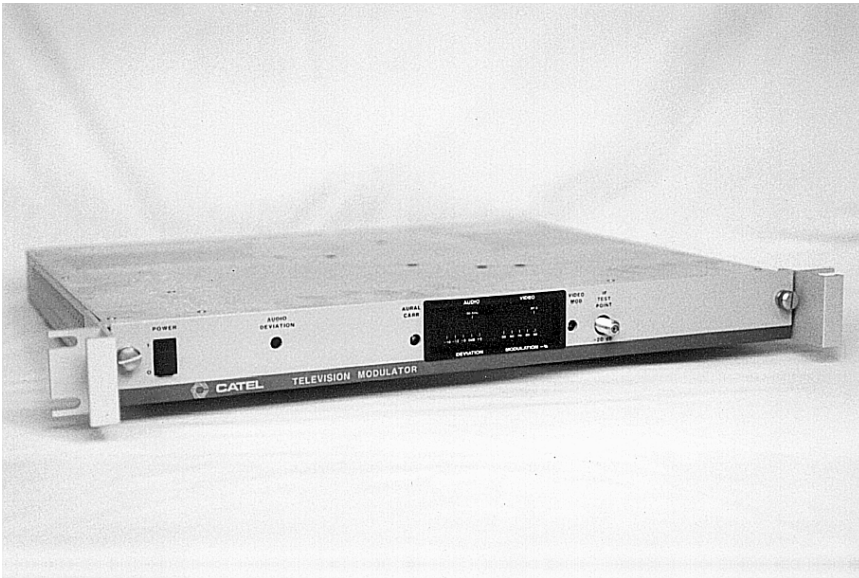




**Broadcast - AM**

**Model ATM-1600S**

## **PAL/SECAM Broadcast AM Television Modulator**



The Meret ATM-1600S PAL/SECAM D/K 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-1600S is designed in a one rack unit format, including its own power supply. The design uses plug-in circuit boards that can be removed or replaced by removal of the front panel of the unit. The ATM-1600S 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-1600S 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-1600S audio system provides for input of either 600 ohm, balanced or unbalanced, or high impedance loop-through 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 that 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

<b>Video</b>	
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, $\pm 6$ 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/SECAM D/K	$\pm 0.5$ 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

<b>Audio</b>	
Input Type	High-Z bridging
Capability	Monaural
Input Level	Mono 0 dBm, $\pm 10$ dB
Frequency Response	Within $\pm 0.5$ dB of 50 $\mu$ 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
Inter-carrier Frequency	
PAL/SECAM D/K	6.5 MHz, $\pm 100$ Hz
Frequency Accuracy/ Stability	$\pm 100$ Hz for any combination of specified modulation and operating temperature
SCA Input	High impedance input for use with external SCA generator

<b>IF Output</b>	
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	$\pm 200$ 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

<b>External Signal Source</b>	
Signal type	External 38.9 MHz CW carrier
Signal Level	+30 to +50 dBmV

<b>Electrical/Mechanical</b>	
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 1 $\frac{3}{4}$ "H x 14 $\frac{1}{2}$ "D
Weight	5.4 kg - 12 lb
Chassis	Steel

Specifications subject to change without notice