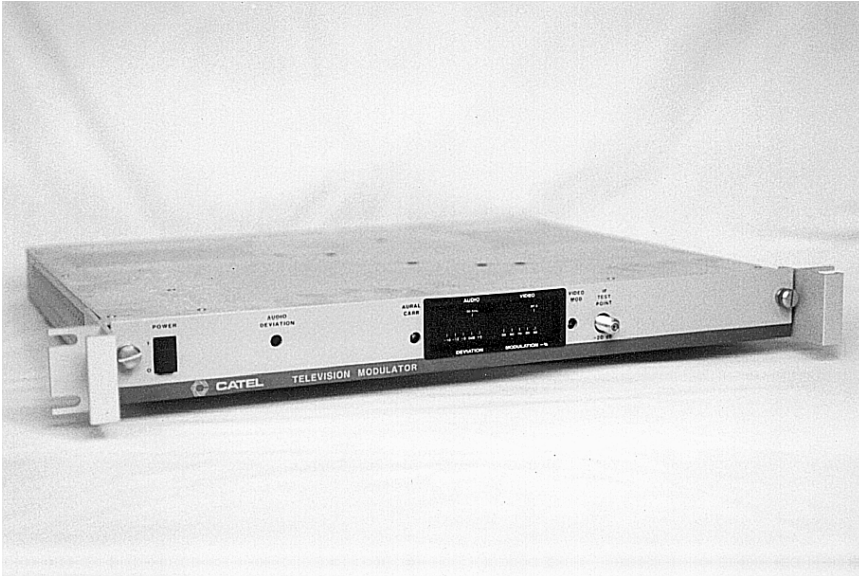




Broadcast - AM

Model ATM-1600P

PAL/SECAM Broadcast AM Television Modulator



The Meret ATM-1600 PAL/SECAM Broadcast Modulator is designed to provide quality VSB-AM modulation with separate visual and aural or composite IF output to drive a transmitter upconverter and RF output amplifier. High quality circuitry assures optimum performance in excess of minimum requirements.

The ATM-1600 is designed in a one rack unit format, including its own power supply. The design uses plug-in circuit boards which can be removed or replaced by removal of the front panel of the unit.

The ATM-1600 contains a chassis/power supply, video modulator module and audio modulator module. All of the circuitry builds on Meret's tradition of providing only the highest quality modulators. The unit is specifically designed to assure that transmission requirements are met. Specifications are based on conservative design to allow headroom for the user.

The ATM-1600 provides +40 dBmV aural and visual IF loops to allow the introduction of IF scrambling. The unit includes a precision, temperature controlled, 38.9 MHz internal reference and an input for an external 38.9 MHz reference.

The ATM-1600 audio system provides for input of either 600 ohm, balanced or unbalanced, or high impedance loopthrough for monaural audio. The system also provides an input for an external SCA when used in monaural operation.

The video modulator includes a white clipper circuit which can be adjusted within a range of 85 - 95% depth of modulation.

Power is connected through an IEC AC block. BNC connectors are used for video input and F connectors are used for IF/RF connections. Audio connections are made on a standard terminal block.

APPLICATIONS

- Broadcast
- MDS
- MMDS
- ITFS

FEATURES

- Premium performance standards
- Video presence circuitry
- Low profile packaging

BENEFITS

- Performance with headroom
- Video loss provides transmitter control
- Less room and less heat

Specifications

Video	
Input	Composite PAL B/G, PAL I or SECAM D/K video, negative sync.
Input Level	1.0 V p-p for 87.5% modulation, ± 6 dB adjustment range.
Input Impedance	High Impedance loop-through
Return Loss	30 dB minimum, 25 Hz to 6.0 MHz with 75 ohm, 1% external terminator
Frequency Response	
PAL B/G	± 0.5 dB, 25 Hz to 5.0 MHz
PAL I	± 0.5 dB, 25 Hz to 5.5 MHz
SECAM D/K	± 0.5 dB, 25 Hz to 6.0 MHz
White Level Limiter	Adjustable 85 - 95%
Modulation Range	To 95% modulation depth
Differential Gain	2% maximum at 87.5% modulation 10 - 90% APL
Differential Phase	0.5° maximum at 87.5% modulation 10 - 90% APL
Signal-to-Noise	>60 dB, weighted, measured by a Tektronix 1450-1 or equivalent demodulator
AM Hum and Noise	60 dB minimum below 87.5% modulation depth
Sync Compression	0.25 dB maximum at 87.5% modulation depth
Tilt	1% maximum on 50 Hz squarewave
K-Factor, 2T Pulse	2%
Group Delay	Meets published CCIR group delay requirements for broadcast excitors

Audio	
Input Type	High-Z bridging
Capability	Monaural
Input Level	Mono 0 dBm, ± 10 dB
Frequency Response	Within ± 0.5 dB of 50 μ s pre-emphasis, 30 Hz to 15 kHz
THD	0.5% maximum at 50 kHz deviation 30 Hz to 15 kHz
FM Hum and Noise	60 dB minimum below 50 kHz deviation

Intercarrier Frequency	
PAL B/G	5.5 MHz, ± 100 Hz,
PAL I	6.0 MHz, ± 100 Hz
SECAM D/K	6.5 MHz, ± 100 Hz
Frequency Accuracy/ Stability	any combination of specified modulation and operating temperature
SCA Input	High impedance input for use with external SCA generator

IF Output	
Output Type	Separate visual and aural IF outputs and a combined IF output
Output Impedance	75 ohms
Output Return Loss	>16 dB
Output Level	+40 dBmV, minimum, with normal setup
Frequency Accuracy/ Stability	± 200 Hz of 38.9 MHz visual or 33.4 MHz (PAL B/G), 32.9 MHz (PAL I), 32.4 MHz (SECAM D/K) aural IF, any combination of specified modulation and operating temperature
ICPM	<3° at 87.5% modulation depth
Aural AM Noise	>-55 dB at aural IF

External Signal Source	
Signal type	External 38.9 MHz CW carrier
Signal Level	+30 to +50 dBmV

Electrical/Mechanical	
Power	95-260 VAC, 47/63 Hz
Temperature	-30 to +50° C, operating
Humidity	95%, non-condensing
Size	45mm x 483mm x 368mm 19"W x 1¾"H x 14½"D
Weight	5.4 kg - 12 lb
Chassis	Steel

Typical Configurations	
ATM-1600-PI	PAL I
ATM-1600-PB	PAL B/G
ATM-1600-S	SECAM D/K
ATM-1600-S1	SECAM K1

Specifications subject to change without notice