

### Description:

The MT-4E transmitter (shown to the right) is a high performance, low power FM transmitter capable of P25 digital or analog operation in 12.5 KHz (narrowband) or 25 KHz (wideband) channels. The MT-4E transmitter is available in the frequency bands: 136 - 174 MHz, 380 - 406, 406 – 430 MHz, 430 - 450, 450 – 470 MHz or 470 - 520 MHz.



Daniels MT-4E transmitters can be used in either repeater or base station configurations. When used in base station applications they will transmit clear or secure (encrypted) P25 and analog voice radio communications. When used in repeater applications they will repeat clear or secure (encrypted) P25 and analog voice radio communications. (Secure mode operation is optional.) P25 operation is supported via a purchasable P25 firmware option.

A modular design allows each of the transmitter's internal modules to be individually assembled and tested. This facilitates construction, tuning and maintenance as well as troubleshooting procedures. The transmitter can be programmed with up to 2 banks of 16 channels each. P25 transmitter options such as Frequency, CTCSS, NAC and analog / digital operation are software programmed with the Daniels Radio Service Software package.

Daniels MT-4E P25 Radio Modules are fully compliant with the Telecommunications Industry Standards (TIA) for the P25 9.6 kbps channel signaling rate. The Nexus FIPS 140-2 Cryptography Modules are incorporated into the Daniels MT-4E radio equipment when specified.

### Specifications:

Frequency Band	136 – 174 MHz	380-406, 406-470 or 470-520 MHz
Channel Spacing	12.5, 15, 25 and 30 KHz	12.5, and 25 KHz
Channel Selection	2.5, 5.0, 6.25 kHz increments	6.25 kHz increments
Transmitter Switching Range	Unlimited	Unlimited
RF Output Power	0.5 – 8.0 Watts adjustable	0.5 – 8.0 Watts adjustable 0.5 – 6.0 Watts adjustable (380-406, & 470-520 MHz)
Duty Cycle	100% continuous duty	100% continuous duty
Undesired Emissions (Conducted Spurious)	<-70 dBc	<-70 dBc
Undesired Emissions (Adjacent Channel Power Ratio (Analog & Digital)	<-70 dBc	<-70 dBc
FM Hum & Noise Ratio (300 Hz – 3.4 KHz)	NB > 34 dB WB > 40 dB	NB > 34 dB WB > 40 dB
Carrier Frequency Stability	+/- 1.0 ppm (-30°C to +60°C)	+/- 0.5 ppm (-30°C to +60°C)
Modulation Type (Analog)	11K0F3E (FM) or 16K0F3E (FM)	11K0F3E (FM) or 16K0F3E (FM)
Modulation Type (Digital)	8K10F1E (FM), 8K10F1D (FM), 9K2F1D	8K10F1E (FM), 8K10F1D (FM), 9K2F1D
Audio Distortion (Analog)	<3.0%	<3.0%
Audio Frequency Response (pre-emphasis)	As per TIA 603-C	As per TIA 603-C
VSWR Protection	<20:1 (All Phase angles) Includes ½ power alarm	<20:1 (All Phase angles) Includes ½ power alarm
Subtones	TBD	TBD
Output Impedance	50 Ω (Type N Connector)	50 Ω (Type N Connector)
Operating Temperature	-30°C to +60°C	-30°C to +60°C
Standby Current	<45 mA no encryption <70 mA encryption	<50 mA no encryption <80 mA encryption
Transmit Current (8.0 W)	<2.80 A	<2.80 A
FCC ID (Parts 22, 80 & 90)	H4JVT-4E150	H4JUT-4E450
IC Certification Number (Land) (RSS 119 & 182)	142A-VT4E150	142A-UT4E450 (N/A for 470-520 MHz)
IC Certification Number (Marine) (RSS 119 & 182)	142A-VT4E150	N/A

For further information please contact Daniels Electronics at the address shown below.