



# PARK AIR

A NORTHROP GRUMMAN COMPANY

## Park Air T6

VHF Software Defined Radios

### Introduction

The T6 Radio is the latest evolution in the Park Air range of professional ground to air ATC radios. It sets new standards for providing high levels of safety, efficiency and performance in a compact unit. Scalable, flexible and secure, the T6 Radio ensures robust and future-proof voice and data communications for years to come.

The Park Air Sapphire portfolio contains a full range of T6 VHF Transmitters, Receivers and Transceivers for both civil and military settings. Each model has all of the features expected from a professional ATC voice and data radio. The T6 Radio range has the flexibility to operate in any ATC scenario. This includes country wide networks, international airports and regional airports.

All of this is integrated into the smallest, lightest package Park Air has ever produced.

### Summary of Benefits

#### Excellent RF performance

##### Small installations

The RF performance of the T6 radio allows installation in congested RF environments with the use of fewer and smaller RF ancillaries.

##### Strong interference immunity

Strong or nearby transmissions and noise have much less effect on the reception of distant or weak signals than in other systems. This allows transmit and receive sites to be installed closer together.

##### Continuous operation

The T6 radio allows continuous transmission even when switching between AC and DC power sources. This maintains availability where power supplies are less stable.

#### Unrivalled connectivity

##### Multiple ground network interfaces

Analogue, E1 and IP networks can all connect and operate with a single radio simultaneously for redundancy of telecoms networks. This also assists in the staged transition of systems between digital IP and E1 or analogue systems.

##### Flexible configuration

Three independently addressable Ethernet ports are available. Two on the rear for network connectivity and one on the front for easy access to the built-in maintenance web interface.

##### Interoperability

The T6 Radio is regularly tested against multiple VCS and recorder products. This provides reassurance that the T6 Radio will offer interoperability above and beyond international standards.

#### Market leading safety and security

##### Secure remote configuration and update

The T6 radio provides remote configuration, monitoring and updates over universal standard HTTPS and SNMP V3 protocols.

##### Configurable access

The T6 Radio provides fully configurable access control to services from each port. This allows the Radio to be configured to match your network security philosophy.

##### Access whitelisting

Access to interfaces is whitelisted according to URI. This prevents unauthorised or accidental audio control of a radio from equipment that has not been pre-configured.

##### Flexible main/standby features

Including integral RF/line changeover and interfaces for external changeover for high availability applications.

##### Intelligent built-in-test

The T6 radio continually monitors its environment and performance. If an issue is detected but operation is still possible, the radio enters a 'reduced service' state and alerts the operator with diagnostic information to prevent a loss of service.

Park Air Systems is a wholly-owned subsidiary of Northrop Grumman, one of the world's largest aerospace companies.

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## Minimised whole life costs

<b>Low operating costs</b>	Lower equipment room running costs are provided by our most efficient radio and reduced thermal output from the system.
<b>Low maintenance costs</b>	Reduced frequency of preventative maintenance visits, full feature monitoring and control, and remote software updating lead to lower maintenance costs.
<b>Low transport costs</b>	Maintenance equipment and personnel transport costs are reduced due to fewer site visits and the small size and weight of Sapphire equipment.
<b>Simple fault diagnosis</b>	Maintenance visits require less time due to an equipment MTTR of less than 15 minutes and ease of fault diagnosis using the radio BIT function.

## Key Specifications

General characteristics	
Operating frequencies	118 MHz to 137 MHz 112 MHz to 137 MHz 118 MHz to 156 MHz 112 MHz to 156 MHz
Waveforms	AM-Voice (25 kHz/8.33 kHz channel spacing) AM-Wideband ACARS VDL-M2
Interfaces	Self-locking Lemo for microphone/headset 4-Wire E&M for voice and data Three individually addressable Ethernet ports for VoIP and RCMS E1 for voice and RCMS Two N-type coaxial antenna connectors
Radio pair operation	Autonomous selection of main/standby or transmit/receive radio with internally controlled audio and RF switching
Power supply	99-264 VAC, 21-32 VDC
Standards	ICAO Annex 10 EN 300 676; EN 301 489 ED-137
Transmitter characteristics	
Output power	50 W (maximum depending on waveform and options)
Duty cycle	100%
Mod depth	5% to 95%
Broadband noise	<-160 dBc/Hz at 1% f <sub>0</sub> offset
Adjacent channel power	<-120 dBc/Hz (for 25 kHz channels)
Receiver characteristics	
Sensitivity	<-107 dBm (for 10 dB (S+N)/N with ITU-T weighting)
Blocking rejection	>100 dB (at 200 kHz from reference frequency)
Cross modulation rejection	>105 dB (at 200 kHz from reference frequency)
Physical and environmental	
Dimensions	210 mm wide (half rack), 420 mm deep, 79 mm high (2U)
Weight	
Transmitter	<5.5 kg
Transceiver	<6.0 kg
Receiver	<3.5 kg
Temperature range	
Operating	-20 to +55°C

### For more information, please contact:



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## Excellent environmental performance

<b>Low manufacturing environmental impact</b>	By manufacturing to ISO 14001 standards and removing the need for components containing RoHS listed substances Park Air products have a low manufacturing and end of life carbon footprint.
<b>Low shipping environmental impact</b>	The environmental impact of shipping and installing Park Air products is minimised by selecting small and light products and using only biodegradable packing material.
<b>Low operational environmental impact</b>	When in operation a Park Air Sapphire system requires less power, cooling and site visits than other radio systems. This minimises the carbon footprint of site operations.

Part numbers	
VHF Transmitter	T6-TV
VHF Receiver	T6-RV
VHF Transceiver	T6-TRV
Options	
T6-O-112-137	112 MHz - 137 MHz Frequency Range for T6 Radios
T6-O-112-156	112 MHz - 156 MHz Frequency Range for T6 Radios
T6-O-118-137	118 MHz - 137 MHz Frequency Range for T6 Radios
T6-O-118-156	118 MHz - 156 MHz Frequency Range for T6 Radios
T6-O-10W	10 W Maximum Power Output for T6 Radios*
T6-O-25W	25 W Maximum Power Output for T6 Radios*
T6-O-30W	30 W Maximum Power Output for T6 Radios*
T6-O-50W	50 W Maximum Power Output for T6 Radios*
T6-O-AMV	AM-Voice Waveform for T6 Radios
T6-O-VDLM2	VDL-Mode 2 Waveform for T6 Radios
T6-O-AMA	ACARS Waveform for T6 Radios
T6-O-AMW	AM-Wideband Waveform for T6 Radios
T6-O-SCT	Simultaneous Call Transmission Detection Algorithm for T6 Radios†
T6-O-G729	G.729 Audio Codec for T6 Radios
Accessories	
T6-A-CK	Connector Kit for T6 Radios
T6-A-CMA1	Cooper B-Line Cabinet Mounting Adaptor for 1 or 2 T6 Radios
T6-A-CMA2	19" Cabinet Mounting Adaptor for 1 or 2 T6 Radios

\* T6-TV and T6-TRV only

† T6-RV and T6-TRV only

### Note:

The information and specifications provided in this document represent the minimum performance of Park Air Systems' equipment. Park Air Systems reserves the right to change the specifications of its equipment from time to time in its discretion without any notice. It is the customer's responsibility to request and obtain the latest applicable specifications from Park Air before placing orders for Park Air Systems' equipment. Neither this document, nor any of the information presented in it, should be regarded as an offer or commitment or a representation on the part of Park Air Systems (or any other person) to enter into a contractual arrangement. For further details please see the Northrop Grumman website.