DVB-T/H UHF Microtransmitters

MTD5000 SERIES

MAIN FEATURES

- Microtransmitter in only one module.
- Up to 7 modules in a 19"-6U frame.
- Output power versions available for 0.25/1/2Wrms (MTD5010) and 5Wrms (MTD5050).
- Output continuous frequency tuning between 470 and 862 MHz without re-adjustments.
- LDMOS balanced power amplifier.
- OFDM Modulation according to DVB-T EN 300744 and DVB-H EN 302304 (Opt.).
- Highly stable internal frequency reference. GPS synchronization.
- Comprehensive choice and configuration of reference and input signals.
- Configuration of parameters according to MIP info available in SFN mode.
- Local delay setting for performance in SFN networks.
- Seamless switching between ASI inputs.
- Non-linear digital precorrection.
- Linear digital precorrection with amplitude-frequency response and group delay correction.
- Integrated control unit with BER measurement in all transmitted channels.
- Remote interfaces: dry contacts, SNMP/ modem. GSM/GPRS.
- Web browser optional.
- PC Graphical interface.
- Only one 24Vdc reference supply voltage for all modules.
- Configurable via easy-to-use push-buttons /display.
- N+1 redundancy optional (MTD5000N).

The new MTD5000 micro-transmitter series incorporates a DVB-T/H COFDM modulator which is able to operate in both MFN and SFN networks. It integrates linear and non linear precorrectors and provides output power between 0.25 and 5Wrms, depending on version. Each channel is composed of only one module and up to seven channels can be delivered in a standard 19"-6U height frame. The system is programmed through the keypad/front display and an integrated control unit demodulates and measures the BER in all transmitted channels and also provides remote control via dry contacts or SNMP / modem. GSM / GPRS.

MICROTRANSITTER (MTD5010/5050)

ASI inputs
Packet Size:	188 or 204 bytes.
Bit rate:	5 Mb/s to 31.67Mb/s.
Input:	2xASI (BNC-f) 75 ohm.

Modulation
Standard:	EN 300744, EN 302304.
Modulation Parameters:	
- FFT Size:	2K, 8K, 4K (opt.).
- Code Rate:	1/2, 2/3, 3/4, 5/6, 7/8.
- Guard interval:	1/32, 1/16, 1/8, 1/4.
- Constellation:	QPSK, 16QAM, 64QAM.
Channel bandwidth:	6, 7, 8 MHz.
TPS signalling:	DVB-T.
SFN configurable delay:	±500ms.

RF Output
Signal Type:	One channel DVB-T.
Frequency margin:	470...862 Mhz.
Resolution:	1Hz.
Output power:	0,25/1/2W.(MTD5010), 5W (MTD5050).
Output power stability:	± 0.2 dB.
Intermodulation (shoulders):	>40dB (1W) / >38dB (5W).
MER:	>34dB.
Connector:	BNC (f) 50 ohm.
Return losses:	>18 dB.
Armonics (after filter):	< -85dBc (up to 1.7GHz)
Spurious (after filter):	< -60dBc.
Spectrum:	Normal / inverted.
I/Q unbalanced amplitude:	<0.05%.
I/Q quadrature error:	<0.05º.

Clock and synchronization
Internal clock:	10 MHz.
Stability (typ.):	1 ppm.
External referenc e:	10 MHz. SMB (f).
- Impedance:	50 Ω.
- Level:	-5 to +10 dBm.
1pps external reference:	SMB (f).
- Level:	TTL.- 5Kohm.
- Minimum pulse width:	1µS.
SFN synch. resolution:	± 100ns.

General
Temperature:	-5ºC ... 45ºC.
Relative Humidity:	95% max.
Supply voltage:	24 Vdc.
Power consumption:	31W. (MTD5010). 53W. (MTD5050).
Cooling:	Convection / Forced air.
Dimensions:	262x45x250mm. (HxWxD).
Weight:	1,5Kg. aprox.

CONTROL UNIT

RF INPUTS (2X)
Level:	-30 - 0 dBm.
Post Viterbi BER measurement:	1E-1 ... 1E-6.
Remote control:	Dry contacts. SNMP/GSM Opt.
Consumption:	24Vdc - 3W.
Dimensions:	262x45x230mm. (HxWxD).
Weight:	1,3Kg. aprox.

HOUSING FRAME

RF output combiner (Opt)
Inputs:	6 max. BNC(f) - 50 ohm.
Outputs:	2 max. N(f) - 50 ohm.
Insertion Losses:	1 dB max.
Aux. output levels:	-30dBc.

Power Supply (PS2410/2420)
P.S. Units:	2 max.
Input/Output Voltages:	90-264 Vac / 24 Vdc.
Max. Power per unit:	240W./500W.

General
Dimensions:	19"-6U.
Configuration:	wall mounting, outdoor cabinet, 19" rack cabinet.

PARAMETERS/SETTINGS VIA FRONT KEYPAD/DISPLAY

- Configuration of DVB-T modulation parameters
- Selection and configuration of input signals
- Selection of MFN/SFN synchronization
- Bit rate adaptation, autoconfiguration according to MIP info, …
- Digital precorrection enable/disable
- RF output configuration (Level, Frequency, spectrum)
- Output frequency setting
- Forward power and reflected power alarm
- Linear precorrection (Amplitude/Frecuency). Slope ±3dB
- Non-linear precorrection
- SFN delay
- Warnings/alarms management