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STATION, RADIO, C42, NO 1
TECHNICAL HANDBOOK - DATA SUMMARY

Note: This Issue 3, Pages 1-4 supersedes Issue 2, Pages 1-3, dated 10 Mar 55. The regulation has been revised throughout.

NOMENCLATURE

Transmitter-receiver, radio, type C42, No 1, Part No 5820-99-043-0952
Tuner, r.f., antenna, No 6, Part No 5820-99-049-0856

DESCRIPTION

V.H.F. voice-modulated f.m. transmitter-receiver, designed for use with radio control harnesses in complex vehicle-mounted stations. The set is hermetically sealed in a die-cast aluminium case. The transmitter has automatic gain and frequency controls; the receiver tuning may be checked against in-built crystal-controlled oscillators.

ROLE

Primary role: Communication set for fighting vehicles in all theatres and conditions
Secondary roles: Manpack and animal-borne stations

User arm: All arms but mainly RAC

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Distribution - Class 334. Code No 3
PHYSICAL DATA

Operational As packed by RAOC

Weight: 40 lb 104 lb
Height: 9 1/2 in. 17 in.
Width: 14 in. 25 in.
Depth: 14 1/2 in. 25 in.

CLIMATIC RANGE

Temperature: Normal and extreme cold.
Pressure: May be used and stored at altitudes up to 10,000 ft.

TRANSPORTATION DATA

Air transportability: May be carried at altitudes up to 25,000 ft and parachute-dropped with standard dropping equipment.

Split-proof

PACKAGING DATA

DEF 1234 BPS: 2/3 or 2/3
SPIS: WIR/1838

OPERATIONAL DATA

Facilities of stations include remote control, intercomm, and in some cases automatic rebroadcast switching.

TRANSMITTER AND RECEPTOR ARE TUNED ACCURATELY TO ANY CHANNEL BY REFERENCE TO A CRYSTAL-CONTROLLED CALIBRATOR.

For operational training a Simulator, antenna tuning may be used in place of the antenna and tuning unit.

PERFORMANCE

Static long-range antennas: High power: 20-30 miles
Normal antennae, vehicles on move: High power: 7-15 miles
Low power: 3-5 miles

ELECTRICAL DATA

Carrier frequency: 36-30Mc/s; 241 channels spaced at 100kc/s intervals.

Power levels

Transmitter: High power output: about 15W
Low power output: 0.3 to 1.0W
Deviation: 418kc/s

Receiver: Sensitivity: 1.254W for 10dB quieting
Output: 150mW into 50Ω

Intercomm: Output: 250mW into 30Ω

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Comparison with other C42 models

<table>
<thead>
<tr>
<th>No</th>
<th>Type of modulation</th>
<th>Channels</th>
<th>Spacing (kc/s)</th>
<th>Receiver sensitivity for 10dB quieting</th>
<th>Output into 50Ω</th>
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<tbody>
<tr>
<td>1</td>
<td>F.M.</td>
<td>241</td>
<td>100</td>
<td>1.25w</td>
<td>150mW</td>
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<tr>
<td>2</td>
<td>F.M.</td>
<td>481</td>
<td>50</td>
<td>1w</td>
<td>100mW</td>
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<tr>
<td>3</td>
<td>F.M. and pulse code modulation</td>
<td>241</td>
<td>100</td>
<td>1.25w</td>
<td>150mW</td>
</tr>
</tbody>
</table>

No 2 and No 3 have tighter frequency stability tolerances than No 1. In other respects they are similar.

ESSENTIAL ASSOCIATED EQUIPMENT

Antennae

Normal: 8 ft rod

Long-range: 5 ft vertical rod mounted on a 30 ft mast with three counterpoise earth rods.

Antenna matching unit: Tuner, r.f., antenna, No 6

Station equipment

Radio harness type A (Tels L 770-779) or type B (Tels L 780-789)

Special-to-station equipment: see Comms Inst data summaries

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Power supply unit

Supply unit, vibratory, No 12, 12V input (Tels K 100-109) or 24V input (Tels K 150-159)

Supply unit, transistorized, No 1, 24V (Tels K 700-709)

POWER REQUIREMENTS

12V or 24V to power supply unit, at following currents:

<table>
<thead>
<tr>
<th></th>
<th>Receive</th>
<th>Standby</th>
<th>Send</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 12V</td>
<td>8.0A</td>
<td>6.0A</td>
<td>15.0A</td>
</tr>
<tr>
<td>At 24V</td>
<td>4.0A</td>
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<td>7.5A</td>
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