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TMD-1000 Series

Digital/Analog Mobile Radio

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.

DMR
DIGITAL MOBILE RADIO ASSOCIATION

- 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

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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

MIL-STD-810F/G Compliant

Large High Definition
Full Color Display

Large Speaker for High
Quality Audio

Locking Mic Connector

Multi Programmable
Function Buttons

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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 maximim 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.
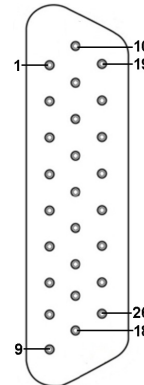
Specifications are subject to change without notice.

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	GP5_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 Signal Output
9	Spkr	External Speaker Output
10	D+ USB	USB Data Cable+
11	USB_GROUND	Ground Wire
12	GP5_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	GP5_8 Universal Input Output Port/Serial Port Rx	Universal Input/Output Port
21	Ground	+5V Power Supply
22	GP5_7 Universal Input Output Port/ Serial Port Tx	Universal Input/Output Port
23	GP5_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

RoHS 2002/95/EC

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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Maxon America, Inc.