

# DTXPRO-800VHR DIGITAL TRANSPOSER

DIGITAL MODULATOR,  
REPROCESSOR, AND  
REMOTE CONTROL



## INTRODUCTION

The DTXPRO-800VHR transmitter is an integrated transmission system. Included in a 24 RU rack is a modulator, power amplifier, mask filter, and standard accessories. The DTXPRO-800VHR is tested to FCC specifications.

The modulator used in this assembly is the DXDPRO-10VHR. The DXDPRO-10VHR is a UHF 8vsb BROADBAND MODULATOR with adaptive linear and nonlinear correction controllable via an Ethernet IP connection. The modulator has a built in all channel commercial 8vsb receiver. Many additional features are included in this basic modulator such as TRANSMITTER REMOTE CONTROL and STATUS MONITORING, GPS RECEIVER, ASI or SMPTE 310M, and FAULT NOTIFICATION VIA EMAIL. This unit will operate with 110 VAC or any 48 VDC TELECOM back up system in case AC Mains fail. Back up DC supply is not supplied in this package.

The MFA2PAU provides power amplification to achieve the desired power output level to comply with FCC license requirements. LDMOS 50 VOLT DEVICE TECHNOLOGY is used throughout the HPA section for state-of-the-art performance. This unit is wired to operate off 220V AC

An FCC Compliant STRINGENT MASK FILTER is supplied and is built into the rack. Additional components are included to sample forward and reflected power as well as samples for the adaptive linear and nonlinear corrector. The system transmitter is protected from antenna or filter faults by an ISOLATOR built into the HPA. Any faults in the filters or antenna will be detected by the onboard protection circuits. This transmitter includes a LOW PASS FILTER for additional harmonic suppression in the GPS Bands.

Pineapple Technology, Inc. warrants the DTXPRO LINE of transmitter products for 2 years from ship date. Extended warranty is available for an additional 5 years. Contact PTI sales for details.



**PINEAPPLE TECHNOLOGY, INC.**

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

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## TRANSMITTER GENERAL SPECIFICATIONS

FCC COMPLIANT ..... APPLICABLE SERVICE REQUIREMENTS STANDARDS ..... ATSC (8vsb), A/53, ASI MODULATION ..... 8 LEVEL VSB TRELLIS ATSC COMPLIANT ADAPTIVE CORRECTION... LINEAR & NON LINEAR CORRECTION TS OPTIONS ..... ASI OR SMPTE-310M CLOCK STABILITY ..... <2ppm (GPS LOCK AVAILABLE) CONTROL ..... ETHERNET WITH WEB PAGE GUI ACCESS PROTECTION .... THREE-LEVEL PASSWORD PROTECTION KEY PERFORMANCE TEST .. SHOULDER LEVELS -62 dB TYPICAL MER/SNR -35 dB TYPICAL FREQUENCY RANGE ..... \*174-220 MHz RF OUTPUT POWER ..... 400-800 WATTS MASK FILTER ..... 6 POLE STRINGENT FCC MASK LOW PASS FILTER ..... ADDITIONAL HARMONIC SUPPRESSION FOR GPS BAND PRIMARY POWER ..... 110 VAC 50/60 CYCLE The DXDPRO-10U WILL ALSO OPERATE OFF 48 VDC IF AVAILABLE.

REMOTE CONTROL ..... 12 STATUS AND 12 ALARM OPTIONS \*FREQUENCY RANGE LIMITED BY EXTERNAL COMPONENTS ASSEMBLED RACK ..... 19 INCH 24 RU RACK W=22 INCHES (559 mm) H=48 INCHES (1219 mm) D=32 INCHES (813 mm) WEIGHT < 175 LBS (70.3 Kg)

\*Frequency range limited by external equipment i.e. filters and isolators. This can be modified and or returned if it becomes necessary to change channels.

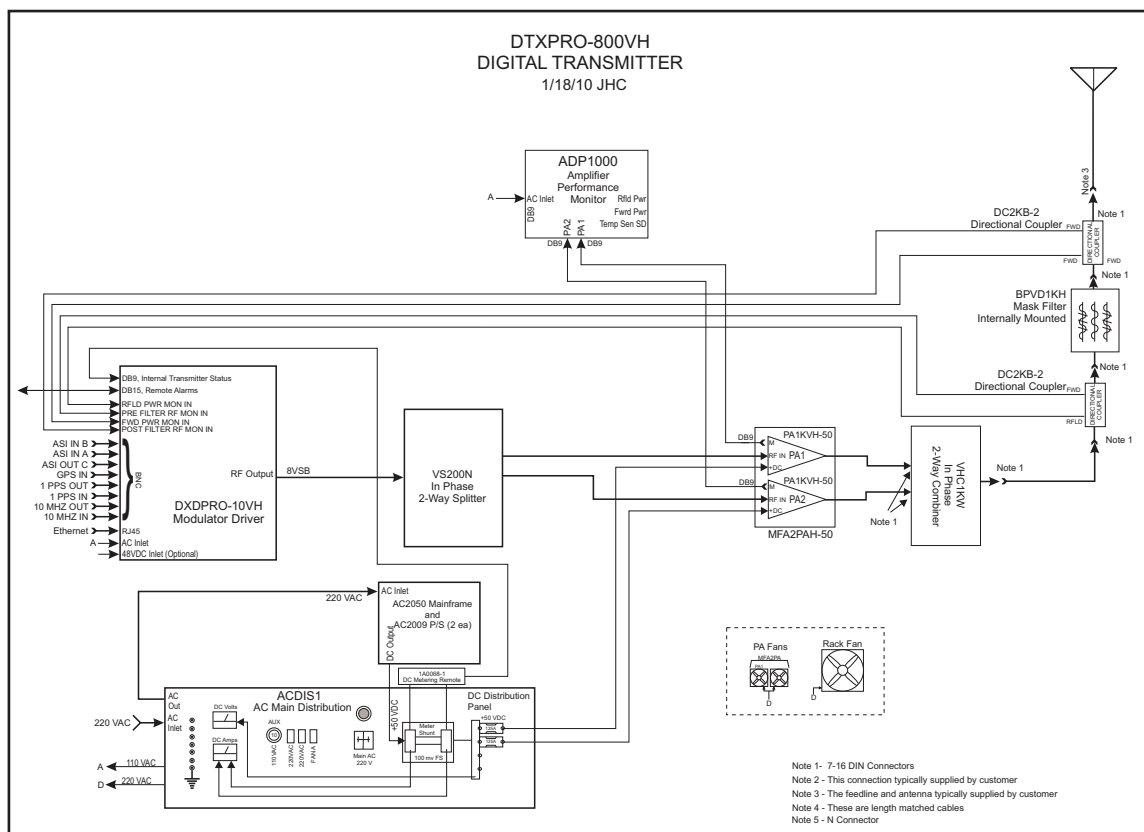
## RECEIVER SPECIFICATIONS

TUNABLE RANGE: ..... CHANNEL 2 THRU 69 OUTPUT ..... ASI TRANSPORT STREAM STANDARD RECEIVER WITH EQUALIZER AS USED IN PROFESSIONAL 8vsb RECEIVERS

CONTROL VIA FRONT PANEL

- CHANNEL SELECTION WITH LCD DISPLAY
- SIGNAL STRENGTH METER WITH LCD DISPLAY
- SIGNAL LOCK LED

## DTXPRO-800VHR BLOCK DIAGRAM



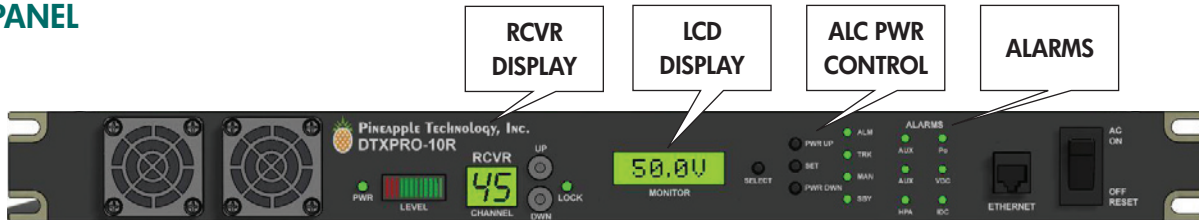
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## MODULATOR DXDPRO-10VHR

NOTE: Additional information available in the DXDPRO-10U datasheet.

### FRONT PANEL



**RECEIVER DISPLAY:** The receiver control and display panel is used to show status of the receiver and allows selection of desired receive channel. The receiver signal strength is displayed as well as LOCK and POWER status.

**LCD DISPLAY:** The LCD DISPLAY provides selected transmitter test data by depressing the SELECT switch located on the right side. Some of the options include the following;

1. RF POWER OUTPUT LEVEL
2. REFLECTED POWER LEVEL
3. DC SUPPLY VOLTAGE
4. DC CURRENT

**ALC CONTROL PANEL:** The ALC section serves two important functions.

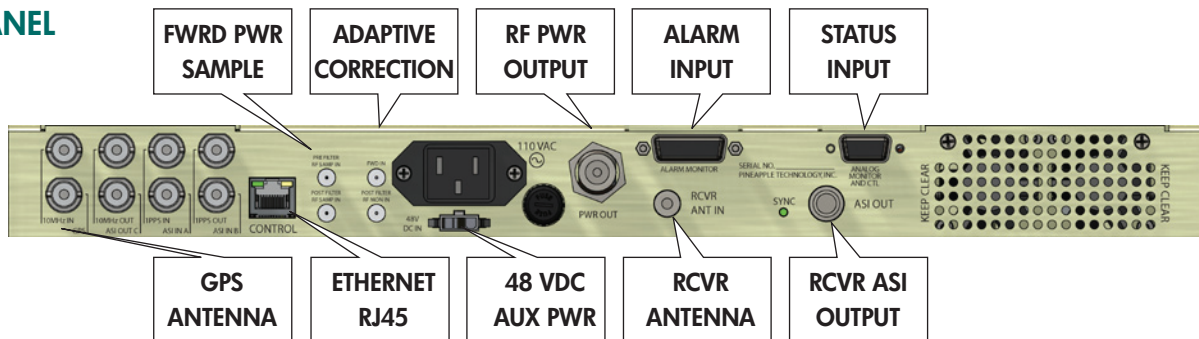
1. Provides a means for raising or lowering transmitter power level.
2. Once the desired power level is reached, the set switch places the ALC circuit in the TRACK MODE. In the TRACK MODE THE OUTPUT LEVEL IS CONSTANT.

**ALARM PANEL:** The alarm LEDs indicates status of key alarms. Key alarms include the following;

1. Low Output Power.....NORMAL (GREEN) FAULT (RED) <85 %
2. High Reflected Power.....NORMAL (GREEN) FAULT (RED) >20 %
3. 48 VDC Supply.....NORMAL (GREEN) FAULT (RED) <42 v
4. AC Main Voltage.....\*NORMAL (GREEN) FAULT (RED) <50 %
5. Ambient Temperature.....NORMAL (GREEN) FAULT (RED) >40 c
6. Heat Sink Temperature.....NORMAL (GREEN) FAULT (RED) >62 c

\*48 VDC backup power required

### REAR PANEL



### Mating Connectors

BNC JACK 75 OHMS .....GPS, ASI IN, SMPTE-310  
 ETHERNET .....RJ-45  
 RF MONITORING .....SMA JACK  
 ADAPTIVE SIGNAL.....SMA JACK  
 RF OUTPUT.....TYPE N JACK

RECEIVER ANTENNA.....TYPE F JACK  
 ALARM INPUTS.....DB 15 JACK  
 ANALOG STATUS .....DB 9 JACK  
 48 VDC INPUT.....MOLEX 3P

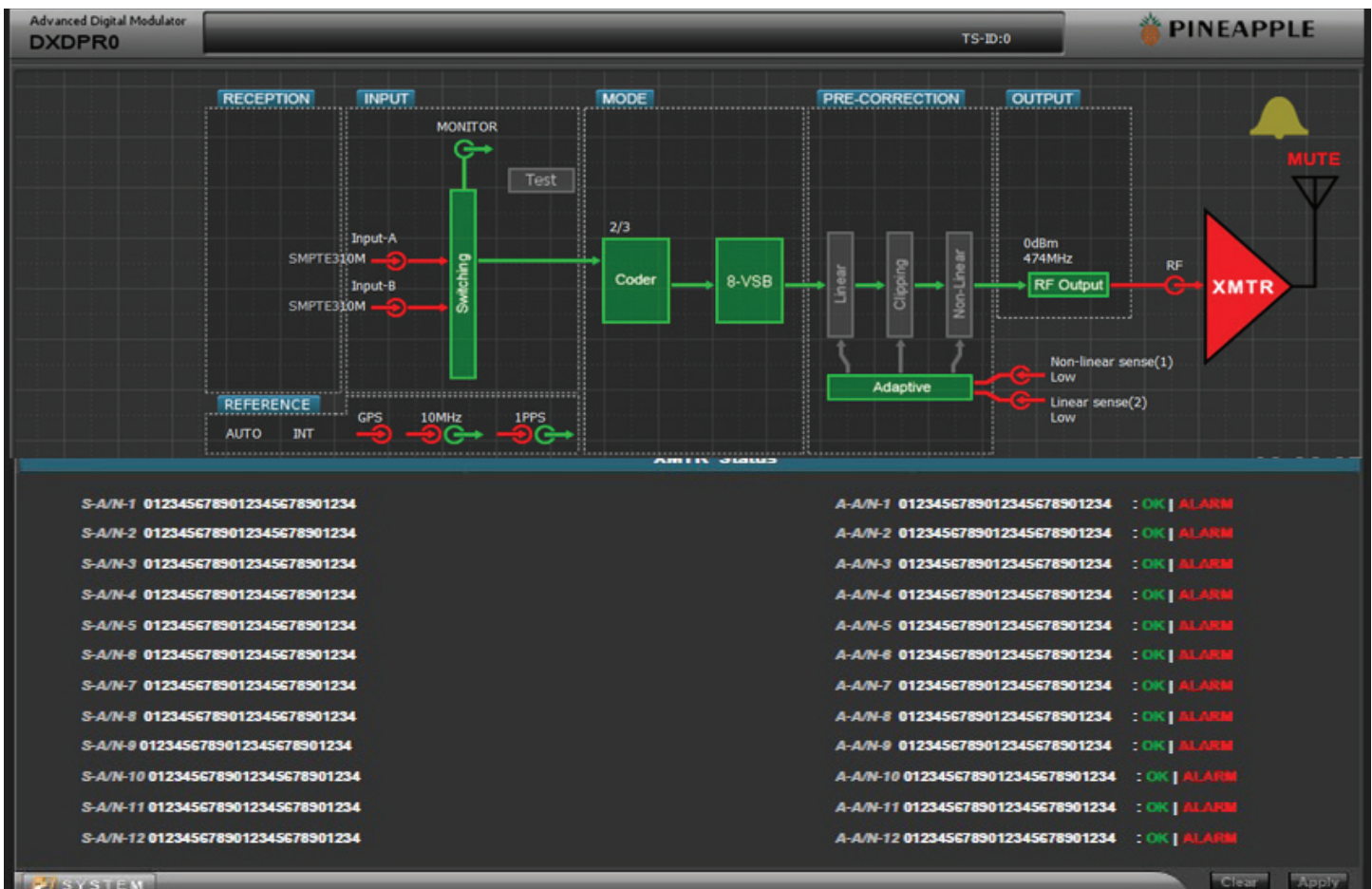
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## WEB PAGE GUI

### Web Page Commands

- Click and drag (XMTR ICON) to lower 1/2 page to see status and alarms
- Click and drag (LINEAR ICON) to lower 1/2 page to control linear correction
- Click and drag (NONLINEAR ICON) to lower 1/2 page to control nonlinear functions
- Click and drag (MUTE ICON) to lower 1/2 of page to mute and un mute xmtr
- Click and drag (RF OUTPUT) to change the output level from modulator
- Click and drag (BELL ICON) to view modulator alarms
- Click and drag (GPS ICON) to setup GPS receiver
- Click and drag (SWITCHING ICON) to select input port for ASI or SMPTE-310

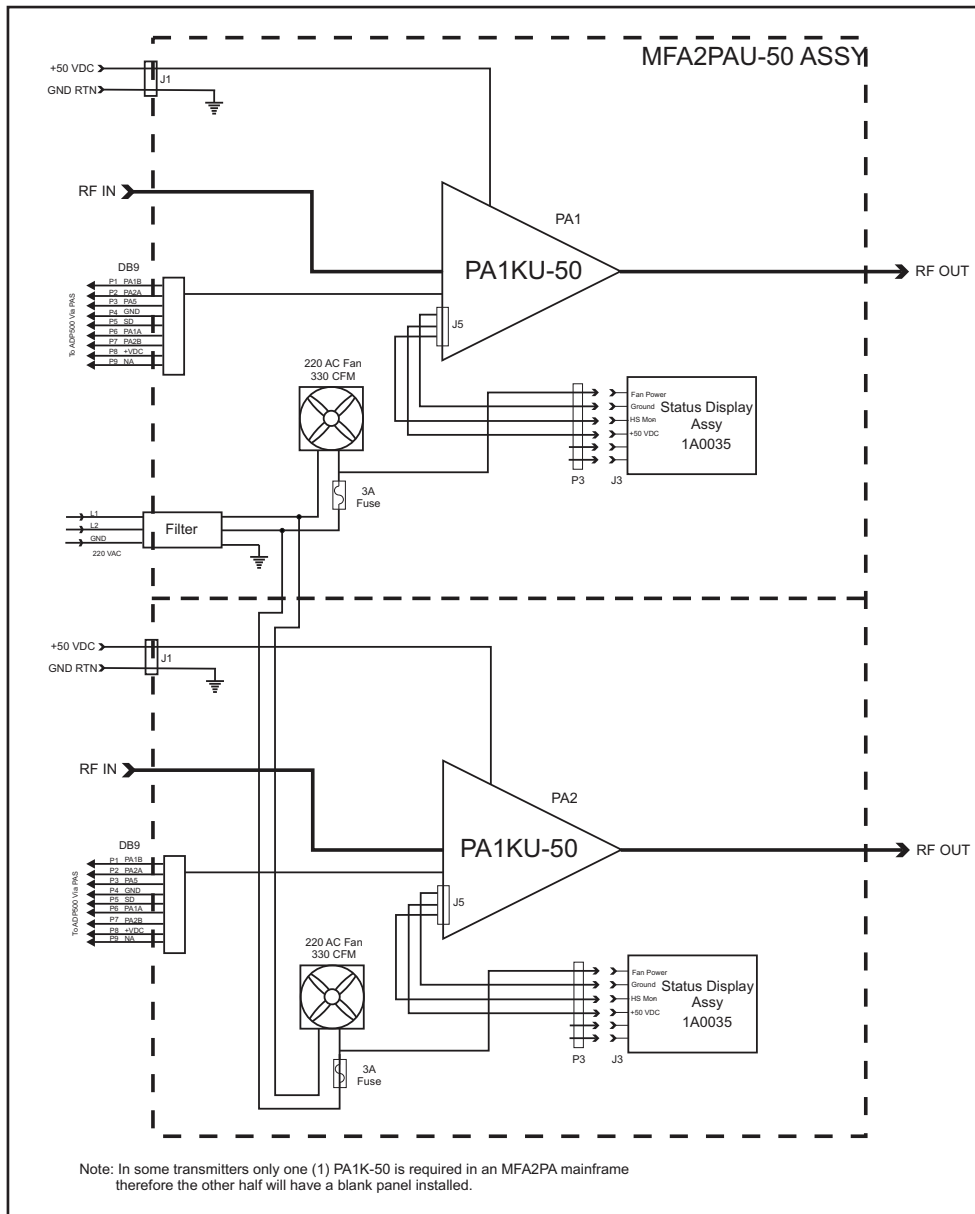


## MFA2PAH FINAL AMPLIFIER

The final amplifier Mainframe includes the following items;

1. 2ea PA1KU INTEGRATED AMPLIFIER ASSEMBLIES
2. PA STATUS PANEL
3. COOLING FANS AND HEAT SINK
4. GAIN & PHASE MATCHING NETWORK
5. CURRENT MONITORING INTERFACE VIA DB-9

## BLOCK DIAGRAM MFA2PAU



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