

# APX™ 1000i

## SINGLE-BAND P25 PORTABLE TWO-WAY RADIO

### FEATURES AND BENEFITS

- Dual-Knob Solution
- Available in 700/800 MHz, UHF R1, UHF R2, VHF
- Supports:
  - APCO P25 Conventional
  - APCO P25 Phase 1 FDMA Trunking, Phase 2 TDMA Trunking
  - SmartNet®, SmartZone®, SmartZone Omnilink
- Narrow and wide bandwidth digital receiver (6.25 kHz equivalent / 12.5 kHz / 25 kHz)<sup>1</sup>
- Embedded digital signaling (ASTRO and ASTRO 25)
- Available in models 2 and 3
- Radio Profiles
- Unified Call List
- User-programmable Voice Announcement
- Meets Applicable MIL-STD-810C, D, E, F and G
- Full Portfolio of Accessories, including IMPRES batteries, chargers and audio devices<sup>2</sup>

### STANDARD FEATURES

- Operational-Critical Wireless Bluetooth® 4.0 (LE)<sup>3</sup>
- Emergency Find Me
- ASTRO 25 Integrated Voice & Data
- Integrated GPS/GLONASS for Outdoor Location-Tracking

- Single-Key ADP Encryption
- IP68 submersion (2 meters, 2 hours)
- IMPRES Battery (PMNN4491B)
- Embedded digital signaling (ASTRO and ASTRO 25)
- Text Messaging
- Software key

### PROGRAMMING

- Utilizes Windows 7, 8 and 10 Customer Programming Software (CPS) with Radio Management

### OPTIONAL FEATURES

- Enhanced Encryption capability
- Enhanced Data
- Enhanced Noise Suppressor (Highly Recommended)
- Multi-Key
- Programming Over Project 25 (OTAP)
- RFID Volume Knob (Accessory only)
- Mission Critical Geofence
- P25 Authentication
- Digital Tone Signaling
- UL-certified



Product shown with optional stubby antenna

<sup>1</sup> Per the FCC Narrowbanding rules, new products submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25 kHz for United States - State and Local Markets only.

<sup>2</sup> Chargers and batteries for APX 1000 will interoperate with APX 1000i

<sup>3</sup> Compatible with BT 2.1, HSP, PAN, DUN and SPP Profiles found in off-the-shelf Bluetooth accessories and Bluetooth 4.x



**TRANSMITTER- TYPICAL PERFORMANCE SPECIFICATIONS**

	700/800 MHz	UHF Range 1	UHF Range 2	VHF
Frequency Range/Bandsplits	764-776 MHz 794-806 MHz 806-824 MHz 851-870 MHz	380-480 MHz	450-520 MHz	136-174 MHz
Channel Spacing	12.5/25 kHz	12.5/25 kHz	12.5/20/25 kHz	12.5/25 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj <sup>1</sup>	700 MHz: 1-2.5 W 800 MHz: 1-3 W	1-5 W	1-5 W	1-5 W
Frequency Stability <sup>1</sup> (-30 °C to +85 °C; +25 °C Ref.)	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Modulation Limiting (12.5/20/25 kHz)	±2.5/4/5 kHz	±2.5/4/5 kHz	±2.5/4/5 kHz	±2.5/4/5 kHz
Audio Response <sup>1</sup>	1, -3 dB	1, -3 dB	+1, -3 dB	1, -3 dB
Emissions <sup>1</sup> (conducted and radiated)	-75 dBc	-75 dBc	-75 dBc	-75 dBc
FM Hum & Noise (12.5/25 kHz)	-45/-47 dB	-45/-47 dB	-45/-47 dB	-45/-47 dB
Audio Distortion <sup>1</sup> (25 kHz)	1.00%	1.00%	1.00%	1.00%

**RECEIVER- TYPICAL PERFORMANCE SPECIFICATIONS**

	700/800 MHz	UHF Range 1	UHF Range 2	VHF
Frequency Range/Bandsplits	764-776 MHz 851-870 MHz	380-480 MHz	450-520 MHz	136-174 MHz
Channel Spacing	12.5/25 kHz	12.5/25 kHz	12.5/20/25 kHz	12.5/25 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated <sup>1</sup>	500 mW	500 mW	500 mW	500 mW
Frequency Stability (-30 °C to +85 °C; +25 °C Ref.)	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Analog Sensitivity <sup>2</sup> 12 dB SINAD	0.250 µV	0.234 µV	0.234 µV	0.216 µV
Digital Sensitivity <sup>4</sup> 1% BER	0.400 µV	0.307 µV	0.307 µV	0.277 µV
5% BER	0.250 µV	0.207 µV	0.207 µV	0.188 µV
Selectivity <sup>1</sup> (12.5/25 kHz)	-67/-76 dB	-67/-76 dB	-67/-76 dB	-70/-76 dB
Intermodulation	-75.0 dB	-77.0 dB	-77.0 dB	-79.5 dB
Spurious Rejection	-76.6 dB	-80.3 dB	-80.3 dB	-79.3 dB
FM Hum & Noise (12.5/25 kHz)	-47/-53 dB	-45/-50 dB	-46/-52 dB	-45/-51 dB
Audio Distortion <sup>1</sup> (12.5/25 kHz)	1.00%	1.00%	1.00%	1.00%





## RADIO MODEL

	MODEL 2	MODEL 3
Display	Full bitmap color LCD display, 3 lines of text x 14 characters, 1 line of icons, 1 menu line x 2 menus, White backlight	
Keypad	Backlit keypad, 2 soft keys, 4-direction navigation key, Home and Back buttons	Backlit keypad, 2 soft keys, 4-direction navigation key, 4x3 keypad, Home and Back buttons
Channel Capacity	512	
FLASHport Memory	2 GB	
VHF	H92KDF9PW6ANi	H92KDH9PW7ANi
UHF Range 1 (380-480 MHz)	H92QDF9PW6ANi	H92QDH9PW7ANi
UHF Range 2 (450-520 MHz)	H92SDF9PW6ANi	H92SDH9PW7ANi
700/800 MHz	H92UCF9PW6ANi	H92UCH9PW7ANi
Buttons & Switches	PTT button • Two-knob (volume + channel/talkgroup) • Orange emergency button • 3 programmable side buttons	

## POWER SUPPLY

One rechargeable IMPRES Li-Ion 2100 mAh, slim high density battery IP68 (PMNN4491B), with alternate battery options available.

## BATTERIES FOR APX 1000i

BATTERY CAPACITY / TYPE	DIMENSIONS (H X W X D)	WEIGHT	BATTERY PART NUMBER	BATTERY CAPACITY
IMPRES Li-Ion 2100 mAh, slim high density battery (IP68)	113 x 52 x 18 mm	135 g	PMNN4491_	2100 mAh
IMPRES Hi-Cap Li-Ion 3000 mAh battery, low voltage (IP68)	113 x 52 x 23 mm	155 g	PMNN4493_	3000 mAh
IMPRES Hi-Cap Li-Ion 2900 mAh low voltage battery (IP68, UL-rated <sup>2</sup> )	113 x 52 x 23 mm	210 g	PMNN4489_	2900 mAh



PMNN4491\_



PMNN4493\_



PMNN4489\_

**PORTABLE MILITARY STANDARDS 810 C, D, E, F AND G**

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc./Cat	Method	Proc./Cat	Method	Proc./Cat	Method	Proc./Cat	Method	Proc./Cat
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Basic Hot	501.5	I/A1, II/A2
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.5	I/C3, II/C1
Temperature Shock	503.1	I	503.2	I/A1C3	503.3	I/A1C3	503.4	I	503.5	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	1 Proc	507.5	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	1 Proc	509.5	1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand	1 Proc	1 Proc	510.2	II	510.3	II	510.4	II	510.5	II
Vibration	514.2	VIII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.6	I/24
Shock	516.2	I, III	516.3	I, VI	516.4	I, VI	516.5	I, VI	516.6	I, VI
Shock (Drop)	516.2	II	516.2	IV	516.4	IV	516.5	IV	516.6	IV

**BLUETOOTH**

Version	Bluetooth 4.0 (LE)
Encryption	96-bit for pairing 128-bit for voice, data and signaling
Connections	Up to 6 data + 1 audio

**DIMENSIONS: RADIO WITH BATTERY**

	STD BATTERY	HI-CAP BATTERY
Length	5.1 in (130 mm)	5.1 in (130 mm)
Width	2.2 in (55 mm)	2.2 in (55 mm)
Thickness	1.4 in (36 mm)	1.6 in (41 mm)
Weight	11 oz (315 g)	12 oz (347 g)

**GPS/GNSS SPECIFICATIONS**

Constellations	GPS and GLONASS
Tracking Sensitivity	-154 dBm
Accuracy <sup>5</sup>	<10 m (95%)
Cold / Hot Start	<60 / <5 s (95%)
Mode of Operation	Autonomous (non-assisted) GPS

1 Measured in the analog mode per TIA / EIA 603 under nominal conditions  
 2 When used with an UL-approved intrinsically safe radio  
 3 Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.  
 4 Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.  
 5 Accuracy specs are for long-term tracking (95th percentile values, >5 satellites visible at a nominal -130 dBm signal strength).  
 6 Temperatures listed are for radio specifications. Battery storage is recommended at 25°C, ±5°C to ensure best performance.  
 Specifications subject to change without notice. All specifications shown are typical.  
 Radio meets applicable regulatory requirements.

**ENCRYPTION**

Supported Encryption Algorithms	ADP, AES-SW
Encryption Keys per Radio	48
Encryption Frame Re-sync Interval	P25 CAI 360 ms
Encryption Keying	Key Loader
Vector Generator	National Institute of Standards and Technology (NIST) approved random number generator
Encryption Type	Digital
Key Storage	Non-volatile Memory
Key Erasure	Keyboard Command
Standards	FIP 140-2 Level 1; FIPS 197

**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature	-30 °C to +60 °C
Storage Temperature <sup>6</sup>	-40 °C to +85 °C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP68 (2 meters, 2 hours)
Housing Color Availability	Black only

For more information, please visit [motorolasolutions.com/apx](http://motorolasolutions.com/apx)



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