

Specification Sheet

ASTRO XTS 5000™ Digital Portable Radio

UHF R1 Band



MODEL I:

- ▶ Large PTT button
- ▶ Angled On/Off volume knob
- ▶ Orange emergency button
- ▶ Illuminated 16 position top mounted rotary knob
- ▶ 2 position concentric switch
- ▶ 3 position toggle switch
- ▶ 3 programmable side buttons
- ▶ Transmit LED indicator
- ▶ No keypad / No display
- ▶ Up to 48 channels

MODEL II:

- Same as XTS Model I features plus the following:
- ▶ 512 channels
 - ▶ Dial from pre-stored lists
 - ▶ Programmable soft keys for easy access to radio menu
 - ▶ Backlit Keypad
 - 3 soft keys
 - 3 navigation keys
 - ▶ Full Bitmap Display
 - 2 lines icons
 - 4 lines w/12 characters per line
 - Status icons including battery and power indicator

MODEL III:

- Same as XTS Model I features plus the following:
- ▶ 512 channels
 - ▶ Dial from pre-stored lists
 - ▶ Programmable soft keys for easy access to radio menu
 - ▶ Backlit Keypad
 - 3 soft keys
 - 3 navigation keys
 - 4 x 3 keypad
 - ▶ Full Bitmap Display
 - 2 lines icons
 - 4 lines w/12 characters per line
 - Status icons including battery and power indicator

- ▶ Available in the UHF R1 band (380-470 MHz)
- ▶ Trunking standards supported: clear or digital encrypted APCO P16 and APCO P25
- ▶ Capable of SmartZone, SmartZone Omnilink, SMARTNET, and Conventional System Configurations and ASTRO®25 Trunked Operation
- ▶ Narrow and wide bandwidth digital receiver (12.5 kHz / 25 kHz)
- ▶ High speed and embedded digital signalling (ASTRO & ASTRO 25)
- ▶ Enhanced audio features
 - High quality, error corrected digital voice
 - Noise Reduction Software
 - Audio Gain Control
- ▶ Convenience Features
 - Time / Date
 - Digital Caller ID
- ▶ Ruggedized housing option available in traditional black or public safety yellow
- ▶ Enhanced encryption capability (optional)
- ▶ Utilizes Windows®-based Customer Programming Software (CPS)
 - Supports USB and RS-232 communications
 - Built in FLASHport™ support
- ▶ Meets Applicable Mil Specs 810C, D, E and F
- ▶ Compatible with most MTS and XTS accessories
- ▶ Interchangeable display labels

TRANSMITTER**Typical Performance Specifications**

Frequency Range/Bandsplits	380-470 MHz
Channel Spacing	12.5 / 25 kHz
Maximum Frequency Separation	Full Bandsplit
Rated RF Output Power Adj*	1 to 5 W
Frequency Stability* (-30°C to +60°C; +25°C Ref.)	±0.00020%
Modulation Limiting*	
25 kHz chnl	±5.0 kHz
NPSPAC chnl	N/A
12.5 kHz chnl	±2.5 kHz
Emissions* (Conducted & Radiated)	-70 dBc
Audio Response* (6 dB/Octave Pre-emphasis from 300 to 3000 Hz)	+1, -3 dB
FM Hum & Noise*	
25 kHz	-45 dB
12.5 kHz	-40 dB
Audio Distortion*	1.5%

RECEIVER**Typical Performance Specifications**

Frequency Range/Bandsplits	380-470 MHz
Channel Spacing	12.5 / 25 kHz
Maximum Frequency Separation	Full Bandsplit
Audio Output Power at Rated*	500 mW
Frequency Stability* (-30°C to +60°C; 25°C Ref.)	±0.00020%
Analog Sensitivity*	
12 dB SINAD	.25 µV
Digital Sensitivity**	
1% BER	.40 µV
5% BER	.25 µV
Selectivity*	
25 kHz chnl	-78 dB
12.5 kHz chnl	-60 dB
Intermodulation*	-75 dB
Spurious Rejection*	-80 dB
FM Hum and Noise*	
25 kHz	-54 dB
12.5 kHz	-45 dB
Audio Distortion*	1%

* Measured in the analog mode per TIA / EIA 603 under nominal conditions

** Measured in digital mode per TIA / EIA IS 102.CAAA under nominal conditions

RADIO MODELS

	Display	Keypad	Channel Capacity	FLASHport Memory	UHF R1 BAND (380-470 MHz)
Model I	None	None	16/48	8MB	H18QDC9PW5AN
Model II	2 lines of icons 4 lines of text 12 characters per line LCD	3x2	512	8MB	H18QDF9PW6AN
Model III	2 lines of icons 4 lines of text 12 characters per line LCD	3x6	512	8MB	H18QDH9PW7AN
FCC Designation	AZ489FT4855				
FCC Emissions Designators	8K10F1E, 20K0F1E, 16K0F3E, 8K10F1D, 11K0F3E				
Power Supply	One rechargeable nickel-metal hydride, or one optional nickel cadmium or lithium ion battery				
Dimensions without battery (HxWxL)	6.58" x 2.44" x 1.83"				
Weight without battery	12.6 oz				

BATTERIES FOR ASTRO DIGITAL XTS 5000

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Numbers	Smart	Battery Capacity
High Capacity NiCD	6.15"x2.3"x.92"	11.10 oz	NTN8294	N	1525 mAH
High Capacity NiCD FM	6.15"x2.3"x.92"	11.10 oz	NTN8295	N	1525 mAH
High Capacity NiCD Rugged FM	6.15"x2.3"x.92"	11.10 oz	NTN8297	N	1525 mAH
High Capacity NiMH	6.15"x2.3"x.92"	9.53 oz	NTN8923	N	1800 mAH
High Capacity NiMH FM	6.15"x2.3"x.92"	9.53 oz	NTN8299	N	1750 mAH
Ultra High Capacity NiMH	6.15"x2.3"x.92"	13.18 oz	RNN4006	N	3000 mAH
Ultra High Capacity NiMH FM	6.15"x2.3"x.92"	13.18 oz	RNN4007	N	3000 mAH
High Capacity Lithium Ion	6.15"x2.3"x.60"	6.98 oz	NTN8610	N	1650 mAH

PORTABLE MILITARY STANDARDS 810 C, D, E & F

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II
High temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1
Temperature Shock	503.1	-	503.2	I/A1C3	503.3	I/A1C3	503.4	I
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-
Salt Fog	509.1	-	509.2	-	509.3	-	509.4	-
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I
Immersion*	512.1	I	512.2	I	512.3	I	512.4	I
Vibration	514.2	VIII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24
Shock	516.2	I, II	516.3	I, IV	516.4	I/IV	516.5	I, IV

ENCRYPTION

Supported Encryption Algorithms	AES, DES-XL and DES-OFB, DVP-XL, DVI-XL
Encryption Algorithm Capacity	8
Encryption Keys per Radio	48 common Key Reference (CKR) Encryption Keys 16 Physical Identifier (PID) Encryption Keys
Encryption Frame Re-sync Interval	P25 CAI 360 msec
Encryption Keying	Key Loader
Synchronization	CFB – Cipher Feedback XL - Counter Addressing OFB - Output Feedback
Vector Generator	National Institute of Standards and Technology (NIST) approved random number generator
Encryption Type	Digital
Key Storage	Tamper protected volatile or non volatile memory
Key Erasure	Keyboard command and tamper detection
Standards	FIPS 46-2 FIPS 81 FIPS 140-1 Level 1

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2KV
Water & Dust Intrusion	IP54, IPX7*, MIL-STD

RUGGED OPTION SPECIFICATIONS

Leakage (immersion)	MIL-STD-810 C, D, E, F Method 512.X Procedure I: IPX7*
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* For rugged models only.



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