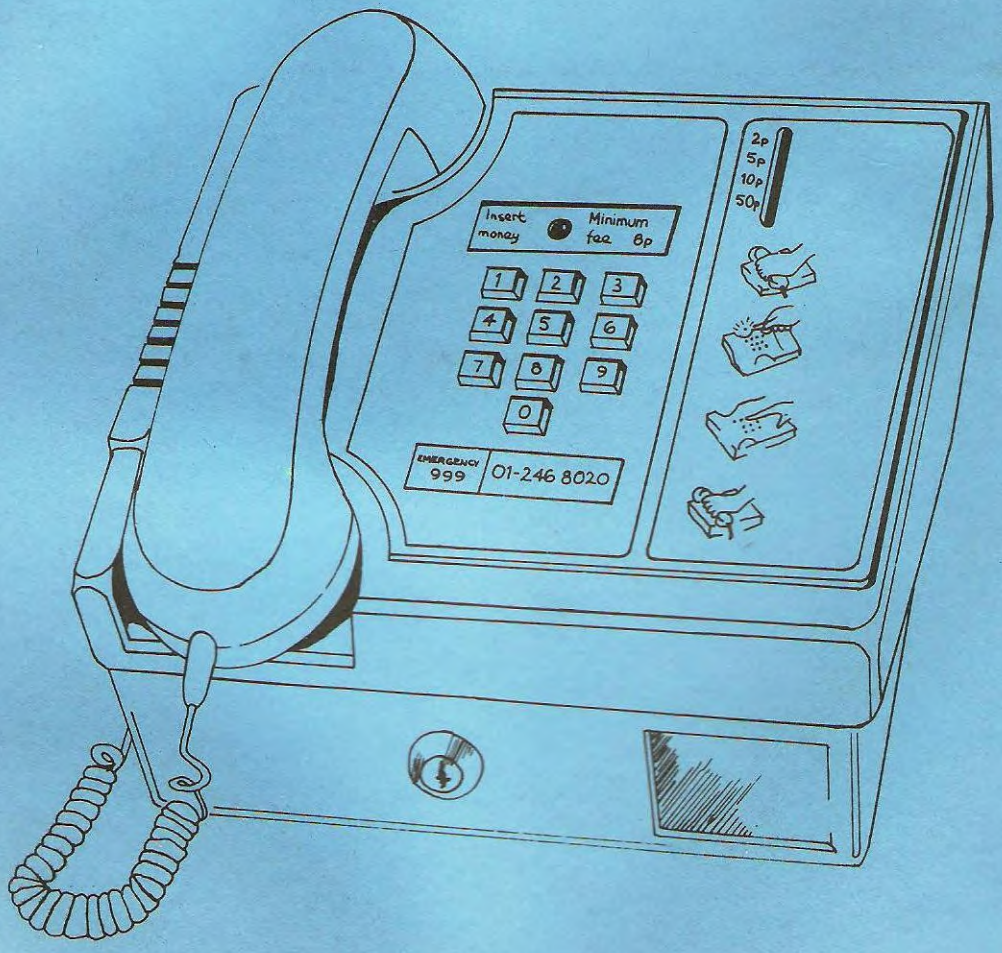
TETC STUDENT HANDBOOK

THE TABLE-TOP PAYPHONE 100



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COIN TELEPHONE NO. 23B

Contents:

1. INTRODUCTION

The Coin Telephone No 23B (CT 23B) is a self-contained, micro-processor controlled telephone capable of working in a D E L mode or as a Payphone with restricted facilities. It is a renter's telephone designed for use in supervised locations such as Public Houses, Business Reception desks and families with large telephone bills, ie., with teenage children.

2. GENERAL DESCRIPTION

The instrument has been styled to harmonise with the New Generation Telephones incorporating a keypad and a new styled handset. Due to the styling the payphone does not have a high degree of security and therefore the installation should be in a well supervised location. It will be possible to screw the CT 23B down to a shelf or to chain it by a clasp fixing at the rear of the cash compartment.

Above the keypad there is a Credit Display window which consists of a Red Light Emitting Diode (L E D) which flashes advising the customer to insert money. The minimum call charge fee is also displayed in this window.

The CT 23B is provided with a Tone Generator calling device similar to the Trimphone.

The Payphone 100 can only be used on exclusive D E L's using Phone Sockets.

3. FACILITIES

The mode of the CT 23B is controlled by a lockable switch. When the 'O' symbol has been selected the CT 23B works as a normal D E L with access to IDD, STD and all operator services. Calls will meter on the associated exchange meter and the customer charged in the normal manner.

Selecting the 'P' symbol converts it into a payphone with restricted facilities. In this mode it will accept 2p, 5p, 10p and 50p coins but there is no access to operator services (or any 1xx codes) except for '999' calls.

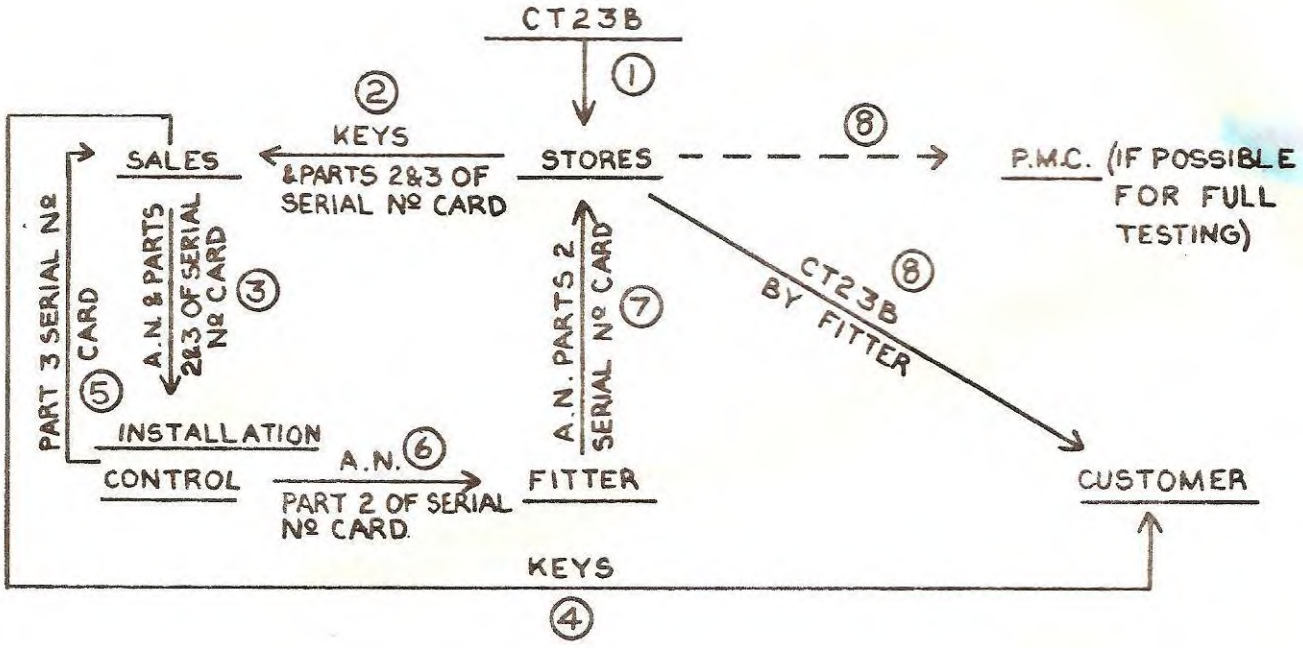
4. KEY PROCEDURE

Mode switch & Cash Box

The two keys for the mode switch and the two keys for the cash box are in an opaque heat sealed envelope and come enclosed within the payphone carton. A set procedure has been suggested for the handling of these keys to enable the customer to receive them and the envelope intact.

The procedure is as follows:-

4. KEY PROCEDURE (Cont'd)



S P M Pulse Detection

As the Payphone is triggered off by the S P M pulse on C S A (Call Sub Answer), it is important to check for the presence of this pulse during installation. The simple way of testing for this is to make an outgoing call in the 'P' mode and if the pulse is present, then on C S A the minimum fee should be cashed.

If the Payphone cannot be put into the 'P' mode, a test can still be carried out at the Line Jack Unit using a Meters Multirange No 12, as follows:-

i) Set the meter to the 100V A C range.

ii) Dial up a fast metering number, eg ~~0012369301~~.

iii) Connect one probe of the meter to the earth terminal of the L J U and with the other probe check each leg of the line.

iv) When an S P M pulse arrives, the meter reading will rise by 20V. The actual value of this reading will vary according to which way round the probes are.

To eliminate the standing D C voltage on the line, a 1µf capacitor can be connected in series with one of the probes. A reading of approximately 45V A C should then be indicated on the meter at every S P M pulse no matter which way round the probes are connected.

5. INSTALLATION

The CT 23B should be installed in accordance with Diagram N.2825.

Stores

The following items should be requisitioned:-

Coin Telephone No 23B ... colour

Battery Secondary No 34.

Line Jack Unit 2/7A

Block Terminal 80A

Note: The lockable mode switch and cash box lock are already fitted on delivery of the CT 23B.

Fitting Instructions

The CT 23B must be connected to an exchange line with Subscriber Private Metering (SPM) facilities. An earth should also be provided by using Wire Earthing 9141/1W to a BT 80A and continuing onto the Line Jack Unit 2/7A using Cable Equipment 2502.

IT IS ESSENTIAL TO ENSURE A GOOD SIGNALLING EARTH AND THAT AS FAR AS IS PRACTICABLE THIS WIRING IS NOT ACCESSIBLE BY THE GENERAL PUBLIC.

Fitting the Battery

The CT 23B is line powered with a battery to maintain the memory and supply a regulated power output. The battery is a Battery Secondary No 34 and should be installed fully charged.

i) Remove the moulded case. To achieve this, loosen the two retaining screws at the rear of the case using a Ringdriver No 9.

When removing the case, gently lift rear of the case whilst easing it forwards.

After the case has been removed the battery compartment can be seen at the top left-hand corner of the mechanism compartment.

ii) Unclip and lift the processor board. To secure the board in the raised position slide it either to the right or left.

iii) Remove the mode switch. This enables the battery to be easily installed. To remove the mode switch unclip the right-hand side of the mode switch bracket. Slide the bracket towards the rear of the case, lift the switch and bracket out and lay to the side of the telephone.

iv) Clip the Battery No 34 onto the support bracket.

v) Replace the mode switch using the reverseprocedure as described in iii).

vi) Release and lower the processor board.

vii) The battery leads are connected to the battery socket which is situated under the keypad board (marked PL2/batt). To remove the keypad board just lift up. This will expose the notch which accommodates the battery leads. Replace the keypad board.

5. INSTALLATION (Cont'd)

Telephone Number/Minimum Fee Label

The telephone number label should be positioned under the clear plastic label holder. To remove this plastic holder gently ease it out by pressing down at either end and prising it off. Insert the label and replace the plastic holder. The minimum fee label window is removed by pressing down on the right hand side and gently easing off. These labels can be requisitioned from SND/P1.1.

Minimum Fee Label:- LAB 542A
Telephone Number Label:- LAB 542B

Fixing CT 23B to a shelf

If fixing to a shelf is requested by the customer this may be achieved by carrying out the following:-

a) Remove the case.

b) Ask the customer to unlock and empty the Cash Compartment.

c) Remove the mechanism compartment from the cash compartment. Unclip tortion bar, lift off the entire mechanism and put it in a safe place. The cash compartment is now left on its own.

d) Screw the cash compartment to the appropriate shelf using two screws placed in the top right-hand and bottom left-hand corners (viewed with the cash box lock to the front).

Note: ENSURE THAT THE POSITION OF THE CT 23B ON THE SHELF ALLOWS SUFFICIENT ACCESS TO THE REAR OF THE CASE TO ENABLE THE CASE FIXING SCREWS TO BE REMOVED.

e) Replace the mechanism and reclip the tortion bar.

f) Relock the cash compartment.

g) Replace the case cover.

Fitting a Clasp (Part No 1/DLC/184) to the rear of the CT 23B

This can be achieved in a similar manner as described in 'Fitting CT 23B to a shelf', but instead of screwing to a shelf a clasp is bolted to the rear of the cash compartment using the two knock out holes situated on the rear panel.

6. TARIFF SETTING

The minimum fee (mf), unit fee (uf) and M rate* (internal timer if the SPM rate is greater than the M rate that has been selected) are stored in the CT 23B by using the keypad and the associated tariff button (located on the speech board within the mechanism compartment).

* If at any time during the call the received SPM period exceeds a value 'M' the payphone applies a tariff, equivalent to an SPM period, 'M' charging reverts to being based on the received SPM pulse period only if it becomes less than the value 'M'.

Note: TO ENABLE THE TARIFF TO BE STORED IN THE CT 23B THE BATTERY No 34 AND THE EXCHANGE LINE NEED TO BE CONNECTED.

6 TARIFF SETTING (Cont'd)

Method

The following method should be carried out with the case removed and the processor board in the raised position (to gain access to the Tariff Button).

Note: Because the case has been removed the gravity switch will have to be depressed and kept depressed in order to obtain dial tone.

OBTAIN DIAL TONE AND Press and release the tariff button situated on the speech board. Dial tone is replaced by tones to state that the tariff has not yet been set. The tones are:-

1 second of 800Hz (High)	]
1 " " 400Hz (Low)	] Repeated 3 times
Pause	]

Followed by a continuous tone lasting for 3 - 8 seconds.

At the end of the continuous tone the CT 23B is ready for the tariff to be set by using the keypad.

The tariff is in the form of 5 digits as follows:-

Digit:	1	2	3	4	5
	-------		-------		
	Minimum Fee (in pence)		Unit Fee (in pence)		M Rate

Note: If minimum fee or unit fee is less than 10 ensure that two digits are set, ie., 08 or 09.

M Rate is represented by pips of tone (400ms of 400Hz followed by 600ms of pause).

M = 1 pip (90 seconds)
= 2 pip (120 ")
= 3 pip (180 ")
= 4 pip (Infinity, ie., no internal timer)

Therefore, to insert a tariff setting of minimum fee 8p, unit fee 6p and ~~no~~ 2MIN internal timing the five appropriate digits are keyed, ie., 08064**2**.

When valid tariff has been received the new data (in the form of tones) are played back. Then dial tone will be heard and the red L E D (minimum fee) will glow.

6. TARIFF SETTING (Cont'd)

Check of Tariff

A check can be made to ensure that the correct tariff has been stored. This is carried out by pressing the tariff button. A set of tones will be heard describing the tariff information.

The information is as follows:-

5p fee value ..... 300ms of 800Hz followed by 200ms pause

1p fee value ..... 400ms of 400Hz followed by 600ms pause

so that 6p will be represented by 800Hz. 400Hz.

Example:- For tariff digits 08064 tones heard:-

800Hz. 400Hz. 400Hz. 400Hz...800Hz. 400Hz...400Hz. 400Hz.400Hz.400Hz.

Followed by a continuous tone lasting 3 - 8 seconds.

Note: The first tone of each set is always the 5p tone (800Hz), if applicable.

After checking if the tariff information is correct wait approximately 30 seconds and dial tone will be restored. If the tariff information is incorrect after hearing the continuous tone key in the correct tariff figures.

7. TESTING

Table 1 - D E L Mode

Test	Operation by Officer at the telephone	Condition if equipment is fee of faults
1. Dialling & speech.	Lift handset. Dial test desk and speak to the testing officer.	Dial tone heard.
2. Ringing of tone caller.	Ask testing officer for ringback. Replace handset. Note: See Test 4 of Table 2 Answer call.	Incoming call rings the tone caller.

7. TESTING (Cont'd)

Table 2 - Payphone Mode

Test	Operation by Officer at the coin Telephone	Condition if equipment is free of faults
1. 'Insert Coin' indication.	Switch mode key to 'P' and lift handset	Dial tone heard and 'Insert coin' L E D flashes
2. Refund	Insert one coin of each denomination ie 2p, 5p, 10p and 50p. Check that no coins have been rejected. Replace handset.	'Insert coin' L E D stops flashing after minimum fee reached. All coins should be refunded.
3. Automatic call debiting, credit expiry and cashing.	Lift handset & listen for dial tone. Insert coins and key a high tariff automatically charged number (0085 1111). Check coins are cashed (this tests the earth and SPM line). Replace handset.	Dial tone heard and 'Insert coin' L E D flashes. L E D stops flashing. Coins are cashed. Once all credit used 'Credit expiry' tone is heard. (Five pips of 400Hz) and the 'Insertcoin' L E D flashes. The call is forced release if no further coins have been inserted.
4. Incoming call and Identification tone.	Select the D E L mode. Call the Test Desk and ask for a ringback. Select payphone mode and replace the handset. Answer the call. Replace handset.	 Incoming call rings the tone caller. Identification tone is heard by both parties. (Ten pips of 800Hz).

Ensure all calls are credited to the customer as per TI E4 A0031.

8. TOOLS

In addition to the tool kit the Installer will require the following tool:-

Ringdriver No 9.

9. MAINTENANCE PROCEDURE

Field Maintenance

The aim will be to restore service by unit replacement from a Field Maintenance Pack (F M P) which also contains tools and test equipment. It is essential therefore, that a complete F M P is taken on site whenever a fault visit is made.

Having found the fault and replaced the unit, the service engineer must attach a fault label A.8807 to the faulty unit before placing it in the F M P. The A.8807 must be completed in full and details like 'out of order' or 'U/S' are not sufficient. The unit must then be taken back to the Payphone Maintenance Centre (P M C) as soon as possible where the fault will be verified and dealt with.

Once the service engineer has returned the faulty unit to the P M C he MUST replenish the F M P with 'good' stock from the P M C, so that the F M P can be used again. At no time must the F M P be allowed to run low of spares or the serviceability of a unit be allowed to become suspect as this will only prolong the time taken to restore service to the Coin Telephone No 23B.

P M C Repair Procedure

After localising the fault on site, the service engineer will return any faulty sub-units that he has found to the P M C. Upon receipt of the faulty items P M C staff will verify the fault on the P M C 'test' payphone.

If an electronic sub-unit is proved to be faulty it must be sent to the designated Area Repair Centre (A R C) for that P M C.

If however, the fault is due to a mechanical failure then the P M C will readjust the unit and then return it as 'good' to the spare stock from which the service engineer will replenish his Field Maintenance Pack (F M P).

E N D

References	TI	Maintenance
	TI C3 G7056	Installation