TM9395
SPECIFICATIONS

A smart integration-ready terminal for mission critical applications.

Designed for mission-critical applications, Tait DMR Tier 2 and 3 offers secure and reliable digital communications solutions based on the DMR standard.

The TM9395 mobile is designed to allow integrators to develop custom crafted solutions that can meet existing analogue network requirements as well as digital migration needs.

KEY FEATURES

- Solid RF integration platform – Data and Voice
- Extensive interface capability and control (digital IO and audio)
- Software control of the radio by simple protocols
- Supports optional interface boards
- Engineered for use in demanding environments with IP54 rating
- Data transport over analog or DMR networks
- GPS capable
- Encryption supported
- Open DMR standard provides choice and interoperability
- Future proof quad-mode (DMR trunked, DMR Conventional, MPT 1327 and conventional analog FM) terminal
- Roaming between MPT327 and DMR Tier 3 networks
- Roaming between FM Conventional and DMR Tier 2 Conventional Networks

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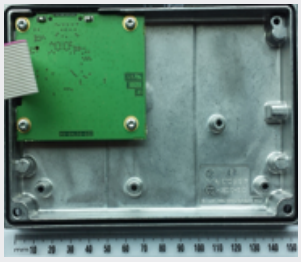

FEATURES AND BENEFITS

TM9395 features aid Integration

Software control
- CCDI and RAP protocol support for radio control from internal options boards or external devices
- Software controls many aspects of the operating functionality of the terminal, including dialling and ringing
- Access to modems or data transport in both analog and digital modes
- Control of IO lines and voice services

Hardware connectivity
- Auxiliary connector on the rear of the radio supports IO, serial control, audio lines including a microphone input
- External power socket supports a 10W audio output to drive loudspeaker
- Internal options connector supports IO, serial control, audio and power
- Blanked off miniature “D” connector space in the options area
- Cast chassis with extensive space for internal options boards
- Multiple mounting options
- IP54 sealed unit (this can be maintained by careful integration work)

Mode switch and scan capability
- Supports mode switching between trunked and conventional modes
- Scan between analog conventional and DMR tier 2
- Scan between MPT1327 and DMR Tier 3

Voice access
- Unbalanced audio in and out via tap points (fixed level)
- Microphone input on Auxiliary connector
- Audio out at 10W maximum to drive a loudspeaker

Data and voice communications delivering on operational needs
- Quad mode terminal offering Trunked DMR, Conventional DMR, MPT 1327 and analog conventional FM in one device
- Data services on DMR include full packet data on DMR Tier 3 and the SDM service on DMR Tier 2
- 1200/2400 bit/s modems on analog conventional
- SST, MST and NPD data calls on MPT1327
- Status and text support on MPT1327 and DMR Tier 3
- Status support on DMR tier 2
- GPS support via an external antenna combination connected serially to the auxiliary port
- Selective calling signalling in analog including 5 tone, 2 tone and MDC
- 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
- Multiple networks support a mix of signalling formats that might be used across a system. This can be especially useful during system migrations
- AMBE vocoder supports improved speech quality in noisy environments

Complete package with accessories portfolio
- High performance receiver with good sensitivity and selectivity analog conventional FM in one device
- Improved intermodulation variant for harsh environments
- Stable RF power output control

Location services support
- DMR Tier 3 automatic polling support
- DMR Tier 2 polling via and application
- Location in emergency
- Unsolicited location with time or distance
- Location on PTT

Complete package with accessories portfolio
- Audio accessories are available including microphones and speakers
- Variety of power supply units are available for your region and your specific application
- Vehicle installation kits for different mounting options including security and slide-in formats
- Multiple GPS units are available to support magnetic or industrial body mount
- An input splitter for the auxiliary port allows both GPS and other external connections to provided
- Programming and service kits for ease of configuration and set up
- Internal and external loudspeaker options are available
- Parts kit to support the creation of option boards
- Options boards supporting digital IO, serial drivers and 600ohm audio interfaces.

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GENERAL

Frequency stability	±0.5ppm (-22°F to 140°F/-30°C to 60°C)
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), 30W/35W/50W: 2.1 (52) Width 25W: 6.3 (160), 30W/35W/50W: 6.3 (160) Depth 25W: 6.9 (175), 30W/35W/50W: 7.7 (195) 1.77 x 2.56 x 5.35in (45 x 65 x 136mm) excluding knobs
Blank head - in (mm)	Height 2.0 (51), Width 6.2 (158) Depth 1.4 (35)
Weight lb (kg)	25W: 2.6 (1.2), 30W/35W/50W: 3.1 (1.4)
Channel spacing	12.5kHz
Frequency increment/channel step	2.5/3.125/5/6.25kHz
Operating temperature	-22°F to 140°F (-30°C to 60°C)
Water and dust protection	IP54
ESD rating	+/-4kV contact discharge and +/-8kV air discharge
Rated audio	10W external speaker 4ohm
Power supply	DC: 10.8-16VDC, AC: Desk top PSU – 100 to 130V or 200 to 250V
Air interface standard	DMR: ETSI TS 102 361
Signaling options (Analog)	MDC1200, encode and decode, Two tone decode, PL (CTCSS), DPL, (DCS), Selcall
Vocoder type	AMBE +2™
Packet Data	½ Rate, ¾ Rate, Full rate, Single Slot

TRANSMITTER

	VHF	UHF	700/800MHz	900MHz
Frequency Ranges	136-174MHz	400-470MHz (H5) 450-520MHz (H7)	762-870MHz	896 - 941MHz
Output power				
25W Models	25W, 12.5W, 5W, 1W	25W, 12W, 5W, 1W	NA	NA
High Power Models	50W, 25W, 10W, 2W	40W, 20W, 15W, 10W	35/30W, 15W, 5W, 2W	30W, 15W, 5W, 2W
Input Current				
Standby Current	0.12A	0.12A	0.12A	0.12A
25W Models	5.4A	5.4A	NA	NA
High Power Models	10.4A	9A	8A	8A
FM Hum and Noise (Analog)				
12.5kHz	-40dB	-40dB	-40dB	-40dB
25kHz			-45dB	
Adjacent Channel Power - static (Analog)				
12.5kHz	-60dB	-60dB	-60dB	-60dB
25kHz[2]			-70dB	
Adjacent Channel Power - static (DMR) ETS 300-113	12.5kHz: 60dB	12.5kHz: 60dB	12.5kHz: 60dB	12.5kHz: 60dB
Conducted/Radiated Emissions	25W: -36dBm 50W: -20dBm	25W: -36dBm 40W: -20dBm	30/35W: -20dBm	30W: -20dBm
Audio response (Analog)	±1/-3dB	±1/-3dB	±1/-3dB	±1/-3dB
Audio distortion (Analog)	2.5% @ 1kHz, 60% deviation	2.5% @ 1kHz, 60% deviation	2.5% @ 1kHz, 60% deviation	2.5% @ 1kHz, 60% deviation
Duty Cycle	25W: 2min Tx, 4min Rx for 8 hrs @ 140°F (+60°C), 5W continuous @ 104°F (+40°C), 30/35/40/50W: 1 min Tx, 4 min Rx for 8 hrs @ 140°F (+60°C)			

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RECEIVER

	VHF	UHF	700/800MHz	900MHz
Receive frequency range	136-174MHz	400-470MHz 450-520MHz	762-776MHz and 850-870MHz	935 – 941MHz
Sensitivity (Analog) 12dB SINAD	-120dBm(0.22µV)	-120dBm (0.22µV)	-120dBm (0.22µV)	-120dBm (0.22µV)
Sensitivity (DMR) 5% BER	-119dBm (0.25µV)	-119dBm (0.25µV)	-119dBm (0.25µV)	-119dBm (0.25µV)
Intermodulation rejection EIA603D ETS 300-113	 76dB 70dB	 70dB 70dB	 75dB 70dB	 75dB 70dB
Spurious reponse rejection EIA603D ETS 300-113	 80dB 70dB	 75dB 70dB	 70dB 70dB	 70dB 70dB
FM Hum and Noise (Analog)	12.5kHz: -40dB	12.5kHz: -40dB	12.5kHz: -40dB	12.5kHz: -40dB
Conducted spurious emissions	-57dBm	-57dBm	-57dBm	-57dBm
Selectivity (Analog) EIA603D (2 Tone) ETS 300-086	 12.5kHz: 52dB 12.5kHz: 62dB	 12.5kHz: 50dB 12.5kHz: 60dB	 12.5kHz: 60dB 25kHz: 70dB	 12.5kHz: 60dB
Optional external speaker output	10W (into 4ohms)	10W (into 4ohms)	10W (into 4ohms)	10W (into 4ohms)
Audio distortion (rated audio)	2%	2%	2%	2%

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

Applicable MIL-STD	Method	Procedure	Applicable MIL-STD	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			

REGULATORY DATA

	USA	Canada	Europe	Australia/New Zealand
VHF (136-174MHz)	CFR 47	RSS-119	EN300-086, EN300-113, EN300-219 EN301-489, EN60950	AS/NZS4295
UHF (400-470MHz)	CFR 47	RSS-119	EN300-086, EN300-113, EN300-219 EN301-489, EN60950	AS/NZS4295 AS/NZS4365[1]
UHF (450-520MHz)	NA	NA	NA	AS/NZS4295 AS/NZS4365
700/800MHz	CFR 47	RSS-119	NA	NA
900MHz	CFR 47	RSS-119	NA	NA
Emission Designators	11K0F3E, 16K0F3E[2], 6K60F2D, 7K80F2D, 9K60F2D[2], 10K8F2D[2], 7K60FXW, 7K60FXD			

[1] The UHF band radios are approved for use in Citizen Band in Australia and New Zealand when programed to meet the requirements of AS/NZS4365. Tait cannot guarantee full performance to the published specifications when the 400-470MHz radio is operating at the CB frequencies.

[2]Wideband operation is not available in the USA.

[3]25 Watt models only.

TAIT DMR SOLUTION

Backed up by our proven radio network expertise, the TP9300 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.

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.

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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

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