# TK-290/390

Beyond the Call of Duty


You're serious about your job and Kenwood rewards your devotion with highly capable portables that answer your every call. The TK-290 (VHF) and TK-390 (UHF compact RM transceivers are built tough to provide years of dependable service in the field. Most importantly, however, these radios are packed with advanced technology for user=friendly operation and optimum levels of performance.

**Elements of a Premuim Radio Product**



## Strength & Durability

### MIL-STD 810 C/D/E

The TK-290/390 meet or exceed tough U.S. Department of Defense environmental standards in addition to Kenwood's own technical and industrial standards. What's more, the TK-290/390 meet the demanding driven rain standard which means that you can count on these water-resistant radios to keep on performing even in storm-like conditions

### Die-Cast Chassis and Polycarbonate Case

The aluminum die-cast chassis heat-sink is lightweight yet provides exceptional strength.

### Weather-Sealed Universal Connector

The universal accessory connector and battery contacts use spring action gold-alloy elements for excellent contact, conductivity and anti-corrosive properties. The universal connector is designed to mate with Kenwood audio accessories such as the KMC-25 or the KMC-26 (with antenna connector), while meeting MIL-STD 810C/D/E standards.

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## Performance

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### Impressive Specifications/World-Class Performance

High-stability 2PPM oscillators, efficient MOS-FET power model and advanced filtering are just some of the features that give TK-290/390 both the protection and power to become the key component of any well-designed radio system.

### High-Quality Audio Output

The TK-290/390 are equipped with an extra-large 1.77 inch speaker element and deliver a half-watt of audio power for robust clarity in noisy crowds, at roadside, and industrial environments.

### Noise Microphone

Thanks to the built-in noise canceling microphone, TK-290/390 offer crystal-clear communications even in extremely noisy or loud situations.

### Multi-Mode Wide/Narrow Bandwidth

To keep you in pace with new channel allocations, the TK-290/390 is capable of wide or narrow channel bandwidth operation on a per channel basis.

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# Versatility

### Large 160 Channel Capacity & Dynamic Grouping
The huge capacity combined with "dynamic" channel grouping allow groups to be as small as one channel or as large as 160 channels (160 maximum total capacity). This provides versatile channel organization for any company-wide, department or divisional requirement plus room for auxiliary or special-use groups.

### Wide-Band Coverage
The TK-290/390 utilizes channel advanced MOS-FET power modules capable of wide coverage for local, regional and state-wide frequency needs.

### Channel Scan Features & Dual Priority
Multiple or single group scanning channel & group add/delete, revert channel, two priority channels are some of the parameters that can be set to accommodate any channel scanning need. Talk-back scan allows users to respond immediately to calls regardless of the pre-programmed or selected scan revert channel. Undesired channels can be deleted temporarily with the nuisance delete feature.

### Five Programmable Function Keys (PF Keys)
Each key is programmable for virtually any radio feature and this allows the unit to be customized to fit user needs. Additionally, a selected PF key can be programmed as a "shift" function which allows all other PF keys to have a second function or a "secure" two-step activation (e.g. scan delete/add).

### DTMF Signaling & Dialing Features
DTMF PTT ID provides a built-in ANI for business and industrial applications (both keypad and non-keypad models). For DTMF keypad models, manual DTMF provides system access and remote control functionality. Also included are dialing features for telephone interconnect and/or PBX access.

### Operator Selectable Tone/Code (OST)
Designed specifically for forestry, wildlife management and cooperative fire departments, the OST feature provides a programmable bank of 16 user-selectable tones (QT &DQT) for accessing different repeaters. Each tone can have an assigned alpha-tag and be directly accessed by keypad or other radio controls.

### Built-in Selective Calling (Two-Tone & DTMF)
Two-tone decode allows for three code pairs, each with individual and group paging settings. The DTMF selective calling provides individual call, group call, and over-the-air disable/enable. Both signaling types are assignable on a per channel basis and

have audio-visual call alerting.

### Flash Memory Advantage

To facilitate the planning of impending system architectural changes and custom needs, these portables have main and reserve Flash memory caches to accommodate future updates and advanced feature sets.

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## Intuitive User Interface

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### Seven Character Alphanumerics & Icons


The top display provides seven character alphanumeric channel name-tags, a group number and noncryptic easy-to-read operational icons. Special operational modes are displayed during setting mode for positive visual feedback to the user. These features help to facilitate fast radio user training and ensure continued user-friendly operation. Nighttime viewing is also enhanced by the lighted display capability with programmable manual, automatic timed shutoff and disable features.

### Invert Alpha-Display

Any one of the programmable PF keys or toggle switch can be set to invert the channel alpha-tags for ease of viewing when the unit is worn on a belt, inside a protective suit or on a chest-pack.


### Programmable Two-Colored LED

The two-colored LED provides traditional transmit/warning (red), receive (green), and alert )orange) visual indications. This LED is recessed to limit omni-directional visibility to everyone except the radio operator. If desired, the "green-busy" and "red-transmit" activities can be disabled independently for law enforcement or covert work.

### Sixteen Position Rotary Channel Selector

The sure feel of the rotary channel selectors and its pre-set mechanical stops facilitate changing channels under a suit, in the dark, or while the operator is keeping an eye on the situation at hand.

### Key Lock
Any PF key or the toggle switch can be programmed as a "key-lock" function to prevent accidental activation/de-activation of other keys and the DTMF keypad.

### MIL-SPEC Speaker Mic with Unique Controls
The KMC-25/26 MIL-SPEC speaker microphone option meets MIL-STD 810 C, D & E specifications. The weather-sealed quick disconnecting plug keeps out moisture, dirt and grime. These mics have two unique top PF keys for repetitive operations such as monitor or high/low volume control to add an extra element of convenience and safety for law enforcement officers and security forces. In addition, the recessed orange key is ideally positioned as an auxiliary emergency ANI key

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## Security

### Encryption Control
Add secure voice communications for law enforcement or private security. An internal port permits addition of optional modules to provide voice scrambling from low level inversion to high level encryption types. The radio's programming provides both automatic and manual control for clear and coded modes.

### Digital ANI and Emergency Control
Unit ID and emergency ANI for computer-aided dispatch operations can be added with optional modules. A recessed orange key is specifically provided for emergency ANI triggering (any PF key can be programmed for emergency use).

### Emergency Key & Call
The orange emergency key (or any PF key) can be programmed to trigger an ANI option device. The emergency call feature switches the radio automatically to a pre-programmed channel for dispatcher alert.

### Password-Protected Programming and Cloning
Cloning enables duplicating of radios in the field via a simple interface cable without the use of a PC or special test jigs. For users who do not require cloning capability, a secure password can be programmed to prevent cloning of a lost or stolen portable. Additionally, all radios can have the programming password(s) protected to prevent unauthorized extraction and duplication.

### Radio Lock Password
Preventing unauthorized use of lost or stolen portables, this feature requires an access code to be entered every time the radio is powered up (DTMF keypad models only). This password can be modified by the user in the field.

### Embedded Message
Deep inside the Flash memory of the radio, an electronic message can be stored containing owner identification, property I.D. numbers, user and department names, service records, etc.. A radio can be electronically identified even if external labels, markings or factory serial numbers have been removed.

### PC Programming and Tuning
To save both time and costs, radio parameters programming and tuning can be accomplished via the universal accessory connector from a PC-compatible computer without ever having to open the radio (KPG-35D software and KPG-36 cable options required).

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## Other Features

- PROGRAMMABLE TOGGLE SWITCH
- TALK AROUND
- BUSY CHANNEL LOCKOUT
- BCL OVERRIDE
- LOW BATTERY ALERT
- HIGH/LOW POWER
- MINIMUM VOLUME
- ANNUNCIATION TONE CONTROL

# Specifications

| | TK-290 | TK-390 |
|---|---|---|
| **GENERAL** | | |
| **Frequency range**<br>**Type 1**<br>**Type 2**<br>**Type 3** | 136 ~174 MHz | 450 ~490 MHz<br>470 ~512 MHz<br>403 ~430 MHz |
| **Number of Channels** | 160 | |
| **Channel Spacing**<br>**Wide**<br>**Narrow** | 25 kHz, 30 kHz<br>12.5 kHz, 15 kHz<br>(PLL step: 5/6.25/7.5 kHz) | 25 kHz<br>12.5 kHz<br>(pll step: 5/6.25 kHz) |
| **Battery Voltage** | 7.5 V DC ± 20% | |
| **Batery Life**<br>**(5-5-90 duty cycle)** | 10 hours at 5W | 10 hours at 4W |
| **Operating Temperature** | -22° F ~ +140° F<br>(-30° C ~ +60° C) | |
| **Frequency Stability**<br>**(-22°F ~ +140°F)** | ±0.00025% | ±0.0002% |
| **Antenna Impedance** | 50 Ω | |
| **Channel Frequency Spread**<br>**Type 1**<br>**Type 2**<br>**Type 3** | 38 MHz | 40 MHz<br>42 MHz<br>27 MHz |
| **Dimensions (W x H x D)**<br>**[Projections not included]**<br><br>**(with keypad model)** | 2-5/16 x 6-3/32 x 1-1/2 in.<br>(58 x 155 x 38 mm)<br><br>2-5/16 x 6-3/32 x 1-9/16 in.<br>(58 x 155 x 39.5 mm) | |
| **Weight (net)** | 1.25 lbs. (565 g) with antenna and belt hook | |
| **FCC ID**<br>**Type 1**<br>**Type 2**<br>**Type 3** | ALH21893110<br>ALH21893110 | ALH21903110<br>ALH21903120<br>ALH21903130 |
| **FCC compliance**<br>**TYpe 1**<br>**Type 2**<br>**Type 3** | FCC parts 22, 74, 80, 90<br>FCC parts 22, 74, 80, 90 | FCC parts 22, 74, 90, 95<br>FCC parts 90, 90.210<br>FCC parts 90, 90.210 |
| **IC Certification**<br>**Type 1**<br>**Type 3** | 282195345A | 282195341A<br>282195393A |

| | TK-290 | TK-390 |
|---|---|---|
| **RECEIVER** (Measurements made per RS-316-B) | | |
| **Sensitivity**<br>**12dB SINAD**<br>**20 dB Quieting** | 0.25 µV<br>0.35 µV | |
| **Selectivity**<br>**Wide**<br>**Narrow** | <br>-75 dB<br>-70 dB | <br>-73 dB<br>-68 dB |
| **Intermodulation distortion**<br>**Wide**<br>**Narrow** | <br>-75 dB<br>-68 dB | <br>-73 dB<br>-65 dB |
| **Spurious response** | -75 dB | -73 dB |
| **Audio output** | 500 mW with less than 3% distortion | |
| **TRANSMITTER** (Measurements made per RS-316-B) | | |
| **RF Power Output**<br>**HI**<br>**LO** | <br>5W<br>1W | <br>4W<br>1W |
| **Spurious response** | -70 dB | |
| **Modulation**<br>**Wide**<br>**Narrow** | <br>16KØF3E<br>11KØF3E | |
| **FM noise**<br>**Wide**<br>**Narrow** | <br>-45 dB<br>-40 dB | |
| **Audio Distortion** | Less than 3% | |

Kenwood reserves the right to change specifications and features without prior notice.

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# Applicable MIL-STD

| Standard | MIL 810C Methods/Procedures | MIL 810D Methods/Procedures | MIL 810E Methods/Procedures |
|---|---|---|---|

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|---|---|---|---|
| Low Pressure | 500.0/Procedure I | 500.2/Procedure I | 500.3/Procedure I |
| High Temperature | 501.1/Procedure I, II | 501.2/Procedure I, II Cat. A1 | 501.3/Procedure I, II Cat. A1 |
| Low Temperature | 502.1/Procedure I | 502.2/Procedure I, II Cat. C1 | 502.3/Procedure I, II Cat. C1 |
| Temperature Shock | 503.1/Procedure I | 503.2/Procedure I Cat. A1, C1 | 503.3/Procedure I Cat. A1, C1 |
| Solar Radiation | 505.1/Procedure I | 505.2/Procedure I | 505.3/Procedure I |
| Rain | 506.1/Procedure I, II | 506.2/Procedure I, II | 506.3/Procedure I, II |
| Humidity | 507.1/Procedure II | 507.2/Procedure II | 507.3/Procedure II |
| Salt Fog | 509.1/Procedure I | 509.2/Procedurem I | 509.3/Procedure I |
| Dust | 510.1/Procedure I | 510.2/Procedure I | 510.3/Procedure I |
| Vibration | 514.2/Porcedure VIII, X | 514.3/Procedure I Cat. 8 | 514.4/Procedure I Cat. 8 |
| Shock | 516.2/Procedure I, II, V | 516.3/Procedure I, IV | 516.4/Procedure I, IV |

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