

**MCS Rugged Radio
PDM680
READY FOR MISSION
CRITICAL SERVICES**



Overview

The Mission Critical Services (MCS) includes a suite of standards defined by 3GPP for public safety. This LTE-empowered MCS solution offers Push-to-Talk (PTT) users with Mission Critical Push-to-Talk (MCPTT), Mission Critical Video (MCVideo), and Mission Critical Data (MCData) services for efficient and enriched communications. And the MCS solution features cross-system interoperability.

The PDM680 Rugged MCS Radio is designed to help first responders stay connected and informed anywhere and anytime in critical situations. As a professional rugged radio, the PDM680 delivers reliable mission-critical voice communications, and mission-critical video and data services for those working in the most challenging conditions. In addition to the "on-network" operation, the PDM680 supports Digital Mobile Radio (DMR) Tier 2 and device-to-device (D2D) communications that allow the first responders to communicate without relying on the LTE network. The PDM680 is the best choice for those engaged in public safety, utilities, transportation, and more.

Mission-Critical Design

The streamlined and intuitive user interface enables quick access to important information, helping you respond faster in an emergency. The distinctive layout of physical keys makes one-handed operation easier and smoother. All these advantages of the PDM680 contribute to a more efficient mission-critical interaction.





Highlights

HyTalk MC App

- Mission-critical services

PDM680 is built upon a solid platform that supports 3GPP Release 12 and many core MCS services above. With the native HyTalk MC application, PDM680 is able to deliver MCPTT, MC Video and MC Data services that leverage the broadband technology to improve situational awareness and safety, as well as maximize law enforcement efficiency.



DMR-MCS Simulcall

- Save time and efforts

The PDM680 features MCS-DMR Simulcall, so it can call both MCS devices and DMR radios simultaneously. This helps commanders save time and efforts to initiate the MCS and the DMR calls at the same time with the press of the PTT key.



D2D Communication

- Work independent of LTE network

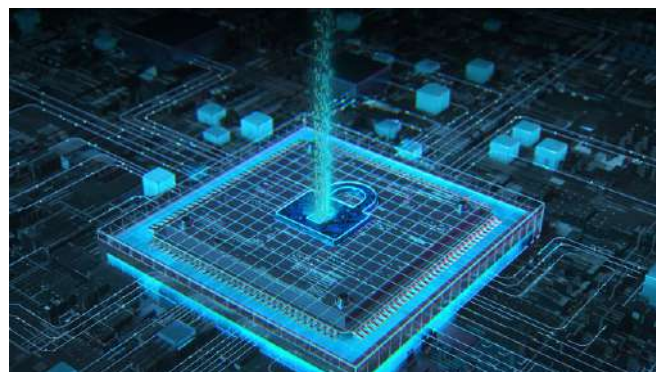
Built with DMR Tier 2 technology, the PDM680 can provide device-to-device (D2D) communications in DMO mode or repeater mode especially when the LTE network is down or not available in emergency situations such as the earthquake, tsunami, hurricane, fire disaster, or other natural disasters. With 1 W or 4 W transmission power, the radio ensures stable PTT services over a longer distance compared with other off-the-shelf MCS radios or PoC terminals.



Security

- 360° protection

Adopting multiple defensive mechanisms, the PDM680 safeguards your mission-critical system, device, data and voice. Signature authentication ensures the system security. All data at rest is full-disk encrypted, while the data and voice in transit are protected by E2EE. The industry-leading remote management makes the radio in your complete control, from real-time monitoring to data erasing and more.





Rugged and Durable

- Ready for the tough conditions

The PDM680 is a truly rugged radio. It meets IP68, MIL-STD-810H, and IEC ESD level-4, surviving almost any challenges from water, dust, dirt, 1.5-meter drops, strong shocks and vibrations to extreme temperatures and humidity. The industrial touchscreen can be easily used with wet fingers or gloves.



Android Platform and Connections

- Richer apps, higher efficiency

With Android and open API, the PDM680 is compatible with tremendous third-party applications to better suit your industries for enhanced productivity. From GPS navigation to web surfing to ticketing, work is done easier ever. Thanks to the 3.6inch LTPS LCD screen, you can interact with applications easily and intuitively in any lighting conditions without missing any mission-critical details.

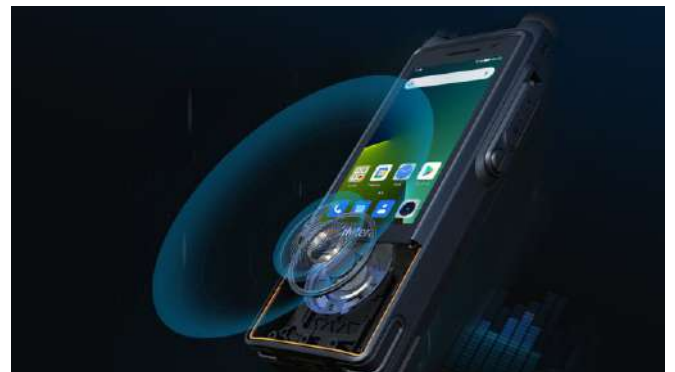
- More connections for easier use

The PDM680 is equipped with a 13-Pin connector for reliable connection to heavy-duty accessories, as well as a USB Type-C port for charging and data transfer. And the radio supports WLAN, BT, and NFC, making connection to other wireless devices easier and simpler.

Outstanding Audio Quality

- Louder and clearer

With the 36 mm built-in speaker, the PDM680 can deliver an audio with a maximum SPL of 118 dB. Even at 30 cm away from the source, the loudness level is as high as 98 dBPhon. Both the enlarged front chamber technology and professional acoustic design make the audio more penetrating and powerful. Moreover, AI-based noise cancellation, echo cancellation, and wind noise cancellation technologies help the PDM680 minimize the background noise and boost the audio clarity. Therefore, on a crowded street, the PDM680 makes you hear each word clearly to get job done right.



Accessories

• Standard



2,400 mAh
Li-Poly Battery
BP2402



Charge(1A)
CH10L29



Power Adapter(1A)



Belt Clip
BC39



Antenna



Nylon Strap
RO03

• Optional



USB Camera
VM220-N1



BT Earpiece
EHW08



Wireless PTT
POA121



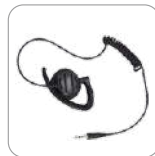
Wireless Remote
Speaker Microphone
SM27W2



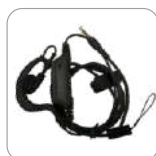
Waterproof Remote
Speaker Microphone
SM26N1



Receive-only Earbud
ES-01



Receive-only
Swivel Earset
EH-02



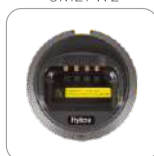
C-Earset
EHS24



PTT&MIC
Controller
ACN-02



4,000mAh
Li-Poly Battery
BP4005



Charger (2 A)
CH20L13



Multi-unit
Charger
MCA25



Leather Strap
RO04

Specifications

General		
Dimensions (H x W x D)	145.7 mm x 60 mm x 29.1 mm (with standard battery)	
	145.7 mm x 60 mm x 33.1 mm (with optional battery)	
Weight	328±5 g (with standard battery and antenna)	
	373±5 g (with optional battery and antenna)	
Display	Main screen Size: 3.6 inches Resolution: 1280 x 720 Color depth: 24 bits Capacitive touch technology, available with gloves and wet hands stylus	Top screen Size: 0.92 inch Resolution: 128 x 88 Color: black and white
Camera	Front camera 8 MP, fixed focus Rear camera 16 MP, auto focus	
Battery	Standard: 2,400 mAh, Li-polymer battery, 7.7 V (rated) Optional: 4,000 mAh, 7.7 V (rated)	
Memory	RAM: 4 GB ROM: 64 GB eMMC Expandable to 256 GB with Micro SD card	
Card Slot	2 Nano SIM card 1 Micro SD card 1 Encryption card for Narrowband	
AP Processor	8-core, 2.2 GHz	
Operating System	Android 10	
Google Certification	Google Mobile Services	
Audio Output	Output power: 2 W Audio distortion: ≤ 3% Audio loudness: 118 dB SPL, 98 dB Phn	
Port	USB Type-C port 13-Pin accessory connector	
Video Format	3GPP(.3gp), MPEG-4(.mp4), QuickTime(.mov), WEBM(.webm), Windows Media(.asf, .wmv), RealMedia(.rmvb, .rm), MPEG-PS(.mpg, .mpeg), MPEG-TS(.ts), AVI(.avi), Matroska(.mkv)	
Video Quality	Front camera: 1080p @ 30 fps Rear camera: 4K; 1080p @ 30 fps	
Image Format	JPEG(.jpg), GIF(.gif), PNG(.png), BMP(.bmp)	

General	
Audio File Format	MP3(.mp3), WAV(.wav), 3GPP(.3gp), MPEG-4(.mp4, .m4a), ATDS raw AAC(.aac), MPEG-TS(.ts), FLAC(.flac), MIDI(.midi, .xmif, .mxmf), RTTTL/RTX(.rtttl, .rbx), OTA(.ota), iMelody(.imy), Ogg(.ogg), Matroska(.mka), QCELP(.qcp), RealMedia(.ra), Windows Media(.wma), AC3(.ac3)
Sensor	Proximity sensor Ambient light sensor 6-axis sensor (accelerometer + gyroscope) Magnetometer Accelerometer
Connectivity	
DMR	Frequency range: 340–470 MHz TX power: 1 W/4 W
Broadband	TDD-LTE: B34/B38/B39/B40/B41 FDD-LTE: B1/B2/B3/B4/B5/B7/B8/B20/B26/B28 W-CDMA: B1/B2/B4/B5/B8 TD-SCDMA: B34/B39 CDMA: CDMA 1xRTT BCO, CDMA2000 1xEV-DO BCO GSM: 850/900/1800/1900 MHz
LTE	3GPP LTE Rel-12
WLAN	IEEE 802.11 a/b/g/n/ac, 2.4 GHz/5 GHz
BT	V5.0 BDR/EDR/BLE
NFC (Optional)	13.56 MHz
Positioning	GPS/BDS/GLONASS/Galileo/QZSS/A-GPS/NLP In open areas: TTFF (cold start) < 60s TTFF (hot start) < 10s Horizontal accuracy ≤ 2 m (> 5 SVs, -130 dBm, CEP for 50%)
Environment	
Water and Dust Resistance	IEC 60529 IP68
Shock and Vibration Resistance	MIL-STD-810H
ESD	IEC 61000-4-2 (level 4), ±8 kV (contact), ±15 kV (air)
Operating Temperature	-20°C to +60°C
Storage Temperature	-30°C to +80°C
Humidity	MIL-STD-810H, ≤ +65°C, 95%RH



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