



A secure, private GSM mobile network – at the touch of a button

The Rapid Deployment Unit (RDU) from Private Mobile Networks (a TeleWare Group Plc company) gives you the ability to rapidly deploy a private, secure GSM network at any location to meet operational needs. Housed within a rugged mobile carry-case, the RDU is highly portable and fully pre-configured, providing GSM coverage at the touch of a button.

The RDU is ideally suited to emergency and crisis management scenarios where macro GSM coverage may be compromised by location, through direct intervention from the provider or simply by network congestion. Within the construction and maintenance sectors, where sites are temporary, the ability to rapidly provide an effective communications solution can save both time and money. For emergency services and when secure temporary telephony is required, the RDU provides a portable, robust and secure solution.

How the RDU Works

Enclosed within a rugged hard-shell case are all of the components required to facilitate a private GSM network. In exactly the same way as a macro network, the RDU must have the means to transmit and receive calls over GSM. It accomplishes this by an integrated GSM Base Transceiver Station (BTS) that works in conjunction with the individual software components that would normally make up a macro mobile network – a Base Station Controller (BSC) and Mobile Switching Centre (MSC), which incorporates an SMS switching centre. Also, a key component is the Private Mobile eXchange, a software switch that is responsible for all of the call routing and the identification and registration of authorised handsets on the network.

The unit is fully pre-configured with a number of GSM handsets, each with an individual extension number, that automatically search for the RDU network. On power-up, it takes around five minutes for the unit and the network to be fully operational, allowing handsets to communicate. For portability, the unit has an internal battery life of around four hours. However, it can also be connected to a mains supply to power the unit and, simultaneously, charge the battery.

Without mains power, if the battery is low, the unit can automatically send an SMS message to a number of designated handsets warning the user of the situation and advising they connect mains power. If the battery life expires, the unit will shut down, ensuring that all components follow the correct closure procedure, thus eliminating problems at re-initialisation.

Key Benefits

Fully portable for **easy deployment** in any location

Impressive GSM coverage of up to 350m radius (outdoor)

Quality battery life with SMS low-battery notification

Avoids issues of network congestion and loss

No call costs while on network

Tough hard-shell carrying case with **rugged handsets** for demanding environments

Telephone features supported for transfer and conferencing

External analogue PSTN/SIP connectivity provides uplink / backhaul **choice and flexibility**

Solid state technology to reduce moving parts and ensure **durability** in challenging environments

Rapid GSM in Emergency Situations

In an emergency situation, a key consideration is to control and contain the scene. The backbone for that is an effective communications strategy with an emphasis on field personnel. The ability to remain in contact with your colleagues and operational centres could be the difference between a controlled situation and one which would be potentially hazardous for both operatives and the general public.

A standard method of communication would be to utilise the macro GSM networks. However, it has been the case that macro GSM networks have been closed down to remove the risk of cellular control of remote devices. Also, in situations that are in densely populated areas, the sheer volume of cellular traffic at the scene can cause network congestion which severely restricts communication.

The Rapid Deployment Unit overcomes these obstacles by generating its own secure, private GSM network regardless of macro network conditions. From a single rugged carry-case, field operatives can communicate with each other over a 350 metre radius of the RDU, utilising both voice and text messaging. As speed is vital under these circumstances, the RDU can be deployed and available for live communication within five minutes, at the touch of a button.

Rapid GSM in Temporary Situations Provides Cost Saving

Due to its portability and ease of deployment, the RDU can also be used as a method of providing temporary telephony services. One such use would be within the construction and service industries where new sites, typically, have no fixed telephony infrastructure and may be in remote or restrictive environments. The RDU enables immediate network availability on the site and can be configured with a backhaul link into the public network.

Delays in starting work on the project can be avoided with the use of mobiles enhancing site communications along with the added advantage that all calls within the network are free. Free calls on network is an important consideration in cost justifying use of mobile phones and can be substantial against uncontrolled mobile phone costs. In addition, the portable nature of the RDU means that it can be moved from site to site, providing an ongoing communications solution at new sites.

RDU Specification

Call capacity:

8 channels
(7 Voice, 1 call control)

Transmission Range:

350m (omni-directional open air)
100m (omni-directional in-building)
Subject to site conditions

Dimensions:

L 538mm, W 406mm, H 211mm

Weight:

@ 18kg

Operational Temp/Humidity Temp:

-5~+45C Ambient

Humidity:

5-90% non condensing

Maximum transmission power

+23dBm (200mW)

NOTE: Outside of the UK, use of the RDU may be subject to an operator licence for GSM frequency acquisition.

Connecting to the Network

The RDU can be connected to analogue inbound lines through an optional FXO gateway. However, pre-configuration is required to allocate inbound calls to a specific handset. Outbound calls can be made from any handset through the gateway.

It is also possible to connect to an appropriate IP network to allow extension of the GSM network to SIP handsets. It is necessary to pre-configure the RDU with the potential SIP extension details. This also allows users to connect and directly dial from the GSM handset to SIP handsets located anywhere in the world, with connection through any appropriate network medium, such as satellite or DSL.

Optional Items

• Handsets

RDU will support a wide selection of 2G and 2.5G handsets with Nokia handsets recommended. Solutions are, typically, provided without handsets. However, we can offer additional handset packages on request.

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