

NAVAIDS SYSTEMS **DME**

- Toshiba's DME is designed based on the advanced technology.
- Toshiba's DME has more than a 50-year-history with a huge supply record of installations in domestic and worldwide airports.
- Toshiba's DME is continuing to contribute to the improvement in air traffic safety throughout the world.

Key Product Features

System

- ◆ Dual transponders, monitors and power supplies
- ◆ Ergonomics design
- ◆ Color touch panel for local control
- ◆ Extensive BITE for fault isolation
- ◆ Front accessible plug-in modules for easy exchange
- ◆ Local and remote setup and control through a user-friendly PC program
- ◆ Optional battery backup with dual battery banks
- ◆ Recording operation events and equipment conditions
- ◆ Master and slave operation with associated VOR

Transponder

- ◆ Digital signal generation and high power amplifiers
- ◆ Up to 1kW peak output power
- ◆ Free channel shift with synthesizer and smooth parametric setting

Monitor

- ◆ Advanced digital design for high stability and accuracy
- ◆ Automatic continuous integrity testing
- ◆ Monitor and control by digital hardware



GENERAL CHARACTERISTICS

Type	DME/N
Output Power	Nominal 1 kW peak
Distance Accuracy	± 75 m
Coverage	More than 200 NM
Handling Capability	200 interrogators (searching: 10 and tracking: 190)
Channel Number	252 (X mode: 126 and Y mode: 126)
DC Input Power	+ 40 to + 56 VDC (battery nominal 48 V)
Power Consumption	250 VA (Normal operation)

ENVIRONMENTAL CONDITIONS

Ambient Temperature (Except COTS)	- 10 to + 55 °C (Indoor Equipment)
Relative Humidity (Except COTS)	Maximum 95 % RH (up to + 35 °C) Maximum 60 % RH (up to + 55 °C) (Indoor Equipment)

TRANSMITTING CHARACTERISTICS

Frequency Range	960 to 1,215 MHz	
Frequency Stability	± 0.001 %	
Channel Spacing	1 MHz	
Pulse Shape	Rise Time	1.5 to 3.0 μs
	Decay Time	1.5 to 3.5 μs
	Duration	3.5 ± 0.5 μs
Pulse Spectrum	As per ICAO Annex 10	
Pair Pulse Power Variation	Less than 1 dB	
Pair Pulse Spacing	X mode: 12 ± 0.25 μs, Y mode: 30 ± 0.25 μs	
Transmitting Rate	700 to 5,400 pps	
Spurious	More than 60 dBc	
ON/OFF Isolation	More than 80 dB	

RECEIVING CHARACTERISTICS

Sensitivity	Less than - 91 dBm (at Receiver Efficiency 70 %)	
Selectivity	Rejection of adjacent channels	More than 80 dB (at $f_c \pm 900$ kHz)
	Rejection of Spurious and Image	More than 75 dB (at 960 to 1,215 MHz)
Reply Delay	X mode 50 μs ± 0.5 μs, Y mode 56 μs ± 0.5 μs (1st pulse timing operation)	
Echo Suppression Period	0 to 400 μs, Adjustable	
Echo Suppression level	0 to 60 dB, Adjustable	

MONITOR SYSTEM CHARACTERISTICS

Reply Delay	± 1 μs, Adjustable (Tolerance ± 0.1 μs)
Reply Efficiency	55 to 70 %
Reply Pulse Power	- 3 to - 5 dB, Adjustable (Tolerance ± 0.5 dB)
Transmission Rate	More than 5,400 pps or Less than 700 pps
Pulse Pair Spacing	± 1 μs, Adjustable (Tolerance ± 0.1 μs)
ID Code group length	More than 9 seconds
No ID period	More than 45 seconds
Automatic self-check item	System delay, Pulse spacing, Sensitivity, Output Power, Transmission rate
Manual self-check item	Automatic self-check item and ID check

APPLICABLE STANDARDS

ICAO Annex 10
EUROCAE ED-57
ISO 9001

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