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STATION, RADIO, A41, NO. 1 AND 2

TECHNICAL HANDBOOK - DATA SUMMARY

*Note: This Issue 2, Pages 1 - 5, supersedes Issue 1, Pages 1 - 3, dated 18 Mar 60. The regulation has been revised throughout.*

NOMENCLATURE

Transmitter-receiver, radio, type A41, No 1, Part No 5820-99-949-0295

Transmitter-receiver, radio, type A41, No 2, Part No 5820-99-949-4820

Unit, rebroadcast, No 2

Unit, relay, TR, radio, A41/A42

Issue 2, 30 Jun 64

ROLE

Primary role: Manpack communication set) for forward  
Secondary role: Vehicle station ) areas in all  
User arm: Infantry ) theatres and  
conditions

DESCRIPTION

The set is a lightweight, miniature, portable, v.h.f., voice-modulated f.m., transmitter-receiver designed for forward area infantry manpack use. The trans-

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mitter has automatic frequency control; the receiver tuning may be checked against in-built crystal-controlled oscillators. The No 2 set also incorporates a muting circuit and 50kc/s calibration points, and differs in having individual miniature Bendix-Thorn (type 105) audio output connectors. The set, the rebroadcast unit and the relay unit are hermetically sealed in die-cast aluminium cases.

**PHYSICAL DATA**

|         | Set                               | Rebroadcast unit                 | Relay unit       |
|---------|-----------------------------------|----------------------------------|------------------|
| Weight: | 10.1/2 lb<br>excluding<br>battery | 7.3/4 lb<br>excluding<br>battery | 1.1/2 lb         |
| Height: | 17.7/8 in.                        | 4.9/16 in.                       | 4.1/4 in.        |
| Width:  | 9.3/4 in.                         | 8.3/4 in.                        | 3.3/4 in.<br>dia |
| Depth:  | 2.15/16 in.                       | 6.5/16 in.                       | -                |

**CLIMATIC RANGE**

Temperature: Normal range  
Pressure: May be used and stored at altitudes up to 5000 ft

**TRANSPORTATION DATA**

Air transportability: May be carried at altitudes up to 25,000 ft and parachute-dropped with standard dropping equipment.  
Watertight (battery compartments - splash-proof).  
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**PACKAGING DATA**

DEF 1234 BPS: 2/6 (easy-access pack)  
SPIS: WIR/9733

**OPERATIONAL DATA**

Facilities of stations include remote control and in some cases automatic rebroadcast switching when Rebroadcast unit A41/A42 is available.

The transmitter and receiver may be tuned accurately to any channel by reference to a crystal-controlled calibrator.

The set has similar operational characteristics to the Canadian set AN/PRC-510 and American set AN/PRC-10A.

**PERFORMANCE**

Normal range: 5 miles

**ELECTRICAL DATA**

**Carrier frequency**

38-65Mc/s: 171 channels spaced at 100kc/s intervals (No 1)  
341 channels spaced at 50kc/s intervals (No 2)

**Power levels**

Transmitter: Power output: 0.75W throughout frequency range  
Deviation: 15kc/s

Receiver: Signal/noise: 20dB for 1.25 $\mu$ V input with 15kc/s deviation at 1kc/s  
 A.F. output: 5mW at 1kc/s for 10 $\mu$ V input with standard modulation

ESSENTIAL ASSOCIATED EQUIPMENT  
 Antenna: 4 ft rod for manpack use  
 10 ft rod for ground station; Elevated for static use  
 Antenna matching unit: Coupler, antenna, 50 $\Omega$  impedance, type A, Z1/ZA 53400

POWER REQUIREMENTS AND CONSUMPTION

|                                 | Set   |       |      |            | Rebroadcast unit                            |              |       |
|---------------------------------|-------|-------|------|------------|---------------------------------------------|--------------|-------|
| Battery, dry, No 1, Y3/YC 01873 | 1.5V  | 67.5V | 135V | -6V bias   | Battery, dry, 1.1/2V, No 1 6135-99-910-1101 |              |       |
| Battery (lower limit)           | 1.1V  | 50V   | 100V | -4.5V bias | (2 off)                                     |              | 2.8V  |
| Approx current (receive)        | 0.47A | 22mA  | -    | -          | Approx current (receive):                   | continuous   | 15mA  |
| Approx current (send)           | 0.47A | 19mA  | 55mA | 0.38A bias | Approx current (send):                      | intermittent | 116mA |

**MAINTENANCE**

The set is built in sub-units with easy removal facilities. A condition indicator shows the state of the set output. Field repairs are effected by replacement of most faulty sub-units by R. Sigs using Functional tester type FT2. A TEST socket is provided which, together with a power supply unit or the set's internal battery, allows for the re-alignment and testing of the radio set. The set is functionally and physically interchangeable with Canadian and American parts from the AN/PRC-510 and AN/PFC-10A sets respectively.

**ASSOCIATED PUBLICATIONS**

Complete equipment schedule (CES):-

|                  | No 1 set | No 2 set |
|------------------|----------|----------|
| Ground station   |          | 42973    |
| Installation kit | 42904    | 42904    |
| Rebroadcast unit | 43004    | 43004    |

**Illustrated Parts List:-**

No 1 set W.O. Code No 13009

No 2 set

**User Handbook:-**

No 1 set W.O. Code No 12336

No 2 set W.O. Code No 13123

Rebroadcast unit W.O. Code No 13050

EMER: Functional tester type FT2 - Tels M 260-269

General view  
of No 1 set



PLCO  
2-1

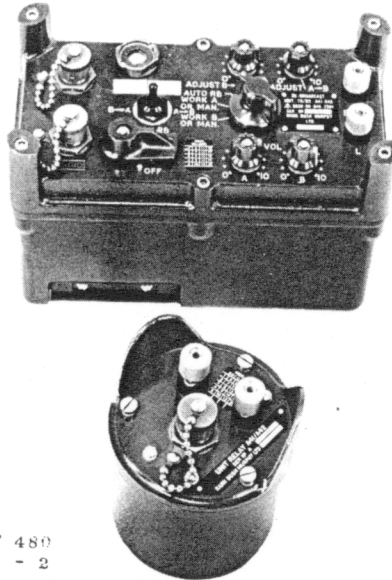
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RESTRICTED

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

TELECOMMUNICATIONS  
F 480

Note: This Page 6 contains additional information. Delete work 'END' from bottom of Page 5, Issue 2, dated 30 Jun 64.



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Fig 2 - Re-broadcast and relay units.

EME/8c/1039/Tels

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END

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