P5400 Portable
VHF, UHF

P5450 P5470

The P5400 portable is a digital two-way radio that provides

- *Multi-Mode functionality*
- *Digital voice and IP data*
- *Optional AES encryption*

The P5400 portable enhances the productivity and increases the efficiency of its users.

Multiple Applications with One Radio
The P5400 uses a new high-speed digital signal processor and the latest RF components to support multiple applications in one package:

- Project 25 (P25) Digital Trunking
- P25 Digital Conventional
- ProVoice™ Digital Trunking
- Enhanced Digital Access Communications System (EDACS®) Trunking
- Complete Analog Conventional features
- AES and DES encryption

Maximum RF Performance
The radio operates over the VHF band from 136 to 174 MHz and in the UHF band from either 378 to 430 or 440 to 512 MHz, and combines digital and analog operation in one radio. Such versatility maximizes interoperability.

- TIA-603 compliance – the highest analog RF performance
- TIA-102 Class-A compliance – the highest level of P25 RF performance available on the market.

High Performance in a Durable Package
The sturdy mechanical package of the P5400 provides high performance and reliable service.

- MIL-STD-810F durable – including 1-meter drop to concrete per TIA-603-B (no antenna installed; drop directly to knobs)
- Programmable dual-position switch for flexible operation
- Tx/Rx LED and enhanced clarity LCD for more visible signaling (including features such as a battery-level gauge)
- At 13.7 ounces with Lithium-Ion battery, one of the lightest weight portable offered by Harris
- Illuminated channel indicator for easy channel identification
- Intrinsically Safe models (optional)

Software-Based Design for Customization
With the software-based design, the P5400 portable is readily configurable and easily expandable with software upgrades to meet customized needs.

- Stores up to 1,024 trunked system/group combinations and up to 512 conventional channels
- Stores 255 individual call numbers and 255 telephone numbers in memory
- ProFile™ offers easy over-the-air programming for efficient updates
- ProScan™ provides smooth, automatic roaming between sites
- Personality Lock prevents unauthorized users from programming radios or accessing the system.

Radio TextLink Text Messages
With this option, users may receive, display, and respond to text messages sent from authorized users on the network. This feature improves real-time communications among first responders while also providing the capability to leave messages with users that are actively engaged in other critical activities.

General Specifications

P5400 Portables are available in 2 models:

P5470: System Model with LCD and DTMF keypad

P5450: Scan Model with LCD and limited keypad

Dimensions (H x W x D):
(Without Knobs and Antenna)
With battery:
5.37 x 2.44 x 1.67 in.
(136.5 x 62.0 x 42.5 mm)

Weight (with Battery):

Li-Ion:	13.70 oz (388g)
Li-Polymer:	15.20 oz (431g)
NiCd:	17.00 oz (482g)
NiMH:	18.10 oz (513g)

Input Voltage:
7.5 VDC (nominal)

Vibration:
5 G (per U.S. Forest Service)

Shock:
1 meter drop (per TIA-603B)

Battery Life (at 5% Tx, 5% Rx, and 90% standby):

NiCd:	8 hours (1600 mAH)
Li-Ion:	9 hours (2000 mAH)
Li-Polymer:	16 hours (3600 mAH)
NiMH:	11 hours (2400 mAH)

Operating Temperature Range:

NiCd:	-22 to +140°F (-30 to +60°C)
Li-Ion:	+14 to +140°F (-10 to +60°C)
Li-Polymer:	-4 to +140°F (-20 to +60°C)
NiMH:	-4 to +140°F (-20 to +60°C)

Relative Humidity:
90% @ 122°F (+50°C)

Altitude:

Operational:	15,000 ft (4,572 m)
In Transit:	50,000 ft (15,240 m)

Color (case): Black

Options and Accessories

Headset, earpiece, speaker microphones, PC programming software and cables, subminiature surveillance accessories, antennas, cases, straps, belt loops and swivel mounts, desk chargers, wall chargers, and vehicular chargers.

Intrinsically Safe Options

Factory Mutual Intrinsically Safe (FM3610:1988) for Class I, II, and III, Division 1, Groups C, D, E, F, and G, Temp T3C, TA=+60°C; Nonincendive for Class I, Division 2, Groups A, B, C, and D, Temp T4, TA=+60°C.

RoHS compliant

CE N24862

Transmitter

Typical performance specifications	VHF	UHF
Frequency Range (MHz):	136-174	378-430, 440-512*
Rated RF Power (W):	0.5-5	0.5-4
Frequency Stability (-30 to +60°C; +25°C Ref) (ppm):	±1.5	±1.5
Frequency Separation (MHz):	38 (full bandwidth)	52, 72 (full bandwidth)
Modulation Deviation (kHz):	5.0 (wideband), 2.5 (narrowband)	5.0 (wideband), 2.5 (narrowband)
FM Hum and Noise (Companion Receiver) (dB):	49 (wideband) 44 (narrowband)	46 (wideband) 41 (narrowband)
Spurious and Harmonics (dBm/dBc):	-40/-77	-40/-76
Audio Response (dB):	+1/-3	+1/-3
Audio Distortion:	1% (1 kHz tone @ 3 kHz deviation (wideband)) 1% (1 kHz tone @ 1.5 kHz deviation (narrowband))	1% (1 kHz tone @ 3 kHz deviation (wideband)) 1% (1 kHz tone @ 1.5 kHz deviation (narrowband))
Project 25 Modulation Fidelity (%):	2	1.5
Project 25 ACP (dBc):	68	68

Receiver

Typical performance specifications	VHF	UHF
Frequency Range (MHz):	136-174	378-430, 440-512*
Frequency Separation (MHz):	38 (full bandwidth)	52, 72 (full bandwidth)
Channel Spacing (kHz):	25 (wideband), 12.5 (narrowband)	25 (wideband), 12.5 (narrowband)
Frequency Stability (-30 to +60°C: +25°C Ref) (ppm):	±1.5	±1.5
Sensitivity (12 dB SINAD) (µV/dBm):	0.16/-123.0 (wideband), 0.16/-123.0 (narrowband)	0.20/-121.0 (wideband), 0.20/-121.0 (narrowband)
Selectivity @ 12.5 kHz (dB): @ 15 kHz (dB): @ 25 kHz (dB):	68 70 79	65 NA 76
Intermodulation (dB):	79	76
Spurious and Image Rejection (dB):	85	78
Rated Audio Output (mW):	500	500
Audio Distortion:	1.5% @ rated power	1.5% @ rated power
Project 25 Reference Sensitivity @ 5% BER (µV/dBm):	0.19/-121.5	0.21/-120.5
Project 25 Adjacent Channel Rejection (dB):	61	61

*The UHF P5400 will support synthesis of TX and RX frequencies that are divisible by 12.5 kHz.

Environmental Specifications

Standard	Parameter	Methods & Procedures
MIL-STD-810F*	Low Pressure	500.4/1,2
	High Temperature	501.4/1,2
	Low Temperature	502.4/1,2
	Temperature Shock	503.4/1
	Solar Radiation	505.4/2
	Blowing Rain	506.4/1
	Humidity	507.4
	Salt Fog	509.4
	Blowing Dust	510.4/1
	Vibration (Minimum Integrity)	514.5/1, Category 24
	Vibration (Basic Transportation)	514.5/1, Category 4
	Shock (Functional/Basic)	516.5/1
	Shock (Transit Drop)	516.5/4
IEC 60529	Dust-tight, Water Jets	IP-65
U.S. Forest Service	Vibration (10-60 Hz)	USDA LMR Standard, Section 2.15
TIA-603B	Shock (1 meter drop)	Paragraph 3.3.5.3

*Also meets equivalent superseded MIL-STD-810C, -D, and -E.

Digital Operation

Protocol	ProVoice	P25
Vocoding Method:	AMBE+2 Enhanced Full Rate	AMBE+2 Enhanced Full Rate & Enhanced Half Rate
Signaling Rate (kbps):	9.6	9.6
Modulation:	GFSK	WCQPSK & C4FM

Regulatory Data

Frequency Range (MHz)	RF Output (W)	Frequency Stability (ppm)	FCC Type Acceptance Number	Applicable FCC Rules	Industry Canada Certification Number	Applicable Industry Canada Rules	NTIA Certification Number
150-174	5	±1.5	OWDTR-0044-E	90	3636B-0044	RSS-119	--
421-430	4	±1.5	OWDTR-0045-E	90	3636B-0045	RSS-119	--
440-512	4	±1.5	OWDTR-0046-E	90	3636B-0046	RSS-119	--
138-174	5	±1.5	--	--	--	--	JF-1209392
380-420	4	±1.5	--	--	--	--	JF-1209392

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