

KENWOOD

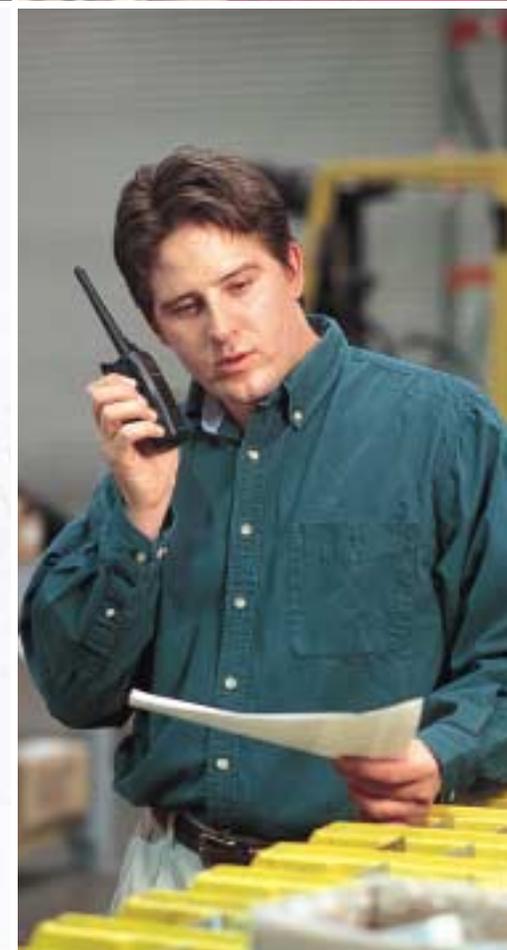
TK-2140/3140

FleetSync™
by KENWOOD

VHF/UHF FM Portable Radios



- COMPACT AND SLEEK
- TRUNKED FORMAT (LTR® TRUNKED & CONVENTIONAL SYSTEMS)
- CONVENTIONAL FORMAT (WITH PRIORITY SCAN)
- FleetSync™ DIGITAL MESSAGING & SIGNALING
- MULTIPLE SCAN FUNCTIONS
- 12-CHARACTER DOT MATRIX LCD
- 10-CHARACTER ALPHANUMERIC ALIAS
- BACKLIGHTED KEYS & LCD
- QT & DOT CODED SQUELCH
- FULL RANGE OF SECURITY FEATURES
- BATTERY STATUS INDICATOR
- FLASH MEMORY ADVANTAGE
- DTMF MEMORY CAPABILITY



The Easy Choice — Kenwood's TK-2140/3140

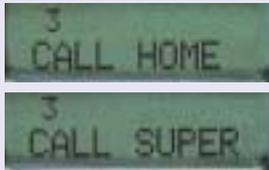
Compact and sturdy, the new, rugged TK-2140/3140 portables from Kenwood fit snugly in your hand and ride lightly on your belt. These radios offer a choice of Ni-Cd, Ni-MH and Li-Ion battery packs for various uses. You can operate the TK-2140/3140 in Trunked or Conventional Formats and add FleetSync™ Digital Messaging & Signaling for ultimate versatility in any type of business. Rugged, military standard construction meets the latest in handheld design; this portable is built to take on every weather or durability test you can throw at it. Once again, Kenwood sets a new standard for performance and reliability in a compact portable packed with features.

TWO-COLOR LED

The two-color LED provides traditional transmit/warning (red), receive (green), and alert (orange) visual indications.

DOT MATRIX LCD DISPLAY

Despite the radio's compact size, it is equipped with a high-resolution dot matrix liquid crystal display. The main display line has ten alphanumeric characters for system/group/channel name aliases with two characters dedicated for operational/status indicators. A three-character sub-line can be programmed for channel or group number. Six icons provide easy to remember feature and status indicators in all modes of operation.



LIGHT CONTROL

Save your battery and get maximum nighttime operation with manual and auto shut-off controls for key backlighting and LCD illumination.

HIGH-QUALITY AUDIO OUTPUT

TK-2140/3140 radios are equipped with an extra-large speaker to deliver a full half-watt of audio power for robust clarity in crowds and noisy industrial environments.

MORE SENSITIVE CONTROLS

The encode and volume knobs offer torque feedback for greater usability even when the controls are not visible.

MIL-SPEC SPEAKER MIC WITH PROGRAMMABLE CONTROLS

The KMC-25 speaker microphone option meets the same tough MIL-STD 810 C, D & E specifications as the TK-2140/3140. A weather-sealed quick-disconnect 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 — adding extra convenience and safety. In addition, the recessed orange key is ideally positioned as an auxiliary emergency ANI key.



PROGRAMMABLE FUNCTION KEYS (PF KEYS)

Each key (except PTT) is programmable for almost any radio feature allowing the unit to be customized to fit your specific requirements. These radios are designed with a simple feature set to meet immediate needs and reduce training time. Add sophisticated features for management units and special applications.

FLASH MEMORY ADVANTAGE

Flash memory allows electronic updates, addition of advanced feature sets and system architectural changes without the need to open the radio. This means fast changes for the system operator and less downtime for users.





VERSATILITY

TRUNKED FORMAT

Trunked Format provides both programmable LTR® trunked and conventional systems, partitioned for operation on multiple systems. LTR trunking systems automatically provide communications on any available channel within a pool of channels on each system. These radios feature 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 allow convenient dispatcher fleet control and monitoring. Conventional system partitions are programmable for multiple channels. Priority scan permits scanning of all channels while simultaneously monitoring a priority channel, allowing for activity even while receiving a call on another non-priority channel.¹

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

CONVENTIONAL FORMAT

Conventional Format provides traditional operation programmable for multiple channels in one contiguous channel group or multiple channel groups accommodating different geographical areas, user organizations, special use or temporary requirements. Set priority scan for single group or multiple group scan so you can scan a current channel group while scanning all other groups.

LARGE CHANNEL CAPACITY

The demands of large systems, multiple systems and growing fleets are accommodated with the large-capacity 32 Systems / 250 Group IDs in Trunked Format or 250 channels in Conventional Format.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 both system and group scan, permitting monitoring of calls on multiple systems and multiple talk groups per system. Priority scanning is available 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.

FleetSync™
by KENWOOD

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 with a unique Fleet and Unit number. This 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) that can be sent on each PTT using the FleetSync ID. An associated alphanumeric username 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 confirm who is talking, thus maximizing fleet management efficiency 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 on 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 large variety of job task messages. Fleet radios can display and respond accordingly with appropriate acknowledgements. 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 between any FleetSync-capable radios (80/140-Series). 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, and the FleetSync PC Serial Interface.

■ **Short Text Messaging⁴** permits fleet radios to receive, store, review and display up to four 48-character text messages. Fleet radios can receive detailed custom text messages even when unattended, thereby increasing fleet efficiency and productivity.

■ **PC Serial Interface** enables serial communications between a FleetSync-capable mobile radio (e.g. 80-Series model) and a FleetSync-compatible peripheral device or dispatch software.⁴



⁴ Short Text Messaging requires a FleetSync-capable base station mobile to be serially interfaced via the “PC Serial Interface” feature with a computer running FleetSync-compatible dispatch software.



PERFORMANCE

IMPRESSIVE SPECIFICATIONS, WORLD-CLASS PERFORMANCE

High-stability 2.5PPM oscillators, an efficient MOS-FET power module and advanced filtering are just some of the engineering features that give these transceivers the performance and power to serve in any modern radio system.

WIDE-BAND COVERAGE

A discrete MOS-FET power module results in wide coverage for local, regional and statewide frequency needs. This wide-band coverage means both traditional and newly allocated frequencies can be accommodated.

COMPANDED AUDIO

The compander noise-reduction feature enhances audio clarity especially on wide and 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. This feature works on wide and narrow band channels.

WIDE BATTERY SELECTION

Kenwood offers a lightweight Li-Ion battery (KNB-24L), ideal for low-temperature environments; a durable Ni-Cd battery (KNB-25A); and a powerful Ni-MH battery (KNB-26N) for extra-long life. A convenient and exclusive Kenwood feature is the battery status indicator (High/Sufficient/Low/Very Low), giving the user an immediate visual indication of the amount of charge left. The belt clip is designed to stay in place when changing batteries.



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



SECURITY

PASSWORD-PROTECTED PROGRAMMING AND CLONING

Cloning enables field duplication of radios using a simple interface cable, without a PC or special test components. For users who do not require this cloning capability, programming a secure password prevents cloning of a lost or stolen portable. As a further security measure, all radios can have the programming password(s) protected to prevent unauthorized program information extraction and duplication.

RADIO-LOCK PASSWORD

Preventing unauthorized use of lost or stolen portables, this feature requires an access code — with a maximum of six digits — to be entered every time the radio is powered up.

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

STRENGTH & DURABILITY

MIL-STD 810 C/D/E ENVIRONMENTAL TESTS

In addition to Kenwood's own demanding technical and industrial standards, the TK-2140/3140 meets or exceeds all the tough US Department of Defense MIL-STD 810 C, D & E environmental standards in eleven categories including the demanding driven rain standard. This means that you can count on these radios to keep on performing even in storm-like conditions.

DIE-CAST CHASSIS

The aluminum die-cast chassis contributes to the TK-2140/3140's durability and strength while facilitating heat dissipation. The super-tough polycarbonate contoured case contributes to durability for many years of use in rough conditions.

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

OTHER FEATURES

- BUILT-IN QT, DQT
- DTMF (TRUNKED & CONVENTIONAL MODES)
- DTMF ENCODE
- 2-TONE (CONVENTIONAL FORMAT ONLY)
- SELECTABLE WIDE/NARROW BANDWIDTH (PER CHANNEL)
- OPERATOR SELECTABLE TONE (CONVENTIONAL FORMAT ONLY)
- HIGH/LOW POWER
- USER-ADJUSTABLE SQUELCH LEVEL
- KEY LOCK
- D.B.D (Dead Beat Disable)
- BUILT-IN MODEM (FreetSync™)
- RUGGED BATTERY RELEASE MECHANISM
- ADJUSTABLE MINIMUM VOLUME LEVEL

OPTIONS

			
KNB-24L	KNB-25A	KNB-26N	KSC-25
Li-ion Rechargeable Battery Pack (1400 mAh)	Ni-Cd Rechargeable Battery Pack (1200 mAh)	Ni-MH Rechargeable Battery Pack (2000 mAh)	Rapid Charger

			
KBP-5	KRA-22	KRA-23	KRA-14
AA Refillable Battery Pack (holds 6 AA-size alkaline cells)	VHF Helical Short Antenna	UHF Helical Short Antenna	VHF Helical Antenna

			
KRA-15	KMC-25	KLH-114	KMB-16
UHF Whip Antenna	Speaker Microphone	Leather Case	Multi-Charger Adapter (holds six KSC-25 chargers)

				
KVC-4	KEP-1	KHS-11BL	KHS-12BL	KHS-14
Rapid Rate Vehicular Charger Adapter (requires KSC-25)	Heavy Duty Earphone (requires KMC-25)	2-Wire Palm Mic with Earphone	3-Wire Mini Lapel Mic with Earphone	Lightweight Single Muff Headset

Specifications

	TK-2140	TK-3140
GENERAL		
Frequency range		
Type 1	136 ~ 174 MHz	450 ~ 490 MHz
Type 2		470 ~ 512 MHz
Type 3		400 ~ 430 MHz
Systems (Trunked mode)		Max. 32
Group (Trunked mode)		Max. 250
Channels		
Trunked/Conventional format		Max. 600/Max. 250
Channel spacing		
Wide/Narrow	25, 30 kHz/12.5, 15 kHz	25 kHz/12.5 kHz
Channel step	2.5, 5, 6.25, 7.5 kHz	5, 6.25 kHz
Operating voltage		7.5 V DC ± 20 %
Battery life (5-5-90), during hi-power		
KNB-24L		Approx. 9 hours
KNB-25A		Approx. 8 hours
KNB-26N		Approx. 12 hours
Operating temperature range	-22° F ~ +140° F (-30° C ~ +60° C) [-14° F ~ +140° F (-10° C ~ +60° C) when KNB-24L/26N in use]	
Frequency stability		±0.00025% (-22° F ~ +140° F)
Antenna impedance		50 Ω
Channel frequency spread		
Type 1	38 MHz	40 MHz
Type 2		42 MHz
Type 3		30 MHz
Dimensions (W x H x D), Projections not included		
Radio only	2-7/32 x 4-1/8 x 7/8 in. (56 x 105 x 21.9 mm)	
with KNB-24L	2-7/32 x 4-1/8 x 1-5/32 in. (56 x 105 x 29.5 mm)	
with KNB-25A	2-7/32 x 4-1/8 x 1-3/8 in. (56 x 105 x 35.7 mm)	
with KNB-26N	2-7/32 x 4-1/8 x 1-3/8 in. (56 x 105 x 35.7 mm)	
Weight (net)		
Radio only	5.99 oz. (170 g) antenna and belt hook	
with KNB-24L	10.58 oz. (300 g) antenna and belt hook	
with KNB-25A	12.7 oz. (360 g) antenna and belt hook	
with KNB-26N	14.46 oz. (410 g) antenna and belt hook	
FCC ID		
Type 1	ALH32253110	ALH32263110
FCC compliance		
Type 1	Parts 22,74,90	Parts 22,74,90,95
IC certification	282196842A	282196837A

	TK-2140	TK-3140
RECEIVER (Measurements made per TIA/EIA-603)		
Sensitivity (12 dB SINAD)		
Wide/Narrow		0.25µV/0.28µV
Selectivity		
Wide/Narrow	70 dB/65 dB	70 dB/65 dB
Intermodulation Distortion		
Wide/Narrow	70 dB/65 dB	70 dB/62 dB
Spurious response		70 dB
Audio output	500 mW with less than 5% distortion	
TRANSMITTER (Measurements made per TIA/EIA-603)		
RF power output		
Hi/LO	5 W/1 W	4 W/1 W
Spurious response		70 dB
Modulation		
Wide/Narrow	16KØF3E/11KØF3E	
FM Noise		
Wide/Narrow	45 dB/40 dB	
Audio distortion	Less than 3%	
<i>Kenwood reserves the right to change specification and features without prior notice. LTR® is a registered trademark of Transcript International. FleetSync™ is a trademark of Kenwood Corporation.</i>		

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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