
NETWORK RECORDERS

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Network Records

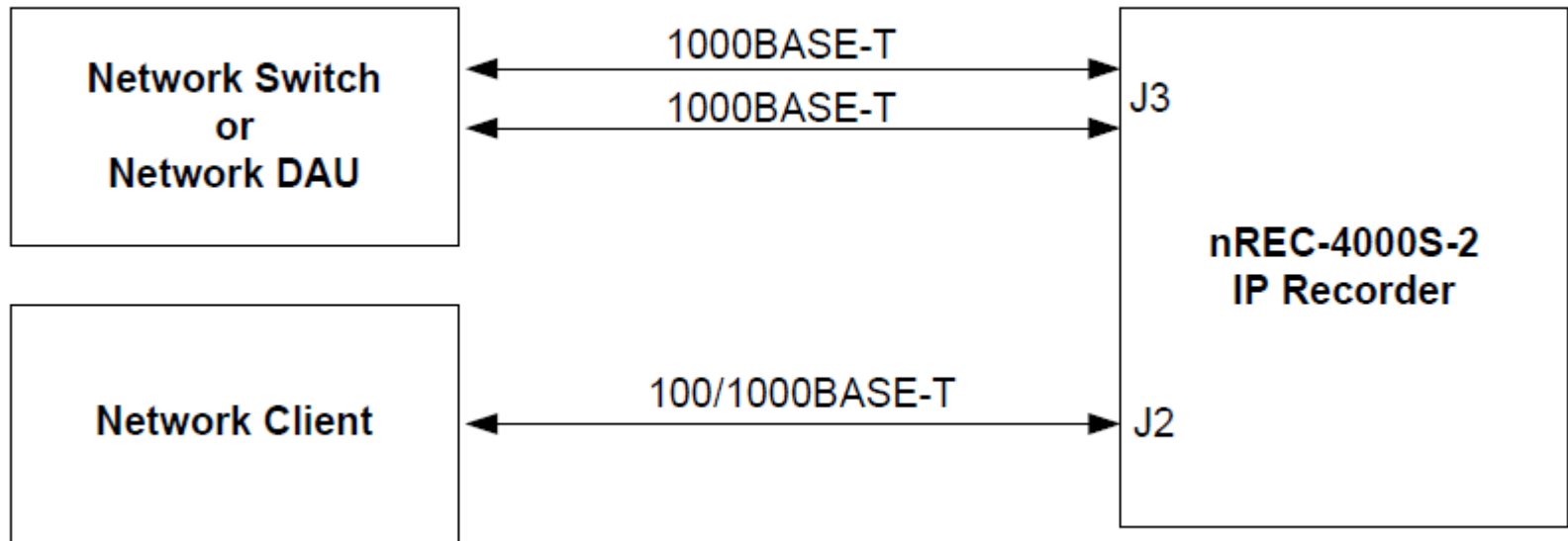
- **TTC offers three different Gigabit network recorders**
- **These recorders are designed to record TTC's native DARv3 format**
 - Offer a variety of other recording formats

nREC-4000S-2 Features

- **The nREC-4000S-2 is a network recorder with three Ethernet ports**
 - Two 100/1000BASE-T Ethernet ports that record digital data at up to 200 MBps.
 - One 100/1000BASE-T Ethernet port for dynamic management through network
- **Supports IEEE 1588 time**
- **50ms power hold-up feature for power interruptions**
- **IRIG AC/DC Time Input / Outputs**
- **Recorder Control & Status via**
 - Discrete I/O
 - RS-232/422
 - Ethernet Port
 - Optional Data Transfer Unit (DTU-4500S-2)

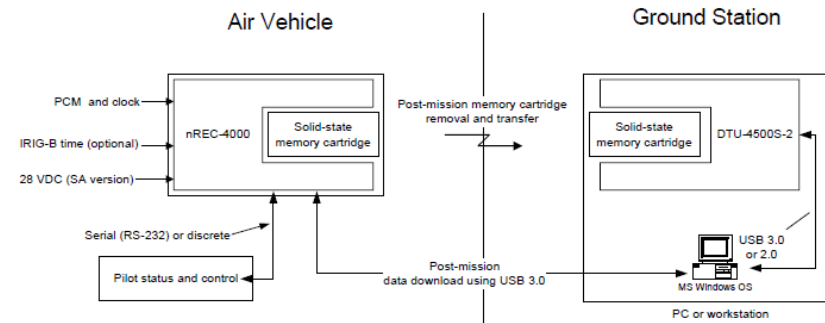


Interface Diagram



Data Transfer Unit - DTU-4500S-2

- **Supports the following media:**
 - RMM-4128-SS-1:128 GB SATA SSD
 - RMM-4256-SS-1:256 GB SATA SSD
 - RMM-4128-SSE-1: 128 GB SATA SSD with Secure Erase
- **Compatible with both USB 3.0 and 2.0**
- **Allows data transfer up to 100+ MBps**



nREC-6000 – Network Recorder

- **Up to 200 Mbytes/sec recording rate**
 - Two Gigabit Ethernet interfaces for data
- **Integrates up to 8 drives**
 - Single cartridge unit supports writing to one or more drive concurrently
 - Capacity up to 1 Terabyte (using 128 GB drives)
- **Support for RAID level 0**
- **Supports IEEE-1588 Precision Time Protocol**
- **Accepts IRIG-B AC / DC Time**
- **Provides four Discrete Inputs (GPI) and four Discrete Outputs (GPO) for Recorder Control & Status**
- **Recorder Control & Status via**
 - Discrete I/O
 - RS-232/422
 - Ethernet Port



nREC-6000
4.88" H x 7.5" W x 9.58" D
Weight – 20 lbs



MSA-XXXS-1

nREC-6000 – Network Recorder

- **Three Ethernet ports (Eth0, Eth1, Eth2)**
 - One management interface port and two data recording ports
 - Programming port must be on the same subnet IP as the source
- **Supports Simple Network Management Protocol (SNMP)**
- **Supports XML-based configuration**
- **Supports multiple packet-based recording formats**
- **Provides powerful filtering features:**
 - Filters incoming packets based on IP address and MAC address.

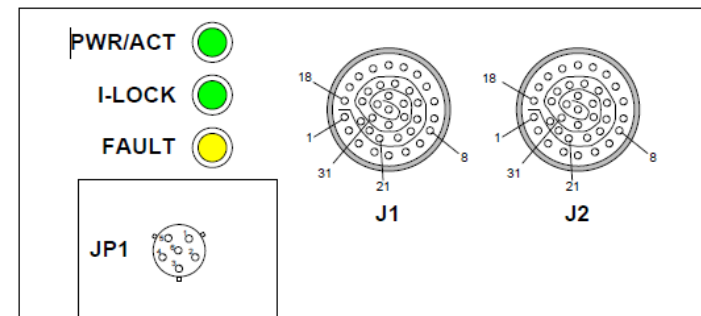


Figure 4 nREC-6000 connectors

nREC Recorded File Type

- **Darv3 - TTC proprietary file format that is optimized for storing Ethernet packets**
 - Preferred format for Ethernet packets
- **PCAP- Basic format used to save captured network data.**
 - Standard format used by many network analyzers

ADSR-4003X-X – Advanced Data Server & Recorder

- Multi-function platform created by Teletronics to provide a low-cost device capable of fulfilling multiple roles for the customer.
- Ruggedized for airborne applications
- Compatible with network-based acquisition systems (DAR Recorder)



ADSR-4003F-X

Size: 8.32" L x 6.00" W x 3.24" H



DTD-XXXX

Size: 3.99" L x 1.66" W x 0.77" H

ADSR-4003X-X – Applications

- **Mission or Map File Server**
- **Airborne Network IP Packet Recorder**
- **High-Definition Video Recorder**
- **Instrumentation Data Recorder**



ADSR-4003X-X – Advanced Data Server & Recorder

- **High-speed data recording, up to 200 MBps**
- **Two Gigabit Ethernet Interfaces**
- **Supports IEEE-1588 Protocol and IRIG-B time**
- **Three removable solid-state memory modules (DTDs)**
- **Data Download**
 - via one of the Gigabit Ethernet ports,
 - Optional Data Transfer Unit (DTU-2000)
 - via FTP
- **Provides a RS-232/422 which can be used for diagnosis, maintenance and configuration**
- **Future plans to include other acquisition cards such as**
 - MIL-STD-1553
 - ARINC-429

ADSR Mounting

- **ADSR-4003X** comes in two mounting styles

Flange Mounting
ADSR-4003F



8" L x 6" W x 3" H

DZUS Mounting
ADSR-4003Z

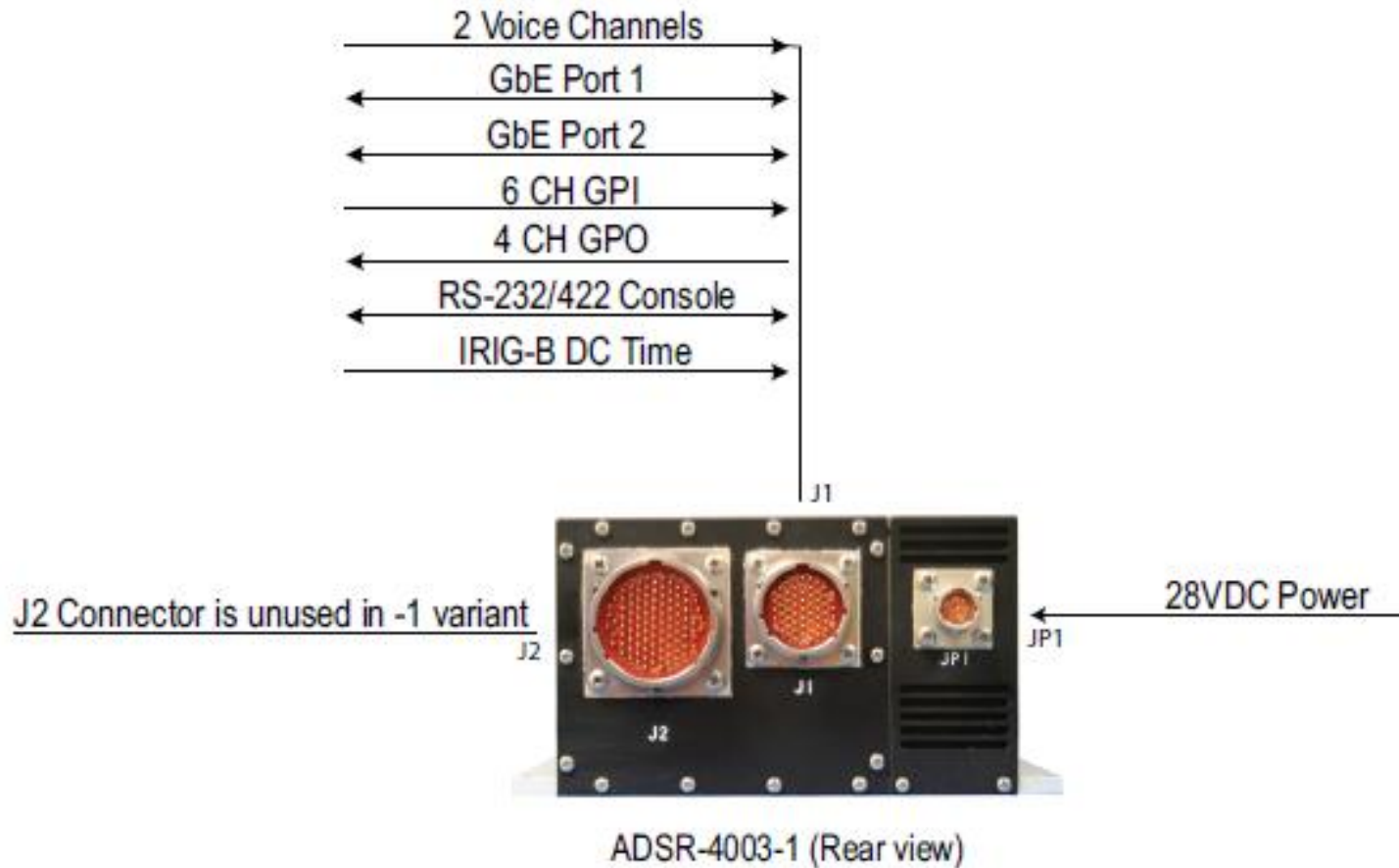


8" L x 5" W x 3" H

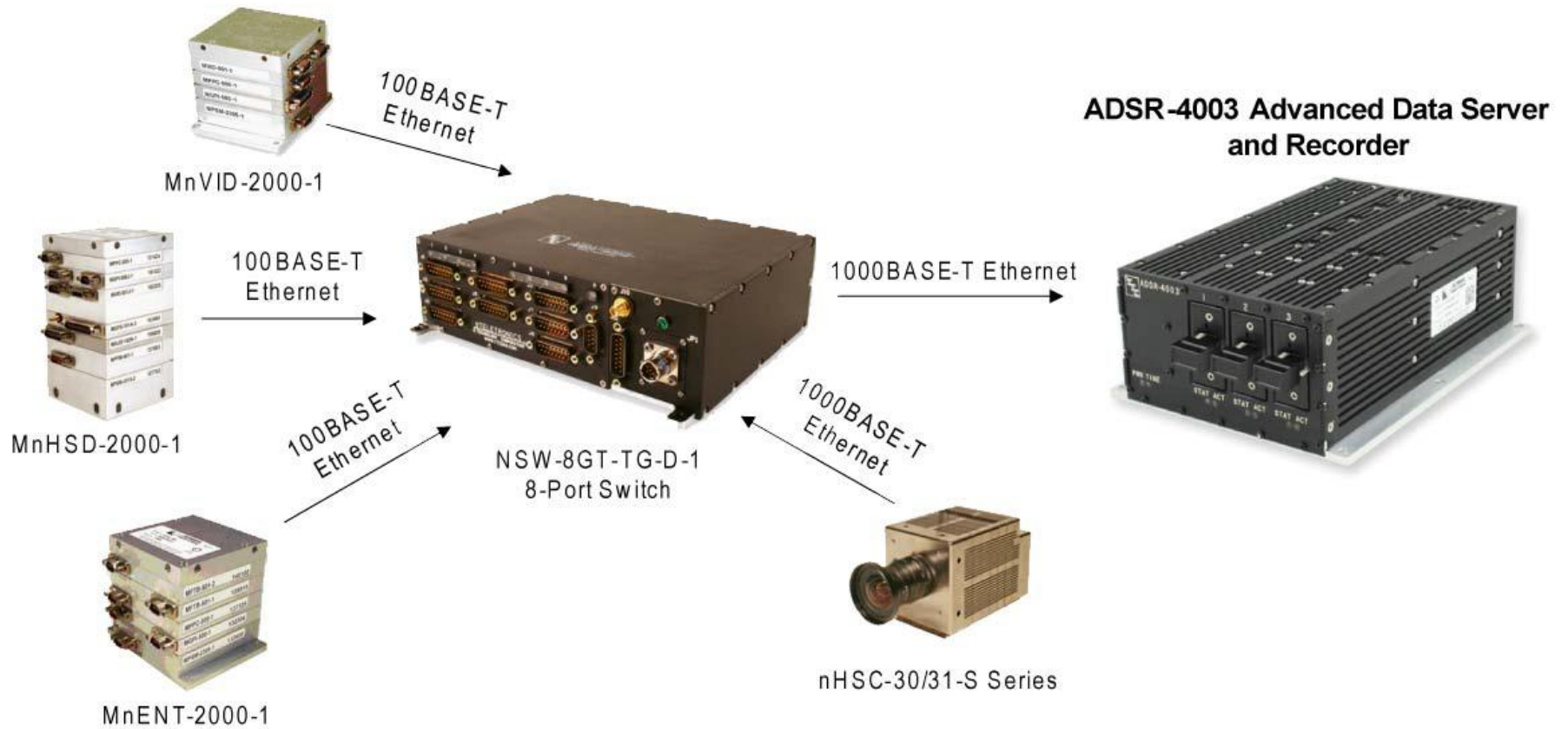
ADSR-4003

- **ADSR-4003 comes in a variety of forms**
- **ADSR-4003X-1**
 - Gigabit Ethernet recorder (2 1000 Base-T Ethernet ports)
- **ADSR-4003X-2**
 - Gigabit Ethernet recorder (2 1000 Base-T Ethernet ports)
 - Internal VID-401S-1 video card which accepts 4 HD-SDI video inputs
- **ADSR-4003X-3**
 - Gigabit Ethernet recorder (2 1000 Base-T Ethernet ports)
 - Internal VID-401D-1 video card which accepts 4 DVI/HDMI, CVBS, S-Video, VGA video inputs

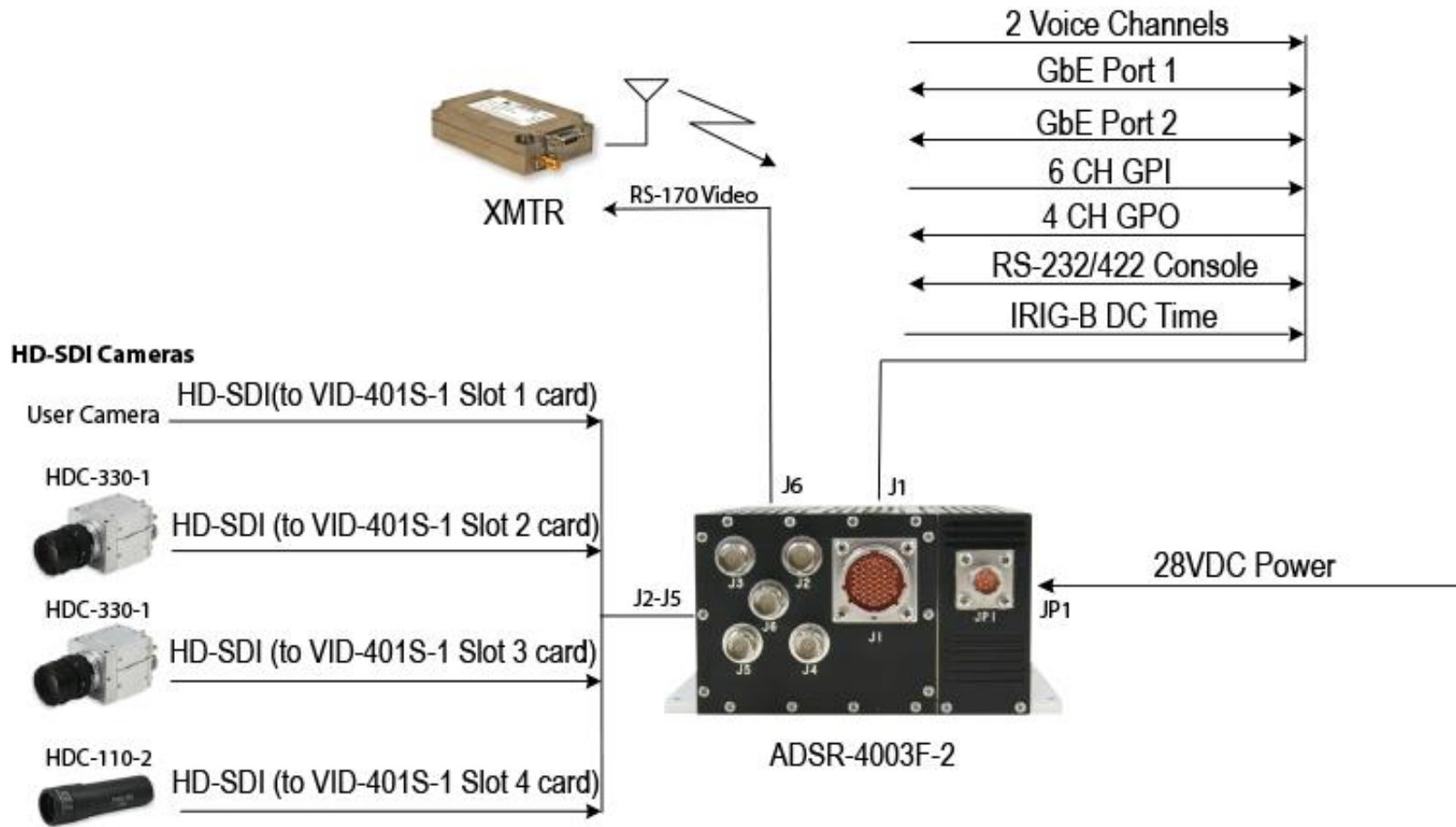
ADSR-4003F-1 – Ethernet Recorder



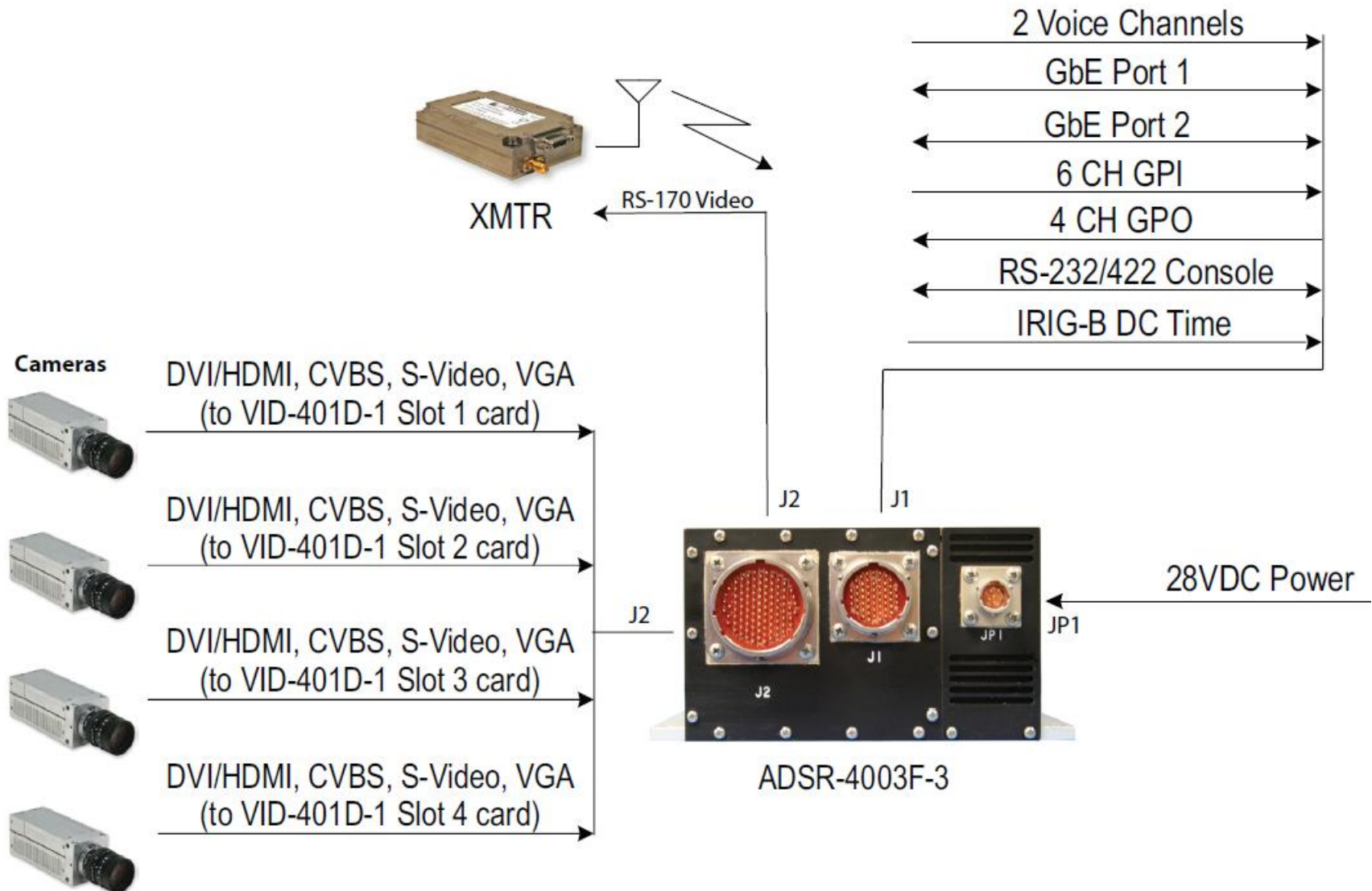
ADSR Ethernet recording



ADSR-4003F-2 – Video Recorder



ADSR-4003F-3 – Video Recorder



ADSR Video Acquisition

- **Video is compressed into H.264**
- **Video RS-170 output**
 - ADSR-4003X-2 - J6 as a RS-170 feed, GPs are used to select specific video feed
 - ADSR-4003X-3 – Each video input has a corresponding composite video output
- **Compressed Video is multicast on either ADSR Ethernet ports**
 - Each video is multicast on a unique multicast address
 - Video can be viewed on media player (VLC player)
- **All video channels provide time overlay capability**

ADSR Data Formatting

- **Video is recorded to an AVI format**
- **Ethernet traffic can be recorded in a DARv3 format**
- **Video, Ethernet, and AIM (Ch10) traffic must be routed to separate DTDs (Memory)**

DTU-2000

- Allows data transfer from the ADSR-4003 on an on-demand basis
- Downloads data from removable memory cartridges and transmits through a USB port
- Compatible with USB 2.0 and USB 3.0
- Bench-top unit
- Accepts any DTD-XXXX data cartridge
- USB 3.0 high-speed data download
- Universal 9 Volt AC to DC power adapter included
- Powered by AC to DC adapter or USB port (if capable)
- Front panel LED indicates power on



Network Products Demo

