MOTOTRBO™
Professional Digital Two-Way Radio System

FEATURE COMPARISON CHART

MOTOROLA SOLUTIONS

		MOTOTRBO PORTABLE RADIOS														MOTOTRBO MOBILE RADIOS					
		DP1000 SERIES	DP2000e SERIES		DP4000e SERIES			DP4000 Ex SERIES				DP3000e SERIES		SL SERIES			DM1000 SERIES		DM2000 SERIES	DM4000e SERIES	
		DP1400	DP2400e	DP2600e	DP4400e/ DP4401e	DP4600e/ DP4601e	DP4800e/ DP4801e	DP4401 Ex	DP4801 Ex	DP4401 Ex Ma	DP4801 Ex Ma	DP3441e	DP3661e	SL1600	SL2600	SL4000e/ SL4010e	DM1400	DM1600	DM2600	DM4400e/ DM4401e	DM4600e/ DM4601e
GENERAL SPECIFICATIONS																					
Protocol	DMR or analogue communications	Analogue/Digital or Analogue Only	Analogue/Digital		Analogue/Digital			Analogue/Digital				Analogue/Digital		Analogue/Digital	Analogue/Digital	Digital Only	Analogue/Digital		Analogue/Digital	Analogue/Digital	
Frequency	Capable of operating in the following frequency ranges	VHF: 136-174MHz UHF: 403-470MHz	VHF: 136-174MHz UHF: 403-527MHz 300[12]: 300-360, 350-400MHz		VHF: 136-174MHz UHF: 403-527MHz 300[12]: 300-360, 350-400MHz			VHF: 136-174MHz UHF: 403-470MHz				VHF: 136-174MHz UHF: 403-527MHz		VHF: 136-174MHz UHF: 403-470MHz	VHF: 136-174MHz UHF: 403-480MHz	UHF: 403-470MHz	VHF: 136-174MHz UHF: 403-470MHz		VHF: 136-174MHz UHF: 403-470MHz	VHF: 136-174MHz UHF: 403-470MHz, 450-527MHz 300[12]: 300-360, 350-400MHz	
Max. Power Output	Radio's full power rating	4W UHF/5W VHF	4W 300MHz,UHF / 5W VHF		4W 300MHz,UHF / 5W VHF			1W UHF/VHF				4W UHF/5W VHF		2W(an) / 3W(dig)	2W(an) / 3W[16](dig)	3W	25W or 40/45W[14]		25W or 40/45W[14]	25W or 40/45W[14]	
Max. Channel Capacity	Programmable channel capacity	16	16	128	32	1000	1000	32	1000	32	1000	32	1000	99	256	1000	16	160	256	99	1000
Channel Spacing	Programmable channel spacing	12.5 / 20 / 25 kHz	12.5 / 20[15] / 25 kHz		12.5 / 20[15] / 25 kHz			12.5 / 20 / 25 kHz				12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 kHz	12.5 / 20 / 25 kHz		12.5 / 20 / 25 kHz	12.5 / 20[15] / 25 kHz	
Display	Displays provide easy access to advanced features	No	No	2 line monochrome	No	5 line colour	5 line colour	No	5 line colour	No	5 line colour	No	5 line colour	Single line scrolling	2 line OLED	5 line colour	2-digit numeric	2 line monochrome	2 line monochrome	2-digit numeric	4 line colour
Keypad	Keypads provide access to radio controls, texting and telephony	No	No	Menu buttons	No	Menu buttons	Full Keypad	No	Full Keypad	No	Full Keypad	No	Menu buttons	No	4 virtual buttons	Full Keypad	No	Menu buttons	Menu buttons	No	Menu buttons
Integrated GPS	Embedded GPS receiver for location monitoring	No	No		Yes[1]			Yes		No		Yes		No	No	No	No		No	Yes[1]	
Integrated GLONASS	Embedded GLONASS receiver for location monitoring	No	No		Yes[1]			No				Yes		No	No	No	No		No	Yes[1]	
Event Driven Location Updates	Location update based on input from external device (eg door senser)	No	No		Yes[11]			No				No	No	No	No	No	No		No	Yes[11]	
Distance Driven Location Updates	Location update transmission based on distance travelled	No	No		Yes[11]			No				Yes		No	No	No	No		No	Yes[11]	
Integrated Bluetooth 2.1	Wireless connection for audio accessories or data comms	No	No		n/a			No				n/a	n/a	No	n/a	n/a	No		No	n/a	
Integrated Bluetooth 4.0	Energy efficient Bluetooth for greater battery life	No	No		Audio and Data[1]			No				Audio and Data	Audio and Data	No	Audio and Data	Audio and Data	No		No	Audio and Data[1]	
Permanent Bluetooth Discovery	Bluetooth "always on" mode used by some applications	No	No		Option (Bluetooth models only)			No				Option		No	Option	Option	No		No	No	
Dedicated Emergency Button	Orange programmable button for one-touch emergency calling	No	No		Yes			Yes				Yes		No	No	Yes	No		No	No	
Programmable Buttons	Allow access to most often used features with one press	2	2	4	3	5	5	3	5	3	5	2	4	1[9]	1	2	2	4	4	4	
Digital DMR Signalling	DMR standard digital voice communications	Yes[8]	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes[8]		Yes	Yes	
PL / DPL Signalling	Analogue Private Line / Digital Private Line compatible	Yes	Yes		Yes			Yes				Yes		Yes	Yes	No	Yes		Yes	Yes	
Quick Call II Signalling	Analogue Quick Call II compatible	Yes	Yes		Yes			Yes				Yes		Yes	Yes	No	Yes		Yes	Yes	
MDC Signalling	Analogue MDC compatible	Yes	Yes		Yes			Yes				Yes		Yes	Yes	No	Yes		Yes	Yes	
5 Tone Signalling	Analogue 5 tone compatible	No	Yes		Yes			Yes				Yes		Option	Yes	No	No		Yes	Yes	
DTMF Hot Keypad	DTMF tone compatible	No	No	No	No	No	Yes	No	Yes	No	Yes	No		No	No	No	Yes[6]	Yes[6]	Yes[6]	Yes[6]	
MPT1327 Signalling	Analogue MPT1327 compatible (requires option board)	No	No		Option[7]			No	Option[7]	No	Option[7]	No		No	No	No	No		No	Option	
Option Board Capability	Supports option boards for third party applications	No	No		Yes			No	Yes	No	Yes	Yes		No	No	Yes[4]	No		Yes	Yes	
IMPRES Audio Compatible	IMPRES audio ensures your voice is heard clearer and louder	No	Yes		Yes			Yes				Yes		No	No	No	No		No	Yes	
SINC+ Noise Cancellation	Integrated, advanced noise cancellation for noisy environments	No	Option		Option			Option				Option		No	Option	Option	No		Option	Option	
Automatic Gain Control	Modifies microphone performance to produce the best voice quality	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Microphone Distortion Control	Automatic microphone gain adjustment to reduce distortion	No	No		Yes			Yes				No	Yes	No	No	No	No		No	No	
Trill Enhancement	Additional processing to enhance rolling "r" sound so speech is clearer	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
IMPRES Energy Compatible	Use IMPRES batteries for longer life and optimal performance	No	Yes		Yes			Yes				Yes		No	No	No	n/a		n/a	n/a	
IMPRES OTA Battery Management	Automatic collection of battery data over the air with radios still in use	No	Yes[10]		Yes[10]			Yes[10]				Yes[10]		No	No	No	n/a		n/a	n/a	
ATEX Certified	ATEX certified for use in potentially explosive environments	No	No		No			Gas: Class II 2G Ex ib IIC T4 Gb Dust: Class II 2D Ex ib IIIC T130 °C Db Mining: I M2 Ex ib I Mb / Mining: I M1 Ex ia I Ma				No		No	No	No	No		No	No	
IEC Ex Certified	IEC Ex certified for use in potentially explosive environments	No	No		No			Gas: Ex ib IIC T4 Gb Dust: Ex ib IIIC T130°C Db Mining: Ex ib I Mb / Mining: Ex ia I Ma				No		No	No	No	No		No	No	
FM Intrinsically Safe	Factory Mutual (FM) approved for intrinsically safe use	No	No		Factory Mutual (FM)			No				No		No	No	No	No		No	No	
TIA4950 Intrinsically Safe	Telecommunications Industry Association (TIA) approved for IS use	No	TIA4950		TIA4950			No				TIA4950		No	No	No	No		No	No	
IP Rating	Rated sealing for dust and water ingression	IP54	IP67		IP68			IP67				IP68		IP54	IP54	IP54	IP54		IP54	IP54	
MIL-STD 810	Rated to withstand environemental conditions	C, D, E, F & G	C, D, E, F & G		C, D, E, F & G			C, D, E, F & G				C, D, E, F & G		C, D, E, F & G	C, D, E, F & G	C, D, E, F & G	C, D, E, F & G		C, D, E, F & G	C, D, E, F & G	
Dimensions (HxWxL) mm	Physical size	128 x 62 x 39[3]	122 x 56 x 36[3]	122 x 56 x 36[3]	130 x 55 x 34[3]	130 x 55 x 36[3]	130 x 55 x 36[3]	138 x 57 x 38[3]	138 x 57 x 40[3]	138 x 57 x 38[3]	138 x 57 x 40[3]	100 x 55 x 30[3]	100 x 55 x 36[3]	126 x 55 x 22[3]	126 x 55 x 23[3]	121 x 55 x 17[3]	44 x 169 x 134		44 x 169 x 134	53 x 175 x 206	
Dimensions (Weight)	Physical weight	341g[3]	265g[3]	282g[3]	295 g[3]	330 g[3]	330 g[3]	456g[3]	482g[3]	456g[3]	482g[3]	254g[3]	290g[3]	U:166g[3] V:169g[3]	190g[3]	154g[3]	1.3kg		1.3kg	1.8kg	
FEATURES AND FUNCTIONS																					
Intelligent Audio	Automatic volume control based on background noise levels	No	Yes		Yes			Yes				Yes		No	Yes	Yes	No		Yes	Yes	
User Selectable Audio Profiles	Optimises audio for specific environments and personal preferences	No	Yes		Yes			Yes				Yes		No	Yes	Yes	No		Yes	Yes	
Emergency Alarm	Radio can initiate an Emergency call process	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Lone Worker	Initiates emergency if user does not respond to periodic alerts	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Remote Monitor	Radio can remotely activate another radio's microphone	Decode Only	Decode Only	Yes	Decode Only	Yes	Yes	Yes				Yes		Decode Only	Yes	Yes	Decode Only		Yes	Yes	
VOX (supported on radio)	Voice activated calling allows handsfree operation	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Audio Feedback Suppressor	Blocks feedback from other radios to eliminate "howling"	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	No		Yes	Yes	
Freeform Text Messaging	User can enter and send free-form text messages	No	No		No	No	Yes	No	Yes	No	Yes	No		No	No	Yes	No		No	Yes[6]	
Pre-programmed Text Messaging	Radio can send pre-programmed text messages	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Extended Texting	Maximum text message length is 280 character	No	Yes		Yes			Yes				Yes		No	Yes	Yes	No		Yes	Yes	
Vibrate Alert	Vibrate silently alerts the user to an incoming call	No	Option		Option			No				No		No	No	Yes	No		No	No	
Covert Mode	Disable display, LEDs and audible tones for ultimate discretion	No	No		No			No				No		No	Yes	Yes	No		No	No	
All Call	One-way call to all radios on a logical channel	Decode Only	Yes		Yes			Yes				Yes		Decode Only	Yes	Yes	Decode Only		Decode Only	Yes	
Radio Check	Check if another radio is active on a system without notifying the user	Decode Only	Decode Only	Yes	Decode Only	Yes	Yes	Decode Only	Yes	Decode Only	Yes	Decode Only	Yes	Decode Only	Yes	Yes	Decode Only		Yes	Decode Only	Yes
Digital Telephone Patch	Ability to connect to telephone system (requires additional hardware)	No	Option		Yes			Yes				Yes		No	Option	Yes	No		Option	Yes	
Transmit Interrupt Encode	Radio can interrupt transmissions fromother radios	Decode Only	Option		Yes			Yes				Yes		Decode Only	Option	Yes	Decode Only		Option	Yes	
Basic Privacy	MOTOTRBO 16-bit encryption for protection against eavesdropping	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Enhanced Privacy	MOTOTRBO 40-bit encryption for more robust protection	No	Option		Yes			Yes				Yes		No	Option	Yes	No		Option	Yes	
AES256 Encryption	Advanced Encryption Standard (AES) 256-bit encryption	No	No		Option			Option				Option		No	No	Option	No		No	Option	
Default Voice Announcement	Audible confirmation of selected operations of the radio	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Programmable Voice Announcement	Ability to use customised recordings for voice announcements	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Text-to-Speech Voice Announcement	Radio "reads out" Channel, Zone, Functions, Text Messages, Job Tickets	No	No		Option			Option				Option		No	No	Option	No		No	Option	
Radio Management	Centralised radio configuration and code plug management	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Over the Air Programming (OTAP)	Remote, over-air programming using Radio Management	No	Yes		Yes			Yes				Yes		No	Yes	Yes	No		Yes	Yes	
Integrated Wi-Fi	Enables remote software updates for easier radio management	No	No		Option[1]			No				Option		No	Yes	Option	No		No	Option[1]	
Indoor Location Tracking	Use built-in Bluetooth with iBeacons and suitable apps to locate and track radios	No	No		Option[1]			No				Option		No	Option	Option	No		No	Option[1]	
Restricted Access to System	Prevents unauthorised users from communicating through the repeater	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Radio Enable/Disable	Radio can remotely disable and re-enable another radio	Decode Only	Decode Only	Yes	Decode Only	Yes	Yes	Decode Only	Yes	Decode Only	Yes	Decode Only	Yes	Decode Only	Yes	Yes	Decode Only		Yes	Decode Only	Yes
Integrated Mandown	Built-in accelerometer enhances personnel safety by monitoring movement	No	No		Yes[13]			Yes				Yes		No	No	Yes	No		No	No	
Dual Capacity Direct Mode	Use both TDMA time slots to double system capacity without a repeater	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Telemetry Supported	Integrated basic telemetry capability	No	No		Yes			Yes				No		No	No	Yes	No		No	Yes	
Telemetry I/O Pins	Number of built-in input/output pins to support telemtery	n/a	n/a		3			3				n/a		n/a	n/a	0	n/a		4	5	
Telemetry Buttons	Number of buttons that can be configured for telemetry	n/a	n/a		3			3				n/a		n/a	n/a	3	n/a		3	3	
Fixed Installation	Mobile radios can be used in a fixed installation such as a control room	n/a	n/a		n/a			n/a				n/a		n/a	n/a	n/a	Yes		Yes	Yes	
Control Station	Mobile acts as the RF link between an Application Server and the radio network	n/a	n/a		n/a			n/a				n/a		n/a	n/a	n/a	No		Yes	Yes	
Remote Mount Control Head	Controls and display can be located separately from radio chassis	n/a	n/a		n/a			n/a				n/a		n/a	n/a	n/a	No		No	Option	
Data ADKs Available	Data Application Developer Kits are available to ADP members	No	No		Yes			Yes				Yes		No	No	Yes	No		No	Yes	
SYSTEM CONFIGURATIONS																					
Direct Mode Operation	Direct radio-to-radio operation	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Single-Site Conventional	Single site conventional operation (channel selection by users)	Yes	Yes		Yes			Yes				Yes		Yes	Yes	Yes	Yes		Yes	Yes	
IP Site Connect	Multi-site conventional operation (channel selection by users)	Option	Yes		Yes			Yes				Yes		Option	Yes	Yes	No		Yes	Yes	
Capacity Plus	Single- or multi-site MOTOTRBO trunking (channel selection managed by system)	No	Option		Yes			Yes				Yes		No	Option	Yes	No		Option	Yes	
Capacity Max	Multi-site, DMR Tier III compliant trunking with centralised controller	No	No		Option			Option				Option		No	No	Option	No		No	Option	
Connect Plus	Multi-site MOTOTRBO trunking with dedicated control channel	No	No		Option			No	Option	No	Option	No		No	No	Option[5]	No		No	Option	

[1] Integrated Bluetooth, GPS, GLONASS and Wi-Fi are supported on DP4401e, DP4601e, DP4801e, DM4401e & DM4601e only
[2] Based on NiMH battery
[3] Based on standard Li-Ion battery
[4] Option board capability on SL4010e only
[5] SL4010e only
[6] Requires keypad microphone
[7] DP4401e, DP4801e, DP4801 Ex are available with MPT Option Board factory fitted
[8] DP1400, DM1400 and DM1600 analogue-only models can be upgraded to MOTOTRBO digital by purchasing a software license
[9] SL1600 Programmable Button can scroll through up to 7 features
[10] Requires IMPRES battery
[11] Event & distance driven location updates only supported on models with built-in GPS/GLONASS
[12] Only DP2400e, DP4401e, DP4801e, DM4401e and DM4601e available in 300MHz versions
[13] Integrated man down on DP4401e, DP4601e and DP4801e only
[14] VHF models: 45W / 300MHz & UHF models: 40W
[15] 20 kHz not supported for all 300MHz models or DM4000e 450-527MHz models
[16] Maximum output RF power is 2W for frequencies >470MHz

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