DP680/DP685

DMR Portable Radio

Lightweight and robust the DP680/DP685 is an open-standard DMR radio capable of providing superior quality voice communication in an ergonomic design approved to IP67 and MIL-STD 810.

With a long-lasting battery is the ideal solution for organizations looking for a cost-effective clear digital communication with all-round digital functions, and remarkable quality to increase your management efficiency and enable you to be responsive to emergent situations.

Features

- **Robust and Stylish**

  DP680/DP685 is compact and light weighted, and it is easy to carry and wear. The unique aluminum-alloy housing enables better wear-resisting and better heat dissipation. Compliant to MIL-STD-810 C/D/E/F/G and IP67 standards, DP680/DP685 delivers excellent performance in demanding environment.

- **Clear and Loud Voice**

  Equipped with an 2W optimized powerful loudspeaker,DP680/DP685 delivers clear and loud voice even in noisy environment. AI-based noise cancellation technology decreases background noise and howling by 30dB, ensuring clear and smooth voice calls.

- **Easy to Operate**

  Simple to use, user-friendly and intelligent to deliver better user experience. 1.8-inch color LCD screen, users can check battery status, field strength indication, and caller information at any time according to actual working scenarios. 360° rotary channel knob, convenient channel switching, programmable buttons and keys make radio operation easy and swift.

- **Multi-Mode Operation**

  It supports analog conventional, digital conventional, MPT trunking, and DMR Tier III trunking, facilitating smooth analog-to-digital transition.Multiple advanced analog signaling, including MDC1200, DTMF, 2-Tone and 5-Tone, provides higher expansion capacity in current communication systems.

- **Secure Communication**

  Provides basic and advanced encryption capability, including ARC4, DES, and AES256 bit encryption to further enhance the communication security.

- **Long Battery Life**

  DP680/DP685 with standard 2000mAh battery can work up to 13-15 hours. It has 2500mAh larger battery as optional.

- **Enhanced Safety**

  DP680/DP685 is designed to enhance safety in your organization with rapid response by a single press on the alarm. The built-in man-down and lone worker functions protect your personnel at the workplace.

- **Multimedia Service**

  DP680/DP685 supports rich voice and data service, including all kinds of voice call, text and status message, GPS location, VOX, emergency call, priority call and all call.

- **Enhanced Service**

  In addition to conventional communications service,DP680/DP685 provides richer enhanced service, including Tx interrupt, roaming, dual-slot pseudo trunking, kill, stun, retrive, remote monitoring, radio check, VOX, vibration, real time clock, scan etc.

01

Multi-function antenna, capable of GPS/BDS positioning

02

2W speaker for clear and loud voice | Superior Audio Quality Empower by 2W Speaker

03

Comfortable touch with large keypad keys | User Friendly Keypad Design

04

Concise Aluminum-alloy Design
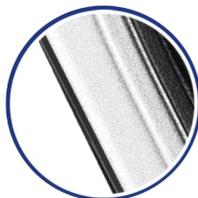

07

Emergency Alarm Key

06

360° Rotary Channel Control

05

1.8" TFT color LCD | Intuitive UI built on 1.8" TFT Color Display

Specifications

General

Frequency Range	UHF: 400-470MHz; VHF: 136-174MHz
Channel Capacity	1024
Zone Capacity	248
Channel Spacing	12.5kHz/20kHz/25kHz
Operating Voltage	7.5V DC±20%
Battery	2000mAh(Standard), 2500mAh(Optional)
Battery Life (2000mAh)	Analog:13.5 hours@2000mAh
(5-5-90 Duty Cycle, High TX Power)	Digital: 15.5 hours @2000mAh
Frequency Stability	±0.5 ppm
Antenna Impedance	50Ω
Dimensions(H·W·D)	123mmx55mmx33mm(2000mAh)
(with standard battery, without antenna)	
Weight(with standard battery)	353g(2000mAh)
LCD Display	1.8inch, 5 rows(Only DP680)

Receiver

Sensitivity Analog	0.22μV(12dB SINAD)
Sensitivity Digita	0.22μV/BER5%
Selectivity TIA-603	60dB@12.5kHz, 70dB@20/25kHz(TIA-603)
ETSII	60dB@12.5kHz, 70dB@20/25kHz(ETSI)
Intermodulation	70dB@12.5kHz/25kHz(TIA-603）
	65dB@12.5kHz/25kHz(ETSI)
Spurious Response Rejection	70dB@12.5/20/25kHz(TIA-603）
TIA-603 ETSI	70dB@12.5/20/25kHz(ETSI)
Hum and Noise	40dB@12.5KHz, 45dB@20/25KHz
Audio Power Output	2W
Rated Audio Distortion	≤3%(typical)
Audio Response	+1~-3dB
Conducted Spurious Emission	-57dBm@＜1GHz,-47dBm@1GHz

Transmitter

RF Power Output	1W/4W(UHF), 1W/5W(VHF);
FM Modulation	11K0F3E@12.5kHz；14K0F3E@20kHz;
	16K0F3E@25kHz
4FSK Digital Modulation	12.5kHz Data: 7K60F1D&7K60FXD,
	12.5kHz Voice: 7K60F1E&7K60FXE Combination
	of 12.5kHz Voice and Data: 7K60F1W
Modulation Limiting	±2.5kHz@12.5kHz, ±4.0kHz@20kHz,
	±5.0kHz@25kHz
FM Hum & Noise	40dB@12.5kHz, 45dB@20/25kHz
Adjacent Channel Power	60dB@12.5kHz, 70dB@20/25kHz
Audio Response	+1~-3dB
Audio Distortion	≤3%
Digital Vocoder Type	AMBE+2™
Digital Protocol	ETSI-TS102 361-1,-2,-3 ,-4

Environmental

Operating Temperature	-30℃~ +60℃
Storage Temperature	-40℃~ + 85℃
ESD	IEC610000-4-2(Level4)
	±4kV(Contact) ±8kV(air)
American Military Standard	MIL-STD-810-C/D/E/F/G
Dust & Water Protection	IP67 Standard
Humidity	Per MIL-STD-810 C/D/E/F/G Standard
Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard

GPS

Accuracy specs are for long-term tracking（5 satellites visible at nominal -130dBm)	
TTFF(Time To First Fix) Cold Start	<1 minute
TTFF(Time To First Fix) Hot Start	10 seconds
Horizontal Accuracy	10m

All specifications are tested according to applicable standards, and subject to change without notice due to continuous development.

Scenarios

Airport   Major Event   Forestry

Power Plant   Construction   Security

Standard Accessories:

Adaptor   Belt Clip   Single Unit Charger   Battery   Antenna   Strap

Optional Accessories:

Earphone   Programming Cable   Remote Speaker Microphone   6-way Charger   Battery (2500 mAh)