TK-480/481 — Your Direct Line to Top Performance

Kenwood's new TK-480/481 800 & 900 MHz compact portable offers Trunked Format and 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.

HIGH-QUALITY AUDIO OUTPUT

The TK-480/481 is equipped with an extra-large speaker element delivering a half-watt of audio power for robust clarity in noisy crowds and industrial environments.

DOT MATRIX LCD DISPLAY

The high-resolution dot matrix LCD provides the user with an easy-to-read interface in all operational modes. Included are a ten-character alphanumeric system/group/channel alias, a two-character operational/status indicator, a three-character channel or group number display, and seven function/status icons.

EXTRA-LONG BATTERY LIFE

Kenwood offers KNB-16A/17A 8/10-hour Ni-Cd batteries and KNB-21N/22N 10/13-hour Ni-MH batteries for a choice of long or extra-long life in any application.

MIL-SPEC SPEAKER MIC WITH PROGRAMMABLE CONTROLS

The KMC-25 mic has two unique programmable function (PF) keys for repetitive operations such as home channel select, monitor and high/low volume, thus enhancing user convenience and safety. The recessed orange PF key is ideally positioned for use as an Emergency ANI key. And the KMC-25 speaker microphone doesn't compromise the radio's integrity as it meets the same tough MIL-STD 810 C, D & E specifications as the radio.

PROGRAMMABLE FUNCTION KEYS (PF KEYS)

Software-driven PF keys allow for customized radio controls and features settings, ensuring simple operation for the average fleet user as well as more sophisticated settings for supervisory personnel and special applications.

FLASH MEMORY ADVANTAGE

Flash memory means updates and advanced options can be installed electronically without opening the radio unit, making changes fast and easy with minimal downtime.

WEATHER-SEALED

Integrated elements — such as the sealed accessory connector, keypad membrane, gaskets, chassis O-rings and polypropylene speaker — help to prevent moisture penetration and meet the demanding MIL-STD "driving-rain" standard for performance in wet weather. Additionally, the universal accessory connector and battery contacts use spring-action gold-alloy elements to ensure excellent contact, conductivity and anti-corrosive properties.

FleetSync™ by KENWOOD

VERSATILITY

TRUNKED FORMAT

Trunked Format provides both programmable LTR® trunked and conventional system partitions within the radio for operation on multiple systems. LTR® trunking systems automatically provide communications on any available channel within a pool of channels on each system. The Kenwood TK-480/481 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 it cannot check channels on other programmed conventional or trunked system partitions.

LARGE CHANNEL CAPACITY

The TK-480/481 answers the call for large systems, multiple systems and growing fleet sizes with the large-capacity 32 Systems/250 Group IDs[2].

[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 within programmed conventional systems.

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.

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 operations[3]. 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.
- **Extended ID List Capacity (100*)** allows a base station radio to select up to 100 target fleet radios by nametag to send 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.

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 oscillators, an efficient MOS-FET power module and advanced filtering are just some of the features that give the TK-480/481 both the performance and power to be a key component of any well-designed radio system.

COMPANDED AUDIO (Both TK-480 & TK-481)

Audio compandor noise-reduction technology enhances audio clarity on radio systems. Voice intelligence components are amplified and compressed at the transmit end then expanded on the receive end to reproduce the original audio signal.

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 modules for voice scrambling from low-level inversion scrambling to high-level encryption types. The radio's programming also allows both automatic and manual control for clear and coded modes. (Encryption/scrambler modules and ANI modules cannot be installed in the same radio)

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 ID numbers, user and department names, service records, etc. to make electronic identification easy even if external labels, markings or factory serial numbers have been removed.

OTHER FEATURES

▮ LCD AND KEY LIGHT CONTROL ▮ TRI-COLOR LED ▮ QT, DQT CODED SQUELCH ▮ DTMF DECODE ▮ HIGH/LOW POWER ▮ TALK AROUND ▮ BUSY CHANNEL LOCKOUT ▮ TIME OUT TIMER ▮ LOW BATTERY ALERT ▮ MINIMUM VOLUME ▮ ANNUNCIATION TONE CONTROL ▮ PC PROGRAMMING & TUNING ▮ PASSWORD PROTECTED PROGRAMMING/CLONING ▮ RADIO LOCK PASSWORD ▮ KEY LOCK ▮ 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.

TK-480/481
800/900 MHz FM Transceivers

OPTIONS

				
KNB-16A	**KNB-17A**	**KNB-17B**	**KNB-21N**	**KNB-22N**
Ni-Cd Rechargeable Battery (7.2 V, 1100 mAh)	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)[1]	Multi-Charger Adapter (holds six KSC-20 or KSC-24 chargers)[1]
				
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)	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

[1]*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-480	TK-481
GENERAL		
Frequency range	RX: 851 ~ 870 MHz TX: 806 ~ 825 MHz, 851 ~ 870 MHz (Talk Around)	RX: 935 ~ 941 MHz TX: 896 ~ 902 MHz, 935 ~ 941 MHz (Talk Around)
System	Max. 32	
Group	Max. 250 per system	
Channel capacity (Conventional)	Max. 600	
PLL channel spacing (PLL step: 12.5 kHz)	25 kHz	12.5 kHz
Battery voltage	7.5 V DC ± 20 %	
Battery life (5-5-90 duty cycle)		
KNB-16A battery	8 hours	
KNB-17A battery	10 hours	
KNB-21N battery	10.5 hours	
KNB-22N battery	13 hours	
Operating temperature range	-22° F ~ +140° F (-30° C ~ +60° C)	
Frequency stability (-22° F ~ +140° F)	±0.00025%	±0.00015%
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	ALH22961110	ALH22992110
FCC compliance	FCC part 90	

	TK-480	TK-481
RECEIVER (Measurements made per TIA/EIA-603)		
RF input impedance	50 Ω	
Sensitivity* (12 dB SINAD)	0.30 µV	
Selectivity*	70 dB: ±25 kHz	63 dB: ±12.5 kHz
Intermodulation distortion*	65 dB: ±25/50 kHz	60 dB: ±12.5/25 kHz
Spurious response	70 dB (except 1/2 IF)	
Audio output	500 mW at 16Ω, with less than 5% distortion	
Channel frequency spread	19 MHz	6 MHz
TRANSMITTER (Measurements made per TIA/EIA-603)		
RF power output	HI: 2.5 W, LO: 1 W	
RF output impedance	50 Ω	
Spurious & harmonics	60 dB	
Modulation	16KØF3E	11KØF3E
FM noise	45 dB	40 dB
Audio distortion	Less than 5%	
Channel frequency spread	64 MHz	45 MHz

** Typical specifications*

Kenwood reserves the right to change specification and features without prior notice.
LTR® is a registered trademark of Transcrypt International.
FleetSync™ is a registered trademark of Kenwood Corporation.
GE-STAR® is a registered trademark of Ericsson Inc.
MDC-1200® is a registered trademark of Motorola Inc.

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

JQA-1205 ISO 9001
Communications Equipment Division
Kenwood Corporation
ISO9001 certification

KENWOOD CORPORATION
14-6, 1-chome, Dogenzaka, Shibuya-ku, Tokyo 150-8501, Japan

KENWOOD COMMUNICATIONS CORPORATION
Headquarters
3975 Johns Creek Court, Suwanee, GA 30024-1265

Order Administration/Customer Support/Distribution
P.O. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745

KENWOOD ELECTRONICS CANADA INC.
Canadian Headquarters
6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

This has been printed on recycled paper.
CL421KP-E-6 (00) 010705B Printed in Japan

KENWOOD

TK-480/481 Version 2.0

FleetSync™ by KENWOOD

800/900 MHz FM Transceivers

- TRUNKED FORMAT (Trunked & Conventional Systems)
- FleetSync™ DIGITAL MESSAGING & SIGNALING
- MULTIPLE SCAN FUNCTIONS
- QT & DQT CODED SQUELCH
- COMPANDED AUDIO
- 7 PROGRAMMABLE FUNCTION KEYS
- 10-CHARACTER ALPHANUMERIC ALIAS
- MIL-STD 810 C, D & E