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Army Code No
61737/7
(1978)
DSS (ARMY) 44/8/277

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

**PART 7
STATIONS RADIO UK / PRC 351 / 2**

Published under the authority of:-
**ASSISTANT CHIEF OF THE GENERAL STAFF
(OPERATIONAL REQUIREMENTS)
Ministry of Defence**

PUBLICATIONS AUTHORITY
QUALITY ASSURANCE DIRECTORATE (WEAPONS)
WOOLWICH LONDON
S.E.18 6ST.

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CONTENTS

Para.	Page
101. Introduction	1
103. Station Radio UK/PRC 351	1
105. Station Radio UK/PRC 352	3
106. Associated Equipment	3
109. Location of Equipment	4
112. Antenna Systems	6
115. Elevated Antennas	7

LIST OF ILLUSTRATIONS

Fig No	Page
1. Block Diagram of PRC 351 Installation in Clansman Harness	1
2. Block Diagram of PRC 351 Installation in Larkspur Harness	2
3. Block Diagram of PRC 352	3
4. View of PRC 351 and DCCU on Left Hand Side of Upper Tier of Radio Rack	4
5. View of PRC 352 on Left Hand Side of Upper Tier of Radio Rack	5
6. TUAAM and Initiate Box	6
7. Rear Right Hand VHF Antenna Base, Antenna and Co-axial Outlet	7

LIST OF ASSOCIATED PUBLICATIONS

COMPLETE EQUIPMENT SCHEDULES

Station Kit Radio Station UK/PRC 351 Kit No 1	CES No 43836
Station Kit Radio Station UK/PRC 352 Kit No 1 (Amplifier)	CES No 43837
Installation Kit PRC 351/352 in FV 432	CES No 44702
Installation Kit, Bracket Mounting, Vehicle Clip-in, for Radio Stations UK/PRC 351 and 352	CES No 43755

ELECTRICAL AND MECHANICAL ENGINEERING REGULATIONS

PRC 351/352	TELS F 580-589
IBHA	TELS L 800-809
DCCU	TELS K 010-019
Radio Installations in FV 432	COMMS INST H 215 series

USER HANDBOOKS

User Handbook for Radio Stations UK/PRC 351 and 352	Army Code No 61128
VHF Antennas for Clansman	Army Code No 61388
Reference Handbook for Clansman Radio and Ancillary Equipment	Army Code No 61004
Clansman Radio Control Harness	Army Code No 61172

STATIONS RADIO UK/PRC 351 AND 352

INTRODUCTION

101. This part of the FV 432 handbook describes the Radio Stations UK/PRC 351 and 352, either of which is rack mounted on the right hand forward sill, together with the location of the associated equipment required in all modes of operation. The radio sets are described in the User Handbook for Radio Stations UK/PRC 351 and 352, Army Code No 61128, 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 351

103. The PRC 351 is a lightweight manpack VHF transmitter/receiver, adapted for use in vehicles, operating in the 30 to 75.975MHz range and providing 1840 channels at 25kHz intervals.

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 is

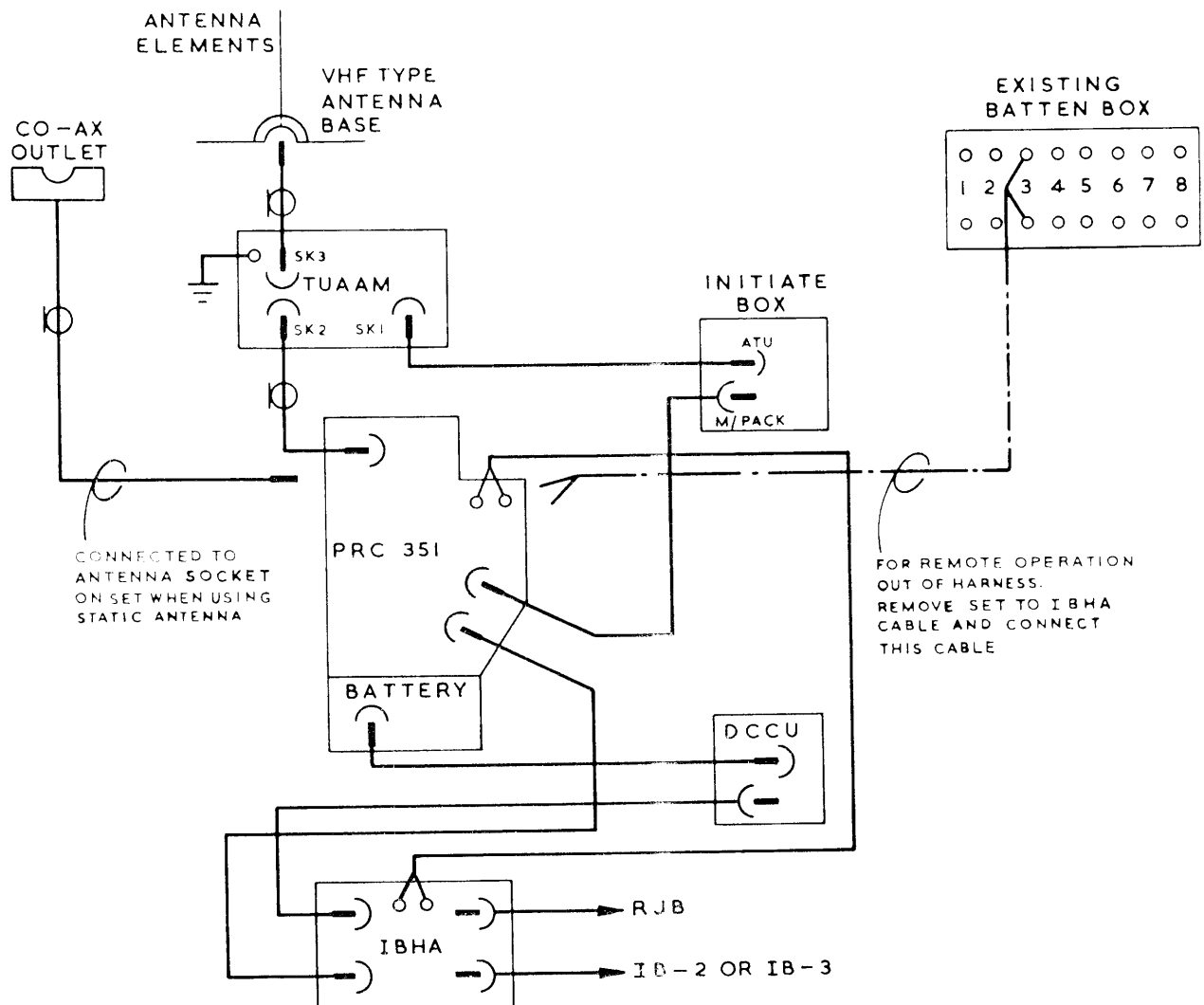


Fig 1 Block Diagram of PRC 351 Installation in CLANSMAN Harness

connected to the DC Charging Unit (DCCU) from the Radio Junction Box (RJB) either 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 radio set is connected via an IBHA into a Clansman harness (IB-2 or IB-3) or via an IBRA into a Larkspur harness (J1).

STATION RADIO UK/PRC 352

105. The PRC 352 consists of the PRC 351 plus an Amplifier R.F. 20W for increased power and range. The extra connexions for the Amplifier RF 20W are shown in Fig 3. All other connexions are as shown in Figs 1 or 2, depending on the type of harness used.

ASSOCIATED EQUIPMENT

106. All antenna tuning and matching functions over the frequency range are performed automatically by a Tuner Unit Automatic Antenna Matching (TUAAM). However, the initial tuning command is originated by an Initiate Box used in conjunction with the TUAAM.

107. The DCCU interfaces the RJB and radio set, providing a means of float charging the NICAD manpack battery.

108. 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.

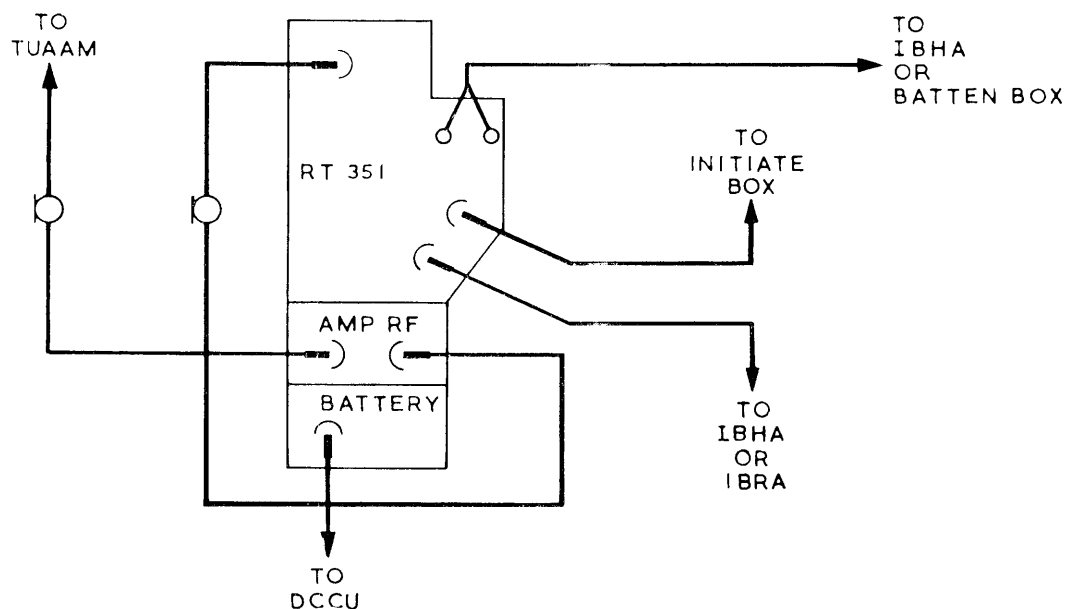


Fig 3 Block Diagram of PRC 352

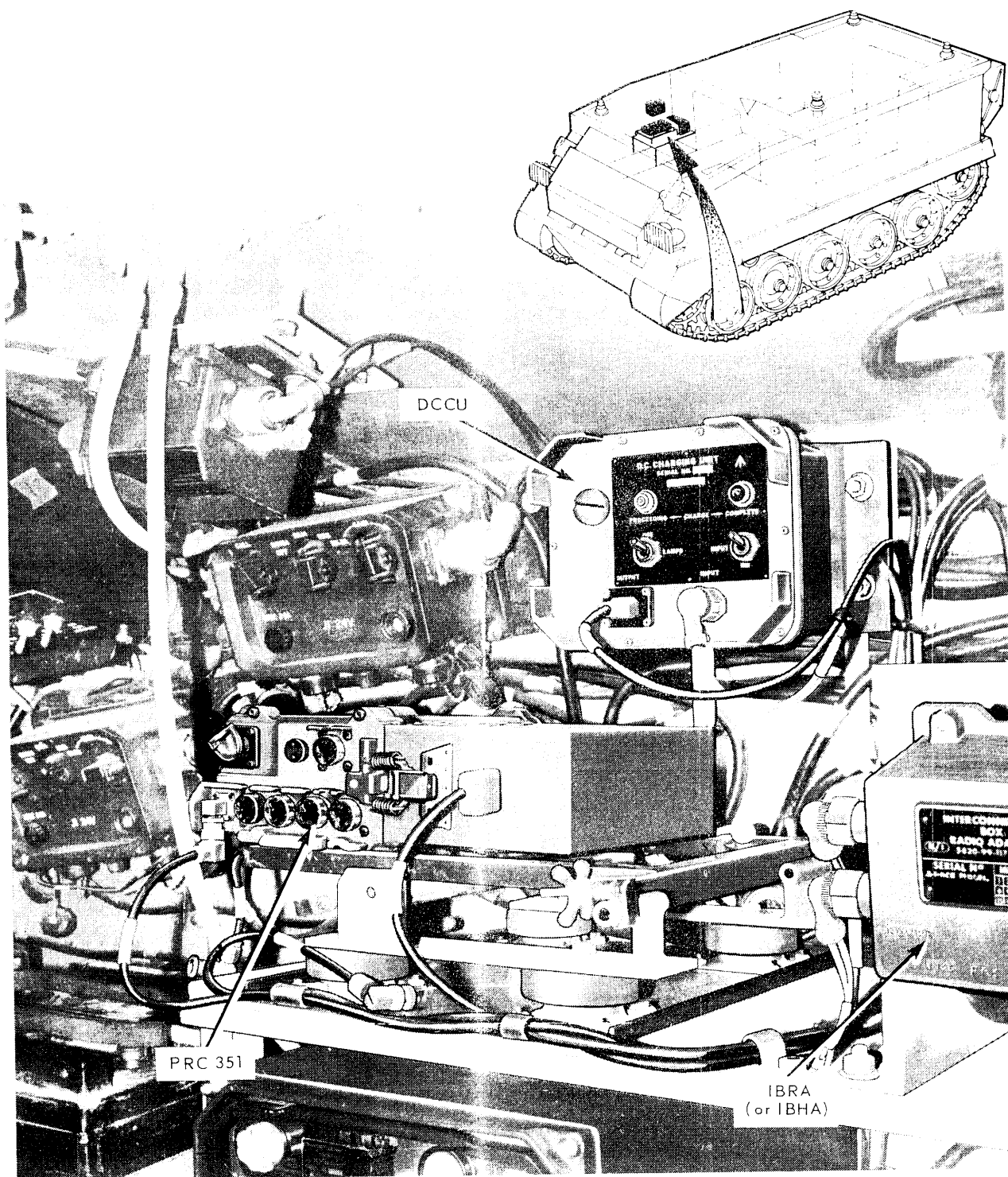


Fig 4 View of PRC 351 and DCCU on Left Hand Side of Upper Tier of Radio Rack

LOCATION OF EQUIPMENT

109. The PRC 351 or 352 is mounted in a carrying frame which is secured to the upper shelf (position C) of the two tier rack on the forward right hand sill (Figs 4 and 5).

110. The DCCU is mounted on the vehicle wall, above the two tier rack (Fig 4) and the IBRA (or IBHA) is secured on the right hand side of the upper shelf of the two tier rack.

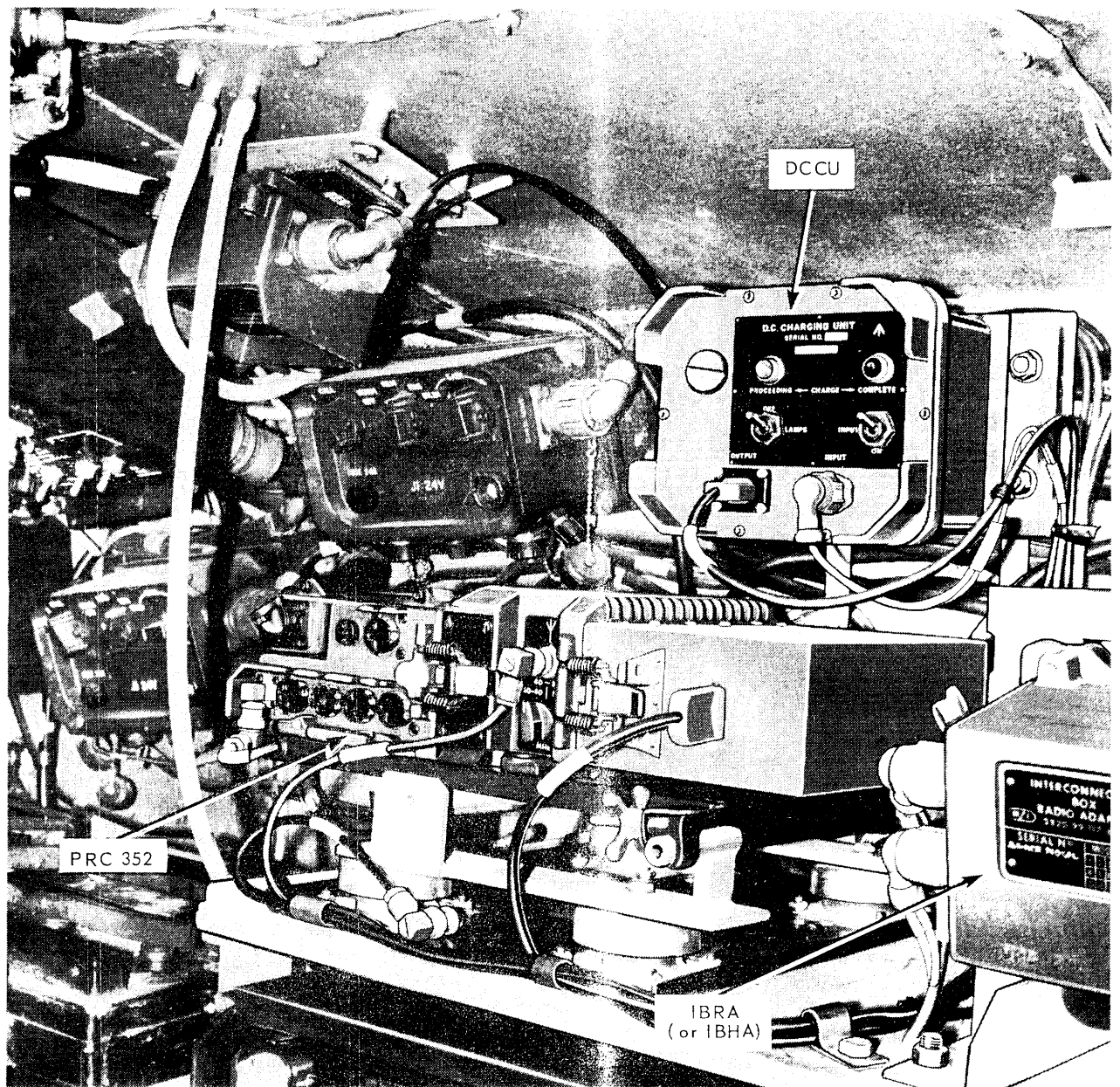


Fig 5 View of PRC 352 on Left Hand Side of
Upper Tier of Radio Rack

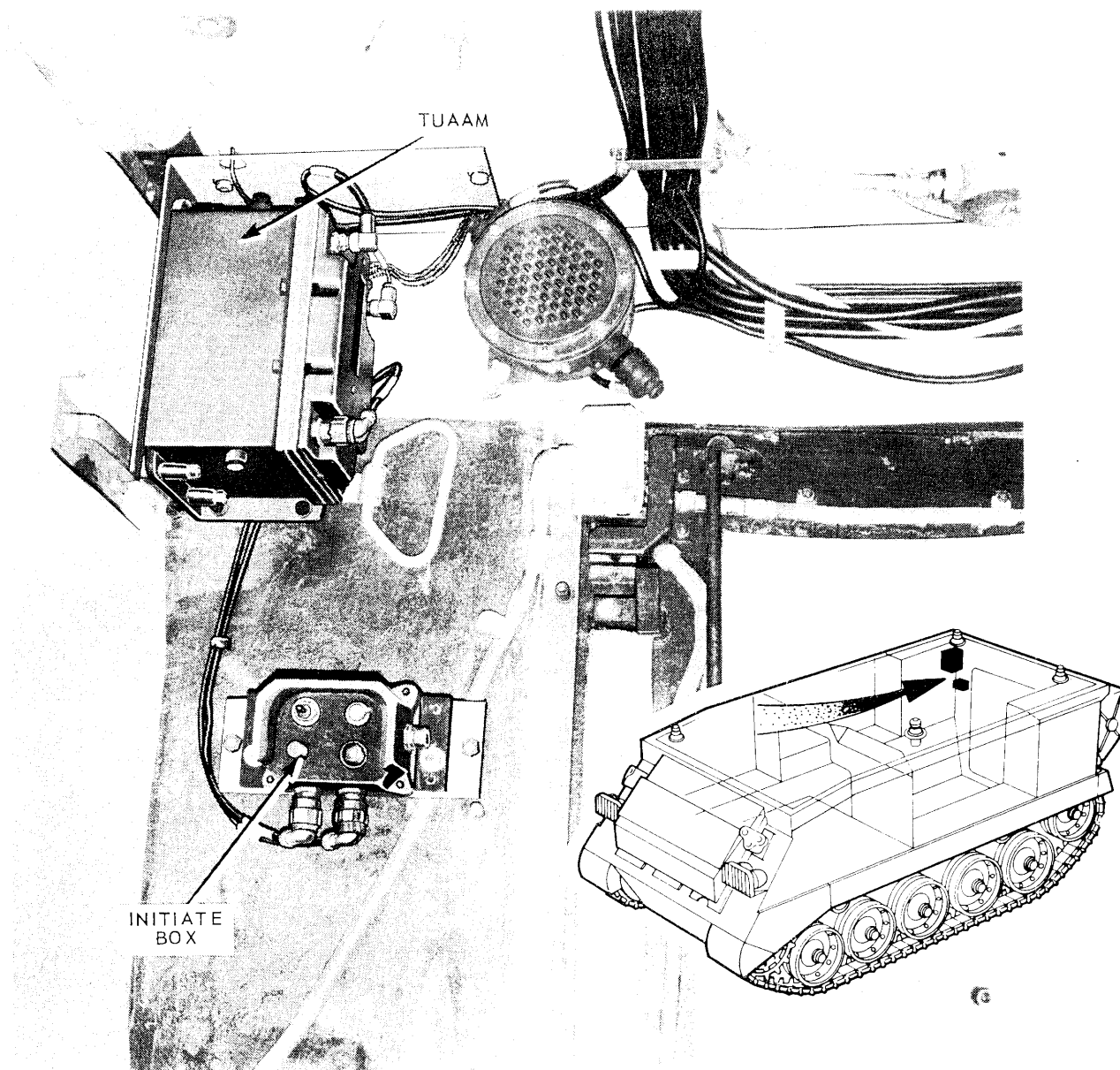


Fig 6 TUAAM and Initiate Box

111. The location of the TUAAM and Initiate Box is shown in Fig 6. For ease of fitment and withdrawal, the units are mounted on threaded studs and secured by nuts. The TUAAM is mounted on anti-vibration mountings consisting of rubber blocks and sleeves.

ANTENNA SYSTEMS

112. The maximum operating distances of the radio sets using the vehicle VHF antennas are:

PRC 351	-	20km
PRC 352	-	30km

113. The vehicle VHF antenna (Fig 7) comprises a 2 metre end fed whip antenna, consisting of two 1 metre screwed elements, and an adapted No 31 antenna base assembly which incorporates a matching transformer in the base. Use of other types of whip antennas may result in the Antenna Matching Units being unable to fulfil their task.

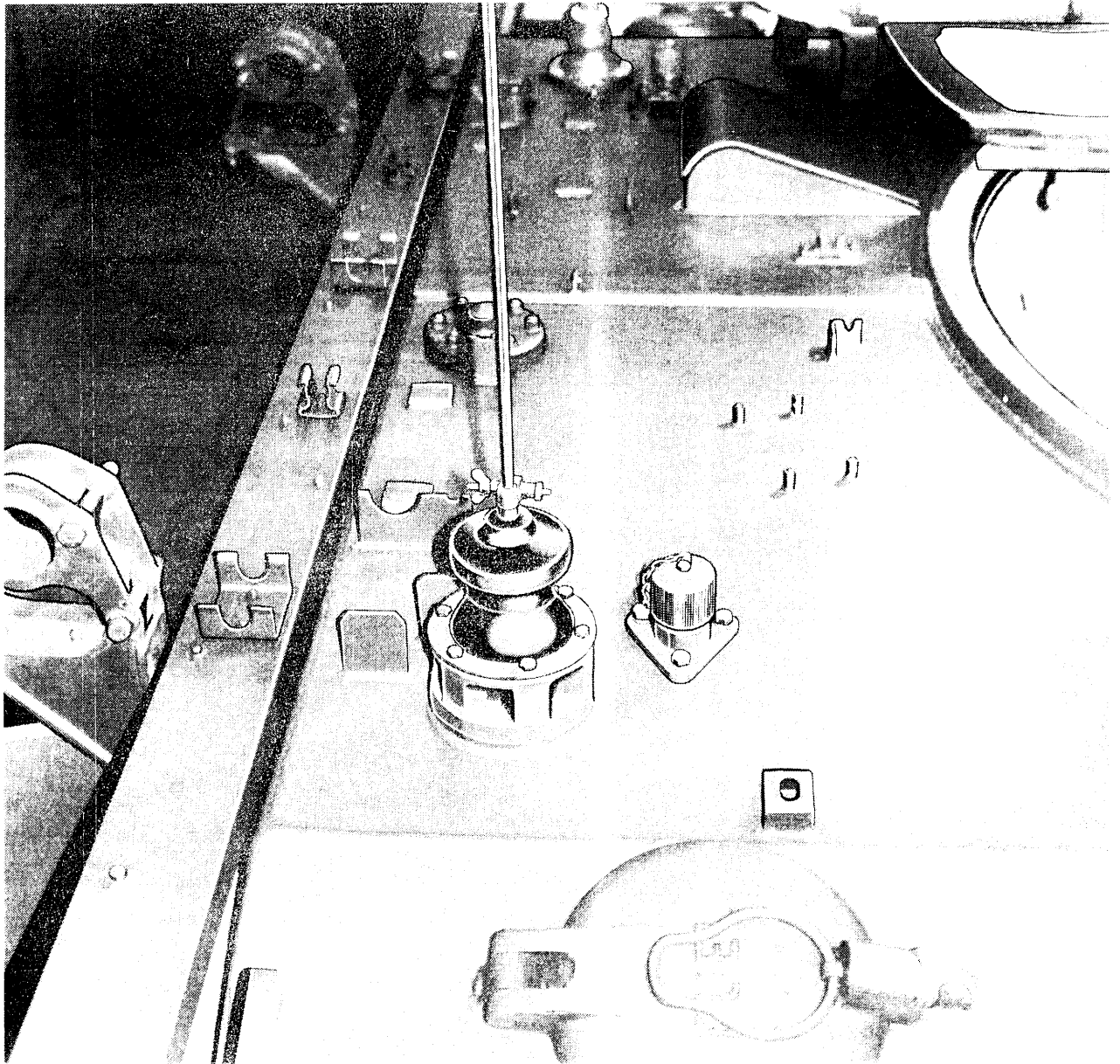


Fig 7 Rear Right Hand VHF Antenna Base, Antenna and Co-axial Outlet

114. Adjacent to the antenna base is a co-axial outlet (Fig 7) for the connexion of a variety of specially developed antenna systems, including elevated antennas, which are available for use in a static role. To allow use of the co-axial outlet, the RF OUTPUT harness must be disconnected from the PRC 351 or 352 and replaced by the cable to the co-axial outlet. See Figs 1 and 2.

ELEVATED ANTENNAS

115. To increase the range of the radio station an elevated antenna can be used in conjunction with a Telescopic Mast, which can be either ground mounted or fitted to the right hand rear position of a suitably modified vehicle.

116. The User Handbook for Clansman VHF Antennas, Army Code No 61388, contains further information on the range of VHF antennas that have been designed for use with the Clansman series of radios.