APX N70

SINGLE-BAND P25 SMART RADIO

FOCUSED. FORWARD.

Safety and focus on the front line are paramount. Reliable and intuitive communications devices that are rugged and easy to use, are non negotiable for first responders. Clear communications have proven to be lifesaving in critical moments.

Reliable P25 radios must evolve to offer sophisticated features that work within a larger public safety ecosystem. They must deliver actionable intelligence to provide increased situational awareness during an incident.

We designed our APX N70 explicitly for this purpose. It provides public safety personnel the mission-critical communications and real-time information they need to stay connected and respond safely.

Inherently rugged, it offers an intuitive interface to ensure reliable eyes-up operation. Wherever they're working, responders will hear and be heard with the loudest and clearest audio possible.

The APX N70 works reliably across a variety of frequencies, modes and protocols. Communications are secure with hardware encryption algorithms and can be updated quickly with batch radio programming and management tools. Optional next generation features such as LTE and smart apps enhance in-field intelligence for improved situational awareness so first responders can respond with focus and efficiency.

MOTOROLA SOLUTIONS

New antenna technology improves comfort and wearability

Large color top screen for critical information at a glance

Intuitive hard controls, protected against accidental activation

HDR microphones, for outstanding audio capture

Mission-critical touchscreen: rugged, usable with gloves, readable in all lighting conditions

Large, distinctive buttons for PTT, emergency and ViQi, and two additional programmable side buttons

Programmable buttons for one-touch quick access

Samantha Butler

East Zone
Patrol 1

Zone Contacts More

Alma Schwartz
Forward the BOLO photo

New Message All Messages

8000 West Sunrise Blvd,
Plantation, Florida 33322

P1 P2 P3
P4 P5 P6

11.4 in
289 mm

6.3 in
159 mm

5.4 in
136 mm

2.4 in
60 mm

1.7 in
44 mm

East Zone
Patrol 1

3.1 in
78 mm

FEATURES

OPERATION MODES

Digital Trunking: 9600 Baud APCO P25 phase 1 FDMA and phase 2 TDMA

Digital Conventional: APCO 25

Analog Conventional: 3600 Baud SmartNet®, SmartZone®, Omnilink®

Analog Trunking: MDC 1200

ASTRO® 25 Integrated Voice and Data

SmartConnect Multi-net Connectivity[1]

FREQUENCY BANDS

7/800 MHz

Up to 3000 Channels

Up to 200 Zones[1]

ADDITIONAL CONNECTIVITY

Bluetooth (Version 5.0)

Wi-Fi 802.11 a/b/g/n/ac, 2.4 and 5 GHz Bands

LTE[1]

NFC (Near-Field Communications)[2]

AUDIO FEATURES

3 W Speaker with Adaptive Equalization

2 Internal HDR Microphone

Adaptive Dual-sided Operation

Adaptive Noise Suppression Intensity[1]

Adaptive Gain Control

Adaptive Windporting[1]

IMPRES™ Audio Accessory Compatibility

Noise Sensing Volume Control[1]

Receive Volume Leveling[1]

MANAGEMENT

RadioCentral™

Radio Management (RM)

CPS (Customer Programming Software)

SmartProgramming[1]

LOCATION-TRACKING

Built-in GNSS (GPS, Galileo and GLONASS)

SmartLocate and Indoor Positioning[1]

SmartMapping[1]

SECURITY

256-bit AES[1]

Single-key ADP Encryption

Software Key

P25 Authentication[1]

Multikey for up to 128 Keys and Multi-algorithm[1]

Touchless Key Provisioning[3]

Over-The-Air Rekeying (OTAR)[1]

HAZLOC

Class I, Division 1, Groups C, D

Class II, Division 1, Groups E, F, G

Class III, Hazardous Locations

Class I, Division 2, Groups A, B, C, D when used with 3650 mAh Div 1 Battery

MESSAGING

Canned Messages

SmartMessaging[1]

VOICE INTERACTION

Customizable Voice Announcements

ViQi Voice Control: Radio Actions with Intuitive Commands[1]

ViQi Virtual Partner Service[1]

ENERGY

Standard 3200 mAh Battery

Optional High-cap 4400 mAh Battery

Optional UL Div 1 3650 mAh Battery

IMPRES 2 Smart Battery Technology

SENSORS

Ambient Light (Intelligent lighting)

Accelerometer x2 (Display Orientation, Man Down)

OTHER FEATURES

Radio Profiles

Enhanced Data[1]

Multicast Voting Scan[1]

Man Down/Fall Alert[1]

DVRS PSU[1]

Digital Tone Signaling[1]

APX Personnel Accountability[1]

Instant Recall

INGRESS PROTECTION

IP6x Dust

IPx8 submersion (2 m, 4 hr)

MIL-STD Delta-T, 512.X Procedure 1

USER INTERFACE

3.0" Mission-critical Touchscreen: 360x600 TFT 24-bit Full Color Transflective Display

Capacitive Touch Technology: Usable with Gloves Up to 4 mm Thick, Resistant to False Actuation from Fresh or Saltwater, Snow, Ice, Dirt or Grease

High Velocity User Interface: Large Touch Targets, Shallow Menu Hierarchy, Home Screen Information at a Glance, Integrated Applications

1.2" Top Display: 200x112 TFT 18-bit Color Transflective Screen, 1 Line of Icons, 2 Lines of Text, 14 Characters per Line, 2 mm Toughened Glass Lens

PTT Button: 1.26 x 0.55 in (32 x 14 mm)

16-position Channel Selector

Angled Power/Volume Knob

Orange Emergency Button

3 Programmable Side Buttons (1-dot, 2-dot, purple)

Concentric 2-position Switch

ABC Zone Switch

ViQi Button (3-dot)

Display On/Off/Home Button

6 Programmable Buttons Under Display

DIMENSIONS

Radio with Standard Battery, no Antenna

Height: 5.4 in (136 mm)

Width: 2.4 in (60 mm)

Depth: 1.7 in (44 mm)

Weight: 17.4 oz (493 g)

Footnotes
[1] Optional Feature
[2] Hardware-ready
[3] Included with use of OTAR combined with RadioCentral
Feature list subject to change without notice

PERFORMANCE

TRANSMITTER

	Note	700 MHz	800 MHz
Frequency Range / Bandsplits	-	762-776, 792-806 MHz	806-825, 851-870 MHz
Channel Spacing	-	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz
Maximum Frequency Separation	-	Full Bandsplit	Full Bandsplit
Rated RF Output Power (Adjustable)	1	1-2.5 W	1-3 W
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	1	±1.0 ppm	±1.0 ppm
Modulation Limiting (12.5 / 20 / 25 kHz Channel)	1	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz
Emissions (Conducted and Radiated)	1	-75 dBc	-75 dBc
Audio Response	1	+1, -3 dB	+1, -3 dB
FM Hum and Noise (12.5 / 25 kHz Channel)	-	-47 / -52 dB	-47 / -52 dB
Audio Distortion (12.5 / 25 kHz Channel)	1	1.00%	1.00%

RECEIVER

	Note	700 MHz	800 MHz
Frequency Range / Bandsplits	-	762-776, 799-806 MHz	851-870 MHz
Channel Spacing	-	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz
Maximum Frequency Separation	-	Full Bandsplit	Full Bandsplit
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	1	1 W / 3 W	1 W / 3 W
Analog Sensitivity (12 dB SINAD)	2	0.25 µV	0.25 µV
Digital Sensitivity (1% BER)	3	0.375 µV	0.375 µV
Digital Sensitivity (5% BER)	3	0.24 µV	0.24 µV
Selectivity (12.5 / 25 kHz Channel)	1	-61.3 / -75.2 dB	-61.3 / -75.2 dB
Intermodulation Rejection	-	80/78 dB	80 dB
Spurious Rejection	-	76.6 dB	76.6 dB
FM Hum and Noise (12.5 / 25 kHz Channel)	-	-47 / -53 dB	-47 / -53 dB
Audio Distortion	-	1.00%	1.00%

IMPRES™ 2 BATTERIES

	Footnote	Part No	Capacity	Availability
Standard	-	PMNN4816	3200mAh	Included
HAZLOC	4	PMNN4818	3650mAh	Optional
High Capacity	-	PMNN4817	4400mAh	Optional

ENCRYPTION

Supported Encryption Algorithms	ADP, AES-256, DES, DES-XL, DES-OFB, DVP-XL, Localized Algorithm
Encryption Algorithm Capacity	8
Encryption Keys per Radio	1024 Keys, Programmable for 64 Common Key References (CKR) , upgradable to 128 CKRs, or 16 Physical Identifiers (PID)
Encryption Keying	Local Key Loader and Over-the-Air Rekeying (OTAR)
Synchronization	XL - Counter Addressing OFB - Output Feedback
Vector Generator	NIST-Approved Random Number Generator
Encryption Type	Digital and SecureNet, TLS1.2, SRTP
Key Storage	Tamper-protected Volatile or Non-volatile Memory
Key Erasure	Keyboard Command and Tamper Detection
Standards	FIPS 140-3 Level 1 and Level 3, FIPS 197
Device Certificates	x.509v3 ECC-P384, x.509v3 RSA-2048
Cipher Suites FIPS 140-2 Level 1	ECDHE_ECDSA_WITH_AES256_GCM_SHA384 TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA TLS_RSA_WITH_AES_256_GCM_SHA384 SRTP_AEAD_AES_256_GCM1

LOCATION TRACKING

	Footnote	
Constellations	-	GPS, GLONASS and Galileo
Tracking Sensitivity	-	-159 dBm
Accuracy	5	<5m (95%)
Cold Start	5	<60 Seconds (95%)
Hot Start	5	<5 Seconds (95%)
Mode	-	Autonomous (Assisted Only)

WIRELESS

LTE	Footnote	
Bands Supported	-	2, 4, 12, 13, 14
Bands (Hardware Ready)	-	17
Device Category	-	4
Certifications	6	FirstNet®, Verizon®, Bell Mobility
WiFi		
Standards Supported	-	802.11a/ b/g/n/ac
Frequency Range	-	2400-2472, 5180-5825 MHz
Security	-	Supports WPA-2, WPA, WEP
Capacity	-	Up to 20 SSIDs
Bluetooth		
Version	-	5.0
Frequency Range	-	2402 - 2480 MHz
Security	-	128-bit AES-CCM Encryption

AUDIO

	Standard	Upgrade
Audio Output Power at Rated	1 W	3 W
Audio Output Power at Max	3 W	5 W
Audio Response (EIA)	+1, -3 dB	+1, -3 dB
Speech Loudness at 12 in (300 mm)	102 phon	105 Phon
Audio Features	Adaptive Dual-sided Operation Adaptive Equalization Adaptive Gain Control IMPRES Audio	Adaptive Noise Suppression Intensity Adaptive Windporting Noise Sensing Volume Control Receiving Volume Leveling

ENVIRONMENTAL AND REGULATORY

MIL-STD 810

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G/H	
	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/Hot	501.5	I/A1, II/A1
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/A1, C3	503.3	I/A1, C3	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
Submersion	512.1	I	512.2	I	512.3	I	512.4	I	512.5	I
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, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.6	I, V, VI
Shock (Drop)	516.2	II	516.3	IV	516.4	IV	516.5	IV	516.6	IV

ENVIRONMENTAL

	Footnote	
Operating Temperature	7	-30 to +60 °C (-22 to +140 °F)
Storage Temperature	7	-40 to +85 °C (-40 to +185 °F)
Humidity	-	Per MIL-STD 810
ESD	-	IEC 801 - 2 kV
Dust Resistance	-	IP6X
Water Resistance (Submersion)	-	IPX8 (2 meters, 4 hours) MIL-STD Delta-T, 512.X Procedure 1

REGULATORY

FCC ID	AZ489FT7147
IC ID	109U-89FT7147
LMR	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E
Bluetooth	1M18G1D, 1M1F1D, 2M1F1D
WiFi	12M9G1D, 16M7D1D, 17M9D1D, 36M2D1D, 17M5D1D, 18M4D1D, 36M8D1D, 76M1D1D
LTE	Band 2 (1850.7 - 1910 MHz), Modulation: *G7D, *D7W Band 4 (1710.7 - 1755 MHz), Modulation: *G7D, *D7W Band 12 (699.7 - 716 MHz), Modulation: *G7D, *D7W Band 13: (777-787 MHz), Modulation *G7D, D7W Band 14 (788 - 798 MHz), Modulation: *G7D, *D7W
Single-band Model Number	H35UCT9PW8AN

1. Measured in the analog mode per TIA / EIA 603 under nominal conditions. Selectivity reflects newer 2-tone test method as defined in revision D TIA603-D issued in 2010

2. Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.

3. Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.

4. Listed by UL to the standards ANSI/TIA 4950-A and CAN/CSA C22.2 NO. 157-92 Classification Rating: Class I, Division 1, Groups C, D; Class II, Division 1, Group E, F, G; Class III, Hazardous (Classified) Locations. ANSI/ISA 12.12.01-2015 and CAN/CSA C22.2 No. 213-15; Class I, Division 2, Groups A, B, C, D; T3C

5. Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength. Specs provided are 95th percentile values.

6. SIM cards for the listed carriers can be pre-installed at Motorola Solutions factory or supplied by the end user via Bring Your Own SIM (BYOS) for certified carriers.

7. LMR only. Front display, LTE, Wi-Fi, Bluetooth and GPS not available when radio internal temperature is below -20 °C (-4 °F). Batteries should be charged at 0 to +45 °C (+32 to +113 °F) and stored at +20 to +25 °C (+68 to +77 °F) . Reference motorolasolutions.com/batterycare

All specifications are subject to change without notice.

For more information on APX N70, please visit: **motorolasolutions.com/APXN70**