

SPIRIT MIL-STD-110B Data Modem

SPIRIT MIL-STD-188-110B Data Modem software entirely complies with MIL-STD-188-110B (Appendix C) standard and supports data rates from 3200 to 9600 bps (coded rates) and 12800 bps (uncoded) with 6 possible interleavers - from zero to 8.64 seconds.

SPIRIT MIL-STD-188-110B Data Modem software allows passing digital data over HF channels on high bitrates.

The modem is capable to work with high-density constellations and high rate FEC which provides communication at high data rates. It is optimized for use under severe propagation conditions with very fast fading, high number of rays, and low SNR. Properties of waveform enable fast and reliable signal acquisition.

The modem utilizes modern digital processing technologies such as iterative (turbo) equalization, channel estimation and detection that provide ultimate performance under extensive range of propagation conditions.

Specifications

PLATFORM	TI C55xx
Peak MIPS	160
Program Memory, KB	100
Data Memory, KB	600

Performance Data

Rates	3200, 4800, 6400, 8000, 9600 (coded), 12800 (uncoded)
Interleavers	0.12, 0.36, 1.08, 2.16, 4.32, 8.64 sec
Multipath tolerance	>5 ms
Acceptable fading bandwidth	2 Hz
Frequency offset	+/- 75 Hz
Frequency drift	3.5 Hz/s
Clock offset	10 ppm
Bandwidth (acc. to STANAG 4203)	3000 Hz (300 – 3300Hz)

Benefits

- Easy portable
- Highly optimized

Key Features

- MIL-STD-188-110B (App.C) compatible
- Performance better than required by the standard

Applications

- High bitrate HF modems
- Maritime, long-haul digital communications
- Tactical voice and data communication equipment

Availability

- PC Now
- TI C55xx Now
- TI C64xx Now
- TI C54xx Call

Technical Specifications

- Provides communication at high data rates: 3200...9600 bps (coded), 12800 bps (uncoded)
- Interleavers: 0.12, ..., 8.64 sec
- Coding: convolutional (133, 171), 3/4 with tail-biting
- Autobaud capability
- Capable for work with high-density constellations (up to 64 QAM) and high rate FEC
- Optimized for use under severe propagation conditions with very fast fading, high number of rays and low SNR
- Utilizes iterative (turbo) equalization, channel estimation and detection that provide ultimate performance
- Special design of reinserted preambles gives unique capability to provide blind data synchronization

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