23.00 CONTENTS

GENERAL

The communications system comprises the following subsystems :
— VHF/HF tranceivers
— Radio tuning systems (Radio Management Panels).
— Audio integrating system (Audio Management Unit, Audio Control Panels).

AUDIO CONTROL PANEL
(ACP)

AUDIO INTEGRATING
(TRANSMISSION AND
RECEPTION MODES)

AUDIO MANAGEMENT
UNIT
(AMU)

ANTENNAS

COMMUNICATION
TRANSCEIVERS

VHF/HF
TRANSCEIVERS

RADIO TUNING
(FREQUENCY SELECTION)

RADIO MANAGEMENT PANEL
(RMP)

NFC5-01-2310-001-A001AA
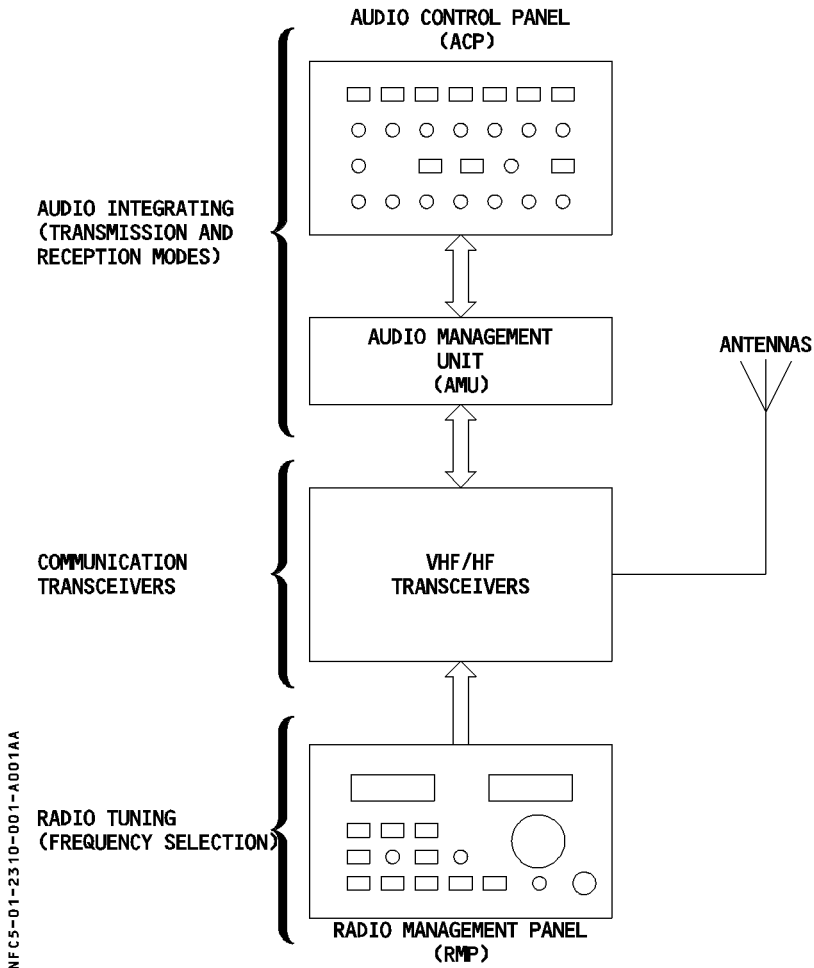
VHF/HF/SELCAL

Either of the two Radio Management Panels (RMPs) (third RMP ◁) can be used to tune each transceiver.

To transmit, the flight crew uses the Audio Control Panel (ACP) to select a VHF or HF system. The ACP works through the Audio Management Unit (AMU). Each system is connected to the RMPs, for frequency selection, and to the AMU for connection to the audio integrating and SELCAL (selective calling) systems.

— VHF

Two identical VHF communication systems (third VHF system ◁) are installed.

R
R
Each system has a transceiver in the avionics compartment, and an antenna on the fuselage. Only VHF1 functions in EMER ELEC CONFIG. Its range is from 118.0 to 136.975 MHZ.

VHF has an alarm which indicates if the microphone is stuck (◁). If a microphone is in the emission position for more than 30 seconds, an interrupted tone sounds for 5 seconds, and the emission is turned off. To reactivate the emission, the crew releases the push-to-talk button and presses it again.

— HF (◁)

Two identical HF communication systems are optional. Each has a transceiver in the

R
R
avionics compartment, and a common tuner and antenna in the vertical stabilizer. Its range is from 2.8 to 24 MHZ.

— SELCAL (Selective Calling)

Upon receiving a call code corresponding to that of the aircraft, the SELCAL system aurally and verbally advises the flight crew that a ground station is calling the aircraft. The aural warning is inhibited during takeoff and landing.

RADIO TUNING

DESCRIPTION

Identical RMPs (Radio Management Panels) :
· Give the flight crew control of all VHF radio communication systems (HF systems ◁).
· Back up to FMGCs for controlling radio navigation systems (Refer to 1.34).
Two RMPs are on the center pedestal (and the third is on the overhead panel ◁).
Each RMP can control any VHF (HF ◁) transceiver. RMP1 and RMP2 are connected directly to all VHF (HF ◁) transceivers, (whereas RMP3 is connected to them via RMP1 and RMP2 ◁). RMPs are connected together so that each RMP is updated to the selections made on other RMPs.
Only RMP1 functions in EMER ELEC CONFIG.
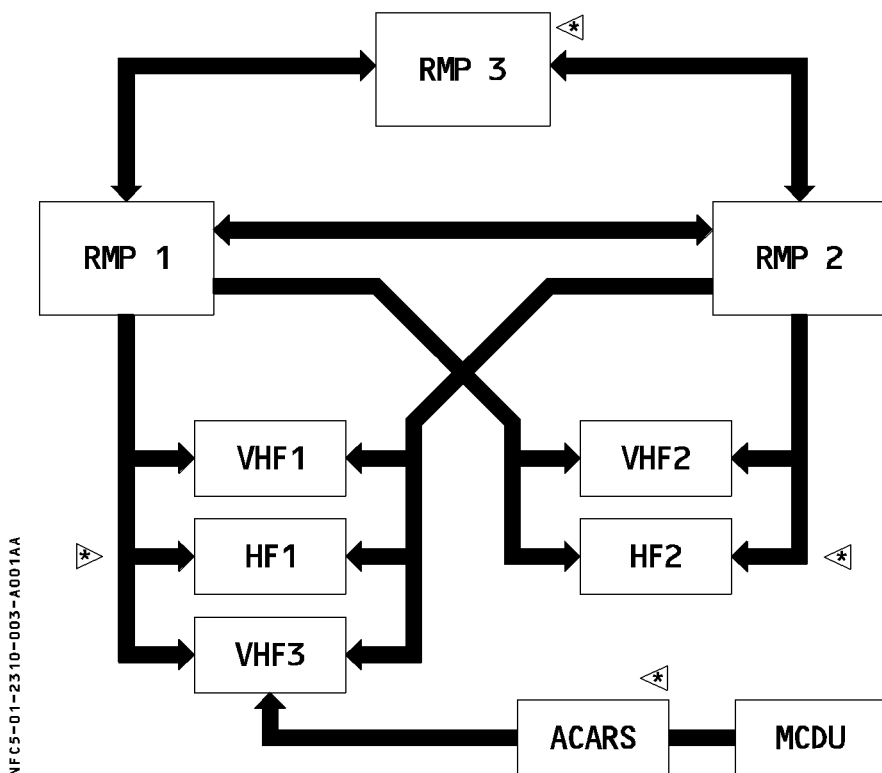
R   If one RMP fails, the remaining one controls all the VHF (HF ◁) tranceivers.

RADIO MANAGEMENT PANEL

R

① Frequency displays

The ACTIVE display window shows the active frequency of the selected radio, which is identified by a green light on the selection key.
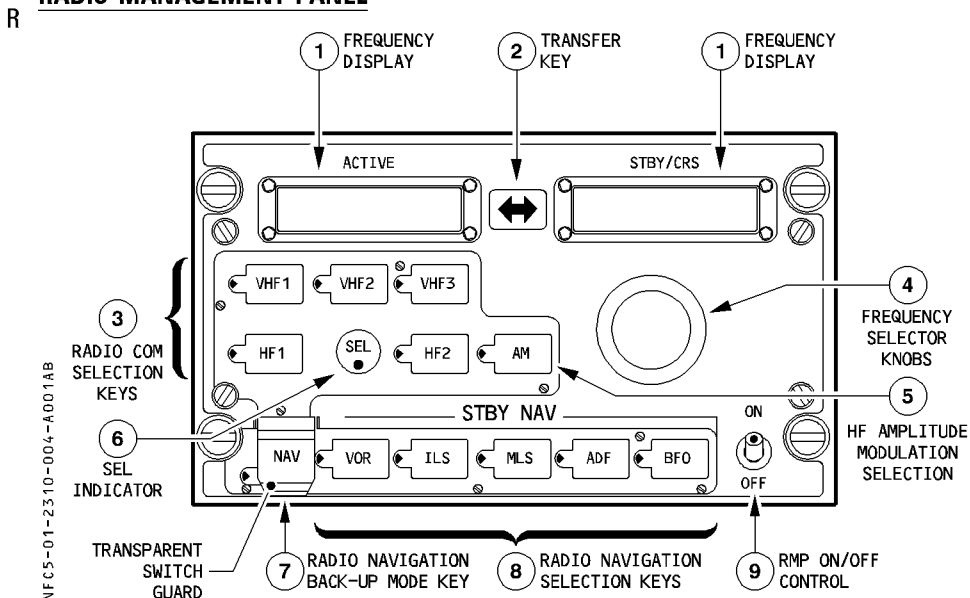The STBY/CRS (standby/course) display window shows a standby frequency that the pilot can activate by pressing the transfer key or change by rotating the tuning knobs. (For a description of the CRS function (see 1.34)).

② Transfer key

Pressing this key moves the active frequency to the standby window and the standby frequency to the active window.
This tunes the selected receiver to the new active frequency.

③ Radio com selection keys

When the pilot presses one of these keys :
· The ACTIVE window displays the frequency set on that radio.
· The STBY/CRS window displays the selected standby frequency or course.
· The selected key displays a green monitor light.

④ Frequency selector knobs

The pilot uses these concentric knobs to select the STBY frequency or CRS.
The outer knob controls whole numbers ; the inner knob controls decimal fractions.

⑤ AM pb sw

If the aircraft has HF radios and the flight crew has selected an HF tranceiver, this switch
selects the AM mode. (The default mode is the SSB, or single side-band, mode).
This key displays a green monitor light when the AM mode is active.

⑥ SEL indicator

The SEL indicator glows white on both RMPs when a transceiver normally associated
with one RMP is tuned by another :
· VHF1 tuned by RMP2 or RMP3,
· VHF2 tuned by RMP1 or RMP3.
· VHF3, HF1, HF2 (◁) tuned by RMP1 or RMP2.

⑦ NAV pb sw (with transparent switchguard)

The pilot presses this key to be able to select navigation receivers and courses through
the RMP. It does not affect the selection of communication radios and their frequencies.
(Refer to 1.34 for additional information).

⑧ Radio navigation selection keys

The pilot presses one of these keys to select a navigation radio to control through this
RMP. This turns on the green monitor light in the key.
(Refer to 1.34 for addition information).

⑨ ON/OFF sw

This switch controls the power supply to the RMP.

Note : RMP3 is able to control VHF and HF transceivers through RMP1 and RMP2 even
when they are OFF.

GENERAL

Intercommunications is divided into two main systems:
— the audio management system.
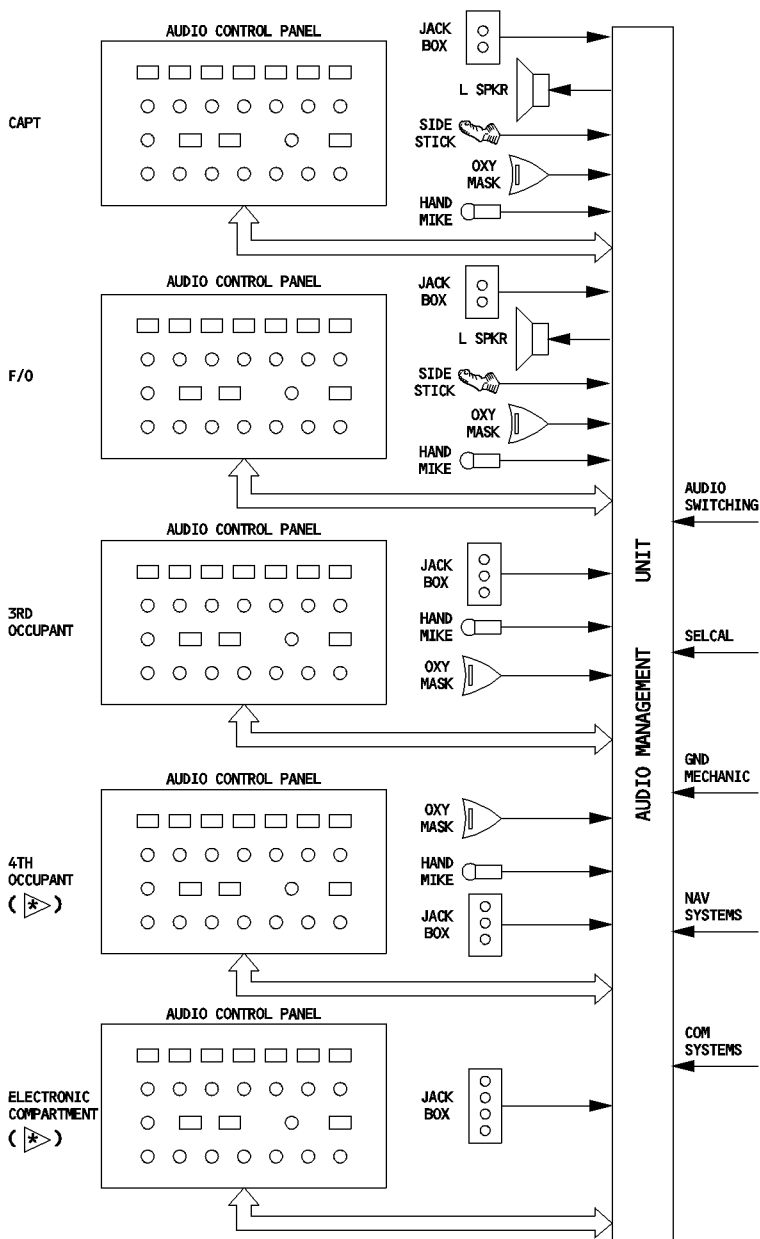— the cabin intercommunication data system.

AUDIO MANAGEMENT SYSTEM

The audio management system allows the flight crew to use :
— all the radio communication and radio navigation facilities installed on the aircraft in transmission and reception mode.
— the interphone systems
— the call systems
— the passenger address system
The audio management system includes :
— an audio management unit (AMU)
— three audio control panels (ACPs) (fourth and fifth optional)
— sockets at each station
  · headset jack and boomset connector (hand microphone connector (◁) for pilot, copilot, and third occupant
  · headset jack for fourth occupant
— one interphone jack at the ground power receptacle
— boomsets for the pilot, copilot, and third occupant, and three hand microphones (fourth (◁))
— three cockpit oxygen mask microphones
— one radio press-to-talk switch on each sidestick
— one SELCAL code selection panel (avionics compartment)
— two cockpit loudspeakers with separate volume controls
— if installed, a jack panel in the electronic compartment that groups the headset jack, service interphone jack, hand mike connector, and boomset
— an audio switching facility
If audio channel 1 or 2 fails due to a failure either in an ACP or the corresponding AMU, the crew can use the AUDIO SWITCHING selector to select the third audio channel.

LOCATION OF COMPONENTS (PILOT'S STATION)

3RD ACP
(4TH ✦)

CAPT
LOUDSPEAKER

CAPT
SIDE STICK

CAPT
SOCKETS

CAPT
OXY MASK
(4TH ✦)

LOUDSPEAKER
VOLUME KNOB

AUDIO
SWITCHING

F/O
LOUDSPEAKER

F/O
SIDE STICK

F/O
SOCKETS

F/O AND 3RD
OXY MASKS

NFC5-01-2320-003-A001AA

✦ 4TH OCCUPANT
SOCKET

CAPT AND F/O
ACP'S

CAPT AND F/O RMP'S
(3RD ✦)

3RD OCCUPANT
SOCKET
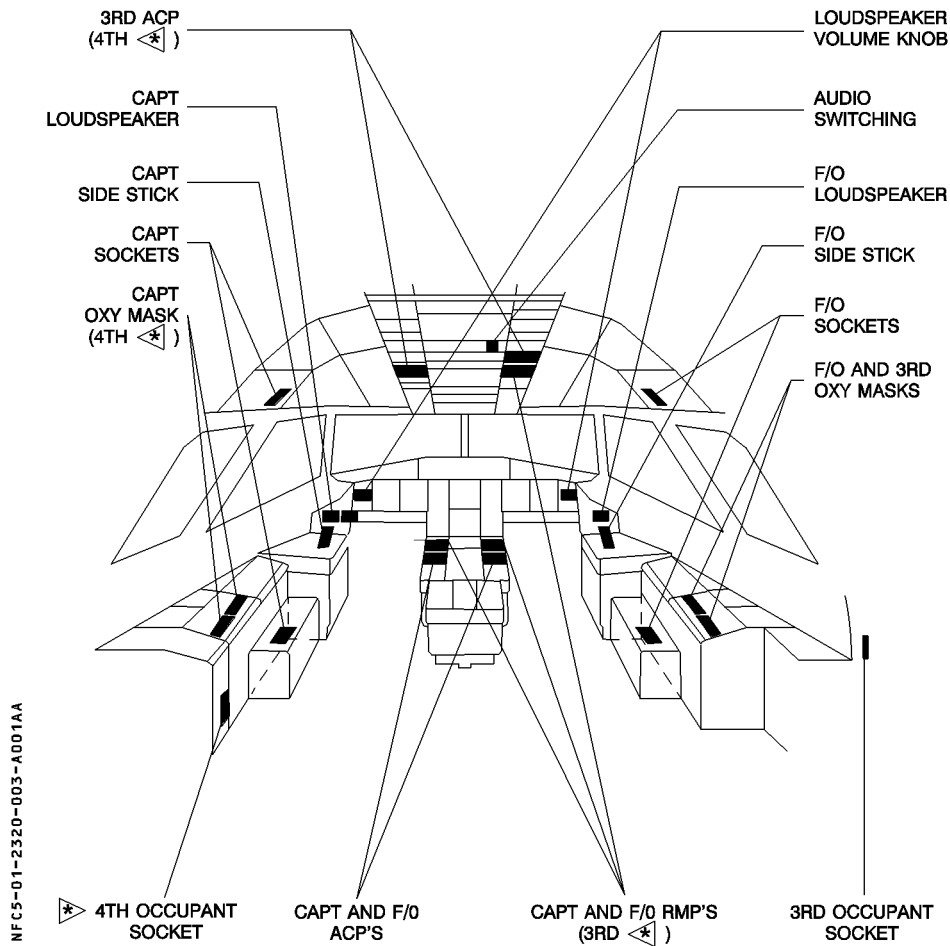
CABIN INTERCOMMUNICATION DATA SYSTEM

The Cabin Intercommunication Data System (CIDS) transmits, controls, and processes signals for the following cabin systems :
— cabin and service interphone
— passenger address
— passenger lighted sign
— reading light
— general cabin illumination
— emergency evacuation signalling
— lavatory smoke indication
— passenger entertainment music and video ◁

R — escape slide bottle pressure monitoring ◁

The CIDS has the following main components :
— two CIDS directors connected in parallel, one active and the other in standby.
— forward attendant panel for control of the cabin systems.
— programming and test module that allows the system to be reprogrammed after changes are made in the cabin configuration.

FOR INFO
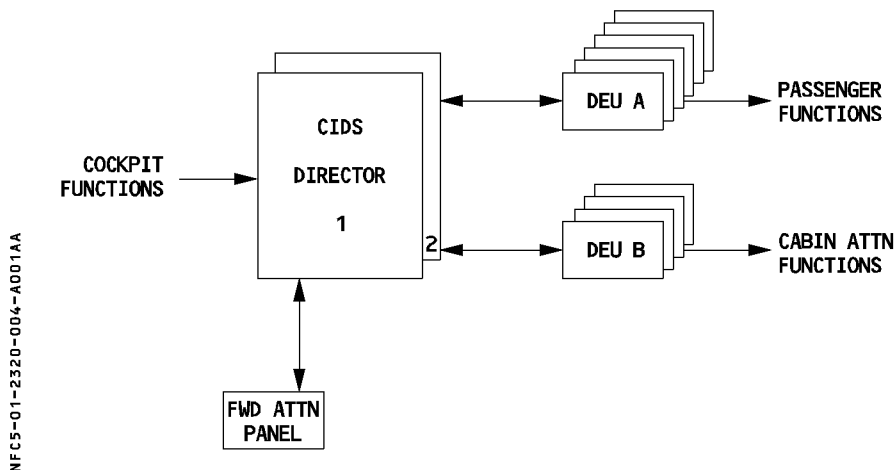
Decoder/Encoder Units (DEUs) are linked to the two directors.
· Type A units (for passengers) are along each side of the passenger cabin.
The loudspeakers, lighted signs, call buttons, call lights and general illumination ballast units are divided into small groups each connected to a type A DEU.
· Type B units (for attendants) are near the exit doors. The area call panels, attendant handsets, slide and door pressure sensors, and attendant indicator panels are connected to type B DEUs.

CONTROLS

AUDIO CONTROL PANEL
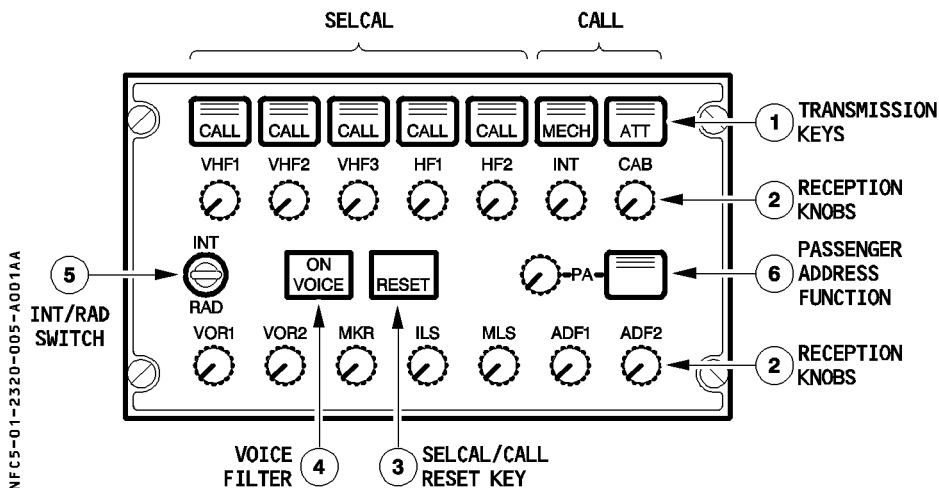

(1) Transmission keys

Pressed : The associated channel is selected for transmission.
The three green lines come on.
The pilot deselects the channel by pressing the pushbutton again, or by selecting another channel.

CALL : The legend flashes amber (and buzzer sounds) when the SELCAL system detects a call.

MECH : The legend flashes amber (and buzzer sounds) for a call from the nose gear bay. The MECH light goes off after 60 seconds, if it is not reset.

ATT : The legend flashes amber (and buzzer sounds) for a call from a cabin attendant. The ATT light goes off after 60 seconds, if it is not reset.

(2) Reception knobs

These knobs allow the flight crew to select reception channels and to adjust their volume.
— Pressing and releasing the knob (knob out) selects the associated audio reception channel.
The integral white light comes on. Rotating the knob adjusts the volume.
— Pressing the knob (knob stays in) disconnects the associated audio reception channel.

R
R   Note : For reception of DME audio navigation signals associated to an ILS or MLS station, the ILS (or LS) pushbutton on the FCU must also be selected.

R ③ SELCAL/CALL RESET key

Pressing this key extinguishes CALL, MECH, and ATT lights.

④ ON VOICE key

This key allows the flight crew to inhibit the audio navigation signals (VOR, ADF)
Pressing this key filters out ident signals and turns on the green ON light.

⑤ INT/RAD sw

This switch operates as a press-to-talk switch for boom mike or oxygen mask mike.
INT   : Boom and mask mikes transmit on interphone regardless of
                            which transmission key is selected. For reception on
                            interphone, the crew member must have INT selected (INT
                            reception knob out).
Neutral   : Reception is normal. Boom and mask mikes do not transmit.
RAD (press and hold) : Boom and mask mikes transmit on the radio selected on the
                            audio control panel.

⑥ Passenger address (PA) function

(Refer to PASSENGER ADDRESS 1.23.20, below).

SIDE STICK RADIO SELECTOR

This selector has the same function as the INT/RAD switch on the ACP.

NEUTRAL (spring-loaded) : Boom and mask mikes are dead.
Reception is normal.

RADIO (squeezed) : Boom and mask mikes transmit through the equipment selected by the transmission key on the ACP.

Note : If RADIO is selected on the side stick when the INT/RAD switch is on INT, the radio function has priority over the interphone function.

LOUDSPEAKER VOLUME KNOB
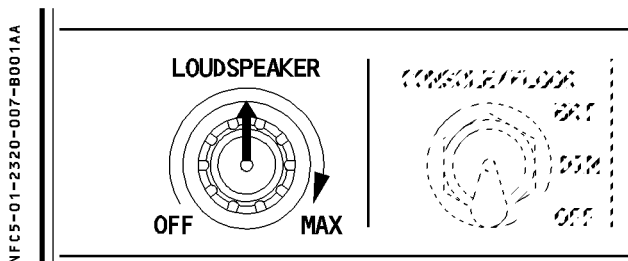
This knob adjusts the volume of the loudspeaker for radio communication.

OFF : Loudspeaker does not respond to signals from the aircraft's radio equipment.

Clockwise rotation : Loudspeaker broadcasts signals from the aircraft's radio equipment at increasing volume.

Note : This knob does not control the loudness of aural alert and voice messages.

AUDIO SWITCHING
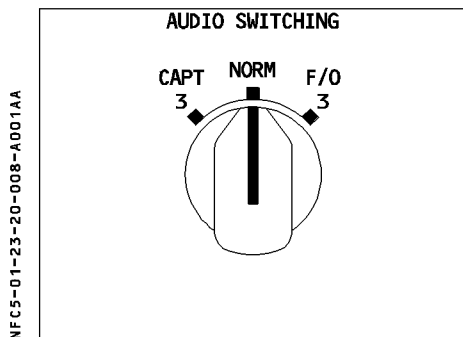
The crew can switch to the third ACP if ACP1 or ACP2 fails.

When the crew does this, it takes away the third occupant's access to the acoustic equipment. AUDIO 3 XFRD appears in green on the ECAM MEMO display.

NORM   : Each crew member uses his dedicated communication equipment.

CAPT 3   : The pilot uses his acoustic equipment and the third occupant's ACP.

F/O 3   : The copilot uses his acoustic equipment and the third occupant's ACP.

INTERPHONE SYSTEMS

FLIGHT INTERPHONE SYSTEM

This system allows the flight crew members to communicate among themselves and, through a jack on the external power panel, with the ground mechanic.

EXTERNAL POWER PANEL (FORWARD OF THE NOSE L/G BAY)
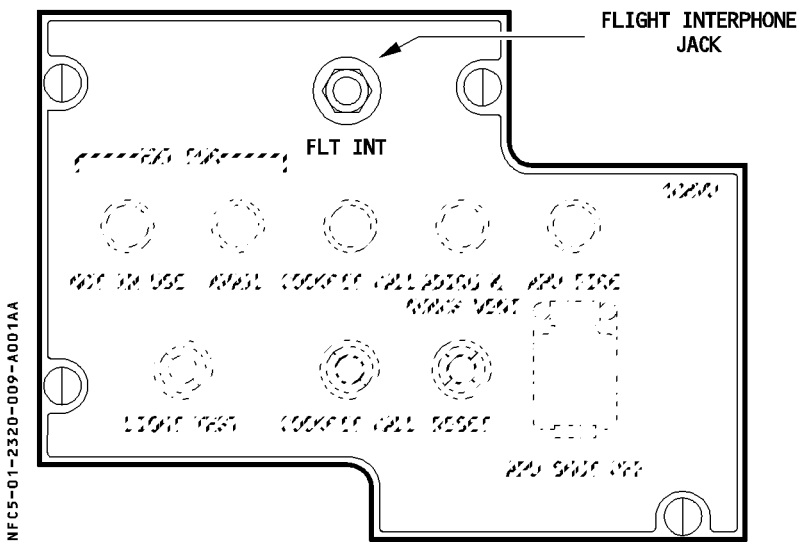
COCKPIT OPERATION FOR GROUND MECHANIC COMMUNICATION

R

	MECH TRANSMISSION KEY ON ACP	INT RECEPTION KNOB ON ACP	INT/RAD SW ON ACP	PUSH TO TALK ON HANDMIKE
BOOMSET OR OXYGEN MASK	PRESSED	OUT	INT OR RAD	–
HANDMIKE	PRESSED	OUT	–	PRESSED

CABIN INTERPHONE SYSTEM

The system allows the flight crew to communicate with the flight attendants, and the flight attendants to communicate among themselves.

R
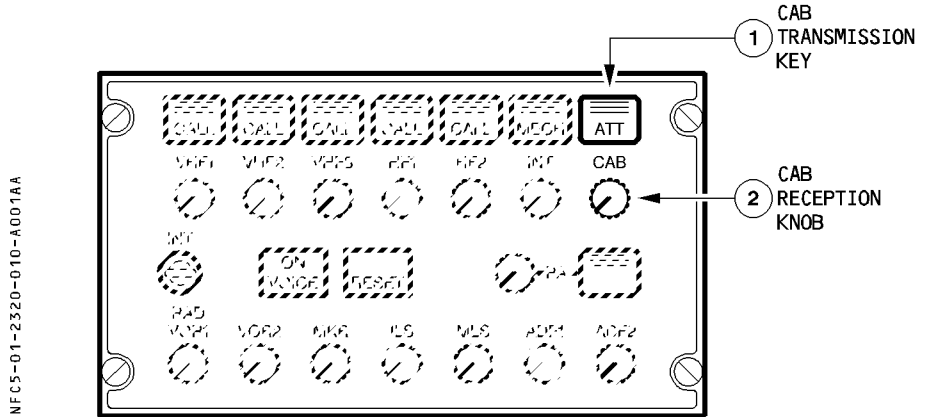
1 CAB transmission key

Pressed   : Three green lines come on.
                       Boom, mask, and hand mikes may be used for cabin interphone.

2 CAB reception knob

Pressed and released : The integral white light comes on.
(knob out)   The station receives audio signals from the cabin.
                       Rotating the knob adjusts the volume.
Pressed   : The white light goes out.
(knob in)   The cabin interphone is disconnected.

COCKPIT OPERATION FOR CABIN COMMUNICATION

	CAB TRANSMISSION KEY ON ACP	CAB RECEPTION KNOB ON ACP	INT/RAD SW ON ACP	PUSH TO TALK ON HANDMIKE
BOOMSET OR OXYGEN MASK	PRESSED	OUT	RAD	–
HANDMIKE	PRESSED	OUT	–	PRESSED

SERVICE INTERPHONE SYSTEM

The system allows for communication between :
— the flight crew and the service interphone jacks
— the flight attendant stations and the service interphone jacks
— the different service interphone jacks.
The Service Interphone system has :
— seven interphone jacks
— an OVRD switch located on the overhead panel.
The audio lines from the interphone jacks are connected to both CIDS directors.

LOCATION OF INTERPHONE JACKS

NFC5-01-2320-011-A001AA
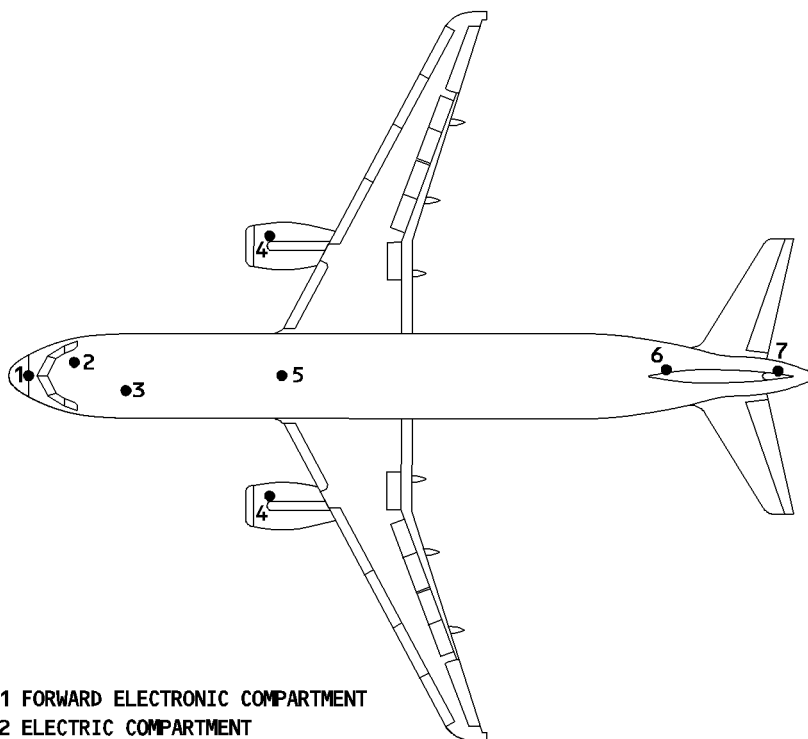
1 FORWARD ELECTRONIC COMPARTMENT
2 ELECTRIC COMPARTMENT
3 AVIONICS COMPARTMENT
4 ENGINE (L & R)
5 BELLY FAIRING PANEL
6 AFT FUSELAGE
7 NEAR APU BAY

CONTROLS AND INDICATORS AT OVERHEAD PANEL
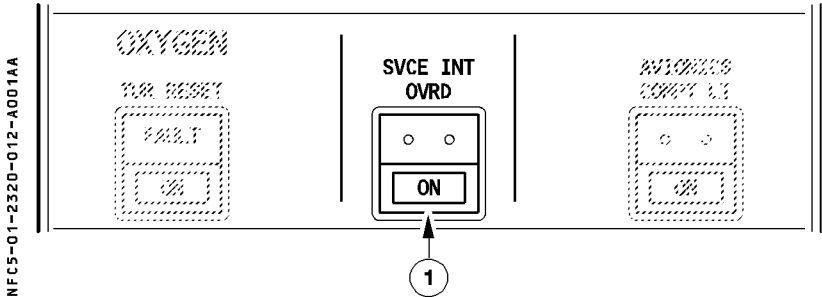
① SVCE INT OVRD pb sw

Auto : Ground personnel can communicate with the flight crew by means of the
service interphone jacks 10 seconds after the aircraft has landed. The landing
gear must be compressed.

ON : Communication is possible when the landing gear is not compressed.
The ON light is white.

COCKPIT OPERATION

R

	CAB TRANSMISSION KEY ON ACP	CAB RECEPTION KNOB ON ACP	INT/RAD SW ON ACP	PUSH TO TALK ON HANDMIKE	SVCE INT OVRD PB SW
BOOMSET	PRESSED	OUT	RAD	–	SEE ABOVE CONDITIONS.
HANDMIKE	PRESSED	OUT	–	PRESSED	

CALL SYSTEMS

GROUND MECHANIC CALL

The system allows the flight crew and ground mechanics to communicate with each other.

CONTROLS AND INDICATORS ON OVERHEAD PANEL
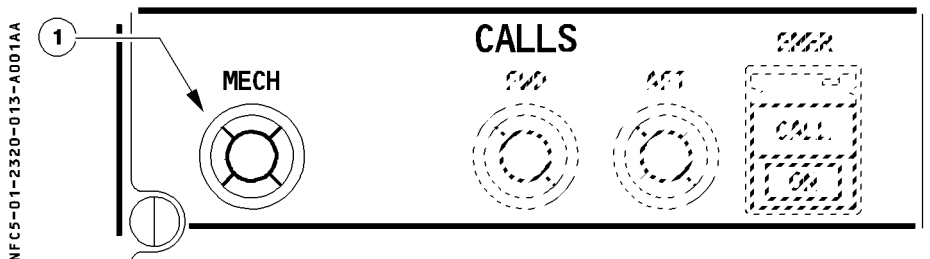
① MECH pb

Pressed (and held) : COCKPIT CALL lights up blue on the external power panel in the nose L/G bay.
An external horn sounds.

Released : COCKPIT CALL remains lighted.
The ground mechanic can extinguish it by pressing the RESET button on the external power panel. The external horn stops sounding.

R **CONTROLS AND INDICATORS ON THE EXTERNAL POWER PANEL**
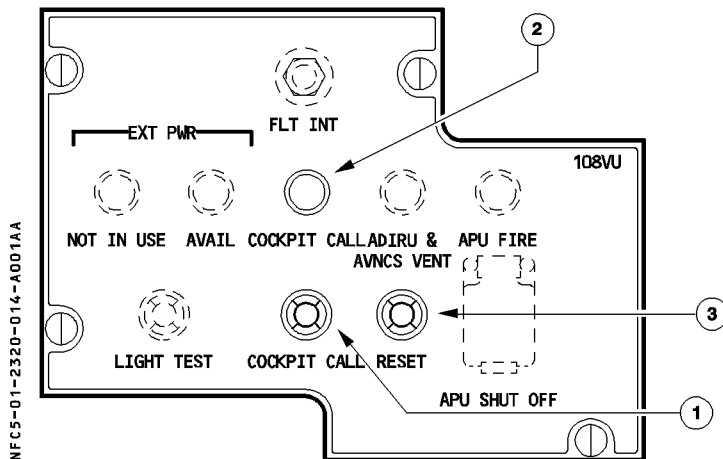
(1) COCKPIT CALL pb

Pressed   : This calls the cockpit.
              The MECH lights flash amber on the ACPs and a buzzer sounds.
Released : The MECH lights go out after 60 seconds if they are not reset on the
              ACPs.
              The buzzer stops.

(2) COCKPIT CALL lt

The blue light appears when cockpit calls the ground mechanic. An external horn
also sounds.

(3) RESET pb

R   Pressed : The COCKPIT CALL light goes out.

CABIN CALL SYSTEM

This system is for communication between the cockpit and the cabin.

CALL FROM THE COCKPIT
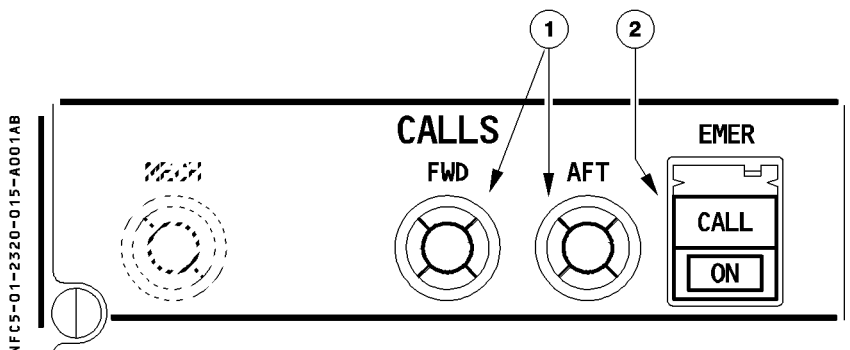
① FWD/AFT pb

Pressed   : A red light comes on at the corresponding area call panel.
CAPTAIN CALL appears at the corresponding attendant indication panel and a green light comes on.
A high-low chime sounds through corresponding loudspeaker.

② EMER pb sw (guarded)

ON   : Pink light flashes at all area call panels. EMERGENCY CALL appears on all attendant indication panels. High-low chime (repeated 3 times) sounds through all loudspeakers.

ON lt   : This light flashes white for an emergency call from the cockpit to the cabin.

CALL lt   : This light flashes amber for an emergency call from the cockpit to the cabin.

For an emergency call from the cabin to the cockpit :
— The white ON light and amber CALL light flash.
— The amber ATT lights flash on the audio control panels.
— Three long buzzers sound in the cockpit.
The system resets when the attendant hangs up the relevant handset.

CALL FROM THE CABIN

HANDSET IS OFF THE HOOK

PUSH TO TALK (PTT)

NFC5-01-2320-016-A001AA
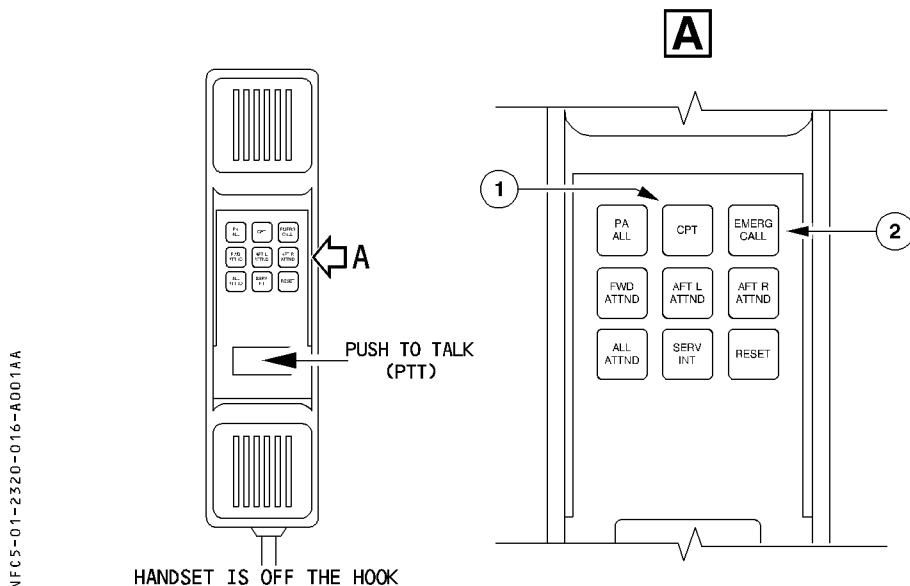
① CPT

Pressed : In the cockpit, the ATT lights flash on the ACP, and a buzzer sounds.
This buzzer is inhibited during takeoff and landing.
In the cabin, "CAPTAIN" appears at the AIP where the CAPT button was pressed.

R ② EMER CALL

R Pressed : In the cockpit :
R — The ATT lights flash on the ACP.
R — The EMER CALL and EMER ON pushbutton lights flash on the overhead
R panel.
R — A buzzer sounds
R It is inhibited during takeoff and landing.
R In the cabin, "EMERGENCY CALL" is displayed on the AIP.

AIRBUS TRAINING
A320
SIMULATOR
FLIGHT CREW OPERATING MANUAL

COMMUNICATIONS

INTERCOMMUNICATION SYSTEMS

1.23.20   P 17

SEQ 001   REV 29

PASSENGER ADDRESS

The passenger address allows flight personnel to make announcements to passengers in the cabin through loudspeakers. It can be operated from the cockpit (with ACP or handset) or from the cabin (attendant stations).

NFC5-01-2320-017-A001AA
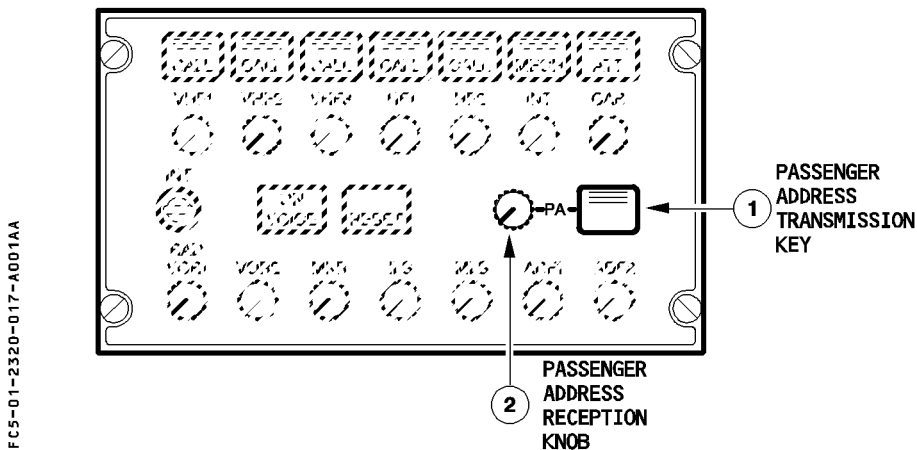
① PA transmission key

Pressed and held   : The flight crew may use a boom, mask, or hand mike to make an announcement.
                        Three green lines come on.

Note : The flight crew may use a cockpit handset to make PA announcements without action on the ACPs.

② PA reception knob

Pressed and released : The message goes to the loudspeakers and the integral
(knob out)   white light comes on.

R   The flight crew can rotate the knob to adjust the volume.

Pressed   : The PA system is disconnected.
(knob in)   The white light goes out.

Cockpit handset

The cockpit handset at the bottom of the pedestal is for PA announcements.
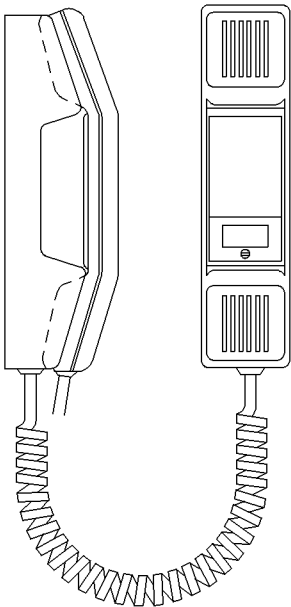
NFC5-01-2320-D18-A001AA

PA from cockpit

R

	PA TRANSMISSION KEY ON ACP	PA RECEPTION KNOB ON ACP	PUSH TO TALK ON HANDMIKE	PUSH TO TALK ON HANDSET
BOOMSET OR OXYGEN MASK	PRESSED	OUT		
HANDMIKE	PRESSED	OUT	PRESSED	
HANDSET				PRESSED

EMER EVAC

COCKPIT O/HEAD PANEL

FWD/AFT ATTENDANT PANEL

(1) COMMAND pb

ON : In the cockpit : − EVAC light flashes red.
            − Horn sounds.
   In the cabin : − EVAC lights flash at FWD and AFT attendant panels.
            − Evacuation tone sounds.
Off   : The alert is stopped.
The EVAC light flashes red when the alert is activated.

(2) HORN SHUT OFF pb

Pressing this button silences the cockpit horn.

(3) CAPT and PURS/CAPT sw

CAPT and PURS : The alert may either be activated from the cockpit or the cabin.
CAPT   : The alert may only be activated from the cockpit.
R   If one of the cabin CMD pushbuttons is pressed, only the cockpit
R   horn sounds for 3 seconds.

(4) CMD pb

Pressing this button activates the alert, if the cockpit switch is at the CAPT & PURS
position.
Pressing it again stops the alert.

(5) RESET pb

Pressing this button silences the EVAC tone.

(6) EVAC lt

This light flashes when the alert is activated.

PURSER STATION

CA HANDSET   KEYBOARD

NFC5-01-2320-020-A002AA

DESCRIPTION

The cockpit voice recorder (CVR) records :
— direct conversations between crew members in the cockpit
— all aural warnings sounded in the cockpit
— communications received and transmitted by radio
— intercommunication conversations between crew members
— announcements transmitted over the passenger address system, if PA reception is selected on the third audio control panel.

Only the last 2 hours of recording are retained.

The CVR system consists of :
— a remote microphone behind the overhead panel.
— a "hot mike" function, which records the crew members voice directly from their microphone, even if the push to talk switch is not activated.
— a crashproof four-track recorder, equipped with an underwater locating beacon, in the aft section of the aircraft
— a control panel on the overhead panel.

It is energized automatically :
— on the ground during the first 5 minutes after the aircraft electrical network is energized
— on the ground with one engine running
— in flight

On the ground, it is stopped automatically 5 minutes after the last engine shutdown.

On the ground, the crew can energize the CVR manually by pressing the GND CTL pushbutton.

CONTROLS AND INDICATORS ON OVERHEAD PANEL
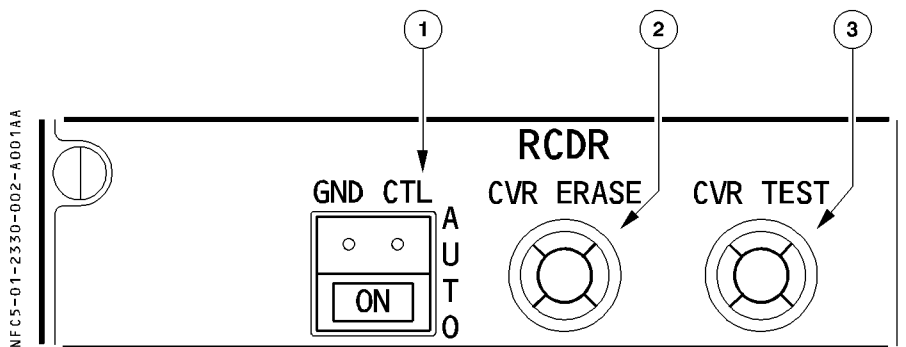
(1) GND CTL switch (spring-loaded)

ON : The CVR, DFDR, and QAR ◁ are on.
The ON light comes on blue.

AUTO : The CVR, DFDR, and QAR ◁ are on, according to the logic. (See page 1).

(2) CVR ERASE pushbutton

Pressed for 2 seconds : This completely erases the tape, if :
— The aircraft is on the ground, and
— The parking brake is on.

(3) CVR TEST pushbutton

Pressed and held : This activates the test, if the CVR is on (the GND CTL pushbutton pressed, or during the first 5 minutes after energization of the aircraft electrical network), and the parking brake is on.

R
R
Refer to the FCOM 3.03.06, p. 2 for additional information.

WARNINGS AND CAUTIONS

NFC5-01-2350-001-A100AA

ELEC PWR	1ST ENG STARTED	1ST ENG TO PWR	80 Kt	LIFT OFF	1500 Ft	800 Ft	TOUCH DOWN	80 Kt	2ND ENG SHUT DN	5MN AFTER
1	2	3	4	5	6	7	8	9	10	

E / WD: FAILURE TITLE conditions	AURAL WARNING	MASTER LIGHT	SD PAGE CALLED	LOCAL WARNING	FLT PHASE INHIB
CIDS 1 + 2 FAULT					
VHF 1(2) (3) EMITTING HF 1 (2) EMITTING Transmitter emitting more than 60 s	SINGLE CHIME	MASTER CAUTION	NIL	NIL	3,4,5 7,8
SATCOM FAULT (◁)					
ACARS FAULT (◁)	NIL	NIL			

MEMO DISPLAY

This display shows AUDIO 3 XFRD in green, if the AUDIO SWITCHING selector is not on NORM.

If ACARS is installed, the display shows :

— ACARS CALL in green, pulsing, if ACARS has received a message from the ground requesting a voice conversation
— VHF 3 : VOICE in green, if VHF3 is operating in voice mode and ACARS communication is interrupted
— ACARS MSG in green, pulsing, if ACARS has received a message from the ground
— ACARS STBY in green, if ACARS communications between the aircraft and the ground are lost

In addition, if SATCOM is installed the display shows SATCOM ALERT in green, when a message with a priority level below 4 is received from the ground.

BUS EQUIPMENT LIST

		NORM		EMER ELEC		
		AC	DC	AC ESS	DC ESS	HOT
RADIO COMMUNICATIONS	VHF1				X	
	VHF2		DC2			
	VHF3 ◁		DC1			
	HF1 ◁			SHED		
	HF2 ◁	AC2				
	RMP1				X	
	RMP2		DC2			
	RMP3 ◁		DC1			
	CAPT ACP				X	
	F/O ACP				X	
	THIRD ACP		DC1			
	FOURTH ACP ◁		DC1			
	SELCAL		DC1			
	FLT INTERPHONE				X	
	CAPT LOUDSPEAKER				X	
	F/O LOUDSPEAKER		DC2			
	EXT HORN					HOT 2
CABIN INTERCOMM DATA SYS	CIDS1		GND/FLT		X	
	CIDS2		GND/FLT		X	
	DEU (A/B)		GND/FLT		X	
COCKPIT VOICE RECORDER	CVR CTL				SHED	
	CVR			SHED		
ACARS ◁		AC1				