KENWOOD

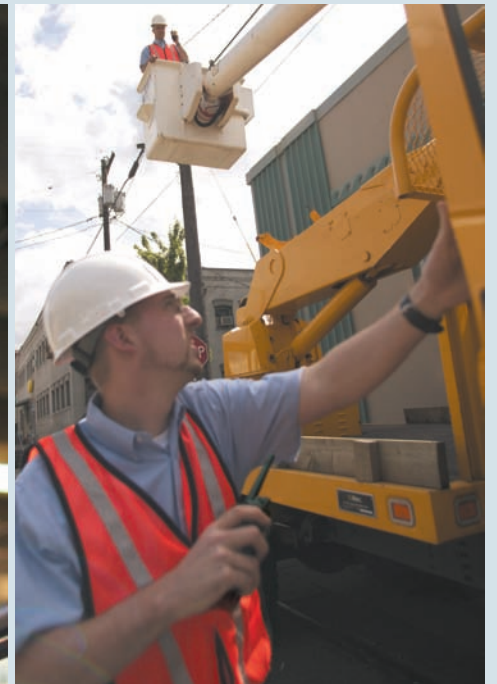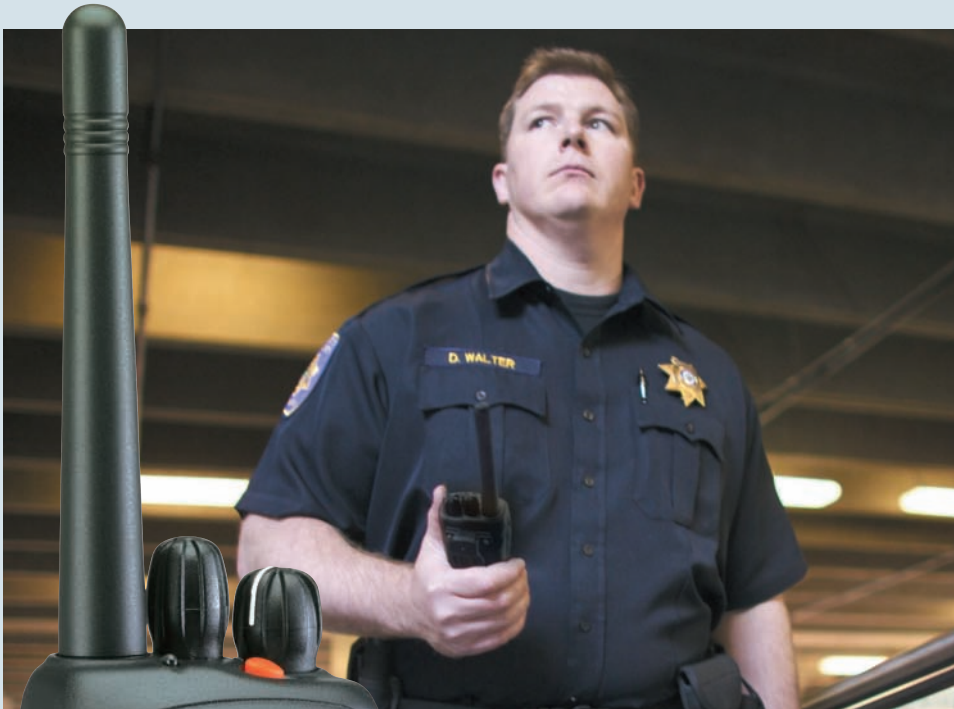## Listen to the Future

TK-2180/3180

VHF/UHF FM Portable Radios

5-tone **FleetSync®** by KENWOOD
Lone Worker *You'll never work alone.*

- WIDE BAND COVERAGE
- 5 WATT UHF & VHF MODELS
- EXTRA LARGE CHANNEL CAPACITY
- DUAL PRIORITY SCAN
- DOT MATRIX DISPLAY
- ENHANCED KENWOOD AUDIO
- VOX READY
- VOICE INVERSION SCRAMBLER
- FleetSync® / FleetSync® II
- 5-TONE SIGNALLING
- LONE WORKER
- TRANSPARENT DATA MODE
- QT / DQT / DTMF
- VGS-1 VOICE GUIDE & STORAGE UNIT (OPTION)
- EASY OPTION PORT (26-PIN)
- MPT TRUNKING UPGRADE OPTION (MPT1327)
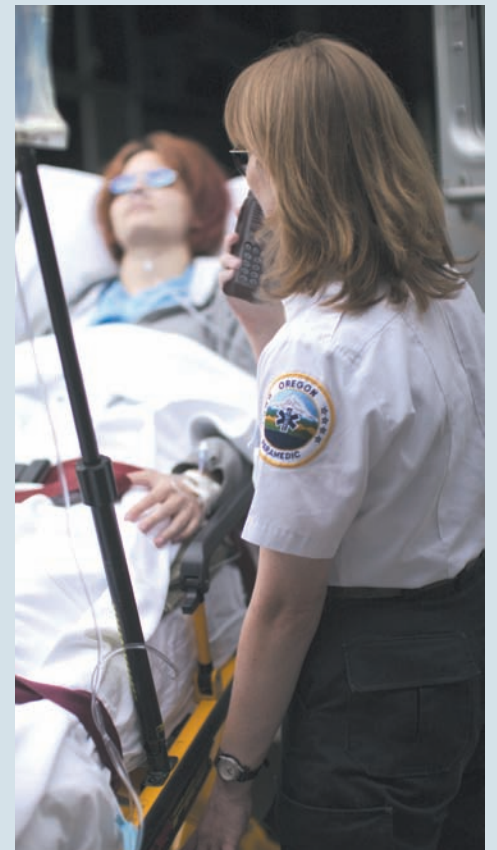
Meets the next generation in professional handheld communications

Kenwood's TK-2180/3180 defines a bold new standard for portable radio performance, scoring high marks for operating ease, versatility and reliability.

WIDE BAND OPERATION

The TK-2180/3180 models feature wide band UHF (70 MHz) and VHF (38 MHz) coverage in one radio model.

EXTRA LARGE CHANNEL CAPACITY

The large 512 channel / 128 zone capability* accommodates virtually any current or future capacity requirement.

*Maximum capacity notes

128 Conventional Zones cumulative maximum per radio

512 Conventional Channels cumulative maximum per radio

250 Channels maximum per any Conventional Zone

DOT MATRIX DISPLAY

The backlighting and high-resolution dot matrix 12-character alphanumeric display provides easy-to-read channel aliases day or night. Also a 3-digit sub-display for zone/channel numbers and icons for function/status indicators make for intuitive operation. The display can be dealer customised for indication in languages other than English.

NEW CONCEPT DESIGN

Kenwood employed premium industrial design concepts to make the TK-2180/3180 portables functionally practical, rugged and an attractive piece of equipment to carry.

KENWOOD "K"LARITY — ENHANCED AUDIO

Kenwood utilizes its long standing audio heritage to optimize voice frequency components so that the audio output cuts through typical ambient noise. This enhancement and the companded noise reduction provide clarity and low distortion.

VOICE INVERSION SCRAMBLER

The built-in voice inversion scrambler provides basic communications protection against casual eavesdropping.

VOX READY

The TK-2180/3180 offers convenient hands-free operation with a compatible headset. The TK-2180/3180 internal VOX (voice-operated transmission) circuitry provides automatic PTT and a 10-level sensitivity adjustment for different ambient noise levels.

MEETS/EXCEEDS MIL-STD BLOWING RAIN & IP54/55

The TK-2180/3180 is built to survive the hard knocks, drops and harsh weather environments of its users. It meets or exceeds the stringent IP54/55 dust and water protection standards and the MIL-STD 810 C, D, E & F environmental standards including the demanding "blowing rain" test.

Outstanding Features

FleetSync® & FleetSync® II

FleetSync®
by KENWOOD

Kenwood's FleetSync® digital signalling system includes PTT ID digital ANI for instant radio call identification and Emergency status for personnel safety. FleetSync also includes status messaging, selective calling and short/long text dispatch messaging features. The TK-2180/3180 supports either original FleetSync® or FleetSync® II*.

* FleetSync and FleetSync II are incompatible.

DUAL PRIORITY & VARIOUS SCANNING FUNCTIONS

Dual-Priority Scan automatically checks two important channels for activity while channel scanning. Also, each radio can be programmed to scan any organization of channels and talk groups using the many programmable scan features and parameters.

5-TONE SIGNALLING

In addition to FleetSync®, the TK-2180/3180 includes the industry standard signalling formats: QT/DQT, DTMF and 5-tone. In particular, 5-tone signalling has been significantly enhanced for greater flexibility, and current users of this format will welcome the fact that it can be used in combination with FleetSync® for Short/Long Text Messaging.

AVAILABLE SOFTWARE (OPT.)

ZVEI-Digital signalling and a voting function that utilizes the signalling can be added as optional software.

VOICE GUIDE & STORAGE* (OPT.)

This innovative Kenwood option makes several functions possible. "Voice Guide" announces channel, zone, feature activation/ deactivation, etc. in a clear synthesised voice. "Voice Storage" records up to 300 seconds of receive audio for missed calls or your own voice for memo recording. It also has an "Auto-Reply" greeting and can record voice messages for unattended radios while away from the radio or while in a meeting (the calling unit must send a FleetSync® selective call for activation).

* Announcement only available in English.
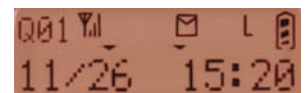*Please note NoN EU Countries only.*

EASY OPTION PORT (26-PIN)

Kenwood's plug-in option port enables installation of the external boards such as the VGS-1 Voice Guide and Storage Unit quick and simple.

REAL-TIME CLOCK FOR TIME STAMPING

A new Kenwood feature, this real-time clock can be used for basic time-stamping.

LONE WORKER

This ingenious feature provides an extra layer of security and safety for individuals who work remotely as well as for those who work in hazardous areas. As long as the buttons are pressed regularly, the radio operates normally; however, if there is a long lapse (programmable), it will sound an alert. In the absence of further response from the user, the TK-2180/3180 will place an emergency call to a pre-determined person or group of people.

TRANSPARENT DATA MODE

Kenwood's Transparent Data mode works in combination with FleetSync® to enable full character transparency for exchanging data with a transceiver linked to a PC or peripheral equipment. This can be used for remote control and remote maintenance of status monitoring, etc.

OTHER FEATURES

- 5-WATT UHF & VHF MODELS
- BATTERY STATUS INDICATOR
- PROGRAMMABLE FUNCTION KEYS
- EMERGENCY KEY
- WIDE/NARROW PER CHANNEL
- RSSI LEVEL INDICATOR
- EMBEDDED MESSAGES
- TRANSCEIVER PASSWORD
- FLASH MEMORY
- WINDOWS PC PROGRAMMING & TUNING
- QT/DQT & DTMF

Options

- **KNB-31A**
  Ni-Cd Rechargeable
  Battery Pack (1700 mAh)

- **KNB-32N**
  Ni-MH Rechargeable
  Battery Pack (2500 mAh)

- **KNB-33L**
  Li-ion Rechargeable
  Battery Pack (2000 mAh)

- **KSC-32**
  Tri-chemistry
  Rapid Charger

- **KSC-356**
  6-way Tri-chemistry
  Charger

- **VGS-1**
  Voice Guide &
  Storage Unit

- **KRA-22**
  VHF Low Profile
  Helical Antenna

- **KRA-23**
  UHF Low Profile
  Helical Antenna

- **KRA-26**
  VHF Helical Antenna

- **KRA-27**
  UHF Whip Antenna

- **KMC-41**
  Speaker Microphone

- **KMC-38GPS**
  Speaker Microphone
  with Integral GPS Unit

- **KEP-1**
  Heavy-duty Earphone

- **KHS-11BL**
  2-Wire Palm Mic
  with Earphone

- **KHS-12BL**
  3-Wire Mini Lapel Mic
  with Earphone

- **KHS-14**
  Lightweight Single
  Muff Headset

- **KHS-15-OH**
  Heavy-duty
  Over-the-Head Headset

- **KBH-11**
  Belt Clip (2.5")

- **KLH-125**
  Nylon Case with
  Metal Clip

- **KLH-135**
  Soft Leather Case

- **KLH-136**
  Hard Leather Case

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

GENERAL	TK-2180 E	TK-3180 E
Frequency Range	136-174 MHz	400-470 MHz
Number of Channels*	Max. 512 Ch's total per Radio	
Zone	Max. 128 per Radio	
Ch	Max. 250 per Zone	
Channel Spacing	25 kHz/20 kHz/12.5 kHz	
Battery Voltage	7.5 V DC ± 20 %	
Battery Life (5-5-90 duty cycle, during hi-power)		
with KNB-31A (1700 mAh)	Approx. 9 hours	
with KNB-32N (2500 mAh)	Approx. 14 hours	
with KNB-33L (1700 mAh)	Approx. 10 hours	
Operating Temperature Range**	-30 °C ~ +60 °C	
Frequency Stability	±2.5ppm (-30 °C ~ +60 °C)	
Antenna Impedance	50 Ω	
Channel Frequency Spread	38 MHz	70 MHz
Dimensions (W x H x D), Projections not included		
Radio Only	58 x 136 x 21.5 mm	
with KNB-31A	58 x 136 x 39.5 mm	
with KNB-32N	58 x 136 x 39.5 mm	
with KNB-33L	58 x 136 x 33 mm	
Weight (net)		
Radio Only	260 g (includes supplied accessories)	
with KNB-31A	530 g [with antenna (KRA-22/23) and belt clip (KBH-11)]	
with KNB-32N	560 g [with antenna (KRA-22/23) and belt clip (KBH-11)]	
with KNB-33L	400 g [with antenna (KRA-22/23) and belt clip (KBH-11)]	
Applicable Standards	EN300 086, EN300 113, EN300 219, EN301 489 EN60065, EN60950-1, EN60215	

*Maximum capability depends on the number of programmed Zones and repeater channels.
**Operating temperature range of the KNB-32N/33L: -10 °C ~ +60 °C

RECEIVER	TK-2180 E	TK-3180 E
Sensitivity (EIA 12dB SINAD)	0.28 µV/0.28 µV/0.32 µV	
Sensitivity (EN 20dB SINAD) 25 kHz/20 kHz/12.5 kHz	-3 dB µV/-3 dB µV/-2 dB µV	
Adjacent Channel Selectivity 25 kHz/20 kHz/12.5 kHz	73 dB/73 dB/63 dB	
Intermodulation	65 dB	
Spurious Response Rejection	70 dB	
Audio Output (8 Ω impedance)	500 mW with less than 3 % distortion	
Measurement	EN Standards	
TRANSMITTER		
RF Power Output		
High	5 W	
Low	1 W	
Modulation Limiting	±5.0 kHz at 25 kHz	
	±4.0 kHz at 20 kHz	
	±2.5kHz at 12.5 kHz	
Spurious Emission	-36 dBm ≤ 1 GHz, -30 dBm > 1 GHz	
FM Noise (EIA)	45 dB/45 dB/40 dB	
Modulation Distortion	Less than 3%	
Microphone Impedance	2 kΩ	
Measurement	EN standards	

Kenwood reserves the right to change specifications and features without prior notice.
FleetSync® is a registered trademark of Kenwood Corporation.

Applicable MIL-STD & IP

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures	MIL 810F Methods/Procedures
Low Pressure	500.1/Procedure I	500.2/Procedure I, II	500.3/Procedure I, II	500.4/Procedure I, II
High Temperature	501.1/Procedure I, II	501.2/Procedure I, II	501.3/Procedure I, II	501.4/Procedure I, II
Low Temperature	502.1/Procedure I	502.2/Procedure I, II	502.3/Procedure I, II	502.4/Procedure I, II
Temperature Shock	503.1/Procedure I	503.2/Procedure I	503.3/Procedure I	503.4/Procedure I, II
Solar Radiation	505.1/Procedure I	505.2/Procedure I	505.3/Procedure I	505.4/Procedure I
Rain	506.1/Procedure I, II	506.2/Procedure I, II	506.3/Procedure I, II	506.4/Procedure I, III
Humidity	507.1/Procedure I, II	507.2/Procedure II, III	507.3/Procedure II, III	507.4
Salt Fog	509.1/Procedure I	509.2/Procedure I	509.3/Procedure I	509.4
Dust	510.1/Procedure I	510.2/Procedure I	510.3/Procedure I	510.4/Procedure I, III
Vibration	514.2/Procedure VIII, X	514.3/Procedure I	514.4/Procedure I	514.5/Procedure I
Shock	516.2/Procedure I, II, V	516.3/Procedure I, IV	516.4/Procedure I, IV	516.5/Procedure I, IV
International Protection Standard				
Dust & Water Protection	IP54/55			

CE 0168①

ISO9001 Registered
Communications Equipment Division
Kenwood Corporation

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