

XTREME-1000E

DIGITAL EXCITER WITH PSIP UPDATE



Performance

The XTREME-1000E is used to receive an 8-VSB RF signal, demodulate it into baseband signals, and update the PSIP VCT's Station ID, Major and Minor Channel Numbers. It remodulates baseband signals into an 8-VSB RF signal, and applies automatic (or fixed) adaptive linear and non-linear pre-correction.

The main features of the XTREME-1000E are:

- 8-VSB off-air input, 8-VSB demodulation to Baseband Transport Stream
- Agile RF Input Channel Frequency (VHF & UHF CH2~69)
- Automatic/Fixed (user selectable) Adaptive Linear and Non-Linear Pre-Correction without external equipment
- RF Output, Agile Frequency on both UHF and VHF Band, or Fixed Frequency (TX channel number must be specified upon order)
- Inputs for SMPTE-310M, DVB-ASI and ATSC RF Input (CH2-CH69)
- MPEG Transport Stream SMPTE-310M output from ATSC RF Input
- Digital AGC/MGC
- External 10 MHz Reference Input
- Fine Pilot Frequency Adjust
- Firmware Upgradeable through RS232
- Loss of RF Signal Alarm, Transport Stream Alarm and PLL Lock Alarm
- Correction Settings stored on Flash Memory and called upon power-up
- PSIP Modification (Optional)
- Complied with ATSC A53 specification for an 8-VSB modulation for terrestrial broadcast of a high-definition digital TV signal
- 2U Mountable Rack

General Specifications	
AC Power	
Frequency	50Hz/60Hz
Voltage	90-240 VAC 50W Max
Operating Conditions	
Temperature	0-50°C
Altitude	10,000 ft. max
Humidity	80% Non-Condensing
Cooling	Internal Fan
Weight	
Net	15 lbs.
Dimensions	
Height	3.5 inches
Width	19 inches
Depth	18 inches

Firmware Upgradeable Through RS232	
Baud Rate	115,200
Data Bits	8
Parity	None
Stop Bits	1
Handshake	None

Front Panel	
Front Panel Vacuum Florescent Display	2 Lines by 24 Characters
Front Panel Buttons	4 Buttons - 4 Directional Arrows

RF Input	
Input Channels	VHF/UHF 2-69 USA Channels, 8-VSB
Input Impedance	75 ohms
RF Input Connector	BNC
Modulation Type	8-VSB
RF Channel Bandwidth	6 MHz
RF Sensitivity	>43.5 dBuV (UHF) >35.4 dBuV (VHF HIGH) >27.4 dBuV (VHF LOW)

Transport Stream	
SMPTE-310M	
Connector	BNC Shared with ASI Input
Source Impedance	75 ohms
Output Coupling	AC Inductively Coupled
Signal Overshoot	<10%
Data Format	Bi-phase Mark Coding
TS Bit Rate	19.39265 Mbps Raw Serial Data Rate ± 2.8 ppm
ASI	
Connector	BNC Shared with SMPTE Input
Source Impedance	75 ohms
TS Bit Rate	1 to 50 Mbps

RF Output	
Center Frequency	VHF/UHF Specified Channel USA Channels
Pilot Location	Left-hand Side
RF Output Connector	SMA
Modulation Type	8-VSB
RF Channel Bandwidth	6 MHz
SNR	32 dB Typical
Impedance	50 ohms
Power	0 dBm User Adjustable (±4.48 dBm Max)
Spurs	Better than -50 dBc
Band Attenuation	-50 dBc @ ± 3 MHz

Feedback for Linear/Non-Linear Specifications	
Center Frequency	VHF/UHF Specified Channel USA Channels
Pilot Location	Left-hand Side
RF Output Connector	SMA
Modulation Type	8-VSB
RF Channel Bandwidth	6 MHz
Power	0 dBm ~ -3.5 dBm

10 MHz Reference	
10 MHz In	
Frequency	10 MHz
Impedance	50 ohms
Voltage	HCMOS
Stability	± 0.5 ppm
Connector	BNC
10 MHz Out	
Frequency	10 MHz User Adjustable for Higher Accuracy
Connector Accuracy	BNC
Impedance Accuracy	50 ohms

PSIP Update (Optional)	
Parameter	
Station Identification	Up to seven letters
Major Channel Number	# 02-69
Minor Channel Number	# 00-09
Transport Stream Identification	0-65535
Channel TSID	0-65535

U.S. Patent Numbers	
6,785,903	
7,487,533	
7,781,893	
7,984,469	

Ordering Information	
Part Number	Description
XTREME-1000E	8-VSB Modulator with Pre-Correction

To inquire about pricing and/or delivery, please contact: sales@ktechtelecom.com or visit us at: www.ktechtelecom.com

