KENWOOD
Listen to the Future

TK-2260EX/3260EX

VHF/UHF FM Portable Radios

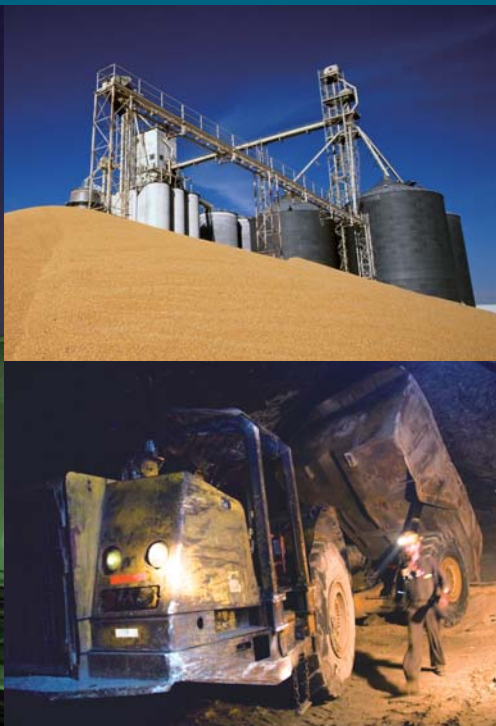## ATEX Radios for Reliable Communications in Potentially Explosive Atmospheres

ATEX Certifications

Gas : **II 2 G Ex ib IIC T4**
Dust : II 2 D Ex tD ibD A21 IP6x T110°C
Mining : I M2 Ex ib I

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

TK-2260EX

TK-3260EX

Intrinsic safety backed by Kenwood quality

Kenwood's TK-2260EX/3260EX portables are expressly designed to provide clear communications with intrinsic safety in potentially explosive duty environments such as oil refineries, chemical plants and grain silos. Kenwood radios are valued by professionals worldwide for their simple operation and reliable performance, and these new ATEX/IECEx-certified models boast such features as Lone Worker and Man-down Detection to further enhance employee safety.

▌ INTRINSIC SAFETY

Special enclosure and circuitry designs ensure that these portables meet ATEX requirements for intrinsic safety. Antistatic resin is used for the casing, battery and belt hook. Also, effective RF output is 1.2W, maintained within the upper limit set by ATEX directive.

▌ STAFF SAFE FUNCTIONS (MAN-DOWN / STATIONARY / MOTION DETECTION)

Three different staff safe functions are available that make use of the built-in motion sensor. When activated, a "man-down" alert is generated automatically if the radio (and user) is not upright for a length of time. Similarly alerts can be sent if the radio is stationary for a preset period or if it is being shaken/swung violently as when someone is running.

▌ LONE WORKER

This ingenious feature provides an extra layer of security and safety for individuals who work remotely or in hazardous areas. If the buttons are not operated for a certain time (programmable), it will sound an alert. If there is still no response from the user, the TK-2260EX/3260EX will place an emergency call to a predetermined person or group.

▌ VOTING

The Voting function (Intelligent Scanning) looks for and locks onto the best repeater station automatically in a multi-site system.

▌ PRIORITY SCAN & TALK BACK

Scanning is a simple way to monitor multiple channels and the TK-2260EX/3260EX (16-channel capacity) offers both standard and priority scan modes. Another convenience is Talk Back, which allows immediate response to a call without having to manually search or change channels.

▌ FleetSync® PTT ID, SELCALL & EMERGENCY

Utilising Kenwood's FleetSync® digital signalling protocol, the TK-2260EX/3260EX has PTT ID (ANI: automatic number identification) and Selective Calling capabilities for managed dispatch operations. The orange key can also be programmed for Emergency status to alert the dispatcher.

▌ BUILT-IN VOICE SCRAMBLER

The voice-inversion scrambler ensures basic communications security against casual eavesdropping.

Note: This function cannot be used in certain countries.

▌ QT/DQT/DTMF/5-TONE

The industry standard tone/code squelching formats QT (CTCSS) and DQT (digital) provide system access and group segregation on shared frequencies. DTMF PTT ID is included for dispatch operations or for a simple remote control application. The DTMF decode capabilities include a selective call ID, transpond with ID, "wild card" group calling and radio stun. 5-Tone encode and decode provides 6 different formats (ZVEI, ZVEI2, CCIR, EIA, EEA, Kenwood format) for selective call use. All selective calling formats (FleetSync®, DTMF & 5-Tone) have call alert tones and LED indications.

▌ ENHANCED KENWOOD AUDIO

The user enjoys loud, clear, audio even in noisy environments. Kenwood has drawn on 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.

▌ EXTRA-LONG BATTERY LIFE

The ATEX/IECEx-certified KNB-58LEX Li-ion battery offers up to 23 hours of operation (18 hours with power save off)*. Specially designed for intrinsic safety, it can only be used with the TK-2260EX/3260EX.

* Battery life is based on 5% transmit - 5% receive - 90% standby duty cycles.

▌ DUST & WATER INTRUSION

Equipped with the KNB-58LEX battery pack and KMC-46EX speaker microphone, these tough portables comply with the IP64 standard for dust and water intrusion as well as meeting or exceeding twelve stringent MIL-STD 810 C/D/E/F environmental standards.

Note: If the KMC-46EX is not attached, the connector cover must be used for compliance with rain resistance and IP64 standard.

Other Features

- ▌ Wide/Wide4k/Narrow per channel ▌ Companded Audio per Channel
- ▌ Programmable Function Keys (3 x PF keys including orange key)
- ▌ Programmable Call Alerts ▌ Talk Around ▌ B.C.L. (Busy Channel Lockout)
- ▌ Minimum Volume ▌ Key Lock ▌ 3-colour LED (Red, Orange, Green)
- ▌ Scan Del/Add function ▌ KENWOOD ESN (Electronic Serial Number)
- ▌ Adjustable Microphone Gain by FPU only: High or Normal
- ▌ Microsoft Windows® PC Programming & Tuning

⟨Ex⟩ ATEX certifications for the TK-2260EX/3260EX and designated options

Kenwood's TK-2260EX/3260EX and designated options are certified to the ATEX protection classes II 2G Ex ib IIC T4, II 2D Ex tD ibD A21 IP6x T110°C and I M2 Ex ib I as interpreted in the following table:

I = Group I, mining
II = Group II, other environments (non-mining: chemical industries, refineries, etc.)

G = Gas
D = Dust

ib = Type of intrinsic safety protection - one countable fault (gas)
tD = Type of enclosure protection (dust)

T4 = Temperature of device surface will not exceed 135 C; Class T4 covers most gasses and vapours (those in Classes T3, T2, and T1).

IP 6x = IP (ingress protection) level for dust
6 = the device is totally protected against dust

Gas protection:	II	2	G	Ex	ib	IIC	T4
Dust protection:	II	2	D	Ex	tD	ibD	A21	IP6x	T110°C
Mining protection:	I	M2		Ex	ib	I	

Maximum temperature of device surface

ibD = Type of enclosure protection (dust)
A21 = Exposure certified for Dust Zone 21 by IP rating

IIC = Explosion Gas Group IIC; equipment is protected for use in the most explosive gas environments (hydrogen, acetylene, etc.); Group IIC includes Groups IIA and IIB
I = Explosion Group I for Mining; equipment is protected for use in an explosive gas environment (methane)

Ex = Explosion-proof equipment; European ATEX Directive and IECEx certified

2 = High level of protection; equipment for use in Zones 1,2 (gas) and/or Zones 21,22 (dust)
M2 = High level of protection; equipment does not operate in a potentially explosive atmosphere, and is intended to be de-energized in the event an explosive atmosphere is encountered.

ATEX (from ATmosphères EXplosibles) refers to Directive 94/9/EC regulating what equipment and systems must be provided for those working in an environment where there is a risk of explosion. The danger is typically posed by gas or dust, so all possible sources of ignition (sparks or hot surfaces) have to be eliminated. Industries affected by this directive include oil and gas, chemicals and pharmaceuticals, airlines and ports, agriculture and forestry. Employers in EU member states and EFTA countries are legally required to identify workplace risks and protect their workers by installing properly certified equipment – including communications devices – tested to ensure that they can be operated safely in a potentially explosive atmosphere.

IECEx certification:

The TK-2260EX/3260EX also conforms to the International Electrotechnical Commission's safety standards for equipment to be used in explosive (Ex) atmospheres – areas where flammable liquids, vapours, gases or combustible dusts are likely to occur in quantities sufficient to cause a fire or explosion.

NOTE: Please ensure the TK-2260EX/3260EX ATEX rating is acceptable for intended place of use.

Options

■ **KNB-58LEX**[*1]
Li-ion Battery Pack
(7.4V/1,880mAh)

■ **KMC-46EX**[*1]
Speaker Microphone
(Future Available)

■ **KBH-16EX**[*1]
2.5" Belt Clip

■ **KLH-168EX**[*1]
Leather Case

■ **KRA-22**[*1]
VHF Low Profile
Helical Antenna

■ **KRA-23**[*1]
UHF Low Profile
Helical Antenna

■ **KRA-26**[*1]
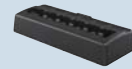VHF Helical Antenna

■ **KRA-27**[*1]
UHF Whip Antenna

■ **KSC-32**[*2]
Tri-Chemistry Rapid
Rate Charger

■ **KSC-326**[*2]
Multiple Rapid
Rate Charger

[*1] ATEX/IECEx-certified accessories only when used with the TK-2260EX/3260EX.
[*2] No approval in ATEX/IECEx and must not be used in a potentially explosive atmosphere.

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-2260EX	TK-3260EX
GENERAL		
Frequency Range	136-174 MHz	440-470 MHz
Number of Channels	Max. 16 ch	
Channel Spacing	25 kHz / 20 kHz / 12.5 kHz	
Channel Step	2.5 kHz / 5 kHz / 6.25 kHz / 7.5 kHz	
Operating Voltage	6 V ~ 8.4 V	
Battery Life (5-5-90 duty cycle)		
Battery Saver On	23 hours	
Battery Saver Off	18 hours	
Operating Temperature Range	-20°C ~ +50°C	
Frequency Stability	±3.0 ppm	
Antenna Impedance	50 Ω	
Current Drain		
Standby	77 mA	
RX	250 mA	
TX	1.0 A	
Dimensions (W x H x D), Projections Not Included		
Radio Only	61.8 x 128.3 x 42.7 mm	
with Battery	61.8 x 128.3 x 49.5 mm	
Weight (net)		
Radio Only	279 g	
with Battery	484 g	

	TK-2260EX	TK-3260EX
RECEIVER		
Sensitivity		
EIA 12 dB SINAD	0.25 µV / 0.25 µV / 0.32 µV (-6 dBµV / -6 dBµV / -4 dBµV)	
EN 20 dB SINAD	0.32 µV / 0.32 µV / 0.36 µV (-4 dBµV / -4 dBµV / -3 dBµV)	
25 kHz / 20 kHz / 12.5 kHz		
Selectivity		
25 kHz / 20 kHz / 12.5 kHz	70 dB / 70 dB / 62 dB	
Intermodulation Distortion	65 dB	
Spurious Response	70 dB	
Audio Distortion	3 % typ	
Audio Output	400 mW / 16 Ω	
TRANSMITTER		
RF Power Output	1.2 W	
Modulation Limiting		
25 kHz / 20 kHz / 12.5 kHz	±5.0 kHz / ±4.0 kHz / ±2.5 kHz	
Spurious Response	-36 dBm (≤1 GHz)	
	-30 dBm (>1 GHz)	
FM Hum & Noise		
25 kHz / 20 kHz / 12.5 kHz	45 dB / 43 dB / 43 dB	
Audio Distortion	5 % typ	
Modulation	16K0F3E,14K0F3E,8K50F3E	
	14K0F2D,12K0F2D,7K50F2D	

Note: Analogue measurements made per EN Standards or TIA/EIA 603 and specifications shown are typical.
Kenwood reserves the right to change specifications and features without prior notice.
FleetSync® is a registered trademark of Kenwood Corporation.
Windows® is a registered trademark of Microsoft Corporation in the United States and other countries

Approved Standard

Standard	Detail	ID
Low Voltage Directive	EN 60065, EN 60950-1, EN 60215	
R&TTE Directive	EN 300 086-2, EN 300 113-2, EN 300 219-2, EN 301 489-5, EN 301 489-1	CE0168①
ATEX Directive		
Gas:	II 2G Ex ib IIC T4	EN 60079- 0, EN 60079-11,	TÜV 09 ATEX 7759 X
Dust:	II 2D Ex tD ibD A21 IP6X T110°C	EN 61241- 0, EN 61241- 1,	
Mining:	I M2 Ex ib I	EN 61241-11	
IECEx Scheme		
Gas:	Ex ib IIC T4 Gb	IEC 60079- 0, IEC 60079-11,	IECEx TUR 09.0004X
Dust:	Ex ib tb III C T110°C Db IP6X	IEC 61241- 0, IEC 61241- 1,	
Mining:	Ex ib I Mb	IEC 61241-11	
International Protection Standard		
Dust & Water Protection:	IP 64	

Applicable MIL-STD

Military Standards	Methods/Procedures MIL-STD 810C	Methods/Procedures MIL-STD 810D	Methods/Procedures MIL-STD 810E	Methods/Procedures MIL-STD 810F
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 cat. 8	514.4/Procedure I cat. 8	514.5/Procedure I cat. 20
Shock	516.2/Procedure I, II, V	516.3/Procedure I, IV	516.4/Procedure I, IV	516.5/Procedure I, IV

Listen to the Future

Kenwood has always connected with people through sound. Now we want to expand the world of sound in ways that only Kenwood can, listening to our customers and to the pulse of the coming age as we head toward a future of shared discovery, inspiration and enjoyment.

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