New!

Model RTR 2728

1 GS/sec RF/IF Rugged Portable Recorder

TALON RTR RUGGED RECORDER

SystemFlow

Features

- Portable system measuring 16.9" W x 9.5" D x 13.4" H
- Lightweight: approximately 30 pounds
- Rugged aluminum alloy chassis
- Shock- and vibration-resistant SSDs perform well in vehicles, ships and aircraft
- 1 GHz 12-bit A/D
- 1 GHz 16-bit D/A
- 400 MHz recording and playback signal bandwidths
- Recording of IF signals up to 2 GHz
- Real-time aggregate recording rates up to 2.4 GB/sec
- Up to 7.6 TB storage with hot-swappable SSD drives
- NTFS file format
- Complete high-performance Windows® workstation with Intel® Core™ i7 processor
- SystemFlow® GUI with Signal Viewer analysis tool
- File headers include time stamping and recording parameters
- Ideal for communications, radar, wireless, SIGINT, telecom and satcom
- Optional GPS time and position stamping

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

General Information

The Talon® RTR 2728 is a turnkey, multi-band recording and playback system that allows the user to record and reproduce high-bandwidth signals with a lightweight, portable and rugged package. The RTR 2728 provides recording rates of up to 2.4 GB/sec and is ideal for the user who requires portability and solid performance in a compact recording system.

The RTR 2728 is supplied in a small foot-print portable package measuring only 16.9" W x 9.5" D x 13.4" H and weighing just 30 pounds. With measurements similar to a small briefcase, this portable workstation includes an Intel Core i7 processor a high-resolution 17" LCD monitor, and a high-performance SATA RAID controller.

At the heart of the RTR 2728 are Pentek Cobalt® Series Virtex-6 software radio boards featuring A/D and D/A converters. This architecture allows the system engineer to take full advantage of the latest technology in a turnkey system.

GPS time and position stamping is optionally available.

SystemFlow Software

Included in this system is the Pentek 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 a virtual spectrum analyzer.

Built on a Windows 7 Professional workstation, the RTR 2728 allows the user to install post-processing and analysis tools to operate on the recorded data. The RTR 2728 records data to the native NTFS file format, providing immediate access to the recorded data.

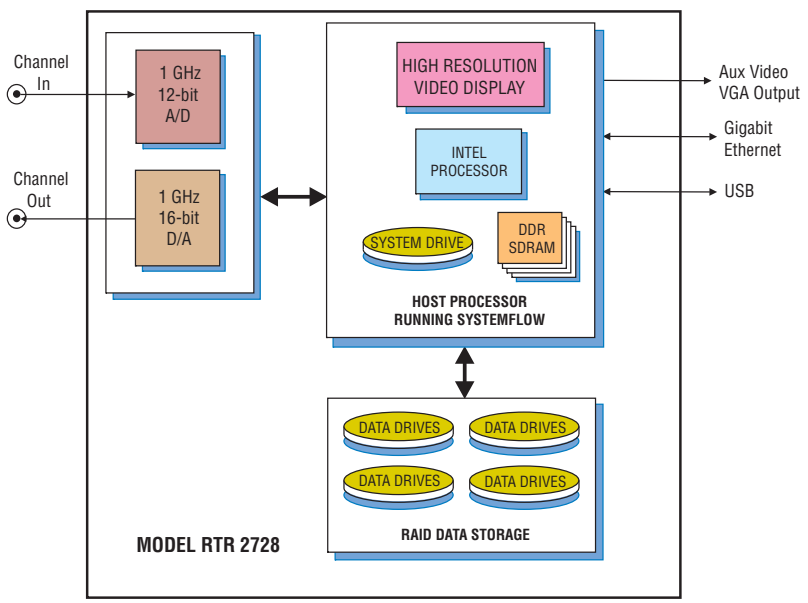
Data can be off-loaded through two 1 Gb Ethernet ports, eight USB 2.0 ports or two eSATA ports. Additionally, data can be copied to optical disk, using the 8X double layer DVD±R/RW drive.

Rugged & Flexible Architecture

The RTR 2728 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 2728 is designed to operate reliably 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. ➤



PENTEK

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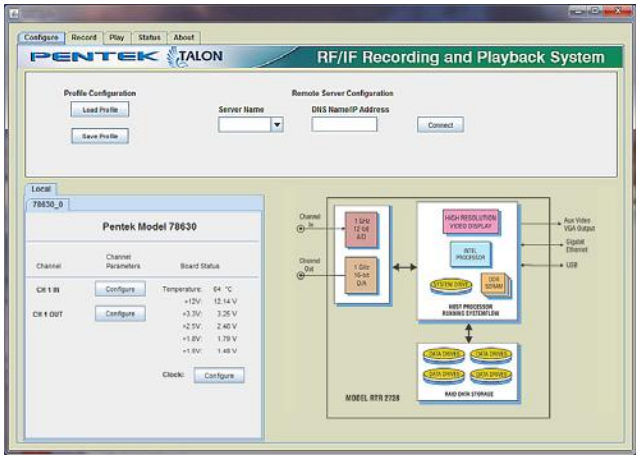
➤ SystemView Graphical User Interface

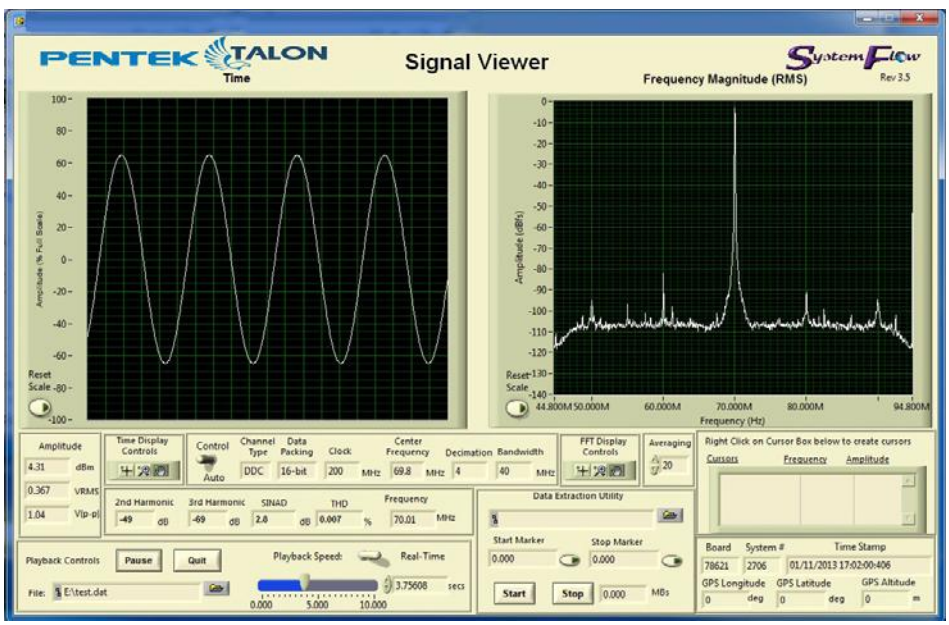


SystemFlow Recorder Interface

The RTR 2728 GUI provides the user with a control interface for the recording system. It includes Configuration, Record, Playback and Status screens, each with intuitive controls and indicators. The user can easily move between screens to set configuration parameters, control and monitor a recording, play back a recorded signal and monitor board temperature and voltage levels. The signal viewer, integrated into the recording GUI, allows the user to monitor real-time signals or recorded signals on disk.

SystemFlow Hardware Configuration Interface

The RTR 2728's Configure screens provide a simple and intuitive means for setting up the system parameters. The ADC configuration screen shown here, allows user entries for gate/trigger mode, gate/trigger polarity, and sync source. All parameters contain limit-checking and integrated help to provide an easier-to-use out-of-the-box experience.



SystemFlow 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. This 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. ➤

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Specifications

PC Workstation (standard configuration)

Operating System: 64-bit Windows 7 Professional
Processor: Intel Core i7 processor
Clock Speed: 3.0 GHz or higher
Operating System Drive: 128 GB SSD
SDRAM: 8 GB
Monitor: Built-in 17" high-resolution LCD
1440 x 900 pixels, 200 nits
RAID
- **Total 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 on left side, two on front panel
USB 3.0 Ports: Two on left side
1 Gb Ethernet Port: Two on left side
eSATA 3 Ports: Two on left side
Aux Video Output: 15-pin VGA on left side

Analog Recording Inputs

Analog Signal Inputs
- **Quantity:** 1
- **Input Type:** Transformer-coupled, female SSMC connector
- **Transformer Type:** Macom ETC1-1-13TR
- **Full Scale Input:** +10 dBm into 50 ohms
- **3 dB Passband:** 5 MHz to 2 GHz

A/D Converter
- **Type:** Texas Instruments ADS5400
- **Sampling Rate (f_s):** 100 MHz to 1 GHz
- **Resolution:** 12 bits
- **A/D Record Bandwidth:** $f_s/2$ = Nyquist bandwidth
- **Anti-Aliasing Filters:** External, user-supplied

Analog Playback Output

Analog Signal Outputs
- **Quantity:** 1
- **Output Type:** Transformer-coupled, female SSMC connector1
- **Full Scale Output:** +4 dBm into 50 ohms
- **3 dB Passband:** 300 kHz to 700 MHz

D/A Converter
- **Type:** TI DAC5681Z
- **Interpolation:** 1x, 2x or 4x
- **Input Data Rate to DAC5681Z:** 500 MS/sec max.
- **Output Sampling Rate:** 1 GHz, max.
- **Output IF:** 700 MHz, max.
- **D/A Resolution:** 16 bits

Clock Sources: Selectable from onboard programmable VCXO or external clock
External Clock
- **Type:** Female SSMC connector, sine wave, 0 to +10 dBm, AC-coupled, 50 ohms, accepts 100 MHz to 1 GHz input clock or 10 MHz system reference

Internal Clock
- **Type:** Progammable VCXO
- **VCXO Frequency Ranges:** 100 to 945 MHz, 970 MHz to 1 GHz

Physical and Environmental

Dimensions: 16.9" W x 9.5" D x 13.4" H
Weight: 30 lb, approximately
Power: 90 to 265 VAC, 50 - 60 Hz
Operating Temp: 5° to +45° 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 2728 Ordering Information and Options

Channel Configurations

Option -201	1-channel recording
Option -202	2-channel recording
Option -221	1-channel playback
Option -222	2-channel playback

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

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 subject to change without notice

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