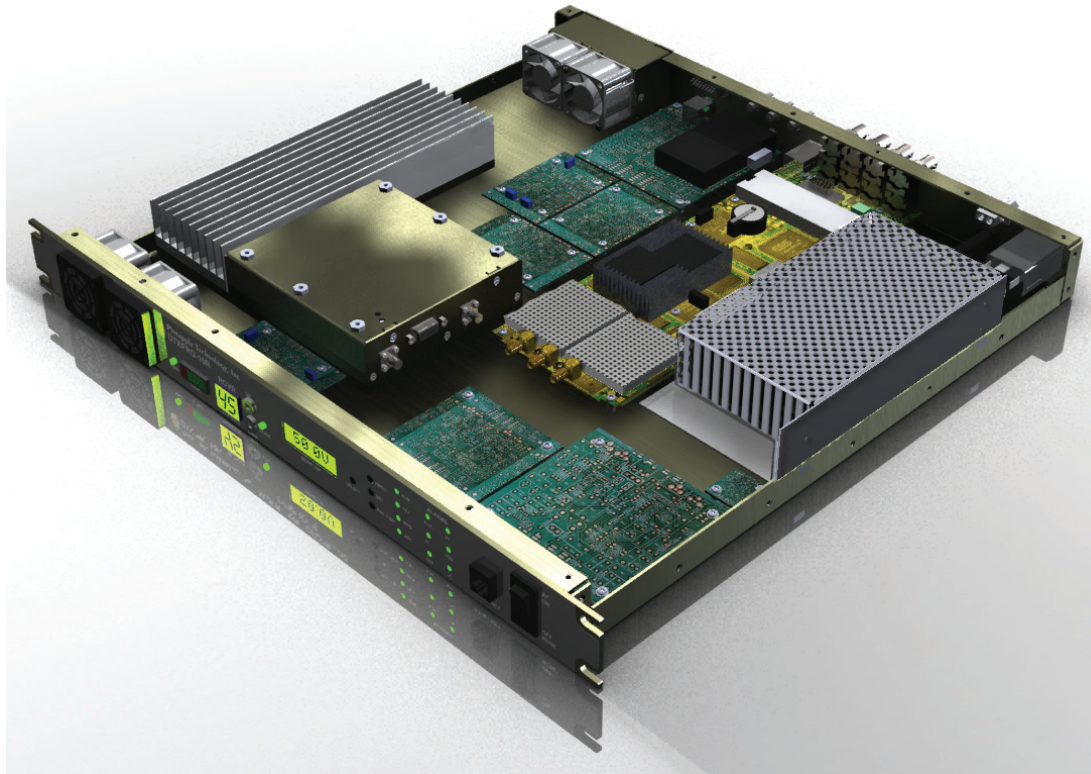


# DXDPRO-10U DIGITAL MODULATOR

BASE MODULATOR FOR  
DIGITAL TRANSMITTERS  
AND UPGRADES



## INTRODUCTION

The DXDPRO-10U and DXDPRO-10VH lines of digital modulators were designed to meet the demanding need for high performance, low cost transmission products for digital broadcasting. The product is housed in a one (1) RU 19-inch enclosure making it well suited for crowded broadcast transmission sites.

When used as a standalone transmitter, the unit will provide 10 watts average output power after the mask filter. Up to 12 status and 12 alarms are available for external monitoring of the transmitter and facility status via the web page GUI provided. Each modulator comes with built-in GPS receiver if this becomes necessary for FCC compliance. These modulators will work with 48 VDC usually found at telecom sites.

The modulator decodes the ASI or SMPTE-310M input transport stream and reprocesses it to insure ATSC compliance. When connected to a transmitter, the modulator core samples the output signal before and after the mask filter. The sample is processed to insure best shoulder levels and MER/SNR for maximum transmission range using its built in adaptive linear and non-linear correction circuits. All settings are protected by non-volatile device technology.



**PINEAPPLE TECHNOLOGY, INC.**

[www.ptibroadcast.com](http://www.ptibroadcast.com)

# DXDPRO-10U DIGITAL MODULATOR

## BASE MODULATOR FOR DIGITAL TRANSMITTERS AND UPGRADES

### GENERAL SPECIFICATIONS FOR MODULATOR

- STANDARDS ..... ATSC: A/53, A54, SMPTE-310M DVB-ASI
- TS OPTIONS..... ASI OR SMPTE-310M
- FREQUENCY ..... 470-860 MHz
- GPS RECEIVER..... ACTIVE (Antenna Required)
- CLOCK STABILITY..... <2 ppm or GPS LOCK
- MODULATOR ..... 8 level VSB trellis ATSC Compliant
- CORRECTION..... AUTO LINEAR and NON LINEAR
- ETHERNET CONNECTION WITH WEB GUI PROVIDED
- PASSWORD PROTECTED

### MODULATOR SPECIFICATIONS

- POWER OUTPUT ..... 10 watts avg. 8vsb
- IMD Shoulders ..... >55dB FCC Spec
- MER/SNR ..... 40 dB Typical
- PPRIMARY POWER AC ..... 110 VAC
- PRIMARY POWER DC..... 44-52 VDC <2.5 AMPS
- CHASSIS DEPTH ..... 17 Inches
- WEIGHT..... 8 Lbs.
- COMPLIES WITH FCC STANDARDS
- REMOTE CONTROL VIA ETHERNET
- 19-INCH ONE (1) RU RACK MOUNTING

### MODULATOR REMOTE CONTROL AND MONITOR FEATURES INCLUDED

<b>CONTROL</b>	TRANSMITTER	XMTR MUTE	ON/OFF
<b>MONITOR</b>	TRANSMITTER	POWER OUTPUT	(%) PERCENT RATED POWER
	TRANSMITTER	REFLECTED POWER	(%) PERCENT REFLECTED POWER
	SUPPLY VOLTAGE	DC VOLTAGE	VOLTS (XXXX.X)
	SUPPLY CURRENT	DC CURRENT	AMPS (XXXX.X)
<b>ALARMS</b>	1. HPA TEMP.	GREEN LED OK	RED LED FAULT
	2. DC VOLTAGE	GREEN LED OK	RED LED LOW VOLTAGE
	3. Po (W)	GREEN LED OK	RED LED Po OUT OF RANGE
	4. AC MAINS	GREEN LED OK	RED LED AC MAINS FAULT

### OPTIONAL EQUIPMENT

MODEL	AVAILABLE APPLICATION
DTX100-50 (U/VHF)	10-50 W TRANSMITTER MF
DTX100-100 (U/VHF)	50-100 W TRANSMITTER MF

### LOCAL/FRONT PANEL CONTROL

The front panel is divided into several sections as follows:

#### 1. TRANSMITTER MONITOR AND ALC CONTROLER

All the remote monitoring and controls shown on the Web GUI are also displayed here for local viewing and diagnostic. The monitor also serves to display power level while making power adjustments using ALC MANUAL mode. Once the power level is set, selecting ALC AUTO will hold that level.

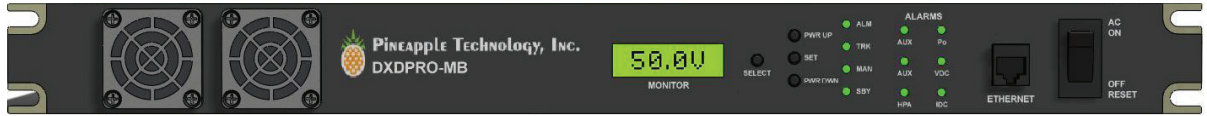
#### 2. ALARM STATUS

The key alarm features are displayed on the front panel and on the WEB GUI. Green LED indicates normal operation and RED indicates a fault.

# DXDPRO-10U DIGITAL MODULATOR

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AND UPGRADES

## FRONT PANEL DISPLAY



## REAR PANEL



## WEB PAGE GUI

Advanced Digital Modulator  
DXDPR0

TS-ID:0

**PINEAPPLE**

**RECEPTION**

**INPUT**

Input-A  
SMPT E310M

Input-B  
SMPT E310M

**MODE**

2/3  
Coder

8-VSB

**PRE-CORRECTION**

Linear

Clipping

Non-Linear

Adaptive

Non-linear sense(1)  
Low

Linear sense(2)  
Low

**OUTPUT**

0dBm  
474MHz

RF Output

RF

**XMTR**

MUTE

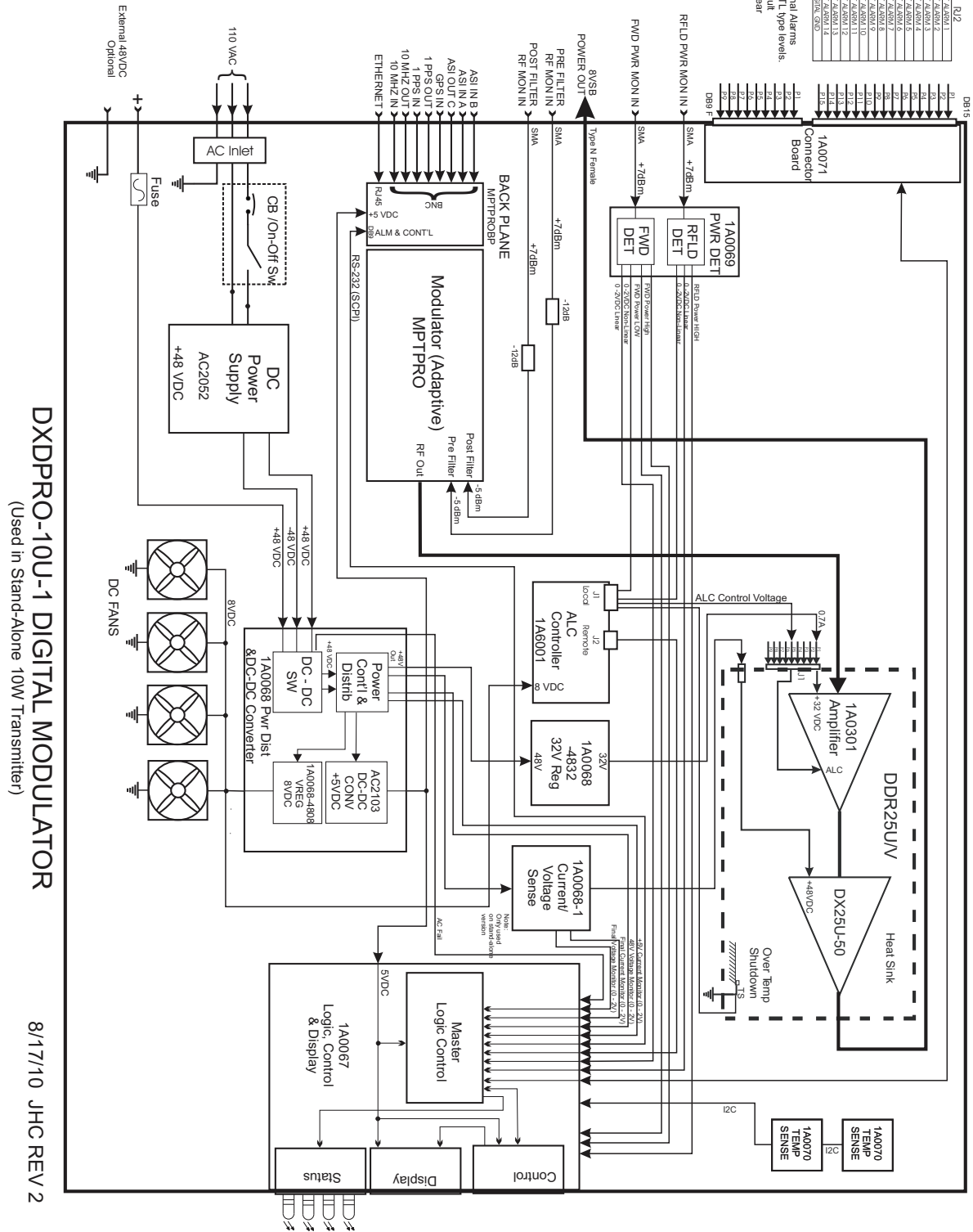
REFERENCE: AUTO, INT, GPS, 10MHz, 1PPS

MONITOR: Test

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S-A/N-1 0123456789012345678901234	A-A/N-1 0123456789012345678901234 : OK   ALARM
S-A/N-2 0123456789012345678901234	A-A/N-2 0123456789012345678901234 : OK   ALARM
S-A/N-3 0123456789012345678901234	A-A/N-3 0123456789012345678901234 : OK   ALARM
S-A/N-4 0123456789012345678901234	A-A/N-4 0123456789012345678901234 : OK   ALARM
S-A/N-5 0123456789012345678901234	A-A/N-5 0123456789012345678901234 : OK   ALARM
S-A/N-6 0123456789012345678901234	A-A/N-6 0123456789012345678901234 : OK   ALARM
S-A/N-7 0123456789012345678901234	A-A/N-7 0123456789012345678901234 : OK   ALARM
S-A/N-8 0123456789012345678901234	A-A/N-8 0123456789012345678901234 : OK   ALARM
S-A/N-9 0123456789012345678901234	A-A/N-9 0123456789012345678901234 : OK   ALARM
S-A/N-10 0123456789012345678901234	A-A/N-10 0123456789012345678901234 : OK   ALARM
S-A/N-11 0123456789012345678901234	A-A/N-11 0123456789012345678901234 : OK   ALARM
S-A/N-12 0123456789012345678901234	A-A/N-12 0123456789012345678901234 : OK   ALARM

# DXDPRO-10U BLOCK DIAGRAM



**DXDPRO-10U-1 DIGITAL MODULATOR**  
 (Used in Stand-Alone 10W Transmitter)

8/17/10 JHC REV 2



**PINEAPPLE TECHNOLOGY, INC.**

Web site: [www.ptibroadcast.com](http://www.ptibroadcast.com)

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