# KENWOOD
## Listen to the Future

# TK-90
## HF TRANSCEIVER

**300**
**Kenwood Corp**
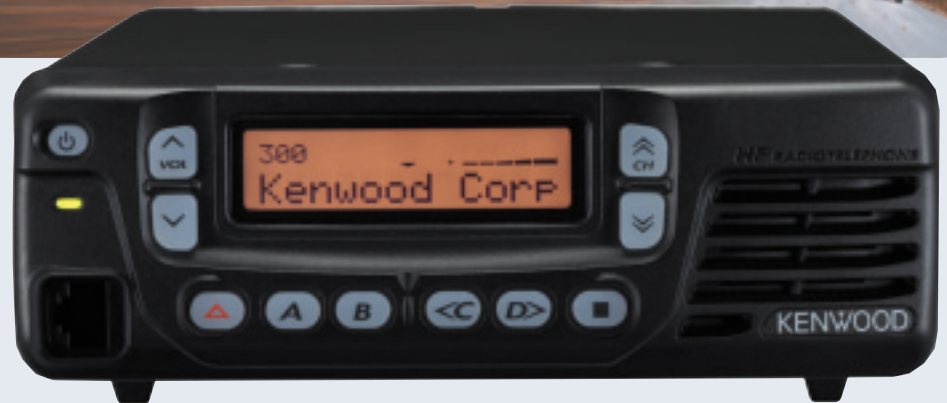
- ▌ **Compact Rugged Design**
- ▌ **300 Memory Channels**
- ▌ **Single Head Remote Option**
- ▌ **6 Programmable Function Keys**
- ▌ **Enhanced Kenwood Audio**
- ▌ **100W Transmit Power***
- ▌ **High-stability TCXO**
- ▌ **Enhanced Security Features**

- ▌ **Selective Call & Status Call**
- ▌ **VGS-1 Voice Guide and Storage Option**
- ▌ **GPS & Voice Scrambler Port**
- ▌ **Data Modem Port**
- ▌ **KPE-2 MIL-STD Automatic Link Establishment Option**
- ▌ **MIL-STD 810 & IP54**

*\* SSB/CW/FSK modes*

# All-Terrain HF – The New Kenwood TK-90 Takes On All Challenges

**Kenwood's TK-90 is a high-performance HF Transceiver designed to provide user-friendly operation wherever and whenever you need reliable communications. The new, highly compact design, advanced features and remote control head option make it ideal for mobile and base station applications.**

## Compact and easy to use

**Extremely small dimensions** mean the TK-90 is transportable and installation-friendly for vehicles and base stations. The low-power settings facilitate battery- and solar-powered usage in the field.

**300 memory channel** capacity provides for custom operation and monitor frequency settings. Each channel has a programmable 12-character alphanumeric name for user-friendly channel selection via the backlit LCD.

**The KRK-5 Remote Control Head option** makes vehicular installation in any type vehicle possible. The control head can be mounted up to 7.6 meters from the transceiver unit mounted securely out of sight and out of the way under a seat, in the trunk or other compartment.

**The wide viewing angle** of the LCD panel makes operation easy from any position.
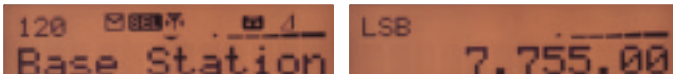
**6 programmable backlit keys** customize the unit to the specific needs and features of the operator day or night.

**Enhanced Kenwood Audio** optimizes voice frequency components for greater audio quality and clarity in even the most challenging ambient noise conditions and HF applications.

## Powerful, tough and reliable

**100W heavy-duty TX\*** provides the punch for long-distance communications. The twin cooling fans and the enhanced heat sink dissipation characteristics mean reliable, stable transmission performance hour after hour.

*\*100% duty for 30mins at 25°C, 25% duty continuous operation.*
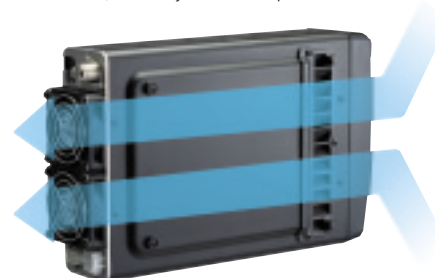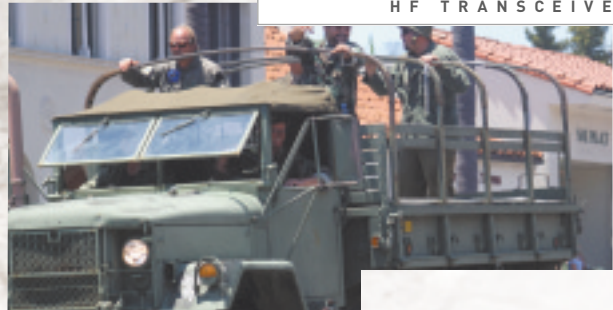
**Compliance with 6 MIL-STD specifications** – including shock, vibration, dust, driven rain and salt fog – assures reliable performance under the toughest conditions. The cooling intake has integral dust protection and the remote control head meets IP54 dust and water intrusion standards.

**High-Stability TCXO** ensures excellent frequency stability performance in most severe temperature environments.

**Enhanced safety & security features** include an emergency mode in all transmission modes – voice, CW, and Status Call. Status Call includes GPS positioning report (GPS interfaced board required). Also, the TK-90 has a non-erasable electronic serial number, a password-protected rewriteable embedded message and password-protected program data features for added security and ownership protection. Other security features support a data password.

## Versatile and expandable

**Selective Call** enables individual, group or open calling ideal for distributed networks of HF transceivers with a silent standby feature for operators. The TK-90 Selcall is compatible with its predecessor model TK-80 and handles up to 999 IDs and with a programmable ID list to assign alphanumeric names to 100 IDs.

**Status Call** provides up to 70 pre-canned status numbers for simple non-voice messaging and a 50 status number list with programmable alphanumeric names that provides a user-friendly display of the status message.

**The optional VGS-1 Voice Guide and Storage Unit** offers an audible announcement of channel numbers. Voice Storage provides four 15-second memory banks for recording memos and outgoing messages; it can also record incoming messages – 15sec. x 2 channels – for unattended response (the calling unit must send a status call for activation). Additionally, a convenient continuous recording function means you can always play back the last 30 seconds of reception for confirmation.

**Easy-installation port** accommodates the optional VGS-1 unit, aftermarket GPS receiver boards or voice scrambler boards.

**Data port** connects external radio data modems (KCT-39 accessory interface cable option required). The KCT-39 auxiliary inputs/outputs can also be used for sensor inputs or to control external equipment.

**Automatic Link Establishment (ALE)** functions provided by the KPE-2 option establish automatic optimum channel links between units rather than operators searching for a frequency under varying atmospheric and noise conditions.

## OTHER FEATURES

▮ LCD Brightness Control (HI/LOW/OFF)
▮ Preferred & Normal Scan
▮ Minimum Volume Settings
▮ Direct Channel Access
▮ Flash ROM Upgradeable
▮ Frequency Direct Entry (KMC-32/36 required)
▮ Ignition Sense (KCT-18/39 cables required)
▮ Time-out Timer
▮ Wired Channel Clone
▮ Power-on Text
▮ Receiver Pre-Amp & Attenuator
▮ Noise Blanker
▮ Clarifier
▮ Front Panel Self Programming
▮ Windows® PC Programming
▮ PC Control (KCT-31 required)
▮ VOX
▮ VFO Mode

# Options

- ■ **KES-3**
  External Speaker

- ■ **KMC-30**
  Microphone

- ■ **KMC-32**
  16-key Microphone

- ■ **KMC-35**
  IP54/55 Rated Microphone

- ■ **KMC-36**
  IP54/55 Rated
  12-key Microphone

- ■ **KRK-5**
  Single Control
  Head Remote Kit

- ■ **KCT-22 M**
  Remote Control Cable
  (2.4m/8 ft)

- ■ **KCT-22 M2**
  Remote Control Cable
  (5.2m/17 ft)

- ■ **KCT-22 M3**
  Remote Control Cable
  (7.6m/25 ft)

- ■ **PG-20**
  DC Cable (7m/23 ft)

- ■ **KLF-2**
  Line Filter

- ■ **KMB-9**
  Mounting Bracket

- ■ **KMB-10**
  Key Lock Adapter

- ■ **PS-53**
  DC Power Supply

- ■ **KAT-1**
  External Automatic Antenna
  Tuner (single wire output)

- ■ **KCT-18**
  Ignition Sense Cable
  (KCT-39 required)

- ■ **KCT-31**
  Interface Cable
  for PC Connection

- ■ **KCT-39**
  Connection Cable

- ■ **VGS-1**
  Voice Guide &
  Storage Unit

- ■ **KIF-2**
  SSB Filter
  (2.7 kHz Bandwidth)

- ■ **YF-107C**
  CW Filter
  (500 Hz Bandwidth)

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

| GENERAL | TK-90 |
|---|---|
| TX Frequency Range | 1.8 ~ 30.0 MHz[1] |
| RX Frequency Range | 0.5 ~ 30.0 MHz |
| Number of Channels | 300 Channels |
| Emission Type | J3E, J2B[2] (SSB) |
| | A1A (CW) |
| | A3E (AM) |
| | F1B (FSK) |
| Operating Temperature | -20°C ~ +60°C |
| Operating Voltage | 13.6V±15% |
| Frequency Stability | ±0.5ppm (-10°C ~ +50°C) |
| | ±1.0ppm (-20°C ~ +60°C) |
| Current Drain | 20.5A (TX) |
| | 1.2A (Stand-by) |
| Antenna Impedance | 50 Ω |
| Dimensions (W x H x D) | Projections not included |
| Radio only | 179 x 60 x 276 mm |
| Remote Panel | 179 x 60 x 58 mm |
| Weight | 3.5 kg |

[1] Guarantee Frequency : 1.8 ~ 2.4 MHz / 3.5 ~ 4.5 MHz / 6.0 ~ 8.0 MHz / 11.0 ~ 14.5 MHz / 16.0 ~ 21.5 MHz / 24.0 ~ 30.0 MHz
[2] ALE mode

| RECEIVER | TK-90 |
|---|---|
| Sensitivity | |
| SSB/CW/FSK | 4 μV (0.5 ~ 1.605 MHz) |
| | 0.25 μV (1.605 ~ 30.0 MHz) |
| AM | 32 μV (0.5 ~ 1.605 MHz) |
| | 2.5 μV (1.605 ~ 30.0 MHz) |
| Selectivity | |
| SSB/CW/FSK | 2.2 kHz (-6dB) |
| | 4.8 kHz (-60dB) |
| With KIF-2 | 2.7 kHz (-6dB) |
| | 6.2 kHz (-60dB) |
| AM | 5.0 kHz (-6dB) |
| | 40.0 kHz (-60dB) |
| Spurious Response | |
| IF Image Rejection | 70 dB |
| IF Rejection | 80 dB |
| Audio Output | 3.5 W (4 Ω / 10% distortion) |

| TRANSMITTER | |
|---|---|
| RF Power Output | |
| SSB/CW/FSK | 100 W / 50 W / 25 W / 5 W |
| AM | 25 W / 5 W |
| Spurious Emission | -46 dB |
| Carrier Suppression | 40 dB |
| Unwanted Sideband Suppression | 50 dB (1.0 kHz tone) |
| Microphone Impedance | 600 Ω |

Kenwood reserves the right to change specifications and features without prior notice.
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# Applicable MIL-STD & IP

| Standard | MIL 810C Methods/Procedures | MIL 810D Methods/Procedures | MIL 810E Methods/Procedures | MIL 810F Methods/Procedures |
|---|---|---|---|---|
| Low Pressure | 500.1/I | 500.2/I, II | 500.3/I, II | 500.4/I, II |
| Temperature Shock | 503.1/I | 503.2/I | 503.3/I | 503.4/I, II |
| Solar Radiation | 505.1/I | 505.2/I | 505.3/I | 505.4/I |
| Rain / Blowing Rain *1 | 506.1/I, II | 506.2/I, II | 506.3/I, II | 506.4/I, III |
| Humidity | 507.1/I, II | 507.2/II, III | 507.3/II, III | 507.4 |
| Salt Fog *1 | 509.1/I | 509.2/I | 509.3/I | 509.4 |
| Dust *1 | 510.1/I | 510.2/I | 510.3/I | 510.4/I, III |
| Vibration | 514.2/VIII, X | 514.3/I | 514.4/I | 514.5/I |
| Shock | 516.2/I, II | 516.3/I, V | 516.4/I, V | 516.5/I, V |
| **International Protection Standard** | | | | |
| Dust & Water Protection *1 | IP54 | | | |

*1 Remote Panel Only

## Listen to the Future

Kenwood has always connected with people through sound. Now we want to expand the world of sound in ways that only Kenwood can, listening to our customers and to the pulse of the coming age as we head toward a future of shared discovery, inspiration and enjoyment.