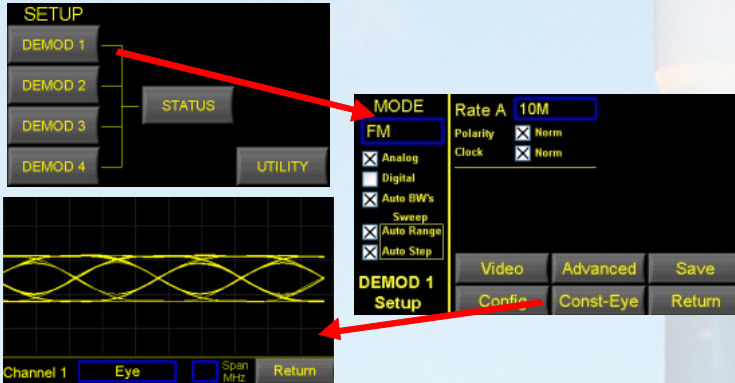
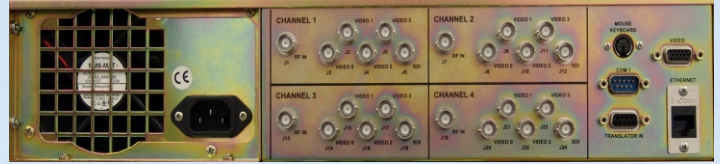
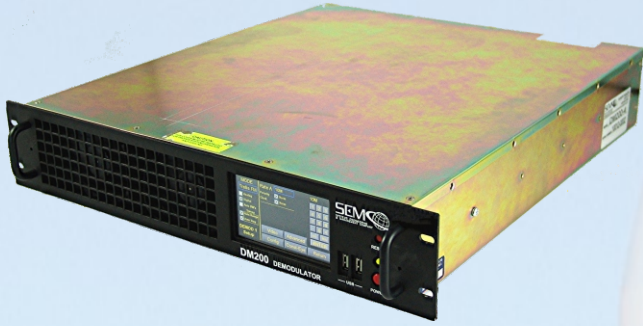


# DM200 DEMODULATOR



SEMCO's DM200 is a PC-based 2U multi-channel demodulator designed for use as an external demodulator for telemetry receivers in ground-based, shipboard, and airborne telemetry applications. The system is IRIG 106-09 Tier II phase noise compliant and offers FPGA-based digital demodulation capabilities. Available configurations include the DM200-2 dual channel demodulator and DM200-4 quad channel demodulator.

The DM200 is designed to accept the 70 MHz IF output of a telemetry receiver and provide multiple analog and digital (clock and data) baseband video outputs in several demodulation formats including legacy (PM, BPSK, QPSK and A/U/S/O/QPSK) and IRIG 106-09 Tier 0 Trellis PCM/FM, Tier I SOQPSK-TG and Tier II Multi-h CPM. Front panel touch screen controls as well as eye pattern, constellation, and spectral sweep displays provide the operational flexibility needed for mission support. Network software provides for remote control and GUI controls/displays via Ethernet.

## Standard Configuration

- Two independent demodulator channels
- 4.3" Touch Screen
- Embedded Bit Synchronizer with De-randomizer in every channel
- Multi-Mode Demodulation
  - FM and NTSC Video with switched de-emphasis
  - Legacy PM, BPSK, O/S/A/U/QPSK
  - IRIG 106-09 Tier 0 Trellis PCM/FM, Tier I SOQPSK-TG & Tier II Multi-h CPM
- Eye Pattern, Constellation and Spectral Sweep Displays
- 4 User-configurable analog/digital outputs per channel
- Network Software

## Hardware Options

Two additional demodulator channels

## Software Options

PM/PSK Sub-Carrier Demodulation

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Technology & Innovation For A Safer World

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# DM200 System Specifications

## PERFORMANCE

Operating Environment and Controls	SEMCO RCMS Network SW in Windows XP Operating System; 4.3" Touch Screen
Frequency Input	70 MHz
Dynamic Input Range	-10 dBm to -60 dBm
Phase Noise	IRIG 106-09 Tier II Phase Mask Compliant
Baseband (video) Output	Analog – 0 to >4 Vp-p into 75 ohms; TTL Clock & Data; user-selectable AC-DC Coupling; 4 user-configurable analog and digital outputs per channel
Baseband Video Filters	FIRs auto-set as a function of data rate per IRIG
Acquisition Tracking	+/- 250 kHz
Demodulator Operating Modes	FM, NTSC Video with switched de-emphasis, PM, BPSK, QPSK, OQPSK, SQPSK, A/UQPSK, IRIG 106-09 Trellis PCM/FM (Tier 0), SOQPSK-TG (Tier I) and Multi-h CPM (Tier II), PM/PSK Sub-Carrier and Coherent AM
Maximum Data Rates	23 Mbps FM, 20 Mbps PM/PSK, 40 Mbps S/O/QPSK, 23 Mbps Tier 0 PCM/FM, 46 Mbps Tier I SOQPSK-TG, 32 Mbps Tier II Multi-h CPM
Minimum Data Rates	20 Kbps FM, 2 kbps PM/PSK, 30 kbps S/O/QPSK, 20 kbps Tier 0 PCM/FM, 20 kbps Tier I SOQPSK-TG, 20 kbps Tier II Multi-h CPM
Embedded Bit Synchronizer	NRZ-L/S/M and Bi-Phase; de-randomizer; manual and auto-select loop bandwidths; user-selectable clock and data polarity

## POWER REQUIREMENTS

90 to 265 VAC, 50-60 Hz; Auto-Ranging

## PHYSICAL

17"(W) x 3.5"(H) x 20"(D); 19" rack mount configuration

## ENVIRONMENTAL

Operating Temperature	0° to 50° C
Storage Temperature	-20° to +70° C
Humidity	Up to 95% non-condensing
Altitude	Up to 30,000'
EMI	Designed to meet MIL-STD 461

## ADDITIONAL FEATURES

Dual and Quad Channel Configurations  
Eye Pattern and Constellation Displays  
Multi- Channel Spectral Sweep Display

Contact the Factory for detailed specifications applicable to specific model number and configuration

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