



# KIP800 Series

The Radio Systems  
Multiple-Network IP Handset



# The KIP800

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With seamless transition across 2G, 3G, 4G or Wi-Fi enabling communication between units and different bearers, the KIP800 is the ultimate way to stay connected.



The communications landscape has changed with the emergence of Push To Talk over Cellular (PoC) and digital Voice over Internet Protocol (VoIP) solutions. Organisations no longer need to rely on radio frequency (RF) solutions that are subject to limited spectrum availability and which require significant investment in infrastructure for wide area operations. Achieving the required coverage with traditional analogue or digital PMR can require single or multiple interconnected base station repeaters with the added complication of Ofcom licencing in the UK. VoIP solutions exist that exclusively use WiFi as a bearer but again this is not wide area. PoC uses cellular phone networks as a bearer circuit with implicit national coverage but this has other drawbacks.

Whilst PoC and Wi-Fi solutions separately go some way to addressing the infrastructure issues that arise with private mobile radio (PMR) solutions, they too suffer disadvantages. Systems that rely wholly on Wi-Fi must, by definition, have Wi-Fi coverage throughout the operational area. Any units straying out of coverage or offsite will not be able to communicate. PoC is software related in that apps running on smartphones enable them to use data over cellular networks as the bearer, thereby solving the coverage issue of Wi-Fi only. However, for many organisations, it is neither practicable nor desirable to issue their operatives with a fleet of expensive smartphones both in terms of hardware and airtime package costs.

## Next-Generation Communications

Radio Systems has introduced the next generation in communications with the KIP800 series of PTT over Internet (PoI) handsets, a high-performance, handset and affordable communications solution. Combining the best features of PoC and Wi-Fi without their prohibitive cost or coverage restrictions, respectively, the KIP800 series represents the next generation of digital communication solutions.

The KIP800 series features seamless roaming across 2G, 3G, 4G and Wi-Fi.

A fleet using KIP800 handsets represents a low hardware cost option in comparison to PMR systems or smartphones.

The KIP800 series has fixed, low running costs with pre-paid SIM options lasting up to one year.

# Features

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## Advanced Technology

- ▶ Supported bearers are 2G, 3G, 4G and Wi-Fi with seamless transition and communications between KIP800 handsets on different bearers and even on different cellular networks
- ▶ Up to five Wi-Fi SSIDs can be accepted
- ▶ Default operation is simplex but duplex is selectable on call-by-call basis
- ▶ A GPS receiver is included as standard for the tracking of handsets
- ▶ Advanced digital processing and noise cancelling techniques result in clear audio even in noisy environments
- ▶ Both voice and mapping dispatcher software packages are available for fleet management with voice recording and retrieval options
- ▶ Individual handset contact lists are configurable over the air; there is no need to recall handsets for reprogramming

## Pleasant and Intuitive User Experience

- ▶ The KIP800 is equipped with voice prompts and the KIP820 with voice and text prompts
- ▶ Both models have simple push-button calling
- ▶ The typical call setup time is under one second giving users security and confidence in emergency situations
- ▶ Radio Systems provides introductory training on dispatcher usage but only basic PC operator skills are required
- ▶ KIP800 handsets are supplied pre-programmed, tested and live on a cellular network. There is no need for any specialised technical skills, making them as easy to deploy as mobile phones

## Cost Efficient

- ▶ No base station, repeaters or inter-site media are required for wide area usage. The range is anywhere in the world where there is compatible wireless access to the internet
- ▶ No fleet requires a specific licence or spectrum allocation
- ▶ Pre-paid data SIMs are offered at an all-inclusive price that will support most users for one year. Other SIM options are available for short-term usage
- ▶ No additional UK cellular network operator plans or contracts are required
- ▶ All handsets come with a one-year warranty\*
- ▶ Radio Systems telephone support and customer service are available during office hours and, by arrangement, outside of normal business hours

*\*Terms apply*

## Practical and Reliable

- ▶ The KIP800 series is geared for fleet usage where both one-to-one and group calling can be selected by a user at different times and for different purposes with no cost implications
- ▶ KIP800 handsets are rugged and designed for industrial use in demanding environments. The ingress protection rating is IP56 for all-weather usage
- ▶ A 3500mAh Lithium battery is supplied as standard, providing typically between 16 and 40 hours of operation between charges, dependent upon bearer and enabled features
- ▶ A range of audio accessories is available where handheld operation is not preferred



DELIVERING GLOBAL CONNECTIVITY AT LOW COST, THE KIP800 SERIES FROM RADIO SYSTEMS IS THE FUTURE OF BUSINESS COMMUNICATIONS.



# Benefits

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## Seamless Operation

Many large buildings or arenas will have their own secure Wi-Fi, and whether a KIP800 series handset is operated through that network or through 2G, 3G or 4G cellular networks, it will work just as effectively with the same clarity of speech.

Similarly, whichever bearer is in use, call connections are virtually instantaneous and can be actioned by the press of a single button.

Communications between handsets in the same fleet but on different bearers occurs seamlessly, with the transition between bearers occurring automatically in the background.

Where valid Wi-Fi and cellular network signals co-exist, Wi-Fi is automatically selected, minimising SIM card usage.

## The Business Case

The KIP800 series delivers exceptional value for money with no third-party licensing fee or installation costs. Financial savings further increase as the size of the fleet or the coverage required becomes greater. Indeed, with other radio schemes, a point can quickly be reached where costs for wide area coverage become prohibitive. Conversely, the KIP800 series is a plug-and-play solution attracting no additional costs beyond the handset and the SIM card. Any further outlay is proportional to the number of handsets in the fleet, but critically not to coverage.

Organisations that rely on PoC solutions using smartphones incur additional costs from the cellular network providers. The KIP800 series of handsets are supplied with pre-paid UK SIM cards included in the price as standard. Assuming average usage in the UK, these SIM cards will last for one year, although other SIM card options are available for shorter periods of use. Given that voice calling uses VoIP technology over the internet, only a data SIM is required, which with a fixed-term expiry date of up to one year presents a known and easily manageable renewal programme. Managed inter-handset calling plans will not permit out-of-fleet unauthorised calls to mobile phones and landlines, thus eliminating unexpected charges and the administration required for billing analysis.

Unlike pre-existing solutions, cellular network usage is all-inclusive and sits within handset pricing, meaning there is no contractual voice, text and data plan to consider or to budget for.

## Universal Application

**Road and rail transportation** both use voice and asset tracking as operational, H&S and efficiency aids. Required coverage can be confined to a single site, e.g., a rail station or a bus terminus, yet also by their nature, both industries can require wide area or even nationwide coverage. The KIP800 series offers this fleet flexibility without heavy additional investment.

Given that the KIP800 handsets operate wherever there is compatible 2G, 3G, 4G or Wi-Fi coverage that enables Internet access, handsets can communicate individually one to one or between groups of users, regardless of geographical location. This is particularly useful to the **civil engineering and construction** sectors, where personnel might be dedicated to a number of specific sites but supervisors and managers can be offsite or travelling between sites. Remote access to a fleet can even be extended to overseas with the appropriate SIM card or Wi-Fi access.

The **security industry** is equally served by the inherent personnel tracking features of the KIP800 series for lone working. With a single-button call and call setup times typically of less than a second, emergency calling is ensured and calls can be selectively recorded and played back for forensic and evidential purposes. Programming flexibility permits a control room to monitor and communicate with a number of different fleets, possibly located at a number of different remote sites.

Cellular network providers have invested considerable sums in providing a service to areas of high public density to include **shopping centres, stadiums and arenas**. The KIP800 series therefore offers a low-cost communications tool for service and operational staff within these environments.

Most **manufacturing and warehousing** sites will have Wi-Fi for internal purposes. The KIP800 series will work with Wi-Fi as a bearer to give instant press button contact between mobile site personnel. Data demands are minimal in comparison to other conventional IT devices and there is a long battery life between charges.

Whilst the prime aim of the KIP800 series is to provide a communications system free from the expense of dedicated infrastructure, there could be isolated areas where neither cellular nor existing Wi-Fi coverage is available. In those probably rare cases, Radio Systems has extensive experience of coverage enhancement at sites such as Heathrow and Gatwick airports, and thus would be more than happy to investigate and advise a way forward.



THE RADIO SYSTEMS KIP800 SERIES CAN REVOLUTIONISE  
THE WAY YOUR ORGANISATION AND TEAMS WITHIN IT COMMUNICATE.



# Comparison

Cost Item Device	OFCOM Licence	Single Base Station Repeater	Multiple Base Station Repeaters	Interconnection Media for Repeaters	Site Rentals	Network Operators Contract or Pay-As-You-Go Costs
Analogue or digital portable business radio back-to-back working	Yes, if spectrum is available	No	No	No	No	No
Analogue or digital portable business radio, single Base Station Repeater	Yes, if spectrum is available	Yes	No	No	Possible	No
Analogue or digital portable business radio, multiple Base Station Repeaters	Yes, if spectrum is available	No	Yes	Yes	Likely	No
Mobile Phone	No	No	No	No	No	Yes
<b>Radio Systems KIP800 Series</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No*</b>

\*1 Years worth of average usage included in unit cost.



CONSISTING OF THE  
BEST ELEMENTS OF  
MOBILE & RADIO  
COMMUNICATIONS  
SOLUTIONS, THE RADIO  
SYSTEMS KIP800 IS A  
WINNING COMBINATION.

# Data Sheet

Model	KIP800 (No Keypad)    KIP820 (Full Keypad)		
Bearers (UK, EU)	Wi-Fi		
	WCDMA/HSDPA/GSM/GPRS/EDGE		
	GSM850/EGSM900/DCS1800/PCS1900 WCDMA/HSDPA: 2100MHz (band I) 1900MHz (band II) 850MHZ (band V)		
Data traffic usage	One-hour uninterrupted calling <5MByte		
Call setup time	Typical 250msec		
Optional functions	PC dispatcher voice/tracking software package		
Groups support	16 groups, unlimited number of terminals/users		
SIM card lock	Supports SIM pin lock		
CE certification	Phoenix Testlab GmbH		
Ingress protection	IEC60529 IP56		
Working voltage	3.7V		
Battery capacity and consumption between charges		5-5-90 work cycle working hours, 3G/4G mode	GPS on: 16hours GPS off: 20hours
		5-5-90 work cycle working hours, 2G mode	GPS on: 20hours GPS off: 26hours
		5-5-90 work cycle working hours, Wi-Fi mode	GPS on: 32hours GPS off: 40hours
Size	98x53x30mm		
Weight	200 grams		
Storage temperature	-40 to +80°C		
Working temperature	20 to +50°C		
Transmit power	GSM/EGSM(33+1dBm) DCS/PCS(30+_1dBm) WCDMA(23+1dBm)		



# About Us

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Radio Systems is a leader in the Radio Communications and Radio Technology market.

Founded in 1975, we have more than 40 years' experience in the design, manufacture, supply, installation and maintenance of bespoke, turnkey mobile radio schemes. From our UK Headquarters, we deploy a multi-skilled, experienced workforce on behalf of domestic and international clients in markets that include the Oil & Gas, Utilities, Airports and Transportation industries.

We have a hands-on approach to delivering projects, using in-house talent to manage and deliver projects onsite in the UK and overseas.

Operating on a 24/7/365 basis, we offer a diverse range of engineering solutions that include both design and manufacturing services, sub-system integration, technical consultancy and terminal hire.

We have an ongoing commitment to delivering high-quality projects in compliance with environmental and health and safety legislation. We hold ISO9001:2008, OHSAS 18001:2007 and ISO 14001:2004 certification, accredited by the NQA.



INCORPORATING SOME OF THE MOST DESIRABLE ELEMENTS OF NEW GENERATION MOBILE COMMUNICATIONS, THE RADIO SYSTEMS KIP800 SERIES IS AN INNOVATIVE SOLUTION.



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MORE THAN  
40 YEARS OF  
COMMUNICATIONS  
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