



# MOTOTRBO™

## Professional Digital Two-Way Radio System



**Integrates voice and data** into one device to increase your operational efficiency and support integrated applications including MOTOTRBO Text Messaging Services. Also features an integrated GPS module for use with third-party location-tracking applications.

Uses Time-Division Multiple-Access (TDMA) digital technology to provide **twice the calling capacity** (as compared to analog or FDMA radios) for the price of one frequency license. A second call doesn't require a second repeater, saving you equipment costs.

In digital mode, provides **clearer voice communications** throughout the coverage area, as compared to analogue radios, rejecting static and noise.

Offers **enhanced battery life**. Digital TDMA two-way portable radios can operate up to 40 percent longer between recharges compared to typical analogue radios.

Provides **easy migration** from analogue to digital with the ability to operate in both analog and digital modes and utilising the **dynamic mixed mode** repeater functionality allows for automatic switching between analogue and digital mode on the same repeater.

**Enables additional functionality** including dispatch data, enhanced call signaling, basic and enhanced privacy-scrambling and option board expandability.

Meets **demanding specifications**—IP57 for submersibility in water (portable models), U.S. Military 810 C, D, E and F, and Motorola standards for durability and reliability.

Is **intrinsically safe**, when purchased and equipped with an FM battery, and can be used in locations where flammable gas, vapors or combustible dust may be present.

Utilises Motorola's **state-of-the-art IMPRES™ technology** in batteries, chargers and audio accessories, providing longer talk time and clearer audio delivery.

Features the **transmit interrupt** suite—voice interrupt, remote voice dekey, emergency voice interrupt or data over voice interrupt—to help prioritise critical communication exactly when needed.

The **IP Site Connect** digital solution uses the Internet to extend coverage of your MOTOTRBO communication system to users anywhere in the world for dramatically improved customer service and increased productivity.

**Capacity Plus** is a scalable, single-site digital trunking solution that can expand the capacity of your MOTOTRBO communication to over a thousand radio users without adding new frequencies.

**Motorola's Application Developer Program** enables the development of customised data applications that adapt MOTOTRBO radios to meet the unique needs of your business.

### Accelerate performance.

MOTOTRBO complies with the European Telecommunications Standards Institute (ETSI) Digital Mobile Radio (DMR) tier two standard, a globally recognised and approved standard for the professional two-way radio market.

**General Specifications\***

	DP3600 Display Non GPS Model DP3601 Display GPS Model			DP3400 Non-Display Non-GPS Model DP3401 Non-Display GPS Model		
	UHF		VHF	UHF		VHF
Channel Capacity	1000			32		
Frequency	403 - 470 MHz	450 - 527 MHz	136 - 174 MHz	403 - 470 MHz	450 - 527 MHz	136-174 MHz
Dimension (HxWxD) w/ 1500 mAh Lilon Battery	131.5 x 63.5 x 35.2 mm			131.5 x 63.5 x 35.2 mm		
Weight (with 1500 mAh Lilon Battery)	360g (12.7 oz)			360g (12.7 oz)		
(with 2200 mAh Lilon Battery)	361g (12.8 oz)			361g (12.8 oz)		
(with 1400 mAh Lilon FM Battery)	370g (13 oz)			370g (13 oz)		
Power Supply	7.5 VDC (nominal)			7.5 VDC (nominal)		
FCC Description	AZ489FT4876	AZ489FT4884	AZ489FT3815	AZ489FT4876	AZ489FT4884	AZ489FT3815
Average battery life at 5/5/90 duty cycle with battery saver enabled in carrier squelch and transmitter in high power.						
IMPRES 1500 mAh Lilon Battery	Analog: 9 hrs Digital: 13 hrs			Analog: 9 hrs Digital: 13 hrs		
IMPRES 2200 mAh Lilon Battery	Analog: 13.5 hrs Digital: 19 hrs			Analog: 13.5 hrs Digital: 19 hrs		
IMPRES FM 1400 mAh Battery	Analog: 8.5 hrs Digital: 12 hrs			Analog: 8.5 hrs Digital: 12 hrs		

**Receiver**

	403 - 470 MHz	450 - 527 MHz	136 - 174 MHz	403 - 470 MHz	450 - 527 MHz	136-174 MHz
Frequencies						
Channel Spacing	12.5 kHz/ 25 kHz			12.5 kHz/ 25 kHz		
Frequency Stability (-30°C, +60°C, +25°C)	+/- 1.5 ppm (DP3600) +/- 0.5 ppm (DP3601)			+/- 1.5 ppm (DP3400) +/- 0.5 ppm (DP3401)		
Analog Sensitivity	0.35 uV (12 dB SINAD) 0.4 uV (20 dB SINAD) 0.22 uV (typical)			0.35 uV (12 dB SINAD) 0.4 uV (20 dB SINAD) 0.22 uV (typical)		
Digital Sensitivity	5% BER: 0.3 uV			5% BER: 0.3 uV		
Intermodulation						
TIA603C	70 dB			70 dB		
ETSI	65 dB			65 dB		
Adjacent Channel Selectivity	60 dB @ 12.5 kHz 70 dB @ 25 kHz			60 dB @ 12.5 kHz 70 dB @ 25 kHz		
Spurious Rejection	70 dB			70 dB		
Rated Audio	500 mW			500 mW		
Audio Distortion @ Rated Audio	3% (typical)			3% (typical)		
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz			-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Audio Response	+1, -3 dB			+1, -3 dB		
Conducted Spurious Emission	-57 dBm			-57 dBm		

**Transmitter**

	403 - 470 MHz	450 - 527 MHz	136 - 174 MHz	403 - 470 MHz	450 - 527 MHz	136-174 MHz
Frequencies						
Channel Spacing	12.5 kHz/ 25 kHz			12.5 kHz/ 25 kHz		
Frequency Stability (-30°C, +60°C, +25°C)	+/- 1.5 ppm (DP3600) +/- 0.5 ppm (DP3601)			+/- 1.5 ppm (DP3400) +/- 0.5 ppm (DP3401)		
Power Output						
Low Power	1W		1W	1W		1W
High Power	4W		5W	4W		5W
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz			+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz		
FM Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz			-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Conducted / Radiated Emission	-36 dBm < 1 GHz -30 dBm > 1 GHz and < 4GHz			-36 dBm < 1 GHz -30 dBm > 1 GHz and < 4GHz		
Adjacent Channel Power	-60 dB @ 12.5 kHz -70 dB @ 25 kHz			-60 dB @ 12.5 kHz -70 dB @ 25 kHz		
Audio Response	+1, -3 dB			+1, -3 dB		
Audio Distortion	3%			3%		
FM Modulation	12.5 kHz : 11K0F3E 25 kHz: 16K0F3E			12.5 kHz : 11K0F3E 25 kHz: 16K0F3E		
4FSK Digital Modulation	12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE			12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE		
Digital Vocoder Type	AMBE+2™			AMBE+2™		
Digital Protocol	ETSI-TS102 361-1			ETSI-TS102 361-1		

**GPS**

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)	
TTF (Time To First Fix) Cold Start	< 1 minute
TTF (Time To First Fix) Hot Start	< 10 seconds
Horizontal Accuracy	< 10 meters

**Environmental Specifications**

Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Thermal Shock	Per MIL-STD
Humidity	Per MIL-STD
ESD	IEC-801-2KV
Water Intrusion	IEC 60529 - IP57
Packaging Test	MIL-STD 810D and E

**Factory Mutual Approvals**

MOTOTRBO DP Portable series radios have been certified by FM Approvals in accordance with Canada and U.S. Codes as intrinsically safe for use in Class I, II, III, Division 1, Groups C,D,E,F,G, when properly equipped with a Motorola FM approved battery option. They are also approved for use in Class I, Division 2, Groups A, B, C, D.

\*Availability subject to country law and regulations. Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.  
Conforms to  
EC 1999/5/EC (R&TTE - Radio and Telecommunications Terminal Equipment)  
EN 300 086  
EN 300 113

General Specifications\*

	DM3600 Display Non-GPS Model DM3601 Display GPS Model			DM3400 Non-Display Non-GPS Model DM3401 Non-Display GPS Model		
	UHF		VHF	UHF		VHF
Channel Capacity	1000			32		
Frequencies	403-470 MHz	450-527 MHz	136-174 MHz	403-470 MHz	450-527 MHz	136-174 MHz
Dimension (HxWxT)	51 x 175 x 206 mm			51 x 175 x 206 mm		
Weight	1.8 kg (4.0 lbs)			1.8 kg (4.0 lbs)		
Current Drain (High Power)						
Standby	0.81 A max			0.81 A max		
Rx @ Rated Audio	2 A max			2 A max		
Tx @ Rated Audio	14.5 A max			14.5 A max		
Power Supply	13.8 VDC			13.8 VDC		
FCC Description	1-25 W : ABZ99FT4081 1-40 W : ABZ99FT4083		1-25 W : ABZ99FT3083	1-25 W : ABZ99FT4081 1-40 W : ABZ99FT4083		1-25 W : ABZ99FT3083

Receiver

	403-470 MHz	450-527 MHz	136-174 MHz	403-470 MHz	450-527 MHz	136-174 MHz
Channel Spacing	12.5 kHz/ 25 kHz			12.5 kHz/ 25 kHz		
Frequency Stability (-30°C, +60°C, +25°C)	+/- 1.5 ppm (DM3600) +/- 0.5 ppm (DM3601)			+/- 1.5 ppm (DM3400) +/- 0.5 ppm (DM3401)		
Analog Sensitivity	0.3 uV (12 dB SINAD) 0.4 uV (20 dB SINAD) 0.22 uV (typical)			0.3 uV (12 dB SINAD) 0.4 uV (20 dB SINAD) 0.22 uV (typical)		
Digital Sensitivity	5% BER: 0.3 uV			5% BER: 0.3 uV		
Intermodulation						
TIA603C	75 dB		78 dB	75 dB		78 dB
ETS	60 dB		60 dB	60 dB		60 dB
Adjacent Channel Selectivity (TIA603, ETS)	60 dB @ 12.5 kHz 70 dB @ 25 kHz			60 dB @ 12.5 kHz 70 dB @ 25 kHz		
Spurious Rejection						
TIA603C	75 dB		80 dB	75 dB		80 dB
ETS	70 dB		70 dB	70 dB		70 dB
Rated Audio	3 W (Internal) 7.5 W (External - 8 ohms) 13 W (External - 4 ohms)			3 W (Internal) 7.5 W (External - 8 ohms) 13 W (External - 4 ohms)		
Audio Distortion @ Rated Audio	3% (typical)			3% (typical)		
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz			-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Audio Response	+1, -3 dB			+1, -3 dB		
Conducted Spurious Emission	-57 dBm			-57 dBm		

Transmitter

	403-470 MHz	450-527 MHz	136-174 MHz	403-470 MHz	450-527 MHz	136-174 MHz
Channel Spacing	12.5 kHz/ 25 kHz			12.5 kHz/ 25 kHz		
Frequency Stability (-30°C, +60°C, +25°C)	+/- 1.5 ppm (DM3600) +/- 0.5 ppm (DM3601)			+/- 1.5 ppm (DM3400) +/- 0.5 ppm (DM3401)		
Power Output	1-25 W	1-40 W	1-25 W	1-25 W	1-40 W	1-25 W
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz			+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz		
FM Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz			-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Conducted / Radiated Emission	-36 dBm < 1 GHz -30 dBm > 1 GHz			-36 dBm < 1 GHz -30 dBm > 1 GHz		
Adjacent Channel Power	-60 dB @ 12.5 kHz -70 dB @ 25 kHz			-60 dB @ 12.5 kHz -70 dB @ 25 kHz		
Audio Response	+1, -3 dB			+1, -3 dB		
Audio Distortion	3%			3%		
FM Modulation	12.5 kHz : 11K0F3E 25 kHz: 16K0F3E			12.5 kHz : 11K0F3E 25 kHz: 16K0F3E		
4FSK Digital Modulation	12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE			12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE		
Digital Vocoder Type	AMBE+2™			AMBE+2™		
Digital Protocol	ETSI-TS102 361-1			ETSI-TS102 361-1		

GPS

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)	
TTF (Time To First Fix) Cold Start	< 1 minute
TTF (Time To First Fix) Hot Start	< 10 seconds
Horizontal Accuracy	< 10 meters

Environmental Specifications

Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Thermal Shock	Per MIL-STD
Humidity	Per MIL-STD
ESD	IEC-801-2KV
Water Intrusion	IEC 60529 - IP54
Packaging Test	MIL-STD 810D and E

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EN 300 086  
EN 300 113

MOTOTRBO™  
Repeater Radio

General Specifications\*

	DR3000		
	UHF		VHF
Channel Capacity	16		
Frequencies	403-470 MHz	450-527 MHz	136-174 MHz
Dimension (H x W x L)	132.6 x 482.6 x 296.5 mm 5.22 x 19 x 11.67 in		
Voltage requirements	100-240 VAC / 50/60 Hz		
Weight	14 kg (31 lbs)		
Current Drain			
Standby	1.0A (100 VAC), 0.5A (240 VAC)		
Transmit	4.0A (100 VAC), 1.8A (240 VAC)		
Operating Temperature Range	-30°C to +60°C		
Max Duty Cycle	100%		
FCC Description	1-25 W: ABZ99FT4026 25-40 W: ABZ99FT4025	1-40 W: ABZ99FT4027	1-25 W: ABZ99FT3026 25-40 W: ABZ99FT3025
<b>Receiver</b>			
Frequencies	403-470 MHz	450-527 MHz	136-174 MHz
Channel Spacing	12.5 kHz/ 25 kHz		
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm		
Analog Sensitivity	0.3 uV (12 dB SINAD) 0.4 uV (20 dB SINAD) 0.22 uV (typical)		
Digital Sensitivity	5% BER: 0.3 uV		
Intermodulation			
TIA603C	75 dB		
ETS	70 dB		
Adjacent Channel Selectivity	60 dB @ 12.5 kHz 70 dB @ 25 kHz		
Spurious Rejection			
TIA603C	75 dB		80 dB
ETS	70 dB		70 dB
Audio Distortion @ Rated Audio	3% (typical)		
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Audio Response	+ 1, -3 dB		
Conducted Spurious Emission	-57 dBm		
<b>Transmitter</b>			
Frequencies	403-470 MHz	450-527 MHz	136-174 MHz
Channel Spacing	12.5 kHz/ 25 kHz		
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm		
Power Output			
Low Power	1-25 W	1-40 W*	1-25 W
High Power	25-40 W		25-40 W
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz		
FM Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Conducted / Radiated Emission	-36 dBm < 1 GHz -30 dBm > 1 GHz		
Adjacent Channel Power	-60 dB @ 12.5 kHz -70 dB @ 25 kHz		
Audio Response	+1, -3 dB		
Audio Distortion	3%		
FM Modulation	12.5 kHz : 11K0F3E 25 kHz: 16K0F3E		
4FSK Digital Modulation	12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE		
Digital Vocoder Type	AMBE+2™		
Digital Protocol	ETSI-TS102 361-1		

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# 520-527 MHz ≤ 40W

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EN 300 086  
EN 300 113



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