



Advanced Signal Recording Products

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Wideband Systems, Inc. 14-Track Recorder Replacement

Wideband Systems is pleased to offer a plug-and-play compatible replacement for the venerable 14-track analog recorder. The robust and reliable **DRS3300E-XXGB-16A16D** is a disk-based recorder which fully integrates a 1600⁺ Mbps sustained recorder/reproducer with an intelligent multiplexer, 16 flexible analog channels, and 16 digital PCM channels. This system is currently installed and operational on the Western and Eastern Test Ranges, Pacific Missile Range, Kodiak Launch Complex, Kwajalein Missile Range, NASA, and White Sands Missile Range as the 14-track analog recorder replacement. Many customers and end-users are receiving DRS (Digital Recording System) recorded data products and enjoy the benefits of the flexible output format, compact media, and high quality digital data for post-mission analysis and playback.

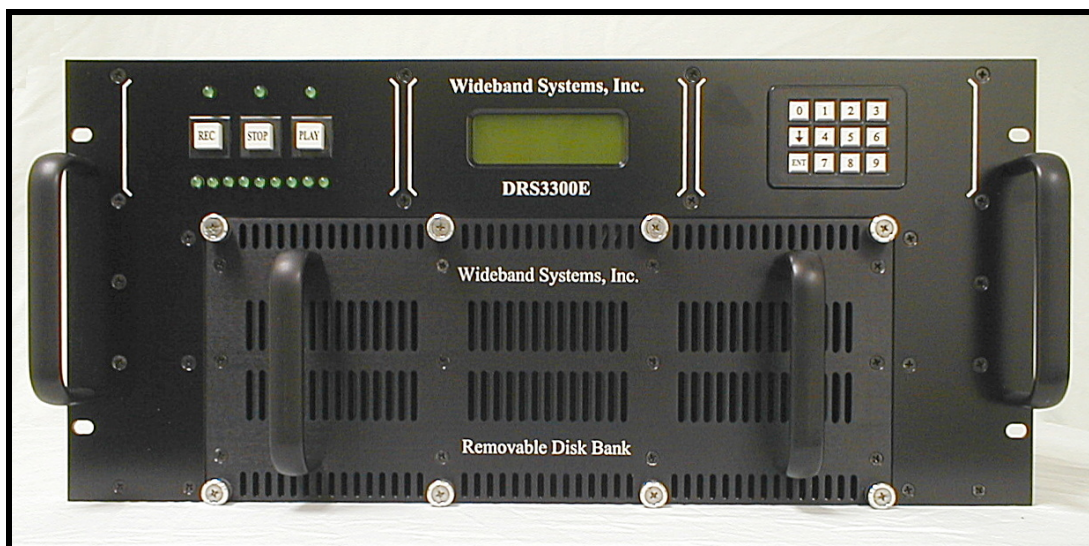


Figure 1. Front View of DRS3300E-XXGB-16A16D

The DRS3300E accepts 16 analog signals on input BNC connectors and presents 16 analog signals on output BNC connectors. In the strict 14-track replacement mode, only 14 analog channels are used and all channels are set to sample their analog signals at 10MSPS. Assuming a typical maximum analog frequency of 4MHz (a 14 track limitation), this configuration provides 2.5X oversampling which has proven to be very effective. Further, this configuration provides a recording time of over 4.5 hours (using 300 GB drives) as opposed to just 15 minutes for the standard 120ips 14 track tape.

The **DRS3300E-XXGB-16A16D** has features and capabilities that go well beyond the legacy 14-track recorder. Channel-to-channel time skew is less than 100 nsecs and playback time-base and correlation is exceptional due to an internal OCXO reference (<10 usecs). The DRS accepts an IRIG-B signal and provides time-correlated recordings using the external time reference if available. Each of the 16 analog channels employs an 8-bit converter and can be independently configured as detailed in the following table:

Sample Rate (with 80 MSPS max selected)	OFF, 1, 2, 5, 10, 16, 20, 40, 80 MSPS
Sample Rate (with 60 MSPS max selected)	OFF, 1, 2, 5, 10, 16, 20, 40, 60 MSPS
Input Voltage (+/- V)	0.2, 0.5, 0.7, 1.0, 2.0, 3.0, 4.0, 5.0
Input Impedance (Ohms)	50, 75, 600, 1000
Output Voltage (+/- V)	0.2, 0.5, 1.0, 1.5, 2.0
Output Impedance (Ohms)	50, 75, 600, 1000

The 16A16D configuration includes the capability of recording up to 16 PCM channels of data. Each channel is independently controlled and the input may be 0 bps to 40 Mbps. Input and output Clock phase for each channel may be adjusted as required to meet the User's system requirements. The table below depicts the available PCM configuration parameters:

Digital Bit Rate	0 to 4050000
Digital Input Clock Phase	0 or 180 degrees
Digital Output Clock Phase	0 or 180 degrees

The **DRS3300E-XXGB-16A16D** is a 5U rackmount (three systems may be installed in the space of one 14 track analog tape recorder) instrument weighing 53 pounds. The recorder has a removable diskbank to facilitate security concerns and back-to-back mission support. This diskbank contains nine high-performance SCSI 10K RPM disk drives (72GB, 144GB, or 300GB each). The record time is a function of the diskbank capacity and the aggregate recording rate; at maximum rate (200MB/sec) the recorder will continuously record/reproduce for 54, 108, or 216 minutes.

The DRS can be locally controlled by the intuitive front panel (REC, STOP, PLAY), remotely controlled using a simple RS-232 interface and the WSI provided User friendly PC GUI, or remotely controlled across a network (web server). Additionally, the recorder supports archiving to optionally supplied DAS3000-AIT3 (tape array), LTO, SATA drives and supports direct transfers to SCSI-equipped PC workstations.

The DRS can generate a variety of **data products** depending on the end-users' needs as described below:

1. The **Archive** data product provides a simple method to preserve an entire recording or any time span within the recording. This output product provides a single file for each recording and maintains the internal DRS multiplexed (aggregate) format. The recordings are typically archived to AIT-3 tapes or to locally attached PCs with removable SATA disk drives and/or network attached storage. Archive files can be loaded back onto any Wideband DRS using the **Restore** operation.

2. The **Export WSI** data product provides analysis-ready, channelized (de-multiplexed) output files from a multiplexed (aggregate) recording. Individual channels can be selected as well as the time span and very simple time series files are generated. These files are typically exported to locally attached PCs with removable SATA disk drives, network attached storage, DVD/CD, USB drive, etc.). The format of the channelized files is **non-proprietary** and easily used for analysis. Exported files can be loaded back onto any Wideband DRS using the **Import** operation.
3. The **Export CH10** data product provides an IRIG 106 compliant output data file. Exported CH10 files and other vendors' CH10 files can be loaded onto any Wideband DRS using the **Import** operation.

Ordering Information	
DRS3300E-72GB-16A16D	16 Analog and 16 PCM Channels, 648GB Total Capacity
DRS3300E-144GB-16A16D	16 Analog and 16 PCM Channels, 1296GB Total Capacity
DRS3300E-300GB-16A16D	16 Analog and 16 PCM Channels, 2592GB Total Capacity