

KENWOOD

TK-280/380

Version 2.0

FleetSync™
by KENWOOD

VHF/UHF FM Portable Radios



- TRUNKED FORMAT (TRUNKED & CONVENTIONAL SYSTEMS)
- CONVENTIONAL FORMAT (CONV. WITH PRIORITY SCAN)
- FleetSync™ DIGITAL MESSAGING & SIGNALING
- MULTIPLE SCAN FUNCTIONS
- 12 CHARACTER DOT MATRIX LCD
- 10 CHARACTER ALPHANUMERIC ALIAS
- BACKLIGHTED KEYS & LCD
- QT & DQT CODED SQUELCH
- SECURITY FEATURES
- FLASH MEMORY ADVANTAGE



TK-280/380 — Your Direct Line to Top Performance

Kenwood's new TK-280/380 compact portable offers Trunked Format or Conventional Format configurations along with FleetSync™ Digital Messaging & Signaling, sufficient to be an integral part of any radio system where it counts most — in the field. What's more, the rugged ergonomic design and world-famous Kenwood quality combine to make this high-performance unit perfect for today's demanding applications.

TWO-COLOR LED

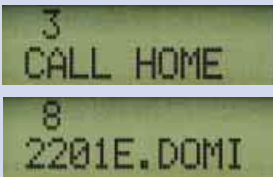
The two-color LED provides traditional transmit/warning (red), receive (green), and alert (orange) visual indications. This LED is recessed to limit omni-directional visibility to everyone except the radio operator.

HIGH-QUALITY AUDIO OUTPUT

The TK-280/380 is equipped with an extra-large 1.58-inch speaker element and delivers a half-watt of audio power for robust clarity in noisy crowds and industrial environments.

DOT MATRIX LCD DISPLAY

The high-resolution dot matrix liquid crystal display furnishes the user with a simple easy-to-read interface and is recessed for protection. The main display line has ten alphanumeric characters for system/group/channel name aliases and two characters for operational/status indications. A three-character sub-line can be programmed for channel or group number. The seven icons provide easy to remember feature and status indications in all modes of operation.



LIGHT CONTROL

Manual and auto-shutoff control of the key back lighting and LCD lamp facilities safe nighttime operation without excessive battery drain.

EXTRA-LONG BATTERY LIFE

Kenwood offers KNB-17A 10-hour Ni-Cd batteries and KNB-21N/22N 10/13-hour Ni-MH batteries for a choice of long or extra-longlife in any application.

MIL-SPEC SPEAKER MIC WITH PROGRAMMABLE CONTROLS

The KMC-25 MIL-SPEC speaker microphone option meets the same tough MIL-STD 810 C, D & E specifications as the radio unit. The weather-sealed quick disconnecting plug keeps out moisture, dirt and grime. The KMC-25 mic has two unique top PF keys for repetitive operations such as home select and monitor control to add an extra element of convenience and safety users. In addition, the recessed orange key is ideally positioned as an auxiliary emergency ANI key.

PROGRAMMABLE FUNCTION KEYS (PF KEYS)

Each key is programmable for virtually any radio feature allowing the unit to be customized to fit user needs. Simple feature sets meet basic needs and reduce training time. Sophisticated feature sets are available for special applications and supervisory personnel.

FLASH MEMORY ADVANTAGE

Flash memory permits updates, advanced feature sets and system architectural changes to be made electronically without ever opening the unit. This means fast changes for the system operator and less down time for users.

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 for compatibility with many other Kenwood audio accessories such as the KMC-25 while maintaining MIL-STD 810C, D & E.





VERSATILITY

TRUNKED FORMAT

Trunked Format provides both programmable LTR® trunked and conventional system partitions within the radio for operation on multiple systems of these two types. LTR® trunking systems automatically provide communications on any available channel within a pool of channels on each system. The Kenwood TK-280/380 features all traditional LTR® trunking functions such as System Scan & Group Scan for multiple system/multiple talk group calling, Fixed Priority IDs, Transmit Inhibit and a Decode ID Block for dispatcher fleet control and monitoring. Conventional system partitions are programmable for multiple channels. Priority scan permits scanning of all channels and monitoring a priority channel for activity even while receiving a call on another non-priority channel.¹

¹ In Trunked Format, priority scanning is only available within one conventional system partition and cannot check channels on other programmed conventional or trunked system partitions.

CONVENTIONAL FORMAT

Conventional Format provides traditional conventional operation programmable for multiple channels in one contiguous channel group or multiple channel groups to accommodate different geographical areas, user organization, special use or provisional needs. Priority scanning can be set for single group or multiple group scan allowing a user to scan a current channel group and/or all other groups.

LARGE CHANNEL CAPACITY

The TK-280/380 answers the call for large systems, multiple systems and growing fleet sizes with the large capacity 32 Systems/250 Group IDs in Trunked Format or 250 channels in Conventional Format².

² Trunked Format: Total System and Group memory capacity will vary depending on the total number of Systems, Groups and repeater channels used per system (32 Systems/250 Groups/600 channel maximums).

MULTIPLE SCAN FUNCTIONS

Trunked format operation offers system and group scan to permit monitoring of calls on multiple systems and multiple talk groups per system. Priority scanning is available for within programmed conventional systems. Conventional format operation permits single priority scanning within a single channel group or among multiple channel groups. Talk Back scan permits users to respond immediately to calls regardless of the pre-programmed or selected scan revert channel.

DTMF SIGNALING & DIALING FEATURES

DTMF keypad formats allow manual DTMF encoding for selective calling, system access, remote control applications and access to automatic dialing features such as the auto-dial memory for telephone interconnect and/or integrated radio-PABX systems.

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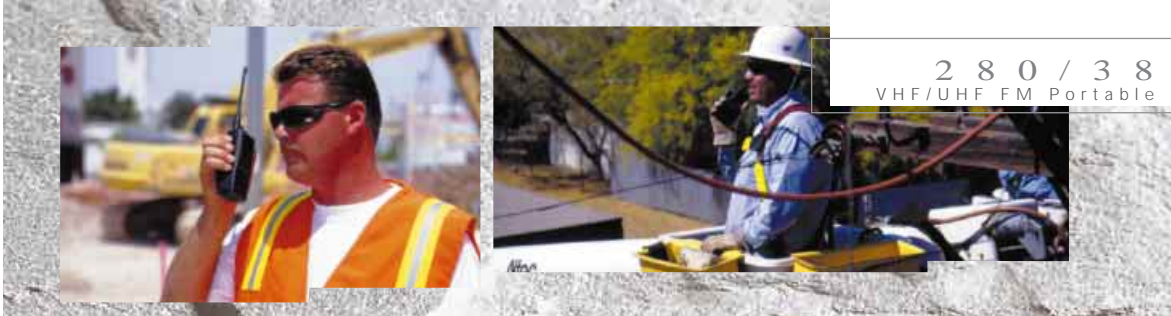
FleetSync™ ADVANTAGE

FleetSync™ DIGITAL MESSAGING & SIGNALING "BASIC"

The FleetSync™ "Basic" feature set is included in each radio providing a cost-effective fleet unit identification, selective calling and messaging system for dispatch operations³. Each radio can have an ID comprised of a Fleet and Unit number which is used for all FleetSync™ signaling and data messaging (250 fleets/4000 units per fleet), allowing large fleets or multiple fleets to share the same radio system(s).

- **PTT ID** is a digital ANI (Automatic Number Identifier), which can be sent on each PTT using the FleetSync™ ID. An associated alphanumeric user name can be displayed on an 80-Series base mobile LCD (Caller ID* enabled), a base station decoder unit or dispatch software. Personnel are clearly identified during mission critical tasks so the dispatcher/supervisor can immediately identify who is talking for efficient fleet management and call processing.
- **Caller ID*** decodes an incoming PTT ID and uses the pre-stored ID List with alphanumeric name tags to identify the caller in the radio's LCD. This is available for fleet portables and mobiles as well as base stations.
- **Caller ID Stack*** stores (in volatile memory) the three most recently received PTT IDs for recall and review, allowing a user to check for missed voice calls.
- **Selective Calling** permits a base station and/or fleet radios to signal individual radios or groups of radios by simply selecting their FleetSync ID and hitting PTT. The receiving radio(s) are call alerted.
- **Extended ID List Capacity (100*)** allows a base station radio to select up to 100 target fleet radios by nametag FleetSync™ Selective Calls and Status Messages. Fleet radios can display up to 100 caller names upon decoding PTT ID's, (Caller ID enabled), Selective Calls, Status and Text Messages.
- **Extended Status Message List (50*)** provides up to 50 pre-stored sixteen-character alphanumeric messages permitting a base to send a larger variety of job task messages. Fleet radios can display and respond accordingly with complimentary acknowledgements. Also, special reserved Emergency, Emergency Man-down*, Emergency Mode Off *, Horn Alert (mobiles)* and Radio Stun/Acknowledge/Resurrect statuses are provided.

³ FleetSync™ Basic* dispatch features are available using just 80-Series mobile/portable fleet radios and an 80-Series mobile base/control station. More advanced FleetSync™ dispatch systems may require the FleetSync™ Enhanced option and FleetSync™-compatible peripherals and/or software.



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FleetSync™ DIGITAL MESSAGING & SIGNALING "ENHANCED OPTION"

The FleetSync™ Enhanced option extends the FleetSync™ Basic feature set to include custom Short Text Messaging, Long Text Messaging (mobiles) and 80-Series PC Serial Interface (mobiles) capability.

■ **Short Text Messaging** permits fleet radios to receive, store, review and display up to four 48-character text messages (requires compatible base dispatch software)⁴. Fleets can be sent detailed custom text messages, thereby increasing fleet efficiency and productivity even while unattended.

■ **Long Text Messaging** enables 1024-character text messages to be sent for advanced dispatch calls and job tasking requirements, giving companion 80-Series fleet mobiles extended data messaging capabilities (requires a compatible mobile data device and dispatch software).

■ **PC Serial Interface** enables serial communications between an 80-Series mobile radio and a FleetSync™ compatible peripheral device or computer application for an advanced FleetSync™ communications system.



⁴ Short Text Messaging (both portables and mobiles) requires the base station mobile to be interfaced with a computer running FleetSync™-compatible dispatch software.

PERFORMANCE

IMPRESSIVE SPECIFICATIONS/WORLD-CLASS OPERATION

High-stability 2.5PPM oscillators, efficient MOS-FET power model and advanced filtering are just some of the features that give TK-280/380 both the performance and power to be a key component of any well-designed radio system.

COMPANDED AUDIO

The compander noise-reduction feature enhances audio clarity especially on narrow bandwidth systems and is programmable 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 (works on wide & narrow bandwidth channels).

INTRINSICALLY SAFE ENVIRONMENTS

For reassuring performance in hazardous and volatile environments, Kenwood offers options and accessories meeting the highest level of intrinsically safe specifications.



SECURITY

ENCRYPTION CONTROL

Encryption control provides 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 also provides both automatic and manual control for clear and coded modes.

DIGITAL ANI & EMERGENCY OPTIONS

FleetSync™ offers built-in digital PTT ID, Emergency and Emergency Man-down Status messages. Optionally, an internal port permits addition of modules offering other industry ANI formats with PTT ID, emergency ANI and emergency man-down operation (GE-STAR® and MDC-1200®). The recessed orange PF key and/or an optional tilt switch can be used to trigger an emergency thus notifying a dispatcher or supervisor of personnel in trouble. (ANI modules and encryption/scrambler modules cannot be installed in the same radio)

DTMF ANI & EMERGENCY

DTMF PTT ID provides an ANI for business and industrial applications using DTMF type systems. DTMF Emergency ANI is also programmable to enhance personnel safety (PTT ID and Emergency are available in conventional or trunked operation).

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. A radio can be electronically identified even if external labels, markings or factory serial numbers have been removed.






OTHER FEATURES





- BUILT-IN QT, DQT
- DTMF AND 2-TONE (CONVENTIONAL MODE ONLY)
- HIGH/LOW POWER
- TALK AROUND
- BUSY CHANNEL LOCKOUT
- TIME OUT TIMER
- LOW BATTERY ALERT
- MINIMUM VOLUME
- ANNUNCIATION TONE CONTROL
- MIL-STD 810C/D/E ENVIRONMENTS






Features or specifications marked with an asterisk (*) are only available in version 2.0 or later radio products. Contact Kenwood for details.






OPTIONS

			
KNB-17A	KNB-17B	KNB-21N	KNB-22N
Ni-Cd Rechargeable Battery (7.2 V, 1500 mAh)	Ni-Cd Rechargeable Battery — Intrinsically Safe (7.2 V, 1500 mAh)	Ni-MH Rechargeable Battery (7.2 V, 1600 mAh)	Ni-MH Rechargeable Battery (7.2 V, 2100 mAh)

				
KBP-4	KSC-19	KSC-24	KMB-14	KMB-16
AA Refillable Battery Pack (holds 12 AA-size alkaline cells)	Regular Rate Ni-Cd Charger	Rapid Rate Dual-chemistry Ni-Cd/Ni-MH Charger	Multi-Charger Adapter (holds six KSC-19 chargers) [§]	Multi-Charger Adapter (holds six KSC-20 or KSC-24 chargers) [§]

				
KVC-3	KVC-4	KVC-5	KMC-25	KEP-1
Regular Rate Vehicular Charger Adapter (requires KSC-19)	Rapid Rate Vehicular Charger Adapter (requires KSC-20/24)	Heavy-duty D.C. Vehicular Drop-in Charger	MIL-SPEC Speaker Microphone	Heavy-duty Earphone (requires KMC-25)

				
KHS-11BL	KHS-12BL	KHS-14	KHS-15-BH	KHS-15-OH
2-Wire Palm Mic with Earphone (BE- beige models)	3-Wire Mini Lapel Mic with Earphone (BE- beige models)	Lightweight Single Muff Headset	Heavy-duty Behind-the-Head Headset with Noise Canceling Boom Mic	Heavy-duty Overhead-the-Head Headset with Noise Canceling Boom Mic

				
KBH-8	KBH-8DS	KLH-6SW	KLH-75B	KLH-76B
Spring-action Belt Clip	Swivel Belt Loop with D-ring Stud Back Plate	Swivel Case Adapter	Leather Case	Leather Case (for DTMF keypad model)

				
KWR-1	KRA-14	KRA-15	KRA-16	KRA-17
Water-Resistant Bag	VHF Helical Antenna	UHF Whip Antenna	VHF Stubby Antenna	UHF Stubby Antenna

[§]Chargers sold separately.
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

	TK-280	TK-380
GENERAL		
Frequency range		
Type 1	146 ~ 174 MHz	450 ~ 490 MHz
Type 2	136 ~ 162 MHz	470 ~ 512 MHz
Type 3		400 ~ 430 MHz
System (Trunked mode)		Max. 32
Group (Trunked mode)		Max. 250
Channels		
Trunked/Conventional		Max. 600/Max. 250
Channel spacing		
Wide	25, 30 kHz	25 kHz
Narrow	12.5, 15 kHz	12.5 kHz
PLL step	1.25, 2.5, 5, 6.25, 7.5 kHz	5, 6.25 kHz
Battery voltage		7.5 V DC \pm 20 %
Battery life (5-5-90 duty cycle)		
KNB-17A (1500 mAh)		More than 10 hours
KNB-21N (1600 mAh)		More than 10.5 hours
KNB-22N (2100 mAh)		More than 13 hours
Operating temperature range	-22° F ~ +140° F (-30° C ~ +60° C)	
Frequency stability	\pm 0.00025% (-22° F ~ +140° F)	
Antenna impedance	50 Ω	
Channel frequency spread		
Type 1	28 MHz	40 MHz
Type 2	26 MHz	42 MHz
Type 3		30 MHz
Dimensions (W x H x D) [projections not included]	2-5/16 x 5-5/16 x 1-5/16 in. (58 x 135 x 34 mm) with KNB-21N battery	
Weight (net)	17.3 oz. (490 g) with KNB-21N battery, antenna and belt hook	
FCC ID		
Type 1	ALH24613110	ALH24623110
Type 2	ALH24613120	ALH24623120
Type 3		ALH24623130
FCC compliance		
Type 1	FCC parts 22, 74, 80, 90, 90.210	FCC parts 22, 74, 80, 90, 95
Type 2	FCC parts 22, 74, 90, 90.210	FCC parts 90, 90.210
Type 3		FCC parts 90, 90.210
IC certification		
Type 1	282195462A	282195463A
Type 2	282195536A	
Type 3		282195524A

	TK-280	TK-380
RECEIVER (Measurements made per EIA-RS 316B)		
Sensitivity (12 dB SINAD)	0.25 μ V	
Selectivity		
Wide	70 dB	70 dB
Narrow	65 dB	62 dB
Intermodulation distortion		
Wide	70 dB	70 dB
Narrow	65 dB	62 dB
Spurious response	70 dB	
Audio output	500 mW with less than 5% distortion	
TRANSMITTER (Measurements made per EIA-RS 316B)		
RF power output		
HI	5 W	4 W
LO	1 W	1W
Spurious response	70 dB	
Modulation		
Wide	16K ϕ F3E	
Narrow	11K ϕ F3E	
FM noise		
Wide	45 dB	
Narrow	40 dB	
Audio distortion		
Wide	Less than 3%	
Narrow	Less than 5%	

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

GE-STAR is a registered trademark of Ericsson Inc.

MDC-1200 is a registered trademark of Motorola Inc.

LTR® is a registered trademark of Transcript International.

FleetSync™ is a registered trademark of Kenwood Corporation.

Intrinsically Safe Approvals

Certified under safety regulation ANSI/UL-913 for Class I, II and III, Division 1, Groups C, D, E, F and G, as well as Non-Incendive use in Class I, II and III, Division 2, Groups C, D, F and G.

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	500.3/Procedure I
High Temperature	501.1/Procedure I, II	501.2/Procedure I, II	501.3/Procedure I, II
Low Temperature	502.1/Procedure I	502.2/Procedure I, II	502.3/Procedure I, II
Temperature Shock	503.1/Procedure I	503.2/Procedure I	503.3/Procedure I
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	514.4/Procedure I
Shock	516.2/Procedure I, II, V	516.3/Procedure I, IV	516.4/Procedure I, IV

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