tait
communications

Improved efficiency and enhanced connectivity

Building on the strengths of our analog and MPT 1327 mobile products we have engineered the Tait DMR mobiles with your organizational requirements in mind. Designed for mission critical environments Tait DMR offers a modern and reliable digital communications solution based on the DMR Tier 3 trunking standard.

The TM9300 mobiles offer trunked DMR as well as full MPT 1327 and analog conventional operation. They can roam seamlessly between all of these networks.

KEY FEATURES

▸ Future proof multi-mode mobiles (DMR, MPT 1327, Analog)

▸ Full adherence to DMR standards providing choice and interoperability

▸ Engineered for use in demanding environments with IP54 ratings

▸ Crystal-clear audio quality

▸ A range of models and accessories are available and the TM9300 mobiles are configurable to suit your various applications

DMR

FEATURES AND BENEFITS

TM9300 features to improve workforce safety:

– Lone Worker as standard
– The second time slot can be used for reverse channel signaling to ensure that emergency calls always get through
– Crystal-clear voice so the operator and user will understand the message
– Status messaging activated with one touch of a button for quick and easy notifications
– Support for in vehicle repeaters to ensure portable coverage when working a long distance from your vehicle

Improve you organizations efficiency:

– Text messaging for enhanced and unambiguous communications
– Pre-defined status messages for a fast response in common situations

Privacy feature:

– Trunked operation allows for individual and private calls within designated groups

Facilities to improve network security:

– When operating in DMR mode all terminals must be authenticated on the network before they are given access
– Stun and Revive are implemented to temporarily or permanently deny a specific mobile access to the network

Designed to perform in demanding environments:

– Large and small control head, remote head and hand-held control head model variant options to suit a variety of applications
– Tough die-cast metal chassis with IP54 rated casing, giving protection against dust and splashing water
– Tilt sensor to know when vehicle (car or motorbike) has tilted, can be linked to Man Down alarm

Voice communications delivering on operational needs:

– Analog, MPT 1327 and DMR
– Automatic roaming from MPT 1327 to DMR
– Individual calls provide privacy between individuals
– Group calls allow separate teams to communicate amongst themselves without having to listen to irrelevant traffic
– Increased channel capacity with support of up to 2,000 channels
– Scanning modes include: Priority and Dual Priority, Editable, Zone and Background Scan
– PSTN dialing allows a user to make phone calls on DMR systems that support telephone interconnect (a software licence is required)
– Crystal-clear voice quality
– Shared menu structure between 9300 terminals

Complete package with accessories portfolio:

– Audio accessories are available including microphones, speakers and a remote kit for hands-free operation in the car
– Variety of power supply units are available for your region and your specific application
– Vehicle installation kits for different mounting options
– Programming and service kits for ease of configuration and set up

TRANSMITTER

	VHF	700/800MHz
Output power	25W: 25W, 12.5W, 5W, 1W 40W: 40W, 20W, 15W, 10W 50W: 50W, 25W, 15W, 10W	30W: 30W, 15W, 5W, 2W 35W: 35W, 15W, 5W, 2W
Tx current consumption	25W: <5.5A 50W <10.5A	30W (<806MHz): <8.5A 35W (>806MHz): <8.5A
FM hum and noise (Analog)		
25/30kHz channel	-40dB	-37dB
20kHz channel	-38dB	-35dB
12.5/15kHz channel	-34dB	-31dB
Adjacent channel power - static (Analog) ETS 300-086 & EIA 603D	12.5kHz: <60dBc 20kHz: <70dBc 25kHz: <70dBc	12.5kHz: <50dBc 20kHz: <60dBc 25kHz: <60dBc
Adjacent channel power, 12.5kHz - static (DMR) ETS 300-113	25W: 60dBc 50W: N/A	N/A
Transient adjacent channel power (Analog) ETS 300-086	12.5kHz: <50dBc 20kHz: <60dBc 25kHz: <60dBc	N/A
Transient adjacent channel power (DMR) ETS 300-113	50dBc	N/A
Conducted emissions (Analog) ETS 300-086 & EIA603D	-36dBm 50W: -13dBm	-13dBm
Conducted emissions (DMR) ETS 300-113	-36dBm 50W: N/A	-13dBm
Radiated emissions ETS 300-113, FCC	-36dBm 50W: -13dBm	-20dBm
Audio response (Analog)		
12.5/15kHz	300–2,550Hz +1/-3dB	
25/30kHz	300–3,000Hz +1/-3dB	
Audio distortion (Analog)	<3% @ 1kHz, 60% deviation	
Transmit rise time	<1.2ms	
Duty cycle	2min Tx, 4min Rx for 8 hrs @ 140°F (+60°C) 40W, 50W: 1Min Tx, 4min Rx for 8 hrs @ 140°F (+60°C) 5W continuous @ 104°F (+40°C)	
Spurious emissions into VSWR	Emissions <-20dBm @ VSWR <3:1, -22°F to 140°F (-30°C to +60°C), Supply voltage ± 10%	

RECEIVER

	VHF	700/800MHz
Sensitivity - static (Analog) EIA-603D	-117dBm	-117dBm
Sensitivity - static (Analog) ETS300-086	+6.0dBuV (equivalent to -107dBm)	+6.0dBuV (equivalent to -107dBm)
Sensitivity - static (DMR) ETS300-113	+3.0dBuV (equivalent to -110dBm)	+3.0dBuV (equivalent to -110dBm)
Intermodulation rejection (Analog) EIA603D	75dB	75dB
Intermodulation rejection (Analog) ETS300-086	65dB	65dB
Intermodulation rejection (DMR) ETS300-113	65dB	65dB
Spurious response rejection (Analog) EIA-603D	-75dB	-75dB
Spurious response rejection (DMR) EIA-603D	-70db	-70dB
FM hum and noise (Analog)		
12.5kHz channel	34dB	31dB
20kHz channel	38dB	35dB
25/30kHz channel	40dB	37dB
Radiated spurious emissions EIA603	100-500uV/m (freq dependant)	
Radiated spurious emissions ETS300-086	-57dBm	
Conducted spurious emissions	-57dBm	
Selectivity (Analog) EIA603D	NB: 45dB, MB: 65dB, WB: 70dB	
Selectivity (Analog) ETS300-113	NB: 60dB, MB: 70dB, WB: 70dB	
Selectivity (DMR) ETS300-113	60dB	
Residual audio noise ratio (TIA/EIA 102)	45dB	
Optional external speaker output	10W (into 4ohms)	
Blocking (Analog) EIA603D	90dB	
Blocking (Analog) ETS300-086	84dB	

GENERAL

Frequency Ranges	Frequency Band†	
VHF	136–174MHz	
	Transmit	**Receive**
700/800MHz	762–776MHz	762–776MHz
	792–825MHz	
	850–870MHz	850–870MHz
Frequency stability	±0.5ppm (22ºF to 140ºF/-30ºC to 60ºC)	
Channels/zones	1,000 - 2, 000 channels/50-100 zones	
Talk groups	26 talk group lists comprised 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 25W: 2.1 (52), 35/40/50W: 2.1 (52), 110W: 5 (121)	
	Width 25W: 6.3 (160), 35/40/50W: 6.3 (160), 110W: 9.8 (250)	
	Depth 25W: 6.9 (175), 35/40/50W: 7.7 (195), 110W: 14.6 (370)	
Graphical control head - in (mm)	Height: 2.8 (71), Width: 7.24 (184), Depth: 1.38 (35)	
Weight lb (kg)		
Body	25W: 2.6 (1.20), 35/40/50W: 3.1 (1.4), 110W: 18.5 (8.4)	
Control head	0.73 (0.33)	
Channel spacing	6.25/12.5/15/20/25/30kHz	
Frequency increment/channel step	2.5/3.125/5/6.25Hz	
Operating temperature	-22ºF to 140ºF (-30ºC to 60ºC)	
Sealing	IP54	
ESD rating	+/-4kV contact discharge and +/-8kV air discharge	
Rated audio	> 3W	
Power supply	DC: 10.8-16VDC, AC: Desk top PSU - 120V or 230V	
Air interface standard	DMR: ETSI TS 102 361-1	
Signaling options (Analog)	MDC1200, encode and decode, Two tone decode, PL (CTCSS), DPL (DCS), Selcall	

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

Applicable MIL-STD	Method	Procedure
Low pressure	500.4	2
High temperature	501.4	1, 2
Low temperature	502.4	1, 2
Temperature shock	503.4	1
Solar radiation	505.4	1
Rain	506.4	1, 3
Humidity	507.4	1
Salt fog	509.4	1
Dust	510.4	1
Vibration	514.5	1
Shock	516.5	1, 6

TAIT DMR SOLUTION

Backed up by our proven radio network expertise, the TM9300 mobile is part of our larger DMR offering. The Tait DMR solution consists of terminals, infrastructure, applications, services and integration with third party interfaces to ensure that your organization can reap all the benefits of the spectrally-efficient DMR standard in a mission critical environment.

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