

Post Office Telecommunications

Customers Apparatus Maintenance Guide Notes

Answering Sets and House Telephone System No2

Vocational Training Division
THQ/TP7.1.2

August 1976

A646 PROCEDURE

THQ relies to a large extent on the A646 procedure to show up problems which maintenance staff are experiencing. From the information supplied by A646s, the size of the problem can be ascertained and corrective action taken.

Please do not hesitate to take full advantage of the procedure to inform THQ of any difficulties which are occurring.

TI E1 A0091 describes the procedure fully.

Vocational
Training Division
THQ/TP7.1.2

SECTION 1

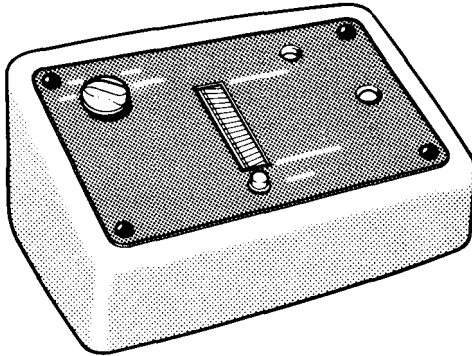
ANSWERING SETS

This equipment automatically answers the telephone and gives callers a pre-recorded message.

ANSWERING SET No. 1

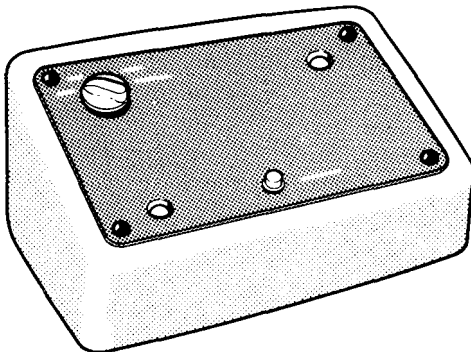
For messages lasting up to twenty seconds to tell callers where or when the subscriber will be available.

For example doctors or veterinary surgeons when off duty could leave the telephone number of their relief or when they will be available.



ANSWERING SET No. 2

Can be used when a longer message (thirty seconds – three minutes) is required.



TYPES OF ANSWERING SET

ANSWERING SET No.1

Manufactured by Sontronic Ltd., uses valves and standard 3000 type relays in its circuitry. The tape movement is controlled by a microswitch associated with the pinchwheel. When the join in the tape passes the pinchwheel the microswitch operates. The join in the tape is thicker (0.02 in.) than a normal join.

ANSWERING SET No.1A/1

Supersedes the Answering Set No.1 also manufactured by Sontronic Ltd. Fully transistorized circuitry, with tape controlled by photo conductor and lamp.

ANSWERING SET No.1A/2

Also supersedes Answering Set No.1 manufactured by Ansafone. Different in many ways from the 1A/1, but with fully transistorized circuitry and tape controlled by photo conductor and lamp.

ANSWERING SET No.2

Now obsolescent.

ANSWERING SET No.2A/1

Manufactured by Sontronic, uses a 1½ minute Mobius loop tape, i.e. a twisted loop of double-sided tape with several tracks. Tape controlled by photo conductor and lamp.

ANSWERING SET No.2A/2

Also manufactured by Sontronic Ltd., similar to 2A/1.

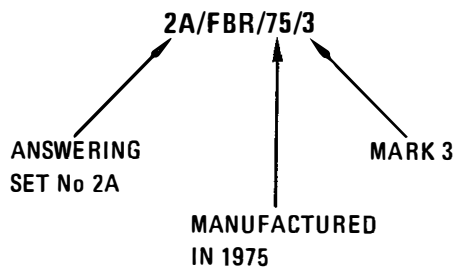
ANSWERING SET No.2A/3

Manufactured by Ansafone. Unlike the 2A/1 and 2A/2, this machine uses a small cassette for tape storage. Tape controlled by photo conductor and lamp.

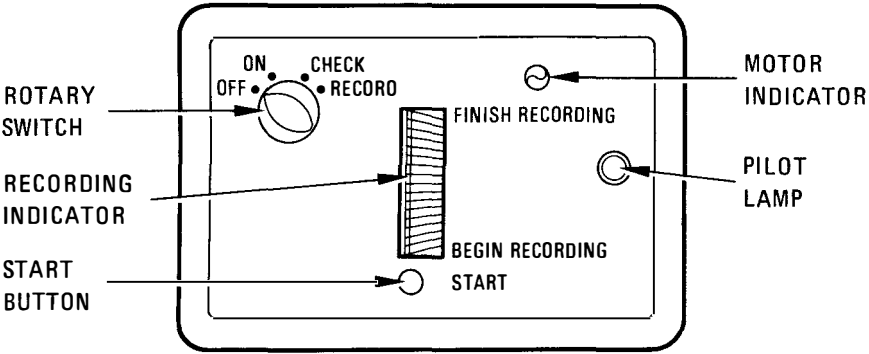
MACHINE IDENTIFICATION

Types of machine are identified by the marking on their base;

typical marking could be:



ANSWERING SET No.1A



ROTARY SWITCH

OFF Telephone works as normal line, even with the power switched off.

ON Telephone rings for 5–10 seconds, ringing is automatically 'tripped' and the recorded message is played twice to the caller.

CHECK Can be used at any time to check a recording.
Press and release the start button.
Listen on telephone to the complete recording (i.e. until motor stops).

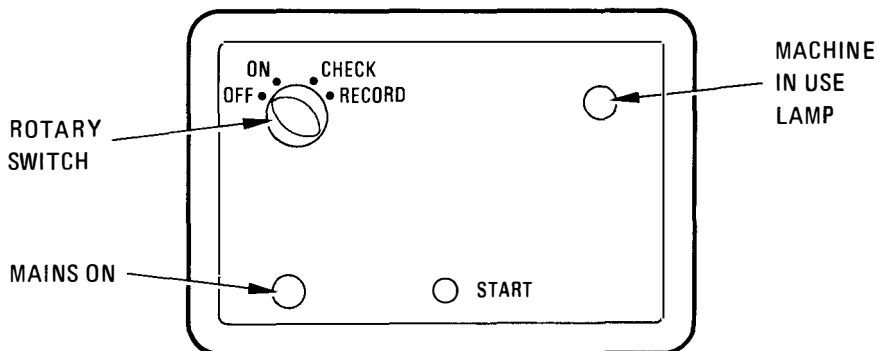
RECORD Is used to make a recording. To do this:

- a. Switch on power.
- b. Turn switch to record.
- c. Lift handset.
- d. Press and release the start button.
- e. When the recording indicator reaches 'Begin Recording' speak into telephone in the normal way.
- f. Continue recording until the indicator reaches 'Finish Recording', to make sure any earlier recording is erased. The motor will automatically stop.

ANSWERING SET No.1A/2

Uses a lamp instead of the indicator to show that the motor is running.

ANSWERING SET No.2A



ROTARY SWITCH

- OFF** Telephone works as a normal line.
- ON** Telephone rings for 5–10 seconds, ringing is automatically 'tripped' and the recorded message up to 3 minutes long is played once.
- CHECK** Can be used to check a recording.
Press and release the start button.
Listen to the complete recording.
- RECORD** Turn switch to record.
Lift handset.
Press and release the start button.
Speak into the telephone in the normal way.

The duration of the message should FILL the tape*. The first 10 seconds or so of the message MUST be repeated so that people calling from Pay on Answer Call Boxes do not miss the beginning of the recording (because the message plays whilst the caller inserts coins).

ANSWERING SETS No.2A/1 AND 2A/2

Similar to 2A, but uses a revolving indicator instead of a lamp to show that the motor is running.

* Tapes can vary in length according to the Subscriber's requirements.

MAINTENANCE

N.B.

Do not use a magnetised screwdriver near the record/playback heads because this can cause poor sound quality.

On site maintenance of Answering Sets should be limited to minor adjustments, lubrication, cleaning and changing the tape and lamps. (The lamp in the Answering Set No.2A/1 **MUST NOT** be changed.)

Work as detailed in TI E5 F3115 may be undertaken if both tools and parts are available. Where a machine is out of service and parts are not readily available the machine should be changed with the Area spare.

ADJUSTMENTS

For each type of machine are shown in Figs. 5 – 8 on pages 10 – 13. Tools required for these adjustments are Gauges, Tension Nos. 2, 4 and 5, as well as normal adjustment tools.

TO CHANGE TAPE LOOPS

ANSWERING SET No.1A Mk. 1

Turn the control switch to **OFF** and remove lid of tape tray. Remove the existing tape.

Arrange the new tape loop so that the matt side faces the heads, and the hole is near the lower edge. Feed the tape past the heads and through the pinch wheel assembly until the hole has just emerged from the assembly.

Pass both parts of the tape through the slot in the lower right-hand corner of the tape box. The tape must be free of twists and kinks, and it is better to have it hanging free, e.g. over the edge of a table. Replace lid of tape tray.

Turn switch to **CHECK** and press **START** button. After the tape has been drawn into the tray, the tape drive will be disconnected.

ANSWERING SET No.1A Mk. 2

Turn control switch to **OFF**. Remove the cover from the tape control unit. Disengage the open tape loop from the wire tensioner on the right-hand side of the machine and remove the tape. Fit the new tape and then tension it. If the length of the new tape is slightly different there is an adjustable pulley to compensate for this. The pulley is held by a screw which is accessible after removing the front deck plate of the machine.

ANSWERING SET No. 2A Mk. 1 AND 2

Remove the cassette cover, noting the tape twist in the twist compartment. The tape is fitted correctly when there is a 180° twist in the tape within the tape twist compartment.

Locate the twist in the new tape as follows. Open the tape to its full extent and place the second finger through the loop at one end, allowing the tape to hang freely. Close the fingers to trap the tape each side of the second finger. Draw the tape up through the fingers and the twist will be confined to the loop remaining under the fingers.

Hold the tape at each end of the twist, allowing about 3 in. between the points held, and insert the tape into the two slots at top and bottom of the twist compartment.

N.B.

For the 2A Mk.2 machine it is better to arrange that the hole in the tape passes through the photocell gate before the join in the tape passes through.

Thread the lower end of the tape between the lamp and photocell and the top end through the tape transport mechanism. Finally, bring both ends out of the cassette via the slot in the cassette wall.

Replace the cassette cover, turn the switch to **CHECK** and press the **START** button. The tape will be gradually drawn into the cassette.

When all the tape is inside the cassette allow the drive to continue until stopped by the operation of the control circuit.

ANSWERING SET No.2A Mk. 3

Remove the cover from the tape control unit.

Disengage the tape from the pulleys.

Remove the cassette.

Replace the new cassette with the arrow pointing towards the microswitch SW2.

Feed the tape from the centre of the cassette over the angled bar, around the two pulleys, through the tape control unit and the pinchwheel and back to the outside of the cassette.

N.B.

Do not pull tape from the outside of the cassette otherwise the tape may get jammed. Pull tape only from the centre of the cassette.

Replace the cover on the tape control unit.

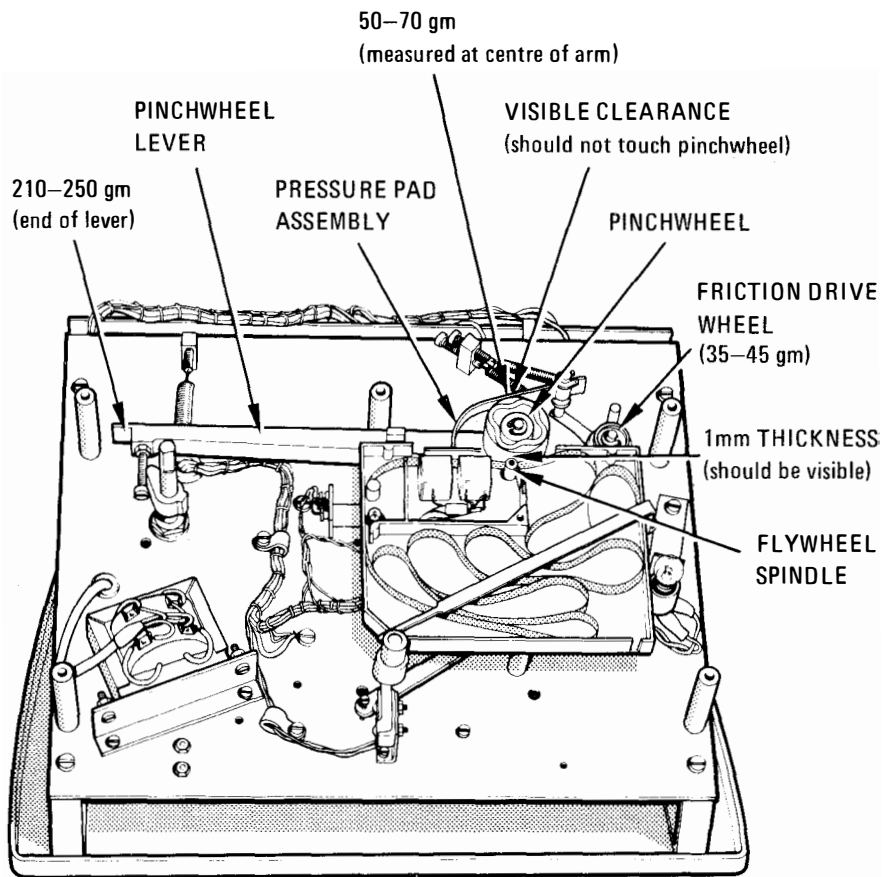


Fig. 5 ANSWERING SET No.1A Mk.1 – ADJUSTMENTS
(CONTROL KNOB AT 'ON' POSITION)

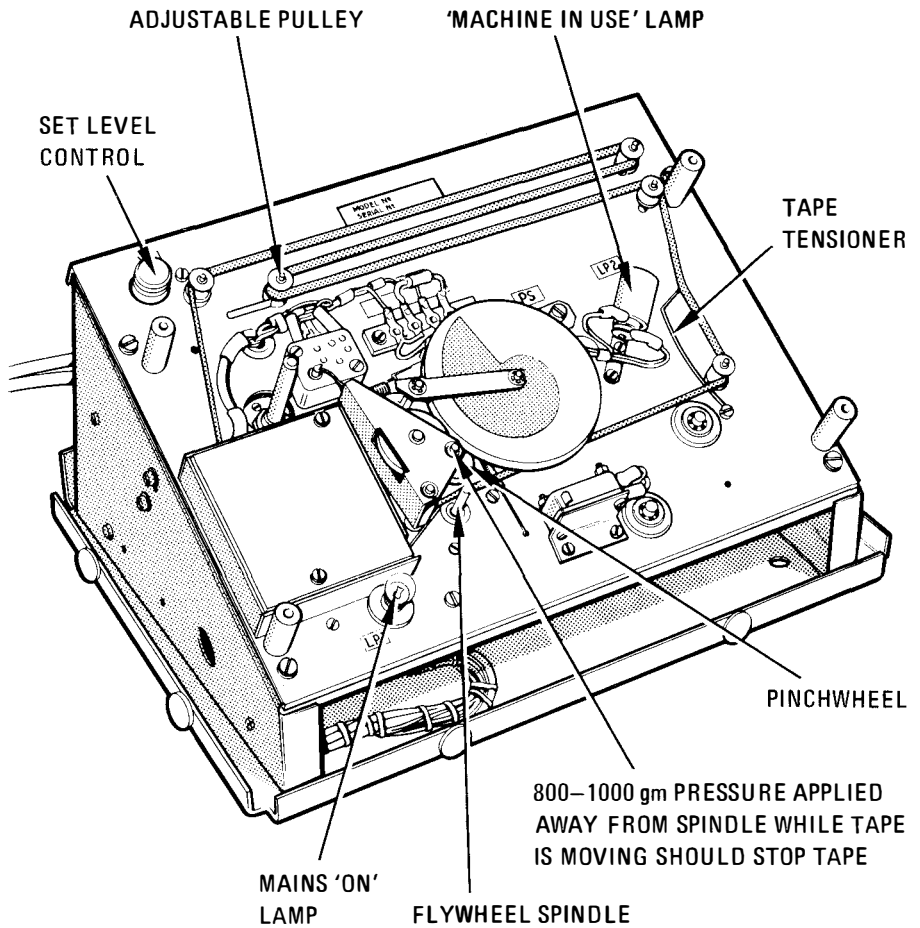


Fig. 6 ANSWERING SET No.1A Mk.2 – ADJUSTMENTS

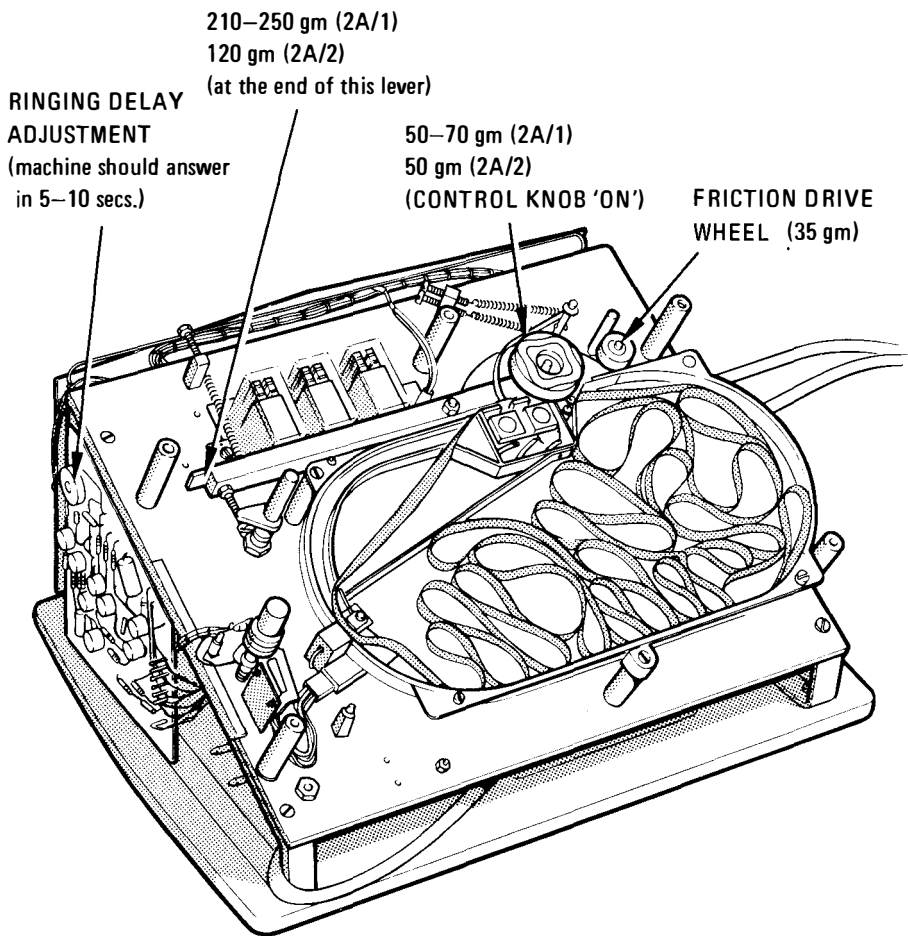


Fig. 7 ANSWERING SET No.2A Mk.1 and 2 (2A/1 SHOWN) – ADJUSTMENTS

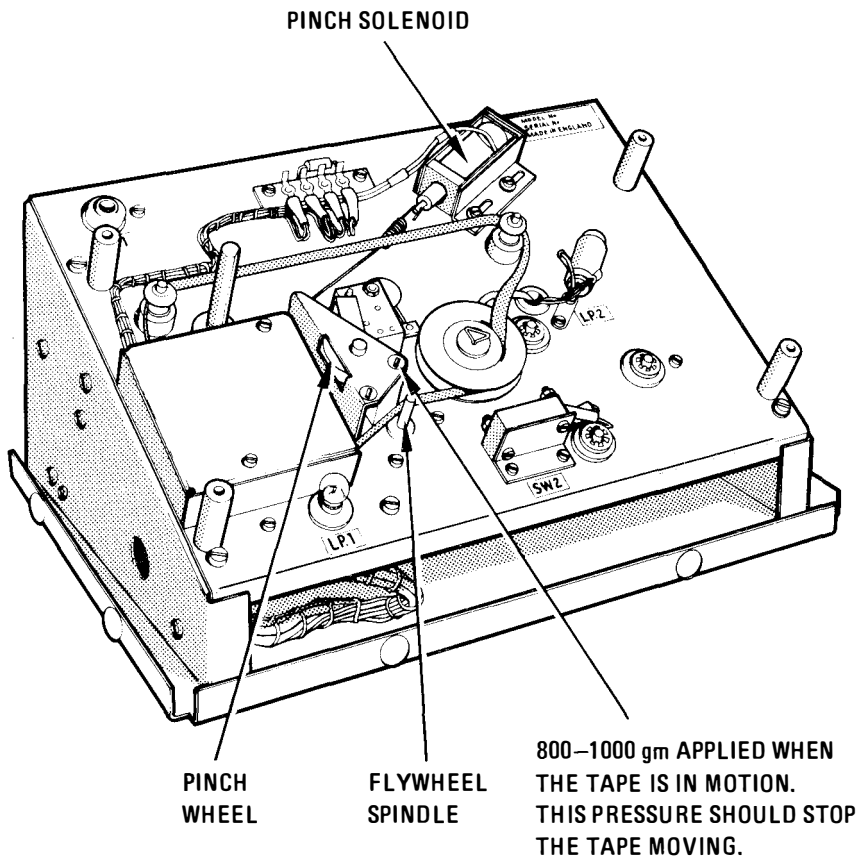


Fig. 8 ANSWERING SET No.2A Mk.3 - ADJUSTMENTS

REFERENCES

DIAGRAMS

Answering Set No. 1 and 1A	Internal connections.	N 603
Answering Set No. 1 and 1A	Installation and Explanatory.	N 4190
Answering Set No. 2A	Single and Multi-machine Installation.	N 4191
Answering Set No. 1A	Circuit Diagram.	SA 5202
Answering Set No. 2A	Circuit Diagram.	SA 5136

TI's

Installation and Description

Answering Set No.1	C3 M1000
Answering Set No.1A Mk.1	C3 M1001
Answering Set No.2A Mk.1, 2 and 3.	C3 M1003

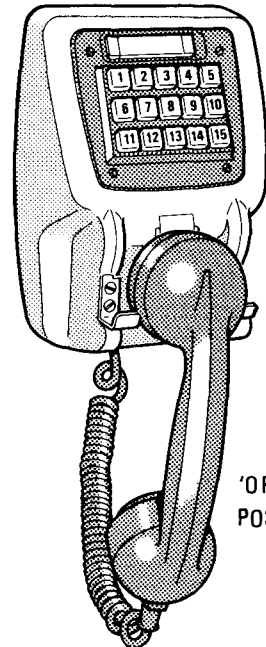
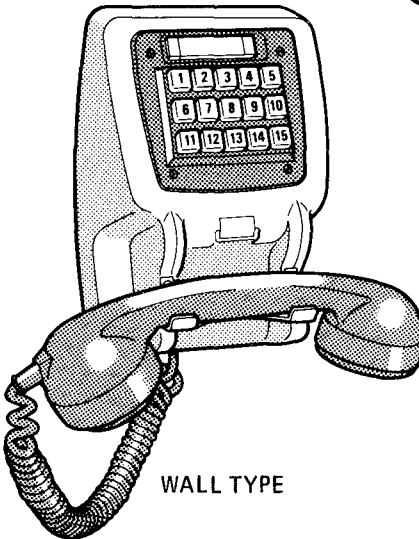
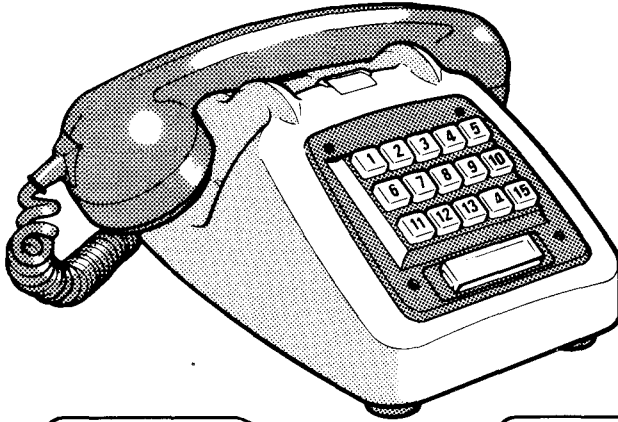
MAINTENANCE

Answering Set No.1	E5 F3111	
Answering Set No.1A Mk.1 and 2, 2A Mk.1, 2 and 3.	E5 F3115	
Answering Set No.1	Identification of Parts	E5 F3112
Answering Set No.1	Routine Maintenance – Cleaning	E5 S5303
Answering Set No.2	Routine Maintenance – Cleaning	E5 S5304
Answering Set No's 1 & 2	Lubrication	E5 S5305
Answering Set No. 1A Mk 1 & 2 2A Mk 1, 2, & 3	Routine Maintenance	E5 S5306

SECTION 2

HOUSE TELEPHONE SYSTEM No.2

This internal telephone system is available in 3 sizes allowing 6, 11, or 16 separate stations, the systems being entirely separate from the Public network. The telephones used are similar in appearance to 700 type and are available in both wall and table model.



FACILITIES

Each station can make an individual call simply and directly to any other station on the system.

Any number of the stations on a system can be included in a conference call.

All stations can be in use at the same time either on individual calls, conference calls, or a combination of both. For example, on a 6-station system, station 2 could be talking to station 5, while stations 1, 3, 4 and 6 are having a conference call.

Individual calls are disconnected when the caller replaces the handset.

Conference calls are disconnected when all handsets have been replaced.

N.B.

There is no secrecy on either individual or conference calls.

TO MAKE A CALL

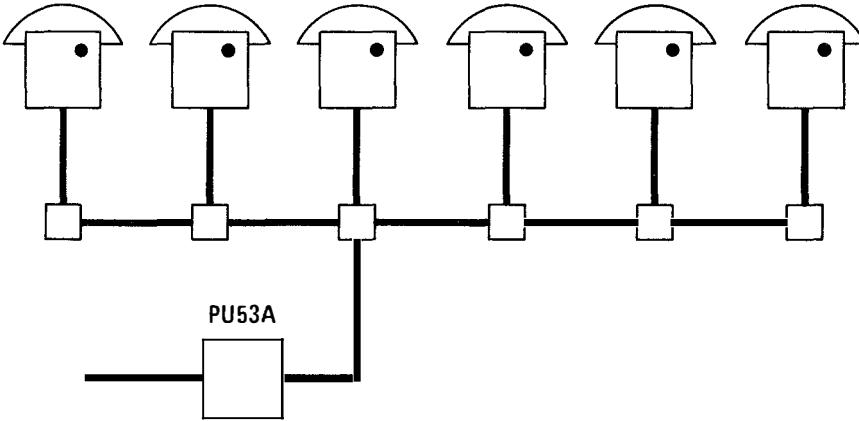
Lift the handset and 'overpress' the appropriate required station button to give an audible signal (buzzer) at the called station.

When the button is released it remains in the normal press (half operated) position. Conversation can then take place. The button restores to normal when the receiver is replaced.

CONFERENCE CALLS

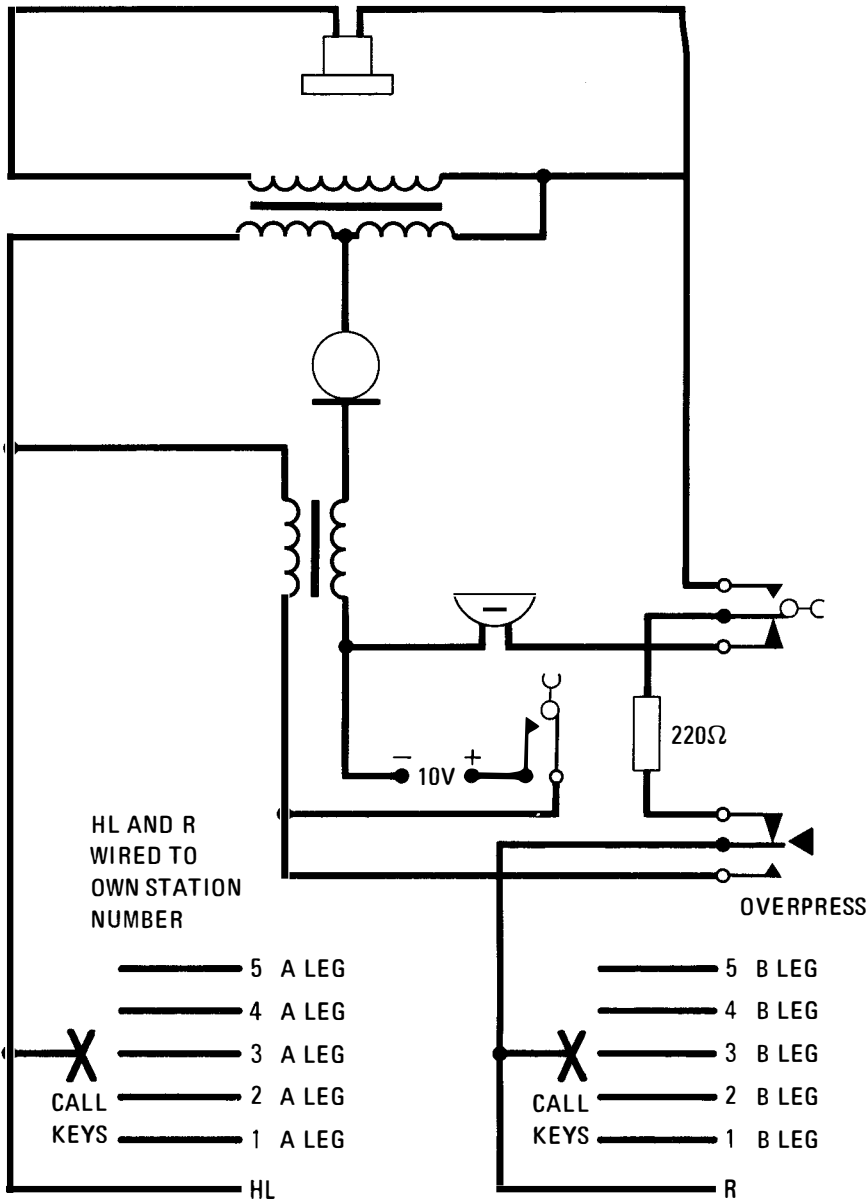
Each telephone station to be included in the conference is called in turn, and asked to call back to the person who is arranging the call and to wait until all the required stations have been contacted.

CIRCUIT OPERATION



When the key of the required station is overpressed a full +ve 10 volt condition is extended via the switch-hook, 'overpress' key and the 'Call' key to the required stations B leg. At the required station the B leg is wired to the R lead so the +ve condition extended from the calling station operates the buzzer.

When the pressure is released from the calling button the 'overpress' part of the key restores and connects the telephone speech paths together. The call key releases with the switch-hooks when the receiver is replaced.



MAINTENANCE

Telephone instrument maintenance is limited to changing the following individual items:

TRANSMITTER	No.16
RECEIVER	No.4T
HANDSET	No.3
WEIGHT	(Part No.1/DWE/7) which is necessary for efficient operation of Switch-hooks.

HANDSET CORD

The buzzer can be adjusted in the normal way. To test the buzzer in individual telephones strap R to +ve 10V i.e. terminal 3–4 for a continuous buzz. If buzzer difficulties still arise ensure that the diagram notes on Q362 have been observed. i.e.

The maximum distance between extreme stations is 600 yards, or 300 yards if extension bell/s are fitted.

Transmission difficulties (i.e. faint speech or hearing) may occur if the Power Unit is very near one end of the system.

The Power Unit should be fitted as near as possible to the centre of the system so that all stations are equally fed with power.

REFERENCES

Installation TI C3 M 4001

Maintenance TI E5 D 7302

Q Diagram 361

Q Diagram 362

