

dPMR446 Tier 1

**ProTalk**  
DIGITAL



**TK-3401D**  
UHF DIGITAL TRANSCEIVER

## Kenwood introduces ProTalk Digital 446

Kenwood has been at the forefront of license-free two-way radio since the introduction of the TK-361 SRBR in 1998.

Since then, the legendary ProTalk series has held the top spot as the preferred choice of professional users.

The new **TK-3401D** changes the game - a new digital PMR446 radio with 16 separate digital channels, increased range, clarity and security and leadership in its field.

### Key Benefits



- Hassle-free with no license required
- ETSI TS102 490 compliant dPMR 446
- Dual mode (user selectable analogue/digital) hand portable built on the dPMR446 protocol
- FDMA 4-Level FSK modulation enables highly efficient 6.25 kHz frequency use compared with analogue 12.5 kHz PMR446 radios
- Double the usable channels against current analogue PMR446 radios for congestion-free communications:  
**32-ch/2-zone** (16ch per Zone) @ ERP 500 mW RF output  
 Zone 1: PMR446 16ch (446.000-446.100MHz)  
 Zone 2: dPMR446 16ch (446.100-446.200MHz)
- Extended range and improved radio interference performance
- Loud and clear digital communications with AMBE+2 vocoder and our new 1.0W BTL amplifier
- User programmable features without requiring software
- Rugged and durable Kenwood quality
- TK3301 accessories are compatible with this model

## How will Kenwood market the **TK-3401D ProTalk Digital**?

The **TK-3401D digital ProTalk** will be launched across Europe alongside the new **TK-3501 analogue ProTalk** to ensure that together, we capitalise on the strength of the ProTalk series proven performance and reputation across analogue and digital formats.

**KENWOOD**

**ProTalk Digital**  
The Evolution of PMR446

**NEW TK-3501**  
ProTalk Analogue

**NEW TK-3401D**  
ProTalk Digital

**TK-3301**  
ProTalk Analogue

**TK-361**  
SRBR Analogue

Kenwood has been at the forefront of license-free two-way radio since the introduction of the TK-361 SRBR in 1998. Since then, the legendary ProTalk series has held the top spot as the preferred choice of professional users. Now, the new TK-3501 analogue is set to continue Kenwood's PMR446 bloodline while the TK-3401D changes the game - a new digital PMR446 radio with 16 channels, increased range, clarity and security and leadership in its DNA.

[www.kenwoodcommunications.co.uk](http://www.kenwoodcommunications.co.uk)

Digital Radio

These brand new hand-portables share the DNA of our license-free radios originating in 1998 with the TK-361 SRBR radio.

As you are more than aware, since then, every generation of ProTalk PMR446 radios have proved themselves to not only be class-leaders in terms of performance and durability, but in the sales charts too as the radio of choice for professional users around the world.

The new products will be launched in press and online advertising and supported by PR activity from May 2014.

The advertisement clearly positions the new hand-portables as the ultimate evolution in PMR446 - whether analogue or digital - and underlines Kenwood's heritage in license-free PMR446.

Either way, they can choose between two of the best PMR446 hand-portables available.

**ProTalk Digital**  
The Evolution of PMR446

TK-3401D Digital ProTalk  
TK-3501 Analogue ProTalk

SRBR  
ProTalk

## Product Schedule

MODEL NAME	TYPE	PRODUCTION	LAUNCH	Freq.	TX PWR	Inst. MANUAL
TK-3401D	E	Apr-2014	Apr-2014	446 MHz	0.5 W	E,S,G,F,D,I,T,Gr,P
	T					E

I/M Language: E: English, S: Spanish, G: German, F: French, D: Dutch, I: Italian, T: Turkish, Gr: Greek, P: Portuguese

PROGRAMMING CD	TYPE	PRODUCTION	LAUNCH	NOTE
KPG-171D	M	Same as TK-3401D		

## Key Features

### ***Easy to use - No license required***

This license-free two way radio comes with a 2000mAh Li-Ion rechargeable battery, battery charger and belt clip; there's no need to buy extra accessories for basic operation. It is ready to use right away.

### ***Not just digital***

The TK-3401D is effectively two radios in one - digital and analogue - operating on 6.25 kHz in digital and on 12.5 kHz in analogue. The user can easily switch between analogue and digital channels.

### ***Enhanced audio quality***

AMBE+2™ vocoder technology accurately replicates natural human speech nuances for superior voice quality, even in noisy environments. Additionally, the powerful BTL amplifier and large size speaker deliver 1 watt audio output, providing much clearer and crisper audio.

### ***32 channels / 2 zones***

The TK-3401D can be used with two conventional zones, offering up to 16 channels per zone.

### ***Built-in self programming***

The user can change several settings including ID code in digital mode, channel frequency, QT tone or DQT code without using the programming software.

### ***ETSI compliant***

ETSI TS102 490 compliant dPMR 446

## Other Features

- Companded Audio per Channel
- 3-colour LED (Red, Orange, Green)
- KENWOOD ESN (Electronic Serial Number)
- Microsoft Windows® PC Programming & Tuning
- Key Lock
- Scan Del/Add function
- Adjustable Microphone Gain
- Voice Annunciation

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

## Optional Accessories

- |              |  |
|--------------|--|
| ■ KNB-29N    | Ni-MH Battery (1500 mAh)                           |
| ■ KNB-45L    | Li-Ion Battery (2000 mAh)                          |
| ■ KNB-53N    | Ni-MH Battery (1400mA)                             |
| ■ KNB-69L    | Li-Ion Battery (2450mA)                            |
| ■ KSC-35S    | Rapid Charger for the KNB-45L/69L                  |
| ■ KSC-43     | Rapid Charger for Li-Ion Battery and Ni-MH Battery |
| ■ KSC-316    | 6 Pocket Multiple Charger for the KNB-53N/29N      |
| ■ KSC-356    | 6 Pocket Multiple Charger for the KNB-45L/69L      |
| ■ KSC-35SCR  | Battery Charger Pocket                             |
| ■ KMB-35     | 6 Unit Charger Adapter                             |
| ■ KVC-22     | Mobile Vehicle Charger Adapter                     |
| ■ KMC-21     | Lightweight Speaker-Microphone                     |
| ■ KMC-45     | Heavy-duty Speaker-Microphone                      |
| ■ KEP-2      | Earphone kit for KMC-45                            |
| ■ KHS-1      | Headset with a boom-mic. and PTT/VOX               |
| ■ KHS-7      | Single Headset with a boom-mic.                    |
| ■ KHS-7A     | Single Headset with a boom-mic. and inline-PTT     |
| ■ KHS-8BL/BE | 2-Wire Palm Microphone with Earphone               |
| ■ KHS-9BL/BE | 3-Wire Lapel Microphone with Earphone              |
| ■ KHS-10-OH  | Heavy-duty Noise Reduction Headset with inline-PTT |
| ■ KHS-21     | Headset with a boom-mic.                           |
| ■ KHS-22     | Behind-the-neck Headset                            |
| ■ KHS-29F    | Headset  |
| ■ EMC-11     | Clip Microphone with Earphone                      |
| ■ EMC-12     | Clip Microphone with Earphone                      |
| ■ KBH-10     | Belt-Clip  |
| ■ KLH-131PC  | Leather Case                                       |
| ■ KLH-187    | Nylon Case   |
| ■ KWR-1      | Water Resistant Bag                                |

### Programming Accessories for Dealers:

- |            |                            |
|------------|----------------------------|
| ■ KPG-22U  | USB Programming Cable      |
| ■ KPG-171D | Programming Software (FPU) |

## Supplied Accessories

- Users Manual
- Belt-Clip (KBH-10)
- Rapid charger (KSC-35S)
- Li-Ion Battery (KNB-45L)

## Specifications

(All specifications subject to change without prior notice)

<b>Frequency Range</b>	<i>Analogue</i>	446.0 to 446.1 MHz
	<i>Digital</i>	446.1 to 446.2 MHz
<b>Number of Channels</b>		32ch/2 zone
<b>Channel Spacing</b>	<i>Analogue</i>	12.5 kHz
	<i>Digital</i>	6.25 kHz
<b>Operating Voltage</b>		7.5V DC±20%
Battery Life (5-5-90) (battery save on)	<i>with KNB-45L</i>	14 hours
	<i>with KNB-69L</i>	18 hours
Battery Life (5-5-90) (battery save off)	<i>with KNB-45L</i>	14 hours
	<i>with KNB-69L</i>	18 hours
<b>Operating Temperature Range*</b>		-30°C to +60°C
<b>Frequency Stability</b>		± 1.0 ppm
<b>Dimensions (W x H x D) with KNB-45L</b>		54 x 122 x 35.5mm
<b>Weight</b>		Main body: 165 g (with KNB-45L: 280 g)
<b>RF Power output</b>		ERP 500 mW
<b>Audio Output</b>	<i>Internal speaker</i>	1W /12 Ω
	<i>External output</i>	500mW /8 Ω
<b>Modulation</b>	<i>Narrow</i>	8K50F3E
	<i>Very Narrow</i>	4K00F1E

\*Radio only. Batt (-10°C to +60°C)

All specifications shown are typical.

Analogue measurements made per EN 300 296-2, EN300 341-2

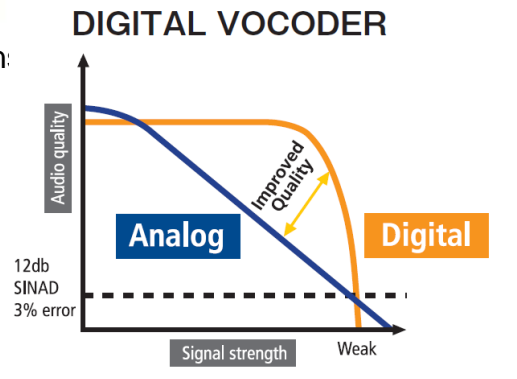
Digital measurements made as per EN301 166-2

## Operating Range

**Digital** technology provides superior clarity in extended coverage. As RF signal strength weakens, reception becomes increasingly noisy and intermittent.

dPMR's low BER improves reception in fringe areas, thereby "effectively" **increasing coverage by as much as 15% - 20% over analogue.**

*Operating range will vary based on terrain and other conditions.*



## Default Frequency, Tone and ID Setting

### Zone1: Analogue PMR446 channel

Channel Number	Operating Frequency (MHz)	Signaling	ID
1	446.00625	94.8Hz	-
2	446.09375	88.5Hz	-
3	446.03125	103.5Hz	-
4	446.06875	79.7Hz	-
5	446.04375	118.8Hz	-
6	446.01875	123.0Hz	-
7	446.08125	127.3Hz	-
8	446.05625	85.4Hz	-
9	446.00625	107.2Hz	-
10	446.09375	110.9Hz	-
11	446.03125	114.8Hz	-
12	446.06875	82.5Hz	-
13	446.04375	D132N	-
14	446.01875	D155N	-
15	446.05625	D134N	-
16	446.08125	D243N	-

### Zone2: dPMR446 channel

Channel Number	Operating Frequency (MHz)	Signaling	ID
1	446.103125	-	1
2	446.109375	-	2
3	446.115625	-	3
4	446.121875	-	4
5	446.128125	-	5
6	446.134375	-	6
7	446.140625	-	7
8	446.146875	-	8
9	446.153125	-	9
10	446.159375	-	10
11	446.165625	-	11
12	446.171875	-	12
13	446.178125	-	13
14	446.184375	-	14
15	446.190625	-	15
16	446.196875	-	16

## Applicable MIL-STD & IP Rating

Military Standard	METHOD/PROCEDURES				
	MIL810-C	MIL810-D	MIL810-E	MIL810-F	MIL810-G
Low Pressure	500.1/Procedure I	500.2/Procedure I , II	500.3/Procedure I , II	500.4/Procedure I , II	500.5/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	501.5/Procedure I , II
Low Temperature	502.1/Procedure I	502.2/Procedure I , II	502.3/Procedure I , II	502.4/Procedure I , II	502.5/Procedure I , II
Temperature Shock	503.1/Procedure I	503.2/Procedure I	503.3/Procedure I	503.4/Procedure I , II	503.5/Procedure I
Solar Radiation	505.1/Procedure I	505.2/Procedure I	505.3/Procedure I	505.4/Procedure I	505.5/Procedure I
Rain	506.1/Procedure II	506.2/Procedure II	506.3/Procedure II	506.4/Procedure III	506.5/Procedure III
Humidity	507.1/Procedure I , II	507.2/Procedure II , III	507.3/Procedure II , III	507.4	507.5/ Procedure II
Salt Fog	509.1/Procedure I	509.2/Procedure I	509.3/Procedure I	509.4	509.5
Dust	510.1/Procedure I	510.2/Procedure I	510.3/Procedure I	510.4/Procedure I , III	510.5/Procedure I
Vibration	514.2/Procedure VIII, X	514.3/Procedure I	514.4/Procedure I	514.5/Procedure I	514.6/Procedure I
Shock	516.2/Procedure I , II , V	516.3/Procedure I , IV	516.4/Procedure I , IV	516.5/Procedure I , IV	516.6/Procedure I , IV
<b>International Protection Standard</b>					
Dust & Water Protection	IP54/55				

Applicable condition table for MIL standard (dust & rain) & IP-54/55

Remarks: All the standards applicable when used with accessory connector cover.