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**USER HANDBOOK
FOR
CLANSMAN
RADIO INSTALLATIONS
IN
ARMoured PERSONNEL CARRIER
FV 432**

**PART 5
STATION RADIO UK/PRC 320**

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LIST OF ASSOCIATED PUBLICATIONS

COMPLETE EQUIPMENT SCHEDULES

Station Kit Radio Station UK/PRC 320 Kit No 1	CES No 43740
Installation Kit PRC 320 in FV 432	CES No 44834
Installation Kit SURF 25W in FV 432	CES No 44825

ELECTRICAL AND MECHANICAL ENGINEERING REGULATIONS

PRC 320	TELS F 590
CRSL/R	TELS F 590
IBHA	TELS L 800
DCCU	TELS K 010
SURF 25W	TELS H 590
Radio Installations in FV 432	COMMS INST H 215 series

USER HANDBOOKS

User Handbook for Radio Station UK/PRC 320	Army Code No 61123
Reference Handbook for Clansman Radio and Ancillary Equipment	Army Code No 61004
Clansman Radio Control Harness	Army Code No 61172

STATION RADIO UK/PRC 320

INTRODUCTION

101. This part of the FV 432 handbook describes the Radio Station UK/PRC 320, which is rack mounted on the left hand sill, together with the location of the associated equipment required in all modes of operation. The radio set is described in the User Handbook for Radio Station UK/PRC 320, Army Code No 61123, which includes full operating and servicing instructions.

102. Descriptions of remote control and rebroadcasting are given in Part 2 for Clansman harness and Part 3 for Larkspur harness.

STATION RADIO UK/PRC 320

103. The PRC 320 is a lightweight manpack HF(SSB) transmitter/receiver, adapted for use in vehicles, operating in the 2 to 30MHz range in 100Hz steps.

104. The block diagram of the installation (Figs 1 and 2) shows the connexions between the set and the associated equipment. The 28V d.c. supply from the

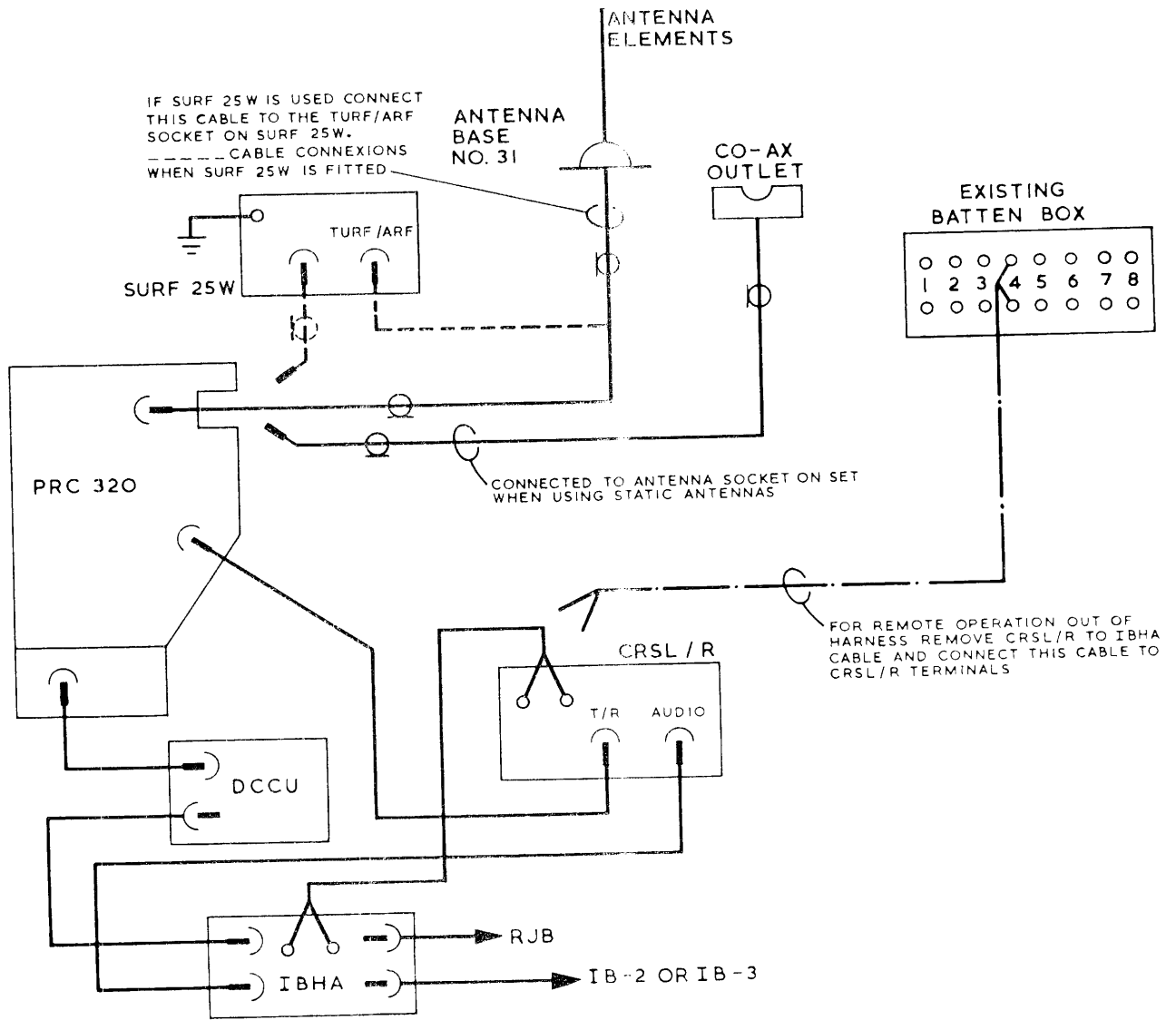


Fig 1 Block Diagram of PRC 320 Installation in Clansman Harness

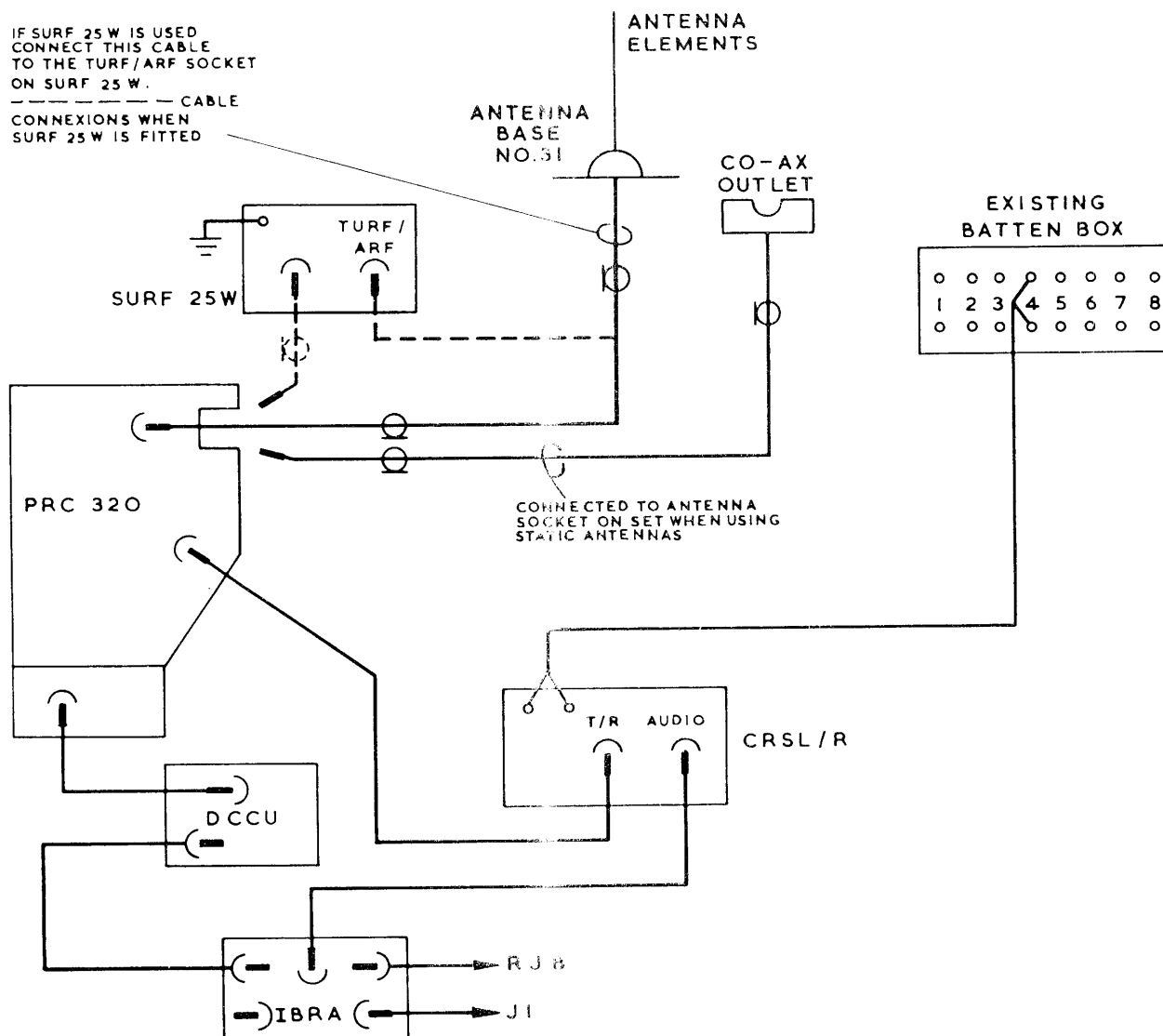


Fig 2 Block Diagram of PRC 320 Installation in Larkspur Harness

Radio Junction Box (RJB) is connected to the DC Charging Unit (DCCU) via an Interconnecting Box Harness Adaptor (IBHA) when the set is operated in a Clansman harness or via an Interconnecting Box Radio Adaptor (IBRA) when operated in a Larkspur harness. Similarly, the Control Radio Set Local/Remote (CRSL/R) is connected via an IBHA into a Clansman harness (IB-2 or IB-3) or via an IBRA into a Larkspur harness (J1).

ASSOCIATED EQUIPMENT

105. The DCCU interfaces the RJB and radio set, providing a means of float charging the NICAD manpack battery. A spare NICAD radio battery is mounted under the radio set.

106. The CRSL/R provides remote operation facilities via connexions to the roof mounted batten box. Call facilities are provided.

107. When operating a UK/PRC in a Clansman harness an Interconnecting Box Harness Adaptor (IBHA) is required to provide control and rebroadcast facilities through the harness as if the manpack radio was a vehicle radio.

An IBRA (switched to PRC) provides this facility when the radio set is operated in a Larkspur harness.

108. A Selective Unit Radio Frequency (SURF) 25W is used to reduce mutual interference when two HF sets are installed and operated in close proximity. The SURF 25W is supplied with a co-axial cable for connecting the SURF to the RT 320. The existing antenna base to RT 320 cable must be disconnected from the radio set and connected to the TURF/ARF socket on the SURF 25W.

LOCATION OF EQUIPMENT

109. The PRC 320 and associated equipment are mounted on a rack secured to a carrier plate fitted to the left hand sill. The radio set is secured in its carrying frame and mounted on the right hand side of the rack. The DCCU, CRSL/R and IBRA (or IBHA) are mounted on the left hand side of the rack as shown in Fig 3.

110. The SURF, when fitted, is secured on a shock-mounted tray screwed to the left hand side of the carrier plate on the left hand sill.

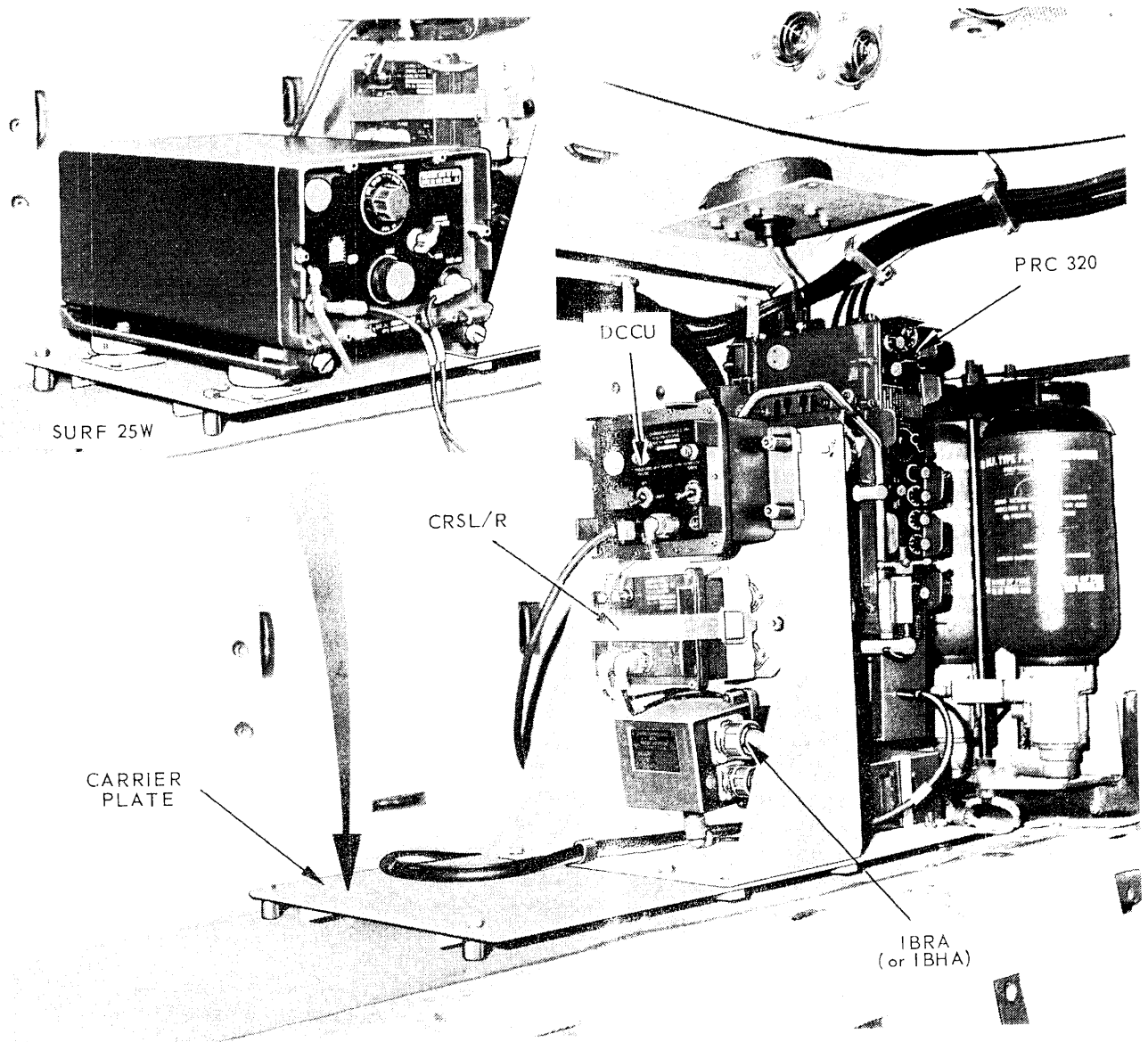


Fig 3 The PRC 320 and Associated Equipment on Left Hand Sill

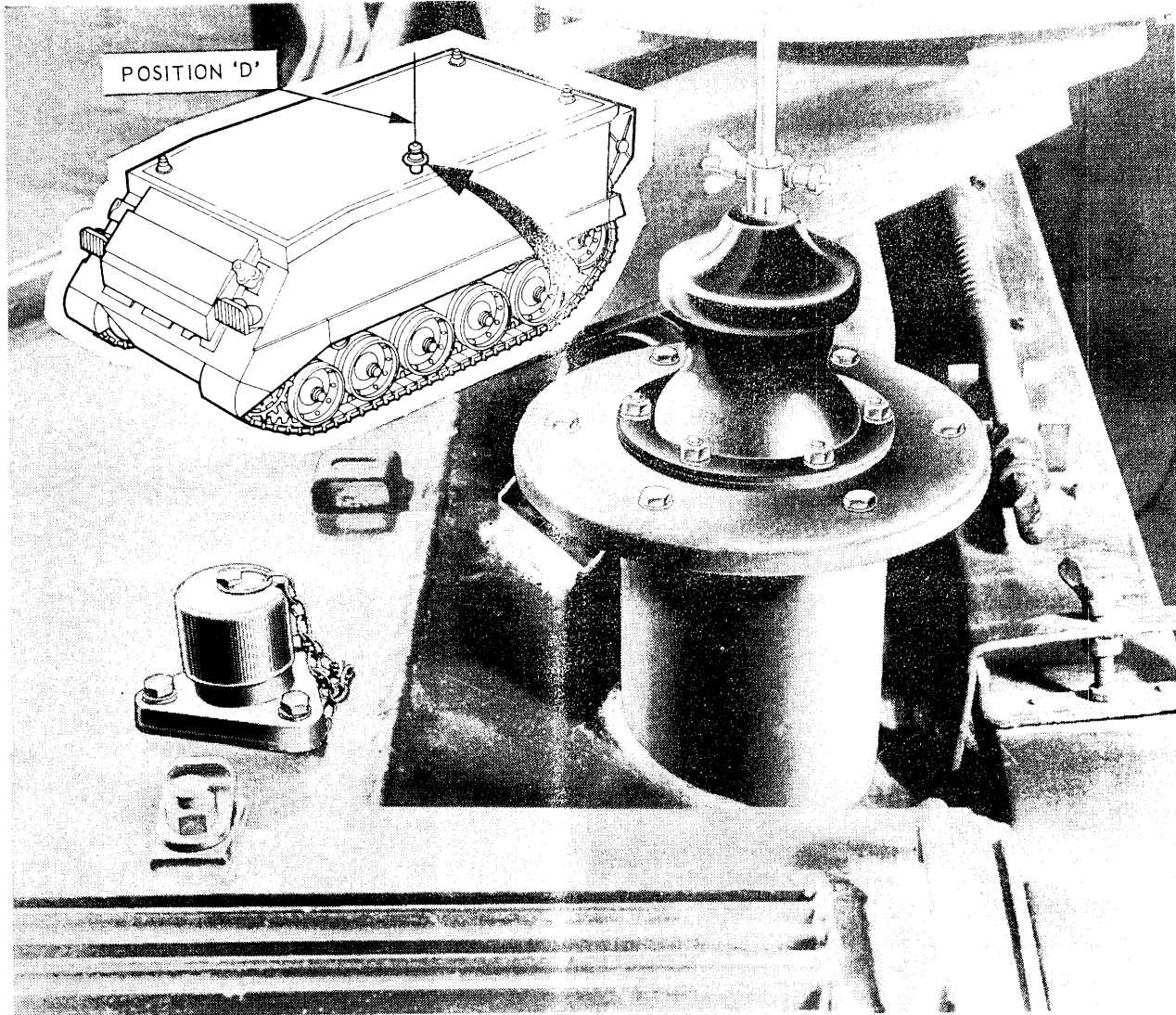


Fig 4 Installation of HF Antenna Base and Co-axial Outlet

ANTENNA SYSTEMS

111. The operating distance for the PRC 320 varies with the type of antenna used and therefore the type of propagation employed. The normal 3 metre, end fed, vehicle mounted, vertical whip antenna gives a groundwave range of approximately 30km. A skywave antenna, such as a half wave dipole, increases the operating range in excess of 320km but is much dependent upon the frequency used and the time of day.

112. The No 31 antenna base used for the PRC 320 installation is at position D (See Part 1, Fig 3). The antenna feeder is fitted with plastic beads and rubber clamps as spacers to keep the feeder away from the metal sides of the vehicle. Care must be taken to ensure that the beads and rubber clamps are positioned correctly in order to achieve this effect at that point where the feeder lies in close proximity to the vehicle walls.

113. Adjacent to the antenna base is a co-axial outlet (Fig 4) for the connexion of a variety of specially developed antenna systems which are available for use in a static role. To allow use of the co-axial outlet, the co-axial cable must be disconnected from the antenna socket on the PRC 320 and replaced by the co-axial cable to the co-axial outlet (see Figs 1 and 2).