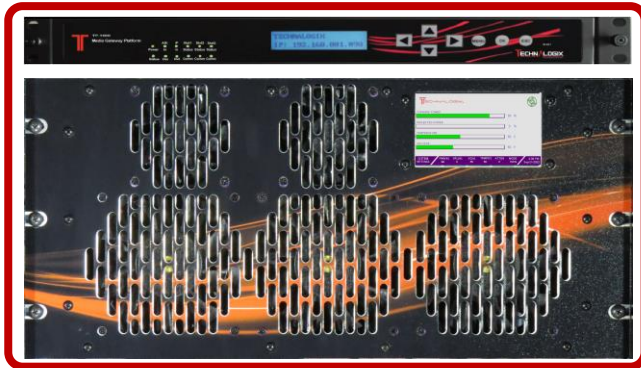


**500-watt UHF Digital Transmitter (8-VSB)**


This system includes: TAUD-40 Amplifier,  
TP1000 4 channel Encoder/Mux/Modulator

Note: Other configurations available:

- TP1800 Transmodulator 4-8VSB In, 1 Agile 8VSB Output
- TM900 Agile Adaptive Digital Modulator ATSC 1.0/3.0
- TM500 Low-Cost Digital Modulator

- 4 channels (2HD/2SD or 1HD/3SD) 8VSB RF output
- PSIP/PSI descriptors generator/injector with VCT
- Remultiplexer with PID editor, ASI injection, remap, restamp, grooming, and add-drop
- MPEG2/MPEG4 video encoding
- Full color touchscreen display, with Ethernet and SNMP
- Internal RF isolator, efficient switching power supply
- EAS input and control through GPI or SNMP
- Dynamic PSIP input from any external EIT EPG generator
- Excellent video quality and lower bitrates through triple pass video motion estimation
- 2 Year Warranty on Amplifier
- 1 Year Warranty on Modulator
- ATSC 3.0 Available on Select Modulators

## RF INPUT/OUTPUT CHARACTERISTICS

<b>Digital Audio Inputs</b>	SDI embedded – (1) stereo pair or pass through compressed
<b>Digital Audio Format</b>	Selectable Dolby Digital / AC3 / Stereo / 5.1-7.1 pass-through / MPEG2 / AAC
<b>Analog Audio Inputs</b>	Optional AV/L-R balanced-unbalanced audio embedded available upon request
<b>Digital Video Inputs</b>	(4) HD / SD SDI with embedded audio
<b>Analog Video Inputs</b>	Optional CVBS / Component / HDMI / VGA / DVI adapter available upon request
<b>Input Resolution</b>	Auto detect any resolution
<b>Video Scaler</b>	Scaler function can be selected on standard software to scale the input to lower resolution for matching
<b>Encoding Modes</b>	MPEG2 / MPEG4 H264 selectable by software per each channel
<b>Encoding Latency</b>	Ultra-low delay 50 milliseconds encoding
<b>Encoding Bitrates</b>	User selectable from 0.5 to 20 Megabits/s per channel (VBR / CBR stat mux)
<b>Encoding Control</b>	Video bitrate, CBR / VBR, ultra-fast encoding modes, 1080P MPEG2 mode
<b>Features</b>	All Closed Caption and TXT formats, Crystal-View technology

## IPTV OUTPUT

<b>IP Streaming Output</b>	(1) 100 / 1000 auto
<b>Mux IP Stream Output</b>	(1) Same as ASI MPTS Mux but over IP – ready for IP STLs, excitors, etc.
<b>SPTS Single Stream Output</b>	(4) Selectable RTP / RTSP / UDP Single Program Transport Streams, IGMP, Multicast / Unicast
<b>IPTV Bitrates</b>	Same as ASI Mux output for the MUS stream, same as each encoder for the SPTS streams

## ASI INPUT/OUTPUT

<b>ASI Inputs</b>	(1) SPTS / MPTS
<b>Remultiplex</b>	Generate, inject, remap, restamp, grooming, add / drop; Stat Mux
<b>Max Input Bitrate</b>	214 Megabit/s
<b>ASI Outputs</b>	(2) Mirror
<b>ASI Output Format</b>	Selectable 188 / 204 bits
<b>Transport Stream</b>	ASI Mux MPTS ready for excitors, STLs, and uplinks
<b>Max Output Bitrate</b>	Fixed payload selectable to 19.3 Megabit/s (ATSC) or any other value as needed

\*\* Due to continuous product improvements, Technalogix reserves the right to change specifications without notice. \*\*

**ELECTRICAL CHARACTERISTICS**

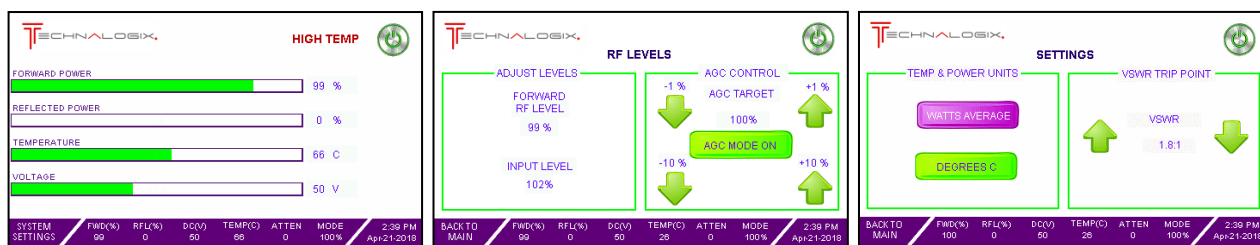
<b>Flexible AC Input</b>	Amplifier/PSU:	180-264 Vac, 47 - 63 Hz
	Transmodulator:	100-240 Vac, 50 - 60 Hz
<b>AC Consumption</b>	Amplifier:	2,050W typical [208Vac/9.8Aac] (dependent on frequency)
	Transmodulator:	65W max

**PHYSICAL FEATURES**

<b>Minimal Rack Space</b>	Amplifier:	5U (H) x 25" (D) x 19" (W)
	Power Supply:	3U (H) x 25" (D) x 19" (W)
	Transmodulator:	1U (H) x 16.5" (D) x 19" (W)
<b>Lightweight Enclosures</b>	Aluminum	70 lbs (Amplifier), 30 lbs (Power Supply), 13 lbs (Transmodulator)
<b>Operating Temperature</b>	0 to +45° C	Natural and forced air circulation, redundant fans
<b>Humidity</b>	90%, non-condensing	

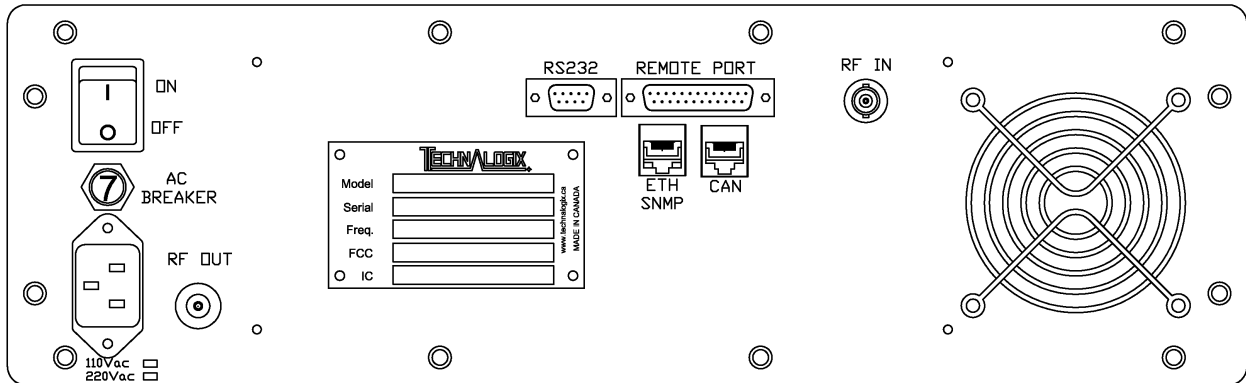
**INTERFACE**

<b>DB25 Remote Port</b>	<b>Control:</b>	RF carrier on/off, RF power up/down, reset
	<b>Monitor:</b>	Forward/reflected RF level, control PCB Vcc
	<b>Flags:</b>	Overdrive, VSWR (adjustable trip point), high temperature
<b>Ethernet</b>	<b>Control:</b>	RF carrier on/off, RF power up/down, AGC/manual mode, change VSWR trip point, reset
	<b>Monitor:</b>	Forward/reflected RF level, pallet voltage, RF input level, temperature, VSWR trip point, model/serial number
	<b>Flags:</b>	Carrier on/off, overdrive, pallet voltage, VSWR, RF input, temperature, AGC / manual
<b>SNMP</b>	<b>Control:</b>	RF carrier on/off, RF power up/down, AGC/manual mode, change VSWR trip point, reset
	<b>Monitor:</b>	Forward/reflected RF level, DC pallet voltage, RF input level, temperature, pallet current, attenuation, run time, RF fault, model/serial number
	<b>Flags:</b>	Overdrive, VSWR, temperature, SNMP error



Screenshots off Touchscreen Interface

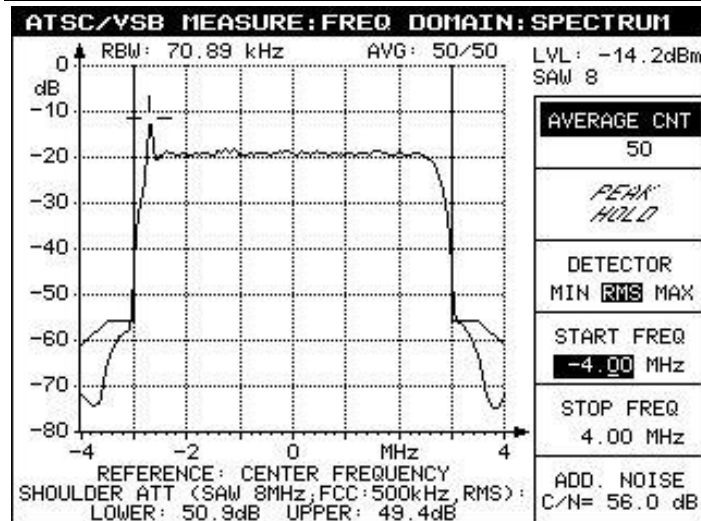
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All Specifications taken with TP-1000 Modulator

ATSC/VSB MEASURE: VSB PARAMETERS		
CENTER FREQ <b>509.00 MHz</b>	CHANNEL <b>20</b>	ATTEN : LOW+P <b>-14.2 dBm</b>
<b>TRANSMISSION:</b>		CONSTELL DIAGRAM...
PHASE JITTER (RMS)	0.12 °	FREQUENCY DOMAIN...
SIGNAL/NOISE (LOW Q)	38.5 dB	TIME DOMAIN...
<b>SUMMARY:</b>		VSB PARA PILOT VALUE.
MER (REAL,RMS)	36.4 dB	
MER (REAL,MIN)	13.4 dB	
MER (REAL,RMS)	1.51 %	
MER (REAL,MAX)	21.31 %	
		ADD. NOISE C/N= 56.0 dB

ATSC/VSB MEASURE: CONSTELL DIAGRAM	
10000 SYMBOLS PROCESSED	LVL: -14.2dBm SAW 8
	SYMBOL CNT <b>10000</b>
	HOLD
	FREEZE ON OFF
	CONST DIAG HISTOGRAM I HISTOGRAM Q
	ADD. NOISE C/N= 56.0 dB



ATSC/VSB MEASURE		
CENTER FREQ <b>509.00 MHz</b>	CHANNEL <b>20</b>	ATTEN : LOW+P <b>-14.1 dBm</b>
SET CENTER FREQ	509.000000 MHz	CONSTELL DIAGRAM...
SET PILOT FREQ	506.3094406 MHz	FREQUENCY DOMAIN...
CALC PILOT FREQ	506.3090669 MHz	TIME DOMAIN...
PILOT FREQ OFFSET	-373.7 Hz	VSB PARA- METERS...
SYMBOL RATE OFFSET	-8.3 Hz	RESET BER
MODULATION	8VSB	
MER (REAL,RMS)	36.4 dB	
MER (REAL,RMS)	1.49 %	
BER BEFORE RS	0.0E-9 (321/1K00)	
BER AFTER RS	0.0E-8 (263/1K00)	
SEG ERR RATIO	0.0E-6 (263/1K00)	
SEG ERR / s	00000	
TS BIT RATE 19.393 Mbit/s		
SAW:8.0MHz		
		ADD. NOISE C/N= 56.0 dB