AE9000-8IF
8-channel 21.4 MHz
IF SIGINT Recorder

Rugged 8-ch 21.4 IF Disk Recorder

- **Eight IF channels**
- **IF: 21.4 MHz**
- **Recording BW: 3 MHz**
- **8/16-bit recording resolution**
- **Optimised input/output filtering**
- **Built-in down- and up-conversion (IF paths)**
- **Disk Crate (16 TB SSD)**
- **Data extraction direct to workstation/network or removable USB-3 disk drive (optional) or attached 2.5 in. eSATA drive**

Avalon AE9000-8IF 8-channel 21.4 MHz IF SIGINT Disk Recorder with optional removable USB-3 USB disk drive (centre).

Introduction

The *NEW* compact **Avalon AE9000-8IF SIGINT Disk Recorder** is designed to record, reproduce and export eight channels of 21.4 MHz IF wideband signals at 3 MHz recording bandwidth per channel. The recording resolution is 8- or 16-bits (user-selectable). The unit's hot-swappable 16 TB Disk Crate (SSD standard) is able to store up to 40 hours of mission data in 8 ch. x 3 MHz (8-bit) recording mode.

The primary means of local control is by means of a monitor, mouse and keyboard attached to the recorder's rear panel. The unit can also be controlled remotely.

As with all Avalon SIGINT recorders, AE9000-8IF incorporates high-precision anti-alias input filtering and advanced, custom-designed analog-to-digital conversion techniques in order to provide the signal quality required by critical applications such as LPI (low probability of intercept) and SEI (specific emitter identification). IF signals are down-converted to the selected recording bandwidth using fast digital signal processing (DSP) techniques and recorded as IQ (complex) pairs of samples for easy up-conversion during replay.

In addition to normal analog replay, recorded data can be exported in digital form directly to an analysis computer via a 10 Gb LAN, or to a range of portable storage media devices (USB-3, eSATA).

Technical Specifications (AE9000-8IF)

Number of Channels:	8.
Recording Mode:	21.4 MHz IF at 3 MHz bandwidth (per channel)
Bandwidth/Resolution:	8- or 16-bits (user-selectable).
Frequency Response:	+/-2 dB with optimised (internal) anti-alias filters.
Recording Duration:	16 TB Disk Pack: 40 hours in 8-ch. x 3 MHz (8-bit mode). 20 hours in 8-ch. x 3 MHz (16-bit mode)
Recording Format:	IF sources: IQ pairs, 2s complement.
Data Transfer / Archive:	EXTRACTION to any suitable storage device (local or networked hard disk drive, RAID, etc.) via USB-3, eSATA or 10 Gbit LAN. Disk Crate can also be attached directly to 3rd Party PC.
Replay (analogue):	Same format and bandwidth as recording (with automatic detection of recording mode).
Replay (digital):	Binary files for computer analysis.
Input Levels for Full-scale Recording:	0, 10 and 20 dBm (user-selectable) from 50 Ω source (AC coupled).
Input & Output DC Offset:	Not applicable to this variant.
Output Levels from Full-scale Recording:	0 dBm into 50 Ω load (AC coupled).
Spur Free Dynamic Range:	>50 dB (8-bits) >70 dB (16-bits).
Group Delay Variation:	10 nanoseconds pk/pk.
Reference Frequency:	Stable internal 10 MHz clock, or external 10 MHz source.
Local Control:	Attached monitor/mouse/keyboard.
Remote Control:	Via Ethernet using stand-alone executable (Windows 7 or later / Linux Debian) or Remote Desktop application. APIs also available from Avalon.
LOOP recording:	The recording media can be configured as a simulated 'endless loop' for record and play.
SKIP mode:	Permits the user to tag selected passages of data with SKIP flags to avoid accidental overwriting. SKIP flags can be set either while recording or when the recorder is stopped.
Data Extraction Ports:	LAN (10 Gb), USB-3 and eSATA.
Power:	85 –240 VAC, 50- 60 Hz (auto-ranging). 200 VA normal. 270 VA peak demand.
Physical:	½ rack x 4u x 530 mm.
Temperature:	0 to +55°C (operating). -20 to +70°C (storage). Values established with SSD drives.
Environmental:	Designed to meet the applicable sections of MIL-STD-461G (EMC) and MIL-STD-810G (Shock and Vibration).

These specifications are provisional and subject to change without notice. Please contact Avalon for full technical details.

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