RESTRICTED

RAIDER TYPE 1010

SUMMARY OF DATA

PURPOSE

Radar Type 1010 is an I.F./F. Note 10 operator radar that can be operated on Models 120, 12A, 24A or 62, or a sequence of interfaced models. The radar can detect targets and is designed to provide visual output to external video processing equipment. Radar Type 1010 also provides synchronous and asynchronous pulses for external equipment, and has also some suppression facilities when used with a compatible E.L.A.C. control unit.

MAJOR EQUIPMENT

The major equipment of Radar Type 1010 is the SRA-10-115-9744 Interrogator. The SRA-10-115-9744
Interrogator is included as the "&" line for Radar Type 1010, but as it is only fitted in "computer"
ships it has a separate handle.

PHYSICAL DATA

The dimensions of the SRA-10-115-9744 Interrogator are:

<table>
<thead>
<tr>
<th>Weight</th>
<th>Length</th>
<th>Width</th>
<th>Height</th>
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<tbody>
<tr>
<td>in.</td>
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<tr>
<td>48</td>
<td>121</td>
<td>24</td>
<td>62</td>
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POWER REQUIREMENTS

SRA-10-115-9744 Interrogator requires the supplies of 115 V ± 10% at 15 kHz, single phase.

Environment Temperatures

Operation: 30 °F to 50 °F

Storage: -40 °F to 120 °F

Transmission Characteristics

Frequency: 1020 MHz ± 0.1 MHz

Peak Power Output: 3.9 dBW ± 0.0 dBW (can be reduced by 0.5 dBW by re-radiating lines on fixed attenuator)

Pulse Duration: 0.6 ms to 1.0 ms

Pulse Rise Time: 0.05 ms to 0.1 ms

Pulse Fall Time: 0.05 ms to 0.2 ms

P.E.P.: 150 kHz to 450 kHz

Reception Characteristics

Frequency: 1800 MHz ± 0.1 MHz

Bandwidth: 10 kHz at -60 dB

Noise: Not greater than 9.0 dB

Spurious Frequencies: Not greater than 10 kHz below the 1090 MHz response.

I.F.: 40 kHz

External Trigger

Pulse Amplitude: Not less than 4.5 V into 75 ohms

Pulse Duration: 0.1 ms to 50 ms

Pulse Rise Time: Not greater than 0.1 μsec

P.E.P.: Minimum 250 μV

Maximum 5 kHz, input preceding 450 Hz and automatically reduced to be within the range 150 Hz to 450 Hz.

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RECEIVER INHIBIT INPUT

Pulse Amplitude : 45 u to 45 u into 75 ohms.
Pulse Duration : 0.5 u to 5 u.
Pulse Rise Time : not greater than 0.1 u.

VIDEO OUTPUTS

12 mode separated video outputs (three of each mode) and two mixed video outputs are provided. The mixed video includes identification pulse groups to facilitate recognition of mode replies. A switch is provided to inhibit the transmission of Mode 3.

Video Pulse Amplitudes ±2 V to ±5 V into 75 ohms.

SUPPRESSION, SYNCHRONISATION AND SWITCHING PULSE OUTPUTS

Pulse Amplitudes ±5 V into 75 ohms.
Other Pulse characteristics with timing relative to the last interrogation pulse P3.

(a) Trigger Suppression

Pulse Duration 28 u adjustable
Pulse Timing P3-2.5 to P3 +3 u

(b) Switching

Pulse Duration 2.5 u
Pulse Timing leading edge coincident with P1 +0.3 u

(c) P3 Out

Pulse Duration 0.5 u

(d) P5 Out

Pulse Duration 0.5 u

(e) Decoder Sync.

Pulse duration 0.5 u to 1.0 u
Pulse Timing P3 +10 u

MAINTENANCE FACILITIES

(a) Voltage and current metering
(b) Transmitter power continuously indicated by meter.
(c) Automatic fault detection circuits cause lamps to light if following parameters are faulty:

- Transmitter peak power 'In Alarm' lamp
- Receiver gain 'In Alarm' lamp
- Receiver noise 'In Alarm' lamp

HANDBOOK

#4421

ESTABLISHMENT LIST

01452

INSTALLATION SPECIFICATION

#1157

6.68