MOTOROLA

ASTRO® DIGITAL XTL™ 5000 Consolette

ASTRO Digital XTL 5000 Consolette models shown are G80 (top) and G81 (bottom)

MODEL FEATURES

Local Control option (G80)

- Up to 512 Modes
- Full Keypad
- 8 Character/One Line Alphanumeric Display
- Includes Desk Microphone and Internal 5 Watt Speaker
- Lightweight (16.1 lbs/7.3 kg)

G80 Compatible Options

- DC Power Supply Interface
- VU Meter/Clock
- Digital ID Display via Front Panel and Gold Elite or MCC 5500 Console (requires option L146)
- Tone Remote Control and Digital connection to Gold Elite or MCC 5500 Consoles
- Audio Interface board for Interface via a W7 Style Local Control Head

Digital Remote Control (G81)

- Up to 512 Modes
- Requires Digital Remote Deskset (See R3-13-2006 for MC3000 Digital Desktop Controller)
- Allows Multiple Remote Desksets to be Connected
- Lightweight (15.3 lbs/6.9 kg)

G81 Compatible Options

- DC Power Supply Interface
- Digital ID Display via Digital Remote Deskset
- Audio Interface board for Interface via a Digital Remote Deskset

Motorola's XTL 5000 Consolette is ideal for local law enforcement, utility, and transportation users that need a low cost RF control station within an ASTRO 25 system and want a wireless dispatch solution. The XTL 5000 Consolette can also be utilized as an emergency backup station when the infrastructure is off-line, as a low cost dispatch center for state and local agencies, or as a fire station alerting system.

The XTL 5000 Consolette supports the 896-940 MHz, 764-870 MHz, 380-470 MHz, 450-520 MHz, and 136-174 MHz frequency bands.

It also supports ASTRO Spectra Consolette legacy accessories such as the MC3000 Digital Deskset and Junction Box.

The XTL 5000 Consolette is offered in Local and Digital Remote Control configurations to meet your organization's particular needs.

SPECIFICATION SHEET

ASTRO DIGITAL XTL 5000 CONSOLETTE

MODEL TYPE	LOCAL CONTROL (G80 OPTION)	DIGITAL REMOTE CONTROL (G81 OPTION)
Hardware Configuration	Front Panel Operation with 3 x 4 Keypad for Direct Dialing, Electronic Mode/Volume Control	No Control Head on Station, Requires Digital Remote Deskset
Bands Supported	VHF R1 (136-174 MHz) UHF R1 (380-470 MHz) UHF R2 (450-520 MHz) 700-800 MHz (764-776 MHz (Talk-around) 794-806 MHz 806-825 MHz 851-870 MHz (Talk-around)) 900 MHz (896-901 MHz 935-940 MHz)	VHF R1 (136-174 MHz) UHF R1 (380-470 MHz) UHF R2 (450-520 MHz) 700-800 MHz (764-776 MHz (Talk-around) 794-806 MHz 806-825 MHz 851-870 MHz (Talk-around)) 900 MHz (896-901 MHz 935-940 MHz)
Display	1 Line/8 Characters - Vacuum Fluorescent Display	See R3-13-2006 for MC3000 Digital Desktop Controller
Channel Capability	512	512
Antenna Connector	Type-N Female	Type-N Female
External Equipment Connectors	DB-25 Connector on Back Panel RJ-45 Connector on Back Panel (requires L146)	DB-25 Connector on Back Panel
Included with Basic Package	6 Foot AC Line Cord Desk Mic (Paddle Mic) Internal 5 Watt Speaker	6 Foot AC Line Cord
Optional Features (In addition to the standard XTL 5000 mobile features)	Digital ID Display via Front Panel and Gold Elite or MCC 5500 Console (requires L146) Tone Remote Control and Digital connection to Gold Elite or MCC 5500 Console	Digital ID Display via Digital Remote Deskset
Dimensions	4.25" x 15.75" x 17" (107.95mm x 400.05mm x 431.8mm)	4.25" x 15.75" x 17" (107.95mm x 400.05mm x 431.8mm)
Weight	16.1 lbs/7.3 kg	15.3 lbs/6.9 kg

L146 OPTION	TONE REMOTE CONTROL	CONSOLE CONTROL (GOLD ELITE OR MCC 5500)
Supported Controllers	Tone Desksets, Consoles, etc.	Gold Series Elite Console with 3.0 Conventional and MCC 5500 Dispatch Console
Analog Audio Connections	2 wire/4 wire	2 wire/4 wire
Selectable Modes	Up to 8 modes	Varies with Console options (See R3-13-41C for Gold Series Elite Console and RC-13-2012 for MCC 5500 Console)
Encryption Select	Supported	Supported
Monitor	Supported	Supported
ID Display at Remote Location	Not Supported	Supported
ID Types Displayed Remotely	N/A	PTT-ID Emergency Call ID Call Alerts Emergency Alarm*
ID Signalling Types Supported	N/A	Digital Conventional Digital Trunking (3600 Baud) Digital Trunking (9600 Baud)

GENERAL PERFORMANCE SPECIFICATIONS

Modulation	C4FM of QPSK-C family (Compatible Quadrature Phase Shift Keying)			
Protocol Project 25-CAI	4.4 kbps IMBE, 2.8 kbps Error Correction Coding, 2.4 kbps Embedded Signalling			
Channel Bandwidth	VHF	UHF R1 & R2	700-800 MHz	900 MHz
Analog	12.5/25 kHz	12.5/25 kHz	20/25 kHz	12.5 kHz
Digital	12.5/25 kHz	12.5/25 kHz	12.5/20/25 kHz	N/A
Temperature Range	–20° to +50°C			
Humidity	90-95% Relative Humidity @ 50°C			

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ASTRO DIGITAL XTL 5000 CONSOLETTE

VOICE CODER*	
Voice Coding Method	IMBE (CAI): Improved Multi Band Excitation
Voice Truncation	None
Frame Re-sync Interval	180 mSec (Clear Digital Mode)
Forward Error Correction	Golay Code
Error Mitigation Project 25-CAI (IMBE) Dual Level	Level 1: Extrapolates & replaces 20 mSec voice frames that exceed the error correction algorithm tolerance. Level 2: Progressive muting of 20 mSec voice frames that are too severely damaged for Level 1 replacement.
Code Book Structure	APCO Project-25 (IMBE): No Code Book

SIGNALING (ASTRO MODE)*	
Signaling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional/64,000 Trunking
Digital Network Access Codes	4,096 Network Site Addresses
ASTRO Digital User Group Addresses	4,096
Project 25-CAI Digital User Group Addresses	65,000 Conventional/4,094 Trunking
Error Correction Techniques	Golay, BCH, Reed-Solomon Codes
Data Access Control	Slotted CSMA: Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions

ENCRYPTION*	
Encryption Algorithm Capacity	5 algorithms per radio
Encryption Keys per Radio	48 keys (ASTRO compatible)
Encryption Frame Re-sync Interval	Project 25-CAI: 360 mSec
Encryption Keying	Key Variable Loader
Synchronization	Counter Addressing and Cipher Feedback and Output Feedback
Code Key Generator	External hand-held microprocessor controlled key Variable Loader and Key Management Controller
Encryption Key Tag Capacity per System	65,000
Number of Unique Keys	Dependent on encryption algorithm
Code Key Initialization	Internally derived pseudo-random initializing vector
Key Storage	Volatile electronic memory or non volatile electronic memory
Key Erasure	Keyboard command and tamper detection

FCC TYPE ACCEPTANCE ID		
Band	Transmitter Power Output	Number
VHF (136-174 MHz)	10-50 Watts	AZ492FT3806
UHF R1 (380-470 MHz)	10-40 Watts	AZ492FT4862
UHF R2 (450-520 MHz)	10-45 Watts	AZ492FT4862
700/800 MHz (764-870 MHz)	10-35 Watts	AZ492FT5823**
900 MHz (896-940 MHz)	10-30 Watts	AZ492FT5847

POWER REQUIREMENTS				
AC Requirements	105-132, 187-265 VAC, 47-63 Hz			
Power Supply	AC Current Drain (Typical) (110 VAC/220 VAC) duty Cycle EIA 10-10-80			
	VHF	UHF	800 MHz	900 MHz
RF Output	0-50W	10-40W Range 1 10-45W Range 2	10-35W**	10-30W
Receive	0.7A/0.4A	0.7A/0.4A	0.7A/0.4A	0.7A/0.4A
Transmit	2.30A/1.16A	2.30A/1.16A	2.30A/1.16A	2.30A/1.16A

** Not available on 900 MHz models.*

*** 30 Watts Maximum in Talkaround.*

The ASTRO Digital XTL 5000 Consolette is FCC approved as a control station under part 90.213.

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TRANSMITTER

	VHF	UHF R1 & R2	700-800 MHz	900 MHz
Frequency Range/Bandsplits	136-174 MHz	380-470 MHz 450-520 MHz	794-806, 764-776 MHz 806-825, 851-870 MHz	896-901 MHz 935-940 MHz
Channel Spacing	12.5/25 kHz	12.5/25 kHz	12.5/20/25 kHz	12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Frequency Stability† Operating Frequency Accuracy* (–20°C to +50°C; +25°C Ref.)	±0.00020%	±0.00020%	±0.00015%	±0.00015%
Modulation Limiting† 25 kHz Channels 20 kHz Channels 12.5 kHz Channels	 ±5.0 kHz ±2.5 kHz	 ±5.0 kHz ±2.5 kHz	 ±5.0 kHz (NPSPAC) ±4.0 kHz (NPSPAC) ±2.5 kHz	 ±2.5 kHz
Modulation Fidelity (C4FM)* 12.5 kHz Digital Channels	±2.8 kHz	±2.8 kHz	±2.8 kHz	N/A
FM Hum & Noise† 20/25 kHz 12.5 kHz	 –50 dB –40 dB	 –45 dB –40 dB	 –40 dB –34 dB	 –38 dB (Hear Clear off)
Emissions (Conducted & Radiated)†*	–85 dBc	–85 dBc	–70 dBc/–85 dBc (GNSS)	–70 dBc
Audio Response† (6 dB/Octave Pre-emphasis from 300 to 3000 Hz)	+1, –3 dB (EIA)	+1, –3 dB (EIA)	+1, –3 dB (EIA)	+1, –3 dB (EIA)
Audio Distortion per EIA†	2%	2%	2%	3%
Output Impedance	50 ohms			

RECEIVER

	VHF	UHF R1 & R2	700-800 MHz	900 MHz
Frequency Range/Bandsplits	136-174 MHz	380-470 MHz 450-520 MHz	764-776 MHz 851-870 MHz	935-940 MHz
Channel Spacing	12.5/25 kHz	12.5/25 kHz	12.5/20/25 kHz	12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Optional Pre-Amp	No	No	No	No
Analog Sensitivity† 20 dB Quieting (20/25 kHz channel) 12 dB SINAD per EIA (20/25 kHz channel)	 0.4 µV 0.3 µV	 0.4 µV 0.3 µV	 0.30 µV 0.25 µV	 0.30 µV 0.25 µV
Digital Sensitivity* 1% BER (12.5 kHz channel) 5% BER (12.5 kHz channel)	 0.4 µV 0.3 µV	 0.4 µV 0.3 µV	 0.30 µV 0.25 µV	 N/A
Adjacent Channel Rejection (Selectivity)† (20/25 kHz channel) (12.5 kHz channel)	 –80 dB –70 dB	 –82 dB –75 dB	 –80 dB –65 dB	 –65 dB
Intermodulation Rejection†* (20/25 kHz channel)	–85 dB	–85 dB	–80 dB	–70 dB
Spurious Response Rejection†*	–90 dB	–90 dB	–90 dB	–80 dB
Audio Output at External Speaker (Local Control Only)	5 Watts @ less than 3% Distortion			
Input Impedance	50 ohms			

† Measured in the analog mode per TIA/EIA 603.

** Measured in digital mode per TIA/EIA TSB102.CAAB*

All specifications are typical.

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