



# HARRIS TM9300

## DIGITAL MOBILE RADIO (DMR)

### RUGGEDIZED, MULTIMODE RADIO

#### KEY FEATURES

Enhanced user safety through Lone Worker function, clear audio and priority access for emergency calls

Engineered for use in demanding environments with IP54 rating

Secured communication via AES and DES encryption algorithms

Operation in VHF, 220 MHz, UHF, 700/800 MHz and 900 MHz frequency bands

Conventional analog FM, MPT 1327, DMR Tier 2 (conventional) and DMR Tier 3 (trunked)

Harris TM9300 DMR mobiles are engineered to deliver critical communications for workers in demanding occupations, including utilities, mining, transport and oil and gas industries.

With clear audio and GPS location capabilities, each TM9300 increases communications clarity while keeping operators tracked and connected. Ruggedized to withstand extreme conditions, the radios have a tough, die-cast metal chassis with an IP54-rated casing to protect from dust and water. The Stun and Revive feature temporarily denies mobiles from network access if they are believed to be lost or stolen.

These encryption-supported DMR solutions are capable of four different communication standard modes, enhancing interoperability and giving organizations an easier path to migration. There are a range of models and accessories available, along with several frequencies and multiple power options suitable for a wide spectrum of working environments.



## FEATURES AND BENEFITS\*

### Enhanced worker safety

- Lone Worker comes standard
- Clear voice quality enhances clarity of communications
- Emergency calls have priority access to the network and are integrated with a GPS location solution
- Predefined status messages for fast response in common situations

### Enhanced security features

- Terminals in DMR mode must be authenticated on the network before they are given access
- Stun and Revive can temporarily deny specific mobiles from accessing the network
- Trunked operation supports individual and private calls within designated groups
- Optional AES and DES encryption ensures privacy of conversations

### Ruggedized performance in demanding environments

- Graphical single or dual control head supports local or remote operation. A handheld control head is also available.
- Tough, die-cast metal chassis with IP54 rated casing for protection from dust and splashing water

### Efficient voice communications

- This single, quad mode terminal provides trunked and conventional DMR, MPT 1327 and analog conventional FM
- Roaming between MPT 1327 and trunked DMR networks
- Roaming between conventional FM and conventional DMR networks
- Group calls allow communications within individual teams without interruption from irrelevant traffic
- Increased capacity supports up to 2,000 channels
- Analog capabilities include priority and dual priority, editable, zone and background scan
- PSTN dialing allows users to make phone calls on DMR systems with telephone interconnect
- Shared menu structure with 9300 terminals

### Extended data services

- Embedded data for location
- Short data messages for location, status and text
- Packet data over traffic channels for workforce management, telemetry, SCADA and customer-specific applications

### Broad portfolio of accessories

- Audio solutions include microphones, speakers and a remote kit for in-vehicle, hands-free operation. A variety of power supply units are available for each region and specific applications
- Numerous vehicle installation kits offer different mounting options
- Programming and service kits simplify configuration and set up

### Color options for fast in-field workgroup identification

- TM9300 mobiles are available with black, yellow or green control heads
- TM9300 mobile handheld control heads are available in black, yellow, green and red

\* Not all features are supported in all modes of operation. Feature comparison tables are available in the product catalog.

## SPECIFICATIONS FOR: TM9300 MOBILE - DIGITAL MOBILE RADIO [DMR]

### GENERAL

Frequency Stability	±0.5 ppm (-22°F to 140°F/-30°C to 60°C)
Channels/Zones	1,000 – 2,000 channels/50 – 100 zones
Talkgroups	26 talkgroup lists of up to 1,000 – 2,000 members each
Scan Groups	300 with up to 50 members each, maximum of 2,000 members total
Dimensions:	
Body – in (mm)	Height: 25 W: 2.1 (52), 30 W / 35 W / 50 W: 2.1 (52) Width: 25 W: 6.3 (160), 30 W/35 W/50 W: 6.3 (160) Depth: 25 W: 6.9 (175), 30 W/35 W/50 W: 7.7 (195)
Graphical Control Head – in (mm)	Height: 2.8 (71), Width: 7.24 (184), Depth: 1.38 (35)
Weight - lb (kg):	
Body	25 W: 2.6 (1.2), 30 W / 35 W / 50 W: 3.1 (1.4)
Control head	0.73 (0.33)
Channel Spacing (kHz)	6.25e, 12.5, 15, 20, 25, 30
Frequency Increment/Channel Step (kHz)	2.5, 3.125, 5, 6.25
Operating Temperature	-22°F to 140°F (-30°C to 60°C)
Water and Dust Protection	IP54
ESD Rating	+/-4 kV contact discharge and +/-8 kV air discharge
Rated Audio	3 W (internal speaker)
Power Supply	DC: 10.8-16 VDC, AC: desk top PSU - 100 – 130 V or 200 – 250 V
Digital Protocol	DMR: ETSI TS 102 361
Signaling Options (Analog)	MDC1200, encode and decode, 2-tone decode, PL (CTCSS), DPL, (DCS), Selcall
Vocoder Type	AMBE +2™
Packet Data	½ rate, ¾ rate, full rate, single slot

### TRANSMITTER

Frequency Bands	VHF	UHF	700/800 MHz	900 MHz
Frequency Ranges (MHz)	136-174 217-225 <sup>1</sup>	320-380 (G1) 400-470 (H5) 450-520 (H7)	757-870	896-941
Output Power (W): 25 W models	25, 12.5, 5, 1	25, 12, 5, 1	NA	NA
Input Current (A):				
Standby current	0.1	0.1	0.1	0.1
25 W models	5.5	5.5	NA	NA
High power models	10.5	9.0	7.0	6.5
FM Hum and Noise (Analog):				
12.5 kHz (dB)	-40	-40	-40	-40
25 kHz <sup>1</sup> (dB)	-45	-45	-45	-45
Adjacent Channel Power - Static (Analog):				
@ 12.5 kHz offset (dB)	-60	-60	-60	-60
@ 25 kHz <sup>1</sup> offset (dB)	-70	-70	-70	-70
Adjacent Channel Power - Static (DMR):				
12.5 kHz ETS 300-113 (dB)	60	60	60	60
Conducted/Radiated Emissions (W/dBm)	25/-36 50/-20	25/-36 40/-20	30/20 35/20	30/-20
Audio Response - Analog (dB)	+1/-3	+1/-3	+1/-3	+1/-3
Audio Distortion (Analog)	2.5% @1 kHz 60% deviation	2.5% @1 kHz 60% deviation	2.5% @ 1kHz 60% deviation	2.5% @1 kHz 60% deviation
Duty Cycle	25 W: 2 min Tx, 4 min Rx for 8 hrs @ 140°F (+60°C) 5 W: continuous @ 104°F (+40°C) 30/35/40/50 W: 1 min Tx, 4 min Rx for 8 hrs @ 140°F (+60°C)			

### RECEIVER

Frequency Bands	VHF	UHF	700/800 MHz	900 MHz
Frequency Ranges (MHz)	136-174 217-225 <sup>1</sup>	320-380 (G1) 400-470 (H5) 450-520 (H7)	757-776 850-870	896-941
Sensitivity (Analog) 12 dB SINAD (dBm/μV)	-120/0.22	-120/0.22	-120/0.22	-120/0.22
Sensitivity (DMR) 5% BER	-119/0.25	-119/0.25	-119/0.25	-119/0.25
Intermodulation Rejection (dB):				
EIA603D	76	70	75	75
ETS 300-113	70	70	70	70

<sup>1</sup> 25W model only.

## RECEIVER (CONTINUED)

Frequency Bands	VHF	UHF	700/800 MHz	900 MHz
<b>Spurious Response Rejection (dB):</b>				
EIA603D	80	75	70	80
ETS 300-113	70	70	70	70
<b>FM Hum and Noise - Analog (dB):</b>				
12.5 kHz	-40	1-40	-40	-40
25 kHz	-45	-45	-45	-40
<b>Conducted Spurious Emissions (dB)</b>	-57	-57	-57	-57
<b>Selectivity - Analog (dB):</b>				
12.5 kHz EIA603D (2 Tone)	52	50	150	50
25 kHz EIA603D (2 Tone)	73	70	70	—
12.5 kHz ETS 300-086	62	60	60	60
25 kHz ETS 300-086	73	70	70	—
<b>Optional External Speaker Output</b>	10 W (into 4 Ohms)	10 W (into 4 Ohms)	10 W (into 4 Ohms)	10 W (into 4 Ohms)
<b>Audio Distortion (rated audio)</b>	2%	2%	2%	2%

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

Applicable MIL-STD Method	Method	Procedure	Applicable MIL-STD Method	Method	Procedure
Low Pressure	500.5	2	Humidity	507.5	2
High Temperature	501.5	1, 2	Salt Fog	509.5	1
Low Temperature	502.5	1, 2	Dust	510.5	1
Temperature Shock	503.5	1	Vibration	514.5	1
Solar Radiation	505.5	1	Shock	516.5	1, 5, 6
Rain	506.5	1, 3	NA	NA	NA

## REGULATORY DATA

	USA	Canada
VHF (217-225 MHz)	CFR 47	RSS-119
UHF (320-380 MHz)	NA	NA
UHF (400-470 MHz)	CFR 47	RSS-119
UHF (450-520 MHz)	CFR 47	RSS-119
700/800 MHz	CFR 47	RSS-119
900 MHz	CFR 47	RSS-119
Emissions Designators	11K0F3E, 16K0F3E <sup>1</sup> , 6K60F2D, 7K80F2D, 9K60F2D <sup>1</sup> , 10K8F2D <sup>1</sup> , 7K60FXW, 7K60FXD	

<sup>1</sup> Wideband operation is not available in the USA in some bands.

<sup>2</sup> 25 Watt models only.

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, solving customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers around the world.

Learn more at [harris.com](http://harris.com)

### Non-Export Controlled Information

Harris is a registered trademark of Harris Corporation.  
© 2017 Harris Corporation 11/17 CS-PSPC DS1601F



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



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.