

Wideband Configurable Demodulator Subsystem

High-performance demodulator for HN and HX Systems

The Wideband Configurable Demodulator Subsystem (CDS) is a high-performance demodulator featuring a very compact design and the capability to demodulate multiple Frequency Division Multiple Access/ Time Division Multiple Access (FDMA/TDMA) channels. Designed to operate in both the Hughes HN and HX Systems, the Wideband CDS is housed in a standalone server occupying one Rack Unit (RU). The Wideband CDS interfaces are backward-compatible with the prior generation Return Channel Demodulator (RCD) subsystem. The Wideband CDS is completely field upgradeable and can coexist in a current HN Network Operations Center (NOC) or HX Gateway (GW).



Adaptive Coding

The Wideband CDS supports the Hughes Adaptive Inroute Selection (AIS), which offers several features to both optimize the utilization of satellite capacity, as well as mitigate against any rain fade. A key element of AIS is the capability of the Wideband CDS to demodulate and decode FDMA/TDMA bursts of different symbol rates within the same FDMA/TDMA frame. This enables remote terminals to transmit FDMA/TDMA bursts using code rates, which are optimal for their individual link conditions.

Multiple Channels at Different Rates

Each Wideband CDS module is capable of processing up to 10 Msps of FDMA/TDMA traffic. This 10 Msps can be distributed across as many as nine (9) different channels as long as the aggregate symbol rate over all the channels does not exceed 10 Msps.

Combined with the adaptive coding feature, a single Wideband CDS can support virtually any combination of inbound channels including:

- 9 x 256 ksps channels
- 9 x 512 ksps channels
- 9 x 1024 ksps channels
- 4 x 2048 ksps channels
- 2 x 4096 ksps channels
- 1 x 6144 ksps channel

Network Management

The Wideband CDS is fully integrated into the Hughes Vision® Network Management System, thus allowing easy configuration and equally easy monitoring of the CDS.

Technical Specifications

Inbound Channel:	IPoS (FDMA/TDMA)
Modulation:	OQPSK
Coding Rates:	1/2, 2/3, 4/5 TurboCode with Adaptive Coding
Symbol Rates:	256, 512, 1024, 2048, 4096, and 6144 ksps
Interface:	70 MHz or L-band
Frequency Range:	+/- 18 MHz
Bit Error Rate (Receive):	10 ⁻¹⁰ or better
Bit Error Rate (Transmit):	10 ⁻⁷ or better
Weight (IDU):	15.0 lbs (6.8 kg)
Dimensions (IDU):	19" W x 1.75" H x 13" D (48.26cm W x 4.45cm H x 33.0cm D) 1U enclosure for 19" rack
Operating Temperature:	10° C to 35° C
Relative Humidity:	10% to 80% noncondensing
Power:	90 to 240 Volts AC
Agency Certification:	UL, FCC Part 15, and CE Mark RoHS-Compliant

For additional information, please visit
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