



MOTOROLA
intelligence everywhere™

Assembled Trunking System Base Station/Repeater Portfolio

PassPort®, LTR® and Conventional Compatible

An increasing number of forward-thinking businesses are utilizing the power of trunking for their two-way radio communication. Cost-effective and efficient, LTR and PassPort trunked communication provides wide calling range, great privacy, and fast channel access to help workers connect without delays—as well as high user and talkgroup capacity to enhance system efficiency. And by purchasing their own trunked systems, companies can gain the control and flexibility they need to keep costs low and communication quality high.

Motorola delivers all the expertise and equipment required to create a fully functioning, integrated two-way radio trunked network—quickly and easily. Your choice of repeater components below provides your business the coverage and capacity flexibility of the Motorola Assembled Trunking System (ATS).

Radius R1225™/RKR1225™

Ideal for desktop use in an office setting, the R1225/RKR1225 can also become a base station allowing a dispatch operator to communicate with other radios in the field. It has built-in basic repeater capabilities. Optional controllers can be added for enhanced features such as telephone interconnect, multiple PL/DPL codes and signaling.

Available in UHF (444-474 MHz) and VHF (146-174 MHz)



MTR2000™

The MTR2000 Station/Repeater provides unmatched flexibility in a compact design. This product offers features such as Tone Remote Control and continuous duty cycle operation. In addition, the MTR2000 unit is available in 100-25 Watt, 40-2 Watt, and 30-2 Watt variable power models.

Available in UHF (403-470 MHz) and VHF (136-174 MHz)



“Limited” Quantar™

The “Limited” Quantar Station/Repeater helps maximize system up time by providing reliable solid state performance and self-testing capabilities. Available in 110-25 Watt or 100-25 Watt variable models, the “Limited” Quantar is also available with battery reverting to help maintain system operation in the event of a site power failure.

Available in UHF (470-494 MHz) and 494-520 MHz)



MX800

The MX800 Base Station Repeater, manufactured by Spectra Engineering Pty, is the repeater component intended for use in Motorola's PassPort and LTR ATS systems in 200 and 700 MHz frequency bands. Offering wide RF switching bandwidth with superior blocking, intermodulation, and adjacent channel performance, the MX800 also comes with fully welded steel housing, a built-in NTS Trunking Controller interface, and provides a 50 Watt power output.

Available in 200 MHz (217-221 MHz) and 700 MHz (746-764 MHz)



Base Station/Repeater Portfolio Specifications

	R1225/RK1225		R1225/RK1225		MTR2000		MTR2000		Quantar Limited		Spectra MX800		Spectra MX800	
	VHF	UHF	VHF	UHF	VHF	UHF	VHF	UHF	UHF	UHF	200 MHz	700 MHz	200 MHz	700 MHz
Model Number	1-10W, M03GRC 25-50W, M43GRC	1-10W, M04GRC 25-50W, M44GRC	T5766, T5769	T5766, T5769	15766, 15769	15766, 15769	CS9ED/001C Factory ID: T5385	DDN6725	DDN6725	DDN6725	DDN6725	DDN6725	DDN6725	DDN6725
Frequency	146-174 MHz	444-474 MHz	132-174 MHz	403-470 MHz	403-470 MHz	403-470 MHz	470-494 MHz, 494-520 MHz	217-222 MHz	217-222 MHz	217-222 MHz	217-222 MHz	746-794 MHz	217-222 MHz	746-794 MHz
Adjustable RF Power Output	1-10 Watts or 25-50 Watts	1-10 Watts or 25-50 Watts	X345 (132-174 MHz) 30 Watts X330 (132-174 MHz) 40 Watts X530 (132-154, 150-174 MHz) 100 Watts	X341 (403-470 MHz) 30-2 Watts X340 (403-470 MHz) 40-2 Watts X540 (403-435 MHz, 435-470 MHz) 100-25 Watts	X345 (132-174 MHz) 30 Watts X330 (132-174 MHz) 40 Watts X530 (132-154, 150-174 MHz) 100 Watts	X341 (403-470 MHz) 30-2 Watts X340 (403-470 MHz) 40-2 Watts X540 (403-435 MHz, 435-470 MHz) 100-25 Watts	X840 (470-494 MHz) 110-25 Watts X840 (494-520 MHz) 100-25 Watts	5-50 Watts	5-50 Watts	5-50 Watts	5-50 Watts	5-50 Watts	5-50 Watts	5-50 Watts
Channel Spacing	12.5/20/25/30 kHz	12.5/20/25/30 kHz	up to 32	up to 32	up to 32	up to 32	12.5 kHz/25 kHz	12.5 kHz/25 kHz	12.5 kHz/25 kHz	12.5 kHz/25 kHz	12.5 kHz	12.5 kHz	12.5 kHz	12.5 kHz
RF Channel Capacity	up to 16	up to 16	Full Duplex	Full Duplex	Full Duplex	Full Duplex	up to 16	up to 16	up to 16	up to 16	up to 255	up to 255	up to 255	up to 255
Mode of Operation	Full Duplex	Full Duplex	Simplex/Semi-duplex/Duplex	Simplex/Semi-duplex/Duplex	Full Duplex	Full Duplex	Full Duplex	Full Duplex	Full Duplex	Full Duplex	Full Duplex	Full Duplex	Full Duplex	Full Duplex
Duty Cycle	Continuous @ 25W and 1-10W 50% @ 45/50W (5 min. on/5 min. standby)	Continuous @ 25W and 1-10W 50% @ 45/50W (5 min. on/5 min. standby)	14.2 VDC (40/30 Watt Station) 28.6 VDC (100 Watt Station)	14.2 VDC (40/30 Watt Station) 28.6 VDC (100 Watt Station)	14.2 VDC (40/30 Watt Station) 28.6 VDC (100 Watt Station)	14.2 VDC (40/30 Watt Station) 28.6 VDC (100 Watt Station)	Continuous	Continuous	Continuous	Continuous	Continuous transmit with thermally controlled fan	Continuous transmit with thermally controlled fan	Continuous transmit with thermally controlled fan	Continuous transmit with thermally controlled fan
Dimensions	5.25" x 19" x 13.5" (133 x 482 x 343 mm)	5.25" x 19" x 13.5" (133 x 482 x 343 mm)	5.25" x 19" x 16.5" (133 x 483 x 419 mm)	5.25" x 19" x 16.5" (133 x 483 x 419 mm)	5.25" x 19" x 16.5" (133 x 483 x 419 mm)	5.25" x 19" x 16.5" (133 x 483 x 419 mm)	8.75" x 19" x 17"	8.75" x 19" x 17"	8.75" x 19" x 17"	8.75" x 19" x 17"	3.6" x 19" x 13.2" (ZRU high, 19" standard rack mounting)	3.6" x 19" x 13.2" (ZRU high, 19" standard rack mounting)	3.6" x 19" x 13.2" (ZRU high, 19" standard rack mounting)	3.6" x 19" x 13.2" (ZRU high, 19" standard rack mounting)
Weight	22 lbs. (10 kg)	22 lbs. (10 kg)	40 lbs. (19 kg)	40 lbs. (19 kg)	40 lbs. (19 kg)	40 lbs. (19 kg)	55 lbs. (25 kg)	55 lbs. (25 kg)	55 lbs. (25 kg)	55 lbs. (25 kg)	19.8 lbs. (9 kg)	19.8 lbs. (9 kg)	19.8 lbs. (9 kg)	19.8 lbs. (9 kg)
Temperature Range	-30° C to +60° C	-30° C to +60° C	-30° C to +60° C	-30° C to +60° C	-30° C to +60° C	-30° C to +60° C	-30° C to +60° C	-30° C to +60° C	-30° C to +60° C	-30° C to +60° C	-10° C to +60° C (reduced specs from -30° C to -10° C)	-10° C to +60° C (reduced specs from -30° C to -10° C)	-10° C to +60° C (reduced specs from -30° C to -10° C)	-10° C to +60° C (reduced specs from -30° C to -10° C)

	R1225/RK1225		R1225/RK1225		MTR2000		MTR2000		Quantar Limited		Spectra MX800		Spectra MX800	
	VHF	UHF	VHF	UHF	VHF	UHF	VHF	UHF	UHF	UHF	200 MHz	700 MHz	200 MHz	700 MHz
Frequency Range	146-174 MHz	444-474 MHz	132-174 MHz	403-470 MHz	30 Watt: 132-174 MHz 40 Watt: 132-174 MHz	403-470 MHz 40 Watt: 403-470 MHz	30 Watt: 403-470 MHz 40 Watt: 403-470 MHz	470-494 MHz/494-520 MHz	470-494 MHz/494-520 MHz	470-494 MHz/494-520 MHz	217-221 MHz	746-794 MHz	217-221 MHz	746-794 MHz
Frequency Stability	± 2.5 ppm (-30° C to +60° C)	± 1.5 ppm (-30° C to +60° C)	± 1.5 ppm/External Ref	± 1.5 ppm/External Ref	± 1.5 ppm/External Ref	± 1.5 ppm/External Ref	± 1.5 ppm/External Ref (Optional)	± 1.5 ppm/External Ref (Optional)	± 1.5 ppm/External Ref (Optional)	± 1.5 ppm/External Ref (Optional)	± 2.5 ppm	± 1.0 ppm	± 2.5 ppm	± 1.0 ppm
FM Deviation														
Spurious			-23 dBm	-23 dBm	-85 dBc	-85 dBc	-85 dBc	-85 dBc	-85 dBc	-85 dBc	+2.5 kHz	+2.5 kHz	+2.5 kHz	+2.5 kHz
Audio Distortion			< 3% EIA (@ 1000 Hz 60% rated maximum deviation)	< 3% EIA (@ 1000 Hz 60% rated maximum deviation)	< 3%	< 3%	< 2% 1000 Hz @ 60% RSD	< 2% 1000 Hz @ 60% RSD	< 2% 1000 Hz @ 60% RSD	< 2% 1000 Hz @ 60% RSD				
FM Hum and Noise	20/25/30 kHz: -45 dB Normal 12.5 kHz: -40 dB Normal	20/25/30 kHz: -45 dB Normal 12.5 kHz: -40 dB Normal	300 to 3000 Hz bandwidth, 60% RSD, 30 (VHF) 25 kHz: 50 dB Normal 12.5 kHz: 45 dB Normal	300 to 3000 Hz bandwidth, 60% RSD, 30 (VHF) 25 kHz: 50 dB Normal 12.5 kHz: 45 dB Normal	300 to 3000 Hz bandwidth, 60% RSD, 30 (VHF) 25 kHz: 50 dB Normal 12.5 kHz: 45 dB Normal	300 to 3000 Hz bandwidth, 60% RSD, 30 (VHF) 25 kHz: 50 dB Normal 12.5 kHz: 45 dB Normal	300 to 3000 Hz bandwidth, 60% RSD, 750µs de-emphasis 25 kHz: 50 dB Normal 12.5 kHz: 45 dB Normal	300 to 3000 Hz bandwidth, 60% RSD, 750µs de-emphasis 25 kHz: 50 dB Normal 12.5 kHz: 45 dB Normal	300 to 3000 Hz bandwidth, 60% RSD, 750µs de-emphasis 25 kHz: 50 dB Normal 12.5 kHz: 45 dB Normal	300 to 3000 Hz bandwidth, 60% RSD, 750µs de-emphasis 25 kHz: 50 dB Normal 12.5 kHz: 45 dB Normal	12.5 kHz: -44 dB Typical	12.5 kHz: -44 dB Typical	12.5 kHz: -44 dB Typical	12.5 kHz: -44 dB Typical
Emission Designators	12.5 kHz: 11K0F3E 20/25/30 kHz: 16K0F3E	12.5 kHz: 11K0F3E 20/25/30 kHz: 16K0F3E	25 kHz: 16K0F3E, 13K6F1D, 13K6F1D 12.5 kHz: 11K0F3E, 10K0F1D, 8K60F1D	25 kHz: 16K0F3E, 13K6F1D, 13K6F1D 12.5 kHz: 11K0F3E, 10K0F1D, 8K60F1D	25 kHz: 16K0F3E, 13K6F1D, 13K6F1D 12.5 kHz: 11K0F3E, 10K0F1D, 8K60F1D	25 kHz: 16K0F3E, 13K6F1D, 13K6F1D 12.5 kHz: 11K0F3E, 10K0F1D, 8K60F1D	16K0F3E, 16K0F1D, 20K0F1E, 20K0F1D, 11K0F3E, 8K10F1E, 10K0F1D	16K0F3E, 16K0F1D, 20K0F1E, 20K0F1D, 11K0F3E, 8K10F1E, 10K0F1D	16K0F3E, 16K0F1D, 20K0F1E, 20K0F1D, 11K0F3E, 8K10F1E, 10K0F1D	16K0F3E, 16K0F1D, 20K0F1E, 20K0F1D, 11K0F3E, 8K10F1E, 10K0F1D	11K0F3E	11K0F3E	11K0F3E	11K0F3E

	R1225/RK1225		R1225/RK1225		MTR2000		MTR2000		Quantar Limited		Spectra MX800		Spectra MX800	
	VHF	UHF	VHF	UHF	VHF	UHF	VHF	UHF	UHF	UHF	200 MHz	700 MHz	200 MHz	700 MHz
Frequency Range	146-174 MHz	444-474 MHz	132-174 MHz	403-470 MHz	132-174 MHz	403-470 MHz	403-470 MHz	470-494 MHz/494-520 MHz	470-494 MHz/494-520 MHz	470-494 MHz/494-520 MHz	219-222 MHz	776-794 MHz	219-222 MHz	776-794 MHz
Frequency Stability	± 2.5 ppm	± 1.5 ppm	± 1.5 ppm/External Ref	± 1.5 ppm/External Ref	± 1.5 ppm/External Ref	± 1.5 ppm/External Ref	± 1.5 ppm/External Ref (Optional)	± 1.5 ppm/External Ref (Optional)	± 1.5 ppm/External Ref (Optional)	± 1.5 ppm/External Ref (Optional)	± 1.5 ppm -10° C to +60° C; ± 2.5 ppm -30° C to -10° C	± 1.5 ppm -10° C to +60° C; ± 2.5 ppm -30° C to -10° C	± 1.5 ppm -10° C to +60° C; ± 2.5 ppm -30° C to -10° C	± 1.5 ppm -10° C to +60° C; ± 2.5 ppm -30° C to -10° C
Sensitivity @ 12 dB SINAD			0.35µV (-116.1 dBm)	0.35µV	0.35µV	0.35µV	0.35µV	0.35µV	0.35µV	0.35µV	0.35µV	0.35µV (-117 dBm)	0.35µV	0.35µV (-117 dBm)
Selectivity	20/25/30 kHz: -85 dB 12.5 kHz: -65 dB	20/25/30 kHz: -80 dB 12.5 kHz: -65 dB	25/30 kHz: 80 dB 12.5 kHz: 75 dB	25/30 kHz: 80 dB 12.5 kHz: 75 dB	25/30 kHz: 80 dB 12.5 kHz: 75 dB	25/30 kHz: 80 dB 12.5 kHz: 75 dB	25/30 kHz: 80 dB 12.5 kHz: 75 dB	25 kHz: 85 dB 12.5 kHz: 75 dB	25 kHz: 85 dB 12.5 kHz: 75 dB	25 kHz: 85 dB 12.5 kHz: 75 dB	75 dB	65 dB	75 dB	65 dB
Intermodulation			(12.5 and 25/30 kHz) 80 dB/85 dB	(12.5 and 25/30 kHz) 80 dB/85 dB	(12.5 and 25/30 kHz) 80 dB/85 dB	(12.5 and 25/30 kHz) 80 dB/85 dB	(12.5 and 25/30 kHz) 80 dB/85 dB	(12.5 and 25/30 kHz) 80 dB/85 dB	(12.5 and 25/30 kHz) 80 dB/85 dB	(12.5 and 25/30 kHz) 80 dB/85 dB	80 dB	80 dB	80 dB	80 dB
Spurs and Image			85 dB Nominal	85 dB Nominal	85 dB Nominal	85 dB Nominal	85 dB Nominal	85 dB	85 dB	85 dB	100 dB	100 dB	100 dB	100 dB
FM Hum and Noise	20/25/30 kHz: -45 dB Normal 12.5 kHz: -40 dB Normal	20/25/30 kHz: -45 dB Normal 12.5 kHz: -40 dB Normal	1000 Hz tone @ 60% RSD 25 kHz: 50 dB Nominal 12.5 kHz: 45 dB Nominal	1000 Hz tone @ 60% RSD 25 kHz: 50 dB Nominal 12.5 kHz: 45 dB Nominal	1000 Hz tone @ 60% RSD 25 kHz: 50 dB Nominal 12.5 kHz: 45 dB Nominal	1000 Hz tone @ 60% RSD 25 kHz: 50 dB Nominal 12.5 kHz: 45 dB Nominal	1000 Hz tone @ 60% RSD 25 kHz: 50 dB Nominal 12.5 kHz: 45 dB Nominal	100 Hz tone @ 60% RSD 25 kHz: 50 dB Nominal 12.5 kHz: 45 dB Normal	100 Hz tone @ 60% RSD 25 kHz: 50 dB Nominal 12.5 kHz: 45 dB Normal	100 Hz tone @ 60% RSD 25 kHz: 50 dB Nominal 12.5 kHz: 45 dB Normal	12.5 kHz: -44 dB Typical	12.5 kHz: -44 dB Typical	12.5 kHz: -44 dB Typical	12.5 kHz: -44 dB Typical

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MD-ATSREPEATERS