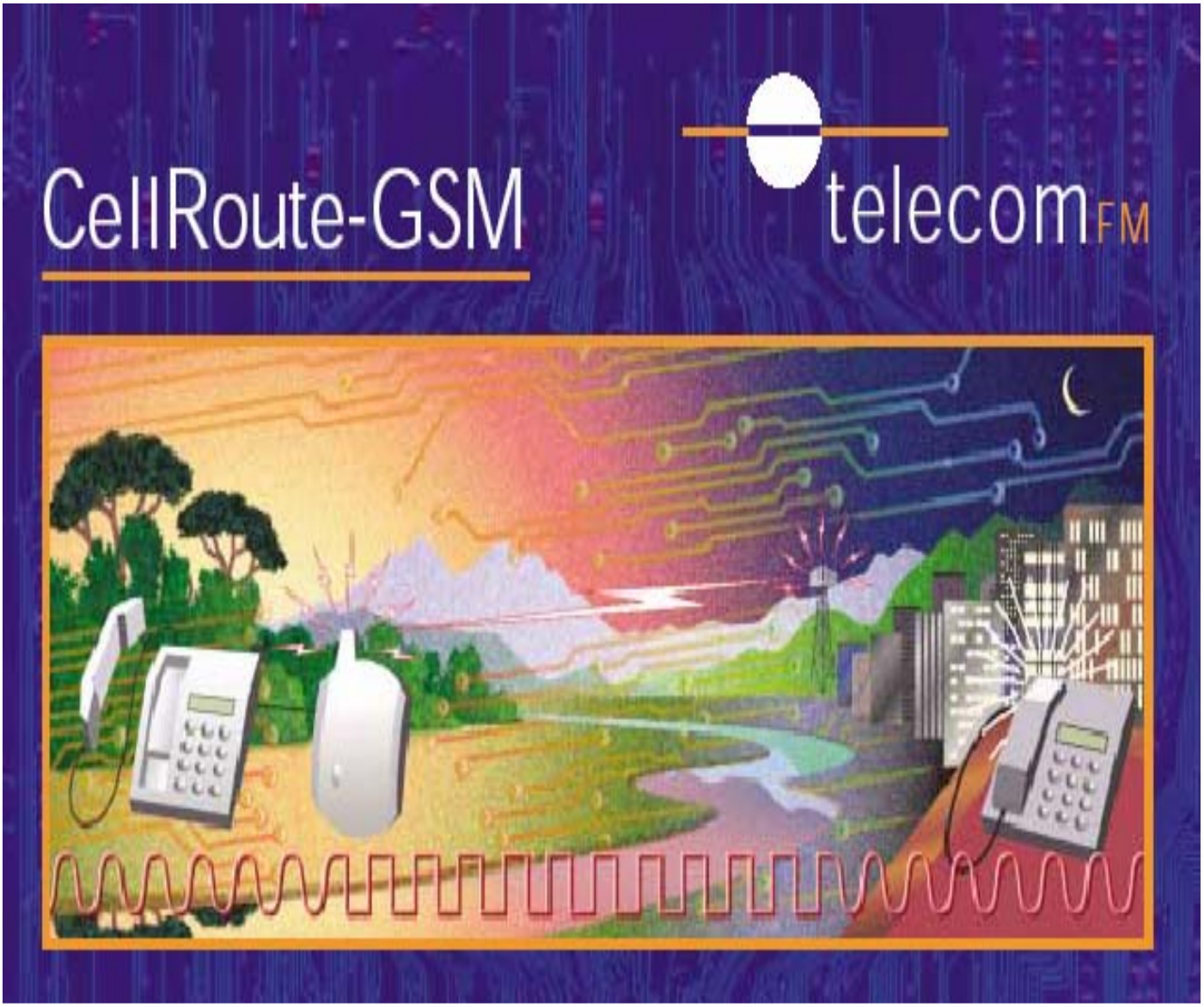
CELLROUTE-GSM

Fixed Wireless Terminal



Installation & User Guide

Version .05 – Jan 2006

Document Control

Date	Doc Version	Change	Authority
Apr 2003	1	1st release of document	CH/TB
June 2003	2	Asset protection added	CH/TB
Dec 2003	3	Adjustable gain settings & line reversal	CH/TB
Jan 2004	4	Selectable confidence tone & Power fail Voltage	CH/TB
Jan 2006	5	Notices & WEEE Directive symbol added	CH

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.

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.

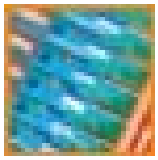
TelecomFM shall accept no liability for any error or damages of any kind resulting from the use of this document or the equipment it relates to.

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.....
May 2003 Roger Lewington

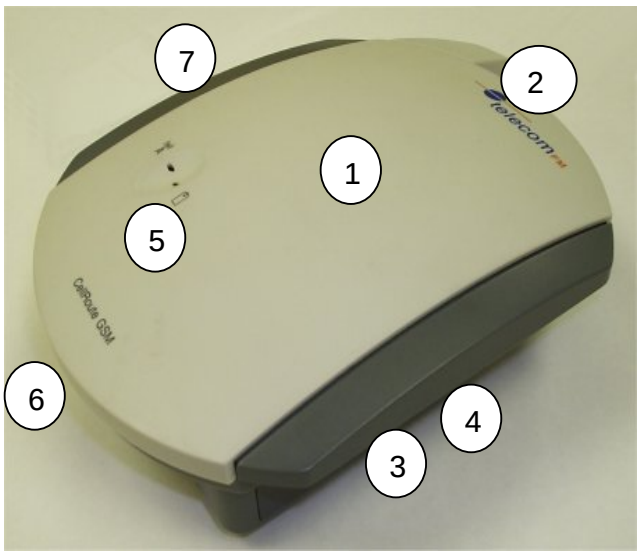


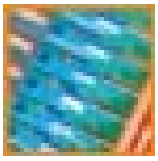
CellRoute-GSM Introduction

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

The CellRoute-GSM incorporates:

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





CELL ROUTE-GSM
Getting Started

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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

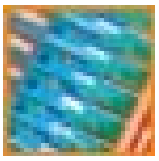
Note: The cellRoute-GSM unit must be connected to the mains power and allowed to charge for a minimum of 30 minutes before use. However for maximum battery standby performance the CellRoute-GSM must be connected to the mains for a minimum of 4 hours.

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.



CELL ROUTE-GSM
Getting Started

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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 a telephone or Computer

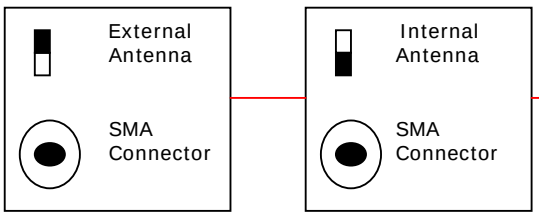
- Connect your telephone(s) Into the RJ11 socket provided.
- Connect your Computer into the RJ45 socket provided.

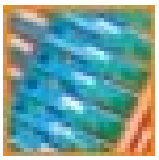
Connecting the power Supply

- Connect the 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
Getting Started

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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. 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.)

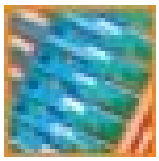
The RED LED will start to flash when the handset is lifted on the telephone-indicating signal Strength. Once the call is connected the RED LED will flash for 45 seconds indicating signal strength then stop leaving both RED and Green LED lit.

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
Getting Started

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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 first unplug the power cord from the CellRoute-GSM itself, otherwise this will activate Battery back-up.

Battery Backup
In the event of mains failure the CellRoute-GSM's battery backup will automatically activate, giving a standby time of approximately 12 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.

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

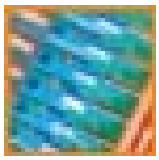
SIM PIN Lock
The CellRoute-GSM has a SIM card PIN lock feature. This is a SIM card security function. (For further details please contact your service provider)

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 digits have been dialled.

Ringing 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.

- **Data**
  Please refer to Data documentation.

- **PC Fax**
  Please refer to Fax documentation.



CELL ROUTE-GSM Troubleshooting

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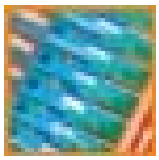
- **First Things to Check If No Operation**
  1. Check that Power is connected.
  2. Check that SIM card is installed correctly.
  3. Check that the telephone is connected correctly.

- **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 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 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.*
  7. RED & GREEN flashing alternately at the same rate.
     - *CellRoute in data mode operation.*

- **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.

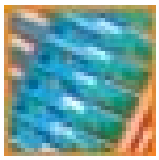


CELL ROUTE-GSM Troubleshooting

- **Noise Is Heard during a Call**
  This maybe 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
Technical Specification

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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)
Data Rate	2400,4800,9600,Baud
SIM Card	3V
Antenna	Integral Omni directional Antenna With MCX connector for external Antenna option

Physical Interfaces

Telephone	Analogue / RJ11
Data Port	RS232 / RJ45 with optional DB-9 Converter
GSM Antenna	An SMA male connector
SIM Card	3V Small card retained under rear panel
Indication	2 x LED indication for battery / 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

Integral Battery Back-up

Caller Line ID Presentation (Bellcore)

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

RS232 Data Port for emails/web and transmission / reception of PC faxes (using WinFax Pro)

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

Power Supplies

Primary	110-240Vac @ 47-63Hz
Secondary	2xA size NiMH rechargeable batteries with Auto switch over to 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 45C