

KENWOOD

UHF/VHF Trunked Repeater Systems

TKR-7400/8400



The TKR-7400/8400 is a full featured, high specification repeater station. It is specifically designed for the demanding requirements of public safety, utility or heavy industrial applications where large fleets are supported and continuous duty operation is needed. Like all quality Kenwood Base Stations, Repeaters, and Systems, the TKR-7400/8400 carries a two year parts and labor warranty.

- **Kenwood reliable, high performance repeaters, 100% continuous duty cycle**
- **PC programming and tuning**
- **Programmable wide/narrow operation**
- **Continuous-duty RF amplifier (forced-air cooled)**
- **High-Efficiency Power Supply**
- **Available in several mounting configurations**



Specifications

	TKR-7400	TKR-8400
GENERAL		
Frequency Range	RX: Type 1 146 – 162 MHz Type 2 158 – 174 MHz Type 3 136 – 150 MHz TX: Type 1 136 – 174 MHz Type 2 136 – 174 MHz Type 3 136 ≈ 174 MHz	RX: Type 1 450 – 480 MHz Type 2 480 – 512 MHz Type 3 400 – 430 MHz TX: Type 1 450 – 480 MHz Type 1 480 – 512 MHz Type 1 400 ≈ 430 MHz
Number of channels	32	
Channel Spacing	30, 25 kHz (wide) 15, 12.5 kHz (narrow) (PLL channel stepping 2.5, 5, 6.25 kHz)	25 kHz (wide) 12.5 kHz (narrow) (PLL channel stepping 5, 6.25 kHz)
Operating Voltage	13.8 V DC ±15%	
Current Drain	Less than 1.0 A	
Standby	Less than 1.5 A	
Receive	Less than 3.5 A	
Transmit/Receive		
Duty Cycle	Receive: 100%, Transmit: 100%	
Frequency Stability	±0.00015% (-22°F – +140°F)	
Operating Temperature Range	-22°F – +140°F (-30°C – +60°C)	
Dimensions (W x H x D)	19 x 1-3/4 x 12 in. (483 x 44 x 305 mm)	
Weight (net)	8.8 lbs. (4kg)	
FCC ID	Type 1: ALH30633110 Type 2: ALH30633120 Type 3: ALH30633130	Type 1: ALH30643110 Type 2: ALH30643120 Type 3: ALH30643130
FCC Compliance	Type 1: 22, 74, 90 Type 2: 90 Type 3: 90	Type 1: 22, 74, 90, 95 Type 2: 90 Type 3: 90
Canada IC (RSS119)	Type 1: 282195598A Type 2: 282195598A Type 3: 282195598A	Type 2: 282195600A Type 2: None Type 3: 282195600A
RECEIVER (Measurements made per EIA-7/TIA-204-D)		
Antenna Impedance	50Ω	
Sensitivity	0.3μV	
12 dB SINAD	0.4μV	
20 dB quieting		
Selectivity	95 dB at ±30 kHz (wide) 89 dB at ±15 kHz (narrow) 87 dB at ±12.5 kHz (narrow)	90 dB at ±25 kHz (wide) 82 dB at ±15 kHz (narrow)
Intermodulation	90 dB at ±30, 60 kHz (wide) 85 dB at ±15, 30 kHz (narrow)	85 dB at ±25, 50 kHz (wide) 80 dB at ±12.5, 25 kHz (narrow)
FM Hum & Noise	60 dB (wide) 55 dB (narrow)	
Audio Output (Ext. Speaker)	4 W (at 4 Ω, less than 5 % distortion)	
Spurious & Image Rejection	100 dB	
Audio Distortion (Ext. Speaker)	Less than 2% at 1000 Hz	
Band Spread	Type 1: 3 MHz Type 2: 3 MHz Type 3: 3 MHz	Type 1: 5 MHz Type 2: 5 MHz Type 3: 5 MHz
TRANSMITTER (Measurements made per EIA-152-C)		
RF Power Output	5 W adjustable to 0.1 watts	
Antenna Impedance	50 Ω	
Type of Emission	16KØF3E (wide) 11KØF3E (narrow)	
Spurious & Response	70 dB	70 dB (60 dB at 100 mW)
FM Hum & Noise	55 dB (wide) 50 dB (narrow)	
Microphone Impedance	600 Ω	
Audio Distortion	Less than 0.5% at 1000 Hz	Less than 1% at 1000 Hz
Band Spread	Type 1: 38 MHz Type 2: 38 MHz Type 3: 38 MHz	Type 1: 30 MHz Type 2: 32 MHz Type 3: 30 MHz

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REPEATER CONTROL (Measurements made per TIA/EIA-603)		
Signaling (simultaneously)		
Maximum number of tones	16	
QT decoder/encoder		
Tone frequency	67.0 – 210.7Hz (0.1 Hz step)	
Response time	250 ms or less	
Squelch tail elimination time	140 to 200 ms	
Encoder frequency error	± 0.3% or less	
Sensitivity	SINAD 8 dB or less	
DQT decoder/encoder		
DQT code	23 bits total: a 3-digit octal number (0 – 7, 12 bits) with error correction (11 bits)	
Decoder response time	250 ms or less	
Turn-off code		
Transmission time	140 to 200 ms	
Sensitivity	SINAD 8 dB or less	
Time-out timer	Off – 30 min.	
Repeater hold time	Off – 10 sec.	
EXTERNAL CONTROL		
CW ID		
Maximum modulation	Maximum deviation of 40% ±10%	
CW tone frequency	400 Hz to 2000 Hz, (default 800 Hz)	
Morse code speed	5 to 30 word per minute, (default 20 WPM)	
Maximum character memory	Up to 20 characters	
CW Message		
Maximum character	Up to 20 characters per bank	
Number of bank	8 banks	
Test tone		
Maximum modulation	Maximum deviation of 60%	
Test tone frequency	300 Hz to 3000 Hz (default 1000 Hz)	
Voting pilot tone		
Tone frequency	1950 Hz, 2175 Hz, 2700 Hz, (default 1950 Hz)	
Output level (RA terminal)	400 mVrms at 1950 Hz	

Kenwood follows a policy of continuous advancement in development. For this reason specifications may be changed without notice.