

▼ PAE T6 MDR

B6350 IP 50W VHF Transmitter



Park Air Systems T6 multimode digital radios (PAE T6 MDR) offer a versatile range of software programmable radios that fulfil today's analogue needs and the growing demand for digital communications within the aerospace environment. Designed for long maintenance free service, T6 radios are the optimum choice for professional ATC provision.

Capable of containing four different software defined air interface waveforms the B6350 Transmitter has power output adjustable from 5 to 50W. Two variants are available covering the 118-136.975 MHz ATC band and the extended VHF band 112-155.975 MHz, both are designed to provide optimal performance in existing AM 25 kHz and 8.33 kHz analogue services and to offer capability for VDL modes where a suitable ground infrastructure is in place.

The transmitter supports ICAO ANNEX 10 recommendations for 2,3,4 and 5 carrier climax (offset-carrier) operation with 25 kHz channels and 2 carrier climax operation with 8,33 kHz channels.

A comprehensive set of radio interfaces provide for integration into various alternative digital and analogue ground infrastructure architectures commonly deployed in ATM systems. An E1 interface supports connection to PAS E1-RIC routers providing 29 channels of audio and RCMS data over a single E1 line. An IP interface supports SNMP and RCMS data for control applications and also the latest VoIP protocols defined by EUROCAE. In addition 600 ohm 4-wire E&M analogue facilities and RS422 serial ports offer multiple interface alternatives.

Continuous and interruptive built-in test (BIT) modes provide confidence of the radio's serviceability with results viewed on the front panel LCD and summarised by alarm indicators. BIT results are rolled-up and transported via E1, IP and serial interfaces for remote analysis via PAE MARC or similar RCMS systems.

Power supplies may be either standard AC mains, or a low voltage 28Vdc nominal supply. When both input supplies are connected, the DC supply acts as a backup that is automatically connected if the mains supply fails.

Features

- Multi-mode software defined radio compliant with ETSI specifications
- 50W 112-155.975 MHz capability
- Comprehensive digital and analogue interfaces
- Flexible power supply
- Designed for long maintenance free service

GENERAL CHARACTERISTICS	
Frequency Range	118-136.975 MHz or 112-155.975 MHz variants both with 4 pre-settable band edges
Channel Spacing	25 kHz and 8.33 kHz
Frequency Accuracy	1 ppm or 0.3 ppm (HS versions)
Waveform	AM voice
Channel Presets	Storage for 100 presets containing a frequency
Dimensions	2U 19" rack mounting, 483 mm wide, 430 mm deep, 88 mm high
Weight	13.5 kg
Supply voltage	
AC	99 to 264 V 48 to 62 Hz
DC	21.6 to 32 V Automatic reversion to DC in the event of an AC supply failure
Power Consumption	Typical under normal conditions AC 300 VA, DC 8.5 A transmit AC 60 VA, DC 1 A quiescent
Temperature Range	
Operating	-20 to +55° C
Storage	-30 to +70° C
Humidity	5-95% non-condensing
Ventilation	Forced air, fan speed dependent on environmental conditions
Altitude	Operating 5000 m, Transport 15,000 m
Primary Standards	ICAO Annex 10, ETSI EN 300-676, EN 301-489

TRANSMIT

Carrier power output	5 W to 50 W in 1W steps
Power flatness	< +1 dB with frequency < ±1 dB with temperature < ±1 dB with VSWR up to 2.5:1 (∞ VSWR without damage) < ±1 dB with DC supply 24-32 V, < +1-3 dB with DC supply 21.6-32 V
Duty Cycle	Continuous
Offset Carrier (25 kHz)	AM voice, 2, 3, 4 and 5 offsets as per ICAO
Offset Carrier (8.33 kHz)	AM voice, 2 offsets as per ICAO
Spectral Mask	
Noise	< - 155 dBc/Hz at >2 MHz offset
Harmonics	< - 36 dBm
Spurious	< - 46 dBm > 500 kHz from carrier
Modulation	AM voice, adjustable up to 95% D8PSK, 31.5 KB
Modulation Noise	AM voice, -45 dB
Distortion	<5% normal conditions, <10% extreme conditions (VSWR >2.5:1, DC supply <24 V)

Frequency Response	
AM voice (25 kHz)	+0.5 - 1.5 dB 300 to 3400 Hz -20 dB at <100 Hz, -30 dB at >4000 Hz
AM voice (8.33 kHz)	+0.5 - 1.5 dB 350 to 2500 Hz -10 dB at <100 Hz, -30 dB at >3200 Hz
ALC (Vogad)	30 dB range, Attack <20 mS, Decay >2 Sec
Transmit Time Out	Off or 2 sec steps to 510 secs

ANALOGUE & GENERAL PURPOSE INTERFACES

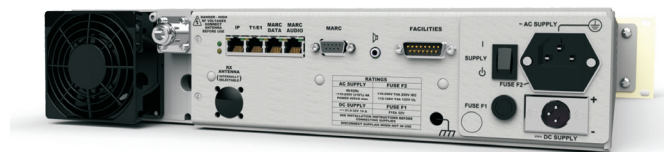
Microphone/Headphone	Active (powered) or passive microphone input, side tone output 0-3V
Lines	600Ω balanced -30 to +10dBm in 1dB steps
PTT	Multiple PTT inputs accommodating contact closure, phantom connection and keying from both positive and negative voltages Configurable tone keying 1800 to 3000 Hz, -5 to -25 dBm ref line level
Ref	For monitoring internal reference frequency
Antenna	N type antenna port
Facilities	Multiple interfaces for general purpose use

DIGITAL INTERFACES

E1	Balanced 120Ω, 2.048 Mbps E1 (G703, G704, G711) Provides 64 KB digital audio, control and RCMS functionality
IP	Connection to 10/100Base-T network. Provides SNMP and RCMS functionality and supports VoIP to EUROCAE ED137 protocols
MARC data	2 off RS422 serial ports provide RCMS data for radio control via MARC RCMS system and for control of peripherals
Diagnostics	RS232 port for local maintenance computer

MODEL INFORMATION

B6350/IP/NB/50	118-136.975 MHz 1 ppm accuracy
B6350HS/IP/NB/50	118-136.975 MHz 0.3 ppm accuracy
B6350/IP/WB/50	112-155.975 MHz 1 ppm accuracy
B6350HS/IP/WB/50	112-155.975 MHz 0.3 ppm accuracy



For more information, please contact
Northrop Grumman Park Air Systems

Northfields, Market Deeping, Peterborough, PE6 8UE, United Kingdom
Tel: +44 17 78 34 54 34

sales@parkairsystems.com
www.northropgrumman.com/international

© Northrop Grumman Corporation
Northrop Grumman reserves the right to amend the specifications in the light of continuing development
16/2012

NORTHROP GRUMMAN