

WV Communications



Model RX1001 - Tri-Mode Command Verification Receiver/Decoder

DESCRIPTION

WV Communications has designed, manufactured and tested the industry's first Tri-Mode Command Verification Receiver/Decoder, capable of supporting all three FTS formats; IRIG, Secure (High Alpha) & EFTS. This Tri-Mode Command Verification Receiver/Decoder will provide test ranges around the world the flexibility of supporting numerous customers without incurring costs associated with reconfiguring the range's FTS assets. Our designs incorporate the latest engineering designs using DDS, DSP and FPGA technologies that provide for the highest performance and reliability on the market today. That design heritage along with WV Communications commitment to quality and customer support, make WV Communications the answer for all your FTS requirements.

SPECIFICATIONS

RECEIVER

Frequency Range:	370-450MHz, in 100.0KHz Steps
Frequency Stability:	$\pm 0.0005\%$ Maximum over 24 hours
Noise Figure:	6dB Maximum
Spurious & Image Rejection:	-60dBc Maximum
LO Re-radiation:	-60dBm Maximum
RF Input Impedance:	50 Ω Nominal
RF Input VSWR:	2.0:1 Maximum
RF Input Dynamic Range:	-104 to +13dBm
Sig. Strength/Dev. Indication:	Via front panel LCD & Ethernet
Sig. Strength Accuracy:	± 2 dB Maximum
Peak Dev. Reporting Accuracy:	$\pm 10\%$ Maximum of received carrier dev. @ RF Input Level +13 to -85 dBm
IF Filter 3 dB Bandwidth:	500 \pm 50 KHz
IF Filter 60 dB Bandwidth:	1500 \pm 150 KHz



IRIG DECODER

Number of Tones:	20 Channels
-2 dB Tone Bandwidth:	$\pm 1\%$ Minimum
-20 dB Tone Bandwidth:	$\pm 4\%$ Minimum
Simultaneous Tone Detection:	up to 6 Tones
Decoder Carrier Deviation:	± 30 KHz/Tone Nominal (± 20 to ± 35 kHz range)
Decoder Response Time:	10 mSec Maximum
Decoder Output:	Via front panel LED & Ethernet
Optional Decoder Output:	Via rear panel J9 TTL Levels
Decoder Action:	Continuous signal emitted while a tone is received
Tone Duration:	20mSec Minimum
LED Action:	LEDs are illuminated when tone(s) are being received

EFTS DECODER

Three Modes:	Encrypted, Error corrected raw Decrypted, Decoded to commands & fields
Command Format:	64-bit digital word per RCC 208-06
Message Format:	144-bit msg frame per RCC 208--06
Bit & Message Rate:	50 messages/second
Decoding:	Manchester Bi-Ø Level 1 Decoding per IRIG 106
Decryption Device:	Triple Data Encryption Standard (DES) Unit (TDU)

SECURE DECODER

Number of Tones:	8 Channels
-2 dB Tone Bandwidth:	± 40 Hz Minimum
-20 dB Tone Bandwidth:	± 600 Hz Minimum
Simultaneous Tone Detection:	2 Tones
Secured Tone Detection:	Ethernet via J1
Decoder Carrier Dev. Range:	± 30 kHz Nom/Tone
Decoder Response Time:	10ms Maximum

ENVIRONMENTAL

Operating Temperature Range:	0 to +50°C
Operating Relative Humidity:	0 to 95%
Operating Altitude:	0 to 10,000-Ft
MTBF:	20,000 hrs. Minimum
MTTR:	1 Hour Maximum (LRU)
Input Power:	115/230 10% VAC, 1Ø 47-63 Hz Auto Switch

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