



CellRoute GSM

Fixed Wireless Terminal



Installation and User Manual

Version 7 – August 2010

Document Control

Date	Doc Version	Change
Apr 2003	1	1 st release of document
June 2003	2	Asset protection added
Dec 2003	3	Adjustable gain settings & line reversal
Jan 2004	4	Selectable confidence tone & Power fail Voltage
Jan 2006	5	Notices & WEEE Directive symbol added
Oct 2009	6	Added Inbound / Outbound line reversal Added AT command if detection of no SIM
Aug 2010	7	Updated Specification / manual format

Notices

Note: The CellRoute GSM unit must be connected to the mains power and allowed to charge for a minimum of 30 minutes before use if battery connected.

Emergency Calls


This terminal operates using GSM signals, which cannot guarantee connection in all conditions. Therefore, you should never rely solely on the terminal equipment for essential communications such as medical or emergency services.

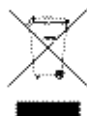
If the mains plug is removed from the power socket the unit will switch to an internal battery supply. As there will not be an Earth connection, the output voltage to the telephone line will automatically be reduced. This is to comply with the European Low Voltage Directive. This may result in miss-operation when using in some types of telephone. This condition also applies for mains failure.

No responsibility is assumed by TFM for the use or reliability of the CellRoute GSM when used in a situation or with other equipment not supplied or specified by TFM.

TelecomFM shall accept no liability for any error or damages of any kind resulting from the use of this document or the equipment it relates to.

The wording in this document may change from time to time. Please refer to the TelecomFM web site www.telecomfm.co.uk for the latest release.

Declaration of Conformity	
	
Applicant:	TelecomFM Ltd.
Address:	895 Plymouth Road, Slough SL1 4LP, Berkshire, U.K.
Product:	Cell Route
This equipment complies with the European R&TTE Directive no. 1999/5/EC on radio and telecommunication terminal equipment.	
TelecomFM	Signed..... Roger Lewington
May 2003	



CellRoute GSM User Manual

Introduction

Thank you for purchasing the CellRoute GSM terminal.

The CellRoute GSM incorporates:

- CellRoute-GSM terminal (1)
- Internal Antenna (2)
- RJ45 Data port (3)
- RJ11 Telephone connector (4)
- L.E.D Indicators (5)
- Power Connection (6)
- External Antenna Connection & Switch (7)



Setting up the terminal

Remove the CELLROUTE GSM from the packaging, and proceed as follows:

Warning! To avoid damage do not connect power until you have inserted the SIM card

- Install the SIM card. (Making sure the PIN lock is deactivated if applicable).
- Install the CellRoute GSM in preferred location following guidelines.
- Connect Power to the CellRoute GSM using Power Supply Provided.
- Connect a telephone to the CellRoute GSM.
- Check Signal Strength
- Make a test call

Note: The CellRoute GSM unit must be connected to the mains power and allowed to charge for a minimum of 30 minutes before use. However for maximum battery standby performance the CellRoute GSM must be connected to the mains for a minimum of 8 hours.

Installing the SIM card

Slide open the SIM cover.
Slide back the SIM door and lift it up.

Slide the SIM into the SIM door making sure that the clipped corner of the SIM card lines up with the clipped corner of the SIM Holder.

Close the SIM door.
Slide SIM door to lock the SIM in place.
Then replace SIM cover.



CellRoute GSM User Manual

Getting Started

Location Of CellRoute GSM

For best reception locate your CellRoute GSM close to a window or on an external wall and at least 330mm from any metallic object. The unit must be a minimum of 1 meter from any other sensitive electronic equipment. **DO NOT** locate in direct sun light or near any direct heat source.

Mounting the CellRoute GSM and Power Supply Bracket

Using the template provided, mark location and fix with screws supplied. Mount the Power Supply bracket within 1 meter of the CellRoute GSM.



Connecting a telephone or Computer

- Connect your telephone(s) into the RJ11 socket provided.
- Connect your Computer into the RJ45 socket provided



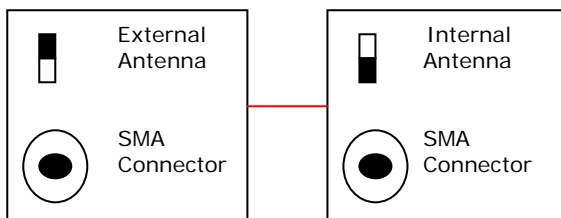
Connecting the power Supply

- Connect the power supply unit into the AC outlet.
- Connect the power cord from the power supply unit to the CellRoute GSM.



Connecting external Antenna if required

To activate the external antenna, move the antenna switch (■) to the up position and screw the external antenna into the SMA connector provided.



CellRoute GSM User Manual

Getting Started



Powering Up CellRoute GSM

Note: The CellRoute GSM unit must be connected to the mains power and allowed to charge for a minimum of 30 minutes before use.

On power up the RED and GREEN LEDs will flash 5 times. The Green LED will come on and remains on. The RED LED will light up for approximately 10 seconds and then go out for approximately 10 seconds. Once the unit has logged onto the GSM Network the Red LED will come back on.

Making a test call

Make a test call with the phone connected to the CellRoute GSM. (Pressing the # key after the dialled digits results in a faster dial-up.)

The RED LED will start to flash when the handset is lifted on the telephone-indicating signal Strength. Once the call is connected the RED LED will flash for 45 seconds indicating signal strength then stop leaving both RED and Green LED lit.

Number of flashes	Status	Signal strength (in dB)
0	None/Poor	< -81dB
1	Average	> -81dB & < -67dB
2	Good	> -67dB & < -59dB
3	V- Good	> -59dB

Answering Incoming calls

Lift handset and call is connected.

Missed Calls

If both L.E.Ds are flashing simultaneously, this is identifying a missed call.

Switching Off the CellRoute GSM

When switching off the CellRoute GSM you must first unplug the power cord from the CellRoute GSM itself, since unplugging the power adapter from the mains socket will activate Battery back-up.

Battery Backup

In the event of mains failure the CellRoute GSM battery backup will automatically activate, giving a standby time of approximately 11 hours and a talk time of 2 hours (these figures are subject to humidity and temperature).

During a power failure when battery back-up is in use, you may experience a delay of up to 4 seconds before dial tone is heard.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Data

Please refer to the separate "CellRoute GSM Data Connectivity" manual for instructions on using the CellRoute GSM with your PC.

Volume Controls

Outgoing volume adjustment on microphone

To adjust the microphone level

- Lift the receiver
- Dial 0##6 (1-5) #
1 sets lowest volume, 5 sets highest volume
You will hear an acceptance tone once the digit has been dialled.

Incoming volume adjustment on speaker

To adjust the Speaker level

- Lift the receiver
- Dial 0##3 (1-5) #
1 sets lowest volume, 5 sets highest volume
You will hear an acceptance tone once the digit has been dialled.

Network Lock

The CellRoute GSM has a network lock feature. This is a network security function.
(For further details please contact your service provider)

SIM PIN Lock

The CellRoute GSM has a SIM card PIN lock feature. This is a SIM card security function.
(For further details please contact your service provider)

Ringling Cadence

It is possible to adjust the ringling cadence for incoming calls to cell route

To change dial 0##8 (1 – 4) #

1=USA, 2=UK, 3=SPAIN, 4=ETR

You will hear an acceptance tone once the digits have been dialled.

• First Things to Check If No Operation

1. Check that Power is connected.
2. Check that SIM card is installed correctly.
3. Check that the telephone is connected correctly.

• LED Status

1. If **NO** LED's are lit.
 - *Check for mains power*
2. If RED LED is flashing with high pitched Interrupted Tone when handset lifted check the following:
 - *No SIM connected*
 - *SIM has a PIN set and this is not recognised in Cellroute memory*
 - *SIM has been swapped with a SIM that has a PIN set which is not Recognised in Cellroute memory*
 - *Network lock is set to on, with incorrect network SIM connected*
3. If **NO** RED LED with low pitch Interrupted Tone when handset lifted.
 - *Cannot detect a network signal. (See Reception is poor)*
4. If RED LED flashing at 100ms on / off.
 - *CellRoute is network locked and does not recognise the network SIM Installed*
5. RED & GREEN LEDs flash 5 times.
 - *CellRoute is Initialising.*
6. RED & GREEN LEDs flashing on / off at the same rate.
 - *Missed call Indicator.*

• Dial Tone Is Not Heard

1. Check that Power is connected.
2. Are batteries charged (Min 30 minutes before use)
3. Check L.E.D status. (Both battery and signal strength LED should be lit).
4. Check SIM lock is deactivated.
5. Check that the telephone connected is working correctly.
6. During a power failure when battery back-up is in use, you may experience a delay of up to 4 seconds before dial tone is heard.

- **Noise Is Heard during a Call**

This may be due to poor signal strength or the unsuitable location of the CellRoute GSM. It is recommended that CellRoute GSM is positioned a minimum of 1 meter away from other telephones and other electronic devices.

- **Reception is Poor**

The CellRoute GSM comes with a built in antenna. However If you are experiencing problems with poor reception, check that you are getting adequate signal strength. This can be achieved by moving the CellRoute GSM to another location, for examples move closer to a window or higher up in the building.

In some locations your Coverage area may require a higher gain external antenna for optimal Call clarity and performance.

Contact your service provider for advice on other types of external high gain antenna that can be connected to CellRoute GSM.

CellRoute GSM User Manual Technical Specification



Telephony Interface

Call Control	DTMF
Line Voltage	48v on hook (36v on mains fail)
Loop Current	40mA off hook (20mA on mains fail)
Line impedance	600-ohm complex
Ring Voltage	70Vrms
Ring Loa	REN 4
CLIP	Bellcore FSK

GSM Interface

GSM Module	Cinterion MC55i
Bands	Quad-Band GSM 850 / 900 / 1800 / 1900 MHz
Transmit Power	Class 4 (2W) for EGSM 850 MHz Class 4 (2W) for EGSM 900 MHz Class 1 (1W) for GSM 1800 MHz Class 1 (1W) for GSM 1900 MHz
SIM Card	3V
Antenna	Integral Omni directional Antenna With SMA connector for external Antenna option

Physical Interfaces

Telephone	Analogue / RJ11 or BT603 option
Data Port	USB Type B female
GSM Antenna	Gold plated SMA male connector
SIM Card	3V Small card retained under rear panel
Indication	2 x LED indication for battery / Transmission Status

Data Rates (Network Dependent)

GPRS (Class 10)	Max 85.6 kbps Download Max 42.8 kbps Upload
CSD	14.4 Kbps V.110

Features Overview

High Ringer Equivalence POTS Interface
Supports up to 4 additional extensions

Highly compatible POTS & PBX user interface

Integral Battery Back-up

Caller Line ID Presentation (Bellcore)

GSM network features supported
Subject to network availability and support

Selectable Dial tone and Ring cadence

RS232 Data Port for internet access

SIM lock for asset protection
(For details contact your service provider)

Network Lock for asset protection
(For details contact your service provider)

Remote Software Upgrades

Off-hook Howler

External Antenna facility

Approvals

CE Certification to R & TTE directive 1999/S/SEC
GSM Certifications:
ETS 300 607-1 Digital Cellular
Telecommunications system
EN 301 419-1 Global Systems for Mobile
communication
ETS 300 342-1 Radio Equipment and Systems

Power Supplies

Primary 110-240Vac @ 47-63Hz

Secondary 3.7v 1700mAh Lithium rechargeable
battery with auto switch over on mains
failure

Performance 11 hours standby time (subject to
Humidity and temperature)

Up to 2 hours Talk time (subject to
Humidity and temperature)

Physical Specifications

Height	150mm
Width	122mm
Depth	42mm
Weight	460gm
Operational Temperature Range	0C to 40C