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TMD-1000 SERIES

Professional Digital and Analog Radio

User Manual

Welcome

Thank you for your purchase and welcome to the Maxon family of products. We proudly offer a 3 year warranty on the radio section to insure that you are confident with your purchase for years to come.

As a product built to the Digital Mobile Radio (DMR) standards, the TMD-1000 Series of radios provide the latest in digital technology with user-friendly ergonomics and the highest in digital technology to provide you stable and reliable communications.

Please read this manual and familiarize yourself with the radio before use.

Safety Information

NOTICES

Warning

- Government law restricts the operation of unlicensed radio transmitters within government controlled territories.
- Illegal operation is punishable by law.
- Refer service to qualified technicians only.

Warning

- EXPLOSIVE ATMOSPHERES (GASES, DUST, FUMES, etc.)

Shut OFF the transceiver while refueling or while parked in gasoline service stations.
Do not carry spare fuel containers in the trunk of your vehicle if your transceiver is mounted in the trunk area.

Warning

- INJURY FROM RADIO FREQUENCY TRANSMISSIONS

Do not operate your transceiver when somebody is either touching the antenna or standing within two to three feet of it to avoid the possibility of radio frequency burns or related physical injury.

Statement

Maxon endeavors to achieve the accuracy and completeness of this manual. However, any inaccuracies and omissions that may occur, Maxon reserves the right to modify the specifications without prior notice.

Precautions

Please read carefully the following precautions to prevent personal injury or transceiver damage:

Caution

- Do not attempt to configure your transceiver while driving, it is dangerous.
- Transceiver is designed for a 13.8V DC and should not exceed 16V DC.
- Do not put the transceiver in excessively dusty, humid or wet areas, nor unstable surfaces.
- Do not modify the transceiver for any reason.
- Keep away from interference devices such as TV, generator, medical devices etc.
- Do not expose the transceiver to long periods of direct sunlight or close to heating devices.
- If an abnormal odor or smoke is detected coming from the transceiver, turn OFF the power immediately. Contact an Authorized Dealer.
- Do not transmit with high output power for extended periods; the transceiver may overheat.
- Do not operate the transceiver when vehicle engine is stopped for extended periods.
- Do not use incompatible accessories from other manufacturers. It can result in damage and or malfunction to the accessory and or to the radio.

FCC Information

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode. Antenna gain must not exceed 6.5dBi. The antenna installation must comply with the requirements of manufacturer or supplier, and at least 3.8m from any body part of the user or nearby persons.
The maximum allowable station effective radiated power (ERP) is dependent upon the station's antenna HAAT and required service area and will be authorized in accordance with table 2.
Table 2—450-470MHz—Maximum ERP/Reference HAAT for a specific Service Area Radius.

	Service area radius(km)									
	3	8	13	16	24	32	40[4]	48[4]	64[4]	80[4]
Maximum ERP(W)[1]	2	100	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500
Up to reference HAAT(m)[3]	15	15	15	27	63	125	250	410	950	2700

[3]When the actual antenna HAAR is greater than the reference HAAT, the allowable ERP will be reduced in accordance with the following.
Equation: ERP allow = ERPmax × (HAATref /HAATactual)²

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Product Inspection

Please unpack carefully and check that all items listed below are received. If any item is missing or damaged, please contact Maxon America or your Authorized Maxon Dealer.

Item


Radio

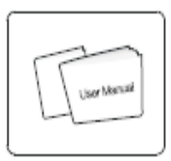

Microphone


Microphone Hanger and Screws


Power Cord


Fuse


Mounting Bracket Kit



User Manual

Installation

Before installing the radio in a vehicle, be sure to read the following instructions carefully:

Preparation

Warning

Electronic equipment in your vehicle may malfunction if they are not properly protected from the radio frequency energy which is present while transmitting. Typical examples include electronic fuel injection, anti-skid braking, and cruise control. If your vehicle contains such equipment, consult the dealer and enlist their aid in determining if they will perform normally while transmitting.

Power Cable Connection

Caution

The radio operates with cathode-grounded power supply of 13.6V ± 15% only. Check the battery polarity and voltage of vehicle before installing the transceiver.

1. Check for an existing hole, conveniently located in the firewall, where the power cable can be passed through. If no hole exists, use a circle cutter to drill a hole, then install a rubber grommet.
2. Run the power cable though the firewall and into the engine compartment.
3. Connect the red lead to the (+) positive connection and the black lead to the negative (-) connection.
4. Coil any surplus cable and secure it with a retaining band. Be sure to leave enough slack in the cables so the transceiver can be removed for servicing while keeping the power applied.

Installing the Transceiver

Warning

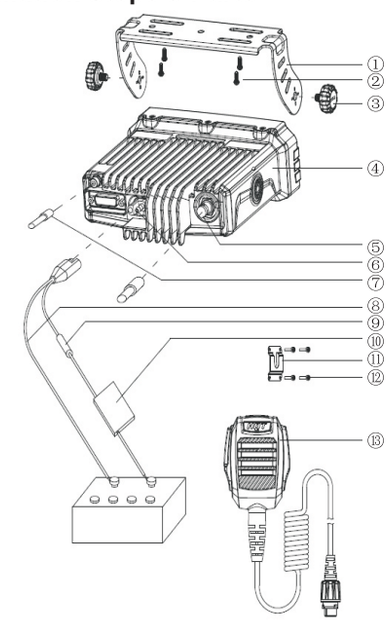
For driver and passenger safety, install the transceiver securely using the supplied mounting bracket and screw set so the transceiver will not break loose in the event of a collision.

- Check the polarity and voltage of the power supply on the vehicle before you install the radio.
- Check to ensure the screws will not extend from the bottom surface of the radio before installation.
- Drill any mounting holes cautiously to avoid damage to the vehicle wiring and other parts.
- Connect applicable antenna and power cord to the radio, before installing it in the bracket.
- Install the radio with supplied mounting bracket.
- Install the radio in a location where the front panel controls are easily accessible.
- Leave sufficient space at back of the radio for wiring.
- If the in-line fuse for DC power cord needs replacement, it must be replaced with a fuse of the same specifications.

Installation Tools

- Electric drill
- Phillips head screwdriver
- Hex socket sleeve (used for 4.8*20mm self-tapping screws)

Installation Steps & Parts

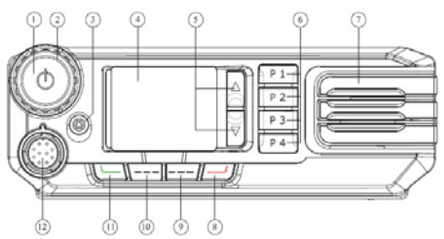


No.	Part Name
1	Mounting Bracket
2	4.8*20 mm Self-tapping Screws
3	Locking Knobs
4	Radio Unit
5	RF Antenna Connector
6	Power Inlet
7	GPS Antenna Connector
8	Black Ground Cord
9	Red Power Cord
10	Fuse
11	Microphone Hanger
12	4*16 mm Self-tapping Screws
13	Microphone

A. Install the bracket in a location where it's easy to operate the radio.
B. Connect accessories such as antenna and power cord to the radio.
C. Slide the radio into the mounting bracket and secure it using the locking knobs.
D. Install the microphone hanger in a location where it can be reached easily.
E. Plug the microphone into the microphone jack on the front panel by aligning the triangle index on the microphone with the microphone installation index on the radio. Rotate to lock connector in place.

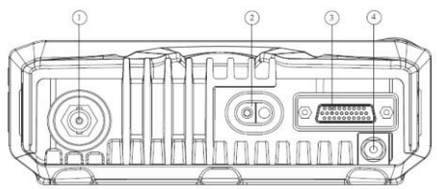
Radio Overview

Front Panel



No.	Part Name	No.	Part Name
1	Volume Control/Channel Selector/Power On-Off Knob	2	LED Indicator
3	Emergency Key	4	LCD Display
5	Up / Down Keys	6	Programmable Keys
7	Speaker	8	Back Key
9	Programmable Key	10	Programmable Key
11	Select Key	12	Microphone Jack

Rear Panel



No.	Part Name	No.	Part Name
1	RF Antenna Connector	2	Power Inlet
3	Accessory Jack	4	GPS Antenna Connector

Status Indicators

LCD Icons

Icon Name	Icon	Radio Status
RSSI		No signal
		More bars indicate better signal strength
Message Icons		New message/unread message
		InBox is full
Scan Icons		Scanning is in progress
		Scanning pauses on a non-priority channel
		Scanning pauses on Priority Channel 1
		Scanning pauses on Priority Channel 2
TX Power Icons		Low TX power for the current channel
		High TX power for the current channel
Monitor Icon		Monitor feature is active
Speaker Icon		The speaker is un-muted
Emergency Icon		Emergency mode (other than secret emergency) is active or an emergency message is received
GPS Icon		GPS feature is active with valid GPS data received

Operation Mode Icons

Icon Name	Icon	Operation Mode
Operation Mode Icon	DM	Direct Mode: Under this mode, radios communicate with each other directly.
	RM	Repeater Mode: Under this mode, radios communicate with each other via a repeater.

LED Indicators

The LED indicator identifies the current radio status.

LED Indicator	Radio Status
LED flashes Green	Powering on
LED glows Red	Transmitting
LED glows Green	Receiving
LED flashes Orange	Scanning

Note:
1. A Long and short press of a key can be assigned with different functions.
2. The Emergency Key is programmed as the Emergency key by default; however it can be changed to any of the functions shown above.

Basic Operations

Turning the Radio On/Off

To turn the radio on, long press the Power On/Off knob until the radio shows the power-up screen, sounds power-up alert, and the LED flashes green. To turn the radio off, press the Power On/Off knob until radio powers down.

Adjusting the Volume

When the Volume Control / Channel Selector knob operates in volume adjustment mode (the radio displays the icon), rotate the knob clockwise to increase the volume, or counterclockwise to decrease it.

Selecting a Channel

Press the Volume Control / Channel Selector knob to switch it to channel selection mode. Rotate the knob either direction to select your desired channel.

Note: The volume mode is default and the radio will return to this mode in 5 seconds after you select a channel.

Selecting a Zone

A zone is a group of channels. The radio supports up to 64 zones, each with a maximum of 16 channels. You may select a zone through any of the following methods:

1. Through menu selection - Go to “Zone” in the menu and use the **Up/Down** key to select your desired zone.

2. Through the function keys - You may quickly toggle to your desired zone by pressing the programmed **Zone Up** or **Zone Down** key.

Analog/Digital Switch

Each channel can be programmed as either an analog channel or digital channel. If the current zone includes both analog and digital channels, you may quickly switch between digital and analog channels through the **Volume Control / Channel Selector knob.**

Private Call

Transmitting a Private Call

You may transmit a Private Call through any of the following methods. When transmitting a Private Call, the icon will appear.

Transmitting a call to the preset contact

In standby mode, pressing PTT key will transmit an individual call to the contact (a Private Call number) preset for the current channel.

Note: Your dealer may preset a contact for each digital channel. The preset contact could be a Private Call number, a Group Call number or an All Call number.

Transmitting a call through Contact List or Call Logs

1) Go to Contact -> Contact List, or go to Call Logs ->Call List.
2) Use the Up/Down key to select the Private Call number you want to call.
3) Hold down PTT key to transmit a Private Call to the selected contact.

Transmitting a call through Manual Dial

1) Go to Contact -> Manual Dial.
2) Input a Private Call number you (DTMF microphone required) want to call.
3) Press PTT key to transmit a call.

Receiving and Responding to a Private Call

Responding to a Private Call after a Private Call is received, you may press the PTT key within the preset time period to call back. If you do not respond to a received Private Call, the radio will display the unread message call icon.

Group Call

Transmitting a Group Call

You may transmit a Group Call through any of the following methods. When transmitting a Group Call, the icon will appear.

Transmitting a call to the preset contact

In standby mode, pressing PTT key will transmit a group call to the contact (a Group Call number) preset for the current channel.

Note: Your dealer may preset a contact for each digital channel. The preset contact could be a Private Call number, a Group Call number or an All Call number.

Transmitting a call through Contact List or Call Logs

1) Go to Contact -> Contact List, or go to Call Logs -> missed, incoming or outgoing
2) Use the Up/Down key to select the Group Call number you want to call.
3) Hold down PTT key to transmit a Group Call to the selected contact.

Receiving and Responding to a Group Call

Responding to a Group Call after a Group Call is received, you may press the PTT key within the preset time period to call back.

All Call

Transmitting an All Call

Methods are the same as those in Transmitting a Group Call When transmitting an All Call, the icon will appear.

Receiving an All Call

When an All Call is received, your radio will display the icon .

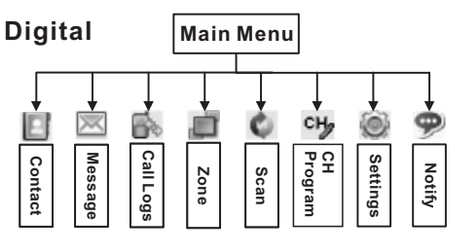
Making a Call

To make a call, hold down [PTT] key and speak into the microphone with normal voice. Please keep the microphone 1" (2.5-5cm) away from your mouth.

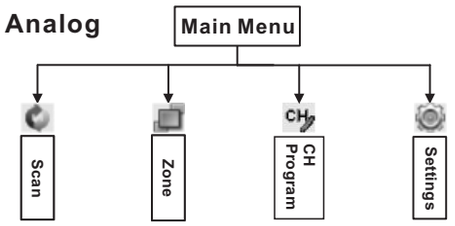
Note: Hold down [PTT] key and the radio begins to transmit when LED glows red.

Menu Navigation

Digital

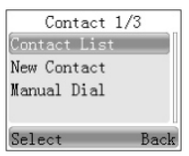


Analog



Contact

To access this item, press Menu key in idle mode and then select “Contact”.



Contact List

You can save up to 512 entries in the list. To access this item, select“Contact->Contact List”or press the programmed shortcut key for Contact List.

View a Contact
You can view details of each contact.

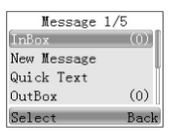
Edit a Contact
You can edit the number and alias of each Private Call contact.

Delete a Contact
You can delete a Private Call contact. However, please note that you can not delete the contact when there is only one entry left in the list. In addition, the private contact preset on the digital channel cannot be deleted.

New Contact
You can add a Private Call contact to the contact list. The number and alias of each contact must be unique, and the available number range is 1 to 16776415.

Manual Dial
You can manually input the private call number for calling.

Message
To access this item, press the Menu key in idle mode and then select “Message”, or press the shortcut key for Message directly.



InBox
The InBox can save up to 10 received messages. When the InBox is full, the icon will appear, and the oldest entry will be overwritten by the latest one automatically.
For each message, you can choose to perform any of these operations: Reply, Forward, View Details and Delete.
To delete all messages in the InBox, select “Message -> InBox -> Delete All”.

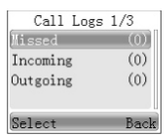
New Message
You can create your desired text message (128 characters maximum) with DTMF microphone and send it to an individual user or to a talk group.

Quick Text
Under this option there are “canned” text messages (10 entries maximum) preset by your dealer. You can also choose to edit and send your own entry with DTMF microphone.

OutBox
The OutBox can save up to 10 sent messages. When the OutBox is full, the oldest entry will be overwritten by the latest one automatically.
For each message, you can choose to perform any of these operations: Reply, Forward and Delete.
To delete all messages in the OutBox, select “Message -> OutBox -> Delete All”.

Drafts
The Drafts can save up to 10 drafted messages. When the Drafts is full, the messages will be overwritten by the latest one automatically.
For each message, you can choose to perform any of these operations:
Send, Save and Delete.
To delete all messages in the Drafts, select “Message-> Drafts->Delete All”.

Call Logs
To access this item, press the Menu key in idle mode and then select “Call Logs”, or press the shortcut key for Call Logs directly.

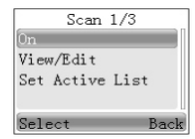


The radio can save up to 10 entries in the Outgoing List, Incoming List and Missed List. When the memory for call logs is full, the oldest entry will be over written by latest one automatically.

After accessing a list and selecting an entry, you can perform any of these operations: hold down the PTT key to initiate a call, view details, or delete it.

To delete all entries in Outgoing List, Incoming List or Missed List at a time , select "Call Logs -> Outgoing/Incoming /Missed -> Delete All".

Scan
To access scan, press the Menu key in idle mode and then select “Scan”.



Scan On/Off
The scan feature allows you to listen to communication activities on the other channels. This option is used to enable or disable the function.

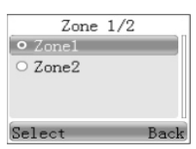
Scan List
You can request your dealer to create a scan list for each channel. Each list may contain 64 channels at most (either digital channel or analog channel is OK). After accessing the list, you can perform any of the following operations:

Adding a Channel
To include a new channel into the active scan list.

Editing Priority Channel
To set the selected channel as a non-priority or as a priority channel. If you are interested in activities on a channel, you can set it as a priority channel, which will be scanned more frequently than a non-priority channel. Each scan list may contain two priority channels at most. indicates priority channel 1, and indicates priority channel 2.

Deleting a Channel
To remove a channel from the active scan list. However, the first channel in the list can not be deleted.

Zone
To access this item, press the Menu key in idle mode and then select “Zone”.



The radio supports up to 64 zones. You can use this menu to select your desired zone.

Settings
To access this item, press the Menu key in idle mode and then select “Settings”.



You can optimize your radio performance by customizing parameters according to your actual needs and preferences.

Radio Settings

Tx Power
This option allows you to set the transmit power level. Alternatively, you can change the power level by pressing the shortcut key for Adjust Power Level in idle mode. There are two levels available: High (indicated by H) and Low (indicated by L).

Note: Power level can be set for each channel individually.

Lone Worker
This function triggers off the Emergency mode if the radio does not transmit for a pre-determined time period. This option allows whether to enable/disable the Lone Worker function.

Tone
This function allows the enabling/disabling of audible tones. The following tones can be enabled/disabled individually:
Radio Silent (If Silent On is selected, all tones will be disabled).
Function Voice: Voice announcements of power settings, etc.
Call End Tone: Tone indication when the call ends.
Private Call Tone: Tone indication when a private call is received.
Text Message Tone: Tone indication when a message is received.
Keypad Tone: Tone indication when making keypad presses.
Group Call Tone: Tone indication when the radio a group call is received.
Signaling Side Tone: Tone indication when PTT is pressed (during transmission of PTT ID).
Channel Voice: Voice announcements of channel selection.
Talk Permit Tone: Tone indication for clear-to-talk.

Set Brightness
To set the display brightness, you can increase or lower it using the Up or Down key. Available range: Level 1 to 4.

LED
All LEDs: to enable /disable all LED indications.
TX LED: to set whether the Tx LED illuminates during transmitting.
RX LED: to set whether the Rx LED illuminates during reception.
Scan LED: to set whether the Scan LED illuminates in Scan mode.
Carrier LED: to set whether Carrier LED illuminates when receiving carrier.

VOX
On/Off
If “On” is selected, it allows the user to make calls every time the user speaks into the radio directly without pressing the PTT key.
If “Off” is selected, the user should make calls by pressing the PTT key.
Gain Level - The range of “Gain Level” is Level 1 to Level 9. The lower the Gain Level is, the easier the VOX can be enabled.

Scrambler (Analog) / Encryption (Digital)
To enable/disable the Scrambler/Encrypt feature with either an analog or digital channel respectively.

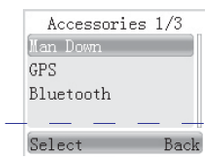
Radio Info

With this option, you can view the basic information of your radio, including Serial Number, Radio Alias, Frequency Range, Firmware Version, Radio Data Version, and Last Programmed Date.

Accessories (Items only appear when installed)

GPS (Optional)

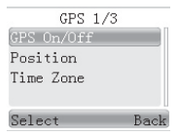
To access this item, press the Menu key in idle mode and then select “Accessories”.



Operation:

1. To enable the feature:
Go to “Main Menu-> Accessories->GPS On/Off->off or on” and select “on”.

2. To disable the feature:
Go to “Main Menu-> Accessories->GPS On/Off->off or on” and select “off”



Position

With this option, you can view longitude, latitude, time, date, speed, altitude and SA (satellite) information of your radio.

Time Zone

Users can select a desired time zone from the drop-down list. The radio adjusts its time according to the selected time zone.

GPS Update Time

This option defines the time interval to update the GPS information Range:1 – 60 seconds.

Programmable Function Keys and Operations

These functions can be enabled and disabled through the programming of the applicable keys with either short or long presses. Contact your Authorized Maxon Dealer for the enabling/disabling of these functions.

Programmable Function	Description
None	No feature will be assigned
Zone Up	To select a desired zone quickly
Zone Down	
Scan	To receive signals on other channels
Nuisance Temporary Delete	To temporarily ignore unwanted channel activity from scan
Emergency On	To summon help in emergency situations
Emergency Off	Emergency function is off
Adjust Power Level	To adjust power level
Keypad Lock	To lock or unlock the keypad
Contact List	To access the menu “Contact List”
Message	To access the menu “Message”
Call Logs	To access the menu “Call Logs”
Adjust Squelch Level	To adjust the squelch threshold required for the speaker to un-mute
One Touch Call 1	To transmit a call, text message or other service to a preset contact
One Touch Call 2	
One Touch Call 3	
One Touch Call 4	
One Touch Call 5	
Squelch Off Momentary	To momentarily open the speaker

Programmable Function	Description
Squelch Off	To always open the speaker
Monitor	To monitor the channel for traffic
Talk Around	To directly communicate with other radios
Home Screen	To quickly return to the previous menu or home screen
Scrambler /Encrypt	Scrambler (in analog mode): To invert your voice to scramble your communication Encrypt (in digital mode): To encrypt your voice to guarantee privacy of your communication
VOX	To enable or disable the VOX function

Additional Information on Certain Functions:

Home Screen

This feature allows you to quickly return to the previous menu or the home screen.

Operation: In the editing screen, press the key programmed for “Option”, and the radio exits the screen and returns to the previous menu; in other screens, press the key, and the radio returns to the home screen.

Scan

This feature allows you to receive communication activities on other channels.
If you want to remove receive activities on a certain channel, the Nuisance Temporary Delete key can be enabled to temporarily remove that channel from the scan list.

Talk Around

This feature allows you direct access to communicate in DM mode.

Monitor (Analog Only)

The monitor function bypasses the programmed signaling on a channel.

Squelch Off (Analog Only)

If the feature “Squelch Off” is enabled, the speaker will keep un-muted no matter whether carrier is present. If you want to perform momentary, the Squelch Off Momentary key can be enabled.

Squelch Level

Setting the squelch level decides how strong the signal is to un-mute the receiver. Setting range is 0-9, selecting “0” causes the squelch to open easily. The higher the squelch level is, the harder to open the squelch.

Emergency On (Digital Only) - Emergency Alarm with Voice to Follow

Operation:

1. Press the programmed Emergency key to go to the Emergency Revert Channel, and the radio displays the icon .
2. When the icon appears, you can speak into the microphone to make an emergency call.
3. When the icon appears, you can receive. And when a call is received, the icon appears. If the preset Voice Cycles expire, you can hold down the PTT key to make the emergency call again (the radio displays the icon, with red LED glowing red).

After the emergency call is transmitted, release the PTT key to receive (the radio displays icon). And when a call is received, the icon appears. To exit the Emergency mode, long press the programmed Emergency key.

Note: Your dealer may set the time of voice cycles, duration of each transmission and Tx interval.

Busy Channel Lockout

This feature is used to prevent transmit when the channel is occupied by another user. If PTT is pressed while the channel is busy, the display will show "channel busy" and an alert beep will be heard. PTT will be prohibited until the channel activity ceases.

Time-out Timer (TOT)

The purpose of TOT is to prevent any user from occupying a channel for an extended period.

If the preset time expires, the radio will automatically terminate transmission and maintain the alert. To stop the alert, release the PTT key. You must wait for a certain time period (preset by your dealer) to initiate another transmission.
If the pre-alert function is enabled, your radio will alert you to the TOT expiration in advance.

Note: This feature is null in Emergency mode.

Optional Accessories

Optional accessories and replacement parts are available through your Authorized Maxon Dealer.

Those items include:
Antennas
Microphone
DTMF Microphone
Programming Cable
Programming Software

Troubleshooting

Issue	Analysis	Solution
The radio can not be powered on.	The power cord may be improperly installed.	Connect the power cord correctly.
During receiving signals, the voice is weak, discontinuous or totally inactive.	The volume may be set to a low level.	Increase the volume by rotating the Volume Control knob clockwise.
	The antenna may get loose or may be improperly installed.	Power off the radio, re-install the antenna and power on the radio again.
	The speaker may be blocked or damaged.	Clean surface of the speaker. If the problem can not be solved, contact your dealer for inspection and repair.
You can not communicate with other members in Analog mode.	The frequency or signaling may be inconsistent with that of other members.	Set your TX/RX frequency and signaling to the same as that of other members.
	You may be too far away from the group members.	Move towards other members, and make sure that you are within the communication range.
You can not communicate with other members in Digital mode although there is receiving indication.	Your ID may be inconsistent with that of other members. Consequently, the digital carrier can be received but can not be demodulated.	Set your ID to the same as that of other members.

Issue	Analysis	Solution
Irrelevant communications or noises are heard on the analog channel.	You may be interrupted by radios using the same frequency.	Adjust the squelch level.
	The radio may be set with no signaling.	Set your radio with signaling to avoid interference at the same frequency, and make sure that all members share the same signaling.
Scattered voice on a digital channel.	You may be too far away from other members.	Move towards other members, and then try again.
	You may be at an unfavorable position. For example, your communication may be blocked by high buildings or in underground areas.	Move to an open and flat area, and try again.
	You may suffer from external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
You can not use the keys.	The keypad may fail to function temporarily.	Restart the radio.
There is no display.	The LCD may fail to function temporarily.	Restart the radio.
The GPS cannot locate your position. (GPS option must be installed).	The GPS antenna is improperly connected.	Connect the GPS antenna correctly.
	No GPS signal is received.	Move to an open and flat area, and restart the radio.

If the above solutions cannot fix the issue, please contact your Authorized Maxon Dealer.

Care and Maintenance

To increase the life of your radio, please take note of the following:

- Keep the product in a place with good ventilation and heat dissipation.
- Do not place items on top of the product to ensure optimal heat dissipation.
- Clean with a clean and dry lint-free cloth or a brush regularly.
- Use a non-woven fabric with mild cleanser to clean the keys, control knobs, LCD and microphone. Do not use chemical preparations such as stain removers, alcohol, sprays or oil preparations. Make sure the product is completely dry before use.

Caution: Power off the product before cleaning.

Warranty Statement

Maxon America, Inc. offers to the original end user:
Three (3) Year Limited Warranty on Maxon TMD-1000 Series radios (separate warranty period on accessories).
One (1) Year Limited Warranty on Accessories (includes, but not limited to microphones).
Maxon warrants each new radio product manufactured or supplied by it to be free from defects in material and workmanship under normal use and service for the time period stated, provided that the user has complied with the requirements stated herein. The warranty period begins on the date of purchase from an Authorized Maxon Dealer. This warranty is not assignable or transferable. This warranty is void if the product serial number is altered, defaced or removed. Maxon is not responsible for any equipment that is attached to or used in conjunction with our products.
During the warranty period, if the product fails to function under normal use, because of manufacturing defects or workmanship, it should be returned to the Authorized Maxon Dealer from which it was purchased. The Authorized Maxon Dealer will repair the product or return the product for repair to Maxon or its

Authorized Repair Depot. The user is responsible for the removal of the product from a vehicle or any equipment attached to it, or other site of its use; transportation of the product to the Authorized Maxon Dealer; for the return of the repaired or replacement product to the site of its use and for the reinstallation of the product.
Maxon shall have no obligation to make repairs or replacement of product which results from normal wear and tear, or is necessitated by catastrophe, fault, or negligence of the user, improper or unauthorized alterations or repairs to the product, incorrect wiring, use for which it was not designed or by causes external to the product. Maxon's sole obligation shall be to replace or repair the product covered by the warranty. Replacement is done at Maxon's discretion and may consist of a similar or higher featured product. Repair may include the replacement of parts with functionally equivalent new or reconditioned parts. All replaced parts and accessories are warranted for the balance of the original time period. All parts and accessories that are replaced become the property of Maxon America, Inc.

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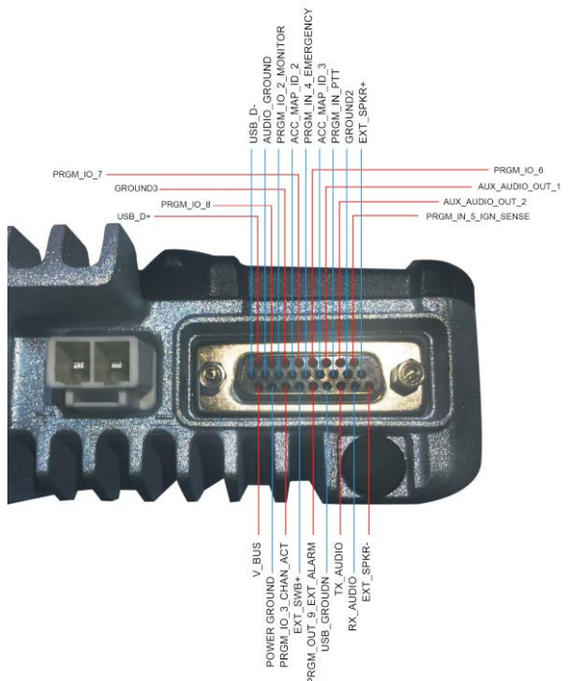
Accessory (26 Pin) Connector Pin Out

Connectors include Audio, Programmable I/O, Serial Port, USB, Accessory Recognition, etc. Total 26 PINs are for SDK.

PIN No.	PIN Name	Instruction
1	Vbus USB Power Supply	+5V Power Supply
2	Ground	
3	PRGM_IO_3_CHAN_ACT (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	USB_D-USB	USB Data Cable+

PIN No.	PIN Name	Instruction
11	AUDIO_GROUND	Ground Wire
12	PRGM_IO_2_MONITOR Universal Input/Output Port (Monitor)	Universal Input/output Port. The function is set in CPS and its default is Monitor.
13	ACC_MAP_ID_2	Tail Accessory Recognition Port; It forms 3 Accessory Recognition Statuses and 1 Default Status with Pin 15 ACC_IO3.
14	Emerg Sw	When Emergency is available, its pin turns to low level.
15	ACC_MAP_ID_3	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	GROUND2	
18	Spkr+	External Speaker Output+
19	USB_D+	USB Data Cable-
20	PRGM_IO_8 Universal Input Output Port/Serial Port Rx	Universal Input/Output Port

PIN No.	PIN Name	Instruction
21	Ground	+5V Power Supply
22	PRGM_IO_7 Universal Input Output Port/Serial Port Tx	Universal Input/Output Port
23	PRGM_IO_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



Microphone Connector Pin Out

	SN	Mobile Radio Pin Definition and Function Description	
MMP	1	Accessory Recognition Interface 1	It forms an accessory recognition matrix with pin 10.
	2	PTT Input	Handheld Microphone PTT Input; It is low level when pressing the PTT button.
	3	Handset Audio Output	Accessory Audio Cable; The pin output receives audio when Handset is selected in CPS.
	4	USB_D-	USB Data Cable D-
	5	GND	
	6	USB_VBUS	It supplys +5V power for USB accessories.
	7	MIC Input	Handheld Microphone MIC Input; Vrms=80mV@3K Frequency Deviation
	8	USB_D+	USB Data Cable D+
	9	HOOK	It is high level by default, low level is valid.
	10	Accessory Recognition Interface 2	It forms an accessory recognition matrix with pin 1; Check the External Interface Definition for Recognition Matrix.

