

B.R.340
CJP1/2 RECEIVER

CONTENTS

VOLUME II

- PART III ARU11N SYNTHESISER, ELECTRICAL FREQUENCY**
5820-99-525-6190
- PART IV ARU18A ADAPTOR, COMMON ANTENNA 5820-99-525-6192**
- PART V PANEL, RECEIVER INTERFACE 5820-99-525-6191**
- PART VI SETTING TO WORK PROCEDURES AND HARBOUR**
ACCEPTANCE TRIAL FOR CJP1/2 RECEIVER

B.R.340
Original

Handbook No. 979-1
RLB/DEV Oct. 1973

B.R.340

PART V
PANEL, RECEIVER INTERFACE
5820-99-525-6191

PANEL, RECEIVER INTERFACE 5820-99-525-6191

1.1 BRIEF DESCRIPTION

The Panel, Receiver Interface 5820-99-525-6191 provides front panel access to fuses FS3, FS4, FS5 and FS6 protecting the R551N Receiver, Radio 5820-99-525-6189. Also provided are ILP1 indicator lamp for the heaters H1 and H2, of the Cabinet, Electrical Equipment 5820-99-525-6193, ILP2 indicator lamp for AC mains supply to the R551N Receiver and local connections for microphone, via 19 way socket SK5, and Key, via jack socket JKA. Component list and circuit of the interface panel are found on B.R. 339 Part I Fig. 2.3. The interface panel is wired as an integral part of the Cabinet, Electrical Equipment 5820-99-525-6193.

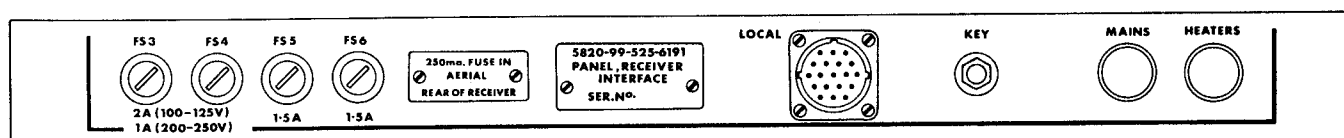
1.2 REPLACEMENT OF FUSES

FS3 2A for 100-125V wkg Bulgin F310/2 5920-99-119-8828
FS4 1A for 200-250V wkg Bulgin F310/1 5920-99-142-2826
FS5 1.5A Bulgin F310/1.5 5920-99-527-3515
FS6 1.5A Bulgin F310/1.5 5920-99-527-3515

1.3 REPLACEMENT OF INDICATOR LAMPS

The control panel lamps ILP1 Heaters, and ILP2 Mains, can be changed after unscrewing the bezel securing the glass cap.

Both lamps are 80V 0.4mA flange cap Thorn L1016 6240-99-996-9215.



Panel, Receiver Interface 5820-99-525-6191 Fig. 1.1

B.R.340
Original

Handbook No. 975 Issue 1
RFF/TWB May 1973

B.R.340
PART VI
SETTING TO WORK PROCEDURES
AND
HARBOUR ACCEPTANCE TRIALS
FOR
CJP1 AND CJP2 RECEIVERS

CONTENTS

1 SETTING TO WORK CJP1 AND CJP2 RECEIVERS

- 1.1 ITEMS COMPRISING RECEIVER OUTFITS CJP1 AND CJP2**
- 1.2 TEST EQUIPMENT REQUIRED TO CARRY OUT ALL RECEIVER TESTS**
- 1.3 TESTS ON R551N RECEIVER, RADIO; ARU11N SYNTHESISER, ELECTRICAL FREQUENCY; PANEL, RECEIVER INTERFACE AND ARU18A ADAPTOR, COMMON ANTENNA**
 - 1.3.1 Initial Adjustments Before Switching On**
 - 1.3.1.1 Mains Transformer Primary Connections**
 - 1.3.1.2 Anti-Condensation Supply Connections**
 - 1.3.1.3 Muting and Desensitising of Receiver**
 - 1.3.1.4 Fuse Links**
 - 1.3.1.5 Selection of Internal or External Frequency Standard**
 - 1.3.2 Switching On Procedure**
 - 1.3.3 Performance Checks**
 - 1.3.3.1 Adjustment of Internal Reference Frequency Oscillator**
 - 1.3.3.2 ARU11N Synthesiser, Electrical Frequency Check**
 - 1.3.3.3 Receiver Signal to Noise Ratio Check for CJP1 Installations and CJP2 Installations Set for LOCAL Rx BY-PASS**
 - 1.3.3.4 Receiver Signal to Noise Ratio Check for CJP2 Installations Using ARU18A Adaptor, Common Antenna**
 - 1.3.3.5 CJP1 Receiver Sensitivity Measurements**
 - 1.3.3.6 CJP2 Receiver Sensitivity Measurements**
 - 1.3.3.7 AGC Measurement for CJP1 and CJP2 Receivers**
- 1.4 TESTS ON CJP1 AND CJP2 RECEIVER USING EMERGENCY MAINS SUPPLY**

2 HARBOUR ACCEPTANCE TRIALS FOR CJP1 AND CJP2 RECEIVERS

- 2.1 ITEMS COMPRISING RECEIVER OUTFITS CJP1 AND CJP2**
- 2.2 TEST EQUIPMENT REQUIRED TO CARRY OUT HARBOUR ACCEPTANCE TRIALS**
- 2.3 ANTI-CONDENSATION SUPPLY**
 - 2.3.1 Receiver-Cabinet, Electrical Equipment**
 - 2.3.2 Transmitter-Cabinet, Electrical Equipment**
- 2.4 SWITCHING ON PROCEDURE**
 - 2.4.1 Initial Checks on Receiver CJP1/2**
 - 2.4.1.1 Receiver Calibrate Check**
- 2.5 RECEIVER CJP1/2 PERFORMANCE CHECKS**
 - 2.5.1 CJP1 Receiver Signal to Noise Ratio Check**
 - 2.5.2 CJP2 Receiver Signal to Noise Ratio Check**

3 SEA ACCEPTANCE TRIALS

- 3.1 EXTERNAL COMMUNICATIONS TRIALS**
 - 3.1.1 Trials by Ship's Staff**
 - 3.1.2 Results of Trials**

1 SETTING TO WORK CJP1 AND CJP2 RECEIVERS

B.R.340 Vol. 2 Part VI
Amdt. 4, 8.79

- (44) Check that VFO ON lamp is extinguished.
- (45) Check that lamp on ARU11N Synthesiser, Electrical Frequency is illuminated.
- (46) Check that tone in loudspeaker and phones is about 1kHz.
- (47) Set Synthesiser switch to CLA position.
- (48) Vary CLA (Clarify) control and check that audio tone varies slightly in frequency as control is varied.

1.3.3 Performance Checks

1.3.3.1 Adjustment of Internal Reference Frequency Oscillator

Refer to B.R.340 Part II para. 5.2.1.

Test Equipment Required (for details see para. 1.2)

Oscilloscope

Carry out check and adjust as necessary, recording measured frequencies in Table 1.

1.3.3.2 ARU11N Synthesiser, Electrical Frequency Check

Refer to B.R. 340 Part III para. 8.1.2.

Test Equipment Required (for details see para. 1.2)

Frequency counter

- (1) Carry out check and adjust as necessary.
- (2) Set kHz switches on ARU11N Synthesiser, Electrical Frequency to positions indicated in Table 1 and record frequencies indicated by frequency counter. Check that frequencies indicated are within the limits given in Table 1.
- (3) This check is to establish that the synthesiser is phase locked to the reference frequency at all switch positions and is not intended to be a measurement of frequency accuracy. The accuracy is dependent solely on the reference frequency signal.

Ship _____	Unit	Serial No
Date _____	Cabinet, Electrical Equipment R551N Receiver, Radio ARU11N Synthesiser, Electrical Frequency ARU18A Adaptor, Common Antenna	

Table 1 Reference Frequency and ARU11N Test Frequencies

(a) Reference Frequency Checks			(b) ARU11N Test Frequencies			
Nominal	Limits	Measured	kHz Switches	Frequency	Limits	Measured
5,600,000Hz	±1Hz		00-0	600-000kHz	±2Hz	
100,000Hz	1Hz drift in 30S period		11-1	611-100kHz	±2Hz	
			22-2	622-200kHz	±2Hz	
			33-3	633-300kHz	±2Hz	
			44-4	644-400kHz	±2Hz	
			55-5	655-500kHz	±2Hz	
			66-6	666-600kHz	±2Hz	
			77-7	677-700kHz	±2Hz	
			88-8	688-800kHz	±2Hz	
			99-9	699-900kHz	±2Hz	

1.3.3.3 Receiver Signal to Noise Ratio checks for CJP1 Installations and CJP2 Installation Set for LOCAL Rx BY-PASS

Test Equipment required (for details see para. 1.2)

Noise level meter
Headphone jack plug
RF signal generator
Matching pad 50/75 Ω

If the Noise Level Meter CRETE CT454 is not available, the procedure detailed in B.R. 340 Part II para. 8.4 may be used as an alternative test method.

- (1) Connect HIGH/LOW terminals on the noise level meter to either of the Headphone sockets on the R551N Receiver via headphone jack plug.
- (2) Connect RF output of RF signal generator to Aerial Input Socket SK3 on Cable Entry Plate of Receiver-Cabinet, Electrical Equipment via, 50/75 Ω matching pad.
- (3) Switch all supplies to ON position and allow 15min. before proceeding.
- (4) On R551N Receiver, Radio:
 - (a) Set Loudspeaker switch to OFF position.
 - (b) Set RF Gain control to maximum clockwise position.
 - (c) Set AF Gain control to maximum clockwise position.
 - (d) Set meter switch to LINE position.
 - (e) Set AGC switch to OFF position.
 - (f) Set Service Bandwidth kHz switch to A3J usb 3 position.
- (5) On ARU11N Synthesiser:
 - (a) Set VFO/Synth/CLA switch to VFO position.

- (6) On noise level meter:
 - (a) Set to HIGH PASS FILTER OUT 600 Ω position.
 - (b) Set Volts Range switch to 3.0V rms position.
- (7) On RF signal generator:
 - (a) Set to Frequency and Output Level as specified in Table 2.
 - (b) Set to CW Mode and ensure that CARRIER LEVEL is set correctly after each frequency change.
- (8) Adjust RF signal generator frequency control for maximum indication on R551N meter and also on noise level meter.
- (9) Adjust RF Gain control counter clockwise until noise level meter indicates 0.775V rms (0dBm on 1V rms range).
- (10) Set RF signal generator Service switch to CARRIER OFF position.
- (11) Note the noise level meter reading.
Limit: at least 20dB below level set in (9).
This figure is the Signal + Noise to Noise Ratio which is to be recorded in Table 2 under column headed Normal Mains dB.
- (12) If any of the figures are outside the specified limit, refer to B.R.340 Part II Chapters 7 and 8.

Note:

When checking the signal to noise ratio of the receiver it may be that an internal spurious signal is noticed, in which case the receiver must be slightly retuned to remove the spurious signal, and the signal to noise ratio checked at the new frequency. The level of the internal spurious signal must be checked to ensure that it is not at a level greater than an equivalent 1 μ V signal at the aerial input.

Ship Date	Unit	Serial No
	Cabinet, Electrical Equipment R551N Receiver, Radio ARU11N Synthesiser, Electrical Frequency ARU18A Adaptor, Common Antenna (CJP2 only)	

Table 2 Signal + Noise to Noise Ratio for CJP1 Receiver and Also for CJP2 Receiver in LOCAL Rx BY-PASS condition

RF Signal Generator				Receiver		Signal + Noise to Noise Ratio		
Frequency MHz	Mode	Level μ V rms	Output Impedance Ω	Service Bandwidth kHz Switch	Input Socket	Limit dB	Measured	
							Normal Mains dB	Emergency Mains dB
00-210	CW	200	75	A3J USB 3	SK3	≤ 20		
00-505	CW	20	75	A3J USB 3	SK3	≤ 20		
01-500	CW	20	75	A3J USB 3	SK3	≤ 20		
03-000	CW	4	75	A3J USB 3	SK3	≤ 20		
04-50	CW	2	75	A3J USB 3	SK3	≤ 20		
07-00	CW	2	75	A3J USB 3	SK3	≤ 20		
08-00	CW	2	75	A3J USB 3	SK3	≤ 18		
09-50	CW	2	75	A3J USB 3	SK3	≤ 18		
12-00	CW	2	75	A3J USB 3	SK3	≤ 18		
20-00	CW	2	75	A3J USB 3	SK3	≤ 18		
29-00	CW	2	75	A3J USB 3	SK3	≤ 18		

1.3.3.4 Receiver Signal to Noise Ratio Check for CJP2 Installations Using ARU18A Adaptor, Common Antenna

Test Equipment Required (for details see para. 1.2)

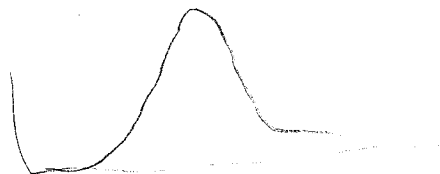
Noise level meter
Headphone jack plug
RF signal generator
Matching pad 50/75 Ω

- (1) On ARU18A Adaptor, Common Antenna set Range switch to LOCAL Rx BY-PASS position.
- (2) Set R551N Receiver Mains switch to OFF position.
- (3) Connect headphone jack plug to input cable on noise level meter.
- (4) Plug headphone jack plug into one of the R551N Receiver Headphones sockets.
- (5) Connect RF signal generator to Aerial socket SK3 on Cable Entry Plate of Receiver-Cabinet, Electrical Equipment, via matching pad 50/75 Ω and a 75 Ω coaxial cable.
- (6) Set RF signal generator Mains switch to ON position, and output level to minimum.
- (7) On the noise level meter:
 - (a) Set Volts Range switch to 3.0V rms position.
 - (b) Set Input Selector switch to HIGH PASS FILTER OUT 600 Ω position.
- (8) On the RF signal generator:
 - (a) Set Service switch to CW position.
- (9) On R551N Receiver, Radio:
 - (a) Set Loudspeaker switch to OFF position.
 - (b) Set RF Gain control to maximum clockwise position.
 - (c) Set AF Gain control to maximum clockwise position.
 - (d) Set Meter switch to LINE position.
 - (e) Set AGC switch to OFF position.
 - (f) Set Service Bandwidth kHz switch to A3J usb position.
 - (g) Set Mains switch to ON position.
- (10) On ARU11N Synthesiser, Electrical Frequency:
 - (a) Set VFO/Synth/CLA switch to VFO position.
- (11) Adjust RF signal generator frequency to 150kHz and Set Carrier control until meter indicates to appropriate mark on scale.
- (12) Set output level to 20 μ V rms emf.
- (13) Set R551N Receiver Frequency switches to 00.1MHz positions.
- (14) Set VFO control to 500 on scale.
- (15) Adjust RF signal generator frequency control for maximum indication on R551N Receiver meter and also on noise level meter.
- (16) Adjust R551N Receiver RF Gain Control until noise level meter indicates 0.775V rms (i.e. 0dBm on 1.0V rms range).
- (17) If necessary, repeat (15) and (16).
- (18) Set RF signal generator Service switch to CARRIER OFF position.
- (19) Note the noise level meter reading.
Limit: at least 20dB below level set in (16).
This figure is the Signal+Noise to Noise ratio which is to be recorded in Table 3 under column headed Measured dB.
- (20) Repeat paras. (11) to (19) for each frequency in Table 3, adjusting RF signal generator frequency, mode and output level, and setting R551N Receiver Frequency switches and VFO control to appropriate positions.
- (21) If any of the figures are outside the specified limit, refer to B.R.340 Part II chapters 7 and 8.

Ship _____	Unit	Serial No
Date _____	Cabinet, Electrical Equipment R551N Receiver, Radio ARU11N Synthesiser, Electrical Frequency ARU18A Adaptor, Common Antenna	

Table 3 Signal + Noise to Noise Ratio for CJP2 Receiver Using ARU18A Adaptor, Common Antenna

RF Signal Generator				CAW Range	Receiver Service Bandwidth kHz Switch	Input Socket	Signal + Noise to Noise Ratio	
Frequency MHz	Mode	Level μV rms emf	Impedance Ω				Limit dB	Measured dB
01.50	CW	4	75	A	A3J USB 3	SK1	± 20	14.5
03.00	CW	4	75	A	A3J USB 3	SK1	± 20	17
04.50	CW	4	75	A	A3J USB 3	SK1	± 20	18
07.00	CW	4	75	B	A3J USB 3	SK1	± 20	18
08.00	CW	4	75	B	A3J USB 3	SK1	± 20	18.5
09.50	CW	4	75	B	A3J USB 3	SK1	± 20	17
12.00	CW	4	75	C	A3J USB 3	SK1	± 20	16.5
20.00	CW	4	75	C	A3J USB 3	SK1	± 20	18.5
29.00	CW	4	75	C	A3J USB 3	SK1	± 20	10



1.3.3.5 CJP1 Receiver Sensitivity Measurements

Test Equipment Required (for details see para. 1.2)

AF power meter
Headphone jack plug
RF signal generator
Matching pad 50/75 Ω

- (1) Set R551N Receiver Mains switch to OFF position.
- (2) Connect headphone jack plug to input terminals of AF power meter.
- (3) Plug headphone jack plug into one of the R551N Receiver Headphones sockets.
- (4) Connect RF signal generator to Aerial socket SK3 on Cable Entry Plate of Receiver-Cabinet, Electrical Equipment via matching pad 50/75 Ω and a 75 Ω coaxial cable.
- (5) Set RF signal generator Mains switch to ON position, and output level to minimum.
- (6) On the AF power meter:
 - (a) Set Power Range switch to appropriate position.
 - (b) Set Impedance Ohms switch to 600 Ω position.
- (7) On the RF signal generator:
 - (a) Set Service switch to mode specified in Table 4.
- (8) On R551N Receiver, Radio:
 - (a) Set RF Gain control to maximum clockwise position.
 - (b) Set AF Gain control to maximum clockwise position.
 - (c) Set Meter switch to LINE position.
 - (d) Set AGC switch to OFF position.
 - (e) Set Service Bandwidth kHz switch to position specified in Table 4.
 - (f) Set Mains switch to ON position.
- (9) On ARU11N Synthesiser, Electrical Frequency:
 - (a) Set Synthesiser VFO/Synth/CLA switch to VFO position.
- (10) Adjust RF signal generator frequency to 8.25MHz and adjust Set Carrier control until meter indicates to appropriate mark on scale.
- (11) Set output level to 2 μ V rms emf.
- (12) Set R551N Receiver Frequency switches to 08.2MHz positions.
- (13) Adjust VFO control until scale indicates 500.
- (14) After 15min adjust RF signal generator frequency control for maximum indication on R551N Receiver meter and also on AF power meter.
- (15) Note AF power meter reading. This figure is to be recorded in Table 4 under column headed Receiver Output Measured mW.

1.3.3.6 CJP2 Receiver Sensitivity Measurements

Test Equipment Required (for details see para. 1.2)

AF power meter
Headphone jack plug
RF signal generator
Matching pad 50/75 Ω

- (1) Set R551N Receiver Mains switch to OFF position.
- (2) Connect headphone jack plug to input terminals of AF power meter.
- (3) Plug headphone jack plug into one of the R551N Receiver Headphones sockets.
- (4) Connect RF signal generator to Aerial socket SK1 on Cable Entry Plate of Receiver-Cabinet, Electrical Equipment via matching pad 50/75 Ω and a 75 Ω coaxial cable.
- (5) Set RF signal generator Mains switch to ON position, and output level to minimum.
- (6) On the AF power meter:
 - (a) Set Power Range switch to appropriate position.
 - (b) Set Impedance Ohms switch to 600 Ω position.
- (7) On the RF signal generator:
 - (a) Set Service switch to mode specified in Table 4.
- (8) On R551N Receiver, Radio:
 - (a) Set Loudspeaker switch to ON position.
 - (b) Set RF Gain control to maximum clockwise position.
 - (c) Set AF Gain control to maximum clockwise position.

- (d) Set Meter switch to LINE position.
- (e) Set AGC switch to OFF position.
- (f) Set Service Bandwidth kHz switch to position specified in Table 4.
- (g) Set Mains switch to ON position.
- (9) On ARU11N Synthesiser, Electrical Frequency:
 - (a) Set Synthesiser VFO/Synth/CLA switch to VFO position.
- (10) Adjust RF signal generator frequency to 8.25MHz and adjust Set Carrier control until meter indicates to appropriate mark on scale.
- (11) Set output level to 4 μ V rms emf.
- (12) Set R551N Receiver Frequency switches to 08.25MHz positions.
- (13) Adjust VFO control until scale indicates 500.
- (14) On ARU18A Adaptor, Common Antenna:
 - (a) Set Range switch to 7.9.5MHz position.
 - (b) Set Increment control to 1.25 on scale B.
- (15) After 15min adjust RF signal generator frequency control for maximum indication on R551N Receiver meter and also on AF power meter.
- (16) Adjust Increment control for maximum indication on AF power meter.
- (17) Note AF power meter reading. This figure is to be recorded in Table 4 under column headed Receiver Output Measured mW.

Ship _____ Date _____	Unit	Serial No
	Cabinet, Electrical Equipment R551N Receiver, Radio ARU11N Synthesiser, Electrical Frequency ARU18A Adaptor, Common Antenna	

Table 4 CJP1 and CJP2 Receiver Sensitivity

RF Signal Generator Mode	Impedance Ω	Receiver		
		Service Bandwidth kHz Switch	*Limit mW	Output Measured mW
CW	75	A3J usb 3	± 6	6
CW	75	A3J lsb 3	± 6	6
30% AM at 400Hz	75	A3 dsb 8	± 0.3	1.1
	75	A3 dsb 3	± 1.5	4.3
	75	A2 mcw1	± 1.5	4.1
CW	75	A1 cw 0.3	± 6	6
CW	75	A1 cw 1	± 5	5
CW	75	A1 cw 3	± 4	6
CW	75	A1 cw 8	± 2	6

* These figures are based on tests on a single receiver, but can be used as an indication of the sensitivity which should be attainable.

1.3.3.7* AGC Measurement for CJP1 and CJP2 Receivers

Test Equipment Required (for details see para. 1.2)

Noise level meter
Headphone jack plug
RF signal generator
Matching pad 50/75 Ω

- (1) Set R551N Receiver Mains switch to OFF position.
- (2) Connect headphone jack plug to High/Low terminals on noise level meter.
- (3) Plug headphone jack plug into one of the R551N Receiver Headphones sockets.
- (4) Connect RF signal generator to Aerial socket SK3 on Cable Entry Plate of Receiver-Cabinet, Electrical Equipment via matching pad 50/75 Ω and a 75 Ω coaxial cable. (For CJP2 equipments set ARU18A Adaptor Range switch to LOCAL Rx BY-PASS position).
- (5) Set RF signal generator Mains switch to ON position, and output level to minimum.
- (6) On the noise level meter:
 - (a) Set Volts Range switch to 3.0V rms position.
 - (b) Set Input Selector switch to HIGH PASS FILTER OUT 600 Ω position.
- (7) On the RF signal generator:
 - (a) Set Service switch to CW position.
- (8) On R551N Receiver, Radio:
 - (a) Set loudspeaker switch to OFF position.
 - (b) Set RF Gain control to maximum clockwise position.
- (c) Set AF Gain control to maximum clockwise position.
- (d) Set Meter switch to LINE position.
- (e) Set AGC switch to NORMAL position.
- (f) Set Service Bandwidth kHz switch to A3J usb position.
- (g) Set Mains switch to ON position.
- (9) On ARU11N Synthesiser, Electrical Frequency:
 - (a) Set Synthesiser switch to VFO position.
- (10) Adjust RF signal generator frequency to 4.50MHz and adjust Set Carrier control until meter indicates to appropriate mark on scale.
- (11) Set output level to 4 μ V rms emf.
- (12) Set R551N Receiver Frequency switches to 04.5MHz positions.
- (13) Adjust VFO control in anti-clockwise direction until scale indicates 000. Note that 0 lamp is illuminated.
- (14) Adjust RF signal generator frequency control for maximum indication on R551N Receiver meter and also on noise level meter.
- (15) Adjust R551N Receiver AF Gain control until noise level meter indicates 0dBm (i.e. 0.775V rms on 1.0V rms range).
- (16) If necessary, repeat (14) and (15).
- (17) Increase RF signal generator output level by 100dB (i.e. to 400mV rms emf).
- (18) Note the noise level meter reading.
Limit: not more than 3dB change.
This figure is to be recorded in Table 5 under column headed AF Output Level Measured dBm.

Ship _____
Date _____

Unit	Serial No
Cabinet, Electrical Equipment R551N Receiver, Radio ARU11N Synthesiser, Electrical Frequency ARU18A Adaptor, Common Antenna	

Table 5 AGC Measurement at 4.5MHz

RF Signal Generator			R551N Receiver Service Bandwidth kHz	AF Output Level	
Mode	Level	Impedance Ω		Measured dBm	Limit
CW	4 μ V	75	A3J usb	0	> 3dB change
CW	400mV	75	A3J usb		

1.4 TESTS ON CJP1 AND CJP2 RECEIVERS USING EMERGENCY MAINS SUPPLY

Test Equipment Required (for details see para. 1.2)

Noise level meter
Headphone jack plug
RF signal generator
Matching pad 50/75 Ω

- (1) Set the Receiver Mains supply switch to OFF position.
- (2) Check the voltage of the Emergency Mains supply available.
- (3) Connect CJP1/2 Receiver equipment to Emergency Mains supply.
- (4) Switch on Emergency mains supply.

- (5) For CJP1 Receiver equipment or CJP2 Receivers set to LOCAL Rx BY-PASS, carry out para. 1.3.3.3 for any one frequency selected from Table 2, recording the Signal+Noise to Noise Ratio in Table 2 under column headed Signal+Noise to Noise Ratio Measured Emergency Mains dB. Ensure that ratio is the same as for Normal Mains supply.
- (6) Disconnect RF signal generator from Aerial socket SK3.
- (7) Connect Emergency Aerial to socket SK3.
- (8) Check for normal reception of signals in headphones or loudspeaker.
- (9) Switch off Emergency Mains supply.
- (10) Connect receiver to normal Ship's Mains supply.

2 HARBOUR ACCEPTANCE TRIALS FOR CJP1 AND CJP2 RECEIVERS

Ship _____	Unit	Serial No
Date _____	Cabinet, Electrical Equipment R551N Receiver, Radio ARU11N Synthesiser, Electrical Frequency ARU18A Adaptor, Common Antenna (CJP2 only)	

Table 6 Signal+Noise to Noise Ratio for CJP1 Receiver and Also for CJP2 Receiver in LOCAL Rx BY-PASS Condition

RF Signal Generator				Receiver		Signal+ Noise to Noise Ratio		
Frequency MHz	Mode	Output		Service Bandwidth kHz Switch	Input Socket	Limit dB	Measured	
		Level μV rms emf	Impedance Ω				Normal Mains dB	Emergency Mains dB
00-210	CW	200	75	A3J USB 3	SK3	± 20		
00-505	CW	20	75	A3J USB 3	SK3	± 20		
01-500	CW	20	75	A3J USB 3	SK3	± 20		
03-000	CW	4	75	A3J USB 3	SK3	± 20		
04-50	CW	2	75	A3J USB 3	SK3	± 20		
07-00	CW	2	75	A3J USB 3	SK3	± 20		
08-00	CW	2	75	A3J USB 3	SK3	± 18		
09-50	CW	2	75	A37 USB 3	SK3	± 18		
12-00	CW	2	75	A3J USB 3	SK3	± 18		
20-00	CW	2	75	A3J USB 3	SK3	± 18		
29-00	CW	2	75	A3J USB 3	SK3	± 18		

Ship _____	Unit		Serial No
Date _____	Cabinet, Electrical Equipment R551N Receiver, Radio ARU11N Synthesiser Electrical Frequency ARU18A Adaptor, Common Antenna		

Table 7 Signal + Noise to Noise Ratio for CJP2 Receiver Using ARU18A Adaptor, Common Antenna

RF Signal Generator				CAW Range	Receiver Service Bandwidth kHz Switch	Input Socket	Signal + Noise to Noise Ratio	
Frequency	Mode	Output					Limit dB	Measured dB
MHz		Level μV rms emf	Impedance Ω					
01.50	CW	4	75	A	A3J USB 3	SK1	± 20	
03.00	CW	4	75	A	A3J USB 3	SK1	± 20	
04.50	CW	4	75	A	A3J USB 3	SK1	± 20	
07.00	CW	4	75	B	A3J USB 3	SK1	± 20	
08.00	CW	4	75	B	A3J USB 3	SK1	± 20	
09.50	CW	4	75	B	A3J USB 3	SK1	± 20	
12.00	CW	4	75	C	A3J USB 3	SK1	± 20	
20.00	CW	4	75	C	A3J USB 3	SK1	± 20	
20.00	CW	4	75	C	A3J USB 3	SK1	± 20	

3 SEA ACCEPTANCE TRIALS

3 SEA ACCEPTANCE TRIALS

3.1 EXTERNAL COMMUNICATIONS TRIALS

3.1.1 Trials by Ship's Staff

The following Trials are to be carried out by Ship's Staff at the first opportunity after successful completion of the Harbour Acceptance Trials (Radio).

- (1) 1.5 to 2.0MHz, 2.0 to 4.0MHz CW and voice communication with a Local Command Net station or GPO Coastal Station.
- (2) 4 or 6MHz, 8 or 12MHz and 16MHz Bands, CW communication with a Commonwealth Naval ship-shore station outside the United Kingdom.
- (3) SSB and FST operation facilities to be fully checked with a suitably fitted consort or shore station.
- (4) All receivers and adaptors are required to be operated with appropriate transmitters on the bands and with the stations laid down for the transmitter.

- (5) All appropriate aerials to be used.
- (6) In RATT fitted ships, the transmitter(s) is/are to be COMAL checked.
- (7) Equipment to be operationally checked on Emergency power supplies if appropriate.

3.1.2 Results of Trials

The results of these trials are to be forwarded to reach

Captain Weapons Trials (for the attention of Commander R),

Admiralty Surface Weapons Establishment,
Portsmouth,
Cosham,
PORTSMOUTH,
PO6 4AA

within four weeks of satisfactory completion of Harbour Acceptance Trials (Radio).