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Mr. \_\_\_\_\_

Will you please amend your copy of this E.I. pending reprint.

February, 1958

U.A.X's No. 13

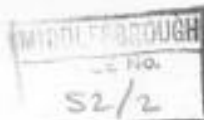
TELEPHONES, Automatic, G 3554

When Units Automatic No. 13 are installed minus the cabinets, it is proposed that tie cabling between units for group and final selector multiples should be run by the shortest route and in this connexion the following paragraph will be included in the next issue of TELEPHONES, Automatic, G 3554:-

"The tie cables between units for group and final selector selector multiples should be run horizontally from the strips connexion in one unit to the strips connexion in the adjacent unit".

H. L. CLAXTON,  
Engineering Department,  
24th January, 1958.

EL/4/HLC/7300



## UNIT AUTOMATIC EXCHANGES USING UNITS, AUTO., NO. 13

### Recovery of Cabinets and Provision of 2nd Selectors

1. **General.** This Instruction details the action to be taken and the methods to be adopted in:-

(a) Dismantling and removing cabinets from U.A.X. No. 13 units on new installations and extensions in conjunction with the provision of controlled heating and floor covering. The action to be taken at existing exchanges is covered by Works Specification TE 6467.

(b) Providing 2nd selectors for junction routes at those exchanges where the number of junction routes would otherwise prevent an extension to 800 lines.

It is now proposed to consider a U.A.X. No. 13 as having an ultimate capacity of 800 lines and therefore use of the terms "13X" and "13XX" will be discontinued. In future a U.A.X. No. 13 will be designed and the layout arranged, so that by progressive stages the U.A.X. can be extended to 800 lines.

The information given in this Instruction is of an interim nature and will be included in a revision of G 3530 at a later date.

2. **Space heating.** Space heating should be provided in accordance with POWER, Heating, B 3101. The heating is to maintain conditions at a maximum relative humidity of 64% and a minimum temperature of 35°F. At those U.A.X.'s where heating has already been provided on account of wiring deterioration, the measure of heating should be altered, if necessary, to conform with the requirements of POWER, Heating, B 3101.

3. **Floor covering.** Floor covering should be provided in accordance with ACCOMMODATION, Sites & Buildings, A 3108.

4. **New installations.** At present, units are being supplied in cabinets which should be removed on site at the installation stage, at those exchanges where the conditions detailed in par. 2 and 3 apply. Deliveries of units without cabinets will commence shortly.

At exchanges where a mains supply is not available, units with cabinets will continue to be installed. Wherever possible, requirements should be obtained from local recoveries, but a small stock of these units will be held in the Supplies Dept. Requisitions for these (for description see par. 17) should be forwarded to the Eng. Dept. (E1/4) and should not be included with the U.A.X. No. 13 equipment orders placed in accordance with STORES, General, C 0018. Items of equipment (other than the units, for an extension at an exchange without a mains supply) should be ordered in accordance with STORES, General, C 0018.

5. **Extensions.** At those exchanges where the conditions detailed in pars. 2 and 3 apply, units to be provided on extensions, may have their cabinets removed on site at the installation stage. The cabinet doors should be removed permanently from the existing units in the exchange.

6. **Exchange layouts.** The layouts should be in accordance with the relevant ES drawings listed in ACCOMMODATION, Sites & Buildings, B 3108.

7. **Removal of cabinet frameworks.** The following details are given to assist in dismantling and the removal of cabinet frameworks from the units. As the construction of the cabinet frameworks may vary in minor details, some of the points mentioned may not apply, or may differ slightly from the details given.

8. *Unit feet.* It will be necessary to remove the unit feet from the base of the unit to permit the removal of the framework. After removing the framework, the feet should be re-fixed to the bottom members of the rack framework. At this stage, two metal packing pieces (11 in. x 2 in. x  $\frac{3}{8}$  in.) should be fitted between the bottom rack members and the feet. These packing pieces compensate for the space previously occupied by the cabinet and will line up the fixing holes in the rack uprights, when a unit without a cabinet is installed adjacent to a unit in a cabinet. This will not be necessary on units which are delivered without cabinets.

9. *Cable inlet.* It may be necessary to remove the fixing screws on the cable inlet surround before the side panels of the cabinet can be dismantled from the framework.

10. *'A' and 'B' Units.* The cable bearers and the metal sheet on which they are mounted should be removed from the 'A' and 'B' units.

11. *Installation of units without cabinets.* The installation of units without cabinets will necessitate changes in the normal procedure and some guidance is given as follows:-

(a) *Cabling.* Cable racking should be fitted on the top of the tie bars; normal open type cable racking should be used.

(b) *Spacing block between units.* The metal spacing block, normally fitted between units, will not be used when installing units without cabinets. Where these units are being installed, a suitable length of conduit should be used, as a spacing collar, on the top fixing bolt on the side of the units, to give a rigid fixing.

(c) *Labelling and marking.* The unit code label should be removed from the cabinet during dismantling on site, and re-fixed at the left-hand side of the top horizontal angle-iron on the front of the rack.

(i) The manufacturer's code marking should be signwritten at the right-hand side of the code label.

(ii) The unit serial-number label should be re-fixed on the left-hand upright of the unit, on the inside angle and as near the top as possible.

(iii) The unit number marking for 'A' and 'B' units should be signwritten on the horizontal surface on the top of the left-hand bottom rack member above the foot supporting the rack. For the 'C' units, the code number marking should be signwritten on the horizontal surface of the left-hand foot.

(d) *Guard rails.* Guard rails, constructed of angle iron ( $\frac{1}{2}$  in. x  $\frac{1}{2}$  in. x  $\frac{1}{8}$  in.) should be fitted at right angles to the feet, along the line of the units at the front and back of the suites. The guard rails should be fitted to the units by suitable bolts and nuts.

(e) *Service telephone.* The following stores should be obtained for the provision of the service telephone:-

Mounting, TP 574  
Telephone No. 246  
Bell-set, No. 37  
Mounting, Dial, Auto., No. 3  
Block, Terminal, No. 20/8

The apparatus should be fitted to the mounting as shown on Drg. TP 574 and wired to Dgm. M4299. The Mounting, Dial, Auto., No. 3 should be used in place of the Mounting, Dial, Auto., No. 16 shown on this diagram.

12. On new installations, where one 'C' unit only is being installed, the Mounting TP 574 should be fixed, at a convenient height, on the rack upright on the end of the 'C' unit, using the special bracket provided. When more than one 'C' unit is being installed, the Mounting TP 574 should be fitted on the second 'C' unit in the space normally reserved for the Panel, Test, AT 5001.

13. When extending an exchange, where a 'C' unit without a cabinet is being installed adjacent to a 'C' unit with a cabinet, the existing Telephone No. 232 should be changed to the new apparatus listed in par. 11(e) and fitted as detailed in par. 12. Where the service telephone is fitted to the rack upright and a second 'C' unit is being installed under an extension, the telephone should be transferred to the second 'C' unit.

14. *Auxiliary Bell for the Service Telephone.* A Bell No. 64D should be fitted on the rear of the Mounting TP 574.

15. *Press button for supervisory lamps.* The press button switch for the supervisory lamps should be mounted in the centre, on the metal sheet which carries the hinges for the Panel, Test, AT 5001 on the 'C' unit.

16. *Disposal of recovered doors, cabinet frameworks, etc.* Instructions should be sought from the Eng. Dept. (E1/4).

17. *Code of units.* The code of the units will remain unchanged. When units in cabinets are required, they should be requisitioned as Units, Automatic, No. 13 .... Enclosed.

#### PROVISION OF 2nd SELECTORS

18. *Methods to be used.* It is proposed to provide 2nd selectors for junction routes at those exchanges where the number of junction routes would otherwise prevent the extension of the exchange to 800 lines. Access to these 2nd selectors will be provided from level 8 of the 1st selectors.

A standard scheme is being prepared in which selectors (to a new diagram) will be accommodated in a new 'E' unit and the selectors and units should be available in 1958/59.

An interim scheme, however, has been prepared, in which the present group selectors will be used and accommodated in the existing, or in an additional 'B' unit. The Traffic Division should be advised if the interim scheme is adopted as there will be coin-box barring limitations. The details of two cabling methods to be adopted for this scheme are given in the following paragraphs.

19. *Cabling method No. 1.* This method should be adopted for those exchanges whose cabling arrangements on 'C' units are in accordance with I.D.F. layout Dwg. TP 519/0.

(a) *1st Selector Levels 7, 8, 9 and 10.* At present, the multiple outlets from units A3 and A4 to the 'C' unit are cabled separately from units A1 and A2. A local tie cable should be provided to connect the multiple outlets between units A2 and A3, to give a continuous multiple over the four 'A' units. The cabling from unit A3 to the 'C' unit should be recovered, thus releasing the connexion strips on vertical No. 2, bottom position and vertical No. 3, top position on the I.D.F. local side.

(b) *1st Selector Levels 2 and 3.* At present, the multiple outlets are cabled via the 'C' unit to the final selectors. These outlets should be re-cabled direct from the 'A' unit multiple connexion strip to the final selector shelf jacks, in accordance with Dgms. ES 5902 Fig. 4 and ES 5907 Fig. 4, and the cabling between

the final selectors "U" points and the 'C' unit recovered. This will release a connexion strip on vertical No. 2, top position on the I.D.F. mult. side.

(c) *Cabling of 2nd selectors fitted on 'B' units.* The 2nd selectors should be provided on a five-bank shelf basis. The shelves should be obtained from either of the two manufacturers as, "Shelf Assembly, (Mounting 5 selectors type U.A.X. No.13)" and, in addition, quoting the manufacturer's code as follows:-

Messrs. A.T.E.	L 242636
Messrs. G.E.C.	701064

Consideration is now being given to the provision of a 10-bank multiple (i.e. two shelves of 5 banks each, terminated on one set of connexion strips) for 2nd selectors and the details will be made available at a later date.

(d) The selector shelf jacks should be cabled to the 'C' unit, I.D.F. mult. side, vertical No. 2, top position using a Strip, Connexion, No. 22A (4 x 20).

(e) The selector multiple should be cabled to the 'C' unit, I.D.F. local side, vertical No. 2, bottom position and vertical No. 3, top position using two Strips, Connexion, No. 62 (8 x 20).

**20. Cabling method No. 2.** This method should be adopted for those exchanges whose cabling arrangements on 'C' units are in accordance with I.D.F. layout Dwg. TP 519/1.

(a) *Cabling of 2nd selectors.* The selector shelves should be provided as described in par. 19(c).

(b) The selector shelf jacks should be cabled to the 'C' unit, I.D.F. mult. side, vertical No. 4, middle position using a Strip, Connexion, No. 22A (4 x 20).

(c) The selector multiple should be cabled to the 'C' unit, I.D.F. local side, vertical No. 2, bottom two positions using two Strips, Connexion, No. 62 (8 x 20).

**21. Determination of selector requirements.** The traffic capacity table to be used for determining the number of 2nd selectors is Table C 10 (for a grade of service of 0.005) in Traffic, B 3510.

**22. Gradings for Level 8 of 1st selectors.** The present cabling arrangements for U.A.X. No. 13 (see G 3553) will permit a two-group grading with an upper limit of 16 selectors. Re-cabling of the units should be made if a four-group grading is required. The grading design should be based on the information given in Traffic, B 3210, *et seq.*

**23. Jumpering of 2nd selectors.** The 1st selector outlets from Level 8 should be connected to the 2nd selectors via jumpers on the I.D.F. Similarly, the outlets from the 2nd selector levels should be connected to the outgoing junction strip-mounted sets via jumpers on the I.D.F.

References:- G 3530, G 3553  
(E1/4) Traffic, B 3510, B 3210 *et seq.*  
ACCOMMODATION, Sites & Buildings, A 3108, B 3108  
POWER, Heating, B 3101  
STORES, General, C 0016

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