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ECHANICAL
NS (AUST)

ELECTRICAL AND MECHANICAL
ENGINEERING INSTRUCTIONS (AUST)

RESTRICTED ~~COMMUNICATIONS INSTALLATIONS~~
~~M-540~~

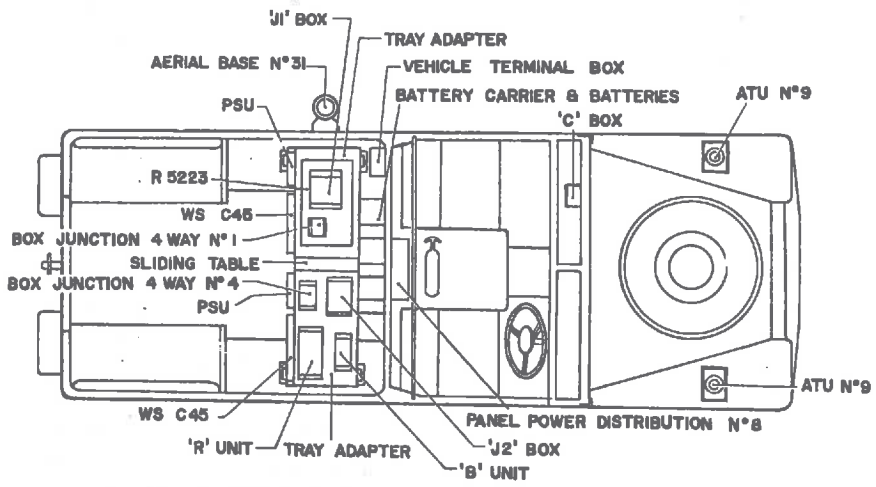
WIRELESS STATION C45/C45/R5223 IN TRUCK, UTILITY, 3/4 TON, GS, FFW LAND ROVER SERIES 2, 109 IN WB

DATA SUMMARY

1. The C45/C45 station is designed for use in the VHF band by RAA and R Aust Sigs. It can be operated while the vehicle is moving or stationary. Provision is made for dual or single station operation in the ground role. Independent receive facilities are provided by the general purpose R5223 receiver. A 1/2 ton trailer carries the charging set, aerial and cable laying gear, and other stowed items. A max crew of four will be carried.

2. The vehicle installation consists of a dual WS C45 arrangement with associated power supply units linked by items of B type control harness. The wireless equipment and control harness are mounted on a movable wooden table fitted across the near compartment of the vehicle. The Receiver R5223 is mounted in a special frame above the near side WS C45. A 'C' control unit is fitted on the dashboard. Four 12 V 75 Ah batteries, which are on charge while the engine is running, are placed below the table.

A charging set is provided for charging batteries when the stations are operating in the ground role. Rod aerials are provided for normal operation, and a 27 ft telescopic mast and aerials elevated 23 to 38 Mc/s may be used in static locations for extra range.


'J1' BOX
TRAY ADAPTER
AERIAL BASE N°31
VEHICLE TERMINAL BOX
PSU
BATTERY CARRIER & BATTERIES
ATU N°9
'C' BOX
R 5223
WS C45
BOX JUNCTION 4 WAY N°1
SLIDING TABLE
BOX JUNCTION 4 WAY N°4
PSU
ATU N°9
WS C45
PANEL POWER DISTRIBUTION N°8
'R' UNIT
TRAY ADAPTER
'J2' BOX
'B' UNIT

3. Send-receive facilities are available from either WS C45 from any position in the vehicle. Rebroadcasting between the two sets is possible, and a measure of remote control is provided by a remote control hand telephone and a length of D10 twisted cable. Provision is made for emergency operation of the wireless equipment in the event of failure of the control harness. HF reception of CW, MCW, and RT emissions is provided by the R5223 receiver which will function with any type of aerial.

4. *Physical Data:*

Weight (approx): Complete installation including batteries, but excluding items carried in the trailer — 800 lb

Batteries, each — 88 lb

5. *Frequency, Modulation Method, and Range:*

Frequency in Mc/s	*Modulation Method*	*Range (in miles)*
WS C45 23 Mc/s to 38 Mc/s (151 channels at 100 kc/s interval)	FM	LP 3 to 4 HP 10 to 15 (with 8 ft rod aerial)
WS R5223 1.5 Mc/s to 30.5 Mc/s (29 bands of 1 Mc/s)	AM	Unlimited (according to aerial)

6. *Power Requirements and Consumption:*

WS C45 (one)	24 V	dc	8.0 A (HP) 5.5 A (LP)
WS R5223	240 V ac, 110 V ac, 24 V dc		70 W (approx)

7. *Relevant Publications:*

WS C45	EMEI TELS H 510 to H 519
SUV No 12	EMEI TELS K 150 to K 159
R5223	EMEI TELS E 530 to E 539
Wireless control harness type 'B'	EMEI TELS L 780 to L 789
Vehicle modification	EMEI VEH G 027-1
Modification kit	CES (Aust) No 2995
Installation kit	CES (Aust) No 3255.

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