TM9400 MOBILE

P25 PHASE 2 CAPABLE RADIO

OPERATIONAL EFFICIENCY AND EFFECTIVENESS FOR TODAY AND TOMORROW

KEY FEATURES

Operation in VHF, UHF and 700/800 MHz frequency bands

Reduced migration risk with the multiple modes of operation

Efficient operations with AES encryption, voice and data, simulcast support and pre-set status messages

Flexible expansion via an options slot for additional capabilities

Rugged build with an IP54 rating, water-resistant control head, and exceeding relevant MIL-STD-810G

Harris TM9400 mobiles are high-performing, flexible and robust radios, designed for intuitive operation in challenging environments around the world.

This P25-compliant mobile radio eases migration to more spectrally efficient communications with multiple modes of operation, including analog, analog simulcast IP, 12.5kHz P25 Phase 1 FDMA conventional/trunked, P25 Phase 2 TDMA trunked and LSM (CQPSK) decode capability.

Each TM9400 features Lone Worker, a covert microphone and stealth emergency modes as standard, ensuring safe, secure and effective communications on the move. Operational security is further enhanced with end-to-end encryption, a key fill device and over-the-air rekeying.

The TM9400 allows first responders to work the way best suited for their unique needs and missions, with multiple configuration options and programmable function keys.

HARRIS® TECHNOLOGY TO CONNECT, INFORM AND PROTECT™

FEATURES AND BENEFITS

Delivers on P25 standards

Benefit from the spectral efficiency, multi-vendor interoperability, security, migration and data capability demanded by P25 standards.

- TIA-102 P25 CAP tested and certified, providing multi-vendor interoperability
- 12.5kHz P25 Phase 1 FDMA and 6.25kHz equivalent P25 Phase 2 TDMA capable
- Product compliances satisfy FCC 2015 and 2017 ultra narrowbanding mandates
- FCC and IC compliances include P25 Phase 2 emission designator (8K10F1W)

Designed for demanding environments

Designed with users to ensure effective everyday operations.

- IP54 rated: protected against dust and splashing water
- Exceeds MIL-STD-810G
- Large four-line LCD with icons to display key parameters
- Configurable to suit your needs: dual head and remote mount (6m and 12m options)
- Four programmable function keys on the standard mobile head
- Programmable orange emergency key

High-performing voice communications

Robust design delivers clear, mission-critical voice communications.

- Analog, P25 Phase 1 conventional/trunked and P25 Phase 2 trunked
- Automatic dual mode between analog and P25 Phase 1 conventional
- Programmable power level options
- Option to operate with dual band functionality
- AMBE+2™ enhanced vocoder reduces background noise in demanding environments
- Voting ensures priority selection of the channel with optimum receive quality
- Dynamic regrouping and super-group operation for mission-critical workforce management
- Increased channel capacity with up to 2,000 channels
- Scanning modes include: priority, dual priority, editable, zone, background scan

Keeping your people safe

- Supports end-to end encryption, including AES
- Lone Worker, covert microphone and stealth emergency mode as standard
- Radio inhibit and uninhibit to allow management of radios during vehicle servicing
- Trunked failsoft reverts to conventional operation during trunked network failure

Effective operations with voice and data

- Support for a variety of simulcast modes such as LSM and C4FM
- Pre-set status messages
- P25 data such as emergency GPS location
- Conventional and trunked IP data
- Location services over a conventional network
- Software configurable, including feature upgrades through software licenses

Efficient, security-focused management

The TM9400 management facilities and applications allow you to efficiently manage your radio fleet.

- OTAR (Over-The-Air Rekeying)
- EnableProtect Key Fill Device for quick, reliable encryption key programming
- Programming application for efficient fleet programming
- EnableProtect Advanced System Key allows administrators to authorize and restrict subscriber units on their network

TM9400 accessories

Digital and analog interfaces allow a range of accessory options for the TM9400.

SPECIFICATIONS FOR: **TM9400 MOBILE – P25 PHASE 2 CAPABLE RADIO**

GENERAL*

Frequency Stability	±0.5ppm (-22°F to +140°F/-30°C to +60°C)
Channel/Zones	1,000 channels/50 zones (2,000 channels/100 zones optional enhancement with software license)
Talkgroups	50 talkgroups, up to 1,000 members total (2,000 members optional enhancement with software license)
Scan Groups	300 with up to 50 members each, maximum of 2,000 members total
Power Supply	10.8-16VDC
Active Standby Current	0.15A
Channel Spacing	12.5/15/20/25/30kHz
Frequency Increment	2.5/5/6.25

Dimensions (D x W x H):
    Control Head
    Radio Body - 25W
    Radio Body - 30/35/50W
	1.38in x 7.24in x 2.8in (35mm x 184mm x 71mm)
	6.9in x 6.3in x 2.1in (175mm x 160mm x 52mm)
	7.7in x 6.3in x 2.1in (195mm x 160mm x 52mm)

Weight - lb (kg):
    Control Head
    Radio Body - 25W
    Radio Body - 30/35/50W
	0.73lb (0.33kg)
	2.6lb (1.2kg)
	3.1lb (1.4kg)

Operating Temperature	-22°F to +140°F (-30°C to +60°C)
Water and Dust Protection	IP54
RF Connector	50ohm BNC or mini UHF
Interface Connectors	3 interface connectors with serial ports
Signaling Options (Analog)	MDC1200 encode and decode, 2-tone decode, PL (CTCSS), DPL (DCS)

TRANSMITTER*

Frequency Band:	VHF	VHF	UHF	700/800MHz
Transmit Power	25W, 12W, 5W, 1W	50W, 25W, 15W, 10W	25W, 12W, 5W, 1W 40W, 25W, 15W, 10W	<806MHz: 30W, 15W, 5W, 2W >806MHz: 35W, 15W, 5W, 2W
Transmit Frequency Ranges	136-174MHz	136-174MHz	400-470MHz: 450-520MHz	762–870MHz
Transmit Current	5.5A max.	10.5A max	(25W, 12W, 5W, 1W) <6A (40W, 25W, 15W, 10W) <10.5A	10A max

Modulation Limiting:
    12.5/15kHz Channel
    25/30kHz Channel
	±2.5kHz
	±5kHz
		2.5kHz
		±5kHz
			2.5kHz
			±5kHz
				±2.5kHz
				±5kHz

FM Hum and Noise:
    12.5kHz Channel
    25kHz Channel
	-45dB
	-48dB
		-45dB
		-48dB
			-40dB
			-45dB
				-40dB
				-45dB

Radiated/Conducted Emissions	-85dBc	-80dBc	-80dBc	-80dBc
Audio Response (Analog)	+1/-3dB	+1/-3dB	+1/-3dB	+1/-3dB
Audio Distortion (Analog)	1.5% @ 1kHz, 60% deviation			
Duty Cycle	25W: 2min Tx, 4min Rx for 8hrs @ +140°F (+60°C) 35/50W: 1min Tx, 4min Rx for 8hrs @ +140°F (+60°C) 5W: continuous @ +104°F (+40°C)			

RECEIVER*

Frequency Band:	VHF	UHF	700/800MHz
Receive Frequency Ranges	136–174MHz	400-470MHz 450-520MHz	762-776MHz 850-870MHz
Sensitivity (analog): 12dB SINAD	0.22uV (-120dBm)	0.22uV (-120dBm)	0.28uV (-118dBm)
Sensitivity (P25): 5% BER	0.22uV (-120dBm)	0.22uV (-120dBm)	0.22uV (-120dBm)
Inter-Modulation Rejection (P25 TIA-102)	76dB	75dB	75dB

Adjacent Channel Rejection:
  12.5kHz (P25) TIA-102
  25kHz TIA-603 (2-tone)
	60dB
	73dB
		60dB
		70dB
			60dB
			70dB

Spurious Response Rejection (P25) TIA-102	80dB	80dB	80dB
Residual Audio Noise Ratio (P25) TIA-102	45dB	45dB	45dB

FM Hum and Noise:
  12.5kHz Channel
  25kHz Channel
	-45dB
	-48dB
		-40dB
		-45dB
			-40dB
			-45dB

Audio Distortion (3W Rated Audio)	1.5% at 1kHz 60% modulation		
Optional External Speaker Output	10W (into 4 ohm)		

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

Applicable MIL-STD Method:	Method	Procedure
Low Pressure	500.5	2
High Temperature	501.5	1, 2
Low Temperature	502.5	1, 2
Temperature Shock	503.5	1
Solar Radiation	505.5	1
Rain	506.5	1, 3
Humidity	507.5	2
Salt fog	509.5	1
Dust	510.5	1
Vibration	514.6	1
Shock	516.6	1, 5, 6

Specifications are subject to change without notice and shall not form part of any contract. They are issued for guidance purposes only.
All specifications shown are typical.

About Harris Corporation: Harris Corporation is a leading technology innovator that creates mission-critical solutions that connect, inform and protect the world. The company's advanced technology provides information and insight to customers operating in demanding environments—from ocean to orbit and everywhere in between. Harris has approximately $7.5 billion in annualized revenue and supports customers in more than 100 countries through four customer-focused business segments: Critical Networks, Space and Intelligence Systems, Electronic Systems and Communication Systems.

Non-Export Controlled Information

The word "Tait" and the Tait logo are trademarks of Tait Limited.

HARRIS® TECHNOLOGY TO CONNECT, INFORM AND PROTECT™

Tait Limited facilities are certified for ISO9001:2008 (Quality Management System), ISO14001:2004 (Environmental Management System) and ISO18001:2007 (Occupational Health and Safety Management System) for aspects associated with the design, manufacture and distribution of radio communications and control equipment, systems and services. In addition, all our Regional Head Offices are certified to ISO9001:2008.