



This system includes: TAUD-100 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

AUDIO / VIDEO INPUT CHARACTERISTICS

Digital Audio Inputs	SDI embedded – (1) stereo pair or pass through compressed
Digital Audio Format	Selectable Dolby Digital / AC3 / Stereo / 5.1-7.1 pass-through / MPEG2 / AAC
Analog Audio Inputs	Optional AV/L-R balanced-unbalanced audio embedded available upon request
Digital Video Inputs	(4) HD / SD SDI with embedded audio
Analog Video Inputs	Optional CVBS / Component / HDMI / VGA / DVI adapter available upon request
Input Resolution	Auto detect any resolution
Video Scaler	Scaler function can be selected on standard software to scale the input to lower resolution for matching
Encoding Modes	MPEG2 / MPEG4 H264 selectable by software per each channel
Encoding Latency	Ultra-low delay 50 milliseconds encoding
Encoding Bitrates	User selectable from 0.5 to 20 Megabits/s per channel (VBR / CBR stat mux)
Encoding Control	Video bitrate, CBR / VBR, ultra-fast encoding modes, 1080P MPEG2 mode
Features	All Closed Caption and TXT formats, fully compatible to ATSC 3.0, Crystal-View technology

ASI INPUT / OUTPUT

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

IPTV OUTPUT

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

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ELECTRICAL CHARACTERISTICS

Flexible AC Input AC Consumption	100-240 Vac input, 50 / 60 Hz	
	Amplifier:	605W typical [110Vac/5.5Aac] (dependent on frequency)
	Encoder/Stat Mux/Modulator:	65W max

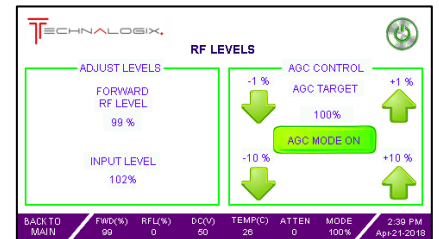
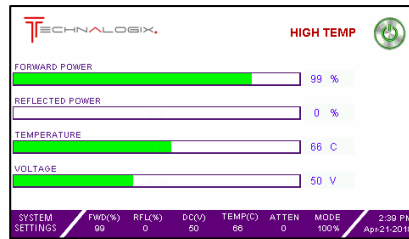
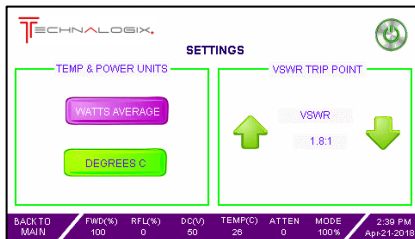
PHYSICAL FEATURES

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

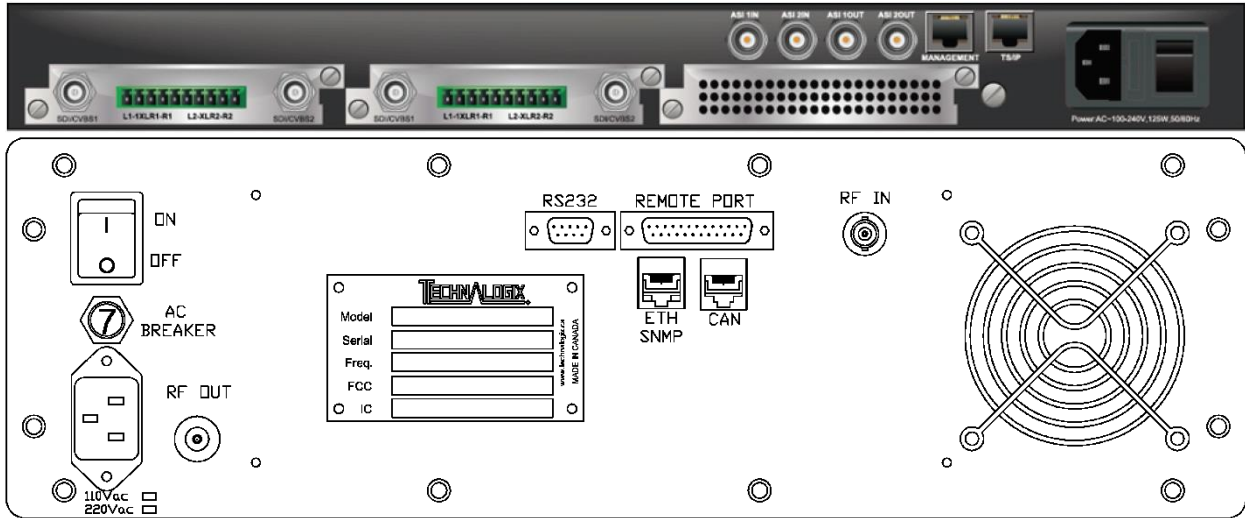
INTERFACE

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

Screenshots off Touchscreen Interface



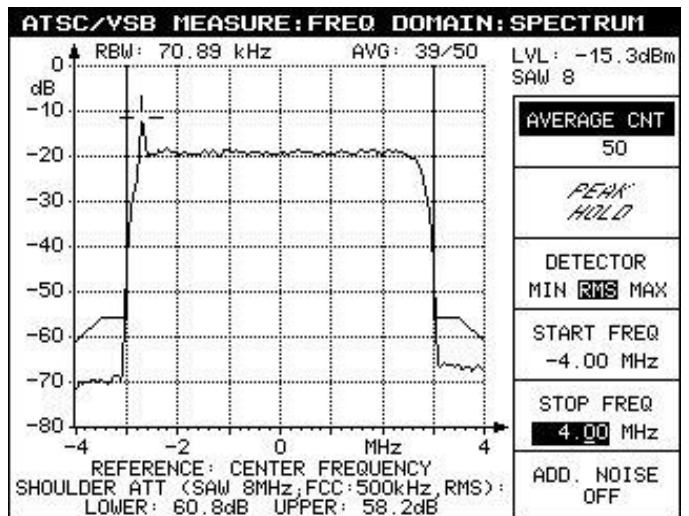
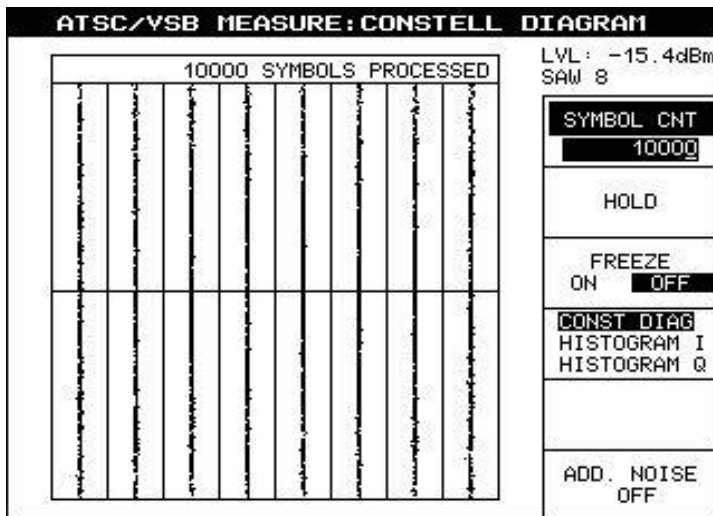
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All Specifications Taken with TP-1000 Modulator

ATSC/VSB MEASURE			
CENTER FREQ	CHANNEL	ATTEN : LOW+P	
539.00 MHz	25	-15.3 dBm	
SET CENTER FREQ	539.000000 MHz	CONSTELL	
SET PILOT FREQ	536.3094406 MHz	DIAGRAM...	
CALC PILOT FREQ	536.3087969 MHz		
PILOT FREQ OFFSET	-643.7 Hz	FREQUENCY	
SYMBOL RATE OFFSET	-13.2 Hz	DOMAIN...	
MODULATION	8VSB	TIME	
MER (REAL,RMS)	45.8 dB	DOMAIN...	
MER (REAL,RMS)	0.50 %		
BER BEFORE RS	0.0E-9 (288/1K00)	VSB PARA-	
BER AFTER RS	0.0E-8 (236/1K00)	METERS...	
SEG ERR RATIO	0.0E-6 (236/1K00)		
SEG ERR / s	00000	RESET BER	
TS BIT RATE 19.393 Mbit/s			
SELFTEST ERROR CODE: 000001 (HEX)			
ADD. NOISE OFF			

ATSC/VSB MEASURE: VSB PARAMETERS			
CENTER FREQ	CHANNEL	ATTEN : LOW+P	
539.00 MHz	25	-15.4 dBm	
TRANSMISSION:			CONSTELL
PHASE JITTER (RMS)	0.21 °		DIAGRAM...
SIGNAL/NOISE (LOW Q)	47.5 dB		FREQUENCY
SUMMARY:			DOMAIN...
MER (REAL,RMS)	45.1 dB		TIME
MER (REAL,MIN)	19.7 dB		DOMAIN...
MER (REAL,RMS)	0.55 %		VSB PARA
MER (REAL,MAX)	10.40 %		PILOT VALUE..
ADD. NOISE OFF			



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