



## MT680 Plus

### TETRA Mobile Terminal

MT680 Plus(B) / MT680 Plus(E) / MT680 Plus(S) / MT680 Plus (T)

Multiple hardware options including basic version, executive version, specialized version and tamper proof version. Distinguished by built-in 4W powerful speaker, remote mount panel IP67 compliance, 10W RF power output, clear digital voice, built-in BT and GPS positioning, the TETRA mobile terminal MT680 Plus will enrich your communication experiences.





## MT680 Plus

### Highlights

#### Reliable Design

MT680 Plus is designed to comply with **ETSI TETRA Standard**, **MIL-STD- 810G**, **IP67 Dust & Water Protection (remote mount panel)** and Hytera ALT Test simulating over years usage. These tests ensure MT680 Plus stands up to the toughest conditions and environment.

#### High RF Output Power

MT680 Plus boasts a **10 Watt transmit power**, effectively enlarging the workable coverage, including basements and extending coverage indoors. The radio also supports automatic RF power control with 5dB and 2.5dB per step, according to the signal strength.

#### Outstanding Audio

A **newly added noise cancelling solution** gives MT680 Plus audio quality with unprecedented clarity. Voice can be broadcasted clearly even in very noisy environment to ensure the key message is received accurately. Hands free duplex call release hands operation and brings true convenience. **Powerful(4W) Internal speaker**, decrease the workload of installing an additional external speaker.

#### Comprehensive Security Protection

Supporting authentication, AIE with full 4 algorithms TEA1,TEA2,TEA3,TEA4 and E2EE, MT680 Plus brings customer comprehensive security protection.

#### Multi-option Location Service

MT680 Plus supports **GPS**, **Glonass** and **Beidou**. It ensures that MT680 Plus can be used all over the world.

#### Easy Operation

MT680 Plus employs a 2-in-1 large knob to adjust the channel and volume quickly. Large 260K color transfective TFT LCD enables the access of pertinent information with ease, even under bright sunlight.

#### Dual-head Solution

Accessory Interface Unit provides more Interfaces for more accessories. For private voice and local meeting needs, both control heads are able to initiate or participate in a call.

Gateway

Gateway

Repeater

Repeater  
type 1A

BT

Built-in  
BT R4.0

Handsfree  
call

Handsfree Call

806  
-  
870

DMO full band call:  
806-870MHz



# MT680 Plus

## Ensure efficient critical communication

### Multi-option

**Location Service**  
Supports GPS, Glonass and Beidou location.

### Large Size Color Display

Mounted the Large-scale transreflective TFT LCD Clear Display, it could be operated clearly in Strong Sunlight.

### Built-in Powerful Speaker

Built-in 4W powerful speaker assures the clear and loud voice even without the external speaker.

### 2-in-1 Knob

2-in-1 large knob makes channel switch and volume adjustment quick.

### Security Protection

Support authentication, E2EE, AIE with full 4 algorithms TEA1, TEA2, TEA3, TEA4 and Tamper Proof.

### Dust Proof and Waterproof

Remote mount panel is IP67 protection guarantees usage in full of dust environment or exposure to wet environment.

### Built-in BT4.0

Allow wireless accessory adaptation.

### DMO Gateway & Repeater

DMO Gateway and Repeater function enlarge DMO coverage.

### Ergonomic Keys

With silicone key materials, resilient touch experience brings easy operation.

### Rugged Design

Withstand the tough highly accelerated life test and strict Military standard G test, rugged quality ensure outstanding performance in tough use.

### Flexible Installation

MT680 Plus supports standard mount, desktop mount, remote mount.

### Enhanced Audio Quality

New added noise cancelling solution ensure voice broadcasted clearly even in very noisy environment.



## Remote Solution



## Desktop Solution



## Dual Control Solution



## MT680 Plus Versatile Accessories

Work with terminal in an optimal and most desirable way, our comprehensive MT680 Plus accessories portfolio guarantees the easy, comfortable experience. The basic standard accessories of MT680 Plus include palm microphone, tube fuse, mounting bracket, power cord.

### Standard Accessories



Palm Microphone



Tube Fuse



Mounting Bracket



Power Cord

### Optional Accessories



External Power Supply



External Speaker



Antenna



GPS Antenna



Foot Switch



Desktop Microphone



Data Transmission Cable



Enclosed Noise-Canceling Headset



Keypad Microphone



Wireless Noise-Cancelling Earpiece With Dual-PTT



Wireless Ring PTT



Telephone Style Handset



IP67 Remote Control Kit

Pictures above are for reference only and may vary from actual products.

# Features

## Voice Services

- ▶ Individual Call
- ▶ Group Call
- ▶ Broadcast Call (TMO)
- ▶ Open Group Call
- ▶ Fallback Operation
- ▶ Gateway Call (DMO)
- ▶ Repeater Call (DMO)
- ▶ Phone Call
  - PABX
  - PSTN
- ▶ DTMF
- ▶ Emergency Call
  - Emergency Group Call to Selected Group/ Group Call to Pre-defined Group/ Individual Call/ Phone Call(PABX/PSTN)
  - HOT MIC
  - Emergency Cycle
  - Configurable Emergency Priority
  - Location Information Sending (TMO)
  - Silent Emergency Call (TMO)
- ▶ Pre-emptive Call
- ▶ Late Entry
- ▶ DGNA
- ▶ Group Scanning
- ▶ Talking Party Identification
- ▶ Individual Call Restriction via Phonebook
- ▶ Group Change Voice Broadcast
- ▶ CAD(Call Authorized by Dispatcher)
- ▶ BT
- ▶ Notification Talkgroup
- ▶ Favorite Folder
- ▶ Real-time Clock

## Gateway

- ▶ Group Voice Calls from DMO to TMO
- ▶ Group Voice Calls from TMO to DMO
- ▶ Emergency Group Call from DMO to TMO
- ▶ Emergency Group Call from TMO to DMO
- ▶ Transmission of Gateway Presence Signal
- ▶ Call Pre-emption (in either direction)
- ▶ SDS Messaging from DMO to TMO
- ▶ SDS Messaging from TMO to DMO
- ▶ Individual Call from DMO to TMO
- ▶ Individual Call from TMO to DMO
- ▶ Emergency Individual Call from DMO to TMO
- ▶ Emergency Individual Call from TMO to DMO
- ▶ DGNA

## User Security

- ▶ Ambience Listening
- ▶ Radio User Assignment (RUA)
- ▶ Lone Worker
- ▶ Emergency Protect Mode
- ▶ Call Out

## Security Service

- ▶ Authentication
- ▶ Package Data User Authentication
- ▶ Air Interface Encryption
- ▶ Security Class: Class 1/2/3
- ▶ End to End Encryption
  - By Hytera Software (AES128)
  - By TETRA Software (AES128, AES256)
  - By SIM Card or TP Chip
- ▶ Voice Service / SDS
- ▶ Temporary Enable/Disable
- ▶ Permanently Disable

## GPS Location Service

- ▶ GPS / GLONASS / Beidou
- ▶ Control Center Authentication by MS
- ▶ LIP Protocol
  - Trigger Conditions (Configured via Air or CPS)
    - Emergency Call
    - Interval
    - Distance
    - Power On/Off
    - Status Message
    - Positioning Loss/Regain
- ▶ NMEA Location Reporting
- ▶ Time Synchronization and Adjustment
- ▶ Display the Calling Party's Relative Direction & Position
- ▶ Overspeed Alarm
- ▶ Route Trace

## DMO Repeater

- ▶ ETSI type 1A DMO Repeater for Channel Efficient Operation
- ▶ Repeats DMO Voice and Tone Signalling on Selected Talkgroup
- ▶ Repeats SDS and Status Messaging on Selected Talkgroup
- ▶ Transmission of Repeater Presence Signal
- ▶ Participate & Initiate Call in Repeater Mode

## License Control

- ▶ DMO Repeater
- ▶ Gateway
- ▶ TEA2
- ▶ E2EE
- ▶ VOX
- ▶ Load Directed Roaming
- ▶ Temporary Disable Enhancement
- ▶ Work Order
- ▶ MSPD
- ▶ OTAP
- ▶ GCK
- ▶ Cell Application
- ▶ BT Upgrade&Program
- ▶ SDS Template
- ▶ Route Trace
- ▶ Drive Test
- ▶ SCK OTAR
- ▶ Low Power Class

## Data service

- ▶ Short Data Service
  - SDS-1, 2, 3, 4, TL
  - Status Message
  - Immediate Text Message (TMO)
  - Long Text Message (TMO)
- ▶ Package Data
  - Single-slot
  - Multi-slot
- ▶ Peripheral Equipment Interface (PEI)
- ▶ AT Command
- ▶ OTAP (Over The Air Programming)
- ▶ Status Message Solution
- ▶ WAP Browser
- ▶ Circuit Mode Data
- ▶ Telemetry
- ▶ Short Data Template
- ▶ Work Order

## User Interface / Display

- ▶ Multi-language: More than 16 Languages
- ▶ Java Platform 2.0
- ▶ 25 Programmable Key: Quick Access to Menu and Configured Functions
- ▶ Multiple Dialing Methods: Scroll Dialing, Dialing Directly, Alphabetic Search, Redial Via Call Records, Dialing Rules
- ▶ User Profiles
- ▶ Display Reverse
- ▶ Customized Terminal Menu
- ▶ Customized Tone
- ▶ Time Synchronization
  - With GPS Time
  - With System Time
- ▶ Configurable Maximal/Minimum Volume
- ▶ Accessory Interface
  - Call Back
  - Emergency Alarm
  - AT Command
  - Independent Audio Export
  - Ignition Sense
  - Public Address
- ▶ External Palm Microphone
- ▶ Input Method Editor



## Hardware Options

Charge Feature	MT680 Plus(B)	MT680 Plus(E)	MT680 Plus(S)	MT680 Plus(T)
BT	No	No	Yes	Yes
Gateway	No	No	\$	\$
Location	No	Yes	Yes	Yes
Hytera E2EE	No	\$	Yes	Yes
Repeater	\$	\$	\$	\$
Tamper Proof	No	No	No	Yes

- B: Basic
- E: Executive
- S: Specialized
- T: Tamper Proof
- Yes: Available
- No: Not Available
- \$: Paid

## Specifications

General		
Frequency Bands		320-380MHz 380-430MHz 405-475MHz 806-870MHz
Dimensions (H*W*D)	Standard Mount	70 x 184 x 186mm
	Remote Mount	70 x 184 x 66mm(front panel) 70 x 184 x 177.6mm(main unit)
	Desktop Mount	150 x 220 x 291mm
Weight	Standard Mount	1853g
Operating Voltage	Standard Mount Remote Mount	10.8V-15.6V DC (Typical value 13.2V DC)
	Desktop Mount	10.8V-15.6V DC (Typical value 13.2V DC) 100-240V AC/50-60Hz
Rated Audio Power Output		4W (Internal SPK)
RF Specifications		
RF Channel Bandwidth		25KHz
RF Power Output		10W
RF Power Level Accuracy		±2dB
Receiver Class		Class A & B
RX Static Sensitivity		-116dBm(Typical: -118dBm)
RX Dynamic Sensitivity		-106dBm(Typical: -108dBm)

Item	Capacity
Talk Groups - TMO	6000
Talk Groups - DMO	4000
Phonebook	2000
Missed Calls	20
Received Calls	20
Dialed Calls	20
Inbox	400
Outbox	50
Drafts	50
Folder-TMO	200x200 (200 groups in each list)
Folder-DMO	50x200 (200 groups in each list)
Environmental	
Operating Temperature	-30°C ~ +60°C
Storage Temperature	-40°C ~ +85°C
Humidity	ETS 300 019 (95%)
Water and Dust Protection	IEC60529
	IP54/IP67(Remote Control Panel Only)
Drop, Shock & Vibration	MIL-STD-810 G
	ETS 300 019-1-5 5M3
	GJB150A
GPS	
Sensitivity	≤-146dBm acquisition sensitivity
	≤-165dBm tracking sensitivity
Location Accuracy	2.5m CEP
Cold Start (Time to First Fix)	< 35s
Hot Start (Time to First Fix)	< 1s

All specifications are subject to change without notice due to continuous development.



CE IC FCC

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