Unique Broadband Systems Ltd.

DAB L-Band 400W Transmitter

Model: DAB TX 4000LU

Transmitter Includes:

- *Universal Modulator with DAB waveform and integrated GPS receiver*
- *400W LDMOS Power Amplifier*
- *Bandpass Filter*

Product Description

Overview

The DAB TX 4000LU from UBS is a modular, solid-state transmitter system designed to meet present and future market demands.

The modular transmitter configuration enables UBS to meet all DAB system requirements with future upgrade capabilities. System trouble shooting and module replacement is straightforward as interconnects are readily accessible.

The DAB TX 4000LU contains the following building blocks:

The Universal Modulator performs input signal processing, generates the DAB L-Band RF output waveform and provides complete transmitter monitoring and control.

The High Power Amplifier (HPA) amplifies the signal received from the modulator to an output level of 400 Watts RMS.

The HPA architecture is based on a solid state design operating in Class A/AB linear mode. The amplifier is fully protected against input overdrive, overheating and output load VSWR conditions. The protection circuits are all self correction, allowing the amplifier to be restored to its normal operating state upon removal of the fault condition.

The Bandpass Filter is designed specifically for each L-band RF channel and rejects out-off-band spectrum components. The filter is installed at the output of the high power amplifier.

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Product Specifications

Universal Modulator

(see the DVU 5000 Modulator Data sheet for complete information)

DAB Signal Input	ETI (NI) 2.048 MHz or ETI (NA), according to ETSI EN 300 799
Input Connectors	2 inputs: BNC (F), 50 Ω
Signal Processing	DAB transmission modes I, II, III and IV
RF Output	Any L-band channel, selectable: L1 to L23 and LA to LW Connector: N-type(F), 50 Ω Output Level: -10 dBm to 0 dBm Spectrum Mask compliant with ETSI EN 300 401
Internal GPS	GPS antenna connector installed on the Universal Modulator

GPS Antenna

Delivered as part of the DAB Transmitter system

Transmitter RF Performance

Operating Frequency	1450 MHz to 1500 MHz
Rated Output power	56.0 dBm (before the output filter)
Output Power range	46 dBm to 56 dBm
Output Power Set Point Range	10 dB
Output Level Stability vs. time	≥ ±0.30 dB/24 hrs. max.
Output Level Accuracy	# ±0.5 dB about selected level
ALC Range	≥ 10 dB
Spectral re-growth	≥ 30 dB at ±0.97 MHz from the Fc at the rated output power (DAB Mode II, clipping factor 10 dB)
Output connector	7/16" DIN-type (F), 50 Ω
Output VSWR	≥1.3:1

Control Interfaces

Front Panel	LCD display and cursor/ execute keys
Ethernet Interface	Connector: 2x RJ45 Speed: 10/100/1000 Base-T
USB Interface	Connector: USB Type B
RS232 Interface	Connector: 9-pin SUB-D Male
RS485 Interface	Connector: 9-pin SUB-D Female
CLI (Command Line Interface)	Connector: USB (HyperTerminal) or Ethernet (HyperTerminal and Telnet)
Web GUI	Internet Explorer, FIrefox, etc. Connector: Ethernet
SNMP Control Interface	Connector: Ethernet Note: MIBs are provided
Alarm Relays	Connector: RS232 and RS485 2 Dry Contact Alarm relays, triggered by any major alarm.

Power Supply

Voltage	198 - 244 VAC
Frequency	50 - 60 Hz
Power Consumption	max. 2500 Watts

Environmental

Operating Temperature	+0° C to +50° C (+32° F to +122° F)
Storage Temperature	-40° C to +65° C (-40° F to +149° F)
Relative Humidity	max. 95%, non-condensing
Altitude	3000 m (10000 ft), operating
Cooling	Forced air

Mechanical

Construction	19" Rack mount transport case
Dimension (W x H x D)	53.3cm x 77.5cm x 80cm (21" x 30.5" x 31.5")
Weight	120 kg (264 lbs.)

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