

# ET45 Encrypted Video/Audio Transmitter

UHF, L-Band, S-Band, C-Band

**Rugged, Reliable, Efficient, Feature Rich in a Small Package. Ideal for Covert Operations, UAVs, and UGVs!**



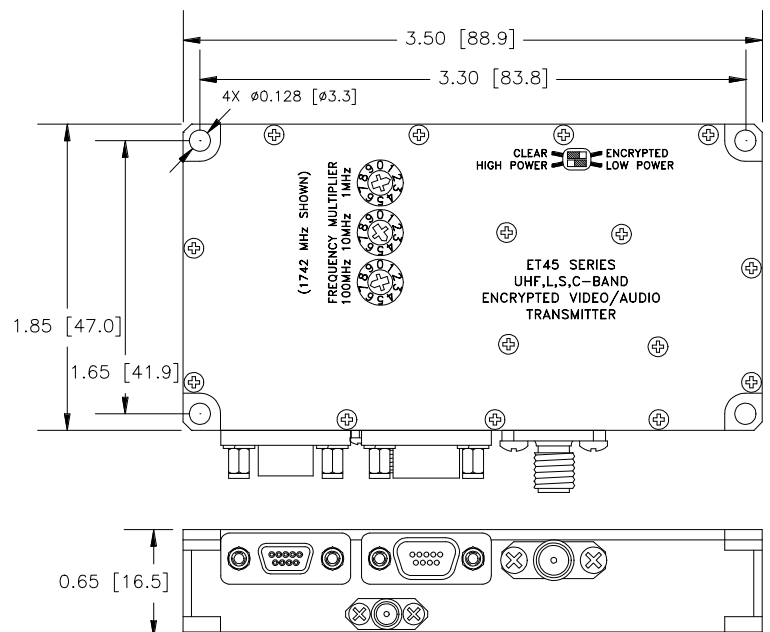
AMP's ET45 Series 4.2 cubic inch encrypted video/audio transmitters offer innovative features and high quality packaging and connectors. Like all E-Series products, ET45 models feature Micro-ViewLockII, or Micro-View/AudioLockII when equipped with audio, for secure video communications. A secondary encryption key may be programmed for maximum security.

ET45 Series transmitters are available with fixed RF output powers of 1 Watt or 2 Watts and may be optionally configured for dual power operation. Transmitter carrier frequency may be selected locally with BCD rotary switches, remotely with RS232 interface, or locally/remotely with a programmable binary switch. A set of slide switches allows control of dual power mode and selection between encrypted and clear video transmission. ET45 Series transmitters are optionally configured with internally regulated 5V and/or 12V camera supplies.

With military telemetry heritage, ET45 Series transmitters are designed to withstand harsh environments and are ideal for law enforcement, surveillance, UAV, UGV, Military, and other applications requiring efficient, high quality, secure video/audio transmission in a compact, rugged package.

## Design Features:

- 4.2 Cubic Inch Package (1.85" x 3.5" x 0.65")
- Weighs <4 oz.
- Up to 2 Watts RF Output Power
- Integrated Micro-View/AudioLock II Encryption
- Secondary Encryption Key Programming
- Dual Power Modes (Slide Switch Control)
- Full Band Channelized (BCD Rotary Switches, RS232 Remote Control, or Programmable Binary Switch)
- NTSC or PAL Video (Bandwidth & Pre-Emphasis)
- Internal 5V / 12V Camera Supplies (Optional)
- Mic or Line Audio Input Levels
- J-STD-001D Class 3 Assembly (Medical/Aerospace)



| MDM-9P:        | SSMA FEMALE VIDEO INPUT | MDM-9S:              | SMA FEMALE RF OUTPUT |
|----------------|-------------------------|----------------------|----------------------|
| 1: VDC INPUT   |                         | 1: NC                |                      |
| 2: VDC INPUT   |                         | 2: NC/AUDIO-L IN     |                      |
| 3: GROUND      |                         | 3: GROUND            |                      |
| 4: NC/RS232 TX |                         | 4: GROUND            |                      |
| 5: NC/RS232 RX |                         | 5: NC/AUDIO-R IN     |                      |
| 6: GROUND      |                         | 6: GROUND            |                      |
| 7: GROUND      |                         | 7: NC/12V CAM SUPPLY |                      |
| 8: NC          |                         | 8: NC/5V CAM SUPPLY  |                      |
| 9: NC          |                         | 9: GROUND            |                      |

### \*\* NOTES:

- 1) NC = No Connection
- 2) Models with no audio or cam supply have MDM-9S connector omitted
- 3) Programmable binary switch models utilize a single 16-position binary switch in place of the shown 1 MHz switch



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# AMP ET45 Series Encrypted Video/Audio Transmitter

## RF Characteristics

|  |  |   |
|--|--|---|
| Frequency Range (Specify):<br>(Other Ranges Available) | UHF: 340.0 – 399.9 MHz<br>Lower L-Band: 1435 – 1535 MHz<br>Upper L-Band: 1700 – 1850 MHz<br>S-Band: 2200 – 2399 MHz<br>ISM S-Band: 2400.00 – 2499.75 MHz<br>C-Band: 4400 – 4999 MHz<br>Public Safety C-Band: 4940 – 4990 MHz | Steps: 100 kHz<br>Steps: 1 MHz BCD, 250 kHz Other<br>Steps: 1 MHz BCD, 250 kHz Other<br>Steps: 1 MHz BCD, 250 kHz Other<br>Steps: 250 kHz<br>Steps: 1 MHz BCD, 250 kHz Other<br>Steps: 1 MHz BCD, 250 kHz Other |
| Frequency Selection (Specify):                         | Fixed or Channelized (Full Band - BCD Rotary Switches, RS232 Remote Control, or Programmable Binary Switch)  |   |
| Frequency Stability:                                   | ±4 ppm Over -20°C to +60°C   |   |
| Output Power (Specify):                                | 1 W, 2 W, or Dual Power (Any 2 Levels - 250 mW, 500 mW, 1 W, 2 W, Slide Switch Selectable)   |   |
| Output Impedance:                                      | 50 Ω Nominal, VSWR 1.5:1 Maximum   |   |
| Output Protection:                                     | UHF: None – 20:1 VSWR Indefinitely<br>L/S/C: Internal Isolator - Open/Short Indefinitely   |   |
| Spurious Output:                                       | -13 dBm Maximum  |   |

## Video Characteristics

|                               |  |
|-------------------------------|--|
| Encryption:                   | Micro-ViewLock II, Line Cut and Rotate, 256 Points |
| Secondary Key (Optional):     | 256 bits, RS232 Programmable                       |
| Modulation Type:              | Analog FM, Positive Sense                          |
| Frequency Response (Specify): | 4.2 MHz (NTSC) or 5.0 MHz (PAL), ±1.5 dB           |
| Pre-Emphasis:                 | 525-Line (NTSC) or 625-Line (PAL)                  |
| Modulation Sensitivity:       | ±4 MHz / 1 Vpk-pk @ Crossover Frequency            |
| Input Impedance:              | 75 Ω Nominal, Unbalanced, Shunted by 30 pF Maximum |
| Distortion:                   | 2% Maximum   |
| Incidental FM:                | 10 kHz RMS Maximum                                 |

## Audio Characteristics

|                                 |   |
|---------------------------------|---|
| Encryption:                     | Micro-View/AudioLock II, Digital Audio Over Video, ADPCM X4 Compression |
| Channels (Specify):             | 0, 1 (mono), or 2 (stereo)  |
| Frequency Response:             | 30 Hz to 7 kHz (stereo), 14 kHz (mono), +1/-3 dB                        |
| Input Impedance:                | 4.7 kΩ Minimum, Unbalanced  |
| Input Level (Specify):          | Microphone (-55 dBV typical w/ ALC), or Line (-10 dBV)                  |
| Mic DC Supply (Audio Input(s)): | 2.0 Vdc Thru 4.7 kΩ Pull-Up   |

## Power Requirements

|                                 |  |
|---------------------------------|--|
| Input Voltage:                  | +11 to +16 Vdc, Reverse Polarity Protected   |
| Current Draw:<br>(Max @ 12V)    | UHF/L/S-Band: 550 mA for 1 Watt RF, 750 mA for 2 Watts RF<br>C-Band: 600 mA for 1 Watt RF, 800 mA for 2 Watts RF |
| Camera Supply Output (Specify): | None, +5 Vdc, +12 Vdc, or Both, 250mA Current Limit  |

## Mechanical

|                   |                                   |                                |
|-------------------|-----------------------------------|--------------------------------|
| Material:         | CNC Machined T6061-T6 Aluminum    |                                |
| Finish (Specify): | Nickel Plated or Black Plated     |                                |
| Dimensions:       | 1.85" W x 3.50" L x 0.65" H       |                                |
| Weight:           | 4 oz. Maximum                     |                                |
| Connectors:       | RF Output:                        | SMA Female                     |
|                   | Video Input:                      | SSMA Female (Others Available) |
|                   | Audio Input, Mic/Cam Supplies:    | MDM-9S (If Applicable)         |
|                   | DC Supply, RS232 (If Applicable): | MDM-9P                         |

## Environmental

|                          |   |
|--------------------------|---|
| Temperature (Operating): | -20°C to +60°C  |
| Acceleration:            | 100 g, 3 Axes   |
| Altitude:                | Unlimited   |
| Humidity:                | Up to 95% @ Any Temperature Forming Frost or Condensation |