RECORDER

SystemFlow

QuickPac Compatible

FREE Talon SystemFlow Simulator Download Now!

The Talon RTX 2766 is a turnkey, multiband record and playback system that is built to operate under harsh conditions. Designed to withstand high vibration and operating temperatures, the RTX 2766 is intended for military, airborne and UAV applications requiring a rugged system. With scalable A/Ds, D/As and SSD storage, the RTX 2766 can be configured to stream data to and from disk at rates as high as 5.0 GB/sec

The RTX 2766 uses Pentek's high-powered Virtex-6-based Cobalt® boards that provide flexibility in channel count, with optional digital downconversion capabilities. Optional 16-bit, 800 MHz D/A converters with digital upconversion allow real-time reproduction of recorded signals.

A/D sampling rates, DDC decimations and bandwidths, D/A sampling rates and DUC interpolations are among the GUI-selectable system parameters, providing a fully-programmable system capable of recording and reproducing a wide range of signals.

Optional GPS time and position stamping allows the user to record this critical signal information.

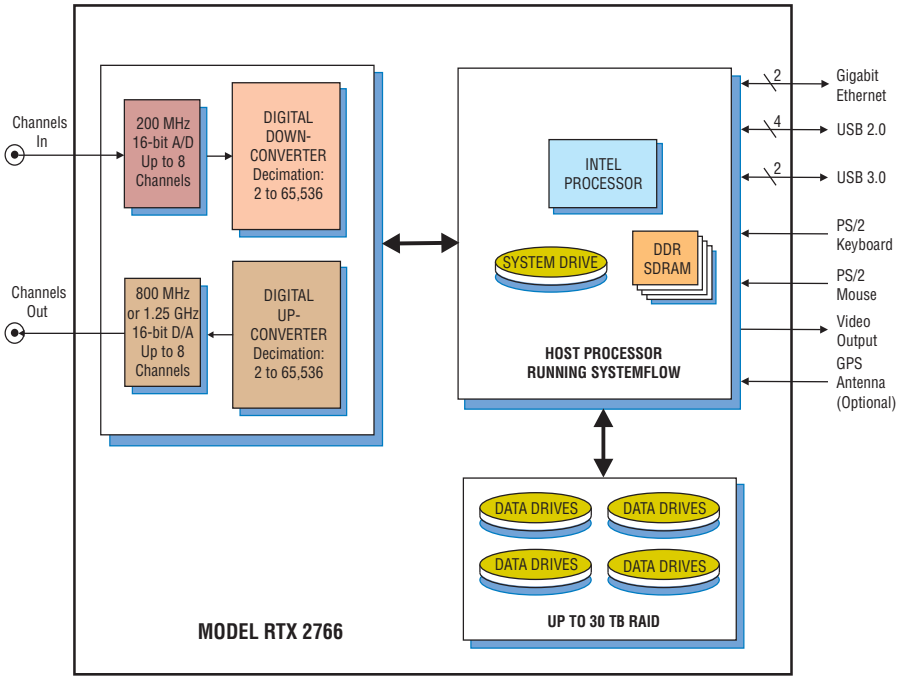
SystemFlow Software

The RTX 2766 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 spectrum analyzer.

Built on a Windows 7 Professional workstation, the RTX 2766 allows the user to install post-processing and analysis tools to operate on the recorded data. The RTX 2766 records data to the native NTFS file system, providing immediate access to the recorded data.



Rugged Mil-Spec Chassis

The Talon RTX 2766 uses a shock- and vibration-isolated inner chassis and solid-state drives to assure reliability under harsh conditions. The chassis uses an in-line EMI filter along with rear-panel MIL-style connectors to meet MIL-STD-461 emissions specifications.

Up to four front-panel removable QuickPac drive canisters are provided, each containing eight SSDs. Each drive canister can hold up to 7.6 TB of data storage and allows for quick and easy removal of mission-critical data.

Forced-air cooling draws air from the front of the chassis and pushes it out the back via exhaust fans. A hinged front door with a serviceable air filter provides protection against dust and sand.

For more information and a price quotation on the Model RTX 2766 go to:

pentek.com/go/pipe2766 ❑

Product Focus

Model RTX 2767

Four-Channel RF/IF, 500 MS/sec Extreme Rackmount Recorder

Features

- Designed to meet MIL-STD- 810 shock and vibration
- Designed to meet EMC/EMI per MIL-STD-461 EMC
- Windows 7 Professional workstation with high-performance Intel Core i7 processor
- 500 MHz 12-bit A/Ds or 400 MHz 14-bit A/Ds
- 800 MHz 16-bit D/As
- Real-time aggregate recording rates up to 5.0 GB/sec
- Up to 30 terabytes of QuickPac SSD storage to NTFS RAID disk array

TALON RTX EXTREME RECORDER

SystemFlow

QuickPac Compatible

FREE Talon SystemFlow Simulator Download Now!

The Talon RTX 2767 is a turnkey, multiband record and playback system that is built to operate under harsh conditions. Designed to withstand high vibration and operating temperatures, the RTX 2767 is intended for military, airborne and UAV applications requiring a rugged system. With scalable A/Ds, D/As and SSD storage, the RTX 2767 can be configured to stream data to and from disk at rates as high as 5.0 GB/sec

The RTX 2767 uses Pentek's high-powered Virtex-6-based Cobalt boards that provide flexibility in channel count, with optional digital downconversion capabilities. Optional 16-bit, 800 MHz D/A converters with digital upconversion allow real-time reproduction of recorded signals.

A/D sampling rates, DDC decimations and bandwidths, D/A sampling rates and DUC interpolations are among the GUI-selectable system parameters, providing a fully-programmable system capable of recording and reproducing a wide range of signals.

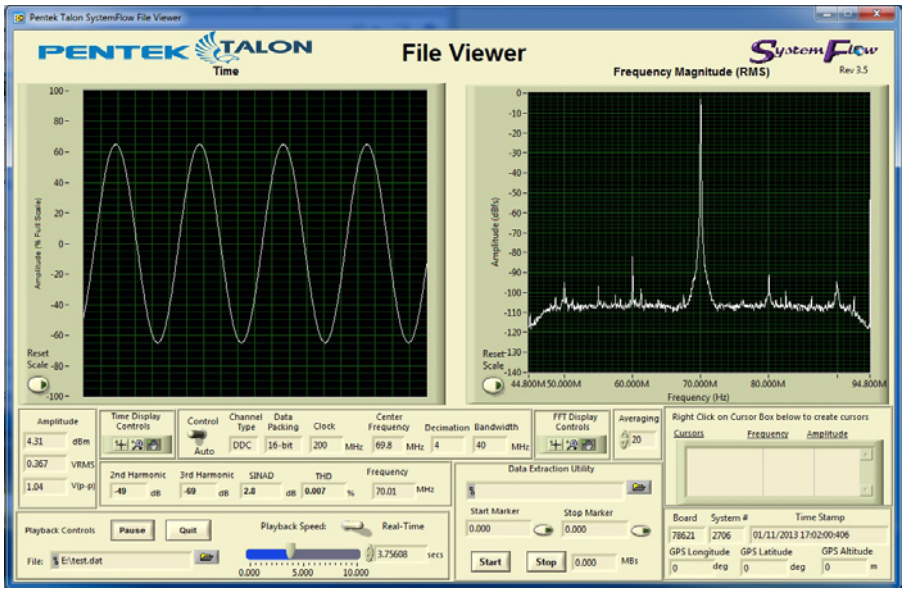
Optional GPS time and position stamping allows the user to record this critical signal information.

SystemFlow Software

The RTX 2767 includes the SystemFlow Recording Software. SystemFlow features a Windows-based GUI (Graphical User Interface) that provides a simple means to configure and control the recorder.

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 RTX 2767 allows the user to install post processing and analysis tools to operate on the recorded data. The RTX 2767 records data to the native NTFS file system, providing immediate access to the recorded data.

Data can be off-loaded via two rear-access gigabit Ethernet ports, two USB 3.0 ports or up to four USB 2.0 ports.

Rugged Mil-Spec Chassis

The Talon RTX 2767 uses a shock- and vibration-isolated inner chassis and solid-state drives to assure reliability under harsh conditions. The chassis uses an in-line EMI filter along with rear-panel MIL-style connectors to meet MIL-STD-461 emissions specifications.

Up to four front-panel removable QuickPac drive canisters are provided, each containing eight SSDs. Each drive canister can hold up to 7.6 TB of data storage and allows for quick and easy removal of mission-critical data.

Forced-air cooling draws air from the front of the chassis and pushes it out the back via exhaust fans. A hinged front door with a serviceable air filter provides protection against dust and sand.

For more information, full specifications, and a price quotation on the Model RTX 2767 go to:

pentek.com/go/pipe2767 ❑

Product Focus

Model RTX 2768

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

Features

- Designed to meet MIL-STD- 810 shock and vibration
- Designed to meet EMC/EMI per MIL-STD-461 EMC
- Windows 7 Professional workstation with high-performance Intel Core i7 processor
- 1 GHz 12-bit A/Ds
- 1 GHz 16-bit D/As
- Sampling frequencies to 1 GS/sec
- Real-time aggregate recording rates up to 5.0 GB/sec
- Up to 30 terabytes of QuickPac SSD storage to NTFS RAID disk array
- Optional GPS time and position stamping

TALON RTX EXTREME RECORDER

SystemFlow

QuickPac Compatible

FREE Talon SystemFlow Simulator Download Now!

The Talon RTX 2768 is a turnkey recording and playback system that is built to operate under harsh conditions. Designed to withstand high vibration and operating temperatures, the RTX 2768 is intended for military, airborne and UAV applications requiring a rugged system. With scalable A/Ds, D/As and SSD (Solid-State Drive) storage, the RTX 2768 can be configured to stream data to and from disk at rates as high as 5.0 GB/sec

The RTX 2768 uses Pentek's high-powered Virtex-6-based Cobalt boards that provide the data-streaming engine for the high-speed A/D and D/A converters. This system allows users to record and reproduce signals with sampling frequencies to 1 GS/sec.

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

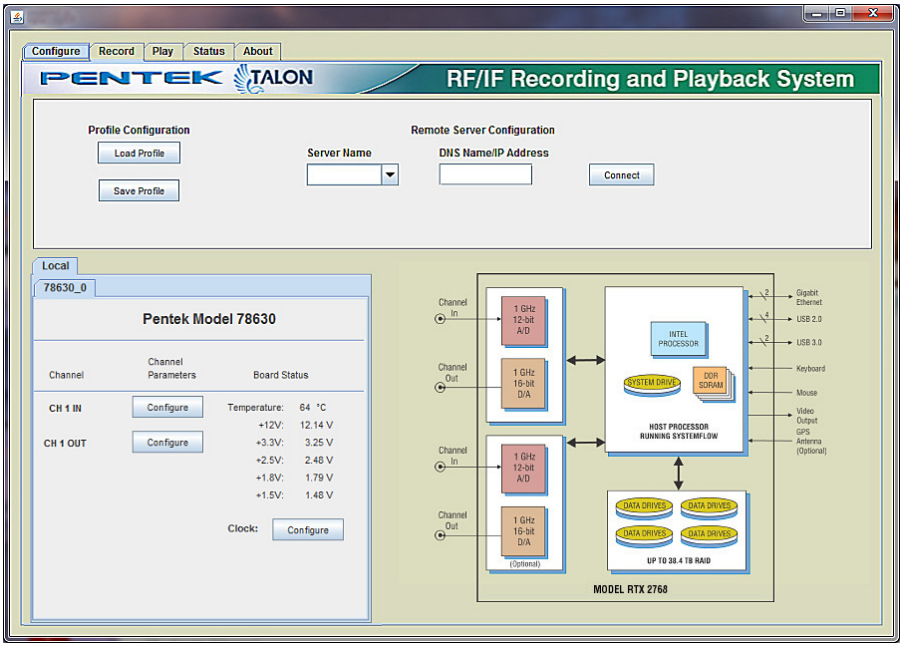
Optional GPS time and position stamping allows the user to record this critical signal information.

SystemFlow Software

The RTX 2768 includes the SystemFlow Recording Software. SystemFlow features a Windows-based GUI (Graphical User Interface) that provides a simple means to configure and control the recorder.

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 spectrum analyzer.



Built on a Windows 7 Professional workstation, the RTX 2768 allows the user to install post processing and analysis tools to operate on the recorded data. The RTX 2768 records data to the native NTFS file system, providing immediate access to the recorded data.

Data can be off-loaded via two rear-access gigabit Ethernet ports, two USB 3.0 ports or up to four USB 2.0 ports.

Rugged Mil-Spec Chassis

The Talon RTX 2768 uses a shock- and vibration-isolated inner chassis and solid-state drives to assure reliability under harsh conditions. The chassis uses an in-line EMI filter along with rear-panel MIL-style connectors to meet MIL-STD-461 emissions specifications.

Up to four front-panel removable QuickPac drive canisters are provided, each containing eight SSDs. Each drive canister can hold up to 7.6 TB of data storage and allows for quick and easy removal of mission-critical data.

Forced-air cooling draws air from the front of the chassis and pushes it out the back via exhaust fans. A hinged front door with a serviceable air filter provides protection against dust and sand.

For more information, specifications, and a price quotation on the Model RTX 2768 go to: pentek.com/go/pipe2768 ❑

Product Focus

Model RTX 2769

Ultra Wideband One- or Two-Channel RF/IF, 3.2 GS/sec Extreme Rackmount Recorder

Features

- Designed to meet MIL-STD- 810 shock and vibration
- Designed to meet EMC/EMI per MIL-STD-461 EMC
- Windows 7 Professional workstation with high-performance Intel Core i7 processor
- Sample rates up to 3.2 GHz in single-channel mode
- Sample rates up to 1.6 GHz in dual-channel mode
- 12-bit A/D, with 12- and 8-bit packing modes
- Real-time aggregate recording rates up to 5.0 GB/sec
- Up to 30 terabytes of QuickPac SSD storage to NTFS RAID disk array

TALON RTX EXTREME RECORDER

SystemFlow

QuickPac Compatible

FREE Talon SystemFlow Simulator Download Now!

The Talon RTX 2769 is a turnkey system that is built to operate under harsh conditions. Designed to withstand high vibration and operating temperatures, the RTX 2769 is intended for military, airborne and UAV applications requiring a rugged system.

Aimed at recording high-bandwidth signals, the RTX 2769 uses a 12-bit, 3.6 GHz A/D converter and can provide sustained recording rates up to 5 GB/sec. It can be configured as a one- or two-channel system and can record sampled data, packed as 8-bit- or 16-bit-wide consecutive samples (12-bit digitized samples residing in the 12 MSBs of the 16-bit word.)

The RTX 2769 uses Pentek's high-powered Virtex-6-based Cobalt boards that provide the data streaming engine for the high-speed A/D converter. Channel and packing modes as well as gate and trigger settings are among the GUI-selectable system parameters, providing complete control over this ultra-wideband recording system.

Optional GPS time and position stamping allows the user to capture this critical information in the header of each data file.

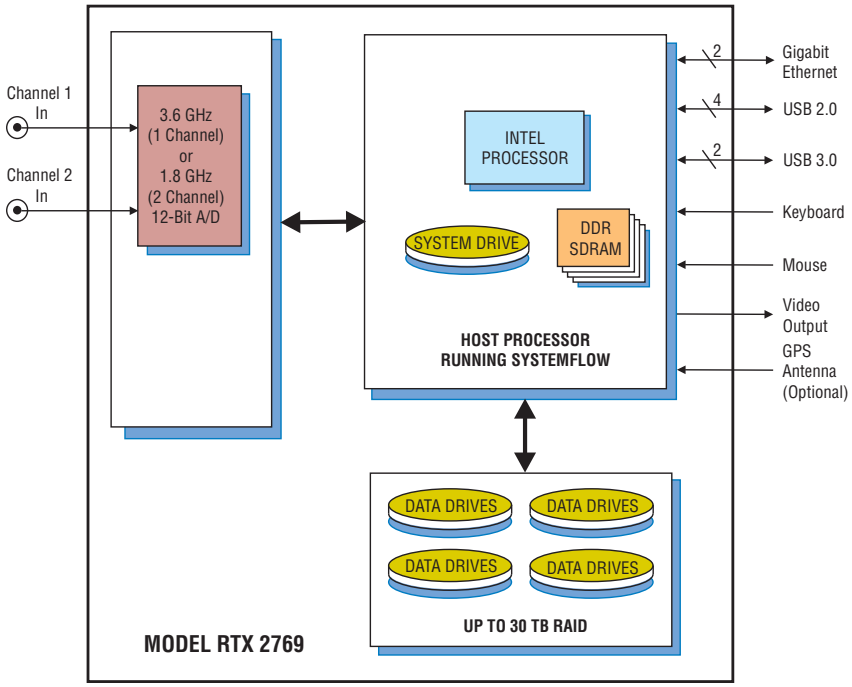
SystemFlow Software

The RTX 2769 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 spectrum analyzer.

Built on a Windows 7 Professional workstation, the RTX 2769 allows the user to install post-processing and analysis tools to operate on the recorded data. The RTX 2769 records data to the native NTFS file system that provides immediate access to the recorded data.



Rugged Mil-Spec Chassis

The Talon RTX 2769 uses a shock- and vibration-isolated inner chassis and solid-state drives to assure reliability under harsh conditions. The chassis uses an in-line EMI filter along with rear-panel MIL-style connectors to meet MIL-STD-461 emissions specifications.

Up to four front-panel removable QuickPac drive canisters are provided, each containing eight SSDs. Each drive canister can hold up to 7.6 TB of data storage and allows for quick and easy removal of mission-critical data.

Forced-air cooling draws air from the front of the chassis and pushes it out the back via exhaust fans. A hinged front door with a serviceable air filter provides protection against dust and sand.

For more information and a price quotation on the Model RTX 2769 go to:

pentek.com/go/pipe2769 ❑

Product Focus

Model RTX 2775

Two-Channel 10-Gigabit Ethernet Extreme Rackmount Recorder

Features

- Designed to meet MIL-STD- 810 shock and vibration
- Designed to meet EMC/EMI per MIL-STD-461 EMC
- Windows 7 Professional workstation with high-performance Intel Core i7 processor
- Records 10-gigabit Ethernet streams
- One or two channels
- TCP and UDP protocols
- Copper or optical 10 GbE interfaces
- Real-time aggregate recording rates up to 5.0 GB/sec
- Up to 30 terabytes of QuickPac SSD storage to NTFS RAID disk array

TALON RTX EXTREME RECORDER

SystemFlow

QuickPac Compatible

FREE Talon SystemFlow Simulator Download Now!

The Talon RTX 2775 is a turnkey record and playback system that is built to operate under harsh conditions. Designed to withstand high vibration and operating temperatures, the RTX 2775 is intended for military, airborne and UAV applications requiring a rugged system.

The RTX 2775 records one or two 10-gigabit Ethernet (10 GbE) 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 5 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 10-GbE interfaces.

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

SystemFlow Software

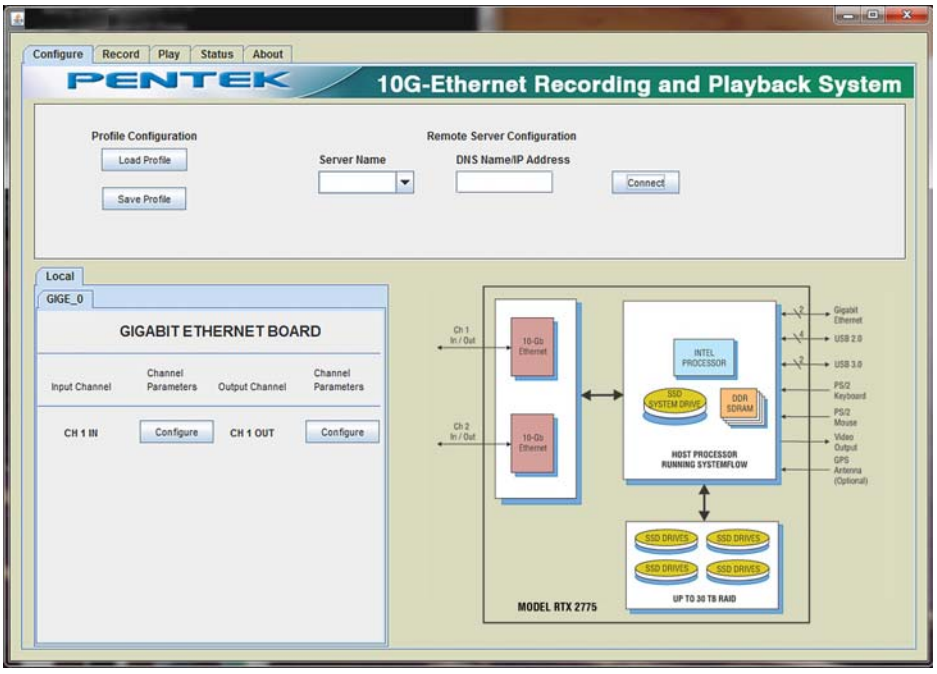
The RTX 2775 includes the SystemFlow Recording Software. SystemFlow features a Windows-based GUI (Graphical User Interface) that provides a simple and intuitive means to configure and control the system.

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 RTX 2775 allows the user to install post-processing and analysis tools to operate on the recorded data.

The RTX 2775 records data to the native NTFS file system, providing immediate access to the recorded data.

Data can be off-loaded via two rear-access gigabit Ethernet ports, two USB 3.0 ports or up to four USB 2.0 ports.



Rugged Mil-Spec Chassis

The Talon RTX 2775 uses a shock- and vibration-isolated inner chassis and solid-state drives to assure reliability under harsh conditions. The chassis uses an in-line EMI filter along with rear-panel MIL-style connectors to meet MIL-STD-461 emissions specifications.

Up to four front-panel removable QuickPac drive canisters are provided, each containing eight SSDs. Each drive canister can hold up to 7.6 TB of data storage and allows for quick and easy removal of mission-critical data.

Forced-air cooling draws air from the front of the chassis and pushes it out the back via exhaust fans. A hinged front door with a serviceable air filter provides protection against dust and sand.

For more information and a price quotation on the Model RTX 2775 go to:

pentek.com/go/pipe2775 ❑

Product Focus

Model RTX 2776

Eight-Channel Serial FPDP Extreme Rackmount Recorder

Features

- Designed to meet MIL-STD- 810 shock and vibration
- Designed to meet EMC/EMI per MIL-STD-461 EMC
- Windows 7 Professional workstation with high-performance Intel Core i7 processor
- Four or eight channels
- Copper, single-mode and multi-mode fiber interfaces available
- Supports 1.0625, 2.125, 2.5, 3.125 and 4.25 GBaud link rates
- Real-time aggregate recording rates up to 5.0 GB/sec
- Up to 30 terabytes of QuickPac SSD storage to NTFS RAID disk array

TALON RTX EXTREME RECORDER

SystemFlow

QuickPac Compatible

FREE Talon SystemFlow Simulator Download Now!

The Talon RTX 2776 is a turnkey record and playback system that is built to operate under harsh conditions. Designed to withstand high vibration and operating temperatures, the RTX 2776 is intended for military, airborne and UAV applications requiring a rugged system.

The Talon RTX 2776 is a recording system capable of recording and playing back multiple serial FPDP data streams. 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 5 GB/sec.

The RTX 2776 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.

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

SystemFlow Software

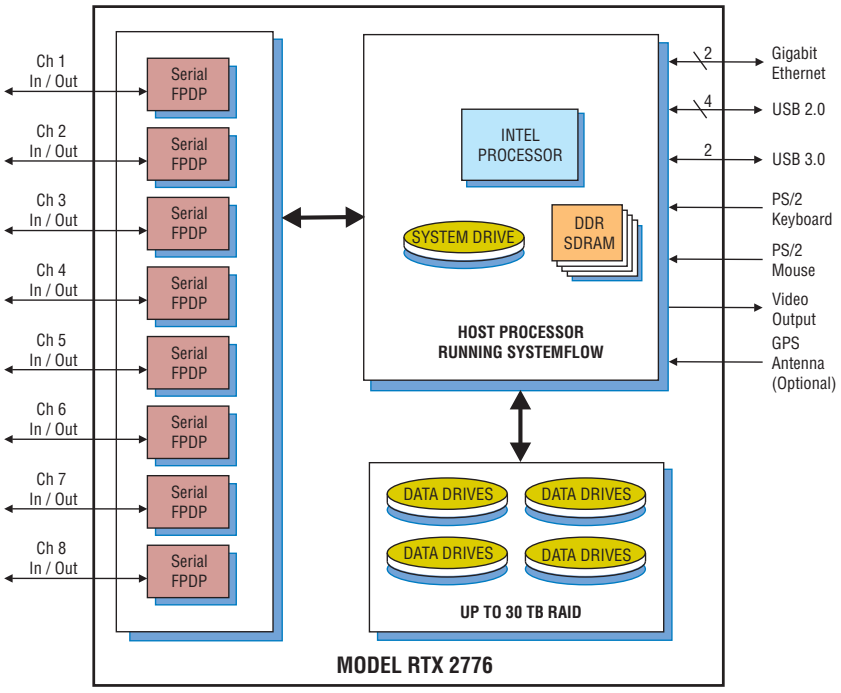
The RTX 2776 includes the SystemFlow Recording Software. SystemFlow features a Windows-based GUI (Graphical User Interface) that provides a simple and intuitive means to configure and control the system.

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 RTX 2776 allows the user to install post-processing and analysis tools to operate on the recorded data.

The RTX 2776 records data to the native NTFS file system, providing immediate access to the recorded data.

Data can be off-loaded via two rear-access gigabit Ethernet ports, two USB 3.0 ports or up to four USB 2.0 ports.



Rugged Mil-Spec Chassis

The Talon RTX 2776 uses a shock- and vibration-isolated inner chassis and solid-state drives to assure reliability under harsh conditions. The chassis uses an in-line EMI filter along with rear-panel MIL-style connectors to meet MIL-STD-461 emissions specifications.

Up to four front-panel removable QuickPac drive canisters are provided, each containing eight SSDs. Each drive canister can hold up to 7.6 TB of data storage and allows for quick and easy removal of mission-critical data.

Forced-air cooling draws air from the front of the chassis and pushes it out the back via exhaust fans. A hinged front door with a serviceable air filter provides protection against dust and sand.

For more information, specifications and a price quotation on the Model RTX 2776 go to: pentek.com/go/pipe2776 ❑

Product Focus

Model RTX 2778

LVDS Digital I/O Extreme Rackmount Recorder

Features

- Designed to meet MIL-STD- 810 shock and vibration
- Designed to meet EMC/EMI per MIL-STD-461 EMC
- Windows 7 Professional workstation with high-performance Intel Core i7 processor
- 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 5.0 GB/sec
- Up to 30 terabytes of QuickPac SSD storage to NTFS RAID disk array
- Optional playback mode

TALON RTX EXTREME RECORDER

SystemFlow

QuickPac Compatible

FREE Talon SystemFlow Simulator Download Now!

The Talon RTX 2778 is a turnkey record and playback system that is built to operate under harsh conditions. Designed to withstand high vibration and operating temperatures, the RTX 2778 is intended for military, airborne and UAV applications requiring a rugged system.

The RTX 2778 records and plays back digital data using the Pentek Model 78610 LVDS digital I/O board. Using highly optimized disk storage technology, the system achieves aggregate recording rates of up to 5 GB/sec.

The RTX 2778 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 RTX 2778 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 RTX 2778 allows the user to install post-processing and analysis tools to operate on the recorded data.

The RTX 2778 records data to the native NTFS file system, providing immediate access to the recorded data.

Data can be off-loaded via two rear-access gigabit Ethernet ports, two USB 3.0 ports or up to four USB 2.0 ports.

Rugged Mil-Spec Chassis

The Talon RTX 2778 uses a shock- and vibration-isolated inner chassis and solid-state drives to assure reliability under harsh conditions. The chassis uses an in-line EMI filter along with rear-panel MIL-style connectors to meet MIL-STD-461 emissions specifications.

Up to four front-panel removable QuickPac drive canisters are provided, each containing eight SSDs. Each drive canister can hold up to 7.6 TB of data storage and allows for quick and easy removal of mission-critical data.

Forced-air cooling draws air from the front of the chassis and pushes it out the back via exhaust fans. A hinged front door with a serviceable air filter provides protection against dust and sand.

For more information, full specifications and a price quotation on the Model RTX 2778 go to:

pentek.com/go/pipe2778 ❑