PURPOSE

I.F.F. Mark 10 transponder with Selective Identification Feature (S.I.F.) for small craft and submarines.

BRIEF DESCRIPTION

The main units are of Ministry of Aviation design, with Admiralty pattern control unit, rack and
connectors which enable the equipment to be used in ships. Type 955 is converted to Type 955M by the
addition of S.I.F. Unit 35.

The interrogations are received as pulse trains on a frequency of 1030 MHz. These are converted to
single pulses in the receiver section of the transponder and fed to the coding unit, which generates a pulse
train for each pulse fed in. The pulse trains, the equidistant of which is set by controls on the front of the
coding unit and control unit itself, are fed to the modulator of the transmitter section of the transponder. The
transmitter output is fed to the aerial and radiation on 1020 MHz as replies to the interrogations.

The equipment may be converted to basic I.F.F. operation by inserting a "Navy" function plug in the
transmitter-receiver in place of the S.I.F.* function plug which is used for S.I.F. operation. In this
condition the S.I.F. coding circuits are disabled and the aerial will radiate and pulse for each pulse pair
received.

FREQUENCY

3030 MHz reception. 1020 MHz transmission.

POWER OUTPUT

300 watts peak

PULSE REPEITION FREQUENCY

Up to 2500 pulses per second (depending on interrogation).

PULSE DURATION

0.5 microsecond (the transponder normally transmits a train of pulses).

RECEIVER BANDWIDTH

10-12 MHz at 6 dB below maximum.
### Major Units

**Transmitter-Receiver** TH 6961, AP 71395 Control Unit, and AP 4403 (Part of S.F. Outfit SNC).

**Associated Aerial Outfit**

APA in Surface craft, ANU or ANK in submarines.

### Physical Data

<table>
<thead>
<tr>
<th></th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH 6961</td>
<td>98 in</td>
<td>30 in</td>
<td>16 in</td>
<td>30 lb</td>
</tr>
<tr>
<td>Control Unit 4P 71395</td>
<td>62 in</td>
<td>10 in</td>
<td>42 in</td>
<td>1 lb</td>
</tr>
<tr>
<td>Coding Unit 6466 and 6467</td>
<td>12 in</td>
<td>12 in</td>
<td>14 in</td>
<td>1 lb</td>
</tr>
<tr>
<td>Control Unit 6466 in rack</td>
<td>64 in</td>
<td>10 3/16 in</td>
<td>14 lb</td>
<td></td>
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</tbody>
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### Power Requirements

115 V, 400 Hz single phase a.c. 140 watts, 24 V d.c. 53 watts.

### Heat Dissipation

190 watts

### Handbooks

- Type 955/M
- Aerial Outfit ANM
- Aerial Outfit ANU
- Aerial Outfit ANK

### Establishment Lists

- AR 2184 (AP 29378 Volume I and II)
- NAVSHIPS 91597 (MSA) Instruction Book for Antenna Assembly 4S-177/UP(MSA)
- Summary of Data for Confidential Radio Equipment (C)
- CB 517

### Installation Specification

1958