POWER SWITCHBOARD EQUIPMENT EP13/3 SERIES

Introduction

These switchboards are used at u.h.f. relay stations. They are arranged to control and distribute 415-volt three-phase and neutral supplies to two u.h.f. installations, and to provide 240-volt single-phase and neutral supplies for general services. Outgoing supplies are controlled by miniature moulded-case circuit-breakers.

The versions of the switchboard differ slightly in circuit arrangement and switchgear. The actual equipments are not necessarily marked with their identifying codes.

General Description EP13/3

Fig. 1 shows a typical circuit. The description below is followed by details of the variants.

The switchboard has distribution apparatus mounted on front panels, and is approximately 7ft. 6in. high and 2ft. 6in. wide. It is installed with the rear against a wall, and connections for external equipment are made in a terminal chamber at the top of the board.

An incoming 415-volt three-phase and neutral feeder enters the board from floor level and is connected to vertical busbars on the right-hand side. The 415-volt supplies to two external automatic voltage regulators are each controlled by a switch-and-fuse combination. The switches, labelled *Technical Supplies No.1* and *Technical Supplies No.2* are mounted one above the other on the left-hand side of the board. The fuses associated with each switch are inside the operating mechanism compartment. Access to this is obtained by turning the switch to *Off* and turning the key in a lock on the door of the compartment. NOTE: THE MAINS SUPPLY TO THE SWITCH HAS NOT BEEN ISOLATED . The key is used also to unlock the door of an associated a.v.r. bypass and isolating link-box; for details see under the equipment-code heading BX3/4. The two a.v.r. outputs are made to separate sets of subsidiary connections in the board.

Placed to the right of each Technical Supplies switch are a multi-pole circuit-breaker and a group of four single-pole breakers. They control supplies from the subsidiary connections, with the multi-pole type in a 415-volt supply to one of the amplifiers and the others connected in 240-volt supplies for various technical equipments.

Below the Technical Supplies No. 2 switch there is a 60-ampere circuit-breaker, labelled *General Services*, in an unregulated 415-volt feed to a separate set of busbars. From these busbars 415-volt supplies are taken via 15-ampere breakers to heat exchangers associated with an amplifier cooling system. Four 240-volt supplies controlled by circuit-breakers are provided for lighting and general services.

All single-pole circuit-breakers can be suited to individual circuit requirements by choosing appropriately from a series of units covering the range 5-30 amperes.

Variations

EP13/3A

These employ only one a.v.r.; the two sets of subsidiary connections in the switchboard are joined together as indicated by dashed lines in Fig. 1.

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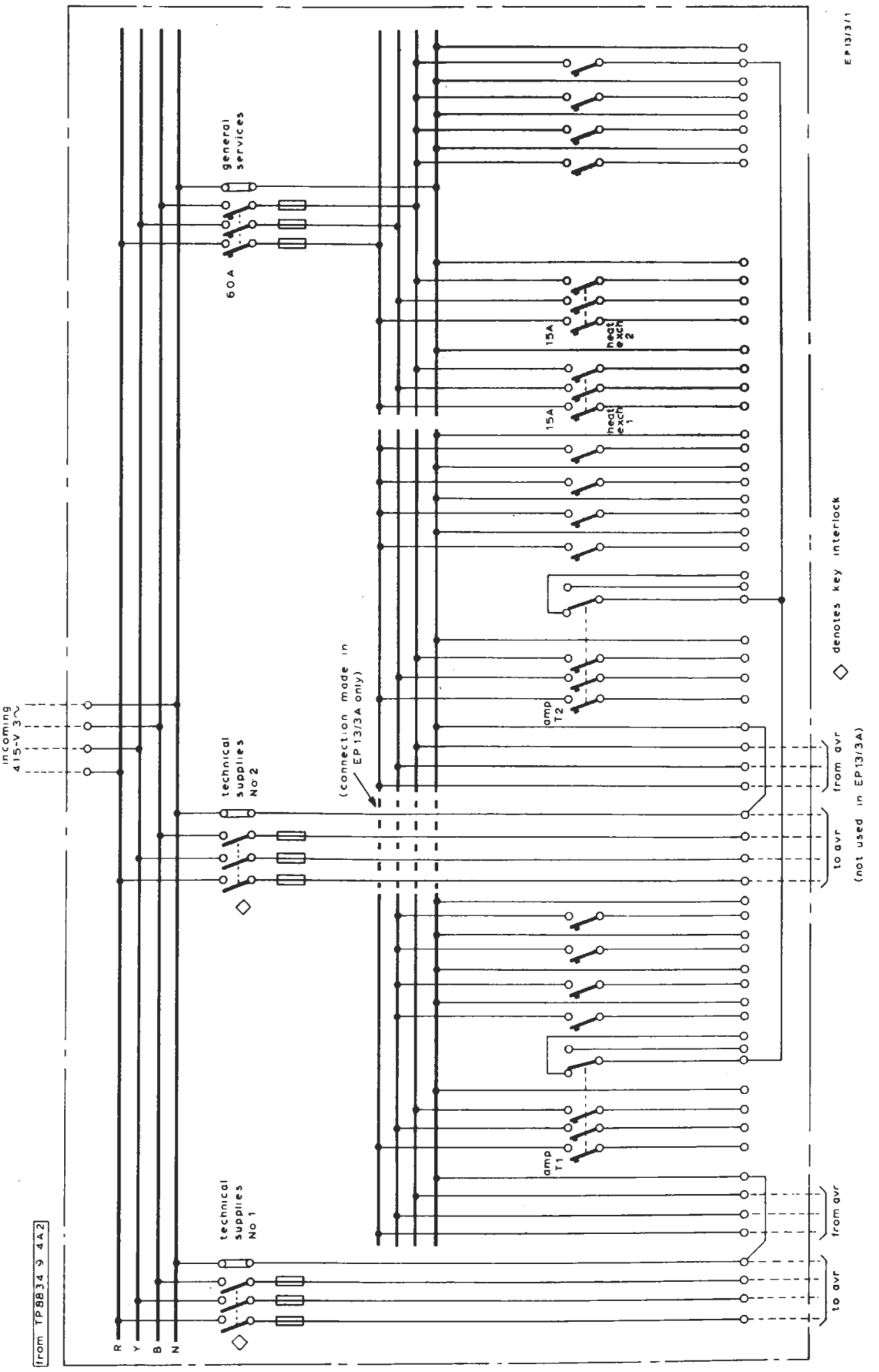

Fig. 1. Typical Circuit of the EP13/3 and 3A

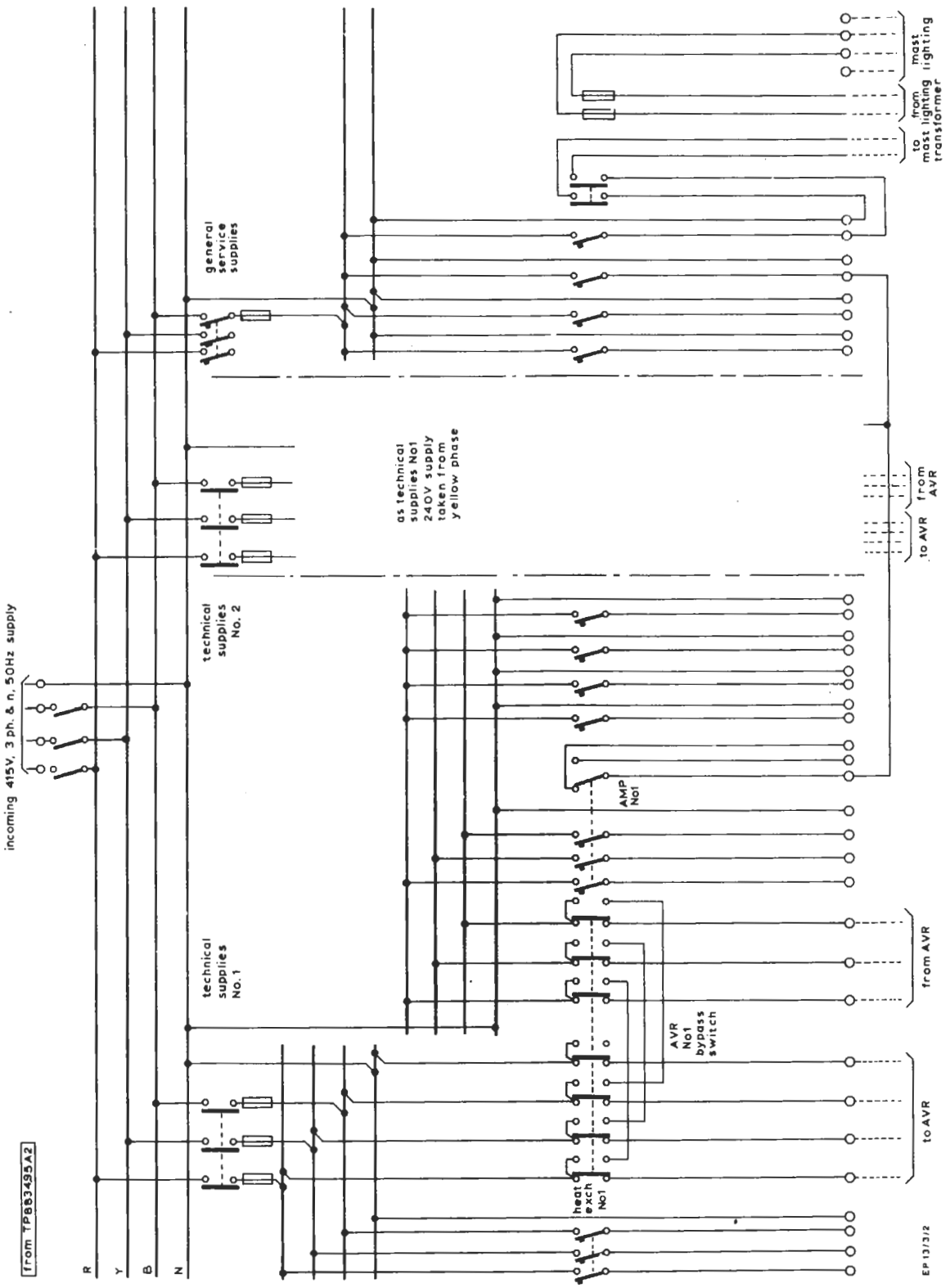

Fig. 2. Typical Circuit of the EP13/3B

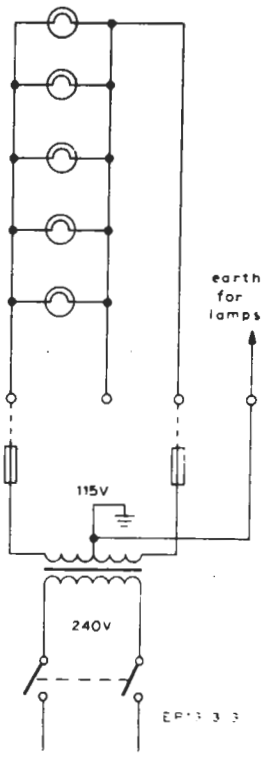

Fig. 3. Mast Lighting Circuit

EP13/3B

A *Main Isolator* is provided in the EP13/3B and the a.v.r. bypass arrangement is by switches mounted on the right-hand side of the switchboard. The circuit diagram is shown in Fig. 2. The 415-volt supplies for the heat exchangers are taken from the unregulated Technical Supplies busbars. Fuses for the Technical Supplies are mounted on the right-hand side of the front panel; the appropriate Technical Supplies switch must be at *Off* when the fuses are withdrawn or replaced.

EP13/3B installations which require mast lighting have a 240/115-volt transformer with an earthed centre-tapped secondary. The mast-lighting isolator and fuses are mounted below the Technical Supplies isolators. The mast lighting isolator can be locked in the off position, and the key can then be removed to give interlocked access to the mast-lighting transformer.

The arrangement of the wiring for mast lighting is illustrated in Fig. 3. This provides a distribution system with an equal voltage-drop feed to all lamps.

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