TDFM-600/6000 SERIES

Analog/Digital/Encrypted/Trunked/Multi-band Airborne FM Transceivers

TDFM-6148 with AMS-6000

- Supports up to three bands (TDFM-6000) or two bands (TDFM-600) customized to your requirement.
- RF Modules available to cover VHF, UHF and 800 MHz bands.
- APCO Project 25 compliant – Conventional and Trunked.
- Supports SmartNet™ and SMARTZONE™ Trunking protocols.
- Supports DES, DES-XL, DVI, DVP, DES-XL, AES Encryption options.
- P25 CAI allows digital communications with backward compatibility to both narrow and wide band analog channels.
- Flash upgradeable architecture allows new features and options to be subsequently implemented on the existing transceiver platform.
- Optional AMS-6000 (Audio Mode Selector) panel allows operation of multiple RF modes in either "combined" or "separate" transceiver configuration. Also supports simulcast and cross-band repeat.
- Optional RC-6000 Remote control available. Allows for remote operation of TDFM-600/6000 transceiver.

Configurable Multi-band Airborne Transceivers.

Each transceiver can store 255 channels per band and is capable of simultaneous operation on all available bands. The TDFM-600 and 6000 must be programmed with a laptop utilizing the Motorola Radio Service Software (RSS)™ ensuring total compatibility with existing fleet deployment. For maximum ease of Installation, programming and operation including ancillary features, the optional AMS-6000 mode selector should be used in conjunction with the TDFM-600/6000 series transceivers.

TDFM-600 series transceivers support dual band operation in two of the following bands:

VHF (136 to 174 MHz)	UHF Lo (403 to 470 MHz)
UHF Hi (450 to 512 MHz)	800 (806 to 870 MHz)

TDFM-6000 series transceivers support three band operation in the above configurations. Technisonic 600/6000 transceivers provide digital or conventional analog communications on the Project 25 Common Air Interface (CAI) and support P25 conventional and trunked communications as well as Motorola ASTRO™ trunking. SmartNet and SMARTZONE trunking protocols are also supported along with encrypted communications including Project 25 DES-OFB, AES, DES, DES-XL and OTAR in some applications.

TDFM-600/6000 series architecture supports provides a 2 line, 24 Character display and a multifunction front panel keypad, Night Vision compliant display and panel optional. The small size (no remote box) and light weight (3 pounds) of these compact panel mount multi-band airborne FM transceivers make them ideal for helicopter installation.

Protocols Supported

Conventional Analog
Conventional P25
Type II SmartNet
SMARTZONE
P25 Trunking (800 MHz)

Optional Encryption Formats Supported

DES, DES-XL, DVP, DVP-XL DVI
AES (includes DES Formats)
Multiple Encryption keys (Multi-Key)
Conventional OTAR
P25 OTAR (Available for limited applications)

SPECIFICATIONS TDFM-600/6000 Series – Available RF Modules

Operating Band	**VHF**	**UHF Lo**	**UHF Hi**	**800 MHz**
Frequency Range	136 – 174	403 – 470	450 – 512	806 – 870
RF Power Out	5W/1W	4W/1W	4W/1W	3W
Channels Available	255 programmable channels per band			
Channel Spacing	12.5/20/25/30	12.5/20/25	12.5/20/25	112.5/20/25
Dimensions	5.75 " (W) x 3.0" (H) x 7.5" (D) – add 1.5" for connectors			
Temperature Range	-45^0 C to $+50^0$ C			
Input Voltage	+28.0Vdc ± 15%			
Current requirement	165 mA Minimum, 5.0A Maximum			
Environmental Categories	RTCA DO-160C [(B2/D1)X]XXX[BMN]XXXXXXZBBXXXZXXXX			
Airworthiness Approvals	FAA and TC Aviation Fixed Wing and Rotor Craft STC approvals granted			

Transmitter

FM Hum and Noise (wideband)	-48 dB	-45 dB	-45 dB	-45 dB
Audio Distortion (at 1000 Hz)	< 2%			
Frequency Stability	±2.0 ppm	±2.0 ppm	±2.0 ppm	±1.5 ppm
Modulation Limiting				
Wideband (20/30 KHz)	± 5.0 KHz			
Narrowband (12.5 KHz)	± 2.5 KHz			
Emissions				
Conducted *	-70 dBC			
Radiated **	-70 dBC			

Receiver

Sensitivity				
*Digital 1% BER (12.5 KHz)	0.35 uV (0.4 uV for 800 MHz)			
*Digital 5% BER (12.5 KHz)	0.25 uV			
** Analog 20dB quieting 25 KHz	0.04 uV			
** Analog with 12 dB SINAD	0.25 uV			
Selectivity **				
25/30 KHz Channel	-78dB	-78 dB	-78 dB	-75 dB
12.5 Khz Channel per EIA	-67 dB	-68 dB	-68 dB	-63 dB
Intermodulation * **	-78 dB	-77 dB	-77 dB	-74 dB
Spurious response * **	-75 dBC			
Frequency Stability	± 2 ppm	± 2ppm	± 2 ppm	± 1.5 ppm
Audio Distortion	< 2%			

Note:

*measured in digital mode per TIA/EIA TSB102 CAAB

** measured in analog mode per TIA/EIA 603

Technisonic Industries Ltd. 240 Traders Blvd. E. Mississauga, Ontario L4Z 1W7 Tel: 905 890-2113

www.til.ca