



SPECS SURVEY: PORTABLE RADIOS

MANUFACTURER →	Alinco, Electronics div.	Codan Radio Communications	Connect Systems	Connect Systems	EF Johnson Technologies	EF Johnson Technologies	EF Johnson Technologies
PRODUCT NAME →	DJ-NX40T	Envoy	CS610	CS710	TK-5x30	Viking VP600	Viking VP900
JSPECS							
Suggested list price	--	--	US\$270	US\$280	--	--	--
For what protocols	NXDN	High-frequency SSB	DMR, CTCSS, DCS	DMR, CTCSS, DCS	P25, SmartNet/SmartZone	P25, SmartNet/SmartZone	P25, SmartNet/SmartZone
Frequency type	Single	--	Single	Single	Single	Single	Dual
Frequency ranges	450-512 MHz	TX: 1.6-30 MHz; RX: 250 kHz to 30 MHz	400-470 MHz	400-470 MHz	136-174, 380-470, 762-806, 806-870 MHz	136-174, 380-470, 762-806, 806-870 MHz	136-174, 763-805, 806-869 MHz
Conventional/trunked	Conventional	N/A	Conventional	Conventional	Both	Both	Both
Analog/digital	Digital	Both	Both	Both	Both	Both	Both
Dimensions (HWD)	5.7 x 9.9 x 4.8 cm	RF unit: 21 x 26.9 x 6.6 cm; handset: 15 x 3.3 x 7.6 cm	11.3 x 5.5 x 3.5 cm	11.3 x 5.5 x 3.5 cm	13.9 x 5.8 x 4.8 cm	19 x 6.7 x 4.4 cm	19 x 6.7 x 4.4 cm
Weight	313 g w/ 2.65 Ah battery pack & antenna	RF unit: 2.8 kg; handset: 19.8 g	275 g	275 g	448 g	346 g	346 g
Housing material	Polycarbonate & die-cast metal	Die-cast aluminum	Plastic, metal	Plastic, metal	Polycarbonate	Polycarbonate	Polycarbonate
Channel capacity	260	1,000	32	1,000	1,024; 4,000 (opt.)	1,024	2,048
Channel spacing	6.25 kHz	N/A	12.5 kHz	12.5 kHz	6.25, 12.5, 25 kHz	12.5, 25 kHz	12.5, 25 kHz
Types of scans	N/A	Selective, voice, digital	Dual priority	Dual priority	System, group, priority, radiowide	System, group, priority, radiowide	System, group, priority, radiowide
Types of displays	Dot matrix LCD	Full color, QVGA	None	LCD	Multiline, alphanumeric color backlit LCD, front	Multiline, alphanumeric backlit LCD, top & front	Multiline, alphanumeric, backlit LCD, top & front
Current drain (standby)	<95 mA	500 mA	100 mA (standby); 50 mA (PowerSave)	100 mA (standby); 50 mA (PowerSave)	--	260 mA	310 mA
Power requirements	7.5 VDC (nom.)	13.8 VDC	7.2 V	7.2 V	7.5 V	7.4 V input	7.4 V input
Battery life/duty	12 hrs. (approximately)	N/A	10 hrs. (analog); 14 hrs. (digital)	10 hrs. (analog); 14 hrs. (digital)	17 hrs.	10 hrs.	10 hrs.
DTMF keypad	Limited keypad	Numeric/text entry	No keypad	DTMF	All	All	All
If radio is trunked: # of groups/systems	Yes, NXDN	20	N/A	N/A	≤ 512	≤ 1,024	≤ 2,048
Unique ID code	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auto check-in roam	N/A	N/A	N/A	N/A	Yes	Yes	Yes
Selective calling	Yes	Yes	Std.	Std.	Yes	Yes	Yes
Over-the-air programming	N/A	Yes	No	No	Yes	Yes	Yes
Receiver specs:							
Sensitivity	0.22 µV (3% BER) @ 6.25 kHz	-125 dBm @ 10 dB SINAD	-117 dBm (BER 5%)	-117 dBm (BER 5%)	--	-119 dBm	-119 dBm
Squelch sensitivity	-10 dBu	N/A (syllabic voice det.)	-120 dBm	-120 dBm	--	-119 dBm	-119 dBm
Adjacent-channel selectivity	60 dB (narrow)	>70 dB	60 dB	60 dB	12.5 kHz: 60 dB; 25 kHz: 75 dB	12.5 kHz: 60 dB; 25 kHz: 75 dB	12.5 kHz: 60 dB; 25 kHz: 75 dB
Current drain (RX)	<500 mA	500 mA	400 mA @ 1 W	400 mA @ 1 W	--	650 mA	700 mA
Spurious rejection	70 dB	>70 dB	70 dB	70 dB	75-80 dB	80 dB	80 dB
Audio output power	700 mW/8 Ω	4 W into 4 Ω	1 W	1 W	1 W	1 W	1 W
Audio distortion	<3%	<5%	3% @ 500 mW	3% @ 500 mW	3%	1.5%	1%
Frequency stability	±1.5 ppm	0.5 ppm (std.)	1 ppm	1 ppm	VHF: 2 ppm; UHF: 1 ppm; 700/800 MHz: 1.5 ppm	1.5 ppm	1.5 ppm
Transmitter specs:							
RF output power	5 W (low 1W)	100/125 W PEP (max.) (program., H/M/L sel.)	4 W	4 W	VHF: 6 W; UHF: 5 W; 700/800 MHz: 3 W	VHF: 5 W; UHF: 4 W; 700/800 MHz: 2.5/3 W	VHF: 5 W; 700/800 MHz: 2.5/3 W
Spurious and harmonics	66 dB	<64 dB below PEP, <80 dB spurious	-36 dBm <1 GHz; -30 dBm >1 GHz	-36 dBm <1 GHz; -30 dBm >1 GHz	70 dB	75 dB	75 dB
Frequency spread	N/A	N/A	400-470 MHz	400-470 MHz	Full band split	Full band split	Full band split
Current drain (TX)	<2 A	8 A (typ.) voice	1.55 A (analog); 800 mA (digital)	1.55 A (analog); 800 mA (digital)	N/A	2.7 A	2.7 A
FM hum and noise	40 dB (narrow)	N/A	-40 dB	-40 dB	12.5 kHz: 44 dB; 25 kHz: 50 dB	12.5 kHz: 44 dB; 25 kHz: 50 dB	12.5 kHz: 43 dB; 25 kHz: 49 dB
Audio response	+1 to -3 dB	300 Hz to 2.7 kHz (std.)	+1 to -3 dB	+1 to -3 dB	--	+1, -3 dB	+1, -3 dB
Audio distortion	<3%	<5%	3%	3%	2%	1.5%	1.5%
Features:							
Talkaround	Std.	N/A	Std.	Std.	Std.	Std.	Std.
Allows encryption/type	NXDN digital	Opt., AES-256	ETSI std.	ETSI std.	Opt., DES-OFB, AES	Opt., DES-OFB, AES	Opt., DES-OFB, AES
Remote speaker/mic jack	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Auto noise squelch	N/A	Std.	Std.	Std.	Std.	Std.	Std.
Accepts NiMH battery	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Busy-channel indicator	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Lockout	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Accepts CTCSS/DCS	N/A	N/A	Std.	Std.	Std.	Std.	Std.
Time-out timer	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Channel scanning	N/A	Std.	Std.	Std.	Std.	Std.	Std.
Two-tone seq. decoder	N/A	Std.	N/A	N/A	Std.	Std.	Std.
PC programmable	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Programmable ANI	Std., NXDN	N/A	N/A	N/A	Std.	Std.	Std.
Intrinsically safe	No	N/A	N/A	N/A	N/A	N/A	N/A
Cloning capability	Std.	Std.	N/A	N/A	N/A	N/A	N/A
P25 CAP SDoCS	N/A	N/A	N/A	N/A	Std.	Std.	Std.
Warranty	1 year	3 yrs. (std.); 5 yrs. (opt.)	1 year	1 year	3 years	3 years	3 years

Key: N/A means not applicable. -- means information was not supplied. Dimensions may be rounded off.

MANUFACTURER→	Entel	Entel	Entel	Finmeccanica	Finmeccanica	Finmeccanica	Harris
PRODUCT NAME→	HT725	HT986	HT916T	PUMA T4 TE	PUMA T4 LE	PUMA T4 TLE	XL-200P
JSPECS							
Suggested list price	US\$417	US\$915	US\$1,917	--	--	--	US\$2,500 single band; US\$4,400 multiband conv.
For what protocols	CTCSS, DCS, 5 tone	CTCSS, DCS, 5 tone, DTMF	CTCSS, DCS, MPT1327, DTMF	TETRA/TEDS, FM	LTE, HSPA+, UMTS, EDGE, GPRS, GSM	TETRA/TEDS, FM, LTE	P25 Phase 1/2
Frequency type	Single	Single	Single	Single	Multiband	Multiband	Multiband or single band
Frequency ranges	136-174 MHz	400-470 MHz	66-88 MHz	380-470, 806-870 MHz	4G: bands 1, 3, 7, 8, 20; 3G: bands 1, 2, 5, 8; 2G: 850/900 MHz, 1.8/1.9 GHz	TETRA: 380-470, 806-870 MHz; 2G: 700/850/900, 1.8/1.9 GHz, bands 1, 3, 5, 7	136-174, 378-522, 768- 870 MHz, LTE bands 4, 13, 14
Conventional/trunked	Conventional	Conventional	Conventional/trunked	Trunked	Trunked	Trunked	Both
Analog/digital	Analog	Analog	Analog	Both	Digital	Both	Both
Dimensions (HWD)	13 x 5.9 x 3.7 cm	13 x 5.9 x 3.7 cm	13 x 5.9 x 3.7 cm	13.8 x 6 x 3.8 cm	13.8 x 6 x 3.8 cm	13.8 x 6 x 3.8 cm	14.7 x 5.8 x 3.6 cm (w/ battery)
Weight	277 g	277 g	277 g	400 g	400 g	400 g	431 g w/ std. battery
Housing material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Aluminum, high-impact polycarbonate
Channel capacity	256	256	1,024	--	--	--	12,500
Channel spacing	12.5/20/25 kHz	12.5/20/25 kHz	12.5/20/25 kHz	12.5/25/50 kHz	1.4/3/5/10/15/20 MHz	12.5/25/50 kHz; 1.4/3/5/ 10/20 MHz	12.5, 25 kHz, NPSPAC
Types of scans	16 scan lists, standard, priority	16 scan lists, standard, priority	MPT	Priority	Priority	Priority	Std., priority, trunked/ conventional, voting
Types of displays	LCD	LCD	LCD	3.6-in. touchscreen LCD TFT w/ 16M colors	3.6-in. touchscreen LCD TFT w/ 16M colors	3.6-in. touchscreen LCD TFT w/ 16M colors	Front color & top LCD w/ color visual ch. indication
Current drain (standby)	80 mA	80 mA	80 mA	--	--	--	200 mA
Power requirements	7.4 V	7.4 V	7.4 V	--	--	--	7.5 VDC (nom.) input
Battery life/duty	14 hrs.	14 hrs.	14 hrs.	>20 hrs.	>20 hrs.	>20 hrs.	10 hrs. (min.)
DTMF keypad	Limited	Full w/ DTMF	Full w/ DTMF	DTMF (full soft keypad)	DTMF (full soft keypad)	DTMF (full soft keypad)	DTMF, limited keypad
If radio is trunked:							
# of groups/systems	N/A	N/A	16/4	1,500	1,500	1,500	1,024; 512 systems
Unique ID code	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auto check-in roam	N/A	N/A	Yes	Yes	Yes	Yes	Yes
Selective calling	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Over-the-air programming	No	No	No	Yes (future release)	Yes (future release)	Yes (future release)	Yes
Receiver specs:							
Sensitivity	-117 dBm	-117 dBm	-117 dBm	EN 300 392-2 compliant	2G/3G/4G compliant	EN 300 392-2, 2G/4G compliant	VHF: -122 dBm; UHF: -121 dBm; 700/800: -120 dBm
Squelch sensitivity	Better than -119 dBm	Better than -119 dBm	Better than -119 dBm	--	--	--	8 ±1.5 dB (typ.)
Adjacent-channel selectivity	70 dB	70 dB	70 dB	EN 300 392-2 compliant	2G/3G/4G compliant	EN 300 392-2, 2G/4G compliant	66/65/63 @ 12.5 kHz; 77/74/72 @ 25 kHz
Current drain (RX)	400 mA (max. volume)	400 mA (max. volume)	400 mA (max. volume)	--	--	--	500 mA @ rated audio
Spurious rejection	70 dB	70 dB	70 dB	EN 300 392-2 compliant	2G/3G/4G compliant	EN 300 392-2, 2G/4G compliant	90/87/84/80 dB
Audio output power	1 W	1 W	1 W	1 W @ 4 Ω	1 W @ 4 Ω	1 W @ 4 Ω	1.5 W rated
Audio distortion	3%	3%	3%	--	--	--	<1.25%
Frequency stability	2.5 ppm	2.5 ppm	2.5 ppm	EN 300 392-2 compliant	2G/3G/4G compliant	EN 300 392-2, 2G/4G compliant	±1 ppm
Transmitter specs:							
RF output power	5 W	1 W	1 W	TETRA: 1.8 W (class 3L); FM: 4 W	23 dBm (LTE)	TETRA: 1.8 W (Class 3L); FM: 4 W; LTE: 23 dBm	VHF: 1-6 W; UHF: 1-5 W; 700/800 MHz: 0.5-3 W
Spurious and harmonics	<0.25 µW	<0.25 µW	<0.25 µW	EN 300 392-2 compliant	2G/3G/4G compliant	EN 300 392-2, 2G/4G compliant	-80 dBc
Frequency spread	38 MHz	70 MHz	22 MHz	EN 300 392-2 compliant	2G/3G/4G compliant	EN 300 392-2, 2G/4G compliant	VHF: 38 MHz; UHF: 144 MHz; 700 MHz: 41 MHz; 800 MHz: 64 MHz
Current drain (TX)	1.7 A	1 A	1 A	--	--	--	VHF/UHF: 2 A; 700/800: 1.7 A
FM hum and noise	>40 dB	>40 dB	>40 dB	--	--	--	-47/-45 @ 12.5 kHz; -51/-54/-50 @ 25 kHz
Audio response	Pre-emphasis 6 dB/octave, 20 dB/decade	Pre-emphasis 6 dB/octave, 20 dB/decade	Pre-emphasis 6 dB/octave, 20 dB/decade	--	--	--	+1, -3 dB
Audio distortion	<5%	<5%	<5%	--	--	--	<1.25%
Features:							
Talkaround	Std.	Std.	Std.	Std.	Std. (future release)	Std.	Std.
Allows encryption/type	Voice inversion	Voice inversion	Voice inversion	Std., air interface/ end-to-end (opt.)	Std., air interface/ end-to-end (opt.)	Std., air interface/ end-to-end (opt.)	Std., single key DES; multikey AES/DES (opt.)
Remote speaker/mic jack	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Auto noise squelch	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Accepts NiMH battery	N/A (Li-ion)	N/A (Li-ion)	N/A (Li-ion)	N/A (Li-ion)	N/A (Li-ion)	N/A (Li-ion)	N/A (Li-poly)
Busy-channel indicator	Std.	Std.	Std.	N/A (avail. in TETRA DMO)	N/A	N/A (avail. in TETRA DMO)	Std.
Lockout	Std.	Std.	N/A	Std.	Std.	Std.	Std.
Accepts CTCSS/DCS	Std.	Std.	Std.	Opt.	Opt.	Opt.	Std.
Time-out timer	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Channel scanning	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Two-tone seq. decoder	Std.	Std.	N/A	N/A	N/A	N/A	Std.
PC programmable	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Programmable ANI	Std.	Std.	Std.	N/A	N/A	N/A	Std.
Intrinsically safe	N/A	Std.	Std.	N/A	N/A	N/A	Opt.
Cloning capability	Std.	Std.	Std.	N/A	N/A	N/A	Std.
P25 CAP SDoCS	N/A	N/A	N/A	N/A	N/A	N/A	Std.
Warranty	2 years	2 years	2 years	2 years (typ.)	2 years (typ.)	2 years (typ.)	2 years (std.)

PORTABLE RADIOS

MANUFACTURER→	Harris	Harris	Hytera Communications	Holzburg Communications	Icom	Icom	Icom
PRODUCT NAME→	XG-75P	XG-25P	PT790Ex	HC-400HP	IC-F9011/F9021 series	IC-F3400D/IC-F4400D	IC-F1000D/IC-F2000D
JSPECS							
Suggested list price	--	--	--	US\$375	US\$2,020-\$2,200	--	US\$370
For what protocols	P25 Phase 1/2, OpenSky, EDACS, Provoice	P25 Phase 1/2, OpenSky, EDACS, Provoice	TETRA	--	P25, analog FM	NXDN, dPMR, analog FM	NXDN, dPMR, analog FM
Frequency type	Single	Single	Multiband	Single	Single	Single	Single
Frequency ranges	136-174, 378-470, 450-522, 764-870 MHz	136-174, 378-470, 764-870 MHz	320-380, 380-430, 405-475, 806-870 MHz	136-174, 400-480 MHz	136-174, 380-470, 400-470, 450-520 MHz	136-174, 380-470, 450-512 MHz	136-174, 360-400, 400-470, 450-512, 450-520 MHz
Conventional/trunked	Both	Both	TETRA std., TMO/DMO	Conventional	Both	Both (NXDN Type-C, Type-D, dPMR mode 3)	Conventional
Analog/digital	Both	Both	Digital	Analog	Both	Both	Both
Dimensions (HWD)	14.9 x 6.2 x 4.9 cm	17.3 x 6.2 x 4.7 cm	14.1 x 5.5 x 3.9 cm	15 x 5.8 x 3.8 cm	16.7 x 5.9 x 4.2 cm	12.4 x 5.4 x 3 cm	11.2 x 5.2 x 3 cm
Weight	298 g	281 g	515 g (w/ battery, antenna)	249 g	533 g w/ battery pack	303 g w/ battery pack	260 g w/ battery pack
Housing material	Aluminum, high-impact polycarbonate/ABS	Aluminum, high-impact polycarbonate/ABS	Plastic cement	ABS	IP57; polycarbonate	IP68; polycarbonate	IP67; polycarbonate
Channel capacity	1,024 (std.)	512 (std.); 1,024 (opt.)	25 kHz	16	512 chs., 128 zones	1,024 channels, 128 zones; 32 channels, 2 zones (no display)	128 channels, 8 zones
Channel spacing	12.5, 25 kHz, NPSPAC	12.5, 25 kHz, NPSPAC	25 kHz	12.5/25 kHz	12.5/15/25/30 kHz	6.25/12.5/25 kHz	6.25/12.5/15/25/30 kHz
Types of scans	Priority, ProScan, wide area, trunked to conv.	Priority, ProScan, wide area, trunked to conv.	Frequency, group	Normal	Normal, priority, dual priority, voting	Normal, priority, dual priority, voting	Normal, priority, dual priority, voting
Types of displays	Dot matrix LCD; high-contrast sunlight, more	Dot matrix LCD; high-contrast sunlight, more	LCD	Without display	Full-dot matrixed	Color LCD	No LCD
Current drain (standby)	125 mA	119 mA	92 mA	20 mA w/ battery saver	300 mA	140 mA	110 mA
Power requirements	7.5 VDC (nom.) input	7.5 VDC (nom.) input	--	7.4 V ±20%	7.2 VDC	7.5 VDC	7.5 VDC
Battery life/duty	9-16 hrs.	9-16 hrs.	>14 hrs.	16 hrs.	9 hrs.	16 hrs.	18 hrs.
DTMF keypad	DTMF, limited keypad	DTMF, limited keypad	Full keypad	No keypad	DTMF, limited keypad, no keypad	DTMF, limited keypad, no keypad	No keypad
If radio is trunked:							
# of groups/systems	1,024	512 (std.), 1,024 (opt.)	3,000 groups	N/A	250 groups/4 systems	999 groups/128 zones	500 groups/8 zones
Unique ID code	Yes	Yes	--	Yes	Yes	Yes	Yes
Auto check-in roam	Yes	Yes	Yes	--	Yes	Yes	Yes (auto check-in)
Selective calling	Yes	Yes	--	--	Yes	Yes	Yes
Over-the-air programming	Yes	Yes	Yes	--	N/A	Yes	N/A
Receiver specs:							
Sensitivity	0.25 µV/-119 dBm	0.21 µV/-120.5 dBm	-116 dBm	0.35 µV @ 12.5 kHz, 0.25 µV @ 25 kHz	0.25 µV (typ.) @ 12 dB SINAD; 0.30 µV (typ.) @ 5% BER	0.24 µV (typ.) @ 12 dB SINAD; -4 dB µV emf. (typ.) @ 20 dB SINAD; -11/-6 dB µV emf. (typ.) (DN/DVN) @ 1% BER	0.21/0.24 µV (typ.) @ 12 dB SINAD; -4 dB µV emf. (typ.) @ 20 dB SINAD; -8 dB µV emf. (typ.) (DVN) @ 5% BER
Squelch sensitivity	8 ±2 dB (typ.)	8 ±2 dB (typ.)	--	122 dBm	0.25 µV (typ.)	0.22 µV (typ.)	0.19 µV (typ.)
Adjacent-channel selectivity	66/69/67 @ 12.5 kHz; 79/77/75 @ 25 kHz	67/60/66 @ 12.5 kHz; 78/72/77 @ 25 kHz	--	60/65 dB @ 12.5/25 kHz	60 dB (typ.) @ digital	65 dB (typ.) @ digital	59/58 dB (typ.) @ digital
Current drain (RX)	252 mA @ rated audio	220 mA	--	150 mA	800 mA (max.)	550 mA	400 mA
Spurious rejection	>80 dB	82 dB	--	-70 dB	80 dB (typ.)	80 dB (typ.)	80 dB (typ.)
Audio output power	500 mW	500 mW	1.2 W	500 mW	1 W (typ.)	8 W (typ.)	8 W (typ.)
Audio distortion	VHF, 700/800 MHz: 1.5%; UHF: 1.7%	1%	5%	5%	10%	5%	5%
Frequency stability	±1.5 ppm	±1.5 ppm	<1 ppm	5 ppm	±1 ppm	±1 ppm	±1 ppm
Transmitter specs:							
RF output power	VHF: 6 W; UHF: 5 W; 700/800 MHz: 3 W	VHF, UHF-L: 5 W; 700/800 MHz: 3 W	1 W	10 W	VHF: 6/2/1 W; UHF: 5/2/1 W	5/2/1 W	VHF: 5/2/1 W; UHF: 4/2/1 W
Spurious and harmonics	VHF, UHF-L: -36 dBc; UHF-H: -51.5 dBc; 700/800 MHz: -55 dBc	VHF: -42 dBc; UHF-L: -36 dBc; 700/800 MHz: -55 dBc	--	-36 dBm	80 dB (typ.)	75 dB (typ.)	70 dB (typ.)
Frequency spread	VHF: 38 MHz; UHF-L/H: 92/62 MHz; 700 MHz: 41 MHz; 800 MHz: 64 MHz	VHF: 38 MHz; UHF-L: 92 MHz; 700 MHz: 41 MHz; 800 MHz: 64 MHz	--	VHF: 38 MHz; UHF: 80 MHz	VHF: 38 MHz; UHF: 90/70 MHz	VHF: 38 MHz; UHF: 90/62 MHz	VHF: 38 MHz; UHF: 70/62/40 MHz
Current drain (TX)	1.8 A	1.7 A	--	2.6 A	VHF: 2.2 A; UHF: 2.1 A	VHF: 1.5 A; UHF: 1.8 A	VHF: 1.3 A; 1.4 A
FM hum and noise	Depends on frequency	Depends on frequency	--	45 dB	VHF: 45 dB (typ.); UHF: 44 dB (typ.) @12.5 kHz	54 dB (typ.) @ 12.5 kHz	VHF: 40 dB (typ.); UHF: 44 dB (typ.) @ 12.5 kHz
Audio response	+1, -3 dB	+1, -3 dB	--	+1 to -3 dB	+2 to -8 dB of 6 dB/octave	--	--
Audio distortion	<1%	1%	--	5%	2% (typ.)	1.5% (typ.)	VHF: 1.1% (typ.); UHF: 1.5% (typ.)
Features:							
Talkaround	Std.	Std.	Std.	N/A	Std.	Std.	Std.
Allows encryption/type	Single key DES (std.), multikey AES/DES (opt.)	Single key DES (std.), multikey AES/DES (opt.)	Opt.	No	Std., AES; DES (opt.);	Std., 4-key DES; 256-bit AES w/ OTAR (opt.)	Std., digital voice scrambler
Remote speaker/mic jack	Std.	Std.	Opt.	Std., Kenwood 2 pin	Std.	Std.	Std.
Auto noise squelch	Std.	Std.	Opt.	Std.	Std.	Std.	Std.
Accepts NiMH battery	Std.	Std.	N/A	N/A	N/A, Li-ion (std.); AA (opt.)	N/A (Li-ion)	N/A (Li-ion)
Busy-channel indicator	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Lockout	Std.	Std.	--	Std.	Std.	Std.	Std.
Accepts CTCSS/DCS	Std.	Std.	--	Std.	Std.	Std.	Std.
Time-out timer	Std.	Std.	--	Std.	Std.	Std.	Std.
Channel scanning	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Two-tone seq. decoder	Std.	Std.	N/A	N/A	Std.	Std.	Std.
PC programmable	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Programmable ANI	Std.	Std.	Opt.	Std.	Std.	Std.	N/A
Intrinsically safe	Opt.	Opt.	Std.	N/A	N/A	N/A	N/A
Cloning capability	N/A	N/A	--	N/A	Std.	Std.	Std.
P25 CAP SDOCS	Std.	Std.	N/A	N/A	Std.	N/A	N/A
Warranty	2 years (std.)	2 years (std.)	2 yrs.	1 year	3 yrs. (std.), 6 yrs. (opt.)	3 yrs. (std.), 6 yrs. (opt.)	3 yrs. (std.), 6 yrs. (opt.)

The following companies submitted information for this Specs Survey.
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MANUFACTURER→	Infinity/Kirmuss & Associates	JVCCKENWOOD	JVCCKENWOOD	JVCCKENWOOD	Motorola Solutions	Motorola Solutions	Motorola Solutions
PRODUCT NAME→	K-911-AD1	TK-D240/D340	NX-5200/5300	NX-5400	APX 6000	MTP3350	MTP6550
JSPECS							
Suggested list price	\$199	--	--	--	--	--	--
For what protocols	Analog, dPMR, NXDN	DMR, FM	P25 Phase 1/2, NXDN 6.25/12.5 kHz, FM	P25 Phase 1/2, NXDN 6.25/12.5 kHz, FM	P25	TETRA	TETRA
Frequency type	Dual	Single	Single	Single	Single	Single	Single
Frequency ranges	136-174, 400-512 MHz	136-174, 400-470, 450-520 MHz	136-174, 380-470, 450-520 MHz	Rx: 763-776, 851-870 MHz; Tx: 763-776, 793-806, 806-825, 851-870 MHz	VHF, UHF R1/R2, 700/800 MHz	350-470, 806-870 MHz	350-470 MHz
Conventional/trunked	Conventional	Conventional	Both	Both	Both	Trunked	Trunked
Analog/digital	Analog, digital dPMR	Both	Both	Both	Both	Digital	Digital
Dimensions (HWD)	11.4 x 5.7 x 3.8 cm	12.1 x 5.4 x 3.4 cm	13.9 x 5.8 x 4 cm	13.9 x 5.8 x 4 cm	13.9 x 6 x 3.6 cm	12.4 x 5.3 x 3.4 cm	13.2 x 5.9 x 3.4 cm
Weight	283 g	285 g	382 g	382 g	309 g (w/o battery)	280 g (w/ std. battery)	292 g (w/ std. battery)
Housing material	Plastic	High-impact polycarbonate	High-impact polycarbonate	High-impact polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Channel capacity	256	32	1,024; 4,000 (opt.)	1,024; 4,000 (opt.)	1,000	10,000 talk groups	10,000 talk groups
Channel spacing	2.5/6.25/12.5/25 kHz	12.5/25 kHz	6.25/12.5/15/20 kHz;	6.25/12.5 kHz	12.5/20/25 kHz	25 kHz	25 kHz
Types of scans	TO, CO, SE, NT	Multiple	Multiple	Multiple	Conventional, trunked, multisystem	Multiple	Multiple
Types of displays	LCD	N/A	Color 1.74-in. transf.	Color 1.74-in. transf.	Top, front LCD	LCD color	LCD color
Current drain (standby)	90 mA	100 mA	110 mA	110 mA	5-5-90	--	--
Power requirements	7.5 V (nominal)	7.5 VDC ±20%	7.5 VDC ±20%	7.5 VDC ±20%	1-6 W	3.7 V	3.7 V
Battery life/duty	12 hrs.	13.5-17 hrs.	10-17 hrs./6.5-11 hrs.	10-17 hrs./6.5-11 hrs.	16 hrs.	16 hrs.	16 hrs.
DTMF keypad	Yes	No keypad	Std. key w/o num. keypad, full key w/ num.	Std. key w/o num. keypad, full key w/ num.	DTMF	Full keypad	Full keypad
If radio is trunked:							
# of groups/systems	--	N/A	1,024 ch.-GID/128 zones	1,024 ch.-GID/128 zones	1,000 channels/35 sys.	10,000 talk groups	10,000 talk groups
Unique ID code	Yes	N/A	Yes	Yes	Yes	Yes	Yes
Auto check-in roam	N/A	N/A	Yes	Yes	Yes	--	--
Selective calling	Yes	N/A	Yes	Yes	Yes	Yes	Yes
Over-the-air programming	No	N/A	Yes	Yes	Yes	No	No
Receiver specs:							
Sensitivity	VHF: 0.23 µV, UHF: 0.22 µV	Digital 1% BER: 0.45 µV; digital 5% BER: 0.3 µV; analog (12 dB SINAD): 0.25 µV	NXDN 6.25: 0.20 µV; analog: 0.24 µV; NXDN 12.5, P25 5% BER: 0.25 µV; P25 1% BER: 0.40 µV	NXDN 6.25: 0.20 µV; analog: 0.24 µV; NXDN 12.5, P25 5% BER: 0.25 µV; P25 1% BER: 0.40 µV	0.216, 0.277, 0.188 µV	-118 dBm (typ.)	-116 dBm (typ.)
Squelch sensitivity	--	3 dB	3 dB	3 dB	0.216, 0.277, 0.188 µV	--	--
Adjacent-channel selectivity	VHF W/N/D: 77/71/71 dB; UHF W/N/D: 74/67/58 dB	Analog @ 25/12 kHz: 74/68 dB	P25: 60 dB; analog: 67/73 dB @ 12.5/25 kHz	P25: 60 dB; analog: 64/73 dB @ 12.5/25 kHz	25 kHz: 75.5/79.3/78.3 dB; 12.5 kHz: 67.5/70/68.1/67.5 dB	-60 dBc	-60 dBc
Current drain (RX)	400 mA, 90 mA digital	450 mA	400 mA	400 mA	--	<250 mA @ 50% volume	<250 mA @ 50% volume
Spurious rejection	70 dB (typ.)	70 dB	80/75 dB	75 dB	VHF/UHF: 93.2/80.3 dB; 700/800 MHz: 76.6 dB	-45 dBm	-45 dBm
Audio output power	550 mW	1 W/12 Ω (10% dist.)	1 W/8 Ω (5% dist.)	1 W/8 Ω (5% dist.)	VHF/UHF/R1/700/800 MHz: 0.5 W; UHF: 1 W	2 W	2 W
Audio distortion	5%	3%	2%	2%	VHF: 1.2%; UHF: 0.9%; 700/800 MHz: 0.9%	5% (max.)	5% (max.)
Frequency stability	±2.25 ppm	±1-2 ppm	±1-2 ppm	±1.5 ppm	±0.0001% ppm	±0.01 ppm	±0.01 ppm
Transmitter specs:							
RF output power	5 W	VHF: 5 W; UHF: 4 W	VHF: 6 W, UHF: 5 W	3 W	VHF: 1-6 W; UHF: 1-5 W; 700/800 MHz: 1-3 W	Class 3L	Class 3L
Spurious and harmonics	65 dB (typ.)	70 dB	-70 dB	-70 dB	VHF: 93 dB; UHF: 80 dB; 700/800 MHz: 76.6 dB	-78 dBc	-78 dBc
Frequency spread	--	--	--	--	Full band split	350-470, 806-870 MHz	350-470 MHz
Current drain (TX)	1.3 A	2.1 A	2.3 A	2.2 A	--	--	--
FM hum and noise	Analog W/N: 52/46 dB; digital W/N: 50/44 dB	Analog: 40/45 dB @ 12.5/25 kHz	Analog: 40/45 dB @ 12.5/25 kHz	Analog: 40/45 dB @ 12.5/25 kHz	-47 dB	-45 dBc	-45 dBc
Audio response	--	--	--	--	+1, -3 dB	--	--
Audio distortion	--	2%	2%	2%	VHF/UHF: 0.5%; 700 MHz: 0.6%; 800 MHz: 1%	--	--
Features:							
Talkaround	Std.	Std.	Std.	Std.	Std.	--	--
Allows encryption/type	Scrambler analog, dig.	N/A	Std., DES, AES (opt.)	Std., DES, AES (opt.)	Std., ADP, AES, DES, more	Std., air interface, end-to-end	Std., air interface, end-to-end
Remote speaker/mic jack	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Auto noise squelch	Std.	Std.	Std.	Std.	Std.	N/A	N/A
Accepts NiMH battery	N/A	Std.	Std.	Std.	Opt.	N/A	N/A
Busy-channel indicator	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Lockout	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Accepts CTCSS/DCS	Std.	Std.	Std.	Std.	Std.	N/A	N/A
Time-out timer	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Channel scanning	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Two-tone seq. decoder	2 & 5 tone	Std.	Std.	Std.	Std.	N/A	N/A
PC programmable	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Programmable ANI	Std.	Std.	Std.	Std.	Std.	--	--
Intrinsically safe	N/A	N/A	Opt.	Opt.	Opt.	N/A	N/A
Cloning capability	Std.	Std.	Std.	Std.	Std.	N/A	N/A
P25 CAP SDoCS	N/A	N/A	Std.	Std.	--	N/A	N/A
Warranty	2 years	2 years	3 years	3 years	1 year (std.)	1 year	1 year

PORTABLE RADIOS

MANUFACTURER→	Nautic Devices	Pyramid Communications	Quanzhou Risen Electronics	Quanzhou Risen Electronics	Quanzhou Risen Electronics	ReIm Wireless	ReIm Wireless
PRODUCT NAME→	Yapalong4000	WM-1000	RS-629D	RS-208D	RS-209D	KNG2-Portable	KNG-S Portable
JSPECS							
Suggested list price	\$250	\$585	--	--	--	--	--
For what protocols	TDMA, full duplex	P25, NXDN, MPT, LTR, conv., EDACS, PassPort	DMR TDMA	dPMR FDMA	dPMR FDMA	P25	P25
Frequency type	Single	Single	Single	Single	Single	Single	Single
Frequency ranges	902-928 MHz	915 MHz ISM	136-174, 400-470 MHz	136-174, 400-470 MHz	136-174, 400-470 MHz	VHF: 136-174 MHz; UHF: 380-470, 440-520, 763-870 MHz	VHF: 136-174 MHz; UHF: 380-470 MHz
Conventional/trunked	Conventional	Both	Conventional	Conventional	Conventional	Both	Conventional
Analog/digital	Digital	Digital	Both	Both	Both	Both	Both
Dimensions (HWD)	16.5 x 6.4 x 2.3 cm	10.9 x 6.6 x 3.8 cm	13.5 x 6.1 x 3.6 cm	11.9 x 5.3 x 3.6 cm	11.4 x 5.1 x 3.3 cm	14 x 6.4 x 4.6 cm	14 x 6.4 x 4.6 cm
Weight	125 g	170 g	278 g	176 g	181 g	454 g	454 g
Housing material	Plastic	ABS plastic	Polycarbonate, ABS	Polycarbonate, ABS	Polycarbonate, ABS	Lexan	Lexan
Channel capacity	1 Mbps	4 channels	1,024	16	256	5,000	512
Channel spacing	750 kHz	N/A	12.5/25 kHz	12.5/25 kHz	12.5/25 kHz	6.25/12.5/25 kHz	12.5/25 kHz
Types of scans	Auto	N/A	Carrier control	Carrier control	Carrier control	Dual, priority, vote, group (zone)	Dual, priority, vote, group (zone)
Types of displays	No display	LCD	LCD	No display	LCD	Multiline color LCD	13-character multiline LCD
Current drain (standby)	10 uA	50 mA	113 mA (standby); 67 mA (power save)	90 mA (standby); 10-90 mA (power save)	90 mA (standby); 10-90 mA (power save)	170/180/180/150 mA	75/85 mA
Power requirements	200 mA	12 V	7.4 V	3.7 V	3.7 V	10.8 VDC Li-ion battery	10.8 VDC Li-ion battery
Battery life/duty	10 hrs./1,000 charges	24 hrs.	8 hrs.	8 hrs.	8 hrs.	12 hrs.	14 hrs.
DTMF keypad	No keypad	No keypad	DTMF	No keypad	DTMF	DTMF	DTMF
If radio is trunked:							
# of groups/systems	--	--	N/A	N/A	N/A	5,000 channels/64 systems	N/A
Unique ID code	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Auto check-in roam	No	N/A	N/A	N/A	N/A	Yes	N/A
Selective calling	No	Yes	Yes	Yes	Yes	Yes	Yes
Over-the-air programming	No	No	No	No	No	Yes	Yes
Receiver specs:							
Sensitivity	-92 dBm	N/A	-119 dBm (BER ≤5%); -117 dBm (BER ≤1%)	-117 dBm (BER ≤1%)	-117 dBm (BER ≤1%)	-121 dBm	-121 dBm
Squelch sensitivity	--	N/A	-120 dBm	-124 dBm	-124 dBm	>6 dB SINAD, <12 dB SINAD	>6 dB SINAD, <12 dB SINAD
Adjacent-channel selectivity	--	N/A	≥50 dB @ 12.5 kHz; ≥55 dB @ 25 kHz	≥50 dB @ 12.5 kHz; ≥55 dB @ 25 kHz	≥50 dB @ 12.5 kHz; ≥55 dB @ 25 kHz	80 (70) dB	80 (70) dB
Current drain (RX)	180 mA	50 mA	400 mA	420 mA	420 mA	≤250 mA	150/160 mA
Spurious rejection	--	N/A	50 dB	-60 dB	-60 dB	≥80 dB	≥80 dB
Audio output power	500 mW	N/A	≥ 1 W	≥450 mW	≥450 mW	3 W	500 mW
Audio distortion	--	N/A	≤5%	≤5%	≤5%	<3%	≤2%
Frequency stability	--	N/A	±1.5 ppm	±2.5 ppm	±2.5 ppm	0.5 ppm	1.5 ppm
Transmitter specs:							
RF output power	500 mW	13.5 dBm	5/1 W	2/1 W	2/1 W	1-6 W	P15S: 6/5/1 W; P400S: 5/4/1 W
Spurious and harmonics	--	N/A	≤-58 dB	≤-58 dB	≤-58 dB	≥75 dB	≥75 dB
Frequency spread	1 MHz	915 MHz FHSS	136-174, 400-470 MHz	136-174, 400-470 MHz	136-174, 400-470 MHz	38/90/80/107 MHz	38/90 MHz
Current drain (TX)	180 mA	80 mA	1.5 A (analog); 1 A (digital)	900 mA	900 mA	1.6/1.1 A	1.5 A
FM hum and noise	--	N/A	≤40 dB	40 dB	40 dB	50 (44) dB	50 (44) dB
Audio response	--	N/A	±9.5 dB	±3 dB	±3 dB	+1, -3 dB	+1, -3 dB
Audio distortion	--	N/A	≤10%	≤5%	≤5%	≤3%	≤3%
Features:							
Talkaround	--	--	Std.	Std.	Std.	Std.	Std.
Allows encryption/type	Std., IP	Std., AES	Std., call digital encryption	Std., call digital encryption	Std., call digital encryption	Std. Opt., AES/DES-OFB	Std. Opt., AES/DES-OFB
Remote speaker/mic jack	No	Std.	Std.	Std.	Std.	Std.	Std.
Auto noise squelch	No	N/A	N/A	N/A	N/A	N/A	N/A
Accepts NiMH battery	Std.	Li-poly	N/A	N/A	N/A	N/A	Std.
Busy-channel indicator	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Lockout	No	Std.	Std.	Std.	Std.	Std.	Std.
Accepts CTCSS/DCS	No	N/A	Std.	Std.	Std.	Std.	Std.
Time-out timer	No	Std.	Std.	Std.	Std.	Std.	Std.
Channel scanning	Std.	N/A	Std.	Std.	Std.	Std.	Std.
Two-tone seq. decoder	No	N/A	N/A	N/A	N/A	Std.	Std.
PC programmable	No	Std.	Std.	Std.	Std.	Std.	Std.
Programmable ANI	No	Std.	N/A	N/A	N/A	Std.	Std.
Intrinsically safe	Std.	N/A	N/A	N/A	N/A	Opt.	Opt.
Cloning capability	No	N/A	N/A	N/A	N/A	Std.	Std.
P25 CAP SDoCS	No	N/A	N/A	N/A	N/A	Std.	Std.
Warranty	1 year	1 year	1 year	1 year	1 year	2 years	2 years

MANUFACTURER→	Reim Wireless	Rexon Technology	Rexon Technology	Royal Communications International	Simoco	Simoco	Simoco
PRODUCT NAME→	KNGP150/400/500/800	RL-D800K	RL-D800	Pathfinder	SDP760	SDP660	SRP9180
JSPECS							
Suggested list price	--	--	--	--	--	--	--
For what protocols	P25	DMR	DMR	HF-SSB ALE backpack configuration	DMR conv./trunked, MPT1327, analog, conv.	DMR conv./trunked, MPT1327, analog, conv.	P25 conventional/trunked, MPT 1327, analog
Frequency type	Single	Single	Single	Single	Single	Single	Single
Frequency ranges	VHF: 136-174 MHz; UHF: 380-470, 440-520, 763-870 MHz	66-88, 136-174, 405-480, 450-512 MHz	66-88, 136-174, 405-480, 450-512 MHz	1.6-30 MHz	136-174, 400-470, 450-520 MHz	136-174, 400-480, 440-520 MHz	136-174, 400-480, 440-520 MHz
Conventional/trunked Analog/digital	Both Both	DMR Both	DMR Both	Conventional Both	Both Both	Both Both	Both Both
Dimensions (HWD)	14 x 6.4 x 4.6 cm	11.3 x 5.4 x 3.35 cm	11.3 x 5.4 x 3.35 cm	22.1 x 22.1 x 11 cm	12.4 x 5.3 x 3.6 cm	13.7 x 6.4 x 3.6 cm	14.5 x 6.1 x 3.6 cm
Weight	454 g	270 g	260 g	225 g	320 g	337 g	377 g
Housing material	Lexan	ABS, polycarbonate	ABS, polycarbonate	Backpack	--	--	High-impact plastic
Channel capacity	5,000	1,000	64	200 (std.)/1,000 ALE	1,024	2,000	1,500
Channel spacing	6.25/12.5/25 kHz	12.5/25 kHz	12.5/25 kHz	10 Hz	12.5/20/25 kHz	12.5 kHz, 25 kHz	2.5/5/6.25/7.5/12.5/25 kHz
Types of scans	Dual, priority, vote, group (zone)	All, priority	All, priority	5 groups, 100 ch./group, 1-5 sec./ch., more	Normal, priority, TX voting	Normal, priority, TX voting	Normal, priority, dual watch
Types of displays	Multiline LCD	Matrix	N/A	LCD	TFT LCD	TFT LCD	LCD graphic dot matrix
Current drain (standby)	117/128/128/154 mA	115 mA	110 mA	0.9 A	--	--	See batt. life in hrs.; Li-ion battery pack
Power requirements	10.8 VDC Li-ion battery	7.4 VDC	7.4 VDC	13.8 VDC	7.2 VDC (Li-ion)	7.2 VDC (Li-ion)	7.2 VDC (Li-ion)
Battery life/duty	12 hrs.	12 hrs.	12 hrs.	--	≤15 hrs.	≤12 hrs.	9-13 hrs.
DTMF keypad	DTMF	Keypad	No keypad	Enhanced keypad	DTMF	DTMF	Full keypad (prog.)
If radio is trunked: # of groups/systems	5,000 channels/64 systems	N/A	N/A	--	1,024/1	--	128 scan groups/5 systems
Unique ID code	Yes	Yes	Yes	N/A	Yes	Yes	Yes
Auto check-in roam	Yes	No	No	N/A	Yes	Yes	Yes
Selective calling	Yes	Yes	Yes	ALE	Yes	Yes	Yes
Over-the-air programming	Yes	No	No	No	Opt.	N/A	N/A
Receiver specs:							
Sensitivity	P150: -121 dBm; P400/500/800: -119 dBm	0.22 µV	0.22 µV	0.5 µV @ 10 dB SINAD (0.35 µV typ.)	-120 dBm (12 dB SINAD)	-117.5 dBm (12 dB SINAD)	<0.3/0.5 µV @ 12/20 dB SINAD
Squelch sensitivity	>6 dB SINAD, <12 dB SINAD	-123 dBm	-123 dBm	Constant SINAD (dig.)	Programmable	Programmable	6-25 dB SINAD (programmable)
Adjacent-channel selectivity	P150: >80 (>70) dB; P400: >77 (>66) dB; P500: >76 (>66) dB; P800: >74 dB (>66) dB	-65 dBc	-65 dBc	-60 dB @ -1 kHz; +4 kHz	75 dB @ 25 kHz, 70 dB @ 20 kHz, 60 dB @ 12.5 kHz	60 dB @ 12.5 kHz	>65/73 dB @ 12.5/25 kHz
Current drain (RX)	≤250 mA	150 mA	145 mA	0.9 A	--	--	<120 mA
Spurious rejection	≥80 dB	-57 dBm	-57 dBm	-80 dB	75 dB	70 dB	>70 dB
Audio output power	500 mW	1 W	1 W	5 W	1 W	500 mW	500 mW
Audio distortion	≤2%	3%	3%	2.5% distortion	3%	<3%	<5%
Frequency stability	0.5 ppm	±1 ppm	±1 ppm	0.6 ppm	±0.5 ppm	±2 ppm	±1.5 ppm
Transmitter specs:							
RF output power	P150: 6/5/1 W; P400/ P500: 5/4/1 W; P800: 3/1 W	VHF: 5W; UHF: 4W	VHF: 5 W; UHF: 4 W	5/10/15/25 PEP and AVG	VHF: 1, 5 W; UHF: 1, 4 W	5 W (programmable)	1-5 W (3 levels programmable)
Spurious and harmonics	≥75 dB	-36 dBm	-36 dBm	-64 dB/PEP (-70 typ.)	-36 dBm	-36 dBm	-36 dBm
Frequency spread	38/90/80/107 MHz	22/38/62/75 MHz	22/38/62/75 MHz	1.6-30 MHz	Full band	Full band	Full band
Current drain (TX)	1.6/1.1 A	1.6 A	1.59 A	11 A (max.)	--	--	<2.5 A
FM hum and noise	50 (44) dB	40 dB	40 dB	-50 dB	45 dB @ 25 kHz, 43 dB @ 20 kHz, 40 dB @ 12.5 kHz	40 dB	40 dB
Audio response	+1, -3 dB	+1, -3 dB	+1, -3 dB	350 Hz to 2.7 kHz @ -6 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
Audio distortion	≤3%	3%	3%	2.5%	3%	3%	<3%
Features:							
Talkaround	Std.	Opt.	Opt.	N/A	Std.	Std.	Std.
Allows encryption/type	Opt., AES/DES-OFB	Std., privacy voice	Std., privacy voice	Std., AES	Opt.	Opt., scrambling	Std., DES-OFB, AES
Remote speaker/mic jack	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Auto noise squelch	N/A	Std.	Std.	Std.	Std.	Std.	Std.
Accepts NiMH battery	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Busy-channel indicator	Std.	Std.	N/A	N/A	Std.	Std.	Std.
Lockout	Std.	Std.	N/A	Std.	Std.	Std.	Std.
Accepts CTCSS/DCS	Std.	Std.	Std.	Opt.	Std.	Std.	Std.
Time-out timer	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Channel scanning	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Two-tone seq. decoder	Std.	Std.	Std.	Constant SINAD (digital)	N/A	N/A	Std., 20 tones
PC programmable	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Programmable ANI	Std.	Std.	Std.	N/A	Std.	Std.	Std.
Intrinsically safe	Opt.	N/A	N/A	N/A	N/A	N/A	N/A
Cloning capability	Std.	N/A	N/A	N/A	N/A	N/A	N/A
P25 CAP SDoCS	Std.	N/A	N/A	N/A	N/A	N/A	Std.
Warranty	2 years	--	--	1 yr. (std.); 5 yrs. (opt.)	2 years	2 years	2 years

PORTABLE RADIOS

MANUFACTURER →	Tait Communications	Tait Communications	TecNet International	TecNet International	TecNet International	Unimo Technology	Unimo Technology
PRODUCT NAME →	TP9400	TP9300	TDP-1124/1424	TP-5000	TP-8000	PT-1500GD	dPH-100/400
↓ SPECS							
Suggested list price	--	--	\$665	\$217	\$258	--	--
For what protocols	AS-IP, P25 Phases 1, 2	DMR Tiers 2, 3; MPT 1327; MDC-1200	DMR, MDC-1200	Conventional	Conventional	TETRA	dPMR
Frequency type	Simplex, half duplex	Single	Single	VHF/UHF	VHF/UHF	Single	Single
Frequency ranges	136-174, 400-470, 450-520, 762-776, 792-825, 851-870 MHz	136-174 MHz	136-174, 400-470 MHz	136-174, 400-470 MHz	136-174, 400-470 MHz	380-400, 806-870 MHz	136-174, 400-470 MHz
Conventional/trunked	Both	Both	Conventional	Conventional	Conventional	Trunked	Conventional
Analog/digital	Both	Both	Both	Analog	Analog	Digital	Both
Dimensions (HWD)	4.1 x 6.5 x 13.6 cm	4.1 x 6.5 x 13.6 cm	13.2 x 5.6 x 3.8 cm	11.2 x 5.1 x 3.2 cm	11.2 x 5.1 x 3.2 cm	5.3 x 3.3 x 10.2 cm	5.3 x 3.3 x 10.2 cm
Weight	325 g	325 g	333 g	283 g	258 g	244 g	244 g
Housing material	Polycarbonate case, aluminum frame	Polycarbonate case, aluminum frame	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Channel capacity	2,000	2,000	1,024	16	512	--	1,024
Channel spacing	12.5/15/20/25/30 kHz	12.5/15/20/25/30 kHz (6.25 equivalent on 12.5 kHz)	12.5/20/25 kHz (6.25 equivalent)	12.5 kHz	12.5 kHz	25 kHz	6.25, 12.5 kHz
Types of scans	Channel, dual priority, in zone, talk group, background	Channel, dual priority, talk group, in zone, background	Priority, normal, dual	Multiple	Multiple	--	Normal, priority
Types of displays	4-line graphical backlit LCD	4-line graphical backlit LCD	High-resolution color LCD	N/A	Alphanumeric	Alphanumeric LCD	Alphanumeric LCD
Current drain (standby)	98 mA	98 mA	120 mA	60 mA	65 mA	--	110 mA
Power requirements	7.5 V (nom.)	7.5 V (nom.)	7.4 V	7.5 V	7.5 V	7.5 V	7.5 V
Battery life/duty	Li-ion: >12 hrs.	Li-ion: >12 hrs.	14 hrs.	15 hrs.	15 hrs.	17 hrs. (90/5/5)	11 hrs. (90/5/5)
DTMF keypad	Limited/full keypad	Limited/full keypad	12-key DTMF	Yes	Yes	--	Limited keypad
If radio is trunked:							
# of groups/systems	Multiple talk group lists w/ 1,000-2,000 members each	1,500	N/A	N/A	N/A	--	--
Unique ID code	Yes	Yes	N/A	N/A	N/A	--	Yes
Auto check-in roam	Yes	Yes	N/A	N/A	N/A	--	--
Selective calling	No	Yes	N/A	N/A	N/A	--	Yes
Over-the-air programming	Yes	No	N/A	N/A	N/A	--	--
Receiver specs:							
Sensitivity	0.22 µV	0.22 µV	0.22 µV	0.282 µV @ 12 dB SINAD	0.28 µV @ 12 dB SINAD	112 µV	0.25 µV
Squelch sensitivity	8-16 dB	8-16 dB	-120 dB	0.25 µV @ 10 dB SINAD	0.25 µV @ 10 dB SINAD	--	--
Adjacent-channel selectivity	-60 dB @ 12.5 kHz; -73 dB @ 25/30 kHz	-60 dB @ 12.5 kHz; -73 dB @ 25/30 kHz	60 dB @ 12.5 kHz; 70 dB @ 25 kHz	60 dB	60 dB	--	60 dB
Current drain (RX)	226 mA	226 mA	400 mA	350 mA	350 mA	--	--
Spurious rejection	75 dB VHF (digital)	75/70 dB VHF/700-800 MHz (both digital)	≥75 dB	70 dB	70 dB	--	70 dB
Audio output power	Rated 500 mW, speakers: 2 W (max.)	Rated 500 mW, speakers: 2 W (max.)	1.5 W	1 W	1 W	--	1 W @ 16 Ω
Audio distortion	1.5%	2.5%	<3%	<5%	<5%	--	5%
Frequency stability	±0.5 ppm	±0.5 ppm	±1 ppm	2.5 ppm	2.5 ppm	--	--
Transmitter specs:							
RF output power	VHF: 5 W; UHF: 4 W; 700/800 MHz: 3 W	VHF: 5 W	VHF: 5 W, UHF: 4 W	5/4 W (VHF/UHF)	5/4 W (VHF/UHF)	1/1.8 W	VHF: 2/5 W; UHF: 2/4 W
Spurious and harmonics	75 dB	75 dB	<1 GHz -36 dBm, >1 GHz -30 dBm	-65 dB	-65 dB	--	60 dB
Frequency spread	148-178 MHz	TX: 762-870; RX: 794-824 MHz	VHF: 38 MHz, UHF: 70 MHz	VHF: 38 MHz, UHF: 70 MHz	VHF: 38 MHz, UHF: 70 MHz	--	VHF: 38 MHz, UHF: 70 MHz
Current drain (TX)	1.7 A	1.7 A	≤1.6 A	1.5 A	1.5 A	--	1.5 A
FM hum and noise	45 dB	45 dB	40 dB @ 12.5 kHz, 45 dB @ 25 kHz	40 dB	40 dB	--	40 dB
Audio response	+1, -3 dB	+1, -3 dB	±3 dB	+1, -3 dB	+1, -3 dB	--	--
Audio distortion	1.5%	2.5%	<3%	5% (max.)	5% (max.)	--	5%
Features:							
Talkaround	Std.	Std.	Std.	Std.	Std.	--	Std.
Allows encryption/type	Std., AES, DES	--	Std.	Std., inversion	Std., inversion	TEA 1&3	Frequency inversion
Remote speaker/mic jack	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Auto noise squelch	Std.	Std.	Std.	Std.	Std.	N/A	N/A
Accepts NiMH battery	N/A	N/A	N/A	N/A (Li-ion)	N/A (Li-ion)	N/A	N/A
Busy-channel indicator	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Lockout	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Accepts CTCSS/DCS	Std.	Std.	Std.	Std.	Std.	N/A	Std.
Time-out timer	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Channel scanning	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Two-tone seq. decoder	Std.	Std.	Std.	Std.	Std.	N/A	N/A
PC programmable	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Programmable ANI	Std.	Std.	Std.	Std.	Std.	--	Std.
Intrinsically safe	Opt.	Opt.	N/A	N/A	N/A	N/A	N/A
Cloning capability	N/A	N/A	N/A	Std.	Std.	N/A	Std.
P25 CAP SDoCS	Std.	N/A	N/A	N/A	N/A	N/A	N/A
Warranty	2 years	2 years	3 years	3 years	3 years	1 year	1 year

MANUFACTURER→	Vertex Standard	Vertex Standard	Vertex Standard
PRODUCT NAME→	eVerge EVX-539	VX-P829	VX-264
SPECS			
Suggested list price	\$540	\$2,150	\$290
For what protocols	DMR digital/analog	P25	N/A
Frequency type	Single	Single	Single
Frequency ranges	134-174, 403-470, 450-512 MHz	134-174, 400-470, 450-512 MHz	136-174, 403-470, 450-512 MHz
Conventional/trunked Analog/digital	Conventional Both	Conventional Both	Conventional Analog
Dimensions (HWD)	10.4 x 5.8 x 3.4 cm	9.7 x 5.8 x 3.8 cm	10.9 x 5.8 x 3.3 cm
Weight	313 g	309 g	281 g
Housing material	--	--	--
Channel capacity	512	512	128
Channel spacing	12.5/20/25 kHz	12.5/20/25 kHz	12.5/20/25 kHz
Types of scans	Priority, dual watch, follow me, mixed mode	Priority, dual watch, follow me, dual watch, talkaround	Priority, dual, follow me, group, talkaround
Types of displays	Full dot matrix multilingual w/ ≤40 characters	12-character alphanumeric	8-character alphanumeric
Current drain (standby)	Digital: 85 mA; analog: 70 mA (w/ saver)	50 mA (w/ saver)	70 mA (w/ saver)
Power requirements	7.5 V (nom.)	7.4 VDC ±20%	5/1 W
Battery life/duty	7-15 hrs.	19-21 hrs.	7-15 hrs.
DTMF keypad	DTMF	DTMF	DTMF
If radio is trunked:			
# of groups/systems	N/A	N/A	--
Unique ID code	N/A	N/A	--
Auto check-in roam	N/A	N/A	--
Selective calling	Yes	N/A	--
Over-the-air programming	N/A	N/A	--
Receiver specs:			
Sensitivity	0.25 µV	0.25/0.32 µV	0.25 µV (typ.)
Squelch sensitivity	--	-119/-117 dBm	--
Adjacent-channel selectivity	TIA603: 70/60 dB; TIA603C: 70/45 dB	75/70 dB	60/65 dB (12.5/25 kHz)
Current drain (RX)	Digital: 320 mA; analog: 300 mA	250 mA	--
Spurious rejection	70 dB	75 dB	70 dB
Audio output power	500 mW @ 4 Ω	700 mW @ 16 Ω	700 mW @ 16 Ω (int.); 500 mW @ 4 Ω (ext.)
Audio distortion	<5% (3% typ.)	<3% @ 1 kHz	<5%
Frequency stability	±1.5 ppm	±2.5 ppm	±2.5 ppm
Transmitter specs:			
RF output power	5/2.5/1/0.25 W	5/2.5/1/0.25 W	5/1 W
Spurious and harmonics	70 dB below carrier	70 dB	70 dBc
Frequency spread	136-174, 403-470, 450-512 MHz	134-174, 400-470, 450-512 MHz	136-174, 403-470, 450-512 MHz
Current drain (TX)	Digital: 640 mA; analog: 1.5 A	1.7/1.9 A	--
FM hum and noise	40 dB	46/40 dB	40 dB
Audio response	0 dB @ 1 kHz	+1, -3 dB	--
Audio distortion	<5% (3% typ.)	<3% @ 1 kHz	<5%
Features:			
Talkaround	Std.	Std.	N/A
Allows encryption/type	Std., digital enhanced privacy	AES/DES (opt.)	Voice inversion
Remote speaker/mic jack	Std.	Std.	Std.
Auto noise squelch	Std.	Std.	Std.
Accepts NiMH battery	N/A	N/A	N/A
Busy-channel indicator	Std.	Std.	Std.
Lockout	Std.	Std.	Std.
Accepts CTCSS/DCS	Std.	Std.	Std.
Time-out timer	Std.	Std.	Std.
Channel scanning	Std.	Std.	Std.
Two-tone seq. decoder	Std.	Std.	Std.
PC programmable	Std.	Std.	Std.
Programmable ANI	Std.	Std.	Std.
Intrinsically safe	Opt.	Opt.	N/A
Cloning capability	Std.	Std.	Std.
P25 CAP SDOCS	N/A	N/A	N/A
Warranty	3 years	3 years	3 years

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