

DRP-1000 DTV Translation Processor/Modulator



The **EMCEE DRP-1000** provides a complete solution for DTV broadcast translation processing. The DRP-1000 incorporates a low phase noise, 54-806 MHz tuner to select the station input frequency even with offset frequencies. Using adaptive equalization and Reed Solomon decoding techniques, the on-board VSB demodulator/decoder provides baseband processing of the incoming DTV signal, providing a clean signal for output frequency translation, eliminating any transmission path distortions or multi-path effects to the received signal.

Baseband processing also includes an optional PSIP Virtual Channel Table (VCT) Update, Null Packet Insertion, and Program Clock Reference (PCR) Correction, as standard features. SMPTE-310M and DVB-ASI inputs signals are supported and converted to parallel MPEG2 Transport Format prior to baseband processing. Both Major and Minor channel numbers are updated through front panel entry. The DRP-1000 can accept any DVB-ASI signal that has a rate less than or equal to 19.392 Mbps. Post conversion outputs provided through the rear panel connections provide outputs for both SMPTE-310M and DVB/ASI signal formats.

Output signals are provided at both 44MHz for use as a translator processor/exciter/modulator, or at an optional RF output range of 55-858 MHz (in 12.5 KHz steps) for direct monitoring or use as a driver for final amplification. The DRP-1000 is a perfect mate for EMCEE's LPU series transmitters to complete a high quality DTV translator system with end-to-end frequency agility.

FEATURES & BENEFITS

- Frequency Agile Input
- 8VSB (DTV), CATV #1-125, & VHF/UHF #2-69 RF Input Range
- DVB-ASI Input @19.392 Mbs
- Fully SMPTE-310M Compatible
- Loss of Transport Stream Alarm
- Firmware Upgradeable by RS232
- ATSC A53 Compliant
- 1 RU Mounting
- Optional GPS Reference
- Corrects Input Path Distortions
- Reference Clock Correction
- Optional PSIP Modification
- 44 MHz 8VSB Modulator Output
- Multi-Hop Compatible
- Easy To Use Front Panel Controls
- VFD Display
- High Stability Operation
- Front Panel Test Points
- Optional Remote Interface

DRP-1000 DTV Translation Processor—Specifications*

RF Input

Frequency Range	50-860 MHz
USA Channel Numbers	2-69 (VHF/UHF)
CATV Channel Numbers	1-125
Input Impedance	75 Ohms
Input Connector	Type 'F'
RF Bandwidth	6 MHz

Demodulator

Mode	8-VSB (DTV) Terrestrial
Adaptive Equalizer Span	-5.9 μ S to +40 μ S, 256 Taps
Data Rate	19.392658 Mbps
SNR Threshold	15dB

PSIP Update Parameters (Optional)

Station Identification	Up To 7 Characters
Major Channel Number	#2-69
Minor Channel Number	#0-9

Modulator

Mode	8VSB (DTV)
Compliance	per ATSC Document A53

SMPTE-310M Serial Interface (Baseband Data Input/Output)

Connector	BNC
Source Impedance	75 Ohms
Output Coupling	AC, Inductively Coupled
Signal Overshoot	<10%
Data Format	Bi-Phase Mark Coding
Transport Stream Bit Rate	19.39265 Mbs, Raw Serial @ 2.8 ppm

DVB-ASI Serial Interface (Baseband Data Input/Output)

Connector	BNC
Source Impedance	75 Ohms
Output Coupling	AC, Inductively Coupled
Input Transport Stream Bit Rate	2.6 Mbps Minimum, 19.39265 Maximum
Output Transport Stream Bit Rate	19.39265 Mbps

44 MHz Output and Testpoint

Output Center Frequency	44 MHz
Output Bandwidth	6 MHz
Carrier Phase Noise	-105dBc/Hz @ 20 KHz Offset
Front Panel Test Jack Connector Type	BNC
Test Jack Impedance	50 Ohm
Rear Panel IF Output Jack	BNC
Rear Panel IF Output Impedance	75 Ohm
Output Power Level	-20 dBm
In-Band SNR	33dB
Stop-Band IMD Level	-50dB
In-Band Flatness	\pm .25dB over 6MHz

RF Output (Optional)

Frequency Range	55-858 MHz
Frequency Step Size	12.5 KHz
Frequency Accuracy	< \pm 2ppm
Frequency Stability	< \pm 2ppm
Aging	< \pm 1ppm/year
RF Output Range	+45 to +62dBmV
RF Output Level Step Size	1dB
Output Impedance	75 Ohms
Output Connector	Type 'F'
Spurious	-60 dBc
Return Loss	>16dB

*Specifications Subject To Change

Electrical & Mechanical

AC Input	47-63 Hz
Voltage	90-264VAC
Current	1.2 Amps Max.
Operating Temp. Range	0-50°C
Altitude	10,000 Feet AMSL
Humidity (Non-Condensing)	95%
Weight	10 Lbs. Net
Height	1.75", 1RU
Width	19"
Depth	18"
Cooling	Blower (Fan)

©2007 Wireless Acquisition LLC