

NAVAIDS SYSTEMS CVOR

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

Key Product Features

System

- ◆ Dual transmitters, 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
- ◆ Flexible PC interface: local area network, serial link and modem link
- ◆ Optional battery backup with dual battery banks
- ◆ Recording operation events and equipment conditions
- ◆ Master and slave operation with associated DME (Distance Measuring Equipment)

Transmitter

- ◆ Digital signal generation and separate carrier and sideband amplifiers
- ◆ Up to 100W output power

Monitor

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

Antenna System

- ◆ 4 Alford loop antennas



■ GENERAL CHARACTERISTICS

Type	Conventional VOR
Output Power	25 to 100 W, Adjustable
Bearing Accuracy	± 1.0 degrees
Spurious Attenuation	More than 60 dBc
DC Input Power	+ 40 to + 56 VDC (battery nominal 48 V)
Power Consumption	1.0 kVA (Normal operation)

■ ENVIRONMENTAL CONDITIONS

Ambient Temperature (Except COTS)	- 10 to + 55 °C (Indoor Equipment)
	- 50 to + 70 °C (Outdoor Equipment)
Relative Humidity (Except COTS)	Maximum 95 % RH (up to + 35 °C), Maximum 60 % RH (up to + 55 °C) (Indoor Equipment)
	Maximum 95 % RH (Outdoor Equipment)
Wind Speed	Maximum 60 m per second (Survival, standard)
	Maximum 90 m per second (Survival, option)
Ice Load	Maximum 5 cm (Survival)

■ CARRIER SIGNAL CHARACTERISTICS

Frequency Range	108 to 118 MHz
Frequency Stability	± 0.001%
Channel Spacing	50 kHz

■ MODULATION COMPONENTS

Sub-carrier Center Frequency	9,960 ± 1Hz
Sub-carrier Modulation Depth	30 ± 2 %
Modulation Frequency	30 Hz ± 0.01 %
FM Deviation Ratio	16 ± 1
Variable Signal Frequency	30 Hz ± 0.01 %
Variable Signal Modulation Depth	30 ± 2 %
ID tone Frequency	1,020 Hz ± 0.01 %
ID tone Modulation Depth	4 to 20 %, Adjustable (without voice), Maximum 10 % (with voice)
Voice Modulation Depth	Maximum 30 %

■ FIELD MONITOR LIMIT

Bearing Error	± 1 degrees, Adjustable (Tolerance + 0, - 0.2 degrees)
Carrier Level	± 3 dB, Adjustable (Tolerance ± 0.1 dB)
AM Modulation Depth at 30 Hz	± 15 %, Adjustable (Tolerance ± 0.1 %)
AM Modulation Depth at 9960 Hz	± 15 %, Adjustable (Tolerance ± 0.1 %)
ID Modulation Depth	± 50 %, Adjustable (Tolerance ± 10 %)
No ID Period	10 to 120 seconds, Adjustable (Tolerance ± 1 second)
ID Code	Mismatching
FM Deviation	± 1, Adjustable (Tolerance ± 0.1)

■ ANTENNA SYSTEM

Antenna Element	4 Alford loop antennas
Field Monitor Antenna	1 Dipole antenna

■ APPLICABLE STANDARDS

ICAO Annex 10
EUROCAE ED-52
ISO 9001

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