

# KENWOOD

Listen to the Future

## TK-7180(H)/8180(H)

VHF/UHF FM Mobile Radios

FleetSync<sup>®</sup>  
by KENWOOD

### GENERAL FEATURES

- 30/50 W (136-174 MHz)
- 30/45 W (450-520, 400-470 MHz)
- Conventional & LTR<sup>®</sup> Zones
- MPT1327 Trunking Option
- Remote Control Head Option<sup>1</sup>
- 12 Character Alphanumeric Aliases
- Backlit Dot Matrix LCD
- 3-Digit Sub-Display
- Function / Status LCD Icons
- RSSI Indicator
- Date & 12/24 Hour Time Clock
- Transmit / Busy / Call Alert / Warn LED
- 6 Backlit PF Keys
- Emergency / AUX Key
- Enhanced Kenwood Audio
- Front Panel Speaker
- Companded Audio
- Voice Inversion Scrambler Built-in
- Easy Option Port
- Encryption / ANI Board Control
- VGS-1 Voice Guide / Storage Option
- Emergency Call Features
- DTMF Encode / Decode<sup>2</sup>
- Special Alert Tone Patterns<sup>3</sup>
- Call Key<sup>4</sup>
- Time Out Timer
- Busy Channel Lockout
- Timed Power Off

- DB-25 Accessory Connector<sup>5</sup>
- 9 Programmable AUX I/Os<sup>5</sup>
- 2 Programmable AUX Outputs<sup>5</sup>
- Ignition Sense<sup>6</sup>
- Public Address / Horn Alert Option<sup>7</sup>
- MIL-Spec Standard Mic
- MIL-Spec 12-Key DTMF Mic Option
- Windows<sup>®</sup> Programming & Tuning<sup>8</sup>
- Windows<sup>®</sup> Firmware Uploading<sup>8</sup>
- Front Panel Test / Tune
- Cloning
- MIL-STD-810 C/D/E/F
- MIL-STD "Driven-Rain"<sup>9</sup>
- IP-54/55 Water & Dust Intrusion<sup>9</sup>

### CONVENTIONAL ZONES

- 512 Channels / 128 Zones<sup>10</sup>
- QT / DQT
- Two-Tone Decode<sup>11</sup>
- Single / Two-Tone Encode<sup>11</sup>
- Operator Selectable Tone<sup>11</sup>
- Dual Priority Scan
- Single & Multi-Zone Scan
- List Scan

### TRUNKED ZONES

- 512 GID / 128 Zones<sup>10</sup>
- Kenwood LTR<sup>®</sup> Features<sup>12</sup>

### FleetSync<sup>®</sup>

- FleetSync<sup>®</sup> or FleetSync<sup>®</sup> II<sup>13</sup>
- PTT ID Digital ANI
- Selective Call & Group Call
- Status Messaging
- Emergency Status
- Caller ID Display
- Short & Long Text Messages<sup>14</sup>
- Power On/Off Status Messages
- Input / Output Status Messages
- FleetSync<sup>®</sup> GPS Ready<sup>15</sup>
- Send GPS PF Key<sup>15</sup>
- PTT ID & Emergency GPS Reporting<sup>15</sup>
- Status Message Block GPS Reporting<sup>15</sup>
- Ignition On/Off GPS Reporting<sup>6, 15</sup>
- VGS-1 GPS Data Storage<sup>15, 16</sup>
- PC Serial Interface

### MDC-1200<sup>17</sup>

- PTT ID Digital ANI
- Caller ID Display
- Emergency Status
- Radio Check
- Radio Inhibit



# Options

<ul style="list-style-type: none"> <li><b>KMC-35</b> Microphone (supplied microphone)</li> <li><b>KMC-36</b> Keypad Microphone</li> <li><b>KMC-9C</b> Control Station Desktop Microphone</li> <li><b>KRK-10</b> Control Head Remote Kit (23ft/7m)</li> <li><b>KCT-46</b> Ignition Sense Cable</li> </ul>	<ul style="list-style-type: none"> <li><b>KCT-40</b> Radio Interface Cable (for KDS-100, KGP-2A/2B)</li> <li><b>KCT-23M</b> DC Cable (Dash mount / 10 feet)</li> <li><b>KCT-23M3</b> DC Cable (Remote mount / 23 feet)</li> <li><b>KAP-2</b> Horn Alert/Public Address Relay Unit</li> <li><b>VGS-1</b> Voice Guide &amp; Storage Unit</li> </ul>	<ul style="list-style-type: none"> <li><b>KES-3</b> External Speaker</li> <li><b>KES-5</b> External Speaker (requires KAP-2)</li> <li><b>KMB-10</b> Key Lock Adapter</li> <li><b>KLF-2</b> Line Noise Filter</li> <li><b>KPS-10A</b> DC Power Supply</li> </ul>	<ul style="list-style-type: none"> <li><b>KPS-15</b> DC Power Supply</li> <li><b>KDS-100</b> Mobile Data Terminal</li> <li><b>KGP-2A/2B</b> GPS Receiver / Modem Unit (requires KCT-39 option)</li> </ul>
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All accessories and options may not be available in all markets.  
Contact an authorized Kenwood dealer for details and complete list of all accessories and options.

# Specifications

Model	TK-7180	TK-7180H	TK-8180	TK-8180H
<b>GENERAL</b>				
Frequency Range				
Type 1	136-174 MHz		450-520 MHz	450-512 MHz
Type 2	-		400-470 MHz	
Number of Channels*				
Zone		Max.128 per Radio		
Ch/GID		Max.250 per Zones		
		(Max.512 [Conv.Ch's +GID's] total per Radio)		
Channel Spacing				
Wide	25 kHz, 30 kHz		25 kHz	
Narrow	12.5 kHz, 15 kHz		12.5 kHz	
Operating Voltage		13.6 V DC±15 %		
Current Drain				
Standby	0.4 A	0.4 A	0.4 A	0.4 A
Receive	1.0 A	1.0 A	1.0 A	1.0 A
Transmit	9.0 A	13.0 A	9.0 A	13.0 A
Duty Cycle		Transmit: 20 %		
Operating Temperature Range		-22 °F ~ +140 °F (-30 °C ~ +60 °C)		
Frequency Stability		±0.00025 % (-22 °F ~ +140 °F)		
Antenna Impedance		50 Ω		
Channel Frequency Spread				
Type 1	38 MHz		70 MHz	
Type 2	-		70 MHz	
Dimensions (W x H x D), Projections not included		6-5/16" x 1-3/4" x 6-3/16" (160 mm x 45 mm x 157 mm)		
Weight (net)		3.3 lbs. (1.5 kg)		
FCC ID				
Type 1	K4437303110	K4437303210	K4437313110	K4437313210
Type 2	-	-	K4437313120	K4437313220
IC Certification				
Type 1	282F-37303110	-	-	-
Type 2	-	-	282F-37313120	-

\*Maximum capability depends on the number of programmed Zone and repeater channels.

# Applicable MIL-STD & IP

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures	MIL 810F Methods/Procedures
<b>Low Pressure</b>	500.1/Procedure I	500.2/Procedure I, II	500.3/Procedure I, II	500.4/Procedure I, II
<b>High Temperature</b>	501.1/Procedure I, II	501.2/Procedure I, II	501.3/Procedure I, II	501.4/Procedure I, II
<b>Low Temperature</b>	502.1/Procedure I	502.2/Procedure I, II	502.3/Procedure I, II	502.4/Procedure I, II
<b>Temperature Shock</b>	503.1/Procedure I	503.2/Procedure I	503.3/Procedure I	503.4/Procedure I, II
<b>Solar Radiation</b>	505.1/Procedure I	505.2/Procedure I	505.3/Procedure I	505.4/Procedure I
<b>Rain</b>	506.1/Procedure I, II	506.2/Procedure I, II	506.3/Procedure I, II	506.4/Procedure I, III
<b>Humidity</b>	507.1/Procedure I, II	507.2/Procedure II, III	507.3/Procedure II, III	507.4
<b>Salt Fog</b>	509.1/Procedure I	509.2/Procedure I	509.3/Procedure I	509.4
<b>Dust</b>	510.1/Procedure I	510.2/Procedure I	510.3/Procedure I	510.4/Procedure I, III
<b>Vibration</b>	514.2/Procedure VIII, X	514.3/Procedure I	514.4/Procedure I	514.5/Procedure I
<b>Shock</b>	516.2/Procedure I, II, III, V	516.3/Procedure I, IV, V	516.4/Procedure I, IV, V	516.5/Procedure I, IV, V
<b>International Protection Standard</b>				
<b>Dust &amp; Water Protection</b>	P54: Radio itself P54/55: Remote Head with KRK-10			

\*To meet above Mil810 and IP grade, weather proof microphone KMC-35 or KMC-36 has to be connected.

Model	TK-7180	TK-7180H	TK-8180	TK-8180H
<b>RECEIVER (Measurements made per EIA/TIA-603)</b>				
Sensitivity (12dB SINAD)				
Wide		0.25 μV		
Narrow		0.28 μV		
Selectivity**				
Wide	80 dB		80 dB	
Narrow	70 dB		67 dB	
Intermodulation Distortion				
Wide/Narrow		75 dB (±50, 100 kHz)		
Spurious Response**	90 dB		85 dB	
Audio Output (4 Ω Impedance)	4 W with less than 5 % distortion			
<b>TRANSMITTER (Measurements made per EIA/TIA-603)</b>				
RF Output Power				
Type 1	30 to 1 W	50 to 10 W	30 to 1 W	45 to 10 W
Type 2	-	-	(490-520 MHz±25 to 1 W) (490-512 MHz±40 to 10 W)	(490-512 MHz±40 to 10 W) (490-512 MHz±40 to 10 W)
Spurious Response		70 dB		
Type of Emission				
Wide			16K0F3E	
Narrow			11K0F3E	
FM Hum & Noise				
Wide			50 dB	
Narrow			45 dB	
Microphone Impedance	600 Ω			
Audio Distortion				
Wide/Narrow	3 %			

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

FleetSync® is a registered trademark of Kenwood Corporation.  
LTR® is a registered trademark of Transcript International.

footnotes from front:

- 1 KRK-10 remote control kit required.
- 2 DTMF includes PTT ID, Emergency ANI, Manual Encode (KMC-36), Auto-Dial (9 numbers) & Stun.
- 3 Special Alert Tone Patterns operate for 2-Tone, DTMF, FleetSync® selective call decode.
- 4 Call Key: 6 keys max.; operates for 2-Tone, DTMF and FleetSync status encode.
- 5 DB-25 ACC supports 15 Remote Zone/CH/GID selections, KGP-2A/B (KCT-40 required), KDS-100 (KCT-40 required), data modem, MDT, interconnect.
- 6 KCT-46 ignition sense cable option required; plugs into mobile ignition sense pig-tail cable.
- 7 KAP-2 required: Horn Alert operates for FleetSync®, 2-Tone or DTMF selective call decode.
- 8 KPG-89D required: Windows®98/ NT/ 2000/ Me/XP compatible; English/Spanish screen languages.
- 9 MIL-STD "Driven-Rain" and IP-55 Water/Dust Intrusion apply to remote control head only; IP54 applies to radio chassis.
- 10 Conventional Zones: 512 Channels / 128 Zones max. per radio; 250 CH max. per Zone Trunked Zones: 512 GID / 128 Zones max. per radio; 250 GID max. per Zone.
- 11 Two-Tone Decode (4 sets x 4 pairs each); Single / Two-Tone Encode (32 tones), Operator Selectable Tone (40 QT.DQT code pairs).
- 12 Kenwood LTR® Features include: GID Delete/Add, LTR® Talk Around /Scan Revert Group Display, System Scan, Group Scan, Auto Search.
- 13 FleetSync® & FleetSync® II are not compatible.
- 14 Short Text Messages are radio stored & LCD displayed; Long Text Messages require a KDS-100 and KCT-40.
- 15 FleetSync® GPS features require an internal GPS board or externally wired GPS receiver with NMEA TTL level serial data output to the internal COM 1 or 2 set to "GPS".
- 16 Requires a VGS-1 option.
- 17 Either MDC-1200 or FleetSync® can be activated per radio.

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