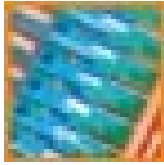


# CellRoute-GSM



## Installation & User Guide

Version .03 – Feb 2008



## Document Control

Date	Doc Version	Change
Jan 2005	1	1 <sup>st</sup> release of document
Jan 2006	2	Notices & WEEE Directive symbol added
Feb 2008	3	Inter-digit timer added
Oct 2009	4	Added Inbound / Outbound line reversal Added AT command if detection of no SIM

## Notices



### 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.**

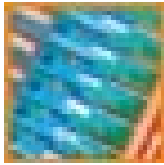
**No responsibility is assumed by TFM for the use or reliability of the CellRoute-GSM when used in a situation or with other equipment not supplied or specified by TFM.**

**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](http://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 May 2003	Signed..... 	Roger Lewington





## CellRoute-GSM AC Introduction

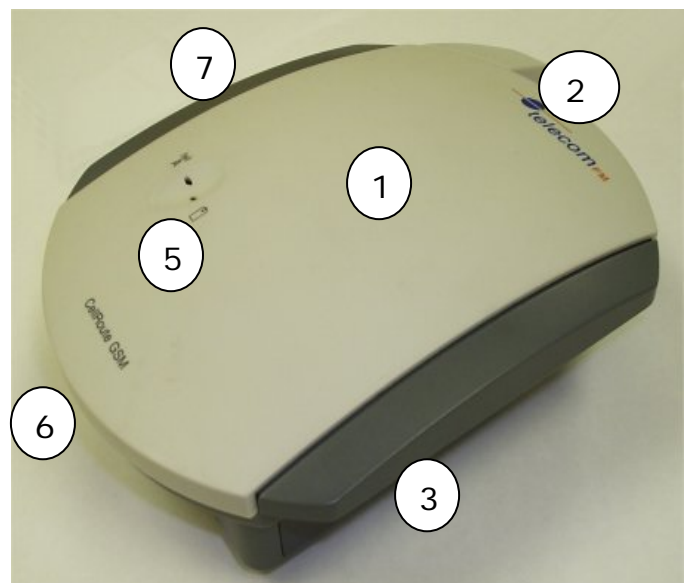


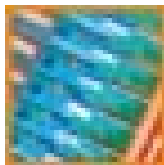
Thank you for the purchasing the Cell Route-GSM terminal.

Note: Data features are not available on the RJ45 port. If you require Data features they are available on the GPRS version.

The CellRoute-GSM incorporates:

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





## CELL ROUTE-GSM AC Getting Started



### 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

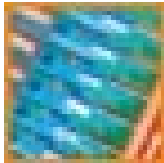
### Installing the SIM card

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.





## CELL ROUTE-GSM AC Getting Started



### Location Of Cell Route

For best reception locate your CellRoute-GSM close to a window or on an external wall within a minimum of 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 from the CellRoute-GSM.



### Connecting to PBX, telephone or Computer

- Connect the PBX Trunk Port into the RJ11 socket labelled telephone.
- Connect your telephone(s) into the RJ11 socket labelled telephone.



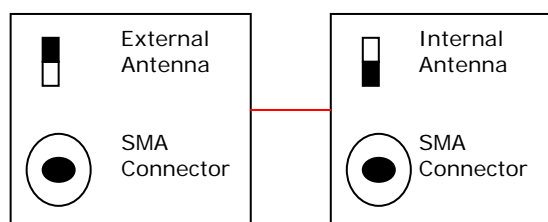
### Connecting the power Supply

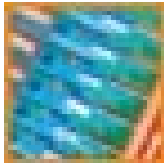
- Connect the Mains lead into the power supply unit then into the AC outlet.
- Connect the power cord from the power supply unit to the CellRoute-GSM.



### 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





## CELL ROUTE-GSM AC Getting Started



### Powering Up CellRoute-GSM

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.

### Connecting CellRoute-GSM to a PBX Via the RJ11Socket

When connecting to a PBX, you are required to connect to the RJ11 socket.

**Note:** The CellRoute-GSM must be connected to a **Trunk Port** on the PBX.

### Connecting CellRoute-GSM to a Telephone(s) Via the RJ11Socket

When connecting a telephone, you are required to connect to the RJ11 socket

### Making a test call

Make a test call with the PBX / Phone connected to the CellRoute-GSM. On completion of dialled digits you will hear a confidence tone indicating the call is successful. (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

### It is possible to Set Incoming & Outgoing volumes on CellRoute

Outgoing volume adjustment on microphone

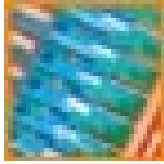
To adjust the microphone level

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



## CELL ROUTE-GSM AC Getting Started



### Answering Incoming calls

Lift handset and call is connected.

### Missed Call

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

### Switching Off The CellRoute

When switching off the CellRoute-GSM you must unplug the power cord from the AC mains outlet.

### 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)

### Confidence Tone

It is possible to turn confidence Tone ON or OFF

Confidence Tone ON dial 0##561#

Confidence Tone OFF dial 0##560#

You will hear an acceptance tone once the digit has been dialled.

### Ringling Cadence

It is possible to adjust the ringing 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.

### Inter-digit Timer

It is possible to set an inter-digit timer between dialled DTMF digits

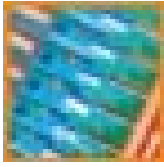
To change dial 0##58nnn# (n = 100ms increments)

Example: 0##5860# would set 6 seconds

10 = 1 second, 50 = 5 seconds (default), 100 = 10 second,

250 = 25 seconds (maximum)

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



## CELL ROUTE-GSM AC Troubleshooting



### • 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.

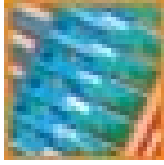
### • LED Status

1. If **NO** LED's are lit.
  - *Check for mains power.*
2. If RED LED is flashing with high pitch Interrupted Tone when handset lifted.
  - *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 networked locked and does not recognise the networked SIM Installed (GPRS unit Only)*
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 to the AC mains socket.
2. Check L.E.D status. (Both power and signal strength LED should be lit).
3. Check SIM lock is deactivated.
4. Check that the telephone connected is working correctly.
5. Check if connected to a PBX that the CellRoute works with a standard telephone connected.





## CELL ROUTE-GSM AC Troubleshooting



- **Noise Is Heard during a Call**

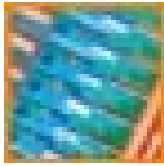
This may be due to poor signal strength or the unsuitable location of the CellRoute-GSM. It is recommended that CellRoute-GSM is positioned a minimum of 1 meter away from other telephones and other electronic devices.

- **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. An external 3Db antenna is supplied with the unit. (see Connecting external Antenna)

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



# CELL ROUTE-GSM AC Technical Specification



## Telephony Interface

Call Control	DTMF
Line Voltage	48v on hook
Loop Current	40mA off hook
Line impedance	600-ohm complex
Ring Voltage	70Vrms
Ring Load	REN 4
CLIP	Bellcore FSK

## GSM Interface

Bands	E-GSM 900MHz GSM 1800MHz GSM Phase 2+
Transmit Power	Class 4 (2W) for E-GSM 900 MHz Class 1 (1W) for GSM 1800MHz
Speech Codecs	Half Rate (ETS 06.20) Full Rate (ETS 06.10) Enhanced Full Rate(ETS 06.50 / 06.60 / 06.80)
SIM Card	3V
Antenna	Integral Omni directional Antenna With SMA connector for external Antenna option

## Physical Interfaces

Telephone	Analogue / RJ11
GSM Antenna	An SMA male connector
SIM Card	3V Small card retained under rear panel
Indication	2 x LED indication for Power / Transmission Status

## Approvals

CE Certification to R & TTE directive 1999/S/SEC

GSM Certifications:

- ETS 300 607-1 Digital Cellular Telecommunications Systems
- EN 301 419-1 Global System for Mobile Communications
- ETS 300 342-1 Radio Equipment and Systems

## Features Overview

High Ringer Equivalence POTS Interface  
Supports up to 4 additional extensions

Highly compatible POTS user interface

Caller Line ID Presentation (Bellcore)

Additional GSM network features may be available  
Subject to network availability and support

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

Remote Antenna facility

Off-hook Howler

Gain adjustment on microphone 1>5

Gain adjustment on speaker 1>5

Inter-digit timer setting

## Power Supplies

Primary 110-240Vac @ 47-63Hz

## Physical Specifications

Height	150mm
Width	122mm
Depth	42mm
Weight	460gm
Operational Temperature Range	0C to 45C