GROUP H1 RADIO AND RADAR SUPPLIES (Code RT, DM, IF and RS)

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

Introduction

1. This group contains a brief description of the supply circuits for the radio and radar installations. The servicing information required to maintain the equipment in an efficient condition, together with routing and theoretical diagrams of the circuits, is also included. For a general description of the electrical system of the aircraft as a whole, including system wiring details, referencing of components and general servicing, together with the location and removal of the major components, reference should be made to groups A1, A2 and A3 of this chapter. Detailed information on the standard components used will be found in the appropriate volumes of A.P.4343 series, while a full description of the radio and radar installations is contained in Sect. 6, Chap. 1 and 2.

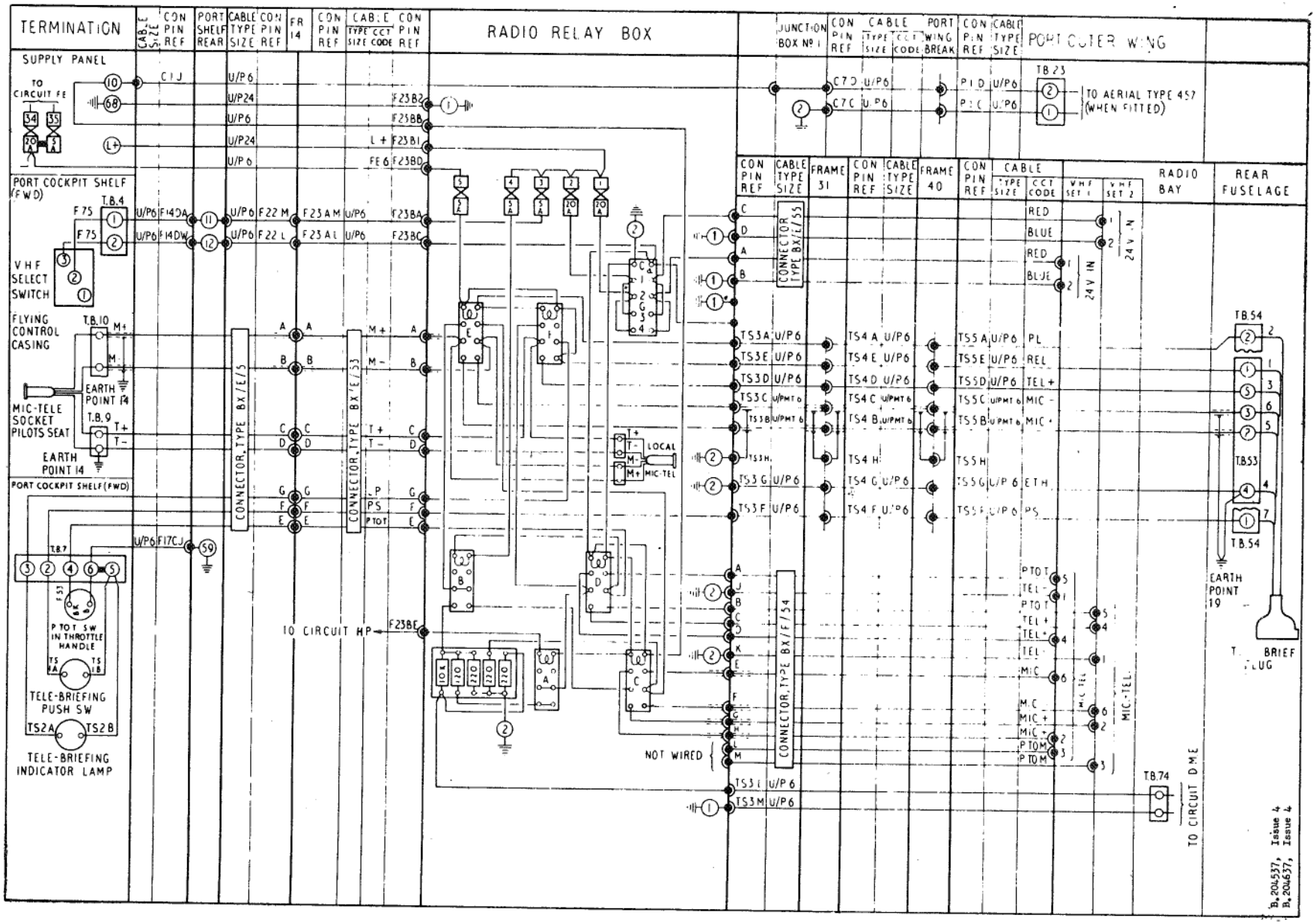


Fig. 1. A.R.I. 18064 radio supply (routing)

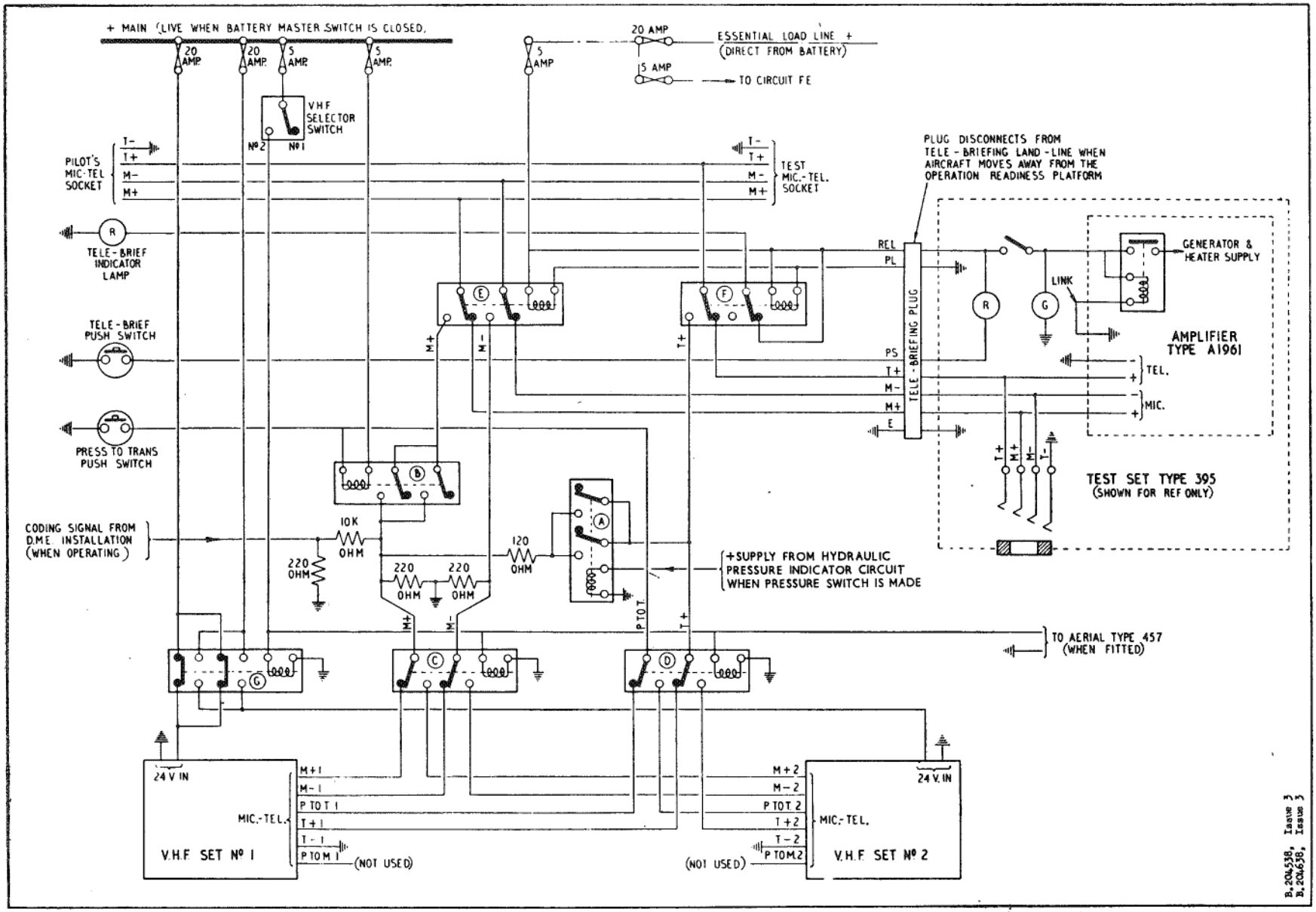


Fig. 2. A.R.I. 18064 Radio supply (theoretical)

DESCRIPTION

Radio and radar supplies

2. Each radio and radar installation is separately fused and obtains a supply from the supply panel in the radio bay. The supply for the A.R.I.18064 twin V.H.F. installation is normally connected to No. 1 transmitter-receiver, via a fuse in the V.H.F. relay box attached to the lower longeron below the radio mounting structure, but the supply may be transferred from No. 1 to No. 2 transmitter-receiver, via another fuse in this box, by the energizing of a relay G controlled by a set selector switch. The relay is mounted in the V.H.F. relay box, while the switch is on the cockpit port shelf. Operation of the set selector switch also energizes relays C and D in the V.H.F. relay box to transfer the press-to-transmit, microphone and telephones from No. 1 to No. 2 set.

3. The press-to-transmit switch is incorporated in the throttle lever and, when depressed, makes the earth return for the microphone and press-to-transmit relay B, which is also mounted in the V.H.F. relay box and supplied from a fuse in this box. The audio warning relay A, which is also mounted in the V.H.F. relay box, is supplied and controlled by the hydraulic pressure indicator circuit, as described in Group D2 of this chapter. The tele-briefing relays E and F are also mounted in the relay box and supplied from a fuse in this box, the relays being energized by the insertion of the tele-briefing plug into its socket at the tail of the aircraft. A lamp, on the cockpit port shelf, indicates when the tele-briefing plug is inserted. A tele-briefing push-switch, adjacent to this lamp, should be pressed in order to talk over the system.

4. The A.R.I.5849 D.M.E. and the A.R.I.5131 I.F.F. installations each obtain their supply from the supply panel. The D.M.E. installation is protected by a circuit breaker, the I.F.F. installation being supplied via a fuse. As there is no electrical switching, reference to the routing and theoretical diagrams given in fig. 3 will make further explanation unnecessary.

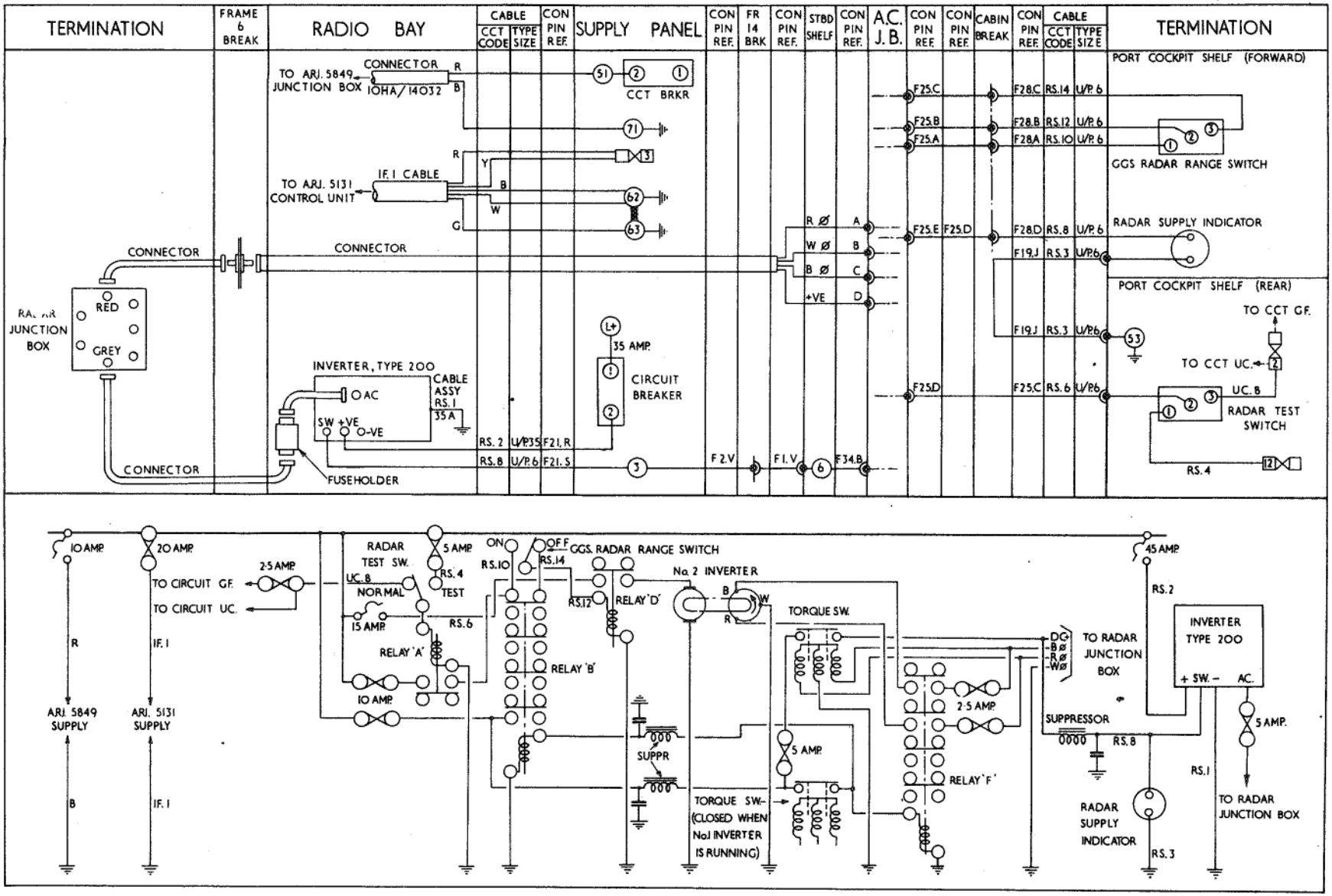
5. The supply for the A.R.I.5820 radar ranging installation is obtained from No. 2 inverter in the a.c. supplies circuit, as described in Group E1 of this chapter and from a Type 200 inverter situated in the radio bay. The supply to the Type 200 inverter is taken from a circuit breaker on the supply panel, via the contacts of a relay within the inverter. This relay is energized by the control and output of No. 2 flight instrument inverter and, when energized, completes the supply from the circuit breaker, thus causing the Type 200 inverter to commence operation, providing that the A.R.I.5820 installations is switched on. The inverter is protected from an overload by a 5-amp fuse which is mounted in a fuseholder located in the radio bay on the forward face of the port fuel tank door on frame 19.

SERVICING

6. For general servicing of the electrical system as a whole, reference should be made to Group A1 of this chapter. Apart from keeping all the components clean and carrying out the standard routine tests of security and serviceability as described in the appropriate volumes of A.P.4343 series, no further servicing should be necessary. Should a fault be reported in either the radio or radar installations, the supply circuit should be checked before any other tests are made to ensure that the failure is not located in this circuit. Ensure that the connectors are correctly assembled and test the voltage, both on and off load.

REMOVAL AND ASSEMBLY

7. Once access has been obtained, the removal and assembly of the electrical components forming the radio and radar supply circuit should present no unusual difficulties. The removal of the Type 200 inverter is fully described under the removal of the gun-firing panel in Group A2 of this chapter and the removal of the V.H.F. relay box, which carries the majority of the equipment, is covered in Sect. 6, Chap. 1 of this volume.



(A.L. 34, Aug. 56)

FIG. 3. ARI. 5849, ARI. 5131, AND ARI. 5820 SUPPLY (ROUTING AND THEORETICAL)

RESTRICTED