

# KENWOOD

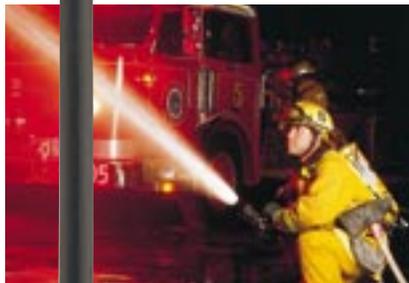
VHF/UHF FM Transceivers

## TK-290/390



- 160 CHANNELS/DYNAMIC GROUPING
- WIDE-BAND COVERAGE
- MULTIPLE BANDWIDTH MODE
- PROGRAMMABLE POWER PER CHANNEL
- OPERATOR SELECTABLE TONE/CODE (OST)
- MIL-810C/D/E
- DIE-CAST CHASSIS
- INTERNAL NOISE CANCELING MICROPHONE
- "PROGRAMMABLE" MIL-SPEC SPEAKER-MICS
- QUICK-DISCONNECT ACCESSORIES
- WEATHER-SEALED UNIVERSAL CONNECTOR
- 5 PROGRAMMABLE KEYS
- RECESSED EMERGENCY KEY
- PROGRAMMABLE TOGGLE SWITCH
- 7 CHARACTER INVERT DISPLAY
- DUAL-PRIORITY SCAN
- DTMF KEYPAD MODELS
- SECURITY FEATURES
- FLASH MEMORY ADVANTAGE

# TK-290/390 — Beyond the



You're serious about your job and Kenwood rewards you with an answer to your every call. The TK-290 (VHF) and TK-390 (UHF) provide years of dependable service in the field. They are built with advanced technology for user-friendly operation.

## Serious Radio for Serious Business

### STRENGTH & DURABILITY

**MIL-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** 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.



### PERFORMANCE

**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.

### 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, departmental 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.

# the Call of Duty

your devotion with highly capable portables that 50 (UHF) compact FM transceivers are built tough. Most importantly, however, these radios are packed with a wide range of features and optimum levels of performance.



**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.

## INTUITIVE USER INTERFACE

**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 also 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-COLOR LED** The two-color 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

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.

## CHANNEL SELECTOR

**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.

## 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 parameter 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).

## OTHER FEATURES

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

# Options

<p><b>KRA-14</b> VHF Helical Antenna</p> 	<p><b>KSC-19</b> Regular Charger</p> 	<p><b>KVC-3</b> Regular Rate Vehicular Charger Adapter</p> 	<p><b>KMC-26</b> Speaker Microphone (MIL-SPEC, Noise Canceling &amp; Antenna Connector)</p> 
<p><b>KRA-15</b> UHF Whip Antenna</p> 	<p><b>KSC-20</b> Rapid Charger</p> 	<p><b>KEP-1</b> Earphone Coil Cord Kit</p> 	<p><b>KBH-7</b> Spring-Action Belt Hook</p> 
<p><b>KNB-17A</b> Ni-Cd Rechargeable Battery (7.2 V, 1500 mAh)</p> 		<p><b>KMC-25</b> Speaker Microphone (MIL-SPEC, Noise Canceling)</p> 	<p><b>KBH-8DS</b> Swivel Belt Loop with D-Stub Backplate</p> 

\*Not all accessories may be available, please contact dealers for details.

# Specifications

	TK-290	TK-390
<b>GENERAL</b>		
Frequency range Type 1	136 ~ 174 MHz	450 ~ 490 MHz
Number of channels	160	
Channel spacing Wide Narrow	25 kHz, 30 kHz 12.5 kHz, 15 kHz (PLL step: 5/6.25/7.5 kHz)	25 kHz 12.5 kHz (PLL step: 5/6.25 kHz)
Battery voltage	7.5 V DC $\pm$ 20 %	
Battery life (5-5-90 duty cycle)	10 hours at 5 W	10 hours at 4 W
Operating temperature range	-22° F ~ +140° F (-30° C ~ +60° C)	
Frequency stability (-22° F ~ +140° F)	$\pm$ 0.00025%	$\pm$ 0.0002%
Antenna impedance	50 $\Omega$	
Channel frequency spread Type 1	38 MHz	40 MHz
Dimensions (W x H x D) [projections not included] (with keypad model)	2-5/16 x 6-3/32 x 1-1/2 in. (58 x 155 x 38 mm) 2-5/16 x 6-3/32 x 1-9/16 in. (58 x 155 x 39.5 mm)	
Weight (net)	1.25 lbs. (565g) with antenna and belt hook	
FCC ID	ALH21893110	ALH21903110
FCC compliance Type 1	FCC parts 22, 74, 80, 90	FCC parts 22, 74, 90, 95
IC certification	282 195 345A	282 195 341A

	TK-290	TK-390
<b>RECEIVER</b> (Measurements made per RS-316-B)		
Sensitivity 12 dB SINAD 20 dB Quieting	0.25 $\mu$ V 0.35 $\mu$ V	
Selectivity Wide Narrow	-75 dB -70 dB	-73 dB -68 dB
Intermodulation distortion Wide Narrow	-75 dB -68 dB	-73 dB -65 dB
Spurious response	-75 dB	-73 dB
Audio output	500 mW with less than 3% distortion	
<b>TRANSMITTER</b> (Measurements made per RS-316-B)		
RF power output HI LO	5 W 1 W	4 W 1 W
Spurious response	-70 dB	
Modulation Wide Narrow	16K $\Phi$ F3E 11K $\Phi$ F3E	
FM noise Wide Narrow	-45 dB -40 dB	
Audio distortion	Less than 3%	

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

# Applicable MIL-STD

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures
Low Pressure	500.1/Procedure I	500.2/Procedure I, II	500.3/Procedure I, II
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/Procedure I	509.3/Procedure I
Dust	510.1/Procedure I	510.2/Procedure I	510.3/Procedure I
Vibration	514.2/Procedure 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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**ISO 9001**  
**JQA-1205**

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