



THE R300 SERIES RECEIVER...A COMPLETE SOLUTION TO CURRENT & FUTURE RANGE REQUIREMENTS

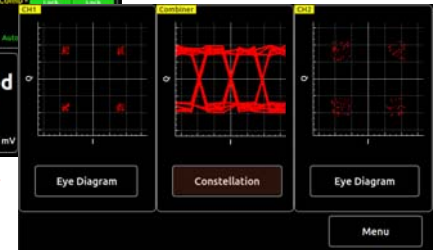
FEATURES

- ❖ Fully IA Compliant Ethernet Only Controls
- ❖ All Legacy & IRIG Demodulation Modes +
 - NASA Spread Spectrum
 - Adaptive Equalization
 - Data Quality Encapsulation/Metrics
 - STC & LDPC Support
- ❖ Dual 7" Touch Screens for Command and Status
- ❖ Dual Redundant "Hot Swappable" Power Supplies
- ❖ Fully Compatible with all SEMCO Legacy Receivers



Receiver Status Display

Eye Pattern/Constellation Display



DESCRIPTION - SEMCO's R300 Series Telemetry Receivers are 3U rack-mount configurations that answer the call for all current and future Flight Test Range requirements. All R300 configurations are IRIG 106-15 Tier II phase noise compliant and offer state-of-the-art demodulation capabilities in RF tuning bands from 70 MHz to 5250 MHz. The R300 Series Receiver is fully compatible with and can operate side-by-side all legacy SEMCO receivers.

Operating Environment - The R300 uses a hardened operating environment that cannot be modified by the local or remote user. Importantly, an IA scan of the Ethernet port confirms that there is no processor access, thus satisfying all DSIA IA requirements. Using optional AES encryption on the remote message data can further enhance security.

Local Control Features - Local control has also been enhanced by the use of dual 7" LCD touch screens. Now the user has the ability to always view status and configuration of the unit while controlling options. Also, using the second touch screen for data entry allows "finger friendly" menus for configuration of the unit, without interrupting the status display. While the unit is operating, this display also provides eye & constellation diagrams or spectrum displays. The user interface has also been optimized to eliminate redundant entries when the receiver is being used for combined links.

STC & LDPC Support - SEMCO's current demodulator technology is capable of supporting all current IRIG 106-15 modulation modes, including Space Time Coding (STC) & Low Density Parity Check (LDPC). These changes can be placed into existing receivers without modifying the receiver hardware.

Adaptive Equalization and Data Quality Encapsulation/Metrics - Additional optional performance features include Adaptive Equalization (AE), which dramatically improves receiver PCM/FM and SOQPSK-TG performance in selective multi-path environments, and Data Quality Encapsulation/Metrics (DQE/DQM), which supports Best Source Selection by embedding data quality information within PCM/FM and SOQPSK-TG formats.

NASA Spread Spectrum Capability - SEMCO's Spread Spectrum feature was developed primarily for the Constellation program's crew vehicle including the Forward SS-UQPSK link and the Return DG1 Modes 1, 2 & 3 links. The SS-UQPSK link is an unbalanced spread QPSK signal. The Return links, DG1 Modes 1 & 2, are Staggered Quadrature Pseudo Noise (SQPN) signals. The DG1 Mode 3 Return link is a staggered unbalanced quadrature phase shift keying (SS-UQPSK) signal.

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