TALON
RTX EXTREME RECORDER

SystemFlow

Features

- 1/2 ATR short form factor measuring just 7.62" H x 4.88" W x 12.52" L
- Approximately 25 lbs
- Serial FPDP recording and playback system
- 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
- Single-mode and multi-mode fiber interfaces available
- Real-time sustained recording rates of better than 1600 MB/s
- 15.3 TB of SSD storage to NTFS RAID disk array
- RAID levels 0, 5 and 6 available
- GPS time and position stamping
- Designed to MIL-STD-810F for shock and vibration
- Designed to MIL-STD-461F for conducted and radiated emissions
- SystemFlow GUI with signal viewer analysis tools for immediate use
- C-callable API for easy integration

General Information

The Talon RTX 2796A is a small form factor, rugged recorder that is capable of recording and playing back four serial FPDP data streams. The recorder 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 of better than 1600 MB/sec with capacity to record continuously in real-time for several hours

Storage is easily removable in the form of a Talon QuickPac™, allowing the user to remove the drive array from a fielded system in seconds. GPS time and position stamping information is optionally recorded with the serial FPDP signal data.

The RTX 2795A 1/2 ATR short form factor chassis measures just 7.62" H x 4.88" W x 12.52" L and weighs approximately 25 lb. It uses conduction cooling to transfer heat to the chassis' outer surface and provides the ability to mount the RTX 2796A to a cold plate. The fanless operation allows the system to operate at altitudes up to 65,000 feet.

The RTX 2796A offers an optional outer fin and fan assembly that allows the conduction cooled unit to operate in a laboratory environment by pushing air across the chassis. The system provides D38999 connectors for power and I/O that includes serial FPDP, GPS, USB, gigabit Ethernet and video.

The RTX 2796A features military specifications for shock, vibration, temperature, humidity, conducted and radiated emissions as well as sand and dust. It is designed for use in UAVs, aircraft pods and ground vehicles. Optimized for size, weight and power, the 24V DC power supply draws less than 90W idle and approximately 125W peak.

The RTX 2796A includes a graphical user interface for quick and simple out-of-the-box operation. It also includes a user API (Application Programming Interface) to easily integrate the system into the user's application.

SystemFlow Software

The RTX 2796A 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 2796A allows the user to install post-processing and analysis tools to operate on the recorded data. The RTX 2796A records data to the native NTFS file system, providing immediate access to the recorded data.

MODEL RTX 2796A
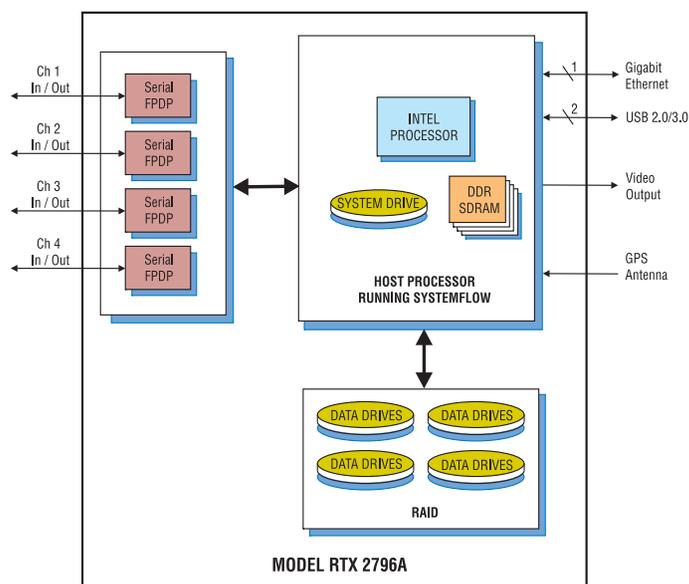
▶ SystemFlow Graphical User Interface
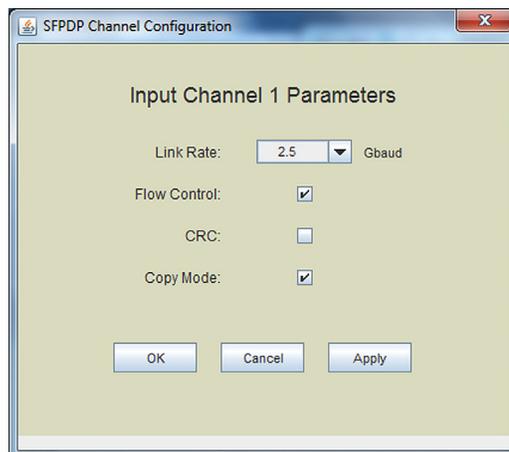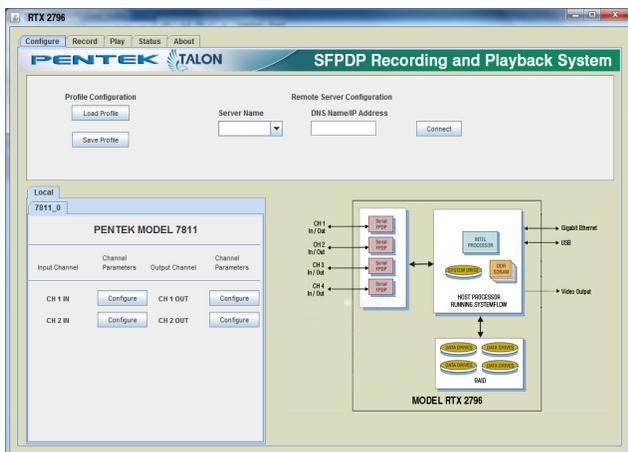
### SystemFlow Graphical User Interface

The RTX 2796A 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, and play back a recorded stream.

All parameters contain limit-checking and integrated help to provide an easier-to-use out-of-the-box experience.

SystemFlow Hardware Configuration Interface

The RTX 2796A configuration screens provides control for operational system parameters. These 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 SFPDP's copy/loop mode.
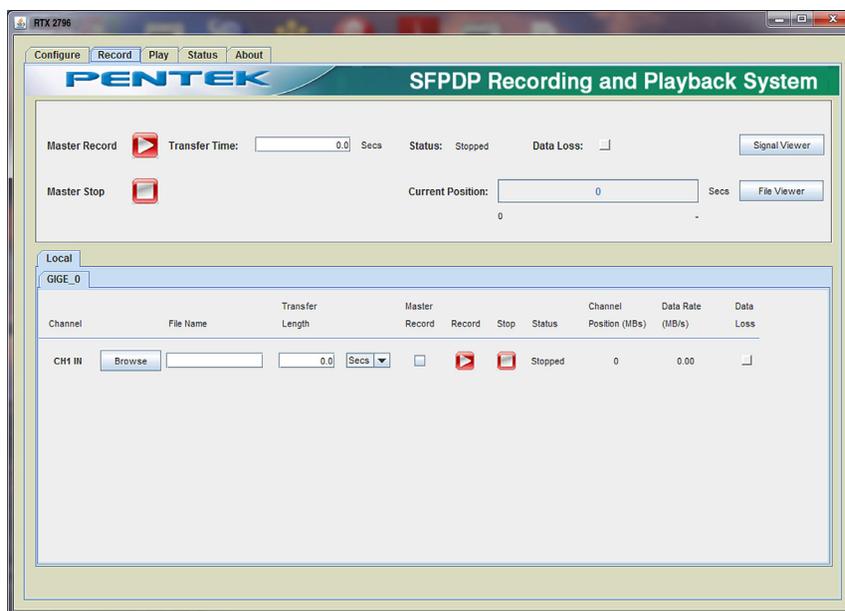
SystemFlow Recording Interface

The SystemFlow Recording Interface 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.. ▶

➤ Specifications

PC Workstation (standard configuration)
Operating System: Windows 7 Professional
Processor: Intel Core i3 processor
SDRAM: 16 GB
I/O Connections
    Connectors: D38999 circular
    Ethernet: 1 GbE
    USB: Two USB 2.0/3.0
    Video: HDMI
    Switch: Power, Reset
RAID
    Storage: Up to 15.3 TB
    Storage Type: Eight SSDs in a removeable QuickPac canister

Serial FPDP Interface
Multi-mode Fiber Optical - Option 281
    Cable: Multi-mode fiber, 850 nm
    Connector Type: D38999 circular
    Max. Cable Length: Up to 300 m

Single-mode Fiber Optical - Option 282
    Cable: Single-mode fiber
    Connector Type: D38999 circular
    Max. Cable Length: Up to 10 km

Physical
Form Factor: 1/2 ATR short
Dimensions: 7.62" H x 4.88" W x 12.52" L
Weight: Approximately 25 lb

Environmental
Vibration: MIL-STD-810F Method 514.5
Shock: MIL-STD-810F Method 516.5
EMI/EMC: MIL-STD-461F- CE101, CD102, CS101, RE101, RE102, and RS101
Sand and Dust: MIL-STD-810F Method 510
Operating Temp: -20° to +50° C
Altitude: 65,000 feet

Cooling Options
Conduction Cooled: Conduction to cold plate
Air Cooled: Conduction to outer fin and fan assembly for forced air cooling

Power Requirements
Voltage: 6 to 28 VDC (optimized for 24V)
Consumption: 90 Watts Idle, approximately 125 Watts Max