

Call-Center-Monitor

(Customer-Care-Monitor)

K45 (Eagle / Panther / Flipper)
S46 / M46 / M(T)50
L55 (Marlin / Tuna)

Siemens AG

Südstr. 9

D-47475 Kamp-Lintfort

Version	Date	Author	Description
1.07	05.10.02	Raimund Heulmanns ☎ 02842 / 95-4082 ICM MP UC RD I&T KLF	New mobile version 1.06
1.06	05.07.02	Raimund Heulmanns ☎ 02842 / 95-4082 ICM MP PO PL 1 KLF 6	New mobile version 1.04
1.05	15.04.02	Raimund Heulmanns ☎ 02842 / 95-4082 ICM MP PO PL 1 KLF 6	Support for chinese language.
1.04	20.03.02	Raimund Heulmanns ☎ 02842 / 95-4082 ICM MP PO PL 1 KLF 6	New mobile version 1.02
1.03	19.11.01	Raimund Heulmanns ☎ 02842 / 95-4082 ICM MP PO PL 1 KLF 6	Correct battery page, add battery info, release version of program
1.02	06.11.01	Raimund Heulmanns ☎ 02842 / 95-4082 ICM MP PO PL 1 KLF 6	Correct some mistakes (words / phrases)
1.01	03.07.01	Raimund Heulmanns ☎ 02842 / 95-4082 ICM MP PO PL 1 KLF 6	Description of new help feature in program
1.0	08.06.01	Raimund Heulmanns ☎ 02842 / 95-4082 ICM MP PO PL 1 KLF 6	Version 1.0 of program ready, add program description, translate to english
0.1	12.04.01	Raimund Heulmanns ☎ 02842 / 95-4082 ICM MP PO2 KLF 6	Some changes after meeting
0.0	04.04.01	Jens-A. Gabriel ☎ 02871 / 91-4343 ICM MP PO2 KLF 6	First issue

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05	Chinese	15.04.02	He	ICM MP PO PL1 KLF6		
04	Version 1.02	20.03.02	He			
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Main task of the Call-Center-Monitor:

The call center gets a lot of phone calls with complaints about a too short standby time of the mobile. But often, not the mobile, the accu or the charger is defect, but the customer has set some options which needs more current and the customer doesn't know this.

Also the network can be the reason for a lower standby time.

This monitor should help the agent at the call center, to find a reason for a bad standby time or other strange effects and to give the customer qualified information.

Activation and evaluation of the Call-Center-Monitor:

The Call Center Monitor or Customer Care Monitor (short CCM) consists of two parts, one inside the mobile and a windows based program with the name „CcMon.exe“. The CCM inside the mobile works in every state of the mobile, like idle, scan etc. and with and without SIM-card.

The request code to activate the CCM is the same as for the request of the IMEI of the mobile :

***#06#**

The CCM information are displayed after pressing twice the softkey INFO.

The CCM information are splitted into 4 or 5 parts, depending from the version. The parts are called „General“, „Setup“, „Network“, „Battery“ and „Diagnosis“.

An example is shown in figure 1.

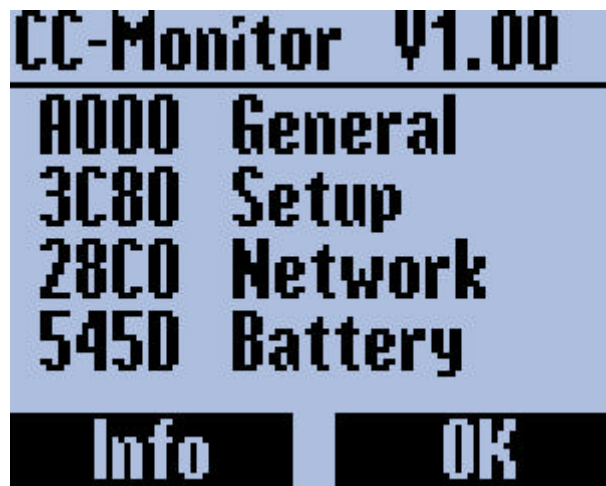


Figure 1 : Call Center Monitor at mobile – version 1.00

The implemented CCM version is shown at line 1. The figur shows a version 1.0 example, but version 1.02, 1.04 or 1.06 is also possible. Since version 1.06, you will find the category „Diagnosis“ too. To see all informations, it could be necessary to scroll (depends from the mobile display). For an example for version 1.06, see figure 2. The scrollbar at the right side gives an indication of the position in the window. To see the last entry, scrolling was necessary in figure 2.

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Figure 2 : Call Center Monitor at mobile – version 1.06

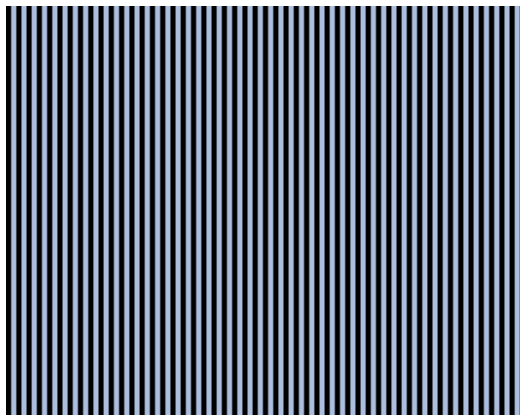
Further versions will come in future. The following lines show the mobile information. The information are coded to bring all necessary information into one mobile screen. For the decoded output, only the characters 0 – 9 and A – F are used (hexadecimal figures).

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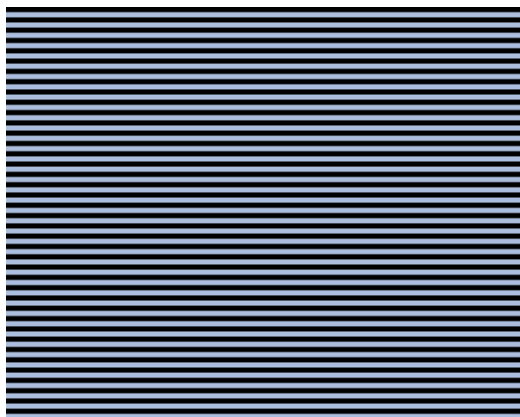
Display test with the Call-Center-Monitor (up to version 1.04):

The CCM inside the mobile allows a quick test of the mobile display. This quick check is invoked by pressing one of the number keys. The keys „1“ to „3“ show a specific pattern, see figure 3. The other keys show a black display. Pressing a key again will toggle the screen, black lines will be white and reverse. Pressing the end key will stop the display check and the normal CCM display is shown.

Key „1“ :



Key „2“ :



Key „3“ :

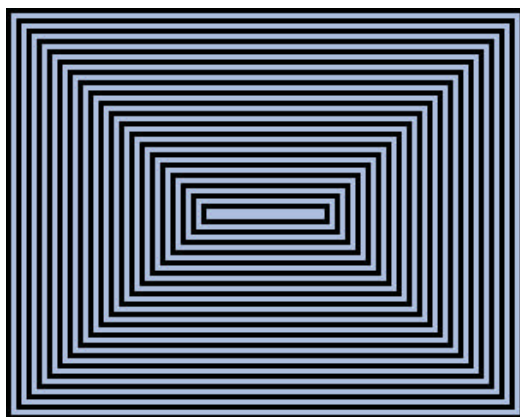


Figure 3 – test patterns

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Display test with the Call-Center-Monitor (since version 1.06):

Since version 1.06, the display test is removed from the CCM display. You will find a new menu, if you press the softkey INFO again. A display with the header „device check” will be shown and a lot of tests are available, not only a display check. The „old” display check is be done, if the menu „Display” is selected. The different displays are shown, if the right softkey is pressed. The shown pictures are hardware dependent (color, monochrom etc.).

New test inside the mobile (since version 1.06):

As mentioned above, more mobile tests can be done from the menu „device check”. The shown strings are language dependent, only the english version is described here.

The following tests are possible:

1. **Selftest**
2. **Illumination**
3. **Display**
4. **Keys**
5. **Soundcheck 1**
6. **Soundcheck 2**
7. **Silent alert**

A short description of the tests:

Selftest – calls all other tests, step by step.

Illumination – switches on/off the illumination for the tests. That means, the light doesn’t toggle immediately with pressing the key. If „switch on” is selected, the illumination will be on until the selftest menu is leaved.

Display – the „old” display check with more different pictures. Attention, there is no description for the right softkey at the display for this mode, but pressing this key will call the next test picture.

Keys – shows all keys on display and allow a check, if each key is working correctly.

Soundcheck 1 – plays a short „beep beep”.

Soundcheck 2 – plays a melodie.

Silent alert – switches on/off the vibra.

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Program „CcMon“ :

The windows program „CcMon.exe“ decodes the information and displays the information more readable for an user, figure 4.

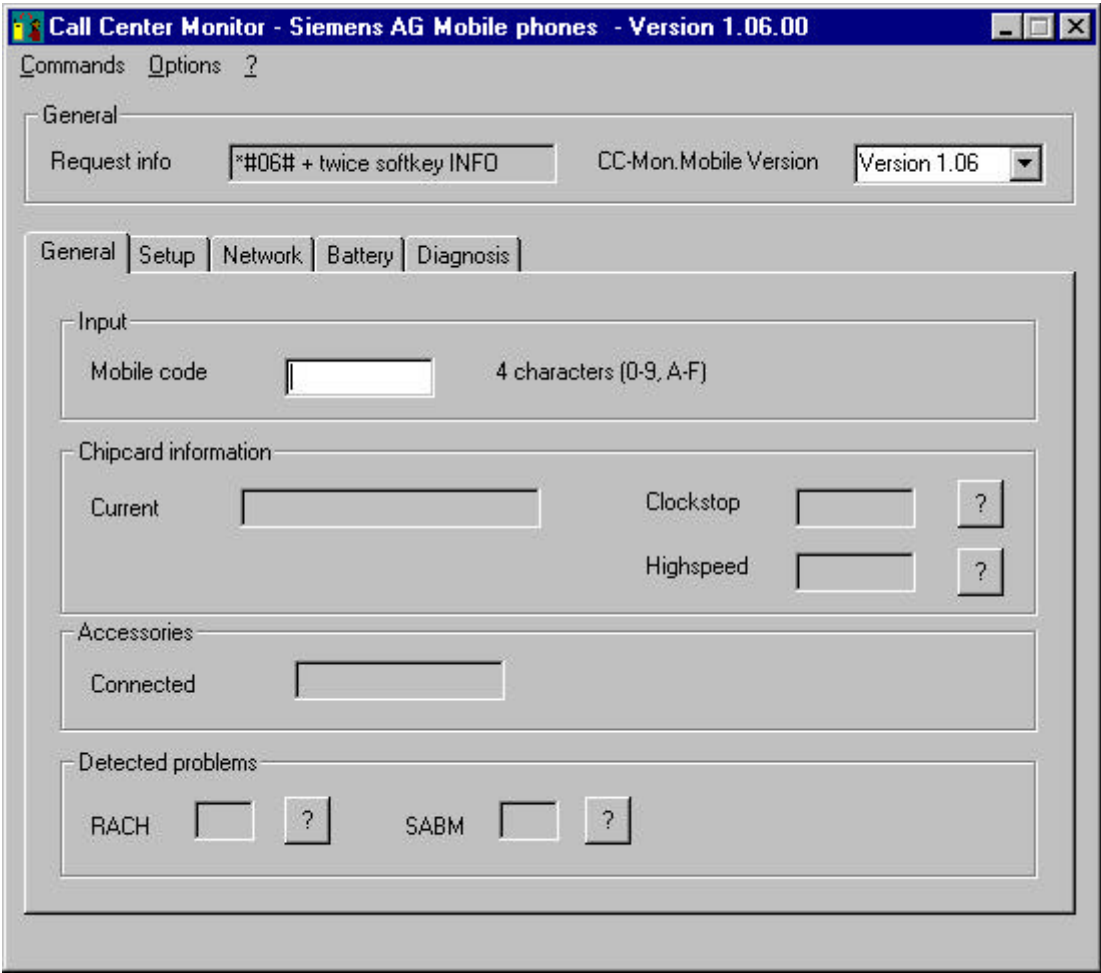


Figure 4 : Program „CcMon“

The decoded information are shown on five different property sheets, the names are corresponding to the names at the mobile screen. A detailed description of each sheet follows below.

Behind the menu point „Options“, you will find a selection of the program language. At the moment, four languages are supported by the program: english, german, dutch and chinese (Chinese ≥ version 1.02.02).

Behind the main menu „?“ , you will find a information screen with some information about the program, a version history and the default about dialog.

Behind some output fields, you will find a small button with a question mark (example in figure 4 behind the clockstop field). If you click this button, a small help window will be shown with a short explanation for this field. The influence to the standby time and a hint, whether the user can change this parameter, will also be given.

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The CCM version of the mobile can be selected also (at the moment, the versions 1.00, 1.02, 1.04 and 1.06 are available).

It is important, that the shown CCM version on the mobile screen corresponds with the selected version, otherwise information is missing !!

The differences between versions:

a) version 1.00 -> version 1.02

Additional information shown :

In tab „General” chipcard information „highspeed” added.

In tab „Setup” settings information „Auto network” added.

In tab „Network” state information „PBCCH” added.

If decoding of version 1.00 is used for version 1.02 mobiles, no misinterpretation is done, just some information is missing.

b) version 1.02 -> version 1.04

Additional information shown :

In tab „General” new section „Detected problems” with fields „RACH” and „SABM” added.

If decoding of version 1.00 or 1.02 is used for version 1.04 mobiles, no misinterpretation is done, just some information is missing.

c) version 1.04 -> version 1.06

Additional information shown :

A complete new tab „Diagnosis” is added.

If decoding of version 1.00, 1.02 or 1.04 is used for version 1.06 mobiles, no misinterpretation is done, just some information is missing.

By a version not supported information fields (description string, output field and help button) are marked as inactive. For example, the complete fields of tab „Diagnosis” are inactive, if a version below 1.06 is selected.

After typing 4 characters into the edit field „Mobile code“, the program shows the decoded information. Lower case letters are converted automatically to upper case. If no valid or too much characters are typed in, the program writes a message in place of the „4 characters (0-9, A-F)“ string.

The other property sheets are selected by a mouse click of the corresponding register.

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It is also possible, to predetermine the property sheet at the top by startup of the program by an additional parameter. If no parameter is given, the „General“ page will be shown at the top. The possible parameters are :

- a) General page (default)
the word **general** - every mix of low and upper case letters are allowed, also the characters G and g
- b) Setup page
the word **setup** - every mix of low and upper case letters are allowed, also the characters S and s
- c) Network page
the word **network** - every mix of low and upper case letters are allowed, also the characters N and n
- d) Battery page
the word **battery** - every mix of low and upper case letters are allowed, also the characters B and b
- e) Diagnosis page
the word **diagnosis** - every mix of low and upper case letters are allowed, also the characters D and d

A second parameter or other parameters are ignored.

Example for program start, network page top, figure 5:

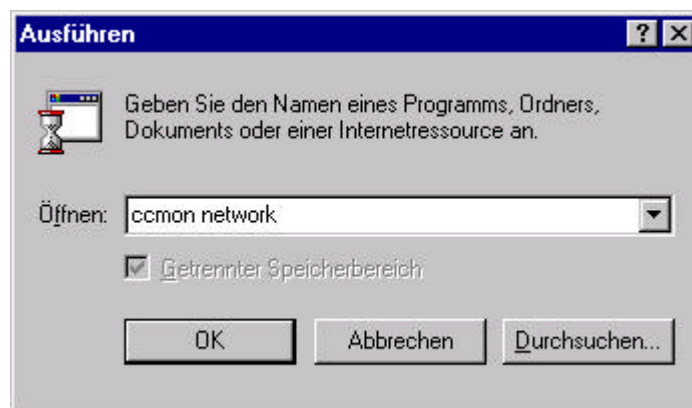


Figure 5 : start of program with parameter

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„General page“

Figure 6 : General page

General information about the mobile :

Name	State	Remark
Chipcard	No card, 3V, 5V	
Clockstop	yes/no	
Highspeed	yes/no	Since version 1.02
Accessories	Nothing, data cable, bluetooth, charger, headset, home station, car kit	Current connected accessory
RACH	yes/no	Too many RACH failures, since version 1.04
SABM	yes/no	Too many SABM failures, since version 1.04

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„Setup page“

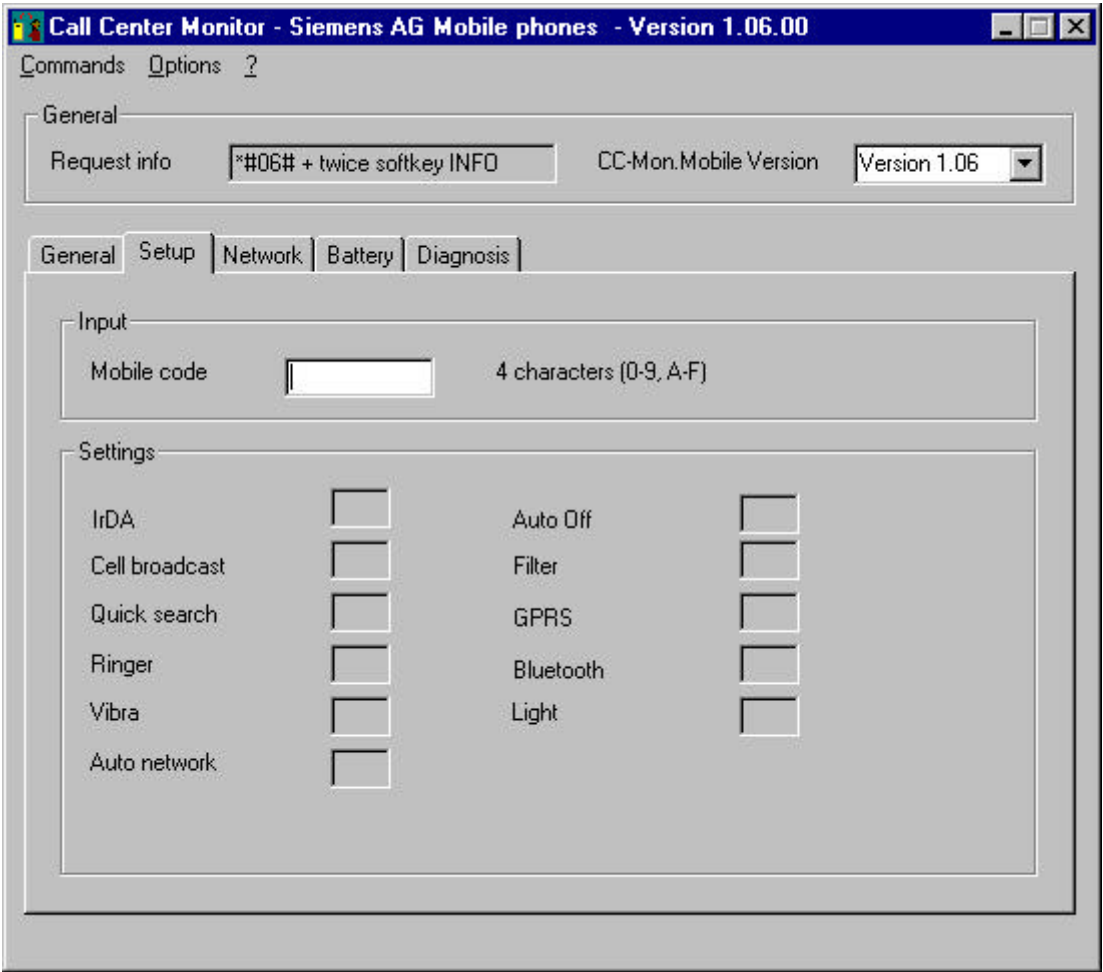


Figure 7 : Setup page

Current settings of the mobile :

Name	State	Remark
IrDA	yes/no	If switched on, the mobile needs more current
Cell broadcast	yes/no	If switched on, the mobile needs more current
Quick search	yes/no	If switched on, the mobile needs more current
Ringer	yes/no	Signal tones
Vibra	yes/no	A switched on vibra will need additional current in case of an incoming call
Auto network	yes/no	Auto network selection, since version 1.02
Auto off	yes/no	Automatic switch off
Filter	yes/no	The state of VIP and telephon book filter are combinated
GPRS	yes/no	
Bluetooth	yes/no	
Light	yes/no	Light will reduce the standbye time

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„Network page“

Figure 8 : Network page

Current network behaviour:

Name	State	Remark
Mobile state	Idle, scan, talk	what does the mobile do at the moment
Per.Location	yes/no	periodical location update. If switched on, the standbye time will be reduced
Neighbours	Number	More neighbours -> more power consumption, but above 6 neighbours, the power consumption will not more increase.
RX-Level	Good/bad	At a low value (<-95dBm = bad) the mobile must scan more frequently, the standbye time will be reduced
Multiframes	Number	A multiframe number below 6 will increase the power consumption
PBCCH	yes/no	GPRS feature, since version 1.02

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„Battery page“

Figure 9 : Battery page

Current battery state:

Name	State	Remark
Battery type	NiHM, LiI, LiP	
Current charge	Progress bar	Corresponds with the battery charge indication of the mobile
Number of charges	Number	Quantized number of charges
Interrupted / Complete charges	Progress bar	Ratio between interrupted and complete charges, resolution approx. 14.0%. A bar of 0 % means, no charge interrupted.
Fast / normal charges	Progress bar	Ratio between normal and fast charger, resolution approx. 14.0%. A bar of 0% means, no fast charges done.

If a charger is connected, a text is shown below the bar „current charge“ and the charge state is always 100%, it doesn't matter which charge the accu really has.

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„Diagnosis page“

Figure 10 : Diagnosis page

Current diagnosis state:

Name	State	Remark
Turnoff	0, 1...2, 3...5, 6...9, 10...14, 15...21, 22...29, 30 and higher	Quantized number of turnoffs. The quantization is not linear. A turnoff means an switch off of the mobile without an empty accu or the user want to switch off. A turnoff can be caused by removing the accu during the mobile is switched on. Since version 1.06.
Exit	Same as turnoff	Quantized number of exits. The quantization is not linear. An exit is an unhandled software exception, caused by software bugs or rarely hardware defects. Since version 1.06.
Refresh	Same as turnoff	Quantized number of refreshs. The quantization is not linear. By a refresh has the mobile software detected a not valid or unstable state of the display data. The display is reset to a valid state. May be, the current application is aborted and the mobile goes into idle state. Since version 1.06.
		Table continued at next page

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Operation time/days	0 (< 1 day), 1...2, 3...6, 7...12, 13...20, 21...30, 31...42, 43 and higher	Quantized total operation time of the mobile. The quantization is not linear. Since version 1.06.
Talk time/hours	0 (< 1 hour), 1...3, 4...7, 8...12, 13...18, 19...25, 26...33, 34 and higher	Quantized sum of all talking times for this mobile. Since version 1.06

If a CCM version lower than 1.06 is selected, all fields (input, output, strings and buttons) are inactive.

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