# KENWOOD

## Trunked Compact Mobile Radios (800/900 MHz)

# TK-980/981



- ■ TRUNKED OR CONVENTIONAL SYSTEMS
- ■ 32 SYSTEMS/250 GROUPS (TRUNKED SYSTEM)
- ■ MAX. 600 CHANNELS (TRUNKED SYSTEM)
- ■ MIL-STD 810 C/D/E
- ■ DIE-CAST CHASSIS
- ■ HIGH-OUTPUT SPEAKER
- ■ MULTIPLE SCAN FUNCTIONS

- ■ 12 CHARACTER DOT MATRIX LCD
- ■ TELEPHONE DIALING FEATURES
- ■ CODED SQUELCH (QT/DQT)
- ■ SECURITY FEATURES
- ■ FLASH MEMORY ADVANTAGE
- ■ FleetSync™ ALPHANUMERIC TWO-WAY PAGING
- ■ DATA-READY CONNECTION PORT

# TK-980/981 Maximized Performance

As the requirements for users of trunking systems increase, Kenwood is there to meet the challenge with its new TK-980/981 compact mobile radios. Trunked mode operation with conventional and LTR™ systems at 800/900 MHz, along with built-in FleetSync™ capability for alphanumeric two-way paging and other features put these models at the top of their class. The TK-980/981 mobiles allow you to stay productive with the outstanding performance and versatility that only Kenwood can deliver.

*LTR is a registered trademark of Transcrypt, International.*

## A New Level of Functionality

## VERSATILITY

### TRUNKED MODE WITH CONVENTIONAL AND LTR™ SYSTEMS
Kenwood's new TK-980/981 models allow programming for conventional and LTR™ systems operation with features such as fixed priority/block decode ID codes, free system ringback for telephone interconnect operation, transmit inhibit and transpond function.

### LARGE CHANNEL CAPACITY
In Trunked System, the 32 system and 250-group maximum memory capacity[1] and 600-channel capability can meet all your site requirements now and in the future. Each programmed system can be either set for either conventional or LTR™ trunking operation.

[1] *System and group memory capacity varies depending on the total number of systems, groups and repeater channels per system.*

### FleetSync™ ALPHANUMERIC TWO-WAY PAGING
The FleetSync™ basic alphanumeric two-way messaging provides the built-in capability of Selective Calling with Caller ID, Digital ANI, Emergency ANI & Emergency Calling features, Radio Stun & Resurrect and Status Messaging (send and receive radio pre-stored status messages). Optional features include creation of custom alphanumeric text messages. Also, as with an alphanumeric pager, received pages are stored in memory for convenient viewing on the spot or for reviewing later.

### DATA-READY CONNECTION PORT
The TK-980/981 mobiles have a data connection port for versatile use with external mobile data terminals, PC-modems (requires KCT-19 option), or AVL units.

### PROGRAMMABLE FUNCTION KEYS (PF KEYS)
Each key is programmable for virtually any radio feature allowing fully customized user settings. Streamline everyday operation with simple feature sets to meet basic needs and reduce training time. Sophisticated feature sets can be programmed for supervisory personnel or special applications.

### FLASH MEMORY ADVANTAGE
Inclusion of flash memory permits updates, advanced feature sets and system architectural changes to be made electronically without ever opening the unit. Providing for faster changes by the system operator and less downtime for users.
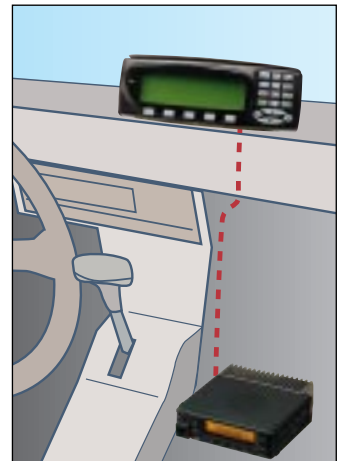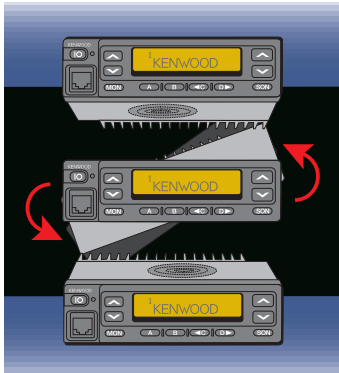
# in Trunked Systems.

## PERFORMANCE

### HIGH-QUALITY AUDIO OUTPUT
The TK-980/981 is equipped with an extra-large 2.25-inch speaker element and delivers 4W audio power for excellent clarity, even in industrial settings with high-levels of background noise.

### COMPACT VERSATILE MOUNTING
Lightweight and compact in size, these units facilitate easy mounting even in the tight or awkward positions of today's vehicles. The front panel can be inverted for correct viewing while leaving the built-in speaker facing away from the mounting surface.

### COMPANDED AUDIO (TK-981)
The compandor noise-reduction feature increases the audio clarity of narrow bandwidth systems and is programmable to function per channel. Voice intelligence components are amplified and compressed at the transmit end then re-expanded on the receive end to reproduce the original audio signal.

## STRENGTH & DURABILITY

### MIL-STD 810C/D/E ENVIRONMENTAL TESTS
Designed according to Kenwood's stringent operation tests for technical and industrial standards, the TK-980/981 also meets or exceeds a full range of tough U.S. Department of Defense MIL-STD 810 C, D & E environmental standards in several categories.

### DIE-CAST CHASSIS
The lightweight aluminum die-cast chassis contributes to the TK-980/981 unit's exceptional strength and provides for natural heat dissipation. Interlocking metal covers and seals lockout moisture and dust.

## INTUITIVE USER INTERFACE

### DOT MATRIX LCD DISPLAY
The unit's high-resolution dot matrix liquid crystal display provides a simple, easy-to-read interface and is recessed for protection. The main display line has twelve alphanumeric characters for system/group/channel name aliases, operational/status indications and FleetSync™ features. A three-character subline can be programmed for channel or group number. The seven icons provide easy-to-remember feature and status indications in all modes of operation. Nighttime operation is facilitated with backlighting of the LCD panel and operation keys.

### DUAL COLOR TRI-STATE LED INDICATOR
The dual color tri-state LED provides the user with a visual indicator that clearly distinguishes between transmission (red), reception (green) and decode alert for DTMF and Two-tone selective calling (flashing orange).

### MULTIPLE SCANNING FUNCTIONS
Trunked Mode operation offers system and group scan permitting monitoring for calls on multiple systems and talk groups. The systems can have a user or fixed add/delete status while groups are fixed add/delete. Priority scanning is available for Trunked Mode operation only within programmed conventional systems. Conventional Mode operation permits single priority scanning within a single group-multiple channel or multi-group configured radio. Talk Back scan permits users to respond immediately to calls regardless of the pre-programmed or selected scan revert channels (conventional mode).

### DTMF SIGNALING & DIALING FEATURES
DTMF PTT ID provides a built-in ANI for public service, business and industrial applications [2]. The manual DTMF operation with the optional KMC-28A keypad microphone permits DTMF controlled applications such as selective calling, system access, remote control and access to the radio's automatic dialing features such as the auto-dial memory for telephone interconnect and/or integrated Radio-PABX systems.

[2] DTMF PTT ID is available in Conventional or Trunked Systems: DTMF PTT ID does not have an emergency ANI feature nor does it operate in conjunction with any of the emergency key or emergency calling features.

### PUBLIC ADDRESS & HORN ALERT
Public Address (PA) and Horn Alert (HA) capability is available with the optional KAP-1 unit. The PA function outputs mic audio through the radio's external speaker or can feed a more powerful external public address amplifier. The Horn Alert function can be used to trigger a vehicle horn/light.

## SECURITY

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

### PASSWORD-PROTECTED PROGRAMMING AND CLONING
Cloning for duplication of radios in the field is enabled via a simple interface cable, without the use of a PC or special test jigs. A secure password can be programmed to prevent cloning of a lost or stolen portable for users who do not require cloning capability. Additionally, all radios can have the programming password(s) protected to prevent unauthorized program information extraction and duplication in case of theft or loss.

### RADIO LOCK PASSWORD
Preventing unauthorized use of stolen radios, this feature requires an access code to be entered every time the radio is powered up. The password can be selected with up to a maximum of 6 digits and can be easily field programmed or modified by an authorized user (requires optional KMC-28A keypad microphone).

### EMBEDDED MESSAGE
The radio's flash memory can store an electronic message containing owner identification, property I.D. numbers, user and department names, service records, etc. Making a unit electronically identifiable even if external labels, markings or factory serial numbers have been removed

### DEAD BEAT DISABLE (D.B.D)
Useful when functions of the radio need to be rendered unusable, reception of a pre-determined DTMF signal can either disable the unit's signal transmission, or prohibit signal transmission, while muting signal reception volume.

### OTHER FEATURES
▌ A NPSPAC-compatible model is also available (option)
▌ BUILT-IN QT, DQT, DTMF
▌ BUSY CHANNEL LOCKOUT
▌ TIME OUT TIMER
▌ MINIMUM VOLUME
▌ KEY LOCK

# Options

**KMC-9C**
Control Station
Desktop Microphone

**KMC-27A**
Dynamic Mobile
Microphone (MIL-SPEC,
Noise Canceling)

**KMC-27B**
Dynamic Mobile
Microphone (supplied)

**KMC-28A**
Dynamic Mobile
Microphone with Keypad
(MIL-SPEC, Noise
Canceling)

**KCT-18**
Ignition Sense Cable

**KCT-19**
Accessory
Connector Cable

**KPS-10A**
DC Power Supply

**KES-3**
External Speaker

**KES-4**
External Speaker
(requires KCT-19)

**KLF-2**
Line Noise Filter

**KMB-2B**
Mounting Case

**KMB-10**
Key Lock Adapter

**KAP-1**
PA/HA Unit

*Not all accessories may be available. Please contact your dealer for details.*

# Specifications

|  | | TK-980 | TK-981 |
|---|---|---|---|
| **GENERAL** | | | |
| **Frequency range** | | | |
| | Type 1 (RX) | 851 ~ 870 MHz | 935 ~ 941 MHz |
| | Type 2 (TX) | 806 ~ 825 MHz | 896 ~ 902 MHz |
| | Type 3 (Talk Around) | 851 ~ 870 MHz | 935 ~ 941 MHz |
| **Systems** | | Max. 32 | |
| **Groups** | | Max. 250 | |
| **Channels** | | Max. 600 | |
| **Channel spacing** | | 25 kHz | 12.5 kHz |
| **PLL step** | | 12.5 kHz | 12.5 kHz |
| **Operating voltage** | | 13.6 V DC ± 15 % | |
| **Current drain** | | | |
| | Standby | Less than 0.4 A | |
| | Receive | Less than 1.0 A | |
| | Transmit | Less than 7.0 A | |
| **Duty cycle** | | Transmit: 20 % | |
| **Operating temperature range** | | -22° F ~ +140° F (-30° C ~ +60° C) | |
| **Frequency stability** | | ±0.00015% (-22° F ~ +140° F) | |
| **Antenna impedance** | | 50 Ω | |
| **Dimensions (W x H x D)** | | 5-1/2 x 1-1/2 x 5-3/4 in. (140 x 40 x 145 mm) | |
| **Weight (net)** | | 2.07 lbs. (940 g ) | |
| **FCC ID** | | ALH2456110 | ALH2457110 |
| **FCC compliance** | | FCC part 90 | FCC part 90 |
| **IC certification** | | 282195546A | 282195545A |

|  | TK-980 | TK-981 |
|---|---|---|
| **RECEIVER** (Measurements made per EIA/TIA-603) | | |
| **Sensitivity (12 dB SINAD)** | 0.25 µV | |
| **Selectivity*** | 75 dB | 68 dB |
| **Intermodulation distortion*** | 70 dB | 65 dB |
| **Spurious response*** | 80 dB | |
| **Channel frequency spread** | 19 MHz | 6 MHz |
| **Audio output** | 4 W with less than 5% distortion | |
| **TRANSMITTER** (Measurements made per EIA/TIA-603) | | |
| **RF power output** | 15 W | |
| **Spurious response** | 60 dB | |
| **Modulation** | 16KØF3E | 11KØF3E |
| **FM noise** | 45 dB | 40 dB |
| **Audio distortion** | Less than 3% | Less than 5% |
| **Microphone impedance** | Low impedance | |
| **Channel frequency spread** | 64 MHz | 45 MHz |

*\* Typical specifications*

*Kenwood reserves the right to change specifications and features without prior notice. Measurements listed for the TK-981 model are tentative.*

*These devices have not been approved by the Federal Communications Commission. These devices are not, and may not be, offered for sale or lease, or sold or leased until the approval of the FCC has been obtained.*

# Applicable MIL-STD

| Standard | MIL 810C Methods/Procedures | MIL 810D Methods/Procedures | MIL 810E Methods/Procedures |
|---|---|---|---|
| Dust | 510.1/Procedure I | 510.2/Procedure I | 510.3/Procedure I |
| Vibration | 514.2/Procedure VIII, X | 514.3/Procedure I | 514.4/Procedure I |
| Shock | 516.2/Procedure I, II, V | 516.3/Procedure I, IV | 516.4/Procedure I, IV |

**ISO 9001
JQA-1205**

Communications Equipment Division
Kenwood Corporation
ISO9001 certification

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