



UL Certified Intrinsically Safe Digital Portable Radio

PD7*i*SERIES UL913

PD782i

PD702i

- GPS Option and Integration with Data Applications
- UL/CSA/CQST Certified Explosion-Proof



*CSA certification applies to: PD702i Only



PD7 iSERIES UL913

The PD7i Series UL913 is specially designed for those who work in environments with explosive gas and combustible dusts, where using regular radios could be unsafe. A portable explosion-proof DMR radio with ergonomic and rugged design, easy to use, long battery life and UL913-rated for safety. The PD7i Series UL913 enable your workers to communicate safely and efficiently even in hazardous environments.

Applications

Mining

Pharmaceutical

Manufacturing

Firefighters

Refineries



Accessories

Included

- Li-Ion Battery (1S rated)
- MCU Rapid-rate Charger
- Power Adapter
- Antenna
- Belt Clip
- Leather Strap

Optional



Remote Speaker
Microphone (IP57)
SM18N2



MCU Multi-Unit Charger
(For Thick Battery)
MCA08



Programming Cable
(USB Port)
PC38



Earset
Swivel
EHN17

See website for full list

Product Features

- **User Friendly Design**
The large-size color display allows good visibility even under extremely strong light. The globally patented industrial design and antenna design ensure convenient operation and remarkable GPS performance. Vibration alerts the user of voice calls and text messages.
- **Rugged & Reliable**
Complies with MIL-STD-810 C/D/E/F/G standards. The Ingress Protection reaches IP67 (6: Totally protected against dust; 7: Protected against the effects of immersion up to 1m for 30 minutes). It's the highest IP level for land-based wireless radio application.
- **Superior Voice**
With the adoption of the AGC technology in combination with the application of narrowband codec and digital error correction technologies, The PD7i Series UL913 radios are capable of ensuring your voice is clear and crisp even in noisy environments or at the edge of the coverage area.
- **Higher Spectrum Efficiency, Higher Channel Capacity**
The TDMA technology allows twice the channels based on the same spectrum resource. This relieves the stress of increasing shortage in spectrum resource.
- **Secure Communication**
Besides the encryption inherent to digital technology, The PD7i Series UL913 radios provide enhanced encryption capabilities (such as 256-bit encryption algorithm). This process includes end-to-end encryption and over-the-air encryption. It has analog scrambling, and digital encryption using Advanced Encryption Standard (AES) and ARCFOUR (ARC4) encryption methodology to both voice and data. (A feature for both DMR conventional and Tier III Trunked operation mode.)
- **Roaming**
Automatic roaming of all sites in an IP Multi-site Connect system.
- **Voice with GPS**
PD7i is able to transmit GPS data in the same channel during transmitting voice. This gives the customer an option to upload location information once pushing to talk. It helps to target where the speaker is immediately.
- **Scan**
The PD7i Series UL913 is capable of scanning analog voice and signaling, as well as digital voice and data. These radios are also capable of mix mode scanning which monitors analog and digital channels.
- **GPS Positioning**
The PD782iG supports viewing of GPS positioning information and sending of GPS text message.
- **OTAP**
OTAP for Conventional Repeater System: Over the Air Programming modifies the parameters of remote terminals through the air interface signaling, including digital conventional channel parameters and part parameters of the terminal. It saves time and manpower to operate and maintain a radio system.
- **Enhanced Quick GPS**
Enhanced Quick GPS: Compressed GPS data can be packaged in a single frame to greatly increase the capacity up to 450 units/min, which is tripled in DMR Tier II system. This enhancement improves channel efficiency for data and reduce hardware cost.
- **Dual Mode: Analog & Digital**
Dual mode (analog & digital) operation ensures a smooth analog to digital migration.
- **Various Analog Signaling Types**
The PD7i Series UL913 is capable of various analog signaling types such as HDC1200, DTMF Encode (PD782i), 2-Tone, and 5-Tone, various squelch control types (CTCSS / CDCSS), providing higher functionality in analog mode.
- **Versatile Voice Calls**
The intelligent signaling of the PD7i Series UL913 radios support various voice call types, including Private Call, Group Call, All Call and Emergency Call.
- **Software Upgradeable**
Upgradeable software enables new features without buying a new radio; The PD7i Series UL913 radios can also be switched into DMR trunking modes with corresponding trunking license applied in the same hardware.
- **One Touch Call/Text**
Supports One Touch features that comprise of Preprogrammed Text Messages, Voice Calls and Supplementary Features.
- **Pseudo Trunk**
This virtual trunking feature allocates a free timeslot for urgent communications. This effectively enhances frequency efficiency and allows you to communicate in a timely manner in emergency situations.
- **Data Features**
The PD782i Supports data capabilities of sending Private and Group text messages. It also supports a Third Party to control the radio via Third party API (GPS, Radio Registration Services, Radio Call Control, Telemetry, Data Transfer), via Telemetry control to radio.
- **Trunked & Conventional Switch**
Trunking & Conventional Switch: By pressing a single button or twisting the channel knob, it enables radios to be switched between DMR Tier 3 trunking and conventional mode without restarting. During this process, registration & deregistration in trunking system is done automatically, and over the air authentication is still available.
- **Optimized Pushed to talk**
Optimized Push-to-talk: It allows a radio to set up audio buffer and store what the user speaks before the call is established. Then it sends the stored audio together with the coming real-time audio after the call is established. Therefore, users can talk right after pressing PTT without waiting for the "go-ahead tone". This feature also enhances the handover function without dropping communications in Tier III system during sites switch.
- **Out of range Notification in RMO**
Out-of-range Notification in RMO: A radio is always notified when it has left the repeater coverage. The users can realize if they are in the talk range all the time by paying attention to the alert tone.
- **Over the air alias**
PD7i Series UL913 can support sending radio alias over the air when PTT. The radio receives the call can decide to create a new contact or overwrite the old one automatically. It gives a great convenience to the customer to manage the fleet with the correct contact stored in each radio without touching each unit for re-programming.

Specifications

General	Frequency Range (UHF5 only for DMR Trunking)	VHF: 136 - 174MHz ; UHF1: 400 - 470MHz UHF2: 450-520MHz ; UHF5: 806-941MHz		
	Channel Capacity	1024		
	Zone Capacity	64		
	Channel Spacing	25 / 20 / 12.5KHz (6.25e)		
	Operating Voltage	7.4V (rated)		
	Battery	2400mAh (Li-Ion)		
	Battery Life (5-5-90 Duty Cycle, High TX Power) (Range of hrs depends on Frequency and GPS)	Analog	Approx. 8 - 12hrs	
		Digital	Approx. 11 - 15hrs	
	Frequency Stability	± 0.5ppm		
	Antenna Impedance	50 Ω		
	Dimensions (HxWxD)	PD702i	4.9 x 2.17 x 1.38 inches	
		PD782i	4.9 x 2.17 x 1.46 inches	
	Weight	PD702i	11.82 oz	
PD782i		12.52 oz		
LCD Display PD782i	160 128 pixels, 65535 colors 1.8 inch, 4 rows			
FCC ID	See website for full list			
Industry Canada ID	See website for full list			

UL913	Atmosphere	Class I II III	Class I - Gas, vapors ; Class II - Dust ; Class III-Fibers, Flyings
	Area Classification (Flammable material present time)	DIV 1	Division 1: Gas/Dust normally present in explosive amounts
	Gas Types by Group:	Group C	C- Ethylene and related products
	Dust Types by Group:	Group G	G - Grain and non-metallic dust
	Operating Temperature	-30 to 55	-22°F to 131°F
	Temperature Class (Maximum device surface temperature)	T4	T4-275°F

Environmental Specs	Storage Temperature	-40° F ~ +185° F
	ESD	IEC 61000 - 4 - 2 (level 4) ±8kV(contact) ; ± 15kV (air)
	American Military Standard	MIL-STD-810 C/D/E/F/G
	Dust & Water Intrusion	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	TTF (Time To First Fix) Cold Start	<1 minute
	TTF (Time To First Fix) Hot Start	<10 seconds
	Horizontal Accuracy	<10 meters

Transmitter	RF Power Output	VHF: High 5W - Low 1W UHF: High 4W - Low: 1W
	FM Modulation (Analog Emissions Designator)	11KϕF3E @ 12.5KHz ; 14KϕF3E @ 20KHz ; 16KϕF3E @ 25KHz
	4FSK Digital Modulation (Digital Emissions Designator)	12.5KHz Data Only: 7K6ϕFXD 12.5KHz Data & Voice: 7K6ϕFXW
	Conducted/Radiated Emission	-36dBm<1GHz -30dBm>1GHz
	Modulation Limiting	± 2.5KHz @ 12.5KHz ; ± 4.0KHz @ 20KHz ; ± 5.0KHz @ 25KHz
	FM Hum & Noise	40dB @ 12.5KHz ; 43dB @ 20KHz ; 45dB @ 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

Receiver	Sensitivity	Analog	0.3 μ V (12dB SINAD) ; 0.22 μ V (Typical) (12dB SINAD) ; 0.4 μ V (20dB SINAD)
		Digital	0.3 μ V/BER5%
	Selectivity TIA-603 ETSI	60dB @ 12.5KHz / 75dB @ 20/25KHz 60dB @ 12.5KHz / 70dB @ 20/25KHz	
	Intermodulation TIA-603 ETSI	70dB @ 12.5/20/25KHz 65dB @ 12.5/20/25KHz	
	Spurious Response Rejection TIA-603 ETSI	70dB @ 12.5/20/25KHz 70dB @ 12.5/20/25KHz	
	Blocking TIA-603 ETSI	80dB 84dB	
	S/N	40dB @ 12.5KHz ; 43dB @ 20KHz ; 45dB @ 25KHz	
	Rated Audio Power Output	0.5W	
	Rated Audio Distortion	≤ 3%	
	Audio Response	+1 ~ -3dB	
Conducted Spurious Emission	< -57dBm		

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