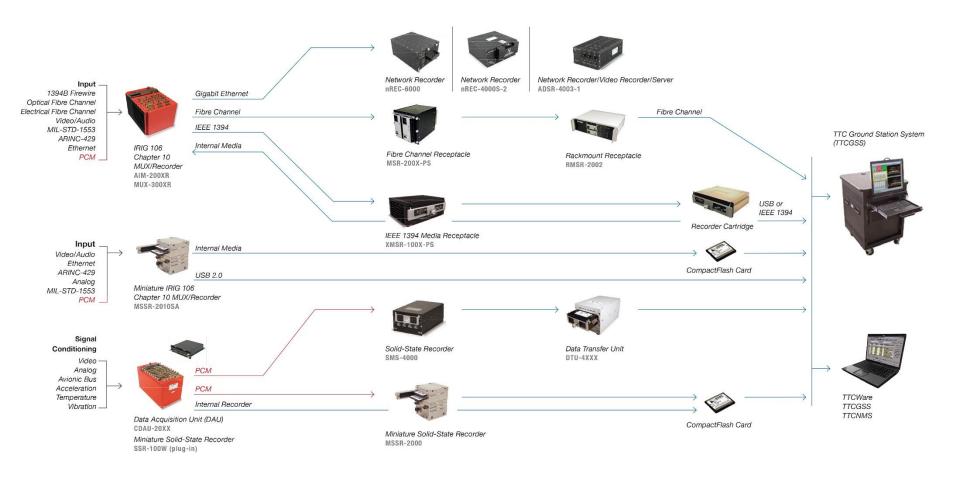
# PCM AND CH10 RECORDERS

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# **Recorders & Multiplexers**



### SMS-4000 – PCM Solid State Recorders (1-Channel)

- Removable Memory Cartridges
- 128 GB or 256 GB capacities
- PCM Data Rates up to 20 Mbps
- Parallel Data 20MBps burst, 3MBps sustained
- IRIG-B Time Reader (Time tag PCM frames to 1 microsecond resolution)
- RS-232 Setup & Control (or Discrete Control)
- USB 2.0 Download
- Optional Data Transfer Unit (DTU-4500)



SMS-4000



DTU-4500

#### Miniature Solid State Recorders – 1-Channel PCM

- 2 GB to 64 GB capacities per CompactFlash card
- Uses up to 2 removable CompactFlash cards
- Stackable (attached to a Miniature Data Acquisition Unit) or Standalone
- Removal Data Transfer
- Small form factor
- RS-232 Setup & Control (or Discrete Control)



MSSR-100C Stackable Recorder

MSSR-2000C-SA Standalone Recorder



## SSR-100W – Chapter10 Recorder PCM (2-Channel)

- 2 GB to 64 GB capacities per CompactFlash card
- Uses up to 2 removable CompactFlash cards
- Built-in Solid State Recorder
  - Sustained record rate over 40 Mbps
  - Operates up to 20 Mbps per channel
- Two independent PCM inputs
- Built-in Frame Correlator for each input
- Time Tag per IRIG Chapter 10
- USB 2.0 Download
- RS-232 Setup & Control (or Discrete Control)
- Multiple SSR-100Ws may be placed within a single chassis



### Miniature IRIG-106 Chapter 10 Multiplexer / Recorder – MSSR-2010

- 2 GB to 64 GB capacities per CompactFlash card (MMCF-64000HS)
- Uses up to 2 removable CompactFlash cards
- Stackable (attached to a Miniature Data Acquisition Unit) or Standalone
- Sustained record rate of up to 48 Mbps
- Removal Data Transfer
- Small form factor
- USB 2.0 Download (no power up required)
- RS-232 Setup & Control (or Discrete Control)

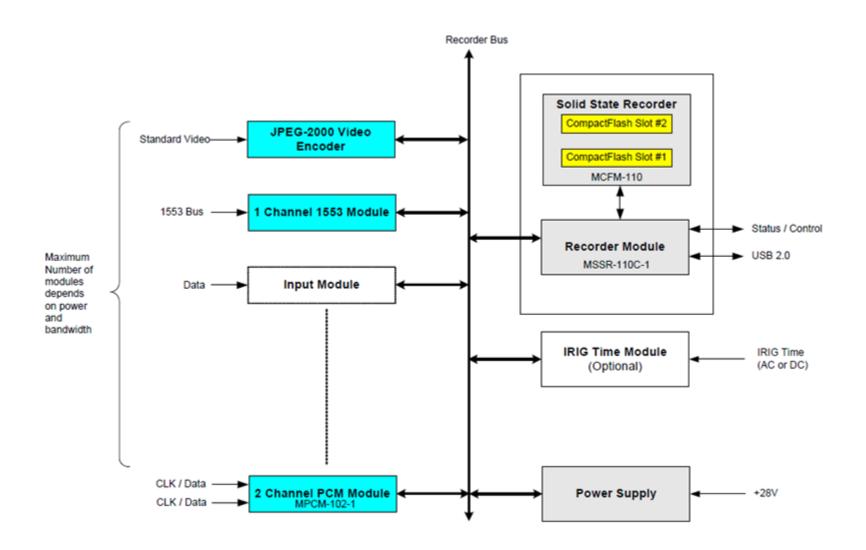


MSSR-2010-SA



MSSR-2010-SAR

### **MSSR-2010 Recorder System**



#### MSSR I/O Modules

# The MSSR-2010 Airborne data multiplexer and recorder accepts a variety of modules, including:

- MPCM-102M 2-Ch PCM (20 Mbps) module
- MBIM-553M 1-Ch MIL-STD-1553 Bus Monitor module
- MVID-301M 1-Ch H.264 Video/Audio Encoder module
- MVID-121M 1-Ch MPEG-2 Video Encoder module
- METI-201M 1-Ch Gigabit Ethernet Interface module
- MSCD-606M 6-Ch Differential Input Signal Conditioning module
- MBIM-429M 8-Ch ARINC-429 Bus Monitor module
- MIRG-220M-2 IRIG-B AC or DC Input Time module
- MGPS-101M GPS/IRIG-B AC or DC input time module



### MUX - IRIG-106 Chapter 10 Multiplexer / Recorder

- Airborne Data Multiplexer / Recorder
  - MUX-3003R accepts 3 I/O Cards and Recorder
  - MUX-3005R accepts 5 I/O Cards and Recorder
- Sustained Record Rate of up to 20 MBps
- **Built-in Solid State Recorder** 
  - XRMM-1XXX with capacity of up to 128 GB or 256 GB
- Accepts IRIG-B AC / DC Time or GPS Antenna
- Provides GPIOs for Recorder Control & Status
- **Provides RS-232/422 for external recording**
- Data download
  - via IEEE-1394b
  - remote download, removable memory media



MUX-3005R

### MUX - IRIG-106 Chapter 10 Multiplexer / Recorder

#### **Features**

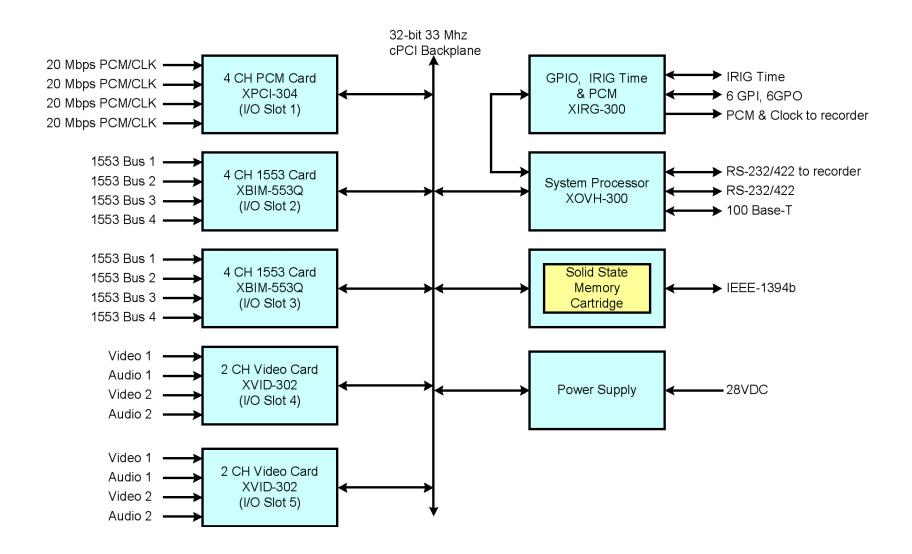
#### A variety of I/O Card types are available:

- 1-Ch 16PP194 Bus with 2-Ch MIL-STD-1553 Bus Monitor card
- 8-Ch PCM (20 Mbps) card
- 8-Ch MIL-STD-1553 Bus Monitor card
- 16-Ch ARINC-429 Bus Monitor card
- 2-Ch 1.0625 Gbps Electrical Fibre Channel card
- 3-Ch MPEG-2 Video/Audio card
- 4-Ch 10/100 BaseT Ethernet card
- 2-Ch 400 Mbps IEEE-1394b FireWire card



MUX-3003R: 6.00" W x 4.49" H x 6.69" D MUX-3005R: 6.00" W x 4.49" H x 8.09" D

### **MUX-3005R System Block Diagram**



### MUX Recording (RMM-1XXX)

- Removable Solid-State data recorder cartridge
- Ruggedized for airborne applications
- Uses ruggedized solid state memory
  - From 32GB to 128GB\*
- IEEE-1394b 400 Mb/s download port
- Functional Status indicated by (4) LEDS
  - Power Indicates power status
  - Lock indicates if lock screw is properly tightened
  - Activity Indicates unit is being accessed
  - Error Indicates an Error Condition



### Airborne Data Multiplexer / Recorder – AIM-XXXX

#### AIM available in multiple chassis sizes:

- AIM-2004 4 I/O Cards
- AIM-2006 6 I/O Cards
- AIM-4004 Two AIM systems in one chassis.
- AIM-4006 Two AIM systems in one chassis.
- AIM-2005R 5 I/O Cards and a Ch10 Recorder

#### Accepts IRIG-B AC / DC Time

#### Current Overhead (OVH-380) Provides:

- Two Gigabit Ethernet ports for data transmission
- One 10/100 Base-T Ethernet port for management
- Two serial ports for communication

#### Includes a CAIS bus interface

- Single-point programming through CAIS or RS-232/422
- Operates as a CAIS DAU remote unit
- Provides recorder and unit status to the CAIS



# IRIG-106 Chapter 10 Multiplexer / Recorder – AIM-200X

# A variety of I/O Card types are available:

- 4-Ch IEEE-1394b FireWire card
- 8-Ch MIL-STD-1553 Bus Monitor card
- 2-Ch Gigabit Ethernet card
- 8-Ch PCM Card (20 Mbps)
- 4-Ch MPEG-2 Video/Audio card



AIM-2004: 6.3" W x 6.0" H x 6.6" D AIM-2005R: 6.3" W x 6.0" H x 9.3" D AIM-2006: 6.3" W x 6.0" H x 8.2" D

### **AIM Built-in Recording (RMM-3XXX)**

#### Sustained Record Rate of up to 50 Mbyte/sec

#### Data download through

- IEEE-1394b
- removable memory media for remote download
- 1.0625 Gbps Electrical Fibre Channel Port
- 2 Gigabit Ethernet ports

#### Built-in Solid State Recorder

- RMM-3XXX with capacity of 128 GB
- Ability to interface with external media via Fibre Channel or IEEE-1394
- Provides GPIOs for Recorder Control & Status
- IRIG Chapter 10 compatible



RMM-3XXX Built-in AIM Recorder

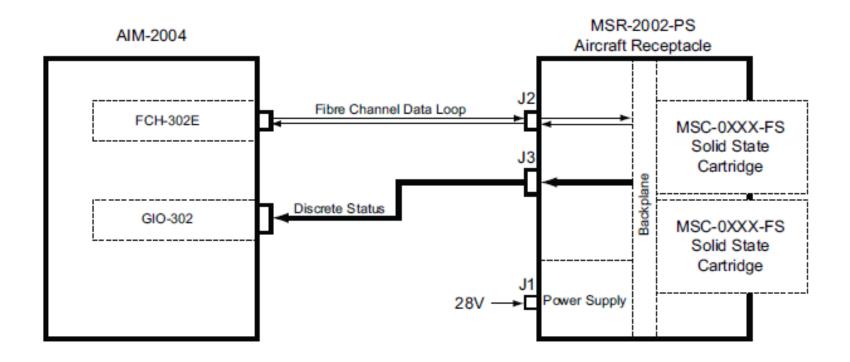
### Airborne High Speed Fibre Channel Recorder – MSR-2002

- Up to 100 Megabytes/sec data recording rate, depending on media type
- Supports arbitrated loop connections
  - Can connect up to 4 Recorders using two MSR-2002
- Compatible with TTC's AIM and MUX product lines
  - Downloads through 1.0625 Gbps Electrical Fibre Channel Ports
- Integrates two media storage bays
  - Operates with 1 or 2 media cartridges inserted
  - MSC-0XXX-SS removable solid state cartridge
  - Available from 92GB to 276 GB minimum usable storage
- Unit supports recording data in either dualredundant or dual-interleaved mode
- IRIG Chapter 10 interface compatible



MSR-2002-PS: 7.60"L x 5.75"W x 5.25"H

### MSR-2002-PS to AIM-2004 Block Diagram

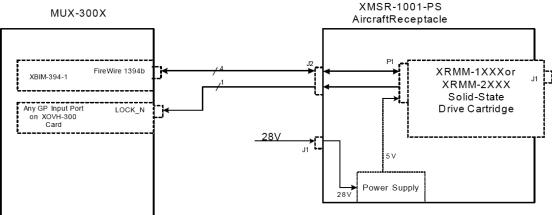


#### XMSR - IEEE-1394b Interface Recorder

- High Speed Data Recording receptacle with up to 800 Megabits/sec recording interface using IEEE-1394b
- Media Storage receptacle for solid state cartridges:
  - XRMM-1XXX (single height)
  - XRMM-2XXX (double height)
  - Capacities up to 75 Gigabytes
- Front Panel LED's Indicate Unit Power, Cartridge Lock, and Unit Activity
- Compatible with TTC's AIM and MUX series
- Data Acquisition Products equipped with a BIM-394Q-1 card (AIM) or XBIM-394-1 card (MUX)
- Works with any System that supports an IEEE 1394b High Speed Serial Port
- Supports Speeds of S100, S200, S400, S400B and S800



XMSR-1001-PS 2.5"H x 6.57"W x 5.5"D



# **PCM System Demo**

