



TMD-1124 45W VHF (136-174 MHz)  
TMD-1424 45W UHF (400-470 MHz)

The **TMD-1000 Series** of radios combine exceptional two-way radio performance with full featured Analog and TDMA DMR Tier 2 Digital technology.



- 45 Watt VHF/UHF; 1,024 Channels
- DMR Tier II TDMA/Analog per Channel
- Full Color Display
- Contact List Capacity 512
- Programmable 12.5/25 kHz per Channel
- 2.5/5.0/6.25 kHz PLL Channel Stepping
- CTCSS/DCS
- 2-Tone Encode/Decode/5-Tone Selcall
- QDC-1200, Stun/Kill OTA
- Voice Inversion Scrambler
- Digital Encryption (256 Bit)
- MIL-STD-810F/G Compliant
- Locking Mic Connector
- One-Touch Call & Text
- IP Multi-site Connect Roaming



## Product Features

### Ergonomic Design

The industrial design ensures convenient operation and remarkable performance for the most extreme uses.



### Reliable Quality

The TMD-1000 is in strict compliance with MIL-STD-810F/G, ensuring outstanding performance even under harsh environments.

### Superior Voice

With the combined application of narrowband codec and digital error-correction technologies, the TMD-1000 is capable of ensuring superior voice under noisy environments or at the edge of the coverage area. In addition, voice is optimized with the adoption of AGC technology and a 3 Watt speaker for loud, clear and crisp voice communication.

### Higher Spectrum Efficiency and Channel Capacity

Benefiting from the TDMA technology, the TMD-1000 allows twice the channels based on the same spectrum resource. This is beneficial to relieve the increasing shortage of spectrum resources.

### Versatile Voice calls Features

In addition to conventional communications services, the TMD-1000 features rich data services and selectable functions such as text messaging, emergency, radio enable/disable, remote monitor, call alert, radio check, and IP Multi-site Connect roaming.



*Equipped with performance from*

**TEXAS  
INSTRUMENTS**



# Functions and Options

## Dual Modes (Analog + Digital)

TMD-1000 series can operate in either analog or digital mode. It is compatible with the prevalent analog system ensuring a smooth analog-to-digital transition.

## Versatile Voice Calls

TMD-1000 supports various voice call types, including Private Call, Group Call and All Call.

## IP Multi-site Connect roaming

Automatic roaming of IP Multisite connected repeaters.

## Voice Channel Annunciation

Identify channels through audio notification.

## Various Analog Signaling Types

TMD-1000 supports various analog signaling types (CTCSS/DCS, QDC-1200, 2-Tone Encode/Decode and 5-Tone).

## Secure Communication

TMD-1000 provides high level digital encryption utilizing advanced 256-bit algorithm and voice inversion for analog.

## One Touch Text

TMD-1000 has the ability to send a text message with the press of one button.

# Industrial Design Features



## SPECIFICATIONS

### GENERAL

TMD-1124 TMD-1124G	136-174 MHz
TMD-1424, TMD-1424G	400-470 MHz
Channel Capacity	1024
Zone Capacity	64 (Each with a maximum of 16 channels)
Channel Spacing	25/20/12.5 kHz (Analog) 12.5 kHz (Digital)
Operating Voltage	13.6V DC±15%
Frequency Stability	± 1.5 PPM
Antenna Impedance	50 Ω
Dimensions (H/W/D)	2.4 x 6.8 x 6.9" (60.6x172x176 mm)
Weight	3.8 lbs. (1700 g.)
LCD Display (TPD-1124/1424)	220x176 Pixels/262,000 Colors/ 2"

### TRANSMITTER

RF Output Power	45 Watt VHF/UHF
FM Modulation	11K0F3E (12.5 kHz), 14K0F3E (20 kHz), 16K0F3E (25 kHz)
4FSK Digital Modulation	12.5 kHz Data Only: 7K60FXD, 12.5 kHz Data & Voice: 7K60FXW
Conducted/Radiated Emission	-36dBm<1GHz, -30dBm>1GHz
Modulation Limiting	±2.5 kHz (12.5 kHz), ±4.0 kHz (20 kHz), ±5.0 kHz (25 kHz)
FM Noise	40dB (12.5 kHz), 43dB (20 kHz), 45dB (25 kHz)
Adjacent Channel Power	60dB (12.5 kHz), 70dB (20/25 kHz)
Audio Distortion	<3%
Digital Vocoder Type	AMBE3000 Vocoder Chip with AMBE+2 Voice Compression Algorithm
Digital Protocol	ETSI-TS102 361-1-2-3

### RECEIVER

Sensitivity (Analog)	0.22µV (Typical ) 12dB SINAD
Sensitivity (Digital)	0.22µ V/BER 5%
Selectivity TIA-603 ETSI	>60dB (12.5 kHz), 70dB (25 kHz)
Intermodulation TIA-603 ETSI	>70dB (12.5/20/25 kHz)
S/N	40dB (12.5 kHz), 43dB (20 kHz), 45dB (25 kHz)
Audio Output Power	Internal (20 Ω) 3W/External (8 Ω) 8W
Audio Distortion	<3%
Audio Response	+1, ~ -3dB
Spurious Emission	<-57dBm

#### PACKAGE INCLUDES:

Radio, microphone, power cord, mounting hardware and user manual.

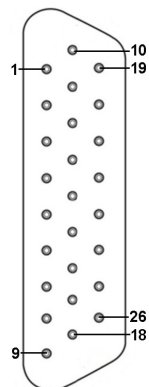
Specifications are subject to change without notice.

## ACCESSORIES



Heavy Duty Mobile Microphone  
 14 Amp Power Supply 110V/220V AC  
 12' or 20' Coax Mag Mount Base  
 VHF or UHF Wave Antenna  
 Programming Software and Cable (USB)

### Rear Accessory Connector Pinout



PIN No.	Pin Name	Description
1	Vbus USB Power Supply	+5V Power Supply
2	Ground	
3	GPS_3 Universal Input/Output Port (Chan. Act)	Universal Input/Output Port. Set the function in CPS.
4	SW B+ sense Power Output	13V Power Output. Output Current ≤1.5A
5	External Alarm	Programmable Output Pin (The default is External Alarm)
6	Power Ground	
7	Tx Audio Input/External MIC Audio	Tail External MIC Signal Input. Audio Channel is available when press the tail part on the External PTT.
8	Rx Audio Output	Rx Audio Speaker Output
9	Spkr	External Speaker Output
10	D+ USB	USB Data Cable+
11	USB GROUND	Ground Wire
12	GPS_2 Universal Input/Output Port (Monitor)	Universal Input/output Port. The function is set in CPS and its default is Monitor.
13	ACC_IO2	Tail Accessory Recognition Port; It forms 3 Accessory Recognition Statuses and 1 Default Status with Pin 15
14	Emerg Sw	When Emergency is available, its pin turns to low level.
15	ACC_IO3	Tail Accessory Recognition Port; its definition is as that in the Accessory Recognition Form.
16	PRGM_IN_PTT	Programmable Input Pin (The default is PTT, low level is available. It is able to set the function and input the pin in CPS.)
17	Audio Ground	
18	Spkr+	External Speaker Output+
19	D- USB	USB Data Cable
20	GPS_8 Universal Input Output Port/Serial Port Rx	Universal Input/Output Port
21	Ground	+5V Power Supply
22	GPS_7 Universal Input Output Port/ Serial Port Tx	Universal Input/Output Port
23	GPS_6 Universal Input/Output Port	Universal Input/Output Port. Set the function in CPS.
24	AUX Audio Out 1	AUX Audio (External Speaker) Output 1
25	AUX Audio Out 2	AUX Audio (External Speaker) Output 2
26	Ign Sense	Ignition Voltage Input Pin

### ENVIRONMENTAL

Operating Temperature	-30° C to +60° C
Storage Temperature	-40° C to +85° C
ESD	IEC 61000-4-2/±8KV/±15 KV
U.S. Military Standard	MIL-STD-810F/G
Shock/Vibration	MIL-STD-810F/G

#### Approvals

#### FCC

TMD-1124	P6NDM-9800V
TMD-1424	P6NDM-9800U



Manufactured to ISO-9002:2000 quality standard.

NOTE: Some features indicated by specifications listed are prohibited by FCC rule and are not available on models sold in the U.S. or its territories.

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 Solutions