1. Introduction

Welcome to TEMS Pocket.

TEMS Pocket is *a* basic mobile network diagnostics tool built into an Ericsson T610 or T616 GSM/GPRS mobile station. TEMS Pocket is suitable for day-to-day verification, maintenance and troubleshooting of mobile networks but is also handy for many cell planning tasks.

1.1. What's New in TEMS Pocket T610/T616

• New AMR data view showing uplink and downlink codecs and their utilization

• More information and multiple data views selectable in WAP browser: Cell, Neighbors, Channel

• CGI added to all events as parameter

• GPRS Attached and Roaming added in time log

• DTX rate (uplink and downlink) displayed in AMR and Current Channel data views

• Cell reselection hysteresis displayed in Serving Cell data view

1

2. Overview

2.1. Data Views

Most of the data displayed by TEMS Pocket is to be found in *data views.* When you turn the phone on the first time it will display the Serving Cell data view.
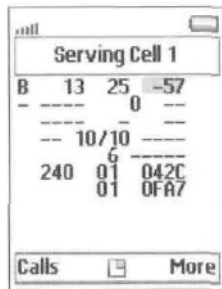
On later occasions, when turned on, the mobile will display the data view last inspected, provided that the Pocket functions are activated. You browse the data views by moving the joystick up and down.

The top section of the display preserves the ordinary mobile phone indicators signal strength and battery power level, as well as other symbols appearing under various conditions. Above the signal strength bars, GPRS availability is indicated by the following means:

 If nothing is drawn above the bars, the mobile has no GPRS coverage, or the subscription does not support GPRS (the mobile attempted GPRS attach but failed).

 A blue contour indicates that there is GPRS coverage, but the mobile has not yet attempted to attach to GPRS.

 A solid blue triangle indicates that the mobile has successfully attached to GPRS.

2

If the default phone display with the operator's name appears instead, this is because the Pocket functions are turned off.

To turn Pocket data views on:

- Press the button labeled More on the screen.

- Move the joystick down to select "Pocket View On".
- Press Select.

The data views are fully described in chapter 3.

2.2.   Menus

The TEMS Pocket phone has a special Pocket menu from which you change settings in TEMS Pocket. Moreover, the Pocket menu is used to access certain categories of data (sometimes there is also a shortcut).
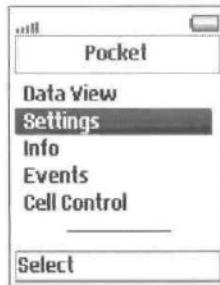
To access the Pocket menu:

• Move the joystick right once, then right once more and twice down. The Settings icon is selected:

• Press Select and then Select again to enter the Pocket main

The submenus seen here are described in chapter 4.

2.3. Note on TEMS Realtime Tools

TEMS mobiles delivered with the realtime diagnostics tools TEMS Investigation and TEMS Light have full TEMS Pocket functionality. When such mobiles are connected to one of the realtime tools, you can still inspect their TEMS Pocket data views (chapter 3). You can also inspect the event log, by accessing it from a data view through the Quick menu (section 3.16).

However, while TEMS Pocket is connected to a realtime tool, you cannot use the TEMS Pocket network control functions or change network settings (sections 4.5- 4.8 in this manual). All such functions are disabled as long as the phone is connected.

3.   Data Views

3.1.   General

All data views have the same general structure in idle and dedicated mode. When a parameter is currently not valid (such as C1 and C2 in dedicated mode), this is indicated in the data view by a string of dashes "- -" of appropriate length. In a few places one parameter is replaced by another when the mode changes. These differences are of course noted in the subsequent sections.

Certain parameters are presented both numerically and graphically, the number being superimposed on a colored bar whose length and color depend on the parameter value. These parameters are tagged "numeric/graphic" in sections 3.3-3.14. The rules for the graphic presentation are found in appendix B, page 67.

> Tip: To fine-tune the appearance of the colors, you may find it
> helpful to adjust the display contrast (Settings menu →
> Display →
> Contrast).

In the case of frequency hopping, the hopping list is shown one channel at a time, a new channel appearing each second (e.g. TC in the Serving Cell view, section 3.3).

3.2.   The Built-in Help Function

For all data views a corresponding help view is available. Each help view has the same organization as the data view but displays mnemonics for the parameters where the data view displays the parameters themselves:
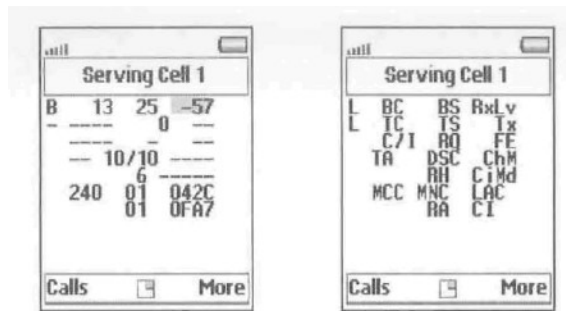
Data view   Help view

In this chapter, data views and help views are shown side by side, and the view contents are explained by referring to the mnemonics in the help view.
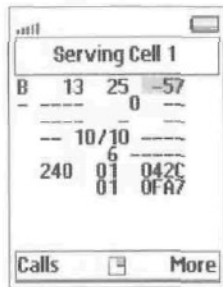
To enter the help view (while in a Pocket data view):

• Press More. The More menu appears. Choose **Pocket Help On** (most easily done by pressing the "3" key).
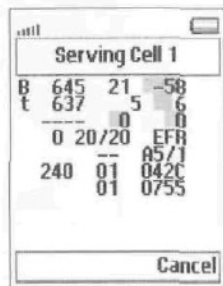
To return to the data view:

• Press More and choose **Pocket Help Off.** (Alternatively, press More and then "3".)
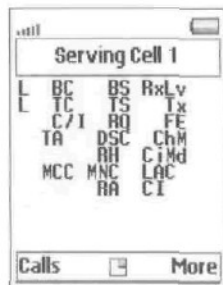
3.3.   Serving Cell (1)

Idle mode

Dedicated

mode
Help view
(idle
mode)

The top part describes the broadcast and traffic channels used and the channel quality.

L: Logical Channel

Line 1:
• B: BCCH

Line 2: One of
• T: TCH
• t: Hopping TCH
• S: SDCCH
• s: Hopping SDCCH
• P: PBCCH
• p: Hopping PBCCH
• D: PDTCH
• d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/ graphic

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN) or Packet Dedicated Traffic Channel (PDTCH ARFCN}. Hopping channels are shown one at a time; see section 3.1.
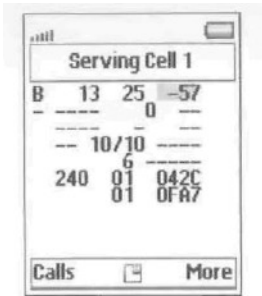
TS: Timeslot Number

Tx: Transmit Power, numeric/graphic

C/I: Carrier-to-interference ratio in dB. *In dedicated mode:* C/I for the traffic channel currently indicated by L on line 2. That is, for hopping channels the displaying of C/I values is synchronized with the traversal of the hopping list; cf. section 3.1. *In idle mode:* C/I for the BCCH indicated by L on line 1.

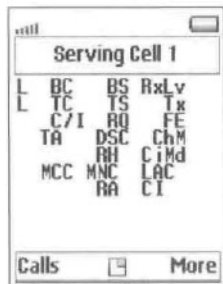Numeric/graphic presentation.

C/I is supported for the modes BCCH, TCH/F, TCH/H, TCH/M, and PDTCH.

Idle mode
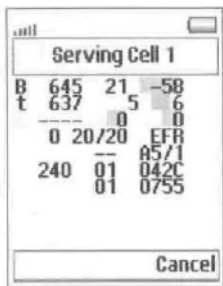
Dedicated mode

Help view
(idle mode)

RQ: Receive Bit Error Rate (RxQual), numeric/graphic

FE: Frame Erasure Rate (FER),

numeric/graphic **TA:** Timing Advance

DSC (idle mode): Downlink Signalling Counter (Current/Max). In dedicated mode, DSC is replaced by **RLT,** Radio Link Timeout (Current/Max).

ChM: Channel Mode; same as in section 3.7

RH: Cell Reselection Hysteresis

CiMd: Ciphering Mode; same as in section

3.7

The bottom part describes the CGI (Cell Global Identity) and RAC (Routing Area Code) of the serving cell.

MCC: Mobile Country

Code **MNC:** Mobile

Network Code LAC:

Location Area Code **RA:**

Routing Area Code **CI:**

Cell Identity

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3.4. Neighbor List (2)

Presents the BSIC and signal strength (RxLev} of the serving cell and the six strongest cells in the neighbor list.

L: Logical Channel
- B: BCCH
- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

NC1 ... NC6: Neighbor Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/ graphic

You can lock on a cell that is listed in this view; see section 3.16.

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3.5. Cell Selection (3)

Presents location area/routing area properties and cell selection criteria for the serving cell and the six strongest cells in the neighbor list.

L: Logical Channel
• B: BCCH
• P: PBCCH
• p: Hopping PBCCH
• S: SDCCH
• s: Hopping SDCCH
• T: TCH
• t: Hopping TCH
• D: PDTCH
• d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

NC1 ... NC6: Neighbor Cell BCCH ARFCN

A: Location Area/Routing Area properties:
• S: Same LA/RA
• L: Different LA
• R: Same LA, different RA
• P: PLMN not matching
• -: Unknown

R: Routing Area Color, RACo {0 ... 7}. Invalid ("-"} if GPRS not available in network.

If the cell does not broadcast packet channels (no PBCCH), the two rightmost columns are:

C1: Pathloss criterion C1

C2: Cell reselection criterion C2

If the cell supports packet channels (broadcasts a PBCCH), the two rightmost columns become:

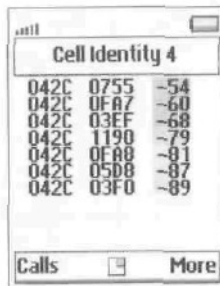C31: GPRS signal strength threshold

criterion C31 C32: GPRS cell ranking

criterion C32 (Numeric/graphic presentation

of all four criteria.)

(Help menu shows "C31", "C32" when in a PBCCH-enabled network)

You can lock on a cell that is listed in this view; see section 3.16.

3.6. Cell Identity (4)
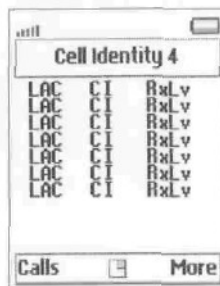
```
.ııll                    ▭
┌─────────────────────┐
│    Cell Identity 4   │
└─────────────────────┘
 042C  0755  -54
 042C  0FA7  ~60
 042C  03EF  ~68
 042C  1190  ~79
 042C  0FA8  ~81
 042C  05D8  ~87
 042C  03F0  ~89

┌──────┬─────┬──────┐
│Calls │  ▣  │ More │
└──────┴─────┴──────┘
```

Presents the LAC, CI, and RxLev of the serving cell and the six strongest cells in the neighbor list.

LAC: Location Area Code

CI: Cell Identity

RxLv: Received Signal Strength (RxLev),

```
.ııll                    ▭
┌─────────────────────┐
│    Cell Identity 4   │
└─────────────────────┘
 LAC   CI   RxLv
 LAC   CI   RxLv
 LAC   CI   RxLv
 LAC   CI   RxLv
 LAC   CI   RxLv
 LAC   CI   RxLv
 LAC   CI   RxLv

┌──────┬─────┬──────┐
│Calls │  ▣  │ More │
└──────┴─────┴──────┘
```
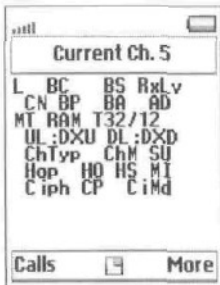
You

can lock on a cell that is listed in this view; see section 3.16.

3.7. Current Channel (5)
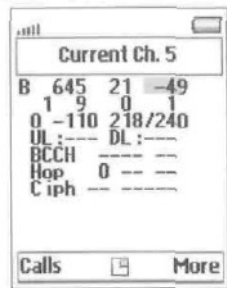
Idle mode

3.7.1. General

Line 1 repeats some basic information. L: Logical Channel

Line 1: B for BCCH
Line 2: One of
• T: TCH, t: Hopping TCH
• S: SDCCH, s: Hopping SDCCH
• P: PBCCH, p: Hopping PBCCH
• D: PDTCH, d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/ graphic

3.7.2. Idle Mode

Lines 2-3 are shown in idle mode.

CN: CCCH configuration, number of BCCH/CCCH timeslots {0 ... 6}; see appendix A.3, page 60

BP: BS-PA-MFRMS, number of multiframes between paging subgroups {2 ... 9}

BA: BS-AG-BLKS-RES, number of CCCH blocks reserved for AGCH {0 ... 7}

**AD:** Attach/Detach enabled (0: No, 1: Yes}; see appendix A.4, page 60

MT: MS-TXPWR-MAX-CCH, maximum RACH power in dBm {900: 5 ... 39; 1800: 0 ...36; 1900: 0... 33}

RAM: RXLEV-ACCESS-MIN, minimum RxLev required for accessing the cell [GSM units: 0 ... 63; dBm:-110...-47}

T32/12: T3212, current time/max time between location updates {Off, 0 ... 1530 minutes}

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3.7.3. Dedicated Mode

Lines 4-7 are shown in dedicated mode. They relate to DTX, channel type, frequency hopping, and ciphering.
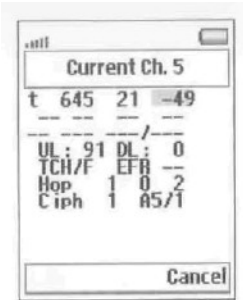
DXU: DTX rate {%} on uplink

DXD: DTX rate (%) on

downlink

ChTyp: Channel type, one of {BCCH, PBCCH, PDTCH, SDCCH, TCH/F, TCH/H}; see appendix A.5, page 61

ChM: Channel mode, one of {FR, EFR, HR, AFR, AHR; D24, D48, D96, D144}:
• FR = Speech, Full Rate
• EFR - Speech, Enhanced Full Rate
• HR = Speech, Half Rate
• AFR = Speech, AMR Full Rate
• AHR = Speech, AMR Half Rate
• D24 = Data 2.4 kbit/s, etc.

SU: Subchannel Number {0 ... 7}

HO: Frequency Hopping On/Off {0: Off, 1: On; see appendix A.7, page 61}
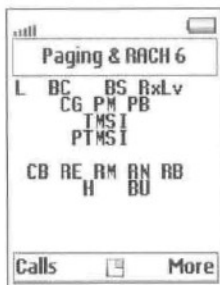
HS: Hopping Sequence Number {0 ,.. 63}

MI: MAIO, Mobile Allocation Index Offset {0 ... 63}

CP: Ciphering On/Off {0: Off, 1: On}; see appendix A.8, page 61

CiMd: Ciphering Mode, one of {A5/1, A5/2, GEA/1, GEA/2}

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3.8. Paging & RACH (6)

3.8.1. General

Line 1 repeats some basic

information. L: Logical Channel

Line 1: B for
BCCH Line 2:
One of
- T: TCH, t: Hopping TCH
- S: SDCCH, s: Hopping SDCCH
- P: PBCCH, p: Hopping PBCCH
- D: PDTCH, d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/ graphic

3.8.2, Paging

Lines 2-4 show information on the currently used Paging Channel and other paging parameters.

Mobile Paging Subgroup (CG, PM, RB):

CG: CCCH Group, used CCCH timeslot {0, 2, 4, 6}

PM: Paging Multiframe Group {0 ...

8}

PB: Paging Block Index {0 ... 8}

TMSI: Temporary Mobile Subscriber Identity (hex); not valid when Ignore TMSI is active (section 4.5.8, page 40)

PTMSI: Packet TMSI (hex); not valid when the mobile is not GPRS attached, or when Ignore TMSI is active (section 4.5.8, page 40)

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3.8.3.   RACH

Lines 5-6 show information on the Random Access Channel.

CB: Cell Barred {0: No, 1: Yes}

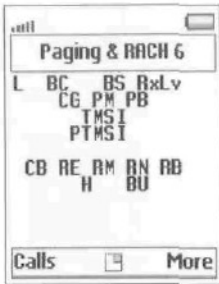**RE:** Call Re-establishment {0: Allowed, 1: Not allowed}

RM: Max number of retransmissions {1,2, 4, 7}

RN: Number of RACH bursts sent for the last connection {1 ... 7}

RB: Establishment Cause/Random: Reference used in the latest RACH burst {00 ... FF}

H: Latest GPRS Access Type: 1 phase or 2 phase access {1,2,-}

BU: GPRS Access Burst Type: 8 bit or 11 bit bursts {8,11-}

3.9. CA List (7)

Shows the frequencies used by the current cell. The list holds a maximum of 64 entries.

- To scroll the list, press the joystick to enter scroll mode. The top row is highlighted. Then move the joystick up and down to scroll. Press the Return key (↰) to exit scroll mode.

3.10. BA List (8)

Shows all neighbors of the current cell. The list holds a maximum of 64 entries.

- To scroll the list, press the joystick to enter scroll mode. The top row is highlighted. Then move the joystick up and down to scroll. Press the Return key (⤺) to exit scroll mode.

3.11.   GPRS Data (9)

3.11.1.   The GPRS Connection

Line 1 repeats some basic information. Lines 2-3 show data on the GPRS connection.

L: Logical Channel

Line 1:BforBCCH
Line 2: One of
- T: TCH
- t: Hopping TCH
- S: SDCCH
- s: Hopping SDCCH
- P: PBCCH
- p; Hopping PBCCH
- D: PDTCH
- d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (8SIC)

RxLv: Received Signal Strength (RxLev), numeric/ graphic

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN) or Packet Dedicated Traffic Channel (PDTCH ARFCN)

TS: Timeslots used on uplink and downlink. The timeslots are represented by the numbers 0-7, and those currently in use are replaced by arrows as

follows:

- Upward arrow: Timeslot used on uplink

- Downward arrow: Timeslot used on

downlink

- Double-headed arrow: Bidirectional timeslot
  used on both uplink and downlink

Example: 01234↓‡↓ means that TS 5 and 7 are being used on the downlink and TS 6 on both uplink and downlink.

18
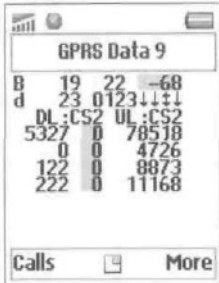
```
📶 ⊚           ▭
   GPRS Data 9
B   19  22   -68
d   23  0123↓↓‡↓
   DL:CS2 UL:CS2
 5327   0  78518
    0   0   4726
  122   0   8873
  222   0  11168


Calls    ▣    More
```

```
📶           ▭
   GPRS Data 9
L  BC   BS RxLv
L  TC      TS
  DL:CSd UL:CSu
DLBsEr TotLLC
DLBsEr TotRLC
ULBsRe TotLLC
ULBsRe TotRLC

Calls    ▣    More
```

CSd: Channel coding scheme on downlink {1 ... 4}

CSu: Channel coding scheme on uplink

 (1 ... 4}

3.11.2. GPRS Performance and Performance Statistics

Lines 4-7 report the current performance of and some statistics on the GPRS data transfer.

Line 4: LLC protocol level, downlink *Line 5:* RLC protocol level, downlink *Line 6:* LLC protocol level, uplink *Line 7:* RLC protocol level, uplink

Bs: Instantaneous data transfer rate in bytes/s

Er: Percentage of data blocks erroneously decoded (on downlink), numeric/graphic

Re: Percentage of data blocks resent (on uplink), numeric/graphic

TotLLC: Total number of bytes transferred at the LLC level (K = kilobytes, M = megabytes)

TotRLC: Total number of bytes transferred at the RLC level (K = kilobytes, M = megabytes)

The TotLLC and TotRLC counters can be reset from the Quick menu: see section 3.16.

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3.12.   GPRS Cell/PDP(10)

3.12.1.   GPRS Cell Configuration

Line 1 repeats some basic information. Lines 2-4 show data on the configuration of the GPRS cell.

L: Logical Channel
*   B: BCCH
*   P: PBCCH, p: Hopping PBCCH
*   S: SDCCH, s: Hopping SDCCH
*   T: TCH, t: Hopping TCH
*   D: PDTCH, d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev),

numeric/graphic

A: GPRS Attached {A: Attached, -: Not attached}

S: System Information 13 position {N: Normal BCCH, E: Extended BCCH, -: Not present}

NMO: Network Mode of Operation {I, II, III}; see appendix A. 10, page 62

DX: DRX Timer Max, see GSM 04.60, sec. 5.5.1.5

T8: T3168 timer start value (Packet Uplink Assignment Timer), see GSM 04.60, sec. 13.1 {value in hundreds of milliseconds, assigned in System Information}
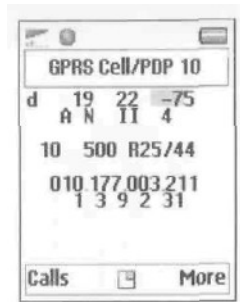
T192:T3192 timer start value (Packet Final Block Timer), see GSM 04.60, sec. 13.1 {value in ms, assigned in System Information}

G: GMM State {-: No GPRS available, I: Idle, **R**: Ready, S: Standby}

T3314: T3314 timer start value (GMM Ready Timer), Current/Start; see GSM 04.08, sec. 4.7.2

PDP Address: IPv4 PDP address (12-digit number)

20
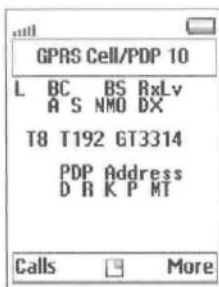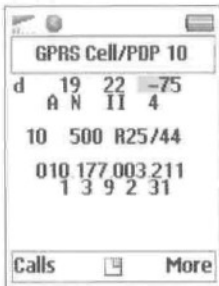
3.12.2. PDP Context Request

See GSM 04.08, sec. 10.5.6.5.
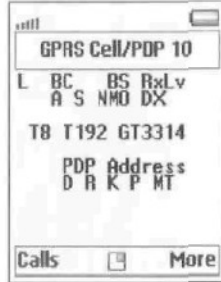
D: Delay Class {0... 4}

R: Reliability Class {0 ... 5}

K: Peak Throughput {0 ... 9}

P: Precedence Class {0 ... 3}

MT: Mean Throughput {0 ... 18,31}

For meanings of values, see below.

Delay Class

0: Subscribed
1: Delay class 1
2: Delay class 2
3: Delay class 3
4: Delay class 4 (best effort)

Reliability Class

0: Subscribed
1: Acknowledged GTP, LLC, and RLC; Protected data
2: Unacknowledged GTP; Acknowledged LLC and RLC, Protected data
3: Unacknowledged GTP and LLC; Acknowledged RLC, Protected data
4: Unacknowledged GTP, LLC, and RLC, Protected data
5: Unacknowledged GTP, LLC, and RLC, Unprotected data

Peak Throughput

0: Subscribed
1: Up to 1 000 octet/s
2: Up to 2 000 octet/s
3: Up to 4 000 octet/s

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4: Up to 8 000 octet/s
5: Up to 16 000 octet/s
6: Up to 32 000 octet/s
7: Up to 64 000 octet/s
8: Up to 128 000
octet/s

9: Up to 256 000
octet/s

Precedence Class
0: Subscribed
1: High priority
2: Normal priority
3: Low priority

Mean Throughput
0: Subscribed
1: 100 octet/h
2: 200 octet/h
3: 500 octet/h
4: 1 000 octet/h
5: 2 000 octet/h
6: 5 000 octet/h
7:10 000 octet/h
8: 20 000 octet/h
9: 50 000 octet/h
10: 100 000 octet/h
11: 200 000 octet/h
12: 500 000 octet/h
13: 1 000 000 octet/h
14: 2 000 000 octet/h
15: 5 000 000 octet/h
16: 10 000 000 octet/h
17: 20 000 000 octet/h
18: 50 000 000 octet/h
31: Best effort

3.13. AMR (11)
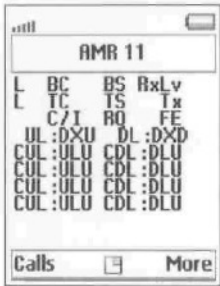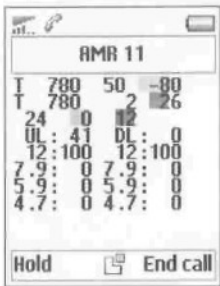
3.13.1. General

Lines 1-3 are the same as in the Serving Cell data view (3.3); they are repeated here for convenience.

L: Logical Channel

Line 1:
• B: BCCH

Line 2: One of
• T: TCH
• t: Hopping TCH
• S: SDCCH
• s: Hopping SDCCH
• P: PBCCH
• p: Hopping PBCCH
• D: PDTCH
• d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

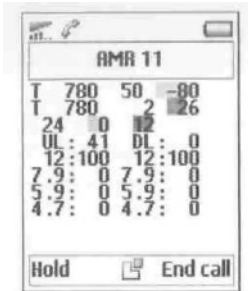RxLv: Received Signal Strength (RxLev), numeric/ graphic

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN} or Packet Dedicated Traffic Channel (PDTCH ARFCN). Hopping channels are shown one at a time; see section 3.1.

TS: Timeslot Number

Tx: Transmit Power, numeric/graphic

C/I: Carrier-to-interference ratio in dB. *In dedicated mode:* C/I for the traffic channel currently indicated by L on line 2. That is, for hopping channels the displaying of C/I values is synchronized with the traversal of the hopping list; cf. section 3.1. *In idle mode:* C/I for the BCCH indicated by L on line 1.

Numeric/graphic presentation.

C/I is supported for the modes BCCH, TCH/F, TCH/H, TCH/M, and PDTCH.

RQ: Receive Bit Error Rate (RxQual), numeric/graphic

FE: Frame Erasure Rate (FER), numeric/graphic

3.13.2. **DTX and AMR**

Lines 4-8 deal with DTX rate and AMR codec usage.

DXU: DTX rate (%) on uplink

DXD: DTX rate (%) on

downlink

CUL: AMR codec used on uplink

ULU: Utilization of this uplink AMR codec

CDL: AMR codec used on downlink

DLU: Utilization of this downlink AMR codec

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Views **3.14.** **C/I(12)**

Shows the carrier-to-interference ratio, C/I, for broadcast and traffic channels.

L: Logical Channel
- B: BCCH
- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH
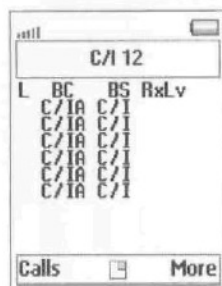
BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/ graphic

C/IA: *In dedicated mode:* TCH or PDTCH ARFCNs (channels in hopping list, sorted by ascending C/I). *In idle mode:* BCCH ARFCN (only one line).

C/I: C/I value in dB for this channel, numeric/graphic

3.15. The WAP Browser Data Views

While the WAP browser is running, TEMS Pocket can show selected air interface information in the bottom part of the screen.

There are three data views to choose from:

- Cell (section 3.15.1)
- Neighbors {section 3.15.2)
- Channel (section 3.15.3)

Use the "+" and "-" buttons on the left side of the mobile (below the camera button) to loop through the WAP browser data views.

The presented data consists of selections from the corresponding ordinary data views. Everything is repeated here for convenience.

3.15.1. Cell

L: Logical Channel
- **B:** BCCH
- **P:** PBCCH
- **p**: Hopping PBCCH
- **S:** SDCCH
- **s**: Hopping SDCCH
- **T:** TCH
- **t:** Hopping TCH
- **D:** PDTCH
- **d:** Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/ graphic

MCC: Mobile Country Code

MNC: Mobile Network Code

LAC: Location Area Code

CI: Cell Identity

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3.15.2. Neighbors

L: Logical Channel
- B: BCCH
- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

NC1, NC2: Neighbor Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/ graphic

3.15.3. Channel

L: Logical Channel
- B: BCCH
- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev),

numeric/
graphic

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN) or Packet Dedicated Traffic Channel (PDTCH ARFCN)

TS: Timeslots used on uplink and downlink. The timeslots are represented by the numbers 0-7, and those currently in use are replaced by arrows as follows:

- Upward arrow; Timeslot used on uplink

- Downward arrow: Timeslot used on downlink

- Double-headed arrow: Bidirectional timeslot used on both uplink and downlink

Example: 01234↓↕↓ means that TS 5 and 7 are being used on the downlink and TS 6 on both uplink and downlink.

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The WAP browser data view can be turned on and off from the Settings menu
• see section 4.5.2, page 38. Alternatively, when a WAP session is ongoing, the visibility of the WAP browser data view can be controlled from the More menu when accessed from the WAP browser (press the key labeled More and choose "WAP View Off"/"WAP View On").

3.16.   The Quick Menu

This is a special menu that is accessed from the data views. It provides a shortcut to some often-used operations, most of which are also available from the ordinary menus (chapter 4):

3.16.1.   Quick Menu in Idle Mode

In idle mode the Quick menu contains the following:

• Lock on channel (current serving cell, or neighbor cell: see below). This is equivalent to Lock ARFCN (section 4.8.2) in idle mode and Force HO (section 4.8.3) in dedicated mode.

• Toggle logging and sound on/off (see section 4.7.3).

• View the event log (see section 4.7.1).

• Reset GPRS data transfer counters (see section 4.5.10).

The method of accessing the Quick menu and the range of cells you can lock on are different in different data views:

3.16.1.1. Accessing the Quick Menu from Neighbor List Data Views

In the data views containing a neighbor list {nos. 2-5, sections 3.4-3.6), you can lock on one of the shown neighbors or on the serving cell.

- Press the joystick to enter scroll mode.
- If you want to lock on a cell, scroll to that cell.
- Press the joystick.

- **Lock:** Lock on the selected cell.
- **Event Mode:** Modify sound and logging settings.
- **View Log:** View the event log.
- **Reset Data Counters:** Reset the GPRS data transfer counters.

To release **the mobile:**

- Press the joystick to enter scroll mode.
- In the data view, scroll to the top row (serving cell).
- Press the joystick again.
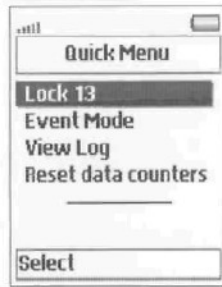
- Choose **Unlock ARFCN.**

3.16.1.2. Accessing the Quick Menu from Other Data Views

In the remaining data views, you can only lock on the serving cell.

• Press the joystick.

• If the text size is set to medium or large (see section 4.5.1, page 37),
press the joystick again.

• **Lock:** Lock on the selected cell.

• **Event Mode:** Modify sound and logging settings.

• **View Log:** View the event log.

• **Reset Data Counters:** Reset the GPRS data
transfer counters.

To release the mobile:

• Press the joystick.

• If the text size is set to medium or large, press the joystick again.

• Choose Unlock ARFCN.

3.16.2.   Quick Menu in Dedicated Mode

In dedicated mode, the Quick menu contains the following:

*   Disable handover (see section 4.8.4, page 52).
*   Toggle logging and sound on/off (see section 4.7.3, page 45).
*   Configure Multiband Reporting (see section 4.8.6, page 54).
*   View the event log (see section 4.7.1, page 44).
*   Reset GPRS data transfer counters (see section 4.5.10, page

41).

3.16.2.1. Accessing the Quick Menu in Dedicated Mode

In dedicated mode the Quick menu functions are the same in all
data views. How to access the menu, however, still depends on the
view and the text size:

*   If you are in a neighbor list data view (nos. 2-5), *or* if the text size
    is set to
    medium or large, press the joystick twice;
*   otherwise, press the joystick once.

*   **Disable HO:** Disable handover.
*   **Event Mode:** Modify sound and
    logging
    settings.
*   **Multiband Rpt:** Modify Multiband
Reporting.
*   **View Log:** View the event log.
*   **Reset Data Counters:** Reset the GPRS
    data transfer counters.

When you have chosen Disable HO, it is replaced by Enable HO in
the menu. Choose this command to re-enable handovers.

4. Menus

4.1. General

The menus have the following main uses:

- **Data View** menu: Choosing or hiding data views
- **Settings** menu: Adjustment of miscellaneous settings (e.g. measurement
  units)
- **Info** menu: Inspection of phone and SIM identities and phone usage
  statistics
- **Events** menu: Viewing of event setup and event log
- **Cell Control** menu: Control of mobile behavior in the network (cell
 reselection, handover, band, etc.)

In addition, there is the **Quick** menu (section 3.16, page 29), which is accessible from the data views and provides quick access to often-used functions.

In general, the settings made in the menus are in force until you alter them again or give the Reset All command (section 4.5.10, page 41). The Cell Control settings are an exception; they revert to their defaults when the mobile is turned off.

4.2. Pocket Menu Overview

All details in sections 4.5-4.8 below. How to access the Pocket menu was described in section 2.2.
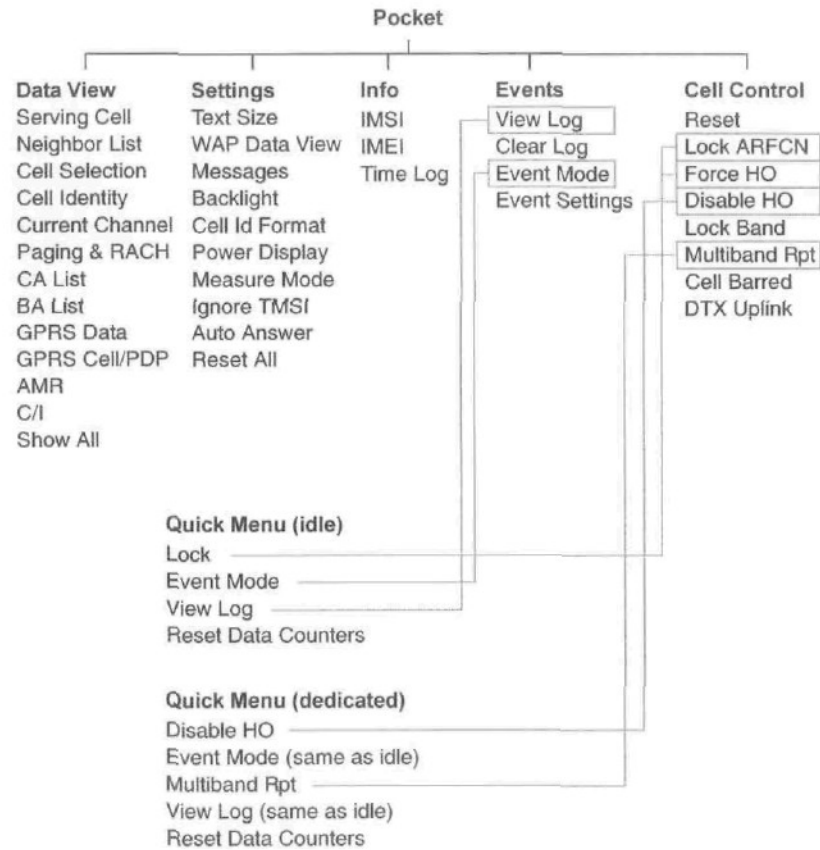
4.3. Navigating in the Menus

The handset controls have the following functions for entering menus and navigating in the menus:

Joystick the left/right left/right to
- *When not in menu mode:* Joystick right to enter phone's top-level menus, then joystick left/right to browse menus.
- *In some dialogs:* Move cursor when entering a number.

Joystick top- up/down
- *When not in menu mode:* Browse the phone's top-level menus.
- ← • *In a menu:* Scroll through a menu.
- ← • *In some dialogs:* Scroll through the list of choices.

Press joystick/ key labeled "Select"
- *In a menu:* Enter a submenu or dialog, key
- In a dialog: Confirm the selected option or entered input, and exit the dialog.

Return (↰) key
- *In a menu:* Exit the menu.
- *In a dialog:* Exit the dialog without changing anything.

Key labeled "More"
- *When not in menu mode:* Enter the More menu (containing some Pocket functions).

Clear (C) key
- *In some dialogs:* Delete a digit when entering a number.

0-9 keys
- *In a menu:* Select the menu item at the corresponding position in the list.
- *In some dialogs:* Enter numerical values.

4.4. Data View Menu

In this menu you can choose a data view to display, and control the visibility of each data view.

4.4.1. Menu Items for Individual Data Views

This dialog exists for each data view.
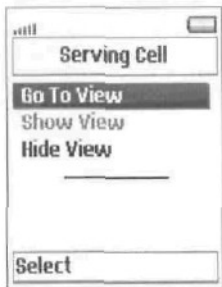
If the view currently *is not* hidden:

Go To View: Exit menu mode and immediately display the data view in question.

Show View: (Disabled, since the view is currently not hidden.)

Hide View: This setting causes the view to be skipped when you scroll the data view sequence.

If the view currently *is* hidden:

Go To View: Exit menu mode and display the data view. Note that in this case the view is still regarded as hidden and is shown just this once: if you scroll to a different view, and then scroll back, the hidden view will still be skipped. To make the view permanently visible again you must choose Show View in this menu (see below).

Show View: Make the hidden view visible.

Hide View: (Disabled, since the view is currently hidden.)

4.4.2. Show All

This command unhides any data views that you have hidden.

4.5. Settings Menu

In this menu you specify various aspects of TEMS Pocket behavior and of the data presentation:

- Text size
- Visibility of WAP data view
- Displaying of messages
- Display backlight on/off
- LAC and Cl: Decimal or hexadecimal format
- Power unit: GSM units or dBm (RxLev, TxPower)
- Full/Sub values (RxLev, RxQual, FER)
- Use of IMSI/TMSI
- Auto answer

4.5.1.   Text Size

Data views can have three different font sizes.
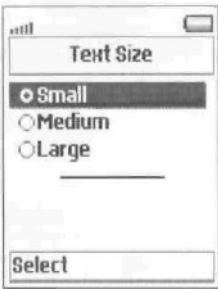
Small: Characters are 10 pixels high. The whole data view fits into the display (except CA List and BA List if they are long enough).

Medium: Characters are 14 pixels high. Scrolling needed.

Large; Characters are 18 pixels high. Scrolling needed.
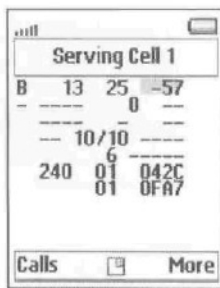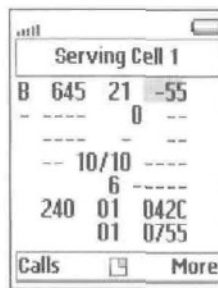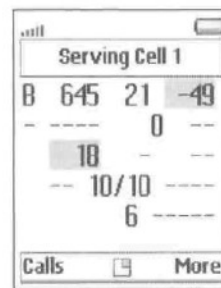
- To scroll a view with medium or large font, press the joystick to enter scroll
  mode, then move the joystick up and down as usual in order to scroll.

- To exit scroll mode, press the Return key (⤺)

4.5.2. WAP **Data** View

When you are running WAP services you can have a Pocket data view displayed at the bottom of the WAP browser. See section 3.15, page 26.

Choosing On activates the WAP data view.
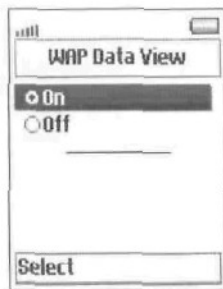
About preparing your phone for WAP and getting started using the service, please consult your mobile phone user manual.

4.5.3. **Messages**

If On is chosen, messages such as those generated by divert or calling line identification will be displayed.

If Off is chosen, these kinds of messages will not be displayed and so will not conceal the Pocket data views.

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4.5.4. Backlight

Normal: The display backlight is turned off after about 25 seconds of inactivity.

Extended: The display backlight remains on for 20 minutes even if there is no user input. For this choice to be enabled, automatic keylock must be turned off.
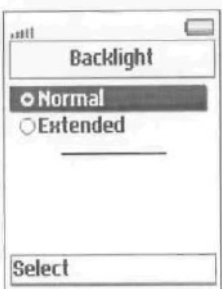
4.5.5. Cell Id Format

Hex: LAC and CI are displayed in hexadecimal digits.

Decimal: LAC and CI are displayed in decimal digits.
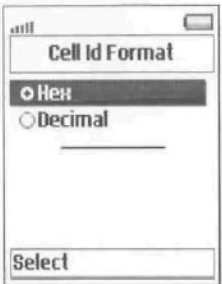
4.5.6. Power Display

dBm: RxLev and TxPower are displayed in dBm.

GSM: RxLev and TxPower are displayed in GSM units.

About color coding and bar length, see appendix B, page 67.

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4.5.7. Measure Mode

Full: RxLev, RxQual, and FER are presented in the form of Full values.

Sub: RxLev, RxQual, and FER are presented in the form of Sub values.
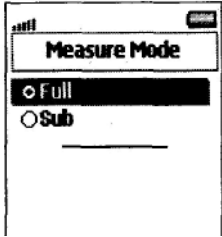
4.5.8. Ignore TMSI

Normal: The mobile station is allowed to use TMSI.

Activate: The mobile station is forced to use IMS!.
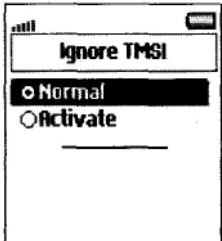
4.5.9. Auto Answer

If **On** is chosen, the mobile will automatically answer an incoming call.

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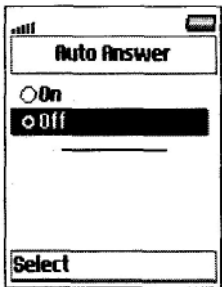
4.5.10. Reset All

This command restores all Pocket settings to their defaults. See appendix C, page 70 for a listing of the default settings. The GPRS data transfer counters and the event log are not affected by the reset.

4.6.   **Info Menu** 4.6.1.

IMSI

Shows the IMSI (International Mobile
Station Identity) of the SIM card used. It
is made up of

- •   Country Code (3 digits)
- •   Network Code (2 digits)
- •   Identification Number (at most 10

digits)

4.6.2.   IMEI
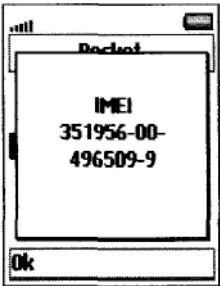
Shows the IMEI (International Mobile
Equipment Identity) of the mobile station
used. It is made up of

- •   Type Approval Code (6 digits)
- •   Final Assembly Code (2 digits)
- •   Serial Number (6+1 digits)

4.6.3. Time Log

Shows the time (in hours and minutes) that the mobile station has spent in each of the following modes:

Dedicated	00:00
Idle Full	00:10
Idle Ltd	00:00
No Service	00:00
GPRS Att	00:00
Roaming	00:00

- Dedicated mode
- Idle mode, Full Service
- Idle mode, Limited Service (SOS calls only)
- No Service
- GPRS Attached
- Roaming

Press Reset to reset the time log.

4.7. Events Menu

A maximum of 20 events can be stored in the event log. Once the log is full, the oldest log entry is removed whenever a new event is entered.

Events can also be indicated by audio signals. You can turn sound and logging on and off for each event type separately: see section 4.7.4.

The event log can be cleared by giving the Reset All command from the Settings menu; see section 4.5.10.

> **Note:** To have events logged at all, you must make sure that the event mode is set to "On". See section 4.7.3.

4.7.1. View Log

To view the event log:

• In the Event menu, choose View Log. The most recent logged event is shown. Use the Up and Down keys to browse the log.
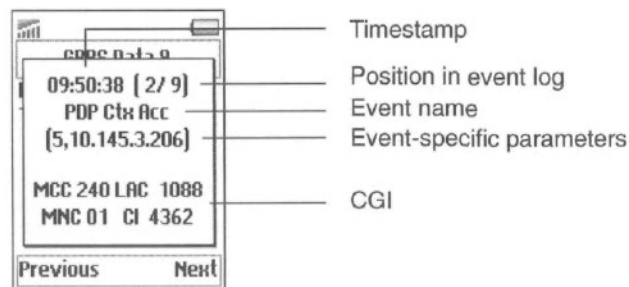
New events are added at the end of the list, so the latest event will always have the highest number.

4.7.2. Clear Log

To clear the event log:

• In the Event menu, choose Clear Log. Press Yes to confirm.

4.7.3.   Event Mode

If you want TEMS Pocket to log events, you must make sure that the event mode is set to "On":

•   In the Events menu, choose Event Mode.

•   Choose On.
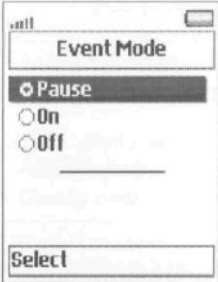
The three modes have the following meanings:

Pause: No logging but sound indications for chosen events

On: Logging and sound indications **Off:**

No logging and no sound indications

About the sounds, see section 4.7.6.

4.7.4.   Event Settings

For each event type, you can turn audio indications and logging on

and off. •   Choose Event Settings.

•   Choose an event type to specify audio and logging properties for this
     event (the types are listed and described in section 4.7.5 below),
     or:

•   Choose Set All to specify the same behavior for all events.

User's Manual The following options

exist:

Off: No sound, no logging

Sound: Sound, but no logging

Log: Logging, but no sound

Sound + Log: Sound and

logging

For the Limit events (RxLev Limit, RxQual Limit, TA Limit, TxPwr Limit), once you have chosen something other than Off, you will be asked to enter the
event threshold:

- Enter a threshold value. Note that the value must be in GSM units.
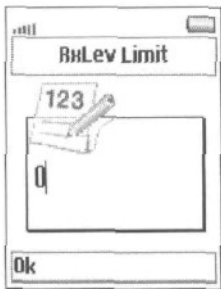
4.7.5.   List of Logged Events

This section lists all the events saved in the event log and their parameters. Some of the event parameters are described in more detail in the Appendix starting on page 59.

The table also lists defaults for the settings described in section 4.7.4.

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4.7.5.1. GSM Events

All events have CGI as parameter (see section 4.7.1); other parameters appear from the table.

G: Event group (N = Normal, F = Fail, L = Limit)

Def: Default event settings (S = Sound, L =

Logging)

Event Name	G	Def	Parameters
Assign Compl (Assignment Complete)	N	Off	Channel Mode (appendix A.6, page 61), ARFCN, TS, subchannel number (if SDCCH)
Assign Fail (Assignment Failure)	F	S+L	Radio Resource Cause (appendix A.2, page 60)
Cell Reselect (Cell Reselection)	N	Off	New ARFCN, BSIC
Disconnect	F	S+L	Disconnect Cause (appendix A.11, page 62); note that normal disconnects with cause 31 ("Normal, unspecified") are *not* logged
HO Complete (Handover Complete)	N	Off	BCCH ARFCN, TCH ARFCN, TS, subchannel number (if SDCCH)
HO Failure (Handover Failure)	F	S+L	Radio Resource Cause (appendix A.2, page 60)
IA Complete (Immediate Assignment, Immediate Assignment Extended)	N	Off	Channel Mode (appendix A.6, page 61), ARFCN, TS, subchannel number (if SDCCH)
IA Reject (Immediate Assignment Reject)	F	S+L	*Page Mode (appendix A.9, page 61)*, T3122 (timer value in seconds)
Loc Upd Acc (Location Update Accept)	N	Off	New LAC, Old LAC

Event Name	G	Def	Parameters
Loc Upd Rej (Location Update Reject)	F	S+L	Reject Cause (appendix A.1, page 59)
RL Timeout (Radio Link Timeout)	F	S+L	BCCH ARFCN, BSIC
RxLev Limit (*Received Signal* Strength Limit)	L	Off	Measured RxLev, RxLev Limit
RxQual Limit (Received Signal Quality Limit)	L	Off	Measured RxQual, RxQual Limit
Service	L	S+L	On, Selected BCCH ARFCN or Off, Latest BCCH ARFCN
TA Limit (Timing Advance Limit)	L	Off	Measured TA, TA Limit
TxPwr Limit (Transmit Power Limit)	L	Off	Measured TxPwr, TxPwr Limit
T200 Timeout (Layer 2 Timeout)	F	S+L	None
T3124 Timeout (HO Fail Timeout)	F	S+L	Target BCCH ARFCN, BSIC and number of HO Access
T3126 Timeout (Channel Request Timeout)	F	S+L	BCCH ARFCN, BSIC, number of channel requests

4.7.5.2. GPRS Events

Event Name	G	Def	Parameters
GPRS Att Acc (GPRS Attach Accept)	N	Off	GPRS(1)/Combined(2)/ Reserved(other), RAC
GPRS Att Fail (GPRS Attach Fail)	F	S+L	GPRS Attach Fail Cause (appendix A.12, page 64)

Event Name	G	Def	Parameters
GPRS Detach (GPRS Detach)	F	S+L	GPRS Detach Type (appendix A.13, page 64), GPRS Detach Cause (appendix A.14, page 65)
PDP Ctx Acc (Activate PDP Context Accept)	N	S+L	NSAPI, PDP Address
PDP Ctx Fail (Activate PDP Context Fail)	F	S+L	NSAPI, Activate PDP Context Fail Cause (appendix A.15, page 65)
Deact PDP Ctx (Deactivate PDP Context)	F	S+L	NW/MS, NSAPI, Deactivate PDP Context Cause (appendix A.16, page 65)
RA Update Acc (Routing Area Update Accept)	N	Off	New RAC, Old RAC
RA Update Fail (Routing Area Update Fail)	F	S+L	Routing Area Update Fail Cause (appendix A.17, page 66)
T3168 Timeout (Packet Uplink Assignment Timeout)	F	S+L	None
T3170 Timeout (Packet Channel Request Timeout)	F	S+L	None

4.7.6. Event Sounds

The sounds associated with events are as follows:

- **Normal** group: One short beep.
- Limit group: A two-note sequence with either rising or falling
pitch.

  - For the Service event, rising pitch indicates "Service On", and falling
    pitch indicates "Service Off".

  - For other Limit events, rising pitch indicates that the event parameter
    exceeded the limit {or dropped below it). Falling pitch indicates that
    the parameter reverted to a value that is within the limit.

- **Fail** group: A two-note sequence with falling pitch (different notes than for
    Limit events).

4.8. Cell Control Menu

In this menu are collected the functions that modify mobile station behavior in the network.

4.8.1. Reset

Any changes made from the default in the Cell Control menu can be undone by using the Reset command. Reset does not affect the settings in the Settings and Events menus.

- In the Cell Control menu, choose Reset and press Yes to confirm.

If you have not changed anything, the Reset choice is disabled and grayed.

4.8.2.   Lock ARFCN

This function locks the mobile station on a cell which then becomes the serving cell, provided that the signal strength is sufficient. If the signal is too weak, the mobile will go into no service mode.

- Choose **Set ARFCN** to lock on a cell. You will be asked to enter an ARFCN number. This ARFCN will then appear in the menu instead of "Set ARFCN".
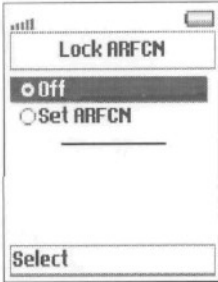
Here the mobile has been locked on ARFCN 14.
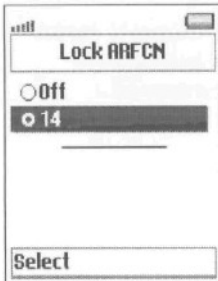
- Choose **Off** to release the mobile.

Note that you can also lock on a cell (only the current serving cell, or a neighbor) from a data view. This is done by entering the Quick menu: see section 3.16, page 29.

4.8.3.   Force HO

The mobile can be forced to perform a handover to a selected channel, provided that the cell is close and strong enough. The Force HO option overrides normal handover as well as Disable HO (section 4.8.4). Note that the effect of Force HO persists until it is deselected: if Force HO is chosen during a call, the handover behavior will not revert to normal when the call is ended.

- Choose **Set ARFCN** to force handover to a channel. You will be asked to enter an ARFCN number. The chosen ARFCN will then appear in the menu instead of "Set ARFCN".

Here handover has been forced to ARFCN 14. •
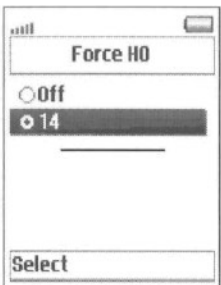
Choose **Off** to release the mobile.

4.8.4. Disable HO

You can prevent the mobile station from performing handovers.

On: The mobile will perform no handovers.

Off: The mobile will perform handovers when ordered to do so by the network.

Note: If you use Force HO (section 4.8.3, below) to force handover to a selected channel, it will override Disable HO.

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4.8.5.　Lock Band

You can order the mobile station to use only one of its frequency bands. This will naturally result in failed calls if the band you have blocked is the only one available in the area.

Normal: No restriction.

900 only, **1800 only,** 1900 **only:** The mobile is locked to the indicated band.
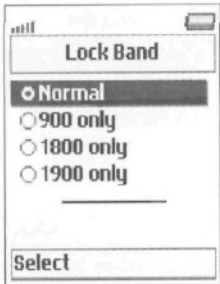
Note: If locked to a band during a call, the mobile will not change to the selected band immediately. At the next handover, however, it will be redirected to a cell using a channel in the selected band.

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4.8.6. Multiband Rpt (Multiband Reporting)

The Measurement Reports sent by the mobile station to the network include data on cells in the band which the mobile is currently not using. The Multiband Rpt function in TEMS Pocket controls the Multiband Reporting value, which determines how many cells from the other band (at most three) should be included in the Measurement Report.
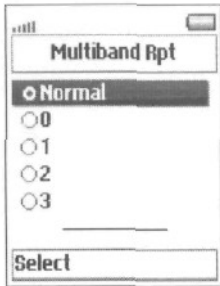
(Below, "band A" denotes the mobile's own band, and "band B" is the other band.)

Normal: The network controls the Multiband Reporting parameter.

0: The mobile reports the strongest cells, irrespective of band.

1: The mobile reports the strongest cell from band B, and the remaining positions are filled with cells from band A.

2: The mobile reports the two strongest cells from band B, and the remaining positions are filled with cells from band A.

3: The mobile reports the three strongest cells from band B, and the remaining positions are filled with cells from band A.

The remaining positions in the Measurement Report are then filled with cells from the same band as the serving cell (band A). Should there not be enough of these to complete the report, more cells are picked from band B in order of descending signal strength, if available.

Example

The Multiband Rpt parameter has been set to 3, the mobile is on the 900 band, and only two cells are currently identified on the 1800 band. These two cells are then put in the report, and four 900 band neighbors are added, provided of course that at least four neighbors are identified on the 900 band.

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4.8.7.   Cell Barred

This function governs whether the mobile station is allowed to access a barred cell.
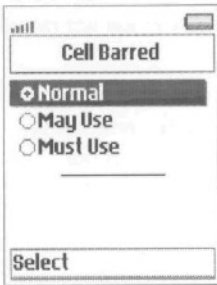
Normal: The mobile station will make no attempt to access barred cells.

May Use: The mobile station is allowed to camp on barred cells.

Must Use: The mobile station will use barred cells only.

4.8.8.   DTX Uplink

You can control the mobile's use of DTX (Discontinuous Transmission).
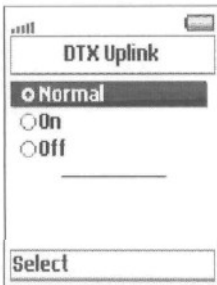
Normal: The mobile station uses DTX only when allowed to by the network.

On: The mobile always uses

DTX. Off: The mobile never

uses DTX.

5. Controlling the Phone's GPRS Behavior

The TEMS Pocket functions in the mobile phone do not include commands for connecting to and disconnecting from the GPRS network. This is not needed, since such basic GPRS behavior is implicitly governed by some menu settings that are in the commercial phone.

5.1. GPRS Attach/Detach

To control GPRS Attach and Detach, proceed as follows:

- When not in menu mode, move the joystick left, then twice down, then
  once left. Press Select. The **Connectivity** menu appears.

- Move the joystick down until **Data comm.** is selected. Press Select.

- In the Data comm. menu, select **Preferred service.** Press Select.

The setting here has the following effects:

- **If GPRS and GSM** is chosen, the phone will automatically attach to
  GPRS. If this setting is active when you turn on the mobile, it will perform
  a GPRS attach as soon as you have entered your PIN code.
- If a GPRS connection is up and you change the setting to **GSM only,** the
  phone will immediately detach from GPRS.

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5.2.   PDP Context Activation

A PDP context is activated automatically when you start the WAP browser (see the phone user manual for details).

When you exit the WAP menu, you are asked whether you wish to close down the connection. If you do this, you also deactivate the PDP context.

6. Support Contact Information

For support in the use of TEMS Pocket, please contact Ericsson according to the directions found at

<p style="text-align:center">www.ericsson.com/tems</p>

under the link "Contacts".

Appendix A. Parameter Values

This appendix lists the possible values of some parameters appearing in the views and of some event parameters.

A.1.   Reject Cause

   2 IMSI unknown in HLR
   3 Illegal MS
   4 IMSI unknown in VLR
   5 IMEI not accepted
   6 Illegal ME
 11 PLMN not allowed
 12 Location area not allowed
 13 Roaming not allowed in this location area
 17 Network failure
 22 Congestion
 32 Service option not supported
 33 Requested service option not subscribed
 35 Service option temporarily out of order
 38 Call cannot be identified
48-63 Retry upon entry into a new cell
 95 Semantically incorrect message
 96 Invalid mandatory information
 97 Message type non-existent or not implemented
 98 Message type not compatible with the protocol state
 99 Information element non-existent or not implemented
100 Conditional IE error
101 Message not compatible with the protocol state
111 Protocol error, unspecified

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A.2.   Radio Resource Cause

  0 Normal event
  1 Abnormal release, unspecified
  2 Abnormal release, channel unacceptable
  3 Abnormal release, timer expired
  4 Abnormal release, no activity on the radio path
  5 Preemptive release
  8 Handover impossible, timing advance out of range
  9 Channel mode unacceptable
 10 Frequency not implemented
 65 Call already cleared
 95 Semantically incorrect message
 96 Invalid mandatory information
 97 Message type non-existent or not implemented
 98 Message type not compatible with protocol state
100 Conditional IE error
101 No cell allocation
available
111 Protocol error
unspecified

A.3.   CCCH Configuration

 0 1 basic physical channel used for CCCH, not combined with
    SDCCHs
 1 1 basic physical channel used for CCCH, combined with SDCCHs
 2 2 basic physical channels used for CCCH, not combined with
    SDCCHs
 4 3 basic physical channels used for CCCH, not
    combined with SDCCHs
 6 4 basic physical channels used for CCCH, not combined with
    SDCCHs

A.4.   Attach/Detach

 0 IMSI attach not allowed
 1 Apply IMSI attach

A.5.   **Channel Type**

  BCCH Broadcast Control Channel,
 Signalling PBCCH Packet Broadcast Control
 Channel PDTCH Packet Dedicated Traffic
 Channel SDCCH Stand-alone Dedicated
 Control Channel
  TCH/F Traffic Channel, Full
  Rate TCH/H Traffic Channel,
  Half Rate

A.6.   **Channel Mode**

0 Signalling only
1 Speech full rate version 1 (Full Rate)
2 Data 14.4 kbit/s full rate
3 Data 9.6 kbit/s full rate
4 Data 4.8 kbit/s full rate
5 Data 2.4 kbit/s full rate
6 Speech full rate version 2 (Enhanced Full Rate)

A.7.   **Frequency Hopping**

0 Single RF channel
1 RF hopping channel

A.8.   **Ciphering**

0 No ciphering
1 Start ciphering

A.9.   **Page Mode**

0 Normal paging
1 Extended paging
2 Paging reorganization

A.10.   GPRS Network Mode of Operation

Handling of paging in the GPRS network.

I   Mode I: All paging on GPRS channels; Gs signalling interface
present
II Mode II: All paging on PCH; no Gs
III Mode III: All circuit-switched paging on PCH, all packet-switched paging on PPCH; no Gs

A.11.   Disconnect Cause

1 Unassigned (unallocated) number
3 No route to destination
6 Channel unacceptable
8 Operator determined barring
16 Normal call clearing
17 User busy
18 No user responding
19 User alerting, no answer
21 Call rejected
22 Number changed
25 Pre-emption
26 Non selected user clearing
27 Destination out of order
28 Invalid number format (incomplete number)
29 Facility rejected
30 Response to STATUS ENQUIRY
31 Normal, unspecified *(not logged)*
34 No circuit/channel available
38 Network out of order
41 Temporary failure
42 Switching equipment congestion
43 Access information discarded
44 Requested circuit/channel not available
47 Resources unavailable, unspecified
49 Quality of service unavailable
50 Requested facility not subscribed
55 Incoming calls barred within the CUG

57 Bearer capability not authorized
58 Bearer capability not presently available
63 Service or option not available,
unspecified
65 Bearer service not implemented
68 ACM equal to or greater than ACMmax
69 Requested facility not implemented
70 Only restricted digital information bearer
    capability is available
79 Service or option not implemented, unspecified
81 Invalid transaction identifier value
87 User not member of CUG
88 Incompatible destination
91 Invalid transit network selection
95 Semantically incorrect message
96 Invalid mandatory information
97 Message type non-existent or not implemented
98 Message type not compatible with protocol state
99 Information element non-existent or not implemented
100 Conditional IE error
101 Message not compatible with protocol state
102 Recovery on timer
expiry
111 Protocol error,
unspecified
127 Interworking,
unspecified

A.12. GPRS Attach Fail Cause

  3 Illegal MS
  6 Illegal ME
  7 GPRS services not allowed
  8 GPRS services and non-GPRS services not
allowed
 11 PLMN not allowed
 12 Location area not allowed
 13 Roaming not allowed in this location
area
 96 Invalid mandatory information
 99 IE non-existent or not implemented
100 Conditional IE error
111 Protocol error, unspecified
T3310 Fifth expiry of T3310 timer (MS side)

A.13. GPRS Detach Type

If GPRS Detach Cause = 1 (MS initiated)

 0 Normal
 1 PowerOff

else

 1 Reattach required
 2 Reattach NOT required
 3 IMSI detach after VLR failure

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A.14.   GPRS Detach Cause

  1 MS initiated
  2 IMSI unknown in HLR
  3 Illegal MS
  6 Illegal ME
  7 GPRS services not allowed
  8 GPRS services and non-GPRS services not allowed
10 Implicitly detached
11 PLMN not allowed
12 Location area not allowed
13 Roaming not allowed in this location area

A.15.   Activate PDP Context Fail Cause

26 Insufficient resources
27 Missing or unknown APN
28 Unknown PDP address or PDP type
29 User authentication failed
30 Activation rejected, unspecified
31 Activation rejected by GGSN
32 Service option not supported
33 Requested service option not subscribed
34 Service option temporarily out of order
35 NSAPI already used
95 Semantically incorrect message
96 Invalid mandatory information
97 Message type non-existent or not implemented
98 Message type not compatible with the protocol state
99 Information element non-existent or not
implemented
111 Protocol error, unspecified
T3380 Fifth expiry of T3380 timer (MS side)

A.16.   Deactivate PDP Context Cause

25 LLC or SNDCP failure
26 Insufficient resources

    36 Regular PDP context deactivation
    37 QoS not accepted
    38 Network failure
    39 Reactivation requested
T3390 Fifth expiry of T3390 timer (MS side)

A.17.   Routing Area Update Fail Cause

    3 Illegal MS
    6 Illegal ME
    7 GPRS services not allowed
    9 MS identity cannot be derived by the network
   10 Implicitly detached
   11 PLMN not allowed
   11 Location area not allowed
   13 Roaming not allowed in this location area
   96 Invalid mandatory information
   99 IE non-existent or not implemented
  100 Conditional IE error
  111 Protocol error, unspecified
T3330 Fifth expiry of T3330 timer (MS side)

Appendix B. Graphic Representation of Parameter Values

This appendix describes the bar **length and** color coding **used** to visualize parameter values.

B.1. RxLev

RxLev (dBm)	Bar length (characters)	Color
< -100	1	red
$-100 \leq \ldots < -90$	2	orange
$-90 \leq \ldots < -80$	3	yellow
$-80 \leq \ldots < -70$	3.5	light green
≥ -70	4	green

B.2. Cell Selection (C1, C2, C31, C32)

Value	Bar length (characters)	Color
< 10	1	red
$10 \leq \ldots < 20$	1.5	orange
$20 \leq \ldots < 30$	2	yellow
$30 \leq \ldots < 40$	2.5	light green
≥ 40	3	green

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B.3.   C/I

C/I (dB)	Bar length (characters)	Color
< 10	2	red
10 ≤ ... < 15	3	yellow
≥ 15	4	green

B.4.   TxPower

TxPower (dBm)	Bar length (characters)	Color
< 15	2	sky blue
15 ≤ ... < 30	2	denim blue
≥ 30	2	cobalt blue

B.5.   FER, RLC/LLC Decode Errors/ Retransmissions

Value (%)	Bar length (characters)	Color
0	2	green
0 < ... < 5	2	yellow
≥ 5	2	red

Appendix B. Graphic Representation of *Parameter* Values

B.6.   RxQual

Value	Bar length (characters)	Color
0	2	green
1, 2	2	yellow
≥ 3	2	red

Appendix C. Default Settings in TEMS Pocket Menus

This appendix lists the defaults for all settings editable from the
TEMS Pocket menus.

C.1.   Data View Menu

•   All data views visible

C.2.   Settings Menu

•   **Text Size:** Small
•   **WAP View: On**
•   **Messages: Off**
•   **Cell Id Format: Hex**
•   **Power Display:** dBm
•   **Measure Mode:** Sub
•   **Ignore TMSI:** Normal
•   **Auto Answer: Off**

C.3.   Info Menu

(No user-editable settings.)

C.4.   Events Menu

•   **Event Mode: On**
•   **Event Settings:** Default values according to section 4.7.5, page
46.

C.5.   Cell Control Menu

   Note: Unlike the rest, these settings revert to their defaults
          ("Off"/ "Normal") when the mobile is powered off and
          on.

- **Lock ARFCN: Off**
- **Force HO: Off**
- **Disable HO: Off**
- **Lock Band:** Normal
- **Multiband Rpt:** Normal
- **Cell Barred:** Normal
- **DTX Uplink:** Normal

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