

## *New Product Release Information*

**TK-2312E**  
**TK-3312E**

**VHF FM Transceiver**  
**UHF FM Transceiver**

March 2011

We are pleased to send you product information on our new VHF and UHF FM Portable Transceivers, the TK-2312E and TK-3312E.



**1. SCHEDULE**  
Launch

: April 2011

## 2. MAIN FEATURES

### 128 Channels or 128 Zones total capacity

The 128 channel or 128 zone capacity leaves room for virtually any current or future requirement for single- or multi-site radio systems.

### Wide Band Coverage (70MHz in UHF)

The TK-2312/3312 Series offer wide frequency coverage, 38MHz band-spread for VHF (136-174 MHz) and 70MHz band-spread for UHF (400-470 MHz). Great for a wide range of customers, and very useful for rental business.

### Easy Operation

The 128-channel, 128-zone capacity is ample for virtually any current or future requirement for single- or multi-site radio systems.

### Clear and Crisp, Enhanced Kenwood Audio

The TK-2312/3312 Series provides loud clear audio even in noisy environments. Kenwood has utilized its longstanding 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 especially on narrow bandwidth systems.

### Robust & Water Resistant

The TK-2312/3312 Series are built to survive hard knocks, drops and all-weather environments of its users. It meets or exceeds the stringent IP54/55 dust and water intrusion standards and the MIL-STD 810 C, D, E, F and G environmental standards. It still meets IP54/55 when used with the KMC-45 external speaker microphone.



### Variety of Signalling

✓ **QT/DQT**

The Encoder/Decoder function uses QT/DQT to segregate talk groups, so users only hear calls from their own group.

DTMF PTT ID is included for dispatch operations or for a simple remote control application.

✓ **5-Tone Signalling**

Built-in 5-tone encoder/decoder provides 6-different formats, ZVEI, ZVEI2, CCIR, EIA, EEA and the Kenwood format. It is also possible to set not only

5-Tone but also 6-Tone, 7-Tone, 8-Tone, 2-frames 5-Tone and the 3-frames 5-tone signalling.

**5-tone**

✓ **FleetSync® PTT ID, SelCall & Emergency**

Utilizing Kenwood's FleetSync® signalling protocol, the TK-2312E/3312E series have PTT ID (ANI: automatic number identification) and Selective Calling capabilities for managed dispatch operations. For hazardous/hostile duty environments, a PF key can also be programmed for Emergency status to alert the dispatcher and/or operator to a user in distress.

**FleetSync™**  
by KENWOOD

✓ **MDC-1200 Signalling Compatible\***

The following features are available with the built-in MDC signalling. The function can be set per zone.

■ PTT ID Encode ■ Emergency Encode ■ Stun/Revive Decode ■ Radio check Decode

## 9 Programmable Function Keys

No fewer than 9 programmable functions keys (7 on the front, 2 on the side) allow the radio to be customized to fit specific requirements. A PF key also can be programmed for the Emergency function to send a help signal to a pre-determined person or group, using DTMF, FleetSync® signalling.

## Emergency Function

For hazardous/hostile duty environments, the side keys can be programmed for Emergency use to transmit an alert to predetermined person or group using DTMF, FleetSync® signalling.

## GPS Ready

The TK-2312/3312 Series can be used in conjunction with the KMC-48GPS optional speaker microphone and the KAS-10 PC software\*, focusing on the demands for human location management application.

\* The TK-2312/3312 Series work as subscriber terminal. For Base station operation, you need a mobile radio.

## 4-Colours LED (Blue, Red, Orange and Green)

On top of existing colours (Red, Orange and Green), the TK-2312/3312 Series radios feature a Blue LED. With this variety of colour LEDs, radio users can recognize the caller when the radio receives a selective call transmission.

## Priority Scan

Scanning is a simple way to monitor multiple channels. There are both standard and priority scan modes available to the TK-2312/3312 Series. And Talk Back allows you to respond immediately to a call regardless of the pre-programmed or selected scan revert channel.

## Programmable Voice Inversion Scrambler\*

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

\*This function cannot be used in certain countries. Please contact your Kenwood contacts for further information.

## VOX Ready

The TK-2312/3312 Series offer convenient hands-free operation with a compatible headset. The TK-2312/3312 Series internal VOX (voice-operated transmission) circuitry provides automatic PTT and a 10-level sensitivity adjustment for different ambient noise levels.

## Independent Setting Per Channel (VOX, Comander, Scrambler)

The TK-2312/3312 Series can be dealer-programmed with VOX, Scrambler and Comander functions "per channel". If you program the same frequency on different channel, you can easily switch the function on/off by selecting the appropriate channel.

## 3. OTHER FEATURES

- Wide /Narrow per channel ■ Companded Audio per Channel ■ Talk Around ■ B.C.L. (Busy Channel Lockout) ■ Key Lock ■ Scan Del/Add function ■ Radio stun ■ Channel/Zone delete & add ■ T.O.T ■ Operator-selectable tone ■ Password protection ■ Wireless clone ■ Self-programming mode ■ Compatible with TK-2212/3212 batteries ■ KENWOOD ESN (Electronic Serial Number) ■ Adjustable Microphone Sensitivity by FPU only: High, Normal or Low ■ Microsoft Windows® PC Programming & Tuning

Windows® is a registered trademark of Microsoft Corporation in the United States and other countries.

## 4. QUALITY CONTROL

### ISO 9001 Quality Management for Manufacturing

TK-2312 and TK-3312 are manufactured in Kenwood's Singapore factory which has been assessed and registered as ISO9001 compliant. ISO9001 is the international standard for Quality Management Systems.

### Kenwood Original Quality Test Standards for Products

Each transceiver has passed Kenwood's original quality tests, which simulate years of sustained, demanding use in harsh operating conditions. These tests are more extreme than any of the accepted Industry Standards.

## 5. OPTIONAL ACCESSORIES

- KBH-10 Belt-Clip
- KNB-53N NiMH Battery (1,400 mAh)
- KNB-45L Li-Ion Battery (2,000 mAh)
- KNB-29N NiMH Battery (1,500 mAh)
- KRA-22 VHF short Antenna
- KRA-23 UHF short Antenna
- KRA-26 VHF Antenna
- KRA-27 UHF Antenna
- KSC-31 Rapid Charger for the KNB-53N
- KSC-35 Rapid Charger for the KNB-45L
- KMC-45 Heavy-duty Speaker-Microphone
- KMC-21 Lightweight Speaker-Microphone
- KHS-1 Headset with a boom-Mic. and PTT/VOX
- KHS-21 Headset with a boom-Mic.
- KHS-22 Behind-the-head Headset
- KHS-7 Single Headset with a boom-Mic.
- KHS-7A Single Headset with a boom-Mic. and Inline-PTT
- KHS-8BL 2-wires Microphone Kit
- KHS-9BL 3-wires Microphone Kit
- KHS-10-OH Heavy-duty Noise Reduction Headset with inline-PTT
- EMC-7 Clip Microphone with "D" Earpiece and PTT
- KHS-29F Boom Microphone with "D" Earpiece and PTT
- KLH-181PC Leather Case with integral belt clip
- KLH-182PG Leather case with swivel belt loop
- KWR-1 Water Resistant Bag
- KSC-316 6 Pocket Multiple Charger for the KNB-53N
- KSC-356 6 Pocket Multiple Charger for the KNB-45L

Programming Accessories for Dealers;

- KPG-22 Programming Cable
- KPG-134DM Programming Software

## 6. SUPPLIED ACCESSORIES

- Instruction Manual (En, Sp, Ger, Fr, Du, It, Tu, Greek)
- Belt-Clip (KBH-10)



## 7. SPECIFICATIONS : TK-2312E/ TK-3312E

General		TK-2312E	TK-3312E
Frequency Range		136-174 MHz	400-470 MHz
Number of Channel		Max. 128ch	
Channel Spacing		25 / 20 / 12.5 kHz	
Antenna Impedance		50 ohm	
Operating Voltage		7.5V DC±20%	
Battery Life (5-5-90, Save OFF)		with KNB-45L with KNB-53N with KNB-29N	12 hours 9 hours 10 hours
Operating Temperature Range		-30°C to +60°C	
Frequency Stability		± 2.5 ppm (-30°C to +60°C )	
Dimensions (W x H x D) (Projection excluded)		Radio only with Battery	54 x 122 x 21 mm 54 x 122 x 33.7 mm
Weight		Main body: 180g with KNB-45L : 300 g with KNB-53N : 365 g with KNB-29N : 380 g	
Applicable Standards		ETSI R&TTE ETSI Safety	EN 300 086, EN 300 113, EN 300 219, EN 301 489, EN 60065, EN60950-1, EN 60215
Environmental Specification and IP Rating		IP54/55, MIL-STD-810 C,D,E,F,G	
Receiver			
Sensitivity		EIA 12dB SINAD (25 / 20 / 12.5 kHz)	0.25 μV / 0.25 μV / 0.28 μV
Selectivity		(25 / 20 / 12.5 kHz)	70 dB / 70 dB / 62 dB
Intermodulation		(25 / 20 / 12.5 kHz)	67 dB
Spurious Response			70 dB
Audio Distortion			Less than 5 %
Audio Output (8 ohm impedance)			500 mW
Transmitter			
RF Power output			5W / 1W
Spurious Emission			-36 dBm ≤1 GHz , -30 dBm >1 GHz
FM Hum & Noise		(25 / 20 / 12.5 kHz)	45 dB / 45 dB / 40 dB
Audio Distortion			Less Than 3%

*Specifications shown are typical.*

*Kenwood follows a policy of continuous advancement in development.*

*For this reasons, specifications may be changed without notice.*