

**CURTISS -  
WRIGHT**

# ADSR Product Family

Advanced Data Server and Recorders



**Trusted. Proven. Leader.**

[curtisswrightds.com](http://curtisswrightds.com)

There is a growing need for a small form factor, rapidly installable, all-in-one instrumentation recorder for flight test and other airborne applications. Curtiss-Wright developed the advanced data server and recorder (ADSR) product family for this need. This recording system leverages our legacy breadth of products to produce a best-in-class solution that allows users to capture, record, and output data based on their unique requirements. The ADSR product family is ideal for many uses, including mission recording, mission file serving, digital video recording, or instrumentation network recording.

## Baseline Features

ADSR is a network recorder that can interface with CH10 UTH published data, DARv3 data (e.g., from Curtiss-Wright high-speed cameras and data acquisition units), TmNS data, and other generic Ethernet data. They have four factory-installable I/O data acquisition card slots to add extra I/O and functionality to meet your application needs. Base unit features:

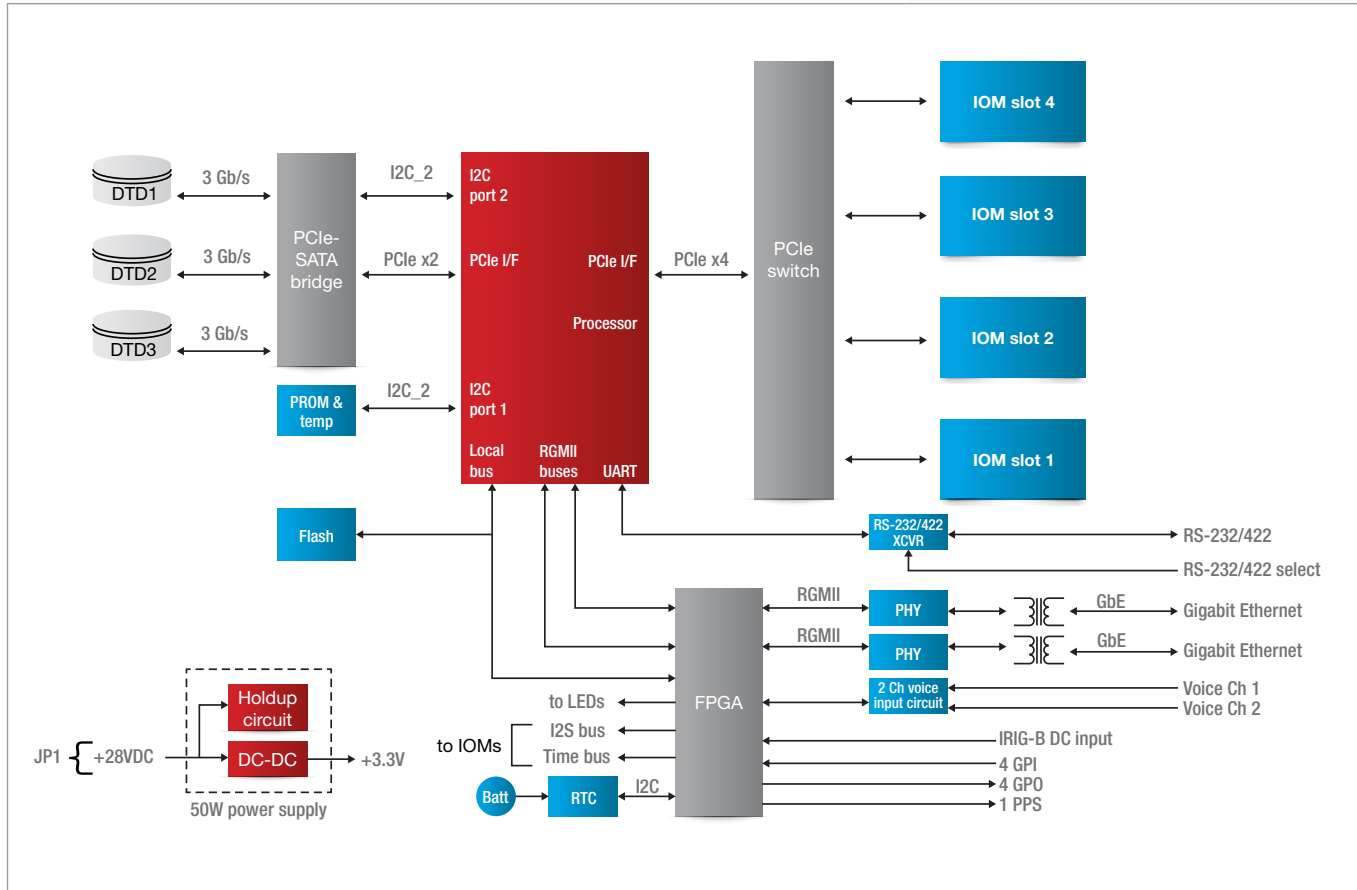
- Two 1000 BASE-T Ethernet ports for data acquisition, recording, and programming
- Slots for up to three solid-state memory modules
- Supports common industry timing standards such as IEEE-1588 v1/v2 and IRIG-B DC
- Two-channel mono or one channel stereo audio input (e.g., for capturing pilot and co-pilot microphones)
- Operates from the aircraft power, 28VDC +/- 4VDC
- Optional MIL-STD-704 50 ms power hold for brown-out protection

## List of currently supported I/O cards

| Input Card Type/Chassis | Description  | # of Inputs | ADSR Model | PCAP | DARv3 | Ch 10/11 UTH 2 | TmNS | AVI MPEG-2 | RS-170 | Native Ch 10 Data Type |
|-------------------------|--|-------------|------------|------|-------|----------------|------|------------|--------|------------------------|
| GbE                     | ADSR Base, GbE <ul style="list-style-type: none"> <li>▪ Ch. 10/11 (from AIM)</li> <li>▪ Darv3</li> <li>▪ iNET (PCAP) Data</li> <li>▪ Other ETH Data</li> </ul> | 2           | All        | ✓    | ✓     | ✓              | ✓    |            |        |                        |
| GPS-401-1               | <ul style="list-style-type: none"> <li>▪ One (1) Gps input</li> <li>▪ 3x Identical PCM outputs</li> </ul>  | N/A         | 4003F-10   | ✓    | ✓     | ✓              |      |            |        |                        |
| RMB-553F-1              | 4-Channel Mil-Std-1553 Card  | 4           | 4003F-10   | ✓    | ✓     | ✓              |      |            |        | 1553 Type              |
| VID-401S-1              | 1-Ch SDI, H.264 (Total 4 Ch)   | 4           | 4003F-2    | ✓    | ✓     | ✓              |      | ✓          | ✓      |                        |
| VID-401D-1              | 1-Ch DVI/HDMI, H.264   | 4           | 4003F-3    | ✓    | ✓     | ✓              |      | ✓          | ✓      |                        |
| ETN-412G-1              | 100/1000 BASE-T  | 2           | 4003F-5    | ✓    | ✓     | ✓              |      |            |        |                        |

## ADSR Architecture

The ADSR architecture allows for rapid development of custom units (contact the factory for more information) - several variations are available off-the-shelf (see Ordering Options). The unit can perform functions such as bulk recording, data/message selection (cherry-picking), and data publishing to the data acquired from the I/O cards.



## Recorder Applications

- Mission data recorder
  - Supports network file sharing (NFS)
- Mission file server
  - Supports NFS
- Digital video recorder
  - Capable of recording four channels of audio and video data for synchronized playback
- Instrumentation network recorder
  - Provides recording from two or more Gigabit Ethernet interfaces to 1 to 3 memory cartridges simultaneously
  - Supports DARv3, CH10 UTH, PCAP, and AVI file formats



Figure 1: ADSR-4003Z-2

## Environmental Qualification

The ADSR product range has been qualified to MIL-STD-810, MIL-STD-461.

Typical categories include:

- Temperature
- Vibration
- Humidity
- RF susceptibility
- Altitude
- Shock
- RF emissions

## Available Media Options

The unit can support up to three solid-state drives in one chassis. The collected data can be routed to any of the three drives to provide the flexibility of bandwidth distribution amongst the drives.

The currently supported capacities are:

| Part #        | Model        | Capacity | Temperature | Secure Erase |
|---------------|--------------|----------|-------------|--------------|
| 750002600-001 | DTD-0256SE-1 | 256 GBE  | -40 to 85°C | ✓            |
| 750002600-002 | DTD-0512SE-1 | 512 GB   | -40 to 85°C | ✓            |
| 750002600-002 | DTD-1000SE-1 | 1 TB     | -40 to 85°C | ✓            |


## Ordering Options

To find the most up-to-date list of I/O modules, please visit [curtisswrightds.com/ADSR](http://curtisswrightds.com/ADSR) to find the most up-to-date list of I/O modules.

Any combination of the available I/O cards can be used to configure a variant in the factory to fit specific needs. The below list of ADSR configurations can be ordered today and include all the base-line features.

| Model         | I/O  |
|---------------|--|
| ADSR-4003F-1  | No I/O cards (base line configuration)   |
| ADSR-4003F-2  | 4 x VID-401S-1 (1-channel SDI, H.264 video card)   |
| ADSR-4003F-3  | 4 x VID-401D-1 (1-channel DVI/HDMI, H.264 video card)  |
| ADSR-4003F-5  | 1 x ETN-412G-1 (2-channel 1000 Base-T acquisition card)  |
| ADSR-4003F-10 | 3 x RMB-553F-1 (4-channel 1588 acquisition card)<br>1 x GPS-401-1 (1 channel GPS input card, and selected PCM output card) |

**Contact us**

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