

Chapter I U.H.F./V.H.F., INTERCOMMUNICATION AND TELEBRIEFING

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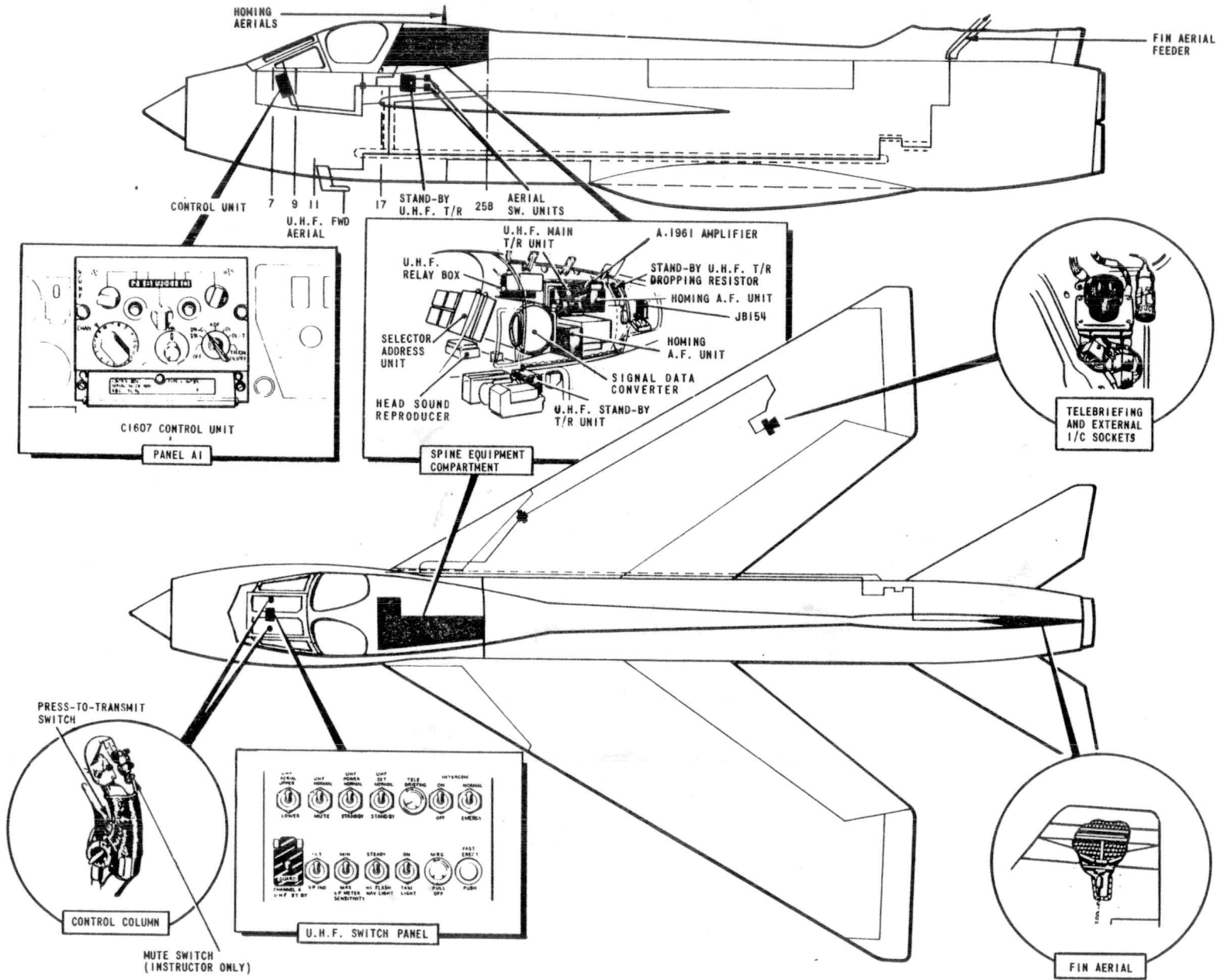


FIG. 1. U.H.F./V.H.F., INTERCOMM. AND TELEBRIEFING LOCATIONS

DESCRIPTION

Introduction

1. This chapter contains the information relating to the air-to-air, air-to-ground communication equipment and the associated radio navigation equipment.



General

2. Air-to-air and air-to-ground radio communication is normally provided by a U.H.F./V.H.F. transmitter-receiver, Type PTR 177. A stand-by U.H.F. transmitter-receiver, Type M6 provides a means of radio communication if the main system fails. The main T/R unit operates in conjunction with a control unit, Type C1607/4 and a homing system, incorporating a Type 11037 R.F. unit and a Type 9635 A.F. unit, which operates with the I.L.S. indicator. Four aeri-als are installed for communication and homing purposes.

3. Intercomm. between the instructor and pupil is provided by a Type A 1961 amplifier. External intercomm. and telebrief-

ing sockets are provided to maintain communication between the cockpit and ground crew or the telebriefing system whilst the aircraft is on the ground. Provision is made for feeding audio signals from the I.L.S. Tacan and standard warnings system into the pilots' telephones.

Main U.H.F./V.H.F. transmitter-receiver

4. A transmitter-receiver, Type PTR 177 is fitted, on a mounting, Type MT 1477, in the spine aft of the cockpit rear bulkhead (*fig. 1*). For R/T purposes, the PTR 177 operates in either the V.H.F. or U.H.F. band. In the V.H.F. mode, any one of 370 channels can be used in the 117.5 to 135.95 MHz band. In the U.H.F. mode, any one of 3500 channels can be used in the 225 to 339.95 MHz band. The channel spacing for both bands is 50 KHz. For data link purposes, only the U.H.F. mode is used and the channel spacing increased to 100 KHz to give 1750 available channels.

5. The T/R inner unit is pressurized to between 4 and 5 lb/in² by dry air or nitrogen which is introduced, when necessary, through a Schraeder valve.

6. Cooling of the transmitter-receiver is provided by a double-ended blower, which circulates air between the outer cover and the pressurized inner unit. The air inside the pressurized unit is circulated by a blower integral with the H.T. dynamotor.

Stand-by U.H.F. transmitter-receiver

7. If the main U.H.F./V.H.F. system becomes unservicable, radio communication can be maintained by the stand-by

U.H.F. T/R, Type M6 which is fitted on a mounting, Type 1031, between frames 20 and 21 in the main equipment compartment. The T/R incorporates an integral transistorized power unit and a cooling blower.

8. The stand-by T/R normally operates on the guard (International Distress) frequency of 243 MHz. For test purposes an additional channel, channel A, is provided, tuned to 243.8 MHz. Selection of this channel is made via the stand-by U.H.F. GUARD/CHAN. A selection switch on panel A3. The switch is normally held in the GUARD position by a spring-loaded, black-and-yellow-striped guard.

Homing facility

9. The homing installation consists basically of the following equipment housed in the spine compartment:-

A Type 11037 R.F. unit located in a Type 11503 mounting.

A Type 9635 A.F. unit on a Type 11502 mounting.

Two Type 11421 whip aeri-als mounted on the top skin of the spine.

Control unit C1607/4

10. Selection of the main U.H.F./V.H.F. frequency channel is made through the control unit, Type C1607/4 mounted on the main instrument panel A1. The unit incorporates a channel selector switch which covers 18 preset frequencies, three switches which can be used to select any one of the available U.H.F. and V.H.F. frequencies, a volume control, and a function switch.

U.H.F. switch panel (A3)

11. On the U.H.F. switch panel, located below the main panel A1, are the switches which control the following functions:-

- U.H.F. normal/mute selection.
- U.H.F. upper/lower aerial selection.
- U.H.F. set normal/stand-by selection.
- U.H.F. power normal/stand-by selection.
- Stand-by U.H.F. guard/A channel selection.
- Homing indicator I.L.S./VP selection.
- VP meter max/min sensitivity selection.
- Intercomm. ON/OFF selection.
- Intercomm. normal/emergency selection.
- Telebriefing combined switch and indicator lamp.

U.H.F. relay box

12. The main interconnection point for the communication and telebriefing systems is the U.H.F. relay box, located near the main PTR 177 in the spine bay (*fig.1*). The box contains relays 1, 3, 4, 5 and 6, a number of resistors, and associated wiring used in the microphone and audio warning systems.

Aerials*General*

13. Four aerials are installed for use with the U.H.F./V.H.F. systems. An upper and a lower wide-band aerial are provided for communication purposes and two whip aerials for homing.

Upper aerial

14. The upper wide-band aerial is an integral part of the fin. Below the tip of the fin are alternate sections of insulating fibreglass and metal forming a complete unit with the fin structure. The insulated tip and lower section

comprise the aerial proper. The aerial can operate over the U.H.F. and V.H.F. bands and is energized by an internal probe connected by coaxial cable to the No.3 aerial switch unit. There is no electrical connection between the probe and the insulated sections of the aerial. To prevent static interference, the insulated aerial is earthed to the main fin structure through two 100 kilohm resistors. When using a 250V megger to check the aerial resistance, a reading between 45 and 50 kilohm should be expected.

Lower aerial

15. This Type AT/840/ARC aerial is installed slightly to starboard of the centre line, between frames 7 and 8 on the underside of the nose and connected to No.2 aerial switch unit.

Homing aerials

16. The two aerials used for homing are Type 11421 whips installed close to each other in the top skin of the spine, near frame 23. Connections to the aerials are made through connectors 9 and 10 which are coaxial cable assemblies.

Note . . .

The electrical length of these connectors may change with age, and should be replaced as a pair should one become unserviceable. The electrical length of the connector is printed on the sleeve fitted at each end of the connector.

U.H.F./V.H.F. aerial selection

17. Switching of the aerial circuits is controlled by three Type 1741 solenoid-operated switch units installed in the main equipment compartment. No.1 switch unit is positioned on the aft

side of frame 21 whilst No.2 switch is forward of frame 21 on a bracket attached to the spine bay floor. No.3 switch is mounted on a bracket adjacent to the No.2 switch.

18. No.1 switch unit is energized when the aerial UPPER/LOWER selector switch is set to LOWER, No.2 switch unit is energized when the U.H.F. STANDBY/NORMAL selector switch is set to NORMAL and No.3 switch unit is energized when the main T/R is operating on a V.H.F. frequency.

19. With NORMAL and UPPER selected and the main T/R operating on a U.H.F. frequency, the upper aerial is connected to the main T/R via the homing R.F. unit, No.1 switch unit and No.3 switch unit. The lower aerial is isolated from the main and stand-by T/R's by No.1 switch unit.

20. With NORMAL and LOWER selected, the lower aerial is connected to the main T/R via No.1 and No.2 switch units. When STAND-BY is selected, the stand-by T/R is connected to the lower aerial via No.2 switch unit, irrespective of the setting of the aerial selector switch.

21. When the main T/R is operating on a V.H.F. frequency, the upper aerial is automatically connected to the T/R via No.3 switch unit irrespective of the setting of the aerial selector switch.

Press-to-transmit switches

22. Four press-to-transmit switches are

provided to control U.H.F. transmission. At each pilot's position one switch is fitted in the control column handle and another in the throttle lever. All four switches are connected in parallel and any one may be used when transmitting. The connections to the press-to-transmit switches on both control columns and cable C144 are made via terminal block C5 below the pilot's floor. When the main T/R is in use, the press-to-transmit circuits are supplied with 28V d.c. from busbar PF5 via fuse 96. When the stand-by T/R is in use, the press-to-transmit circuits are supplied with 24V d.c. from the battery busbar PK via fuse 261.

Stand-by U.H.F. test socket

23. A test socket for use when checking the operation of the stand-by U.H.F. system is installed above and forward of the radio equipment in the spine compartment.

Muting switches

24. To enable the pupil and instructor to converse freely through the intercomm. system, unwanted signals can be attenuated by the use of muting switches. The volume of incoming radio signals can be reduced by any one of three muting switches, one on the U.H.F. switch panel A3, one on panel A6 and one on the instructor's control column handle. All switches are spring loaded to the NORM position. A pull-to-operate switch on panel A1 is used to reduce the volume of the audio warning system signals when required.

Power supplies

25. The main T/R is supplied from the

28V d.c. busbar PL via fuse 311 and the homing A.F. unit. The stand-by T/R, designed to operate from a 24V d.c. supply, is normally supplied from the 28V d.c. busbar PF2 via fuse 34 and a 0.68 ohm resistor which is located on the port side of frame 23 in the spine. If the main 28V d.c. supply fails, the stand-by T/R is supplied from the 24V d.c. battery busbar PK via fuse 261 when the stand-by U.H.F. power supply switch is set to STAND-BY, isolating the resistor. Further information on the power supplies can be found in Sect.6, Chap.11.

A.R. I. 18168/2

26. The A.R. I. 18168/2 (data link system) comprises a signal data converter, a selector address unit and a head sound reproducer, all operating in conjunction with the main communication T/R and control unit. The units are located in the spine bay (*fig.1*). Both the signal data converter and the head sound reproducer are pressurized to 5lb/in² approx with dry air or nitrogen via a Schraeder valve. The data link system operates in the U.H.F. band only and is operative when the function switch on the control unit is set to DL or DL/T.

U.H.F./V.H.F. operation

27. When any one of the press-to-transmit switches is pressed, relay No.1 in the U.H.F. relay box is energized. Contacts of the relay operate to complete the PTS circuit to earth, isolate the I.L.S. Tacan and standard warning system signals from the microphone circuits, and, if the intercomm. is switched

on with the A.1961 amplifier power relay operated, completes the P-T-T + to P-T-T-circuit to energize relay TX in J.B. 154. With the intercomm. NORMAL/EMERGENCY switch set to normal, relay NE in J.B. 154 is energized to connect the pilot's microphone to the A.1961 amplifier.

28. With the U.H.F. selector switch at NORMAL, No.5 relay in the U.H.F. relay box is energized and the microphone circuits are routed through the contacts of the relay to the main T/R via the homing A.F. unit. When the selector switch is at STAND-BY, No.5 relay is de-energized and the microphone circuits are fed through its contacts to the U.H.F. stand-by T/R.

Homing indication

29. Both U.H.F. homing (V.P.) and I.L.S. indications are shown by the navigation display unit on the main instrument panel. Selection of either indication is made by the I.L.S./V.P. switch on the U.H.F. switch panel in conjunction with switches on the navigation display unit and relays No.3 and 6 in the U.H.F. relay box. With the selector switch set to I.L.S. the relays are de-energized and I.L.S. indications are given by the navigation display unit. The I.L.S. is also connected with the flight control system. Selecting the I.L.S.-V.P. switch to V.P. energizes the relays which break the circuit between the I.L.S. and the display unit and complete the circuit between the homing A.F. unit and the display unit.

V.P. meter sensitivity switch

30. This switch controls the sensitivity

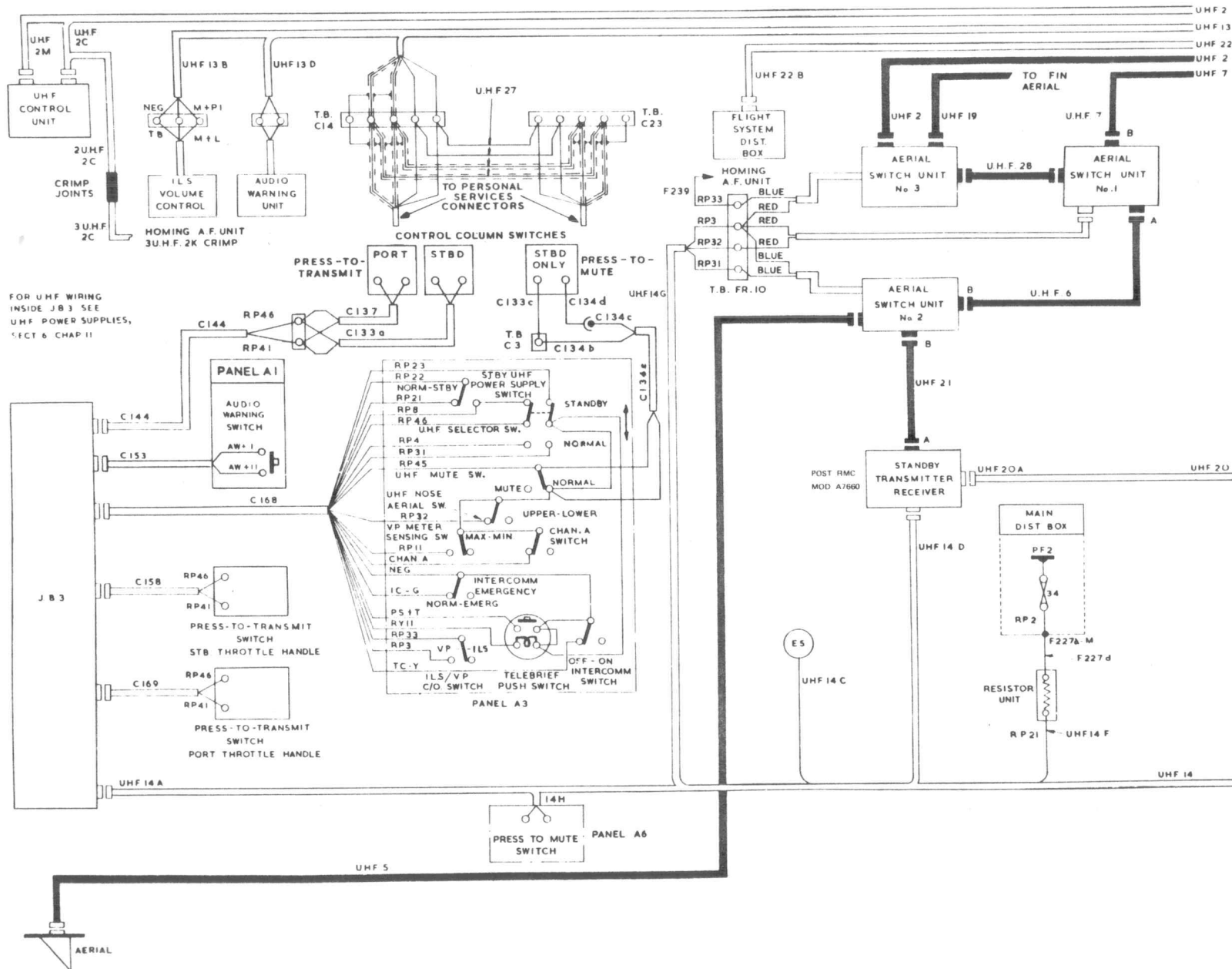


FIG. 2. U.H.F. / V.H.F. INTERCOMM. AND TELEBRIEFING

◀ MOD. 4840 EMBODIED ▶

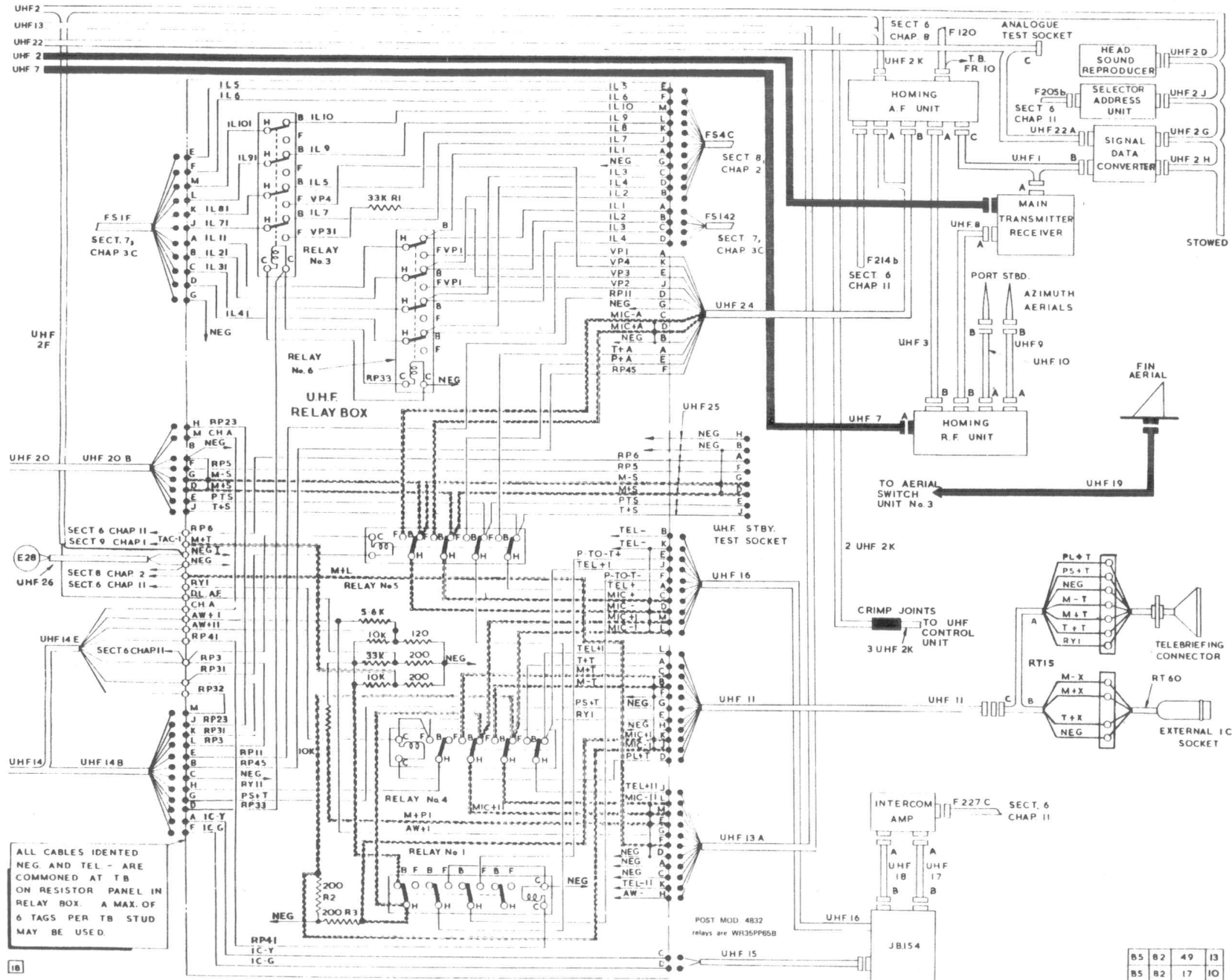


FIG. 2A. UHF /V.H.F INTERCOMM AND TELEBRIEFING-CIRCUIT DIAGRAM

◀ MOD. 4832 EMBODIED ▶

85	82	49	13
85	82	17	10

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of the I.L.S. indicator when operating in the U.H.F. homing circuit. Selecting the switch to MIN energizes a relay in the A.F. unit which reduces the input of the A.F. unit amplifier and, consequently, the amount of the indicator needle deflection.

Intercommunication

General

31. The intercomm. and other audio circuits are routed to the pilot's microphones and telephones through their personal services connectors. An external intercomm. socket provided for communication between the cockpit and the ground is installed in the starboard wheel bay. Normal intercomm. service is operated through a Type A.1961 amplifier situated in the spine near the homing RF unit. If the amplifier becomes unservicable, communication between the instructor and pupil can still be carried on through the homing A.F. unit.

Operation

32. The intercomm. service is controlled by the INTERCOMM. ON/OFF and NORMAL/EMERGENCY switches on the U.H.F. switch panel. When NORMAL is selected, the amplifier, Type A.1961 is in use and when EMERGENCY is selected, intercomm. is provided by the main T/R unit via the A.F. homing unit. The amplifier, Type A.1961 is described in A.P.116N-0105-1.

Telebriefing

General

33. Connection between the pilot's microphones and telephones and the ex-

ternal telebriefing circuit is made via a telebriefing socket installed near the external intercomm. socket in the starboard wheel bay. A telebriefing switch/indicator is mounted on U.H.F. switch panel A3 for use by either of the crew.

Operation

34. Connecting the telebriefing ground cable to the aircraft socket in the starboard wheel bay energizes No.4 relay in the U.H.F. relay box, causing the transfer of the pilot's mic/tel circuits from the aircraft internal circuits to the external telebriefing system. The lamp in the switch/indicator should be lit, indicating that telebriefing is operative. On pressing the lamp the pilot's microphones are connected to the ground system, allowing communication with the ground control point or other aircraft connected to the installation.

SERVICING

WARNING

The relevant safety precautions detailed on the LETHAL WARNING marker card must always be observed before entering the cockpit or performing any operations upon the aircraft.

General

35. Components and cables should be checked periodically for damage. General servicing is straightforward and the removal and assembly of equipment should not present undue difficulties.

Main U.H.F./V.H.F. transmitter-receiver

36. A full description of this unit can be found in A.P.116D-0134-1, together with the functional test procedures. The internal pressure of the unit must be checked periodically and maintained at between 4 and 5 lb/in², using dry air or nitrogen. Replace the Schraeder valve cap after pressurizing.

Stand-by U.H.F. transmitter-receiver

37. A full description of the stand-by U.H.F. unit can be found in A.P.116D-0110-16, together with the functional test procedures.

Homing system

38. A full description of the homing system units can be found in A.P.116B-0301-1, together with the functional test procedures. When a homing A.F. unit is replaced, ensure that the plate on the front of the replacement unit indicates that the phasing link is in the 'in' position.

Telebriefing

39. The telebriefing system, its equipment and servicing procedures are described in A.P.116N-0301-1.

Data link system

40. The internal pressure of the signal data converter and the head sound reproducer must be checked periodically and maintained at between 4 and 5 lb/in² using dry air or nitrogen. Replace the Schrader valve caps after pressurizing.

101B-1005-1B/86/823309/151/2-83/BAe/1405

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TABLE 1

Equipment details

Equipment	Type	Location	Access	A.P. Reference
Control unit	C1607/4	Cockpit	Canopy	116D-0105-1
U.H.F. switch panel	-	Cockpit	Canopy	-
Main transmitter-receiver	PTR 177	Forward spine bay	Panel 16P	116D-0134-1
Homing A.F. unit	9635			116B-0301-1
Homing R.F. unit	11037			116B-0301-1
Junction box	154			116N-0105-1
U.H.F. relay box	EB5-82-51			
Stand-by U.H.F. test socket	-			
Resistor unit	-			
Signal data converter	11673			
Selector address unit	11941			
Head sound reproducer	11947			
Stand-by transmitter-receiver	M6	Main equipment bay	Panel 14P	116D-0110-16
Aerial switch units (3)	1741	Main equipment bay	Panel 14P	116D-0105-1
Upper aerial		Fin	-	-
Lower aerial	AT/840/ARC	Below nose frames 7 and 8	-	116D-0133-1A

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TABLE 2
Connector and cable assemblies

Cable symbols:- *Unifersil* = T, *Unifersilmetsheath* = TMS.

CONNECTOR U.H.F.1 - EB5.82.5551

CONNECTOR U.H.F.2 - EB5.82.10095

CONNECTOR U.H.F.2 - EB5.82.10095 - continued

TERMINATION	PIN	CABLE	PIN	TERMINATION
	A	T22	A	
	B*	T16*	B	
	C	T22	C	
	D	T22	D	
	E	T22	E	
	F	T22	F	
	H	T22	H	
	J	T22	J	
	K	T22	K	
	L	T22	L	
	M*	TMS22*	M	
	N*	TMS22*	N	
	P	T22	P	
	R*	TMS22*	R	
	S*	TMS22*	S	
	T	T22	T	
	U	T22	U	
	V	T22	V	
	W	T22	W	
	X	T22	X	
	Y	T22	Y	
	Z	T22	Z	
U.H.F.1A			a	U.H.F.1C
	a	T22	b	
Main U.H.F.	b	T22	c	Homing A.F. unit
T/R	c	T22	d	
	d	T22	e	
	e	T22	f	
	f	T22	g	
	g	T22	h	
	h	T22	i	
	i	T22	j	
	j	T22	k	
	k	T22	m	
	m	T22	n	
	n	T22	p	
	p	T22	q	
	q	T22	r	
	r	T22	t	
	t	T22	u	
	u	T22	v	
	v	T22	w	
	w	T22	s	U.H.F.1B
	S	T22	A	Signal data converter
	*	T16	B	

TERMINATION	PIN	CABLE	PIN	TERMINATION
	A	T22	A	
	B	T22	B	
	C	T22	C	
	D	T22	D	
	E	T22	E	
	F	T22	F	
	G	T22	G	
	H	T22	H	
	J	T22	J	
	K	T22	K	
	L	T22	L	
	M	T22	M	
	N	T22	N	
	O	T22	O	
	P	T22	P	
	Q	T22	Q	
	R	T22	R	
	S	T22	S	
	T	T22	T	
	U	T22	U	
	V	T22	V	
	W	T22	W	
	X	T22	X	
	Y	T22	Y	
	Z	T22	Z	
	a	T22	a	
	b	T22	b	
	c	T22	c	
	d	T22	d	
	e	T22	e	
	f	T22	f	
	g	T22	g	
	h	T22	h	
	i	T22	i	
	j	T22	j	
	k	T22	k	
	m	T22	m	
	n	T22	n	
	p	T22	p	
	r	T22	r	
	s	T22	s	
	x	T22	x	
	y	T22	A	U.H.F.2E
	w	T22	B	(stowed)
	q	T22	C	
	t	T22	L	
	u	T22	J	U.H.F.2M
	y	T22	K	control unit
	z	T22	M	
			H	

TERMINATION	PIN	CABLE	TAILS	TERMINATION
	F	TMS22	t	U.H.F.2J
	H	TMS22	u	(part)
	G	TMS22	v	Selector
	V	T22	y	address
	E	TMS22	z	unit (A)
U.H.F.2D				
	A	T22	C	
	B	T22	G	
	C	T22	E	
	D	T22	A	U.H.F.2H
Head sound reproducer	N	T22	P	
	P	T22	F	Signal data converter
	R	T22	D	
	S	T22	d	
	T	T22	M	
	U	T22	X	
	W	T22	B	
	L	TMS22	DL/AF	U.H.F.2F
	M	T22	NEG	U.H.F. relay
	H	T22	H	box T.B.
	B	T22	B	crimp break
	J	T22	J	2 U.H.F.2C
	D	T22	D	
	E	T22	E	
	F	T22	F	
	A	T22	A	
	C	T22	C	
	K	T22	K	
	L	T22	L	
	M	T22	M	
	N	T22	N	
U.H.F.2C	P	T22	P	U.H.F.2K
	R	T22	R	
	S	T22	S	Homing A.F. unit
Control unit	T	T22	T	
	U	T22	U	
	V	T22	V	
	W	T22	W	
	X	T22	X	
	Y	T22	Y	
	Z	T22	Z	
	a	T22	a	
	b	T22	b	
	c	T22	c	
	d	T22	d	
	f	T22	f	
	g	T22	g	
	h	T22	h	
	j	T22	i	

Note... Screens of TMS22 cables and leads from pin B at each plug are connected to earthing rings of plugs 1A and 1C.

continued...

TABLE 2 Connector and cable assemblies — continued
Cable symbols:- Unitersil = T, Unitersimetsheath = TMS.

CONNECTOR U.H.F.2 — EB5.82.10095 — continued

TERMINATION	TAILS	CABLE	PIN	TERMINATION
Crimp break	B	T22	B	U.H.F.2K
2 U.H.F.2K Homing A.F. unit	H	T22	H	Homing A.F. unit
	J	T22	J	

CONNECTOR U.H.F.3 — EB5.82.5505

TERMINATION	PIN	CABLE	PIN	TERMINATION
U.H.F.3A Homing A.F. unit	A	Type B Equip. wire	A	U.H.F.3B Homing R.F. unit
	B	19.0076	B	
	C	19.0076	C	
	D	19.0076	D	
	E	19.0076	E	
	F	19.0076	F	
	H	19.0076	H	
	J	19.0076	J	
	K	19.0076	K	
	L	19.0076	L	
	M	19.0076	M	
	N	19.0076	N	
	P	19.0076	P	
	R	19.0076	R	
	S	19.0076	S	
	T	19.0076	T	
	U	19.0076	U	
V	19.0076	V		
W	19.0076	W		
X	19.0076	X		
Y	19.0076	Y		
Z	19.0076	Z		
a	19.0076	a		
b	19.0076	b		
c	19.0076	c		
d	19.0076	d		
f	19.0076	f		
g	19.0076	g		
i	19.0076	i		
h	19.0076	h		

CONNECTOR U.H.F.5 — EB5.82.5509

TERMINATION	CABLE	TERMINATION
Lower aerial	Coaxial	No.2 aerial switch

CONNECTOR U.H.F.6 — EB5.82.5511

TERMINATION	CABLE	TERMINATION
No.2 aerial switch (C)	Coaxial	No.1 aerial switch (C)

CONNECTOR U.H.F.7 — EB5.82.5513

TERMINATION	CABLE	TERMINATION
Homing R.F. unit	Coaxial	No.1 aerial switch (A)

CONNECTOR U.H.F.8 — EB5.82.10081

TERMINATION	CABLE	TERMINATION
Homing R.F. unit	Coaxial	Main U.H.F. T/R

CONNECTOR U.H.F.9 — EB5.82.5517

TERMINATION	CABLE	TERMINATION
Homing R.F. unit	Coaxial	Stbd. Homing aerial

CONNECTOR U.H.F.10 — EB5.82.5519

TERMINATION	CABLE	TERMINATION
Homing R.F. unit	Coaxial	Port Homing aerial

Note . . .
Connectors U.H.F.9 and U.H.F.10 are electrically matched and should always be replaced as a pair.

CONNECTOR U.H.F.11 — EB5.82.5521

TERMINATION	PIN	CABLE	PIN	TERMINATION
U.H.F. relay box	A	T22	A	Stbd. wing break
	B	TMS22	B	
	C	TMS22	C	
	D	T22	D	
	E	T22	E	
	F	T22	F	
	G	T22	G	
	H*	T22	H	
	J	TMS22	J	
	K	TMS22	K	
	L	T22	L	
M		M		

*Pin H is also connected to the screens of the cables connected to pins B, C, J and K

CABLE ASSEMBLY U.H.F.13 — EB5.82.5525

TERMINATION	PIN	CABLE	TAIL	TERMINATION
U.H.F.13A U.H.F. relay box	A*	T20	NEG	U.H.F.13B
	E	TMS20	M+P1	I.L.S. Vol.
	F	TMS20	M+L	Con. T.B.
	B	TMS22	M+11	U.H.F.13C
	C			
	M			
	L	TMS22	M-11	P.E.C.
	J	T22	T+11	connector
	K	T22	T-11	
	D	T22	AW+	U.H.F.13D
G				
H	T22	AW-	Audio warn. T.B.	

*Pin A (neg) is also connected to the screens of cables connected to pins E, F, M and L

CABLE ASSEMBLY — MISCELLANEOUS

TERMINATION	TAILS	CABLE	TAILS	TERMINATION
Crimp break	B	T22	B	Crimp break
3 U.H.F.2C control unit	H	T22	H	3 U.H.F.2K Homing A.F. unit
	J	T22	J	

CABLE ASSEMBLY U.H.F.14 — EB5.82.10015

TERMINATION	TAIL	CABLE	TAIL	TERMINATION
U.H.F.14G T.B.F10	RP3	T20	RP3	U.H.F.14E
	RP31	T20	RP31	
	RP32	T20	RP32	
U.H.F.14A J.B.3	PIN			U.H.F. relay box 1.B.
	H	T20	AW+1	
	D	T20	AW+11	
	M	T20	RP41	
	T	T20	Chap.A	
	B	T16	RP21	U.H.F.14F resistors

continued . . .

TABLE 2 Connector and cable assemblies - continued
 Cable symbols:- Uniterasil = T, Uniterasilmetsheath = TMS.

CABLE ASSEMBLY U.H.F. 14 - EB5.82.10015 - continued

TERMINATION	PIN	CABLE	PIN	TERMINATION
U.H.F. 14A	N	T20	A	U.H.F. 14B
J.B. 3	L	T20	D	
	G	T20	E	
	P	T20	F	
	Q	T20	G	
	S	T20	H	
	E	T20	J	
	F	T20	K	
	K	T20	L	
	A	T20	M	
	C	T16	A	
TAIL				
U.H.F. 14C	E5	T20	B	U.H.F. 14D stand-by T/R
Earth E5				
PIN				
U.H.F. 14A	J	T20	RP45	U.H.F. 14H press-to-mute switch Panel A6
J.B. 3	R	T20	NEG	
TAILS				
U.H.F. 14B	B	T20	RP45	U.H.F. 14H press-to-mute switch Panel A6
J.B. 3	C	T20	NEG	

CONNECTOR U.H.F. 15 - EB5.82.5529

TERMINATION	PIN	CABLE	PIN	TERMINATION
U.H.F. relay box	A	TMS22	A	J.B. 154
	B*	TMS22	B	
	C	TMS22	C	
	D	TMS22	D	

*The screens of all four cables are connected to pin B

CONNECTOR U.H.F. 16 - EB5.82.5531

TERMINATION	PIN	CABLE	PIN	TERMINATION
U.H.F. relay box (K)	A	T22	Tel +	J.B. 154
	B	T22	Tel -	
	C	TMS22	Mic +	
	D	TMS22	Mic -	
	E	T22	PtT +	
	F	T22	PtT -	
	G			
	H			
	J	T22	Tel + 1	
	K*	T22	Tel - 1	
	L	TMS22	Mic - 1	
	M	TMS22	Mic + 1	

*The screens of cables connected to pins C, D, L and M are connected to pin K

CONNECTOR U.H.F. 17 - EB5.82.5539

TERMINATION	PIN	CABLE	PIN	TERMINATION
U.H.F. 17A A1961 amplifier	A	TMS22	A	U.H.F. 17B J.B. 154
	B	TMS22	B	
	C	TMS22	C	
	D	TMS22	D	
	E	TMS22	E	
	F	TMS22	F	

Cable screens are bonded to cable clamps

CONNECTOR U.H.F. 18 - EB5.82.5535

TERMINATION	PIN	CABLE	PIN	TERMINATION
U.H.F. 18A A1961 amplifier	A	TMS22	A	U.H.F. 18B J.B. 154
	B	TMS22	B	
	C	TMS22	C	
	D	TMS22	D	
	E	TMS22	E	
	F	TMS22	F	

Cable screens are bonded to cable clamps

CONNECTOR U.H.F. 19 - EF9.82.2349

TERMINATION	CABLE	TERMINATION
No.3 aerial switch unit	Coaxial	Fin aerial

CONNECTOR U.H.F. 20 - EB5.82.5549

TERMINATION	PIN	CABLE	PIN	TERMINATION		
U.H.F. 20A	A		A	U.H.F. 20B		
	B	*T22	B			
	C		C			
	D	TMS22	D			
	E	T22	E			
	F	T22	F			
	Stand-by U.H.F. T/R	G	TMS22		G	U.H.F. relay box
		H	T22		H	
		J	T22		J	
		M	T22		M	
		K			K	
		L			L	

*Screens of cables connected to pins D and G are connected to pin B

CONNECTOR U.H.F. 21 - EB5.82.5541

TERMINATION	PLUG	CABLE	PLUG	TERMINATION
Stand-by U.H.F. T/R		Coaxial UR73		No.2 aerial switch unit

CONNECTOR U.H.F. 22 - EB5.82.5543

TERMINATION	PIN	CABLE	PIN	CABLE	PIN	TERMINATION
U.H.F. 22A	A		A		A	U.H.F. 22B
	B	T22	B	T22	B	
	C	TMS22	C	TMS22	C	
	D	T22	D	T22	D	
	E	TMS22	E	TMS22	E	
	F	TMS22	F	TMS22	F	
	G	TMS22	G	TMS22	G	
	H	TMS22	H	TMS22	H	
	J	T22	J	T22	J	
	K	TMS22	K	TMS22	K	
	L	T22	L	T22	L	
	M	TMS22	M	TMS22	M	
	N	T22	N	T22	N	
	P	TMS22	P	TMS22	P	
	R	T22	R	T22	R	
	S	TMS22	S	TMS22	S	
	T	T22	T	T22	T	
	U	T22	U	T22	U	
	V	T22	V	T22	V	
	W	T22	W	T22	W	
	X	T22	X	T22	X	
	Z	T22	Z	T22	Z	
	a	T22	a	T22	a	
	b	T22	b	T22	b	
	c	T22	c	T22	c	
	d	T22	d	T22	d	
	e	T22	e	T22	e	
	f	T22	f	T22	f	
g	T22	g	T22	g		
h	T22	h	T22	h		
j	T22	j	T22	j		
k	T22	k	T22	k		
m	T22	m	T22	m		
n	T22	n	T22	n		
p	T22	p	T22	p		
r	T22	r	T22	r		
s	T22	s	T22	s		

U.H.F. 22A

Signal data converter (A.R.I. 18168)

Flight system dist. box

U.H.F. 22C Analogue test socket

*The screens of cables connected to pins C, E, F, G, H, K, M, P and S are connected to pin A on U.H.F. 22B

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