



This system includes: TAUD-250 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 (ATSC 3.0 ready)
- 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

## AUDIO / VIDEO INPUT 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, fully compatible to ATSC 3.0, Crystal-View technology

## 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 exciters, STLs, and uplinks
<b>Max Output Bitrate</b>	Fixed payload selectable to 19.3 Megabit/s (ATSC) or any other value as needed

## 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, exciters, 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

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

**ELECTRICAL CHARACTERISTICS**

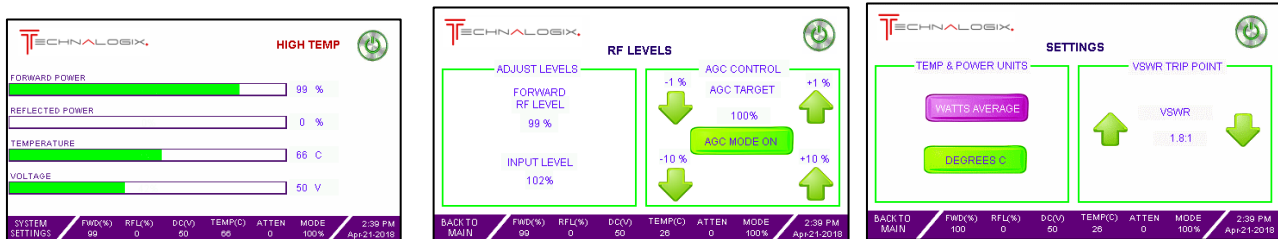
<b>Flexible AC Input</b>	100-240 Vac input, 50 / 60 Hz	
<b>AC Consumption</b>	Amplifier:	1,040W typical [208Vac/5Aac] (dependent on frequency)
	Encoder/Stat Mux/Modulator:	65W max

**PHYSICAL FEATURES**

<b>Minimal Rack Space</b>	Amplifier:	3U (H) x 25" (D) x 19" (W)
	Encoder/Stat Mux/Modulator:	1U (H) x 15.35" (D) x 19" (W)
<b>Lightweight Enclosures</b>	Amplifier:	40 lbs
	Encoder/Stat Mux/Modulator:	8 lbs
<b>Operating Temperature</b>	0 to +45° C	Natural and forced air circulation, redundant fans
<b>Humidity</b>	90%, non-condensing	

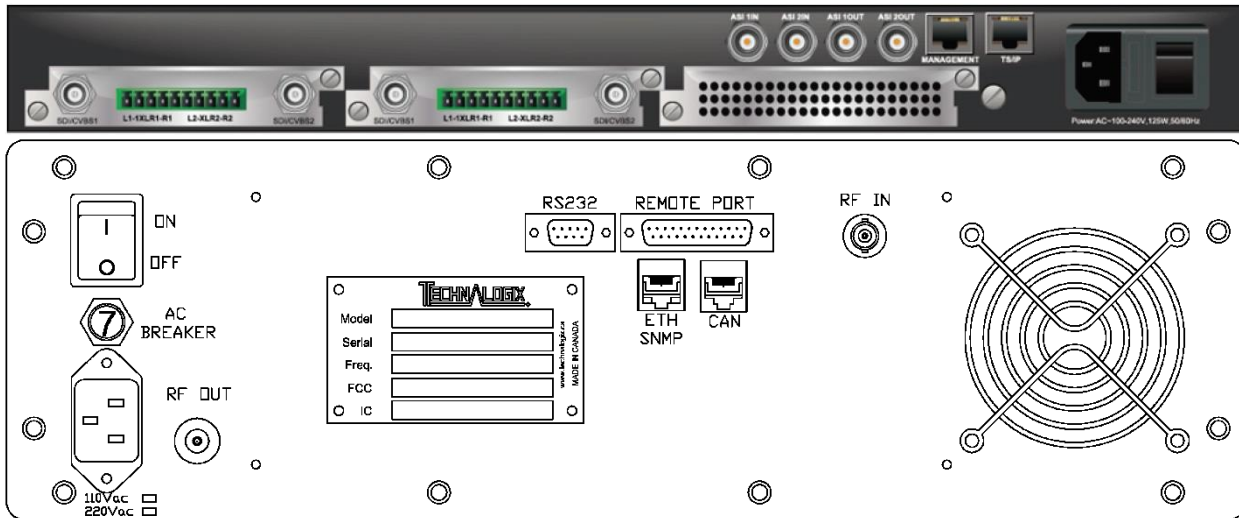
**INTERFACE**

<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



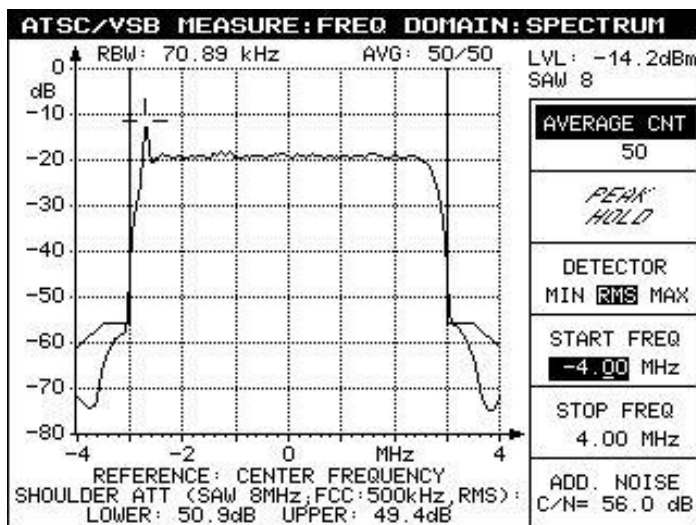
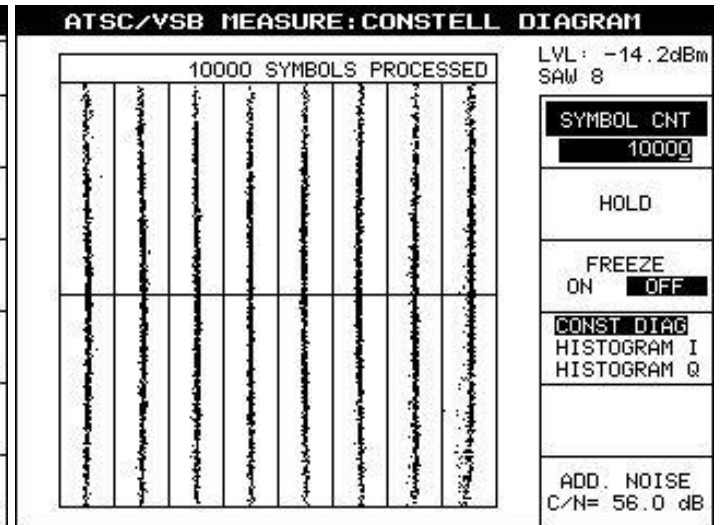
Screenshots off Touchscreen Interface

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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>	
PHASE JITTER (RMS)	0.12 °
SIGNAL/NOISE (LOW Q)	38.5 dB
<b>SUMMARY:</b>	
MER (REAL, RMS)	36.4 dB
MER (REAL, MIN)	13.4 dB
MER (REAL, RMS)	1.51 %
MER (REAL, MAX)	21.31 %
CONSTELL DIAGRAM...	
FREQUENCY DOMAIN...	
TIME DOMAIN...	
VSB PARA PILOT VALUE.	
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	509.0000000 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 PARAMETERS...
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		

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