

miniR[®] 700v2 Solid-State Recorder

AMPEX

The miniR 700 Recorder: Small in Size, but Bigger in Performance and Functionality.

The new miniR700v2 is a P3I update to the original miniR700 with the same SWaP (Size, Weight, and Power), but with dramatic increases in throughput speed, storage, and user configuration flexibility. The system updates include a new Intel Atom CPU, lower cost solid state removable memory, new multiplexer, higher speed interfaces, the Ampex ACCE Management Software, and full backwards compatibility to the existing I/O module interfaces. This provides existing users compatibility with their existing data interfaces from the Ampex miniR700, AMux 600 & AMux 700 Multiplexers. Besides the breadth of I/O interfaces offered for traditional instrumentation sources such as serial, SD/HD Video, MIL-STD-1553B, Analog, Firewire, Gigabit Ethernet, etc, the new miniR700v2 can be configured with a new PCIe I/O interfaces for higher-speed channels to be released, and/or an additional PCIe CPU. The base mini-recorder unit now includes Gigabit Ethernet and the Power Filter as standard. The new lower cost solid state mRMM (mini Removable Memory Module) will feature a USB3.0 interface to the system bus, as well as a direct download from the mRMM to a user laptop or server. The mRMM is similar to that used in other Ampex NAS TuffServ product lines. Initial released memory capacities will be from 64GB to 1TB+. Ampex will release various mRMM storage and performance options over time for customer applications.



Future enhancements will include option for configuring a Radiation Tolerant (RT) watchdog monitor for new space applications and custom interfaces to meet unique customer requirements.

- ***From 64GB up to 1TB+ of Removable Storage¹***
- ***Totally Flexible and Modular I/O***
- ***Extremely Compact in Size***
- ***Rugged / Airborne Capable***
- ***IRIG 106 Chapter 10 Recording Format***
- ***Ethernet Streaming and Publishing***
- ***Real Time Data Reduction Capabilities***
- ***Loop Recording Feature***
- ***Sustained Data Rates to 1,000Mb/sec***
- ***Hot Swappable mRMMs***
- ***NEW RMM with USB 3.0 Download Interface***
- ***IRIG106 Chapter 10 Recorder***



Data Interfaces/Format

- IRIG-106 Chapter 10 recording format
- Network acquisition & output interfaces
- HD & SD Video, MPEG2, H.264/AVC, M-JPEG2000
- IntelliBus and IEEE 1394 interfaces
- GPS, IRIG-B, HAVE QUICK time signals
- Variety of Amux 600/700 I/O Modules

Typical Applications

- High Resolution Video Recording
- Cockpit Video
- Flight Test, Sensor Development
- ELINT/COMINT/ACINT Data Acquisition
- Fixed/Rotary Wing, Manned/UAV Platforms
- Ground Mobile Field Data Collection

¹ As of Q3 2016; as memory density increases regularly, contact Ampex for latest capacities

Environmental Specifications ^{2†}

Temperature	Operating	-40°C to +71°C
	Non-operating	-56°C to +80°C
Altitude		70,000 ft
Humidity		0% to 100% RH
Random vibration / shock		14 g _{rms} / 20 g. 11ms

*Conduction cooling solution required for full temperature range
(†Complete MIL-STD-810 test report results available on request)*

Operational Specifications²

Sustained I/O data rate	1,000 Mb/sec
mRMM capacity ³	64 GB to 1TB+
NEW Intel Atom E3800 Series CPU	

Software Configuration

Web-browser service on control Ethernet port & TMATS
Ampex ACCE Linux RedHat 7.x O/S

Dimensions

W x H x L

Base Unit	4.12" x 3.54" x 3.98"
mRMM cradle	4.12" x 4.25" x 1.22"
I/O and adapter modules	4.12" x 3.12" x 0.454" †

(† Some I/O modules may be double or triple thick.)

Weight

43 oz. incl. mRMM cradle
5.3 oz. (typical)
100 Watt Power Supply

Power (MIL-STD-701)

15W@28DVC
Module dependent, up to 10W

Modules and Interfaces

miniR	(Base Unit)
IRIG-106 I/O subsystem adapter	PCIe-MUX CNTR

Available Interfaces

GigE 1Gbps, RS232/422, Ethernet 100 Mbps, Power Filter
IRIG-B AC & DC, HAVE QUICK, PPS discrete I/O on Power Supply board,
All mR-X02 Features plus AMux600 Support

Module	Input	Output	Description
AM-132	2 (+2)	–	Video: RS-170A (NTSC/PAL) with MPEG2/4 Encoder, 2 audio, Event Tone, Time Insertion
AM-11x4	4 (+2)	–	Video Input: RS-170A (NTSC/PAL) matted "4 up" on a single 1440x1152 HD frame, 2 audio, incl. Event Tone, Time Insertion
AM-12x1	1 (+2)	–	Video Input: HD SMPTE-292M (1080i & 720p), 2 audio, Event Tone, Time Insertion
AM-16x1	1 (+2)	–	Video Input: HD DVI-A, DVI-D, or RS-343 (1600x1200), 2 audio, Event Tone, Time Insertion
AM-160x	–	–	Motion JPEG-2000 Encoder with two channel audio; requires a video input module
AM-170x	–	–	MPEG-4/H.264 (AVC) Encoder with two channel audio; requires a video input module
AM-15F	1	–	Video: FC-AV (HSVN-9) Interface for F/A-18; Triple-width module
AM-156	6	–	Audio: CVSD at 32Kbps rate
AM-172	1 (+2)	–	Video: SDI/HD-SDI/3G-SDI to 1080p60 with H.264 Encoder, KLV metadata, 2 audio
AM-204	4	–	MIL-STD-1553B Bus Monitor (4 dual-redundant busses)
AM-228	8	–	ARINC 429 bus monitor
AM-261	1	–	IEEE1394B (FireWire) IIDC v1.31 DCAM Acquisition (400/800Mbps)
AM-264	1	–	IEEE1394B (FireWire) Bus Monitor (400/800Mbps)
AM-334	4	–	PCM: NRZ-L data with clock (RS-422 and TTL levels), data rate to 20Mb/s
AM-338	8	–	PCM: NRZ-L data with clock (RS-422 and TTL levels), data rate to 20Mb/s
AM-344	4	–	PCM: NRZ-L data with clock, Bi-phase, RS-422 and TTL levels, data rate to 20Mb/s
AM-413	3/2/1	–	Parallel input, programmable as 32bits x 1, or 16bits x 2, or 8bits x 3
AM-432	32	–	Discrete Inputs, TTL levels, debounced
AM-454	4	–	RS-232, RS-422/485 up to 1 million baud
AM-458	8	–	RS-232, RS-422/485 up to 1 million baud
AM-504	4	–	Analog: 16-bit resolution (Programmable Gain/Offset/Resolution)
AM-524	4	–	Analog with ICP interface: 16-bit resolution (Programmable Gain/Offset/Resolution)
AM-51b6	16	–	Analog with ICP interface: 16-bit resolution (Programmable Gain/Offset), requires AM-530a
AM-530a	–	–	Analog control module for AM-5xb6 with Digital Filter
AM-60x	1 / 2	–	Low overhead HOTLink II™ 400Mbps serial ports, one (AM-601) or two (AM-602) channels.
AM-801	1	1	IEEE802.3 Gigabit Ethernet for frames ("sniffing"), UDP, and TCP, input & output
AM-901	1	–	GPS: Time input and Time-Space-Position-Information channel
AO-381	–	1	PCM Output for on-board data reduction and telemetry downlink
(TBA)	Yes	Yes	NEW PCIe I/O Interface (High-Speed Interface, CPU, etc.)

More I/O module types are available. Check with your Ampex representative.

² Specifications subject to change without notice

³ As of Q3 2016; as memory density increases regularly, contact Ampex for latest capacities

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