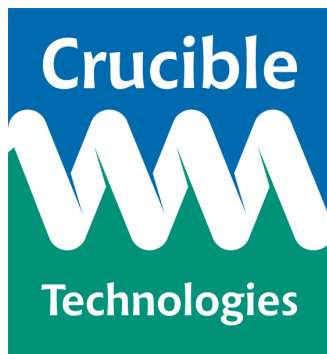


GLOBECALL

INTERNATIONAL CALLER ID SIMULATOR

USER MANUAL **Issue 1.8**





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SAFETY

Read this manual completely before using the instrument.

1. The GLOBECALL is designed to behave like an exchange line therefore only telecommunication apparatus designed to connect to telephone lines must be connected to it.
2. Under no circumstances must the GLOBECALL be connected to the Public Switched Telephone Network (PSTN) or any PABX extension ports.
3. When using the GLOBECALL to test the performance of unapproved telecommunication apparatus, due consideration must be paid to any hazard involved.
4.  **WARNING** The connection sockets have high voltages present during Ringing. Although this is not hazardous, it can be painful. 
5. The unit is designed to be powered from a 230 V, 50 Hz source. The IEC Power Lead provided is fitted with a 5 Amp fused mains plug.
6. The Mains Switch at the IEC Socket needs to be in the Off position to isolate the unit from the mains.
7. There are no user serviceable parts in this unit. Under no circumstances should the user attempt to open the unit. If opened, the warranty will be invalidated.
8. Should the unit require service, repair or calibration, please return it to a recognised dealer or to:

Crucible-Technologies
11 Glaisdale Road
Northminster Business Park
Upper Poppleton
YORK YO26 6QT
Tel: +44 (0) 8702 60 60 82

When returning the unit to Crucible Technologies, please contact the Repairs Department to receive a Returns Number. The owner will be advised of any costs prior to work commencing.

GETTING STARTED

Before using the GLOBECALL, please check that the following items have been included in the shipment:

- GLOBECALL Unit
- IEC Power Lead
- BT to RJ11 Adapter
- User Manual

Check for damage in transit. If there is any sign of damage, please report it to your supplier and do not attempt to repair the unit.

The unit is factory set to be powered from a 230 V supply. This is indicated on the rating plate. (If a 110 V unit has been supplied, the rating plate will indicate this). Please ensure that this product is powered from the correct source. The apparatus is CLASS II double insulated construction, so does not require a protective earth connection.

There is a socket located on the rear of the GLOBECALL; this is for programming purposes only. Please contact your supplier if you require further information.

UNDER NO CIRCUMSTANCES SHOULD THIS PRODUCT BE CONNECTED TO THE PSTN

INTRODUCTION

The GLOBECALL is a bench top Caller ID simulator designed to test a wide range of caller display products. It can generate Caller ID signals as outlined in all specifications currently available at the time of going to press.

The GLOBECALL will generate signals to ETSI and US standards that use FSK signals, as well as to the Dutch and Swedish standards, which use DTMF signals. Off-hook signalling known as Call Waiting is also supported.

Front panel LEDs are used to indicate the status of the tester. User switches and controls are also provided to get the most out of the tester. A ten-position switch is used to select a different group of tests.

As well as allowing functional testing to the different specifications, production test sequences are also built in. These groups of tests are cycled through on the press of a button and simplify operation.

APPLICATION

There are a wide variety of applications for GLOBECALL as it can simulate all Caller ID signals in one compact, bench-top instrument. Some of which are listed below:

DESIGN

Companies designing Caller ID products for the World market can use GLOBECALL during the early stages to ensure that their product complies with the different requirements. GLOBECALL can easily be switched between different test types. Messages such as Unavailable, Withheld, Message Waiting, Called Number & Ring Back When Free are supported. This is useful to check that the software for the products being designed is working correctly.

QUALITY AUDITS

Quality departments can use GLOBECALL to check the performance of units being shipped out of a factory or into a warehouse. Where products are being checked against different country requirements GLOBECALL allows testing of these with just one instrument. This saves money on test equipment and training costs.

PRODUCTION

The use of test equipment, which can automatically cycle through a fixed sequence of tests, allows quick functional testing on a busy production line. A single button operation starts off the GLOBECALL's test sequence, allowing the operator to carry out other tasks such as preparing the next unit for testing.

REPAIR

A bench top Caller ID simulator allows repaired units to be checked for correct performance. Where a number of different units destined for different export markets are being checked, the use of the GLOBECALL allows one unit to be used to carry out all the testing.

DEMONSTRATIONS

The portability of GLOBECALL makes it an invaluable tool for use in exhibitions or when carrying out demonstrations at a client's site.

OPERATION

Before GLOBECALL can be used it needs to be set to the correct group of tests. Following that an appropriate test can be selected and run. The flow chart in *Appendix 2* summarises the operation of the unit.

GROUP SELECTION

The different test groups are selected on power on, depending on the position of the selector switch. Choose the relevant group and turn power on to select it. The switch position corresponds to the Group as follows:

GROUP 0	ETSI Line reversal followed by DT-AS (same as BT)
GROUP 1	ETSI RP-AS (same as CCA)
GROUP 2	US SDMF
GROUP 3	US MDMF
GROUP 4	Dutch DTMF
GROUP 5	Swedish DTMF
GROUP 6	Production tests (UK market)
GROUP 7	Production tests (US market)
GROUP 8	Production tests (European market)

The detailed messages associated with the test are shown in *Appendix 1*

After the unit has been powered up it is ready for use. If Groups 0 to 5 are chosen move the 10-position selector switch to the required position and press the green button to start the test. If production tests from Group 6, 7 or 8 are chosen, by pressing the green button the test sequence will start.

RUN LED

This LED gives useful feedback on the operation of the unit. On initial power up it flashes once to show correct operation. If a test that supports On-hook and Off-hook signalling (Call Waiting) is started, the LED flashes twice and stays on for the duration of the test. For all other tests it just goes on. When a test finishes, for whatever reason, the LED flashes twice. During a production test sequence the LED goes off between tests.

USER CONTROLS

The front panel offers control over the FSK frequency, which can be switched between Bell 202 and V23 frequencies. The ringing frequency can be set to 25 or 50 Hz. The level of the DTMF, Alert tone and FSK is factory set to -10 dBV or -30 dBV.

The user can change these to over a range from -50 dBV to -10 dBV.

The rear panel gives access to a user-controlled potentiometer, which is used to set the ring level. This is factory set to 70 V rms.

OFF-HOOK LED

This shows the status of the Caller ID Unit Under Test (UUT). It goes on for Off-hook and goes off for On-hook. When ringing is being applied to a unit it flashes.

CALL WAITING

This is supported for Groups 0, 1, 3 and some production tests. If the start button is pressed when the unit is Off-hook and Group 0, 1 or 3 are selected, and then the Call Waiting test is sent. If Group 2, 4 or 5 is selected and the start button is pressed, when the unit is Off-hook, then no test is sent. However, as soon as the unit goes back On-hook the test sequence is sent.

During the Call Waiting sequence a CAS tone is sent first. If a DTMF tone is not received within 220 mS, the FSK data is not sent. If a DTMF tone is received, a mark signal is sent, followed by the data. No channel seizure is sent during the Call Waiting test sequence.

RINGING

Four types of ringing cadences are supported dependent on which Group is selected. Further details about this are found in *Appendix 1*. For Groups 0 to 5, ten full cycles of ringing are provided aiding the testing of answering machines. This can be terminated either by coming Off-hook or pressing the green button.

PRODUCTION TESTS

When the green button is pressed the tests are all run in sequence with a two-second pause between tests. In this period the LED goes off and the tests can be terminated by pressing the green button, if required.

If you require, mixing Call Waiting and On-hook tests during a test sequence, the following procedure needs to be followed. In the two-second period between tests come Off-hook. The next test then will be a Call Waiting one. After this test, GLOBECALL will wait for the unit to go On-hook before carrying on. If you require following on with a second Call Waiting test, just flash the hook switch to carry on.

If a Caller ID unit comes Off-hook for a test that is not enabled for Call Waiting no test sequences are sent. When the unit goes back On-hook the correct On-hook sequence is sent. This, for example, applies for the US SDMF tests.

APPENDIX 1

This gives the details of all the tests available under the different Groups. The following notes will be of help when using these tests.

1. Group 0 covers the ETSI line reversal and DT-AS tests. These cover the BT test requirements as well.
2. Group 1 covers the ETSI RP-AS tests. These cover the CCA test requirements as well.
3. Message types for all Group 0 tests are set to 80 H. The Message Waiting tests of Group 1 and 3 are set to 82 H. All other tests for Group 1 and 3 are set to 80 H. The message type for Group 2 (US SDMF) is set to 40 H.
4. Message Waiting for Group 0 uses the Network Message System Status (NMSS) parameter, which is 13 H. Message Waiting for Groups 1 and 3 uses the Visual Indicator parameter, which is 0 BH.
5. Test 9 in Groups 0 to 3 has the Checksum missing. This will result in an Error message on the Caller ID display unit.

GROUP 0**ETSI, LINE REVERSAL AND DT-AS (SAME AS BT)**

PROTOCOL & TIMINGS					
ON-HOOK	Line reversal to Alert	200 mS	OFF-HOOK	Alert tone (CAS)	80 mS
	Alert tone	100 mS		Wait for DTMF ack.	220 mS
	Alert to Seize	100 mS		Pause after DTMF ack	70 mS
	Seize	250 mS		Mark	67 mS
	Mark	67 mS		FSK data	V23
	FSK data	V23			
	FSK to ringing	350 mS			
	Ringing (when sent)	0.4 S ON/ 0.2 S OFF/ 0.4 S ON/ 2 S OFF			

DATA		
TEST 0	CALL TYPE = Voice Call CALLING NAME = Tele Products CHECKSUM SENT	CALLING NUMBER = 01904 659583 TIME/DATE = 00:00 12/12 RINGING SENT
TEST 1	CALL TYPE = Voice Call CALLING NAME = No Name CHECKSUM SENT	CALLING NUMBER = 01904 611465 TIME/DATE = 00:01 01/01 RINGING SENT
TEST 2	CALL TYPE = Voice Call WHY NAME NOT SENT = Unavailable CHECKSUM SENT	WHY NUMBER NOT SENT =Unavailable TIME/DATE = 00:02 02/02 RINGING SENT
TEST 3	CALL TYPE = Voice Call WHY NAME NOT SENT = Withheld CHECKSUM SENT	WHY NUMBER NOT SENT = Withheld TIME/DATE = 00:03 03/03 RINGING SENT
TEST 4	CALL TYPE = Ring Back When Free CALLING NAME = Payphone CHECKSUM SENT	CALLING NUMBER = 01904 653265 TIME/DATE = 00:04 04/04 RINGING SENT
TEST 5	CALL TYPE = Message Waiting CHECKSUM SENT	NMSS = 255
TEST 6	CALL TYPE = Message Waiting CHECKSUM SENT	NMSS = 0
TEST 7	CALL TYPE = Voice Call CALLED NUMBER = 01904 653265 CHECKSUM SENT	CALLING NUMBER = 01904 627488 TIME/DATE = 00:07 07/07 RINGING SENT
TEST 8	CALL TYPE = Voice Call CHECKSUM SENT NO LINE REVERSAL	CALLING NUMBER = 01904 123456 TIME/DATE = 00:08 08/08 RINGING SENT
TEST 9	CALL TYPE = Voice Call CALLING NAME = Tele Products NO CHECKSUM	CALLING NUMBER = 01904 659583 TIME/DATE = 00:09 09/09 RINGING SENT

GROUP 1**ETSI, RP-AS (SAME AS CCA)**

PROTOCOL & TIMINGS					
ON-HOOK	Ring burst	250 mS	OFF-HOOK	Alert tone (CAS)	80 mS
	Ring to seize	750 mS		Wait for DTMF ack	220 mS
	Seize	250 mS		Pause after DTMF ack	70 mS
	Mark	150 mS		Mark	67 mS
	FSK data	V23		FSK data	V23
	FSK to ringing	350 mS			
	Ringing (when sent)	0.4 S ON/ 0.2 S OFF/ 0.4 S ON/ 2 S OFF			

DATA		
TEST 0	CALL TYPE = Voice Call CALLING NAME = Tele Products CHECKSUM SENT	CALLING NUMBER = 01904 659583 TIME/DATE = 01:00 12/12 RINGING SENT
TEST 1	CALL TYPE = Voice Call CALLING NAME = No Name CHECKSUM SENT	CALLING NUMBER = 01904 611465 TIME/DATE = 01:01 01/01 RINGING SENT
TEST 2	CALL TYPE = Voice Call WHY NAME NOT SENT = Unavailable CHECKSUM SENT	WHY NUMBER NOT SENT = Unavailable TIME/DATE = 01:02 02/02 RINGING SENT
TEST 3	CALL TYPE = Voice Call WHY NAME NOT SENT = Withheld CHECKSUM SENT	WHY NUMBER NOT SENT = Withheld TIME/DATE = 01:03 03/03 RINGING SENT
TEST 4	CALL TYPE = Ring Back When Free CALLING NAME = Payphone CHECKSUM SENT	CALLING NUMBER = 01904 653265 TIME/DATE = 01:04 04/04 RINGING SENT
TEST 5	MESSAGE TYPE = 130 CHECKSUM SENT	VISUAL INDICATOR = 255
TEST 6	MESSAGE TYPE = 130 CHECKSUM SENT	VISUAL INDICATOR = 0
TEST 7	CALL TYPE = Voice Call CALLED NUMBER = 01904 653265 CHECKSUM SENT	CALLING NUMBER = 01904 627488 TIME/DATE = 01:07 07/07 RINGING SENT
TEST 8	CALL TYPE = Voice Call CHECKSUM SENT NO INITIAL RING	CALLING NUMBER = 01904 123456 TIME/DATE = 01:08 08/08 RINGING SENT
TEST 9	CALL TYPE = Voice Call CALLING NAME = Tele Products NO CHECKSUM	CALLING NUMBER = 01904 659583 TIME/DATE = 01:09 09/09 RINGING SENT

PROTOCOL & TIMINGS		
ON-HOOK	Ring burst	250 mS
	Ring to seize	750 mS
	Seize	250 mS
	Mark	150 mS
	FSK data	BELL202
	FSK to ringing	350 mS
	Ringing (when sent)	1 S ON/ 2 S OFF

DATA		
TEST 0	TIME/DATE = 02:00 12/12 CHECKSUM SENT	CALLING NUMBER = 1904659583 RINGING SENT
TEST 1	TIME/DATE = 02:01 01/01 CHECKSUM SENT	CALLING NUMBER = 1904611465 RINGING SENT
TEST 2	TIME/DATE = 02:02 02/02 CHECKSUM SENT	ⁱ CALLING NUMBER = 0 RINGING SENT
TEST 3	TIME/DATE = 02:03 03/03 CHECKSUM SENT	ⁱⁱ CALLING NUMBER = P RINGING SENT
TEST 4	TIME/DATE = 02:04 04/04 CHECKSUM SENT	CALLING NUMBER = 1904653265 RINGING SENT
TEST 5	CHECKSUM SENT	ⁱⁱⁱ CALLING NUMBER = BBB NO RINGING SENT
TEST 6	CHECKSUM SENT	^{iv} CALLING NUMBER = 000 NO RINGING SENT
TEST 7	TIME/DATE = 02:07 07/07 CHECKSUM SENT	CALLING NUMBER = 1904627488 RINGING SENT
TEST 8	TIME/DATE = 02:08 08/08 CHECKSUM SENT NO INITIAL RING	CALLING NUMBER = 1904123456 RINGING SENT
TEST 9	TIME/DATE = 02:09 09/09 NO CHECKSUM	CALLING NUMBER = 1904659583 RINGING SENT

- i** 0 means number unavailable
ii P means number withheld
iii BBB means visual indication on
iv 000 means visual indicator off

GROUP 3

US, MDMF

PROTOCOL & TIMINGS					
ON-HOOK	Ring burst	250 mS	OFF-HOOK	Alert tone (CAS)	80 mS
	Ring to seize	750 mS		Wait for DTMF ack	220 mS
	Seize	250 mS		Pause after DTMF ack	70 mS
	Mark	150 mS		Mark	67 mS
	FSK data	BELL202		FSK data	BELL202
	FSK to ringing	350 mS			
	Ringing (when sent)	1 S ON / 2 S OFF			

DATA		
TEST 0	CALLING NUMBER = 01904659583 TIME/DATE = 03:00 12/12	CALLING NAME = Tele Products CHECKSUM SENT RINGING SENT
TEST 1	CALLING NUMBER = 01904611465 TIME/DATE = 03:01 01/01	CALLING NAME = No Name CHECKSUM SENT RINGING SENT
TEST 2	WHY NUMBER NOT SENT = Unavailable TIME/DATE = 03:02 02/02	WHY NAME NOT SENT = Unavailable CHECKSUM SENT RINGING SENT
TEST 3	WHY NUMBER NOT SENT = Withheld TIME/DATE = 03:03 03/03	WHY NAME NOT SENT = Withheld CHECKSUM SENT RINGING SENT
TEST 4	CALLING NUMBER = 01904653265 TIME/DATE = 03:04 04/04	CALLING NAME = Payphone CHECKSUM SENT RINGING SENT
TEST 5	MESSAGE TYPE = 130	VISUAL INDICATOR = 255 CHECKSUM SENT
TEST 6	MESSAGE TYPE = 130	VISUAL INDICATOR = 0 CHECKSUM SENT
TEST 7	CALLING NUMBER = 01904627488 TIME/DATE = 03:07 07/07	CALLED NUMBER = 01904653265 CHECKSUM SENT RINGING SENT
TEST 8	CALLING NUMBER = 01904123456 TIME/DATE = 03:08 08/08 NO INITIAL RING	CHECKSUM SENT RINGING SENT
TEST 9	CALLING NUMBER = 01904659583 TIME/DATE = 03:09 09/09	CALLING NAME = Tele Products NO CHECKSUM RINGING SENT

GROUP 4

DUTCH DTMF

PROTOCOL & TIMINGS	
Line reversal to data	500 mS
DTMF ON time	70 mS ON
DTMF OFF time	70 mS OFF
Data to ringing	500 mS
Ringing (when sent)	1 S ON/ 4 S OFF

DATA		
TEST 0	START = D STOP = C	CALLING NUMBER = 01904659583 RINGING SENT
TEST 1	START = D STOP = C	CALLING NUMBER = 01904611465 RINGING SENT
TEST 2	START = D STOP = C	ⁱ CALLING NUMBER = 0000000000 RINGING SENT
TEST 3	START = D STOP = C	CALLING NUMBER = 00441904659583 RINGING SENT
TEST 4	START = D STOP = C	CALLING NUMBER = 01904653265 RINGING SENT
TEST 5	START = D STOP = C	CALLING NUMBER = 55555 RINGING NOT SENT
TEST 6	START = D STOP = C	CALLING NUMBER = 666666 RINGING NOT SENT
TEST 7	START = Not Sent STOP = C	CALLING NUMBER = 01904627488 RINGING SENT
TEST 8	START = D STOP = C NO LINE REVERSAL	CALLING NUMBER = 01904123456 RINGING SENT
TEST 9	START = D STOP = Not Sent	CALLING NUMBER = 01904659583 RINGING SENT

i 0000000000 means number unavailable

GROUP 5**SWEDISH DTMF**

PROTOCOL & TIMINGS	
Line reversal to data	500 mS
DTMF ON time	70 mS ON
DTMF OFF time	70 mS OFF
Data to ringing	500 mS
Ringing (when sent)	1 S ON/ 5 S OFF

DATA		
TEST 0	START = D STOP = C	CALLING NUMBER = 01904659583 RINGING SENT
TEST 1	START = A STOP = C	CALLING NUMBER = 01904611465 RINGING SENT
TEST 2	START = B STOP = C	ⁱ CALLING NUMBER = 00 RINGING SENT
TEST 3	START = B STOP = C	ⁱⁱ CALLING NUMBER = 10 RINGING SENT
TEST 4	START = D STOP = C	CALLING NUMBER = 01904653265 RINGING NOT SENT
TEST 5	START = D STOP = C	CALLING NUMBER = 55555 RINGING NOT SENT
TEST 6	START = Not Sent STOP = C	CALLING NUMBER = 666666 RINGING SENT
TEST 7	START = A START OF DIVERTED NUMBER = D STOP = C	CALLING NUMBER = 01904627488 DIVERTED NUMBER = 01904653265 RINGING SENT
TEST 8	START = D STOP = C NO LINE REVERSAL	CALLING NUMBER = 01904123456 RINGING SENT
TEST 9	START = D STOP = Not Sent	CALLING NUMBER = 01904659583 RINGING SENT

GROUP 6

PRODUCTION TEST FOR UK MARKET CALLER ID UNITS

- ⁱ 00 means number unavailable
ⁱ 10 means number withheld

ETSI LINE REVERSAL AND DT-AS (SAME AS BT)		
TEST 1	CALL TYPE = Voice Call WHY NAME NOT SENT = Unavailable CHECKSUM SENT	WHY NUMBER NOT SENT = Unavailable TIME/DATE = 01:01 01/01 RINGING SENT
TEST 2	CALL TYPE = Ring Back When Free CALLING NAME = Payphone CHECKSUM SENT	CALLING NUMBER = 01904 653265 TIME/DATE = 02:02 02/02 RINGING SENT
TEST 3	CALL TYPE = Message Waiting CHECKSUM SENT	NMSS = 255
TEST 4	CALL TYPE = Message Waiting CHECKSUM SENT	NMSS = 0

ETSI RP-AS (SAME AS CCA)		
TEST 5	CALL TYPE = Voice Call CALLING NAME = No Name CHECKSUM SENT	CALLING NUMBER = 01904 611465 TIME/DATE = 03:03 03/03 RINGING SENT
TEST 6	CALL TYPE = Voice Call WHY NAME NOT SENT = Withheld CHECKSUM SENT	WHY NUMBER NOT SENT = Withheld TIME/DATE = 04:04 04/04 RINGING SENT
TEST 7	MESSAGE TYPE = 130 CHECKSUM SENT	VISUAL INDICATOR = 255
TEST 8	MESSAGE TYPE = 130	VISUAL INDICATOR = 0

Note 1 2 Seconds pause between tests

Note 2 Only 1 cycle of ringing after tests (none for message waiting)

Note 3 If Off-hook in 2-second period, then Call Waiting test and pause till On-hook before carrying on.

Note 4 If START button pressed in 2-second period, then tests stop & reset.

GROUP 7	PRODUCTION TEST FOR US MARKET CALLER ID UNITS
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US SDMF		
TEST 1	TIME/DATE = 01:01 01/01 CHECKSUM SENT	CALLING NUMBER = 01904611465 RINGING SENT
TEST 2	TIME/DATE = 02:02 02/02 CHECKSUM SENT	CALLING NUMBER = 0 RINGING SENT
TEST 3	CHECKSUM SENT	CALLING NUMBER = BBB NO RINGING SENT
TEST 4	CHECKSUM SENT	CALLING NUMBER = 000 NO RINGING SENT

us mdmf		
TEST 5	WHY NUMBER NOT SENT = Withheld TIME/DATE = 03:03 03/03 RINGING SENT	WHY NAME NOT SENT = Withheld CHECKSUM SENT
TEST 6	CALLING NUMBER = 01904 653265 TIME/DATE = 04:04 04/04 RINGING SENT	CALLING NAME = Payphone CHECKSUM SENT
TEST 7	MESSAGE TYPE = 130 CHECKSUM SENT	VISUAL INDICATOR = 255
TEST 8	MESSAGE TYPE = 130 CHECKSUM SENT	VISUAL INDICATOR = 0

Note 1 Two seconds pause between tests.

Note 2 Only 1 cycle of ringing after tests (none for message waiting)

Note 3 If Off-hook in 2-second period, then Call Waiting test & pause till On-hook before carrying on.

Note 4 If Start button pressed in 2-second period, then tests stop & reset.

GROUP 8 PRODUCTION TEST FOR EUROPEAN CALLER ID UNITS (ETSI RP-AS SPEC)

group 1		
TEST 1	CALL TYPE = Voice Call CALLING NAME = No Name CHECKSUM SENT	CALLING NUMBER = 01904611465 TIME/DATE = 01:01 01/01 RINGING SENT
TEST 2	CALL TYPE = Voice Call WHY NAME NOT SENT = Unavailable CHECKSUM SENT	WHY NUMBER NOT SENT =Unavailable TIME/DATE = 02:02 02/02 RINGING SENT
TEST 3	CALL TYPE = Voice Call WHY NAME NOT SENT = Withheld CHECKSUM SENT	WHY NUMBER NOT SENT = Withheld TIME/DATE = 03:03 03/03 RINGING SENT
TEST 4	CALL TYPE = Ring Back When Free CALLING NAME = Payphone CHECKSUM SENT	CALLING NUMBER = 01904653265 TIME/DATE = 04:04 04/04 RINGING SENT
TEST 5	MESSAGE TYPE = 130 CHECKSUM SENT	VISUAL INDICATOR = 255
TEST 6	MESSAGE TYPE = 130 CHECKSUM SENT	VISUAL INDICATOR = 0

Note 1 Two seconds pause between tests.

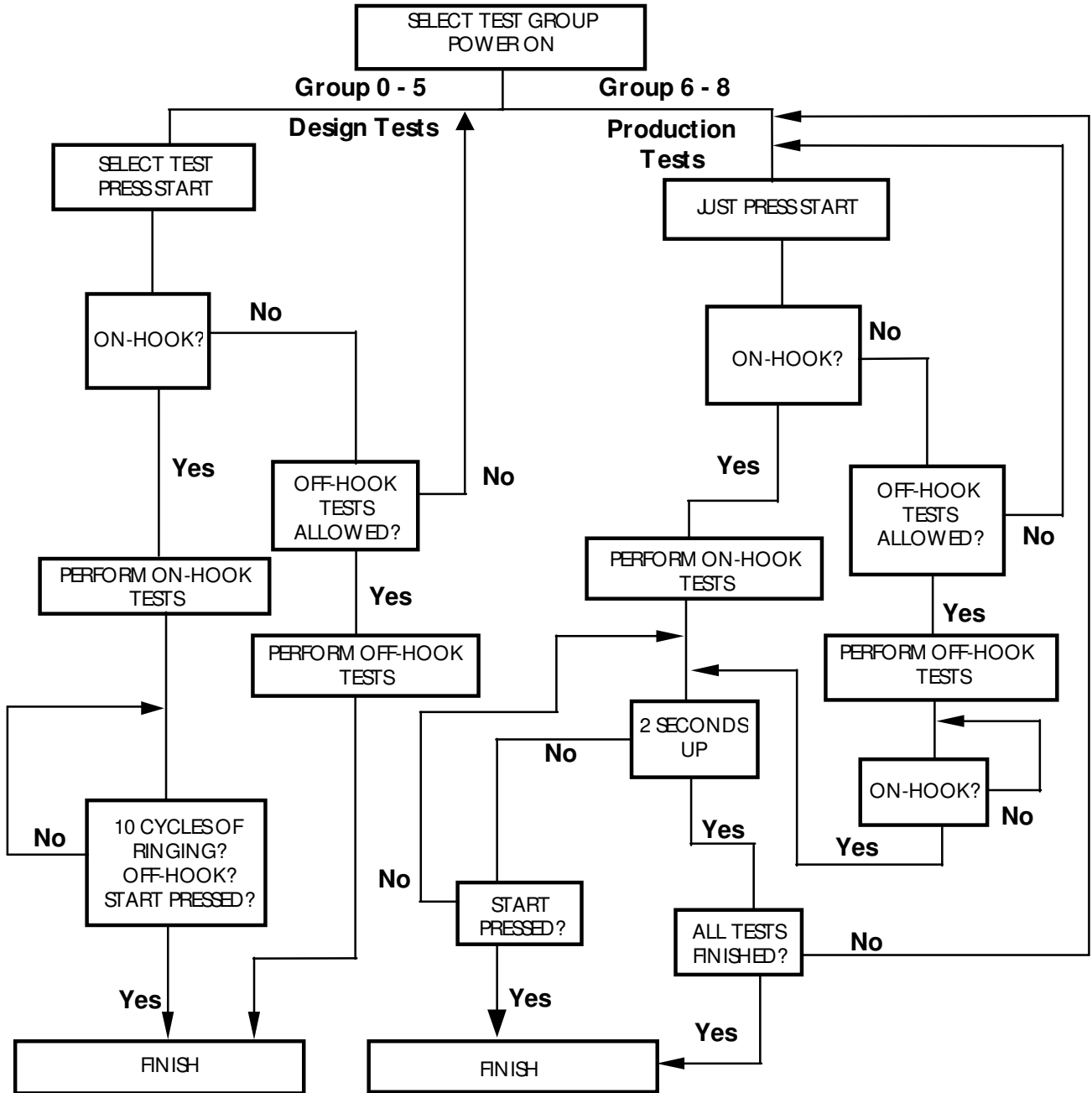
Note 2 Only 1 cycle of ringing after tests (none for message waiting).

Note 3 If Off-hook in 2 second period, then Call Waiting test & pause till On-hook before carrying on.

Note 4 If Start button pressed in 2-second period, then tests stop & reset.

APPENDIX 2

FLOWCHART 1: DETAILED OPERATION OF GLOBECALL



APPENDIX 3

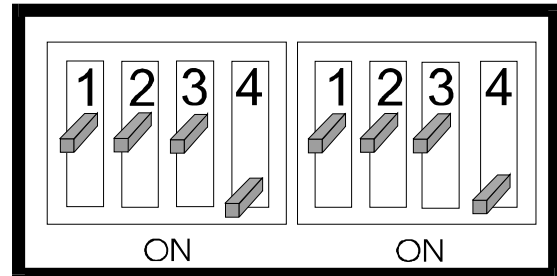
LEVEL SETTING

The level of the FSK and DTMF signals are set by the use of selection switches on the base of the GLOBECALL unit. One sets the level when HIGH is selected and the other when LOW is selected.

Fig 1:

Diagram to illustrate the selector switches located on the underneath of the GLOBECALL unit. HIGH LEVEL is selected by the settings on the left.

LOW LEVEL is selected by the settings on the right. Positions shown are for the Factory Default.



HIGH

LOW

HIGH LEVEL				
SW1	SW2	SW3	SW4	LEVEL (dBV)
OFF	OFF	OFF	ON	• -10
OFF	OFF	ON	OFF	-15
OFF	ON	OFF	OFF	-20
ON	OFF	OFF	OFF	-25
ON	ON	ON	OFF	-30

LOW LEVEL				
SW1	SW2	SW3	SW4	LEVEL (dBV)
OFF	OFF	OFF	ON	• -30
OFF	OFF	ON	OFF	-35
OFF	ON	OFF	OFF	-40
ON	OFF	OFF	OFF	-45
ON	ON	ON	OFF	-50

NOTE:

- Denotes factory Default setting.

GLOSSARY

BELL 202	Bellcore specification for 1200 baud modems
CALL WAITING	Network service informing about a second call on busy line
CAS	Call Alert Signal
CCA	Cable Communications Association
CDS	Caller Display Service
CIDCW	Caller ID during Call Waiting
CLIP	Calling Line Identity Presentation
DT-AS	Dual Tone Alerting Signal
DTMF	Dual Tone Multi-Frequency
ETSI	European Telecommunications Standards Institute
FSK	Frequency Shift Keying
MDMF	Multiple Data Message Format
MESSAGE WAITING	Network service informing about a message left for retrieval
NMSS	Network Message System Status
OFF-HOOK	On-line or active state of TE
ON-HOOK	Off-line or idle state of TE
PSTN	Public Switched Telephone Network
RP-AS	Ringing Pulse Alerting Signal
SDMF	Single Data Message Format
TAS	TE Alerting Signal
TE	Terminal Equipment
V23	CCITT specification for 1200 baud modems

REFERENCES

The following are a list of useful reference documents concerned with caller display service.

SIN 227	BT
	Calling Line Identification Service
	Service Description
	Issue 2, Nov 1995
SIN 242	BT
	Calling line Identification Service
	Terminal Equipment Requirements
	Issue 2, Nov 1996
TW/P&E/312	CCA
	Terminal Requirements for Caller Display Services
	Issue 4, April 1997
ETS 300 659-1	PSTN Subscriber line protocol over the local loop for display (and related) services
	Part 1: On-hook data transmission
	Final draft, Dec 1996
ETS 300 659-2	PSTN Subscribe line protocol over the local loop for display (and related) services
	Part 2: Off-hook data transmission
	Draft, Sept 1996
T11-12	Netherlands
	Calling line Identification Presentation Service
	June 1994
8211 A-331	Sweden
	Transfer of number information on analogue exchange line incoming call
	Jan 1993
B14-10W	France
	Interface for reception of the caller identification and notification for analogue terminals
GR-30-CORE	US Bellcore
	Voiceband Data Transmission Requirements
	Issue 1, Dec 1994
TR-NWT-001401	US Bellcore
	Visual Message Waiting Indicator Generic Requirements
	Issue 1, Sept 1993

SPECIFICATION

DC FEED CONDITIONS	Supply Voltage	48V \pm 5%	
	SC Current	45 mA \pm 10%	
AC FEED CONDITIONS	Source Impedance	600 Ω \pm 10%	
TONES	Alert Frequency	2130 Hz and 2750 Hz \pm 1%	
	Baud Rate	1200 baud \pm 1%	
	Frequency	Bell 202 Mark	1200 Hz \pm 1.5%
		Bell 202 Space	2200 Hz \pm 1.5%
		V23 Mark	1300 Hz \pm 1.5%
		V23 Space	2100 Hz \pm 1.5%
	DTMF Frequencies	AS CCITT specification	
	Level High	-10 dBV to -30 dBV	
Level Low	-30 dBV to -50 dBV		
Twist	\pm 2 dB		
RINGING	Frequency	25/50 Hz \pm 5%	
	Factory Set Level	70 V rms \pm 10%	
	User Range	0–95 V rms	
TIMING	As specified in the protocol		
TOLERANCE unless otherwise specified	Frequency	\pm 10%	
	Timing	\pm 5%	
	Level	\pm 3 dB	
POWER	Mains	230 V, 50 Hz, 50 mA	