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BOOK 1003

AIR TRAINING COMMAND

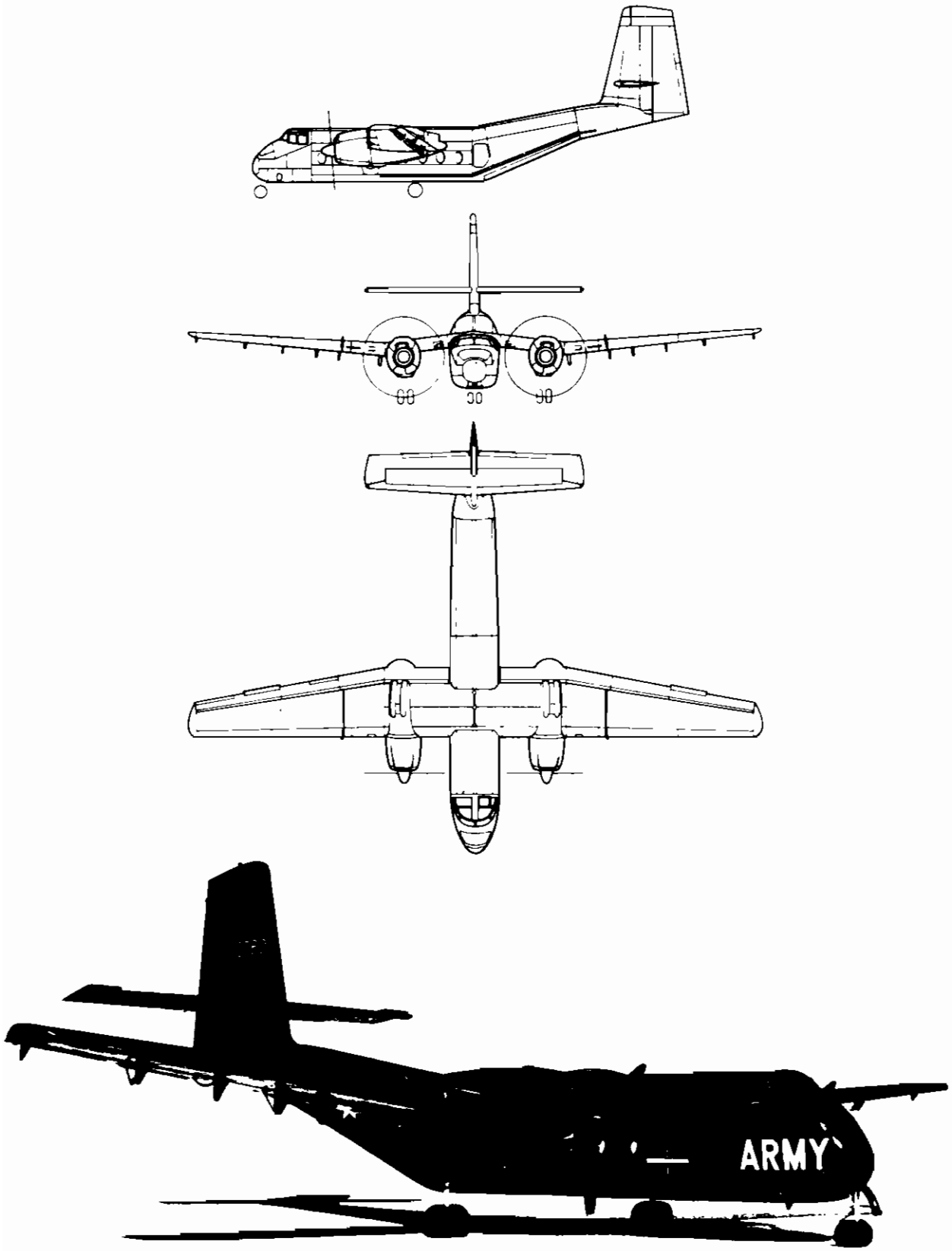
STUDENT STUDY GUIDE

AMF30170
CV-2 AVIONICS

15 JULY 1966

RESPONSIBLE AGENCY OF ATC
Sheppard Technical Training Center
Sheppard Air Force Base, Texas

DESIGNED FOR ATC COURSE USE ONLY



The aircraft

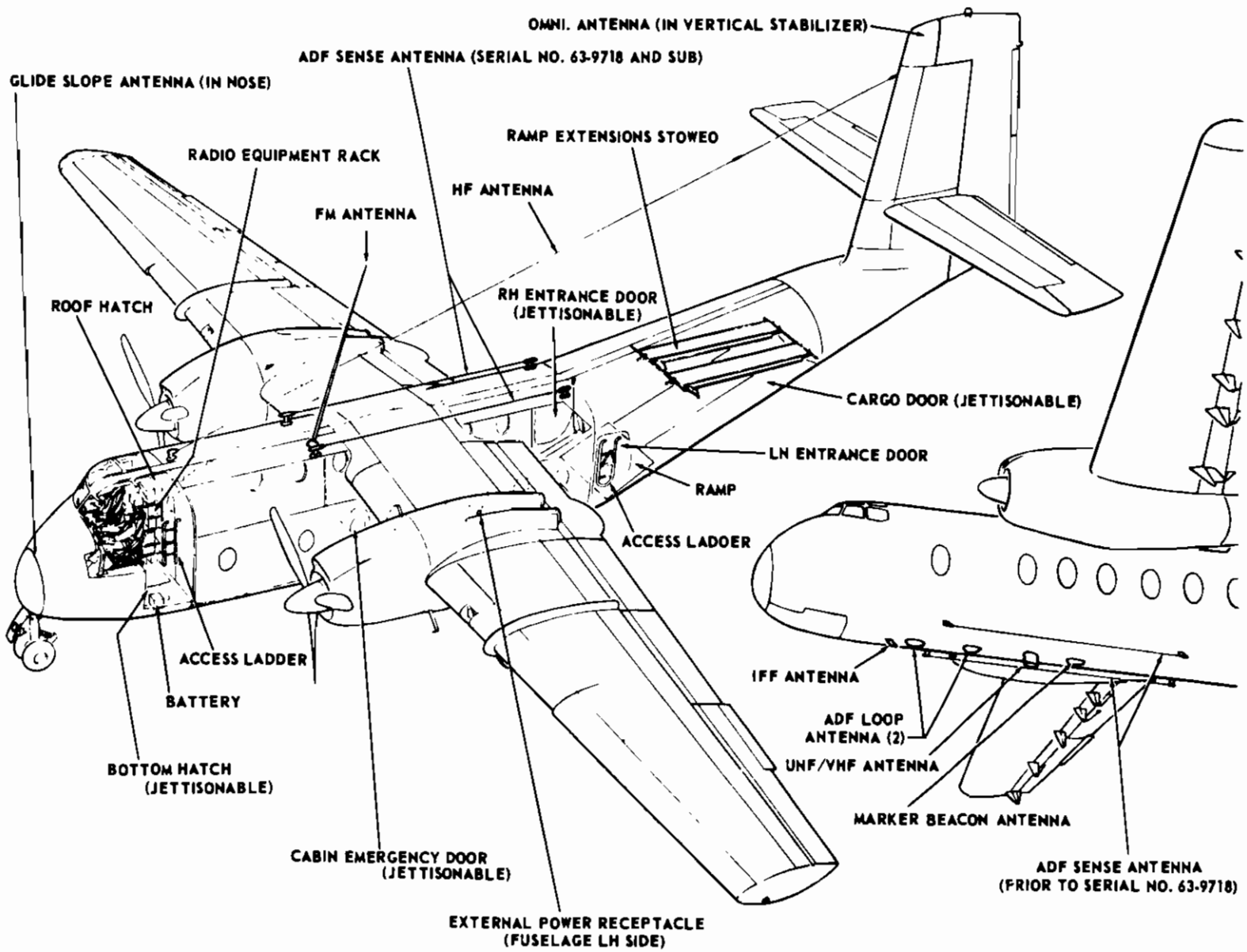
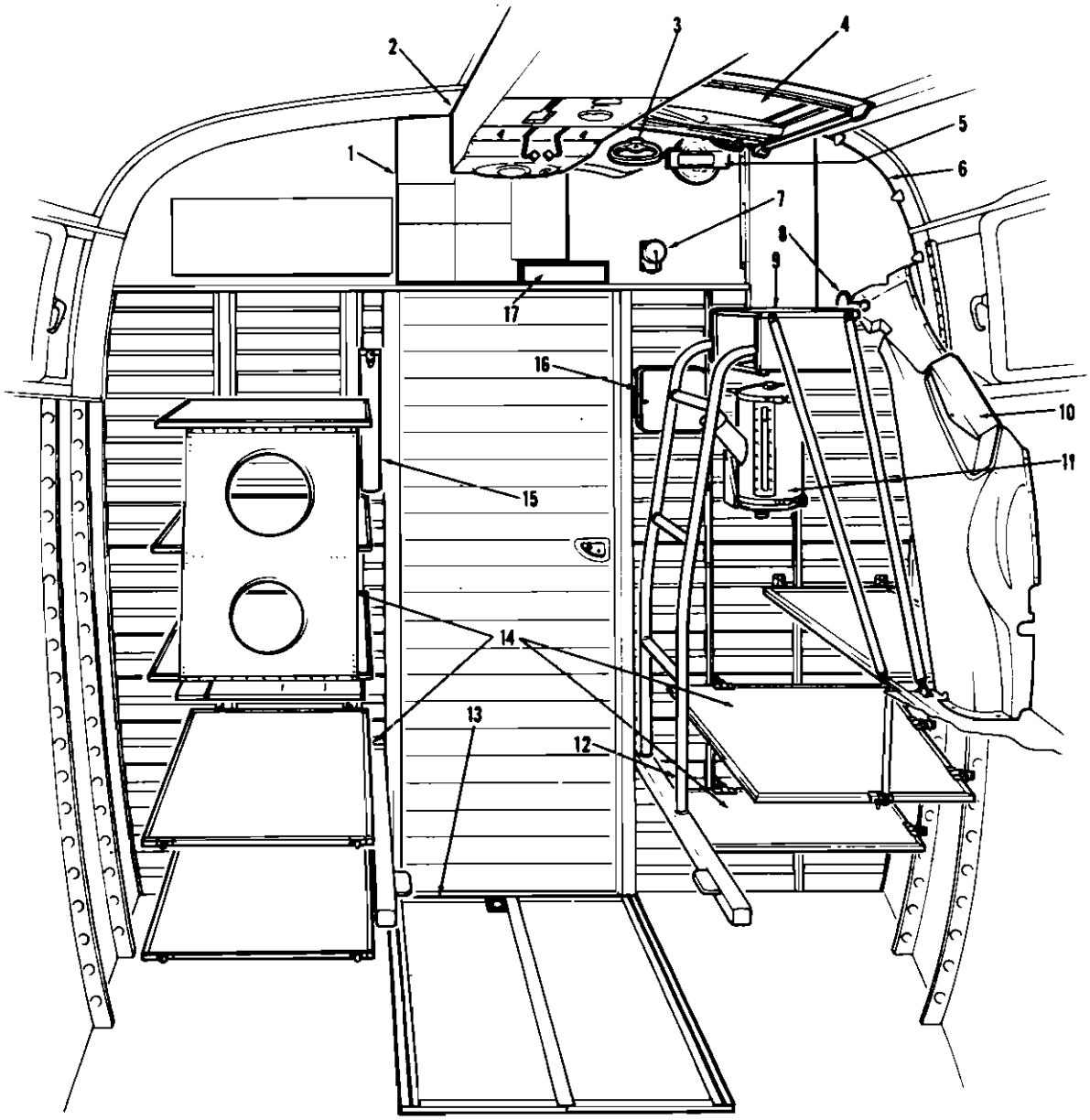


Figure 2-2. General arrangement



1. CIRCUIT BREAKER AND FUSE PANELS
2. OVERHEAD CONSOLE
3. MAIN GEAR EMERGENCY EXTENSION HANDLE
4. ROOF HATCH
5. EMERGENCY SLIDE
6. HEATING CONTROL PANELS
7. IGNITION ANALYZER RECEPTACLE
8. HYDRAULIC PRESSURE SHUT-OFF VALVE HANDLE
9. FIRST AID KIT STOWAGE
10. MAP AND DATA CASE
11. HYDRAULIC FLUID RESERVOIR AND SIGHT GAGE
12. ACCESS LADDER
13. FLOOR DOORS
14. RADIO EQUIPMENT RACKS
15. WEIGHT AND BALANCE COMPUTER
16. SPARE LAMPS AND FUSES STOWAGE
17. CARGO DOOR AND RAMP FORWARD SWITCH PANEL

Figure 2-3. Flight compartment (sheet 2 of 2)

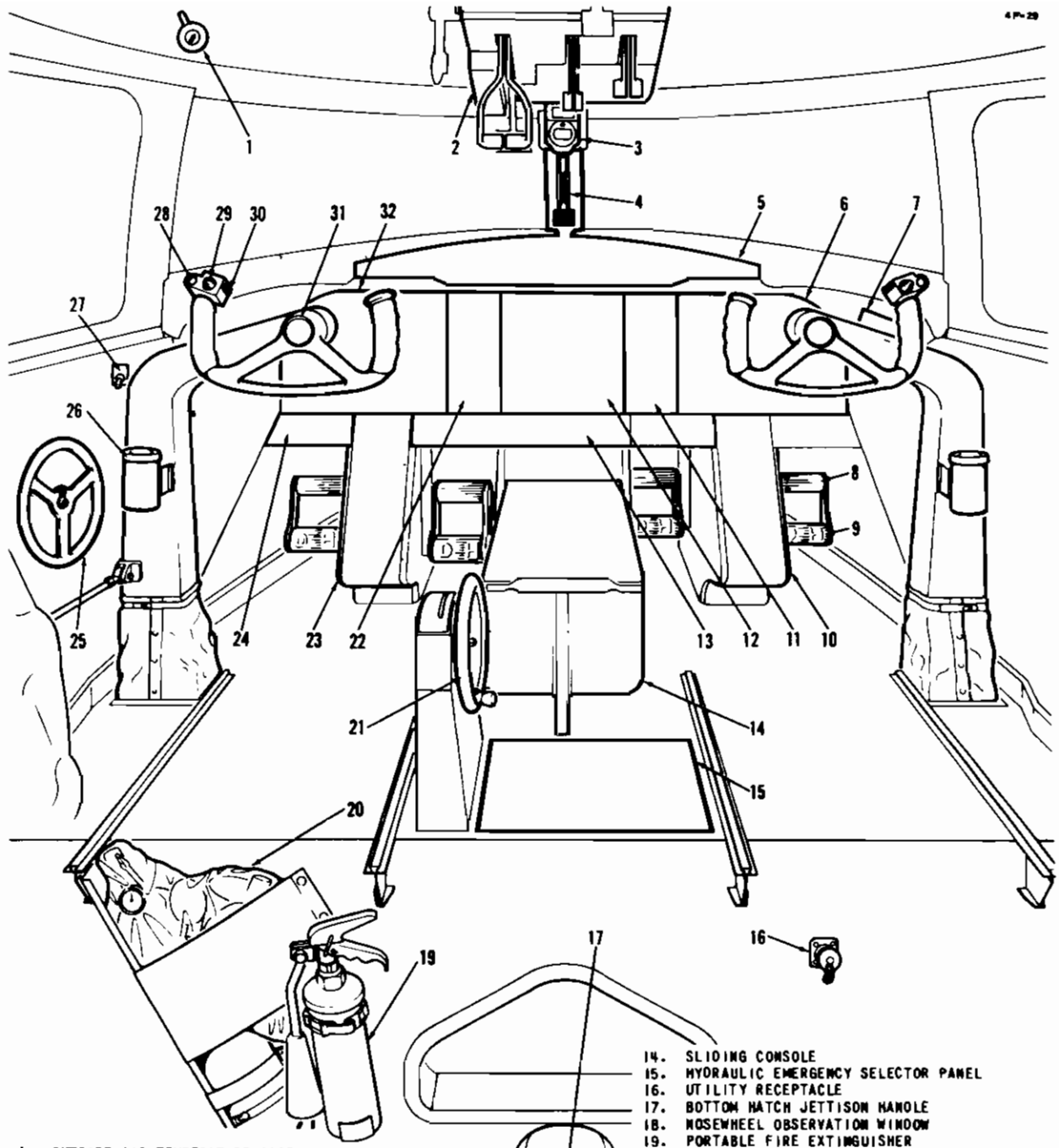
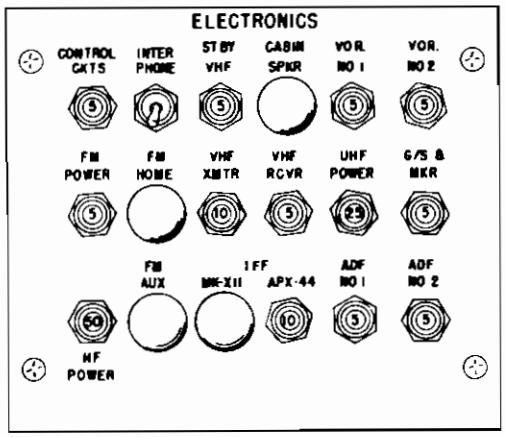
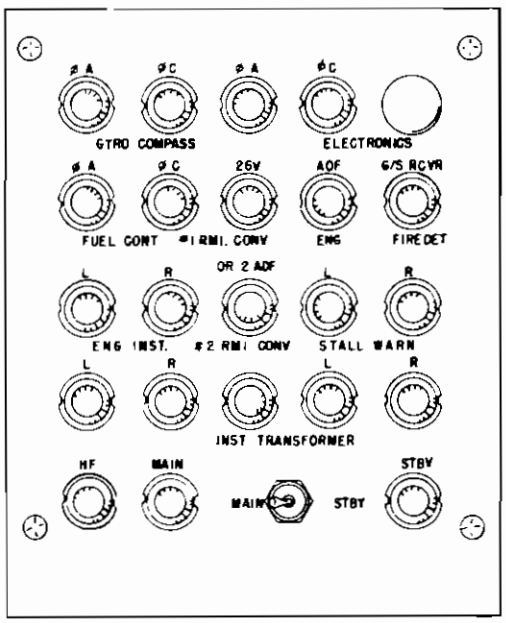


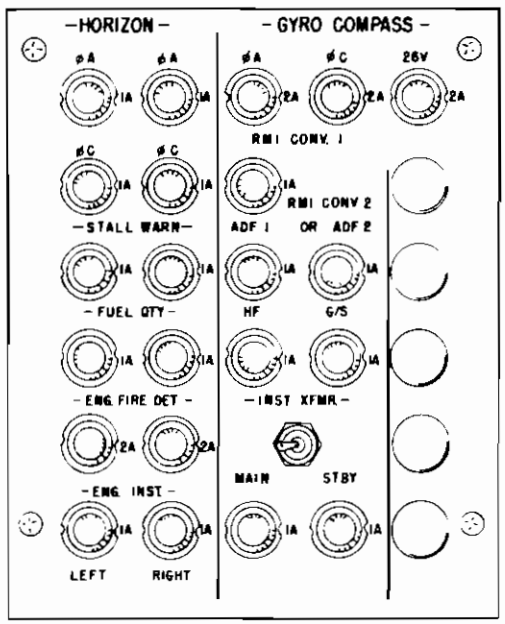
Figure 2-3. Flight compartment (sheet 1 of 2)



AIRCRAFT SERIAL NO.
63-9718 AND SUBSEQUENT



AIRCRAFT SERIAL NO.
60-3762 THROUGH 61-2600



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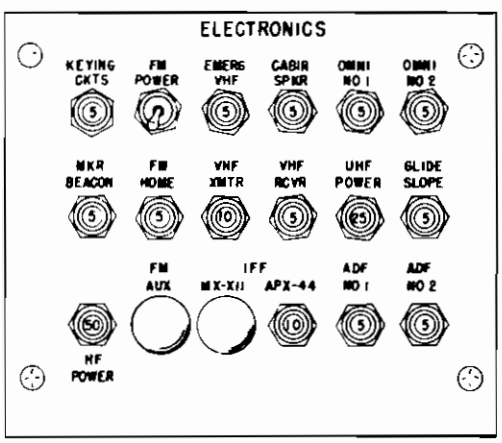
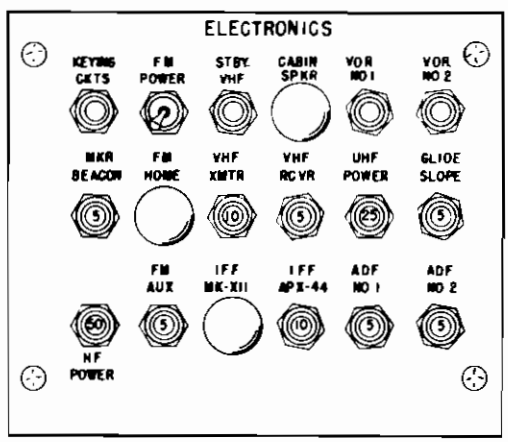
62-4144 AND SUBSEQUENT

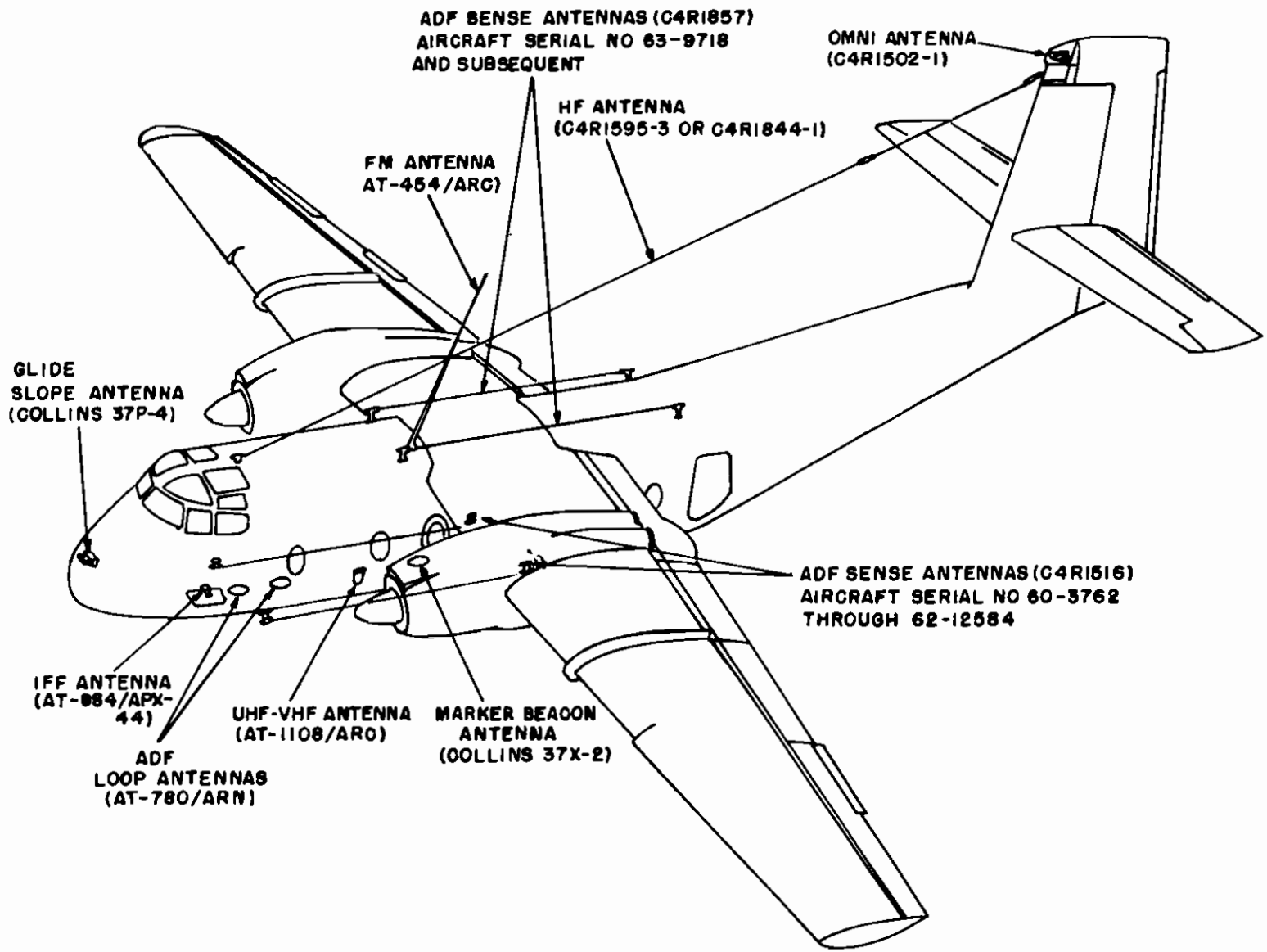


AIRCRAFT SERIAL NO.
60-3762 THROUGH 60-544



AIRCRAFT SERIAL NO.
61-2600 THROUGH 62-12584

67 9007


ADF SENSE ANTENNAS (C4R1857)
AIRCRAFT SERIAL NO 63-9718
AND SUBSEQUENT
OMNI ANTENNA
(C4R1502-1)
HF ANTENNA
(C4R1595-3 OR C4R1844-1)
FM ANTENNA
AT-454/ARC)
GLIDE
SLOPE ANTENNA
(COLLINS 37P-4)
ADF SENSE ANTENNAS (C4R1516)
AIRCRAFT SERIAL NO 60-3762
THROUGH 62-12584
IFF ANTENNA
(AT-884/APX-
44)
UHF-VHF ANTENNA
(AT-1108/ARC)
MARKER BEACON
ANTENNA
(COLLINS 37X-2)
ADF
LOOP ANTENNAS
(AT-780/ARN)

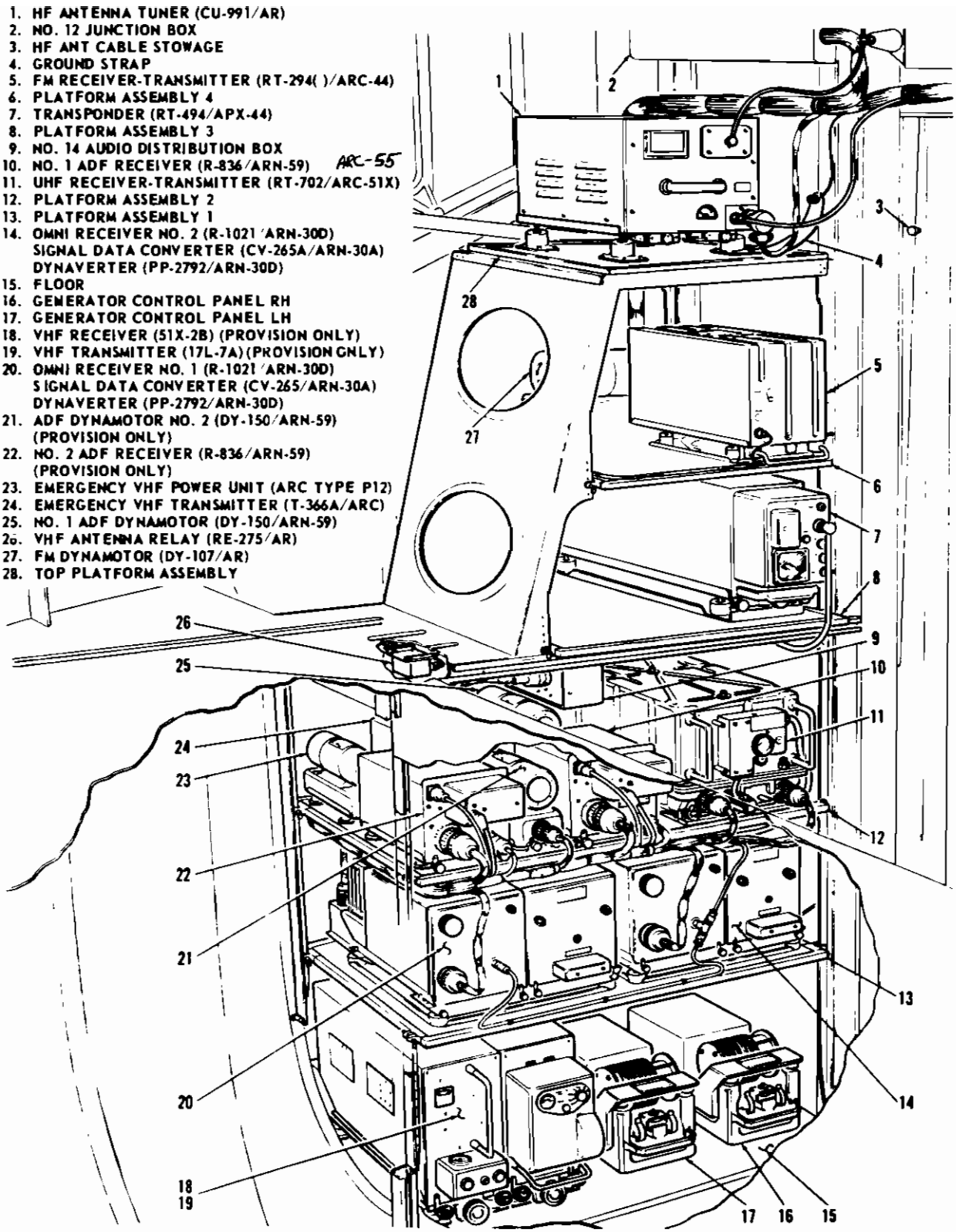


Figure 13-1. Location of equipment on RH radio rack, configuration D (original installation) (sheet 2 of)

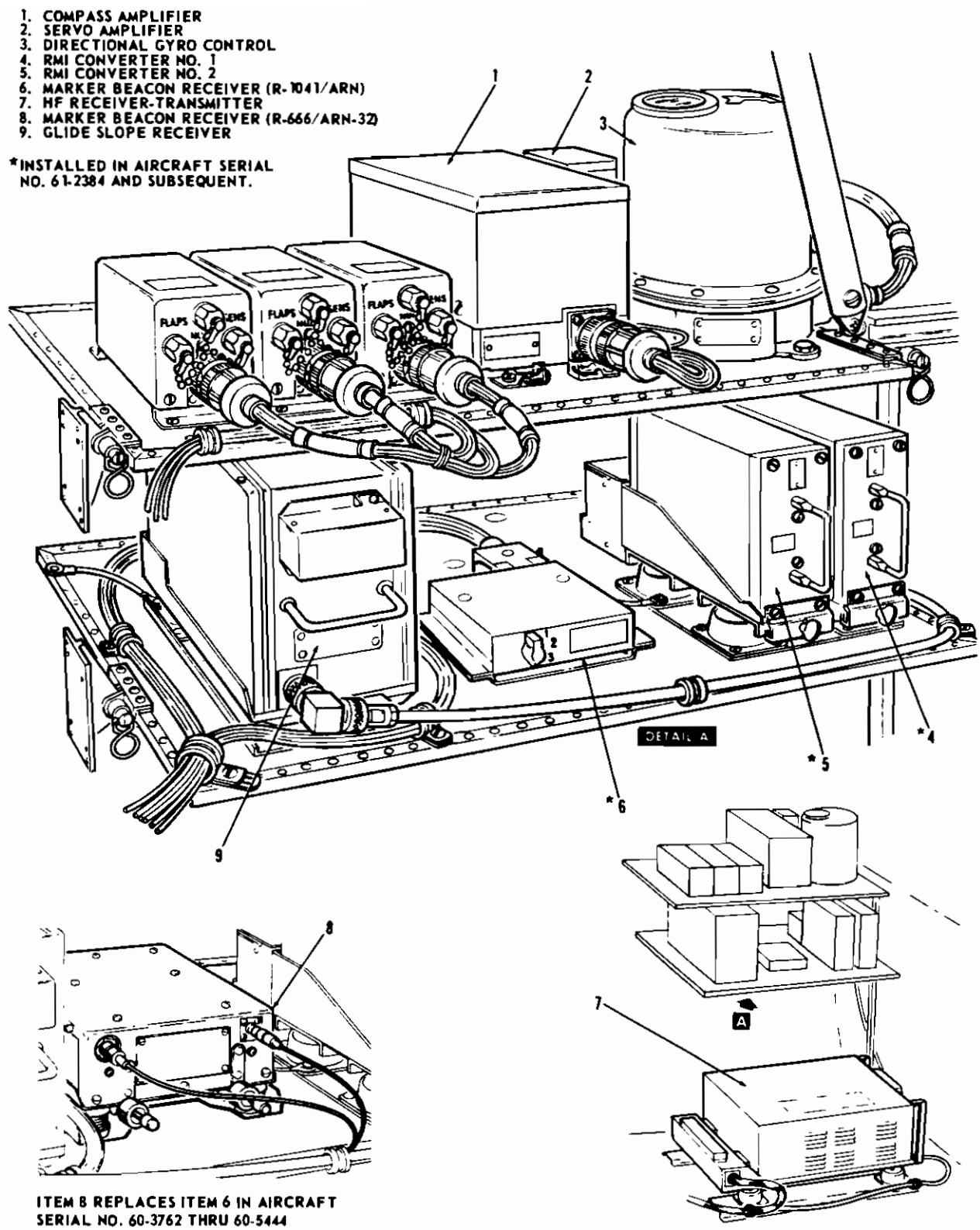


Figure 13-2. Location of equipment on LH radio rack, configurations A and B (AN/ARC-59 installed) (sheet 1 of 3)

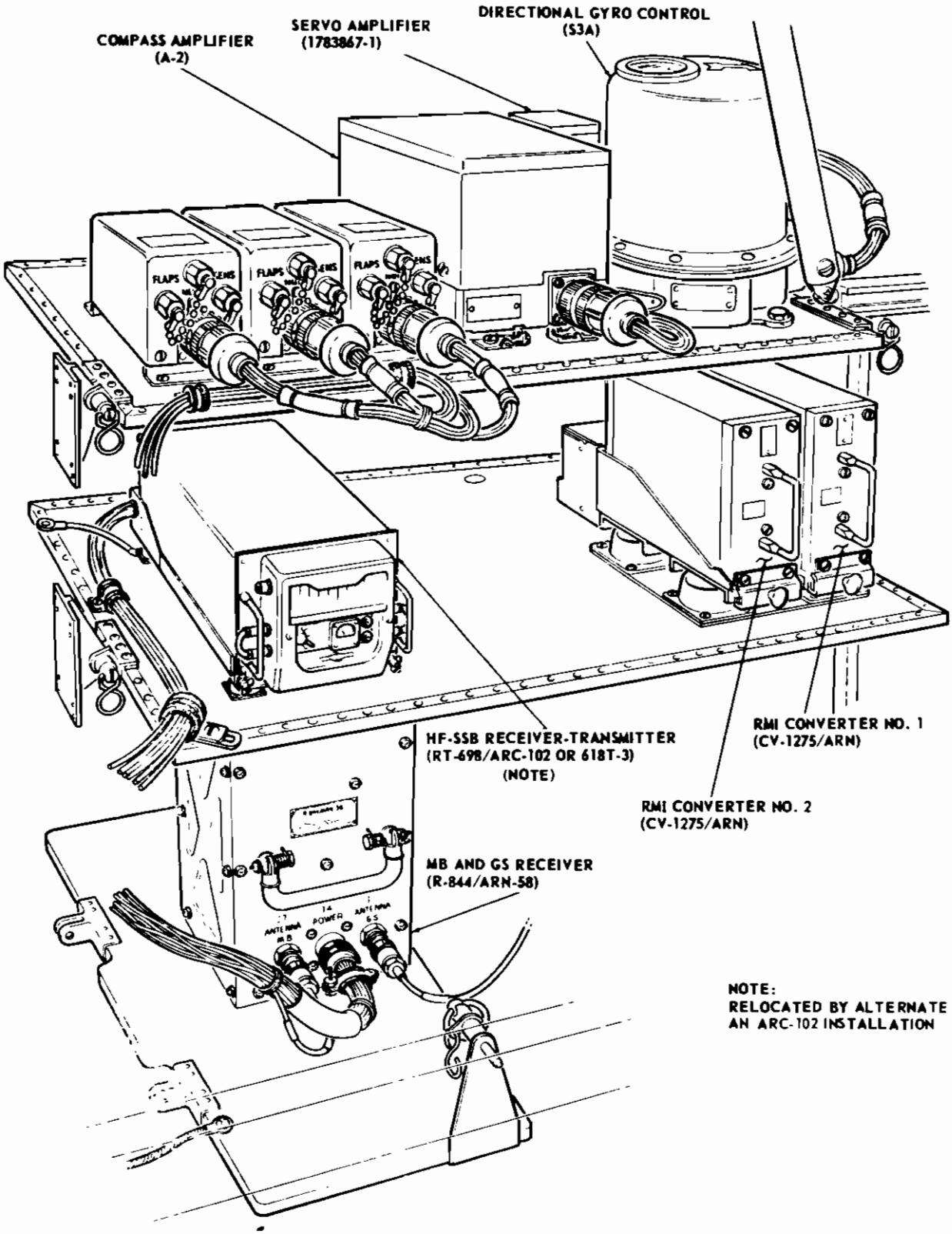


Figure 13-2. Location of equipment on LH radio rack, configuration D (sheet 3 of 3)

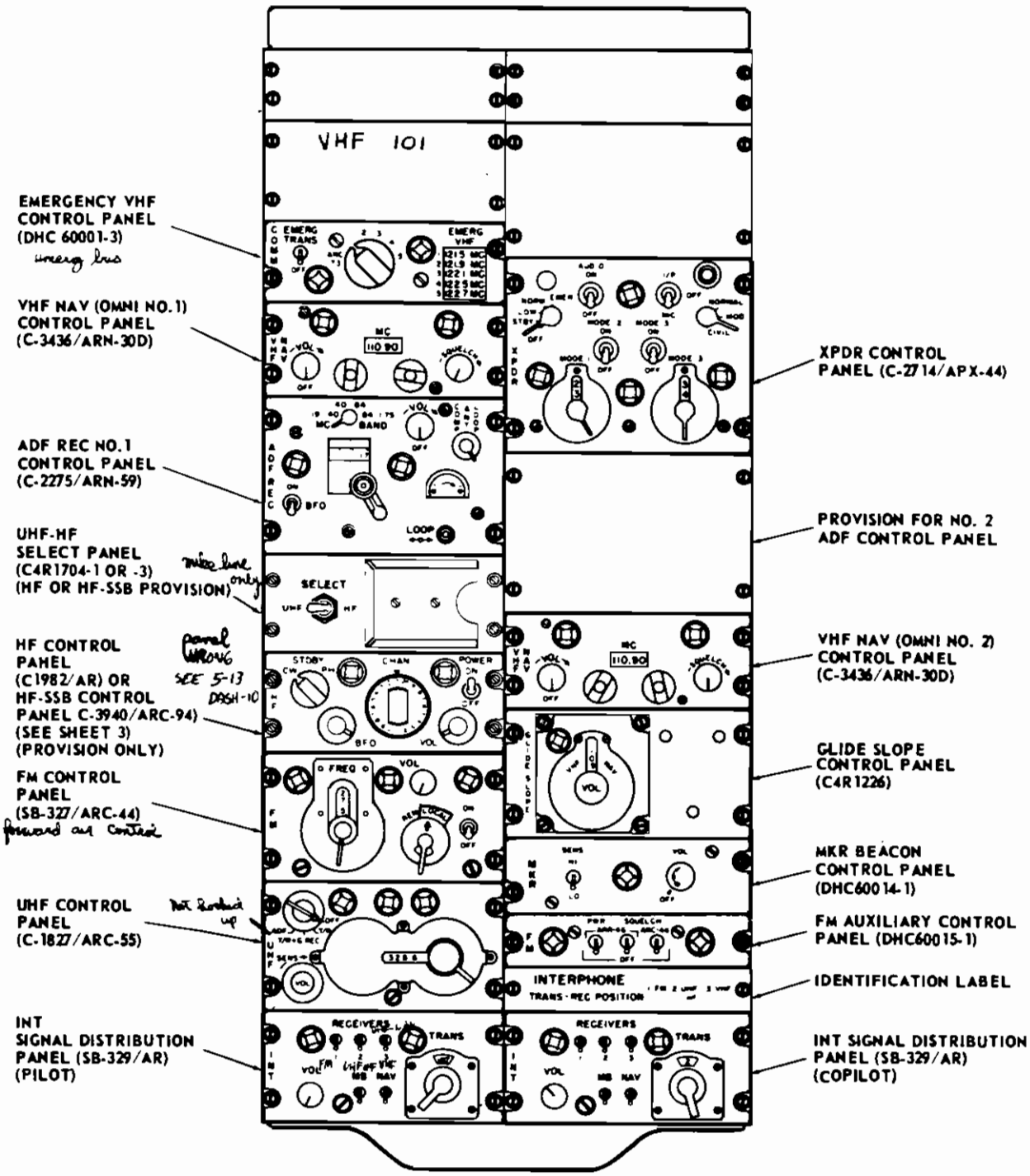
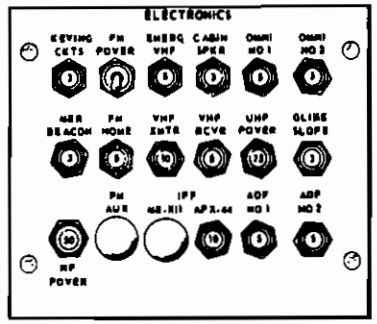
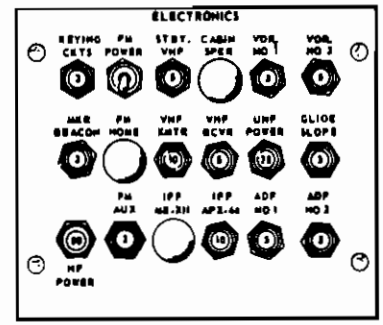


Figure 13-3. Location of control panels in sliding console, configuration B (sheet 2 of 4)



AIRCRAFT SERIAL NO.
60-3762 THRU 60-5444



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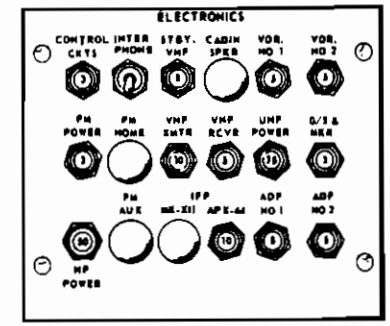
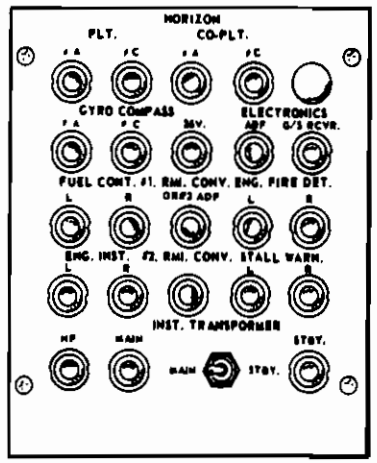
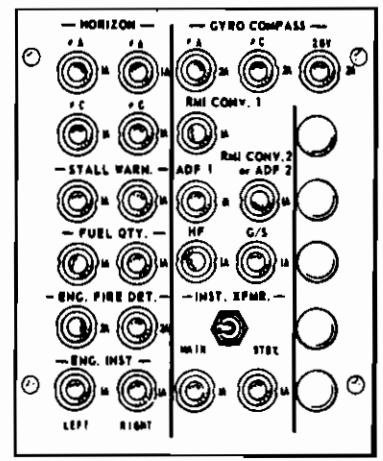


AIRCRAFT SERIAL NO.
63-9718 AND SUBSEQUENT

ELECTRONICS CIRCUIT BREAKER PANEL



AIRCRAFT SERIAL NO.
60-3762 THRU 61-2600



AIRCRAFT SERIAL NO.
62-4144 AND SUBSEQUENT

FUSE PANEL

NOTE:
1. DASH LINES INDICATE PROVISION ONLY.

Figure 13-6. Circuit breaker and fuse panels

CV-2 RADIO COMMUNICATIONS

This material is condensed from Technicial Manual 55-1510-206-10 and is offered as guide to the aircrew member to obtain a clear understanding of the operations, limitations and location of the communications equipment installed on the CV-2 aircraft.

CONTENT

PRELIMINARY STARTING PROCEDURES

GENERAL: The Avionics equipment configuration should be operated with the engines running and the generators supplying power, OR with an external power source connected to the aircraft. The aircraft battery should only be used to operate the equipment in an emergency.

Preliminary starting procedure using external power source.

A. Set battery master switch of OFF, and set LH and RH GEN switches to OFF, then connect external source to aircraft.

B. Pull out sliding console and insure all equipment is switched off on the console panel.

C. Insure all circuit breakers are ON, insure that EMER BUS switch is set to NORMAL.

D. Set INST TRANDFORMER switch on fuse panel to ON. Set AC INVERTER switch on electrical power panel to MAIN.

E. Plug in head set-mic assemblies at pilots and co-pilots and crew stations.

F. Set GYRO COMPASS switch on flight instrument panel to SLAVE.

Preliminary starting prodecure with engines running

A. When engines have been started, check that external power source is disconnected.

B. Set battery switch ON. Set LH and RH GEN switches ON.

C. Pull out sliding console and insure all equipment is switched OFF on control panels.

D. Insure all circuit breakers on ON, insure that EMER BUS switch is set to NORMAL.

E. Set INST TRANSFORMER switches on fuse panel to ON, set AC INVERTER switch on electrical power panel to MAIN.

F. Set GYRO COMPASS switch on flight instrument panel to SLAVE.

SECTION I

UHF COMMUNICATION SYSTEM

NOMENCLATURE: AN/ARC -55

DESCRIPTION: THE UHF COMMUNICATION SYSTEM INSTALLED ON THE CV-2 IS CAPABLE OF PROVIDING AIR TO AIR OR AIR TO GROUND COMMUNICATIONS. THE SYSTEM IS OPERATED BY A REMOTE CONTROL ON THE CENTER CONSOLE.

LOCATION:

A. The control panel is located on the center console.

B. The Transceiver is located in the Avionics rack.

C. The antenna is located on the bottom of the aircraft.

LIMITATIONS: Limitations of the UHF system is as follow;

A.	Frequency Range	225.0 thru 399.9 MC
B.	Frequencies	1750
C.	Channel Spacing	0.1 MC
D.	Guard Channel	243.0 MC fixed
E.	Transmission	Line of sight approx 50 miles at 3000 feet.
F.	Type of Emission	AM amplitude modulation only

TECHNICIAL CHARACTERISTICS OF THE UHF SYSTEM:

Frequency Range (Receiver and Transmitter)		1750 Between 225.0 thru 399.9MC
Type of Emission		Amplitude Modulation
Type of Transmission		Voice
Distance Range	Transmitter	Line of sight, varies with altitude Appx 50 miles at 3000ft
	Receiver	Same as transmitter

POWER REQUIREMENTS

RECEIVER	16.5 Amps at 27.5 volts DC
TRANSMITTER	19.1 Amps at 27.5 volts DC
CHANNEL SWITCHING	25.5 Amps at 27.5 volts DC

UHF COMMAND SET CONTROLS

CONTROL	FUNCTION
Function switch (Off- T/R- T/R+G Rec- ADF)	Selects UHF communication set operation mode. A. OFF position, the UHF is inoperative. B. T/R position, permits operation of main rec and trans on the selected frequency. C. T/R+G Rec position, permits operation of the main rec and trans on the selected freq, and reception on the Guard Frequency. D. ADF position, permits operation of the main rec and the trans on the selected freq and ADF reception on the main rec freq. (When ADF equipment is installed) Renders the Guard receiver inoperative.
VOL (volume) Control	Adjust the audio level of the main and guard receivers.
SENS (sensitivity) Control	Adjust the sensitivity of the main rec. When rotated fully clockwise it disables the squelch circuits.
Frequency Selection	Selects the desired freq and displays it in the indicator window.

OPERATION OF THE SYSTEM:

For normal reception, proceed as follows;

1. Preform preliminary starting procedure.
2. Insure UHF POWER, FM POWER and KEYING CKTS circuit breakers are set to the ON position.
3. On operators INT panel, set RECEIVERS 2 switch in ON position and turn VOL center for maximun volume.
4. On sliding console panel, set UHF-HF SELECT switch to UHF position.

5. On UHF control panel;

   A. Set function switch to T/R position. If desired to also monitor the guard rec, set function to T/R+G REC position. Allow appx one minute for the set to warm up.

   B. Set required freq using three frequency selectors

   6. Turn VOL control fully clockwise for max volume. If necessary, adjust INT panel VOL control to obtain suitable audio level.

   D. Adjust SENS control fully counter clockwise until back ground hissing noise is eliminated. Do not turn SENS control any further than necessary for eliminating noise, other wise weak incoming signals will not be heard.

For normal transmission, proceed as follows;

1. Turn ON radio set, following steps 1 thru 5 above.
   (CAUTION:::) DO NOT TRANSMIT ON THE EMERGENCY FREQ OF 243.0 mc
   EXCEPT IN AN EMERGENCY !!!!!!!

2. On the operators INT panel, set TRANS (transmit-interphone) switch to position 2
   NOTE:: When TRANS (transmit-interphone) switch on pilots or co-pilots INT panel is set to position 2 the UHF receiver is connected to the head set and mic regardless of the RECEIVER 2 switch setting.

3. Perform two way communications on selected freq by pressing mic switch on the control wheel or foot switch to mic and speak into MIC. Side tone will be heard in the operators headset while transmitting. Release MIC switch for reception, clear signals should be heard.

4. On INT panel at other stations, with RECEIVER 2 switch set to ON, UHF signals should be heard.

5. To stop UHF command set, turn function switch on UHF control panel to OFF. Set transmit-interphone switch on control panel to INT position.

SECTION II

VHF COMMUNICATION SYSTEM

NOMENCLATURE: AN/ARC-73

DESCRIPTION: The VHF communication system installed on the CV-2 is capable of providing air to air or air to ground communication. The system is operated by a remote control panel on the center console.

LOCATION:
A. The control panel is located on the center console.
B. The transceiver is located in the avionics rack.
C. The antenna is located on the bottom of the aircraft.

LIMITATIONS:

A.	Frequency Range	116.00 thru 149.95mc
B.	Channels	680
C.	Channel Spacing	50kc
D.	Transmission	Line of Sight
E.	Type of Emission	Amplitude Modulation

TECHNICIAL CHARACTERISTICS OF THE VHF SYSTEM:

FREQUENCY RANGE	A. TRANSMITTER	680 channels (116.00 thru 149.95 mc) channel spacing 50kc apart
	B. RECEIVER	720 channels (116.00 thru 149.95 mc) channel spacing 50kc apart 880 channels (108.00 thru 151.95mc) depending on the control panel used. channel spacing 50kc apart.
	Type of Emission	Amplitude Modulation
	Type of Transmission	Voice
Distance Range	A. Transmitter	Line of sight, varies with altitude, Appx 50 miles at 3000ft
	B. Receiver	Same as transmitter

POWER REQUIREMENTS

Receiver	1.2 amps at 27.5 volts DC
Transmitter	7.3 amps at 27.5 volts DC
Channel switching	3.3 amps at 27.5 volts DC

VHF COMMAND SET CONTROLS

CONTROL	FUNCTION
Power (ON-OFF) switch	On position, permits operation of the VHF command set on the selected frequency
SCS-DCS/DCD switch	Not used on this aircraft.
VOL (volume) control	Adjusts the audio level of the receiver.
SQ (squelch) control	Adjusts the aquelch threshold level of the receiver output.
Frequecny selectors (2ea)	Selects receiver and transmitter frequency and displays it in the FREQ MC window.

OPERATION OF THE VHF SYSTEM

For normal operation, proceed as follows;

1. Perform preliminary starting procedures.

2. Insure VHF RCVR, FM POWER, VHF XMTR and KEYING CIRCUITS (or interphone and control ckts) circuit breakers are on.

3. On operators INT panel, set RECEIVERS 3 switch to ON position, and turn VOL control for max volume.

4. On standby VHF panel set frequency selector for standard VHF reception. (STD VHF ARC-73 or TRANS 1 as applicable)

5. On VHF COMM control panel;
   A. Set power switch to on position. Allow appx 15 minutes for radio set to warm up.
   B. Set required frequency using two frequency selectors.
   C. Adjust SQ control fully counter clockwise, then clockwise until back ground hissing noise is eliminated. Do not turn SQ any further than necessary to eliminate noise, otherwise weak incoming signals will not be heard.
   D. Adjust VOL control for suitable volume level of the received signal.

For normal transmission, proceed as follows;

1. Turn on radio set following steps 1 thru 5 above.
   CAUTION::: DO NOT TRANSMIT ON THE EMERGENCY FREQUENCY OF 121.5mc
   EXCEPT IN AN EMERGENCY

2. On operators INT panel, set TRANS (Transmit-interphone) switch to position 3.
   NOTE:::: When pilots or co-pilots TRANS (transmit-interphone) switch is set to position 3 VHF receiver is connected to head set regardless of receiver 3 switch setting.

3. Perform two way communication on selected frequency by pressing mic switch on control wheel to TX or foot switch to MIC, and speak into MIC. Side tone should be heard in operators headset while transmitting. Release mic switch for reception. Clear signals should be heard.

4. On INT panel at other stations, with RECEIVER 3 switch set to on, VHF signals should be heard.

5. To stop VHF command set, turn power switch on VHF command control panel to OFF. Set transmitt interphone (TRANS) switch on INT position.

SECTION III

VHF STAND BY TRANSMITTER

NOMENCLATURE: T-366A/ARC

DESCRIPTION: Emergency transmission in the frequency range of 116.0 MC thru 132.0 MC, used in conjunction with the OMNI receiver to provide two way communication in an emergency.

LOCATION:
A. Control panel located on the center console.
B. Transmitter located in the Avionacs rack.

LIMITATIONS:

A.	Frequency Range	116.0 MC thru 132.0 MC
B.	Channel	5 Preset
C.	Transmission	line of sight
d.	Type of Emission	voice, amplitude modulated

TECHNICIAL CHARACTERISTICS OF THE VHF EMERGENCY TRANSMITTER

Frequency range	5 channels, in any 2 MC band between 116.0 MC to 132.0 MC.
Type of Emission	Amplitude modulation
Type of Transmission	Voice
Distance Range	Line of sight, varies with altitude, 50 Miles approx at 3000 feet.
Power Requirements	Transmitting 7.3 amps at 27.5 volts DC

STAND BY EMERGENCY TRANSMITTER CONTROLS

CONTROL	FUNCTION
Power Switch	EMERGENCY TRANSMITTER (ON) position, permits operation of standby VHF transmitter on the frequency select. EMERGENCY TRANSMITTER (OFF) position, VHF is inoperative.
Frequency Selection	Selects the transmitting frequency of the standby VHF transmitter, and connects the standby VHF or standard VHF radio set to INT panel. THE POSITIONS ARE AS FOLLOWS: TRANS 1 or (STD VHF or ARC 73) position, connects the standard VHF radio set audio to the INT panel, and routes OMNI receiver audio to the NAV position on the INT panel. TRANS 2 VHF position selects the standby VHF transmitter frequency, and connects the standby VHF receiver to position 3 on the INT panel. Five frequencies are available. 121.5 mc, 121.9 mc, 122.1 mc, 122.5 mc 122.7 mc.

OPERATION OF STANDBY VHF TRANSMITTER

FOR STANDBY VHF OPERATION ON OMNI RECEIVER, PROCEED AS FOLLOWS

1. Perform preliminary starting procedure.
2. Insure EMER (or STBY) VHF, FM POWER and KEYING CKTS, (or interphone and CONTROL CKTS) and OMNI 2 (or VOR #1) circuit breakers are on.
3. On emergency (Standby) VHF control panel, set frequency selector to one of the standby channels, (not emergency frequency 121.5 mc) and set power switch to on.
4. On applicable VHF NAV control panels set power control to ON, and set control to correspond with transmitter frequency.
5. On operators INT panel, set RECEIVERS 3 switch to on.
6. Listen for receiver noise and adjust SQUELCH AND VOL controls on VHF NAV control panel until correct squelch setting is obtained.

FOR STANDBY VHF TRANSMISSION, PROCEED AS FOLLOWS

1. Turn on radio set following steps 1 thru 6 above.

   CAUTION: DO NOT TRANSMIT ON THE EMERGENCY FREQUENCY 121.5 MC, EXCEPT IN AN EMERGENCY.

2. On operators INT panel, set TRANS (transmit-interphone) switch to position 3.
3. Perform two way communication by pressing mic switch on control wheel to TX, or foot operated switch to MIC, and speak into mic, side tone should be heard in operators headset.
4. On INT panels at other stations, with RECEIVER 3 switch set to on, standby VHF signals should be heard.

TO TURN OFF STANDBY TRANSMITTER

1. On standby VHF TRANS control panel, set power switch to OFF, and set frequency selector to standard VHF position.
2. On VHF NAV control panel, set power control to OFF.
3. Set transmit-interphone switch on INT panel to INT position.

SECTION IV

HF (SSB) RADIO SYSTEM

NOMENCLATURE: AN/ARC-102

DESCRIPTION: The HF radio set provides the pilot and co-pilot with two way communication thru the HF channels specifically set aside for military aircraft traffic communications. The transceiver is used for air to air or air to ground communications.

LOCATIONS:
A. The control panel is located on the center console.
B. The transceivdr is located in the avionics rack, the coupler is located in the avionics rack.
C. The antenna is located on the top of the aircraft.

TECHNICAL CHARACTERISTICS OF THE HF SYSTEM

A.	Frequency range	2.0 thru 29.999mc
B.	Channels	28,000
C.	Channel Seperation	1kc
D.	Type of Transmission	Voice and CW
E.	Type of Emission	Amplitude Modulation single side band
F.	Distance Range	Indefinite
G.	Power Requirements	27.5 volts DC 115 volts AC 400cycles

HF (SSB) RADIO SET CONTROLS

CONTROL	FUNCTION
Function switch	Selects the HF radio set operating mode
(Off-USB-LSB-AM-DATA-CW)	A. Off position, the HF radio set is inoperative B. USB position, selects the upper side mode of operation C. LSB position, selects the lower side band mode of operation D. AM position, selects the amplitude modulated mode of operation E. DATA position, permits use of aux equipment when installed on aircraft F. CW position, selects continous wave mode of operation
RF SENS,RCVR SENS CONTROL	Adjust the sensitivity of the receiver
Frequency Selectors (4ea)	Selects the desired frequency and displays it in the indicator window.

HF RADIO SYSTEM OPERATION

For normal reception, proceed as follows;

1. Perform preliminary starting procedure.
2. Insure HF POWER, FM POWER and KEY CKTS, INTERPHONE and CONTROL CKTS, circuit breakers are on.
3. On operators INT panel set RECEIVERS 4 switch to the on position.
4. On sliding console panel set UHF, HF SELECTOR switch to HF position.
5. On HF(SSB) control panel;;
   A. Set function switch to USB, LSB,or AM position, then allow several minutes for the set to warm up.
   B. Tune desired operating frequency using four frequency selectors knobs.
   C. Adjust RF SENS control for desired sensitivity of back ground noise by rotating it fully counter clockwise, then cloclwise until background noise is almost eliminated.

For voice transmissions (CW is not connected) proceed as follows;

1. Turn on HF set following procedures in 1 thru 5 above
   CAUTION::: DO NOT TRANSMIT WHEN FLYING AIRCRAFT AT OR NEAR STALL THRESHOLD, AS THIS WILL PREVENT STICK SHAKER AND SHORT FIELD APPROACH SPEED INDICATOR FROM FUNCTIONING.

2. On operators INT panel set transmit-interphone switch to position 4.

3. Perform two way communications on selected frequency by pressing mic switch on the control wheel to TX or foot operated switch to MIC, and speak into mic. Side tone should be heard in operators headsets while transmitting. Release mic switch for reception, clear signals should be heard.

4. On INT panels at other stations, with RECEIVER 4 switches set to on position, HF signals should be heard.

To turn OFF HF(SSB) radio set;

1. On the HF control panel, set function switch to OFF position.
2. Set UHF-HF SELECTOR switch to UHF position.
3. Set transmit-interphone switch on INT panel to INT position.

SECTION V

FM LIASON RADIO SYSTEM

NOMENCLATURE: AN/ARC-44

DESCRIPTION: The FM Liason radio provides the pilot and copilot with two way voice communications thru the tactical military frequency modulation FM channels. The receiver and and transmitter are used for air to air and air to ground communications with armored, artillery, or infantry units in the field.

LOCATION:
A. The control panel is located on the center console.
B. The transceiver is located in the avionacs rack.
C. The antenna is located on top of the aircraft.

LIMITATIONS:

A.	Frequency Range	24.0 thru 51.9 MC
B.	Channels	280
C.	Channel Seperation	100 KC
D	Type of Emission	Frequency modulation
E.	Type of transmission	Voice
F.	Distance Range	Approx 50 miles, varies with atmospheric conditions
G.	Power requirements	27.5 volts DC

FM LIASON RADIO SET CONTROLS

CONTROLS	FUNCTION
Frequency Selector (2 controls)	Selects the FM radio set operating frequency and displays it in the window.
Volume Control	Adjusts volume of receiver audio, clockwise rotation increases output.
REM Local Switch	Used only on installations having two or more FM control panels. Must always be in local position on this aircraft.
Power ON-OFF Switch	On position, permits operation of the FM liason radio set on the frequency selected. OFF position, the FM liason radio set is inoperative.

OPERATION OF THE FM LIASON RADIO SYSTEM

A. FOR RECEPTION PROCEED AS FOLLOWS:

1. Perform preliminary starting procedure.
2. Insure FM POWER and KEYING CKT or INTERPHONE and CONTROL CKTS circuit breakers are on.
3. On operators INT panel, set RECEIVERS 1 switch to ON position and turn VOL control for max volume.
4. On FM control panel:
   A. Set power switch to ON position.
   B. Set REM LOCAL switch to LOCAL position.
   C. Set required frequency by using two frequency selectors.
   D. Turn VOL control for max volume. If necessary adjust INT panel VOL control to obtain suitable audio level.
   E. On FM SQUELCH control panel, select squelch switch to un-squelch receiver and listen for receiver noise. Operate squelch switch and squelch receiver.

NOTE

Allow approx two minutes for radio set to warm up. A 400 cycle signal may be heard in headsets lasting approx 6 seconds.

B. FOR TRANSMITTING PROCEED AS FOLLOWS:

1. Turn on radio set, following procedures in step A above.
2. On operators INT panel, set TRANS (transmit-interphone) switch at position #1.

NOTE

When pilots or copilots TRANS (transmit-interphone) switch is set to position #1, FM receiver is connected to the headsets regardless of RECEIVER switch setting.

3. Perform two way communications by pressing MIC switch on control wheel to TX, or foot MIC switch to MIC, and speak into MIC. Side tone should be heard in operators headset while transmitting. Release MIC switch for reception. Clear signals should be heard.
4. On INT panel at other stations, with RECEIVER 1 switch set to ON FM signals should be heard.

C. TO TURN OFF FM LIASON RADIO SYSTEM PROCEED AS FOLLOWS:

1. On FM control panel set power switch to OFF position.
2. Set TRANS (transmit-interphone) switch on INT panel to INT position.

SECTION VI

INTERCOMMUNICATION SET CONTROL SB 329/AR ~~C-1611A/AIC~~

NOMENCLATURE: SB 329/AR ~~C-1611A/AIC~~

DESCRIPTION: THREE ~~Four~~ INT panels are installed to provide the aircraft interphone system. The system provides intercommunications between the pilot and copilot and three crew members, private interphone between crew members, monitoring of the radio receivers, and control of voice radio transmission thru receiver transmitters from pilots and copilots INT panels.

TECHNICAL CHARACTERISTICS OF THE INTERPHONE SYSTEM

CONTROL	FUNCTION
Receiver Selector Switch	Connects the receiver or interphone output to the associated headset in the up position as follows: Switch 1 — FM liason receiver Switch 2 — UHF command receiver + HF Switch 3 — VHF command receiver, or stand by VHF receiver as selected on standby control panel. ~~Switch 4 — HF receiver~~ INT Position — Interphone system NAV Switch — ADF, OMNI (#1 or #2) and marker beacon receiver.
Transmit-interphone selector switch	Connects the associated MIC and it's control circuits to the selected transmitter (pilots and copilots ONLY) or interphone line (all stations) as follows: INTERPHONE Position 1 — FM liason radio Position 2 — UHF command radio OR HF Position 3 — VHF command radio or stand by VHF trans as selected on standby VHF control panel.

~~Position 4 - HF Radio~~

Position	Interphone line
INT	for all stations.
Private	Interphone line, for crew chief, cabin, ramp, station only.

NOTE

The receivers associated with the selected transmitter is also connected to the headset by the transmit-interphone switch, regardless of the setting of the RECEIVER selector switch.

VOLUME CONTROL — Varies the audio level of mixed interphone and receiver audio, except the ADF receiver which bypasses the volume control.

SB 329/AR

OPERATION OF THE ~~C-1611A/AIC~~ INTERPHONE SYSTEM

1. Perform preliminary starting procedure.
2. Insure that interphone and control ckts circuit breakers on on.
3. Set INT transmit-interphone switch to INT position, set RECEIVER INT switch on.
4. At pilots and copilots stations mic switch on control wheel to I/C position, or foot operated mic switch to INTERCOM position, at other stations press mic switch on headset mic jack and speak into mic. Side tone should be heard in operators headset while speaking into mic and other stations should hear interphone transmissions. Adjust VOL controls on INT panel for confortable listening level.

NOTE

It is not necessary for transmit-interphone switch on all INT panels to be set to INT for interphone. Interphone will be heard at other stations when the transmit-interphone switch on the calling station INT panel is set to INT, providing the RECEIVER INT switches on the panel at the other station are on.

5. At the crew chief, cabin and cargo ramp INT panels set the Transmit-interphone switches to PVT position. Press mic switch at each station and speak into mic, side tone should be heard in operators headset and and interphone at other two stations only.

TO TURN OFF INTERPHONE EQUIPMENT

1. Set all RECEIVER switches to OFF position.
2. Set TRANS (transmit-interphone) switches to INT position.
3. Set appropriate circuit breakers on electronic circuit breaker panel to OFF position.

SECTION VII

EMERGENCY OPERATIONS

1. For emergency operations, proceed as follows:

   A. In the event complete generator failure, de-energize non essential Avionics circuits by means of individual remote control panel power controls, OR circuit breakers on the electronics circuit breaker panel. Place emergency bus switch in EMER POSITION, and BATTERY MASTER switch in OFF position to energize emergency bus from battery. This isolates the main bus and conserves battery power.

   B. To remove power from all Avionics equipment, place all circuit breakers on the electronics circuit breaker panel in the de-energized position.

   C. When one or more communications facilities fail, an alternate facility can be employed. Table 5-19 lists the facilities and alternate facility, and special considerations if a facility fails. Except for operation in emergency stand by audio mode and possible substitution, as listed in table 5-19 there are no emergency methods of operation in case of circuit failure durning flight.

2. For emergency operation on communication channels: (UHF and VHF)

   A. Transmission and reception thru the UHF emergency channel is possible with the UHF command set AN/ARC-55. The channel set aside for this purpose is 243.0 MC. Except for emergency purpose, no transmissions are to be made on this channel. Reception on this channel is automatic when the UHF control panel function switch is placed in TR/+G REC position. Reception on this channel does not effect operations of the UHF command set MAIN receiver.

   B. The emergency VHF channel is 121.5 MC. This can be obtained on the VHF command set, when installed as an alternative to the UHF command set, and also on the STANDBY (emergency) transmitter is used, the OMNI receiver will have to be tuned to 121.5 MC for reception.

3 Emergency operations if interphone system, or FM dynameter fails:

A. Standby audio operations, an emergency standby audio system is provided in the event that the FM dynameter OR if the INT panel (SB-329/AR) fails. The receiver and microphone audio circuits bypass the INT panels, but the desired transmitter must be selected by TRANS (transmit-interphone) switch on the INT panel for UHF, HF, and VHF (standard or standby) transmissions. Communications thru the FM Liason radio set is not possible. During emergency standby audio operation, only the facility required should be turned on and the volume level adjusted by means of its control panel volume control. Interphone is available between the pilot and copilot only, in the standby audio mode.

B. For Standby Audio operation, proceed as follows:

1. Switch OFF FM power circuit breakers.
2. Switch OFF all facilities not required.
3. Set TRANS (transmit-interphone) switch on INT panel to position 2 or 3 as required for UHF, HF, or VHF (standard or standby) operation.
4. Operate communications transmitter and receiver normally, but control receiver volume by its own control panel volume control (INT panel volume control is out ot circuit).
5. Operate Navigation receivers normally, but control volume by its own volume control. (INT panel is out of the circuit)
6. Switch OFF facilities when not required.

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