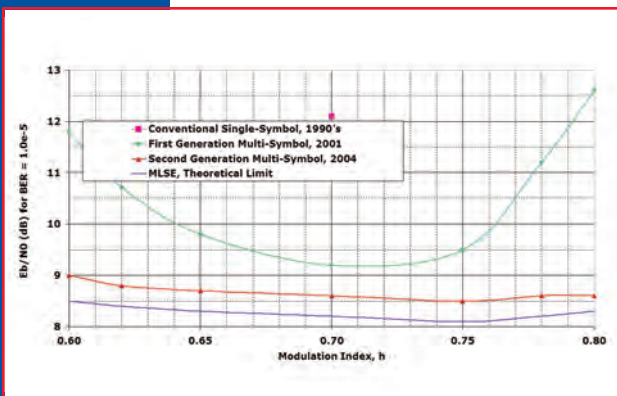
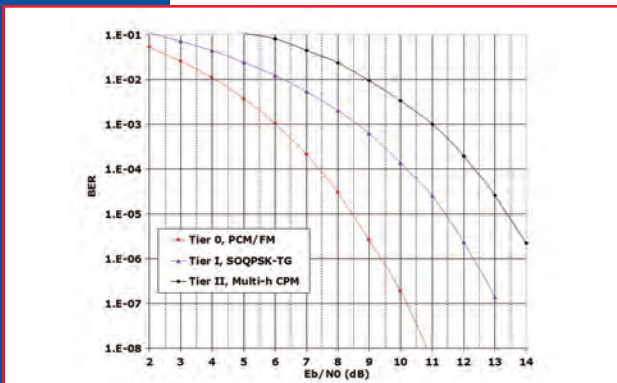


MULTI-SYMBOL TRELLIS DEMODULATOR



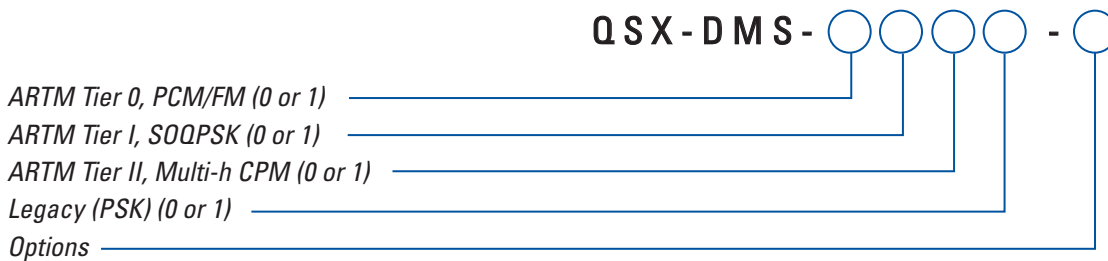
- **True Trellis Demodulation in all ARTM Modes**
Optimal performance for ARTM Tier 0, I and II is achieved only by trellis detection. Quasonix offers the only demodulator in the market which provides true trellis detection in all three modes.
- **3.5 to 5 dB Improvement in PCM/FM Performance**
Second-generation multi-symbol demodulator improves BER performance by 3.5 dB over the best single-symbol demodulators, to within 0.2 dB of the theoretical limit.
- **Modulation Index Tracking for PCM/FM**
Unlike first-generation multi-symbol demodulators, Quasonix' design maintains its superior BER performance even if the received signal's modulation index changes by up to $\pm 15\%$ (patent pending).
- **Best SOQPSK Detection in the Industry**
Only Quasonix offers trellis detection for Tier I (SOQPSK-TG), yielding improvements of 2 dB or more over the competition's single-symbol detectors.
- **Rapid Synchronization**
Synchronizes up to 100 times faster – and maintains sync at lower signal-to-noise ratios – than other ARTM demodulators on the market.
- **Integrated Bit Synchronizer**
- **Bypassable De-Randomizer**
Standard IRIG-106 fifteen-stage de-randomizer.
- **Multiple Rack Mount Configurations**
19" rack mount enclosure allows from 1 to 4 complete demodulators in 1U of rack space.
- **Diversity Branch Selector Support**
Outputs the necessary SDI signal to integrate with the RF Networks Model 2241.



SPECIFICATIONS:

| Characteristic | Specification |
|---|--|
| Size | Airborne: 3 cubic inches, 2.00" (W) x 3.00" (L) x 0.62" (H) Rackmount: 1U 19-inch rack chassis Custom configurations on request |
| Modulation type | ARTM Tier 0 (PCM/FM) ARTM Tier I (SOQPSK-TG) ARTM Tier II (Multi-h CPM) Legacy suite, including: BPSK, QPSK, Offset QPSK (OQPSK), Asymmetric QPSK (AQPSK), Unbalanced QPSK (UQPSK), Asymmetric Unbalanced QPSK (AUQPSK), Digital PM |
| IF input frequency | 70 MHz |
| IF bandwidths | 250 kHz, 500 kHz, 1 MHz, 2 MHz, 4 MHz, 10 MHz, 20 MHz, 40 MHz Automatic selection based on modulation type and data rate, with manual override |
| Bit rates | Tier 0: 30 kbps to 22 Mbps in 1 bps steps Tier I and II: 500 kbps to 44 Mbps in 1 bps steps |
| Control interface, airborne configuration | Three-wire serial port, 115.2 kbaud |
| Presets, airborne configuration | Four, selectable via 2 pins on MDM-15 connector. Both pins left open cause unit to power up in last powered state. |
| Synchronization time, typical | Tier 0: 250 bits @ 0 dB E_b/N_0 Tier I: 385 bits @ 2 dB E_b/N_0 Tier II: 2,800 bits @ 2 dB E_b/N_0 |
| Acquisition threshold | Tier 0: -2 dB E_b/N_0 Tier I: 0 dB E_b/N_0 Tier II: 2 dB E_b/N_0 |
| Deviation meter | Deviation reported over serial interface |
| Signal interfaces | Serial data with separate synchronous clock, TTL levels |
| De-randomizer | 15-stage LFSR, per IRIG 106. Selectable for bypass or enable |
| DC power input, airborne configuration | 5.0 VDC \pm 0.1 VDC, 1200 mA typical |

MODEL NUMBERS:



OPTIONAL FEATURES:

Order by appending options to model number, separated by "--"

- > EC TPC Forward Error Correction
- > AE Adaptive equalizer