


# ETACS UK

**Software Option 897 940**

## **Operating Instructions**

24\_etacs Doc. Version: 9407-260-A

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## Performance test 1

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### Entries

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AIDH	Home system number.
MIN-NO	Mobile identification number. If subscriber number in entry field MIN-NO does not coincide with actual subscriber number, tests cannot be performed correctly.
FPC CHANNEL	Forward control channel number.
FVC CHANNEL	Forward voice channel number.
SAT-FREQ	SAT frequency (scroll variables 5970 Hz/6000 Hz /6030 Hz/NO SAT).
POWER LEVEL	Mobile output power level: 0 thru 7.
CALL CHARGE	4-digit decimal entry field for length of call-charge unit. For test "MS calling" MS is informed of length of call-charge unit acc. to formula "Entry value $\times$ 1/10 s".



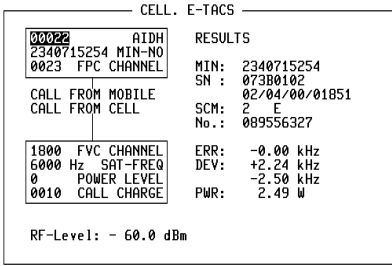
For TACS units entered value must be 0!

RF-Level	RF output level. Select dimension (mV/ $\mu$ V, dB $\mu$ , dBm) and set Level/50 $\Omega$ or Level/EMF in RX mask.
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### Result display

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MIN	Received mobile identification number.
SN	Serial number of mobile (hexadecimal code).
SN	Serial number of mobile (decimal code).
SCM	Station class mark. <ul style="list-style-type: none"> <li>○ First character: power class (1 = high, 2 = middle, 3 = low).</li> <li>○ Second character: transmit mode (blank = continuous, D = discontinuous).</li> <li>○ Third character: bandwidth (blank = normal, E = extended).</li> </ul>
No.	Dialed number.
ERR	Frequency error of mobile transmitter.
DEV	Mobile frequency deviation.
PWR	Mobile output power.



**Fig. 10.1:** Basic test mask (1st softkey level).

**ETC** **EXECUTE** **RELEASE** **MOBILE** **CELL** **RETURN**

## Meaning of softkeys

- ETC** Allocates 2nd softkey level to basic test mask.
- EXECUTE** Performs change of traffic channel, SAT or power level.
- RELEASE** Releases call.
- MOBILE** Starts mobile initiated call.
- CELL** Starts cell initiated call.
- RETURN** Returns to OPTION CARD mask.

## Test procedure step by step

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### Mobile initiated call

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1. **MOBILE**
2. Dial number and press "Send". Mobile "Send"s out dialed number and then is handed off to traffic channel: measured results are displayed on righthand side of screen.

### Cell initiated call

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1. Press softkey **CELL.** and wait until mobile is "in service".
2. Lift handset when mobile rings or "Call received" indicator illuminates. Measured results are then displayed on righthand side of screen.

### Handoff procedure

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1. Enter new forward voice channel number, or new SAT frequency or new power level, and then press softkey **EXECUTE**. Mobile changes to newly entered parameters, for instance forward voice channel, etc. Updated measured results are displayed on righthand side of screen.

**Note:** ETACS UK does not provide simultaneous control of forward voice channel handoff and power change. However all other combinations are allowed.

### Releasing call

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1. **RELEASE**

## Polling results with IEEE-bus controller

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Result	Poll with IEEE command
MIN:	RESULT1
SN : (1st line)	RESULT2
SN : (2nd line)	RESULT3
No. :	RESULT4
SCM:	RESULT5

## Performance test 2

After (ETC) the basic test mask is assigned new softkey functions (second softkey level). The basic test mask itself remains unaltered, it continues to show the results last determined for performance test 1. Now another performance test can be performed (hookflash; simulation of special functions like conference circuit with several mobile subscribers).

CELL. E-TACS		RESULTS	
00022	AIDH	MIN:	2340715254
2340715254	MIN-NO	SN :	07380102
0023	FVC CHANNEL	CALL FROM MOBILE	02/04/00/01851
		CALL FROM CELL	SCM: 2 E
		Flash-No.:	08563256
1000	FVC CHANNEL	ERR:	+0.10 kHz
6000	Hz SAT-FREQ	DEV:	+2.51 kHz
0	POWER LEVEL	PWR:	-2.41 kHz
0010	CALL CHARGE		2.92 W
RF-Level: - 60.0 dBm			

Fig. 10.2: Basic test mask (2nd softkey level).

-ETC-    AUTO    HOOKFLSH    REGISTER    RETURN

## Meaning of softkeys

(ETC)	Allocates 1st softkey level again to basic test mask.
(AUTO)	Calls up AUTO-HANDOFF mask (performance test 3).
(HOOKFLSH)	Starts "Hookflash" test.
(REGISTER)	Starts Registration call.
(RETURN)	Returns to OPTION CARD mask.

## Result display

MIN	Mobile identification number.
SN	Electronic serial number of the mobile.
SCM	Station class mark.
Flash-No.	Subscriber number from MS.

## "Hookflash" test.

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The "Hookflash" test can only be performed if MS is in traffic channel.

1. Press **(HOOKFLSH)**.  
It produces prompt *Dial number*, then "Send" in status line.
2. Enter call number on test item (ETACS UK mobile phone) and "Send" it by pressing "Send" key.

## Registration Call

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1. Press **(REGISTER)**.

The communication monitor sends a registration call to the mobile. As an answer, the mobile sends confirmation with the mobile identification number (*MIN* result field), electronic serial number (*SN* result field) and station class mark (*SCM* result field).

If the mobile fails to respond to the registration call, halt the test with **(STOP)**, enter a new, valid home system number (*AIDH*) and start the test again.



## Performance test 3 (AUTO-HANDOFF)

### Entries

The AUTO-HANDOFF mask enables automatic testing of a mobile station in different predefined traffic channels. The scroll variable X marks the selected operation mode (eg X Channels).

Channels	Input of up to six traffic-channel numbers (channels in which MS is to be tested automatically).
Auto Incr.	Input of first and last channel number and additionally of stepping increment (then MS can be tested automatically in corresponding channels).
PRINT	Setting scroll variable X produces printout of actual measured values.
Cont.	If scroll variable X is set, test cycle is repeated continuously.

### Result display

Act. Channel	Number of current traffic channel.
Err	Frequency offset of MS transmitter in actual traffic channel.
Pwr	Output power of MS in actual traffic channel.

Fig. 10.3: AUTO-HANDOFF mask.

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CELL. E-TACS
Conditions for AUTO-HANDOFF
■ Channels      2047 0054 0014 0040 0050 0060
X Auto Incr.   1329 First Channel
                2047 Last Channel
                0100 Incr.

PRINT
X Cont.

Act. Channel 1800 Err :
                Pwr :
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SINGLE STEP    AUTO-HANDOFF    RETURN

## Meaning of softkeys

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(SINGLE STEP)

Test routine is stopped when measured result in actual channel is available. Every time softkey is depressed, measured result of next defined channel becomes available.

(AUTO-HANDOFF)

Test routine is performed without interruption.

(RETURN)

Returns to basic mask.

**Note:** Softkeys (SINGLE STEP) and (AUTO HANDOFF) provide (STOP) function as long as test routine lasts (interruption of measurement). Whenever measured offset exceeds limit, test routine is automatically interrupted.

## System specifications

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Number of channels	1318
Control channels	
System A	23 to 44
System B	323 to 344
Traffic channels	
System A/B	0 to 22, 45 to 322, 345 to 600, 1329 to 2047
Transmit frequencies of base stations:	
Channels 0 to 600	934,9875 MHz to 949,9875 MHz
Channels 1329 to 2047	917,0125 MHz to 934,9625 MHz
Transmit frequencies of mobile stations:	
Channels 0 to 600	889,9875 MHz to 904,9875 MHz
Channels 1329 to 2047	872,0125 MHz to 889,9625 MHz
Channel spacing	25 kHz
Duplex offset	45 MHz
Signaling rate	8000 $\pm$ 1 bit/s
Signaling deviation	$\pm$ 6.4 kHz

Remainig specs according to:

**ETACS UK** ( Extended Total Access Communications System):

ETACS UK COMPATIBILITY SPECIFICATION

Ordering address:

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