Common Architecture Recorder (CAR)

Integrated, Low-cost, Recording, NAS, and Data Acquisition

AMPEX
Excellence at the Edge

The Common Architecture Recorder (CAR) helps customers shift data acquisition and recording systems from a capital expense to an operating cost. The CAR is a scalable, rugged network attached storage (NAS) and compute device with the flexibility to add capabilities you might want, but not stuffed with the costly things you don't need.

The low-cost of the CAR is only rivaled by its small size, making it perfect for ground vehicles and "attritable" aerospace systems. With its compact size, light weight, and low power dissipation, it can be installed in tight spaces. This SWaP-C rugged recorder still affords the customer everything Ampex customers have become accustomed to over the years.

The CAR employs a USB Type-C interface to provide direct downloading from the embedded storage.

Typical Applications

Flight Test Data & Telemetry • Electronic Warfare & RF Signals Data Video & Imagery • Mission Computers, Whole Platform Storage & Bus Data

The CAR supports additional data types[2]: HD-SDI with KLV Metadata ♦ DVI/HDMI ♦ Multi-channel SD (RS-170) ♦ MIL-STD-1553B with One or Two Dual-redundant Busses ♦ IRIG-B ♦ Copper Gigabit Ethernet ♦ Fiber Gigabit Ethernet ♦ High-Speed Serial for Telemetry ♦ Others Upon Request

Product Features[1]:

- **Software Defined Recording with Ampex Common Compute Environment (ACCE)**
- **Modular, Extensible, Linux-Based Open Architecture**
- **Network File Server w/ NAS capabilities**
- **USB 'Type-C' Connectivity**
- **Standard: 2x 1000BaseT Ethernet**
- **GNSS/GPS Receiver (with disable feature)**
- **Power through wide-range DC**
- **'All-in-One' Processor & Storage with Fixed or Removable Storage Media**
  - Fixed storage available to 2TB
  - Industrial Grade CFast removable storage up to 512GB

[1] *System specifications and design are preliminary and subject to revision*
[2] *Contact Ampex for availability of options*

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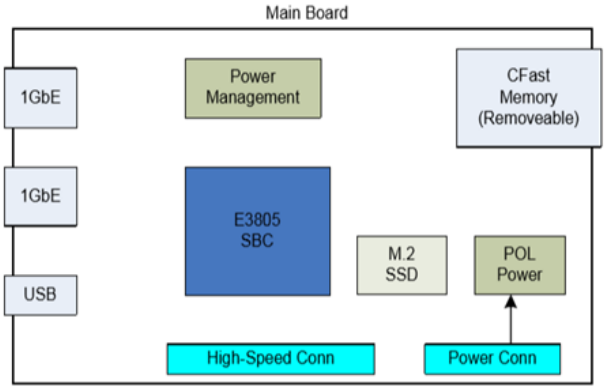
Specifications[1,2,3]:

System

CPU Subsystem:	Intel Atom E3805, Dual Core, 1MB Cache, 1.33GHz, 2GB DDR3L-1066 Memory
External Interfaces:	2x 1000Base-T Gigabit Ethernet + USB 3.0 (Download)
Additional Interfaces[2]:	Audio
GNSS Input:	GPS, Galileo, GLONASS, BeiDou (all selectable) or Disabled
Fixed Storage (Standard):	250GB, 500GB, 1000GB, 2000GB
OR	
Removable Storage (Optional):	256GB, 512GB
Storage Module Grades:	Commercial or Extended Temp
Network Protocols:	NFSv4, NFSv3, CIFS/SMB, FTP, TCP/IP, UDP/IP, PCAP, Others
Operating System:	CentOS Linux 7

Performance

Fix Storage Data Rate:	200 Mbytes/sec (sustained, application dependent)
Removable Data Rate:	64 Mbytes/sec (sustained, application dependent)



Power

Power:	Wide Range DC 16V – 36V
Dissipation:	9W Full Load + Power from Optional I/O

Mechanical

Dimensions:	1.8” H x 4.8” W x 6.8” D
Mounting:	Base mount
Weight:	Less than 2lbs (0.9Kg) + Additional Optional I/O
Connectors:	MIL-DTL-32139 Micro-D, SMA (GPS)

Environmental

Temperature:	Operating: 0ºC to +55ºC (-20ºC to +70ºC optional)
	Non-operating: -55ºC to +85ºC
Humidity:	Designed to 0% to 95% RH MIL-STD-810
Vibration:	Designed to 4grms MIL-STD-810
Shock:	Designed to 9g (Sawtooth, 11ms), MIL STD-810

Options[2] – miniPCIe Cards (Maximum two per system)

HD-SDI Video:	1 Channel with KLV Metadata SMPTE ST 292, 291, 296, 274
	H.264/AVC Encoder, MPEG TS
DVI-D/HDMI Video:	1 Channel to 1080p30
	H.264/AVC Encoder, MPEG TS
VGA/STANAG 3350 Video:	1 Channel to 1080p30
	H.264/AVC Encoder, MPEG TS
Standard Definition Video:	4 Channels NTSC/PAL/RS170A
	H.264/AVC Encoder, MPEG TS
MIL-STD-1553:	1 or 2 Dual Redundant Channels
	IRIG-B Input
Ethernet:	1 or 2 channels 1000Base-T
Optical Ethernet:	1 Channel 1000Base-SX
Serial + GPIO:	4x RS-232 / RS-422 / RS-485 (to 400KBaud) & 12 GPIO
Analog + GPIO:	8 single-ended / 4 differential, 100Ksps, 12/16 bit & 3 GPIO
High-Speed Serial:	Clock & Data to 20MBaud
Others:	Contact Ampex

[1] *Specifications are engineering estimates and are subject to change and further refinement*
[2] *Custom options can be requested through Ampex Contracts Department*
[3] *Contact Ampex for option availability*

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Ampex Data Systems Corporation, A Delta Information Systems Company
26460 Corporate Ave., Hayward, CA 94545, U.S.A.

Tokyo Office

www.ampex.com 1-650-367-2011 sales@ampex.com +81-3-6433-9081 info@ampex.co.jp