

KEY FEATURES

Signalling

- Fully compliant to MPT1327
- Includes MPT1343, RegioNet 43 and ANN dialling plan

Easy to use and set-up

- Programmable buttons for easy access to frequently used features
- Quick access to call selection
- Ruggedised design

Quality

- MIL Spec 810 compliant
- Meets IP54 environmental standards
- Passed Motorola Accelerated Life Test
- X-Pand™ voice compression technology

Efficiency

- Missed call alerts
- Dynamic regrouping for over the air configuration
- Talk Group Select Mode

Included as standard

- Battery
- Antenna
- Belt clip
- Accessory dust cover
- User manual

Accessory options

A wide range of accessory options are available to customise your radio

- Audio accessories
- Batteries and chargers
- Carry options

For full details of available accessories, please contact your local dealer or distributor



JOMMONICATION Made E

The GP640, one of the market-leading radios in Motorola's Professional Series, is a simple communication solution for portable users on MPT networks requiring a high-quality radio. The GP640 is simple to use; featuring essential functionality to efficiently keep users in touch.

With option board capability and a wide range of accessories available within the Professional Series; it's easy to build a tailored communications solution to meet your needs.

SPECIFICATIONS

General Specifications				
Channel Capacity	16 (Conventional Mode)			
Power Supply	Rechargeable battery 7.5v			
Dimensions: H x W x D (mm)	Height excl	uding knobs		
With standard high capacity NiMH battery	137 x 57	7.5 x 37.5		
With ultra high capacity NiMH battery	137 x 57	7.5 x 40.0		
With NiCD battery	137 x 57.5 x 40.0			
With Li-lon battery	137 x 57.5 x 33.0			
Weight: (gm)				
With Standard high capacity NiMH battery	4.	20		
With Ultra high capacity NiMH battery	5	00		
With NiCD battery	4	50		
With Li-lon battery	350			
Average Battery Life @5/5/90 Cycle:	Low Power	High Power		
With Standard high capacity NiMH battery	11 hours	8 hours		
With Ultra high capacity NiMH battery	14 hours	11 hours		
With NiCD battery	12 hours	9 hours		
With Li-lon battery	11 hours	8 hours		
Sealing:	Withstands rain testing per			
	MIL STD 810 C/D/E and	d IP54		
Shock and Vibration:	Protection provided via impact resistant			
	housing exceeding MIL STD 810-C/D/E and			
	TIA/EIA 603			
Dust and Humidity:	Protection provided via environment			
	resistant housing exceeding MIL STD 810			
	C/D/E and TIA/EIA 603			
Operating temperature:	-20°C to +55°C			

Portable Military Standards 810 C, D, & E						
	810C		810D		810E	
Applicable MIL-STD	Methods	Procedures	Methods	Procedures	Methods	Procedures
Low Pressure	500.1	1	500.2	2	500.3	2
High Temperature	501.1	1,2	501.2	1,2	501.3	1,2
Low Temperature	502.1	1	502.2	1,2	502.3	1,2
Temp. Shock	503.1	1	503.2	1	503.3	1
Solar Radiation	505.1	1	505.2	1	505.3	1
Rain	506.1	1,2	506.2	1,2	506.3	1,2
Humidity	507.1	2	507.2	2,3	507.3	2,3
Salt Fog	509.1	1	509.2	1	509.3	1
Dust	510.1	1	510.2	1	510.3	1
Vibration	514.2	8,10	514.3	1	514.4	1
Shock	516.2	1,2,5	516.3	1,4	516.4	1,4

Data for +25°C unless otherwise specified

*Frequencies - Full Bandsplit UHF: 136-174 MHz UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Power 136-174: 1-5W 403-470: 1-4W 450-527: 1-4W 450-527: 1-4W Modulation Limiting ±2.5 @ 12.5 kHz ±4.0 @ 20 kHz ±5.0 @ 25 kHz FM Hum & Noise -40 dB typical Conducted/Radiated Emission -36 dBm <1 GHz -30 dBm >1 GHz Adjacent Channel Power -60 dB @ 12.5 kHz -70 dB @ 20/25 kHz Audio Response (300-3000Hz) Audio Distortion Receiver *Frequencies - Full Bandsplit VHF: 136-174 MHz UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA Sensitivity (20 dB SINAD) EN Sonyi typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz -47 dBm >1 GHz	Transmitter	
Channel Spacing	*Frequencies - Full Bandsplit	VHF: 136-174 MHz
Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) 136-174: 1-5W Power 136-174: 1-5W 403-470: 1-4W 403-470: 1-4W 450-527: 1-4W 450-527: 1-4W Modulation Limiting ±2.5 @ 12.5 kHz ±4.0 @ 20 kHz ±5.0 @ 25 kHz FM Hum & Noise -40 dB typical Conducted/Radiated Emission -36 dBm <1 GHz -30 dBm > 1 GHz -40 dB @ 12.5 kHz -70 dB @ 20/25 kHz -70 dB @ 20/25 kHz Audio Response (300-3000Hz) +1 to -3 dB Audio Distortion 3% Receiver *Frequencies - Full Bandsplit VHF: 136-174 MHz UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA .25 µV typical Sensitivity (20 dB SINAD) EN .50 µV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz		UHF 1: 403-470 MHz
Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) 136-174: 1-5W 403-470: 1-4W 403-470: 1-4W 450-527: 1-4W 450-527: 1-4W Modulation Limiting ±2.5 @ 12.5 kHz ±4.0 @ 20 kHz ±5.0 @ 25 kHz FM Hum & Noise -40 dB typical Conducted/Radiated Emission -36 dBm <1 GHz -30 dBm > 1 GHz -70 dB @ 20/25 kHz Audio Response (300-3000Hz) +1 to -3 dB Audio Distortion 3% Receiver *Frequencies - Full Bandsplit VHF: 136-174 MHz UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA .25 μV typical Sensitivity (20 dB SINAD) EIA .50 μV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio 3% typical </th <th></th> <th>UHF 2: 450-527 MHz</th>		UHF 2: 450-527 MHz
(-25°C to +55°C, +25°Ref.) Power	Channel Spacing	12.5/20/25 kHz
Power	Frequency Stability	±2.5 ppm
A03-470: 1-4W 450-527: 1-4W 450-627: 1-	(-25°C to +55°C, +25°Ref.)	
Modulation Limiting	Power	136-174: 1-5W
±2.5 @ 12.5 kHz		403-470: 1-4W
#4.0 @ 20 kHz #5.0 @ 25 kHz FM Hum & Noise -40 dB typical Conducted/Radiated Emission -36 dBm <1 GHz -30 dBm >1 GHz -30 dBm >1 GHz -70 dB @ 20/25 kHz Adjacent Channel Power -60 dB @ 12.5 kHz -70 dB @ 20/25 kHz Audio Response (300-3000Hz) Audio Distortion Receiver *Frequencies - Full Bandsplit VHF: 136-174 MHz UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA Sensitivity (12 dB SINAD) EIA Sensitivity (20 dB SINAD) EN Intermodulation EIA Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection Rated Audio 0.5W Audio Distortion @ Rated Audio 40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz		450-527: 1-4W
#5.0 @ 25 kHz FM Hum & Noise	Modulation Limiting	±2.5 @ 12.5 kHz
FM Hum & Noise		±4.0 @ 20 kHz
Conducted/Radiated Emission		±5.0 @ 25 kHz
-30 dBm >1 GHz	FM Hum & Noise	-40 dB typical
Adjacent Channel Power	Conducted/Radiated Emission	-36 dBm <1 GHz
-70 dB @ 20/25 kHz		-30 dBm >1 GHz
Audio Response (300-3000Hz) +1 to -3 dB Audio Distortion 3% Receiver *Frequencies - Full Bandsplit VHF: 136-174 MHz UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA .25 μV typical Sensitivity (20 dB SINAD) EN .50 μV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	Adjacent Channel Power	-60 dB @ 12.5 kHz
Audio Distortion 3 % Receiver *Frequencies - Full Bandsplit VHF: 136-174 MHz UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA .25 μV typical Sensitivity (20 dB SINAD) EN .50 μV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz		-70 dB @ 20/25 kHz
Receiver	Audio Response (300-3000Hz)	+1 to -3 dB
*Frequencies - Full Bandsplit VHF: 136-174 MHz UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA Sensitivity (20 dB SINAD) EN Intermodulation EIA Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) -57 dBm <1 GHz	Audio Distortion	3%
UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA .25 µV typical Sensitivity (20 dB SINAD) EN .50 µV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	Receiver	
UHF 1: 403-470 MHz UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA .25 µV typical Sensitivity (20 dB SINAD) EN .50 µV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	*Frequencies - Full Bandsplit	VHF: 136-174 MHz
UHF 2: 450-527 MHz Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA .25 μV typical Sensitivity (20 dB SINAD) EIN .50 μV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio @ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz		
Channel Spacing 12.5/20/25 kHz Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA .25 μV typical Sensitivity (20 dB SINAD) EN .50 μV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio Washed Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz		UHF 2: 450-527 MHz
Frequency Stability ±2.5 ppm (-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA .25 μV typical Sensitivity (20 dB SINAD) EN .50 μV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	Channel Spacing	
(-25°C to +55°C, +25°Ref.) Sensitivity (12 dB SINAD) EIA Sensitivity (20 dB SINAD) EN Intermodulation EIA Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion @ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) -57 dBm <1 GHz		±2.5 ppm
Sensitivity (20 dB SINAD) EN .50 µV typical Intermodulation EIA 70 dB Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz		
Intermodulation EIA	Sensitivity (12 dB SINAD) EIA	.25 µV typical
Adjacent Channel Selectivity 60 dB @ 12.5 kHz 70 dB @ 20/25 kHz Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	Sensitivity (20 dB SINAD) EN	.50 μV typical
70 dB @ 20/25 kHz	Intermodulation EIA	70 dB
Spurious Rejection 70 dB Rated Audio 0.5W Audio Distortion 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	Adjacent Channel Selectivity	60 dB @ 12.5 kHz
Rated Audio 0.5W Audio Distortion 3% typical We Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz		70 dB @ 20/25 kHz
Audio Distortion 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	Spurious Rejection	
@ Rated Audio 3% typical Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	opurious riejection	<u> </u>
Hum & Noise -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz		70 dB
-50 dB @ 20/25 kHz Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	Rated Audio	70 dB
Audio Response (300-3000 Hz) +1 to -3 dB Conducted Spurious Emission -57 dBm <1 GHz	Rated Audio Audio Distortion	70 dB 0.5W
Conducted Spurious Emission -57 dBm <1 GHz	Rated Audio Audio Distortion @ Rated Audio	70 dB 0.5W 3% typical
•	Rated Audio Audio Distortion @ Rated Audio	70 dB 0.5W 3% typical -40 dB @ 12.5 kHz
-47 dBm >1 GHz	Rated Audio Audio Distortion @ Rated Audio Hum & Noise	70 dB 0.5W 3% typical -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz
	Rated Audio Audio Distortion @ Rated Audio Hum & Noise Audio Response (300-3000 Hz)	70 dB 0.5W 3% typical -40 dB @ 12.5 kHz -50 dB @ 20/25 kHz +1 to -3 dB

Specifications are subject to change without notice and are issued for guidance only.

 $\stackrel{\cdot}{\text{All}}$ specifications listed are typical. Radios meet applicable regulatory requirements.

Conforms to EC directive 89/336/EEC

Complies with EN 300 113

Contact your local Motorola Authorised Dealer to find out more about how communicating with the Professional Radio series will benefit your organisation.



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^{*}Availability subject to individual country's law and regulations.