

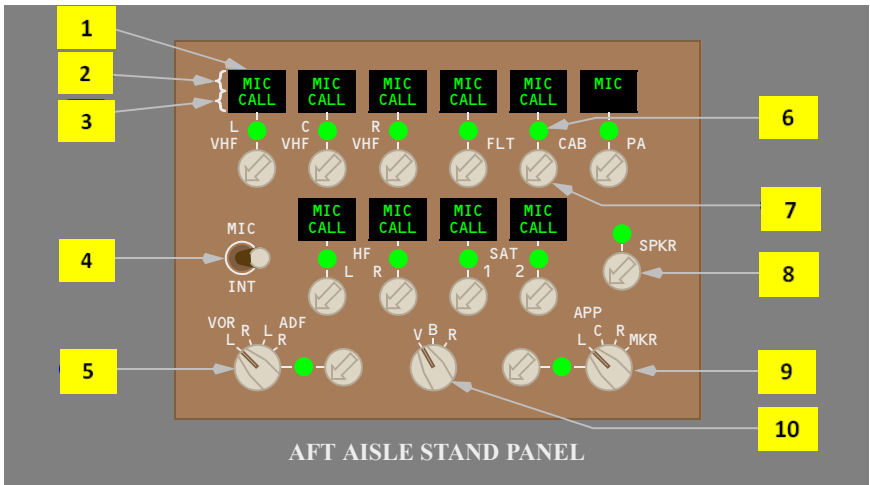
# B777



# Communications

DO NOT USE FOR FLIGHT

## Audio Control Panel (ACP)



### 1 Transmitter Select Switches

Push –

- the MIC light illuminates
- the MIC light for any other transmitter extinguishes
- selects the respective transmitter (radio or intercommunications) for transmission from this crew station (only one can be selected at a time for each crew station)
- selects the receiver audio on, if not already manually selected on
- pushing the CAB transmitter select switch twice within one second places a priority call to a selected cabin station.

Second push –

- deselects the transmitter
- deselects receiver audio.

**Note:** Second push of the CAB select switch deselects the transmitter and receiver audio only after one second has elapsed from the first push.

### 2 MIC Lights

Illuminated (green) – indicates the transmitter is selected.

### 3 CALL Lights

Illuminated (green) –

- indicates a call on SELCAL, the flight interphone (FLT), the cabin interphone (CAB), or SATCOM (SAT)
- resets when the respective transmitter select switch is pushed or, if already pushed, by pressing a MIC/INTERPHONE switch (the SATCOM CALL light remains illuminated until the call ends)
- PA does not have a CALL light.

### 4 MIC/Interphone Switch

MIC – keys the boom microphone or oxygen mask on the selected radio transmitter or other system.

Center – off position (spring-loaded to center).

INT – keys the boom microphone or oxygen mask on the flight interphone.

### 5 VOR/ADF Receiver Selector

Selects the VOR or ADF receiver to be monitored:

- VOR L – left VOR
- VOR R – right VOR
- ADF L – left ADF
- ADF R – right ADF.

### 6 Receiver Lights

Illuminated (green) – indicates the respective receiver volume control is manually selected on.

### 7 Receiver Volume Controls

Push – turns the respective receiver audio on or off.

Rotate – controls receiver volume.

### 8 Speaker (SPKR) Volume Control

Push – turns the respective flight deck speaker on or off.

Rotate – controls flight deck speaker volume.

### 9 Approach (APP) Receiver Selector

Selects the approach receiver to be monitored:

- APP L – left ILS
- APP C – center ILS
- APP R – right ILS
- MKR – marker beacon.

## 10 Navigation Filter Selector

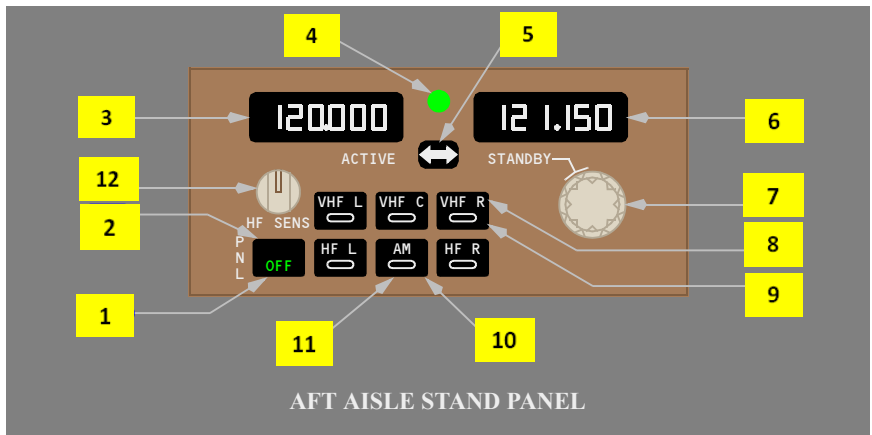
Filters VOR, ADF, ILS, or DME audio:

- V (voice) – only the voice audio is heard
- B (both) – both the voice and range audio are heard
- R (range) – range audio (navigation aid Morse code identifier) is heard.

**Note:** Marker beacon audio is available in all positions.

## Radio System

### Radio Tuning Panel



#### 1 Radio Tuning Panel OFF Light

Illuminated (green) – the radio tuning panel is off.

#### 2 Radio Tuning Panel OFF Switch

Push – disconnects the panel from the communication radios.

#### 3 ACTIVE Frequency Window

Displays the tuned frequency of the selected radio.

Displays DATA if the selected radio is in the data mode (not applicable for VHF L).

#### 4 Offside Tuning Light

Illuminated (green) –

- the radio normally associated with this panel is being tuned by another radio tuning panel, or
- the radio tuning panel is being used to tune a radio not normally associated with this radio tuning panel.

**Note:** The left radio tuning panel is normally associated with VHF L and HF L. The right radio tuning panel is normally associated with VHF R and HF R. The center radio tuning panel is normally associated with VHF C.

#### 5 Frequency Transfer Switch

Push –

- transfers the STANDBY window frequency to the ACTIVE window and tunes the selected radio to the new active frequency
- transfers the ACTIVE window frequency to the STANDBY window.

#### 6 STANDBY Frequency Window

Displays the preselected or previously tuned frequency of the selected radio.

With data link installed, displays DATA when selection of the frequency transfer switch would reconfigure the selected radio to the data mode (not applicable for VHF L).

#### 7 Frequency Selector

Rotate –

- outer knob – selects the portion of the STANDBY frequency to the left of the decimal point
- inner knob – selects the portion of the STANDBY frequency to the right of the decimal point.

#### 8 Radio Tuning Switches

Push –

- selects the radio to be tuned
- the tuned frequency is displayed in the ACTIVE frequency window
- the standby frequency is displayed in the STANDBY frequency window.

#### 9 Radio Tuning Lights

Illuminated – indicates the selected radio.

**10 AM Switch**

Push – sets the AM (amplitude modulation) or USB (upper side band) mode for the selected HF.

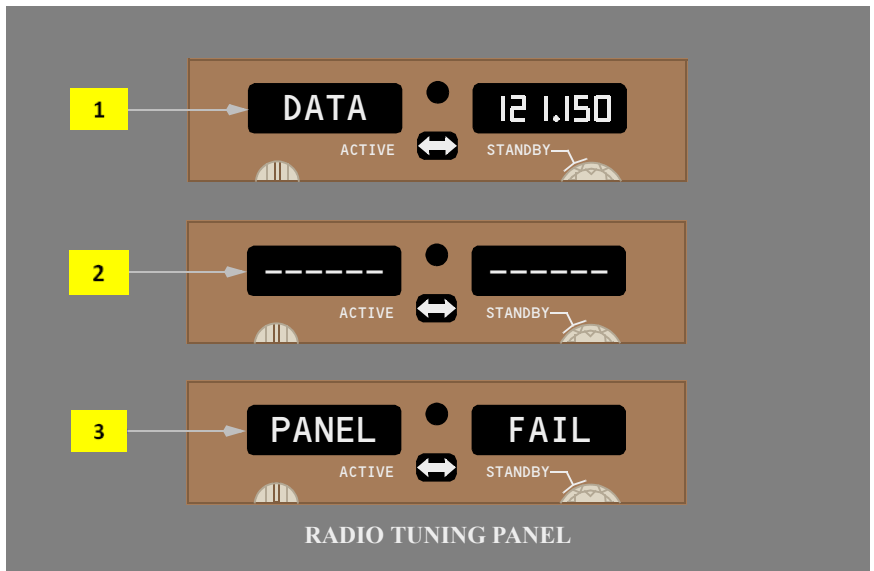
**11 AM Light**

Illuminated – HF AM is selected.

Extinguished – HF USB is selected.

**12 HF Sensitivity Control**

Rotate – adjusts the sensitivity of the on-side HF receiver.

**Radio Tuning Panel Indications****1 DATA Mode**

Displays DATA in the ACTIVE frequency window when the selected radio is being used in the data mode.

**2 Radio Fail**

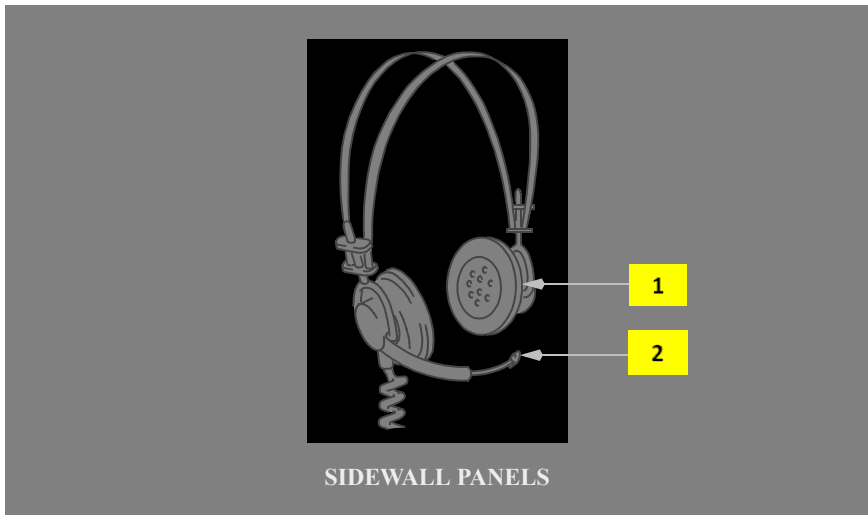
Displays dashes in both windows when the selected radio is failed or has been disconnected.

**3 PANEL FAIL**

The radio tuning panel is failed.

## Miscellaneous Communication Controls

### Headphone/Boom Microphone [Typical]



#### 1 Headphone

Used to monitor audio from the respective audio control panel.

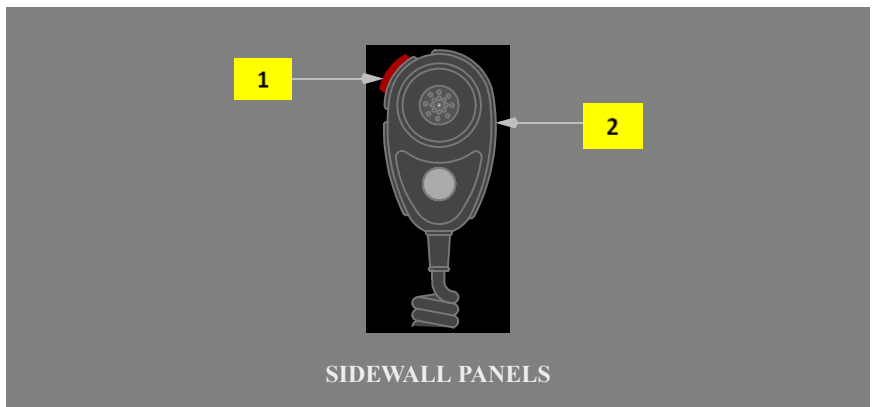
Audio volume is adjusted using audio control panel controls for the associated station.

Available at all flight deck stations.

#### 2 Boom Mic

Activation of a control wheel, glareshield or audio control panel mic/interphone switch transmits on the system selected for use at that station.

## Hand Microphone [Typical]



### 1 Hand Microphone Push-To-Talk Switch

Push – activates the hand microphone.

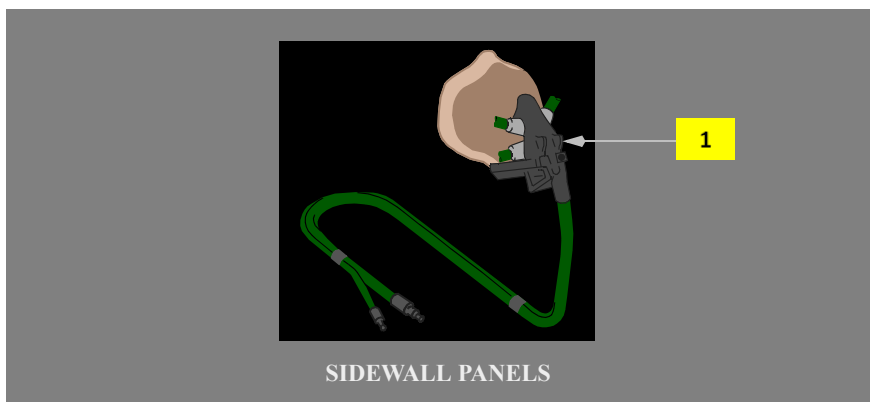
### 2 Hand Microphone

Transmits on the system selected by the audio control panel.

Available at the captain, first officer and first observer stations.

Optional for the second observer station.

## Oxygen Mask Microphone [Typical]



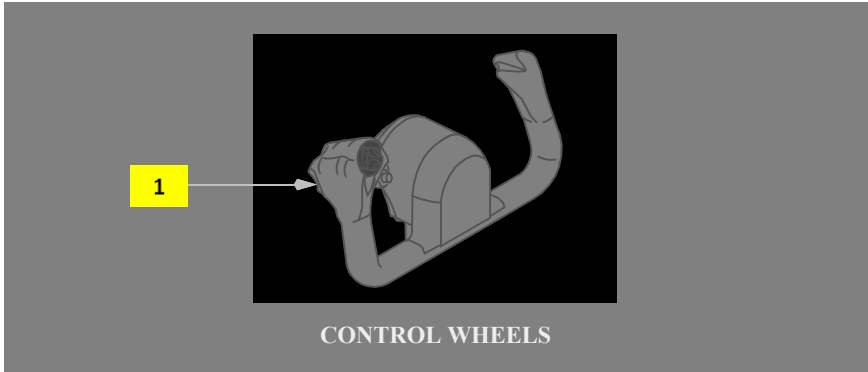
### 1 Oxygen Mask Microphone

Enabled when the oxygen mask doors are open. The boom microphone is disabled.



Activation of a control wheel, glareshield or audio control panel mic/interphone switch transmits on the system selected for use at that station.

## Control Wheel Microphone/Interphone Switch



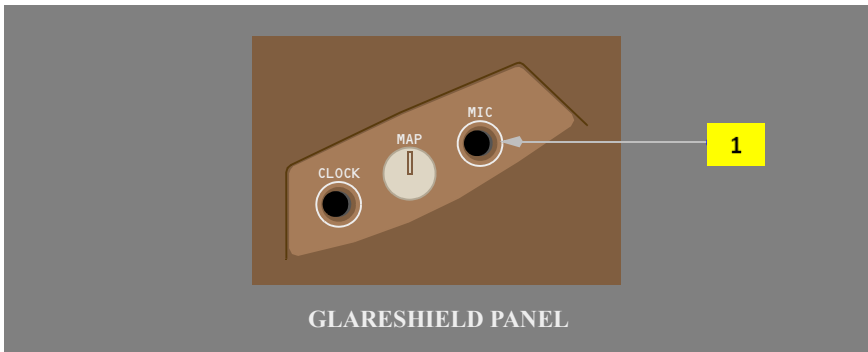
### 1 Control Wheel Mic/Interphone Switch

MIC – allows oxygen mask or boom microphone transmission on selected transmitter. Spring-loaded to center.

CENTER – off position.

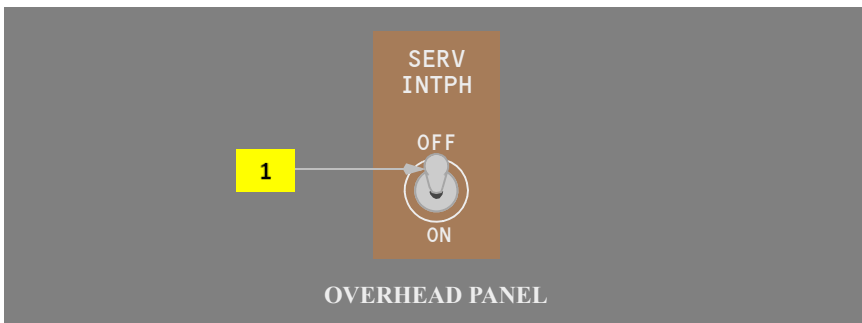
INT – allows oxygen mask or boom microphone transmission on the flight interphone system. Spring-loaded to center.

## Glareshield Microphone Switch



### 1 Glareshield Mic Switch

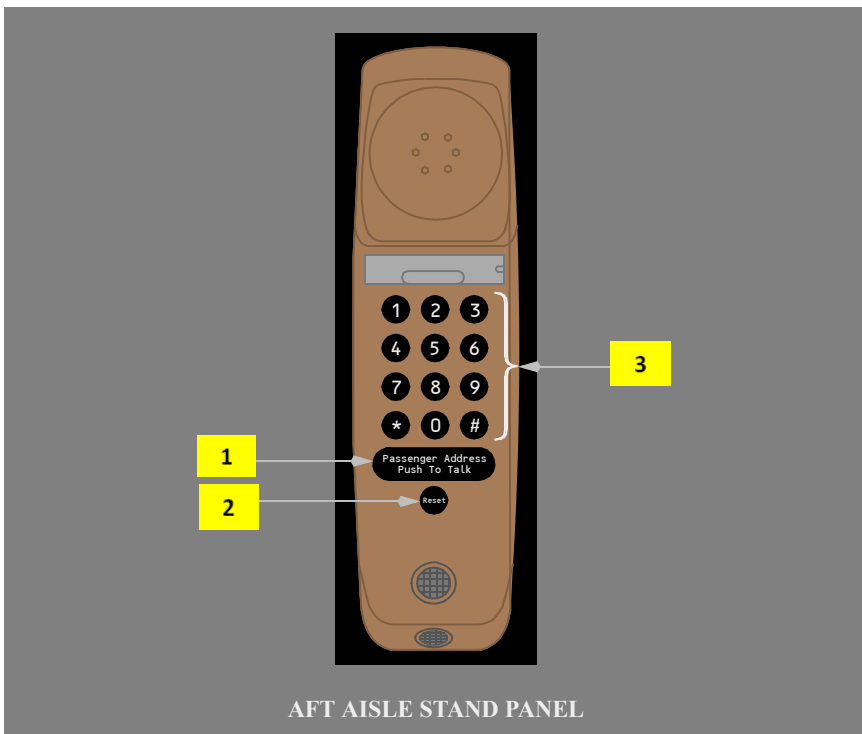
Push – allows oxygen mask or boom microphone transmission on the selected transmitter.



**1 Service Interphone Switch**

OFF – allows independent operation of the service and flight interphone systems.  
ON – connects the service and flight interphone systems.

**Handset**



### 1 Handset PA Push To Talk Switch

Push –

- connects the handset microphone to the selected PA area
- only used in the PA mode.

### 2 Handset Reset Switch

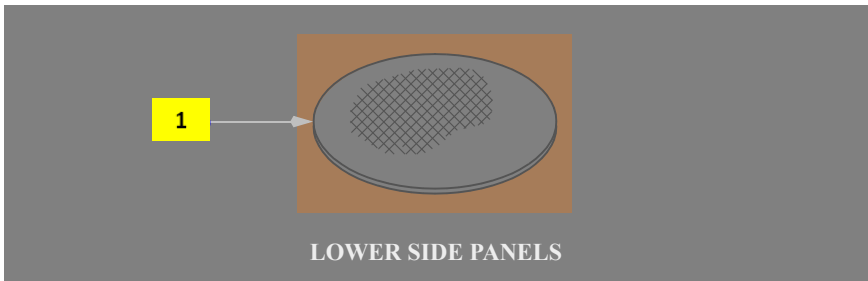
Push – cancels a call or incorrectly selected code.

### 3 Handset Numeric Keys

Push – selecting a code calls the respective station or PA area.

**Note:** Dial codes entered using the handset are not displayed on the CDU cabin interphone pages.

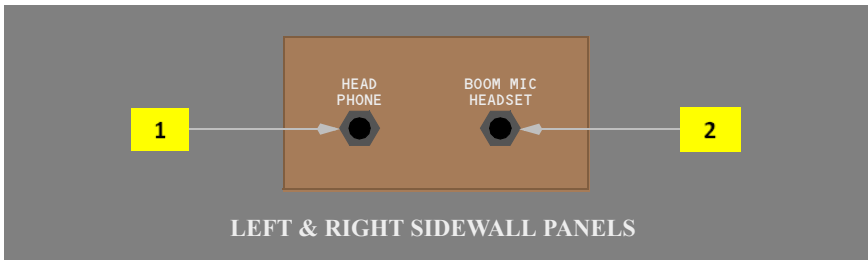
## Flight Deck Speaker



### 1 Flight Deck Speaker

Controlled by the speaker volume control on the respective audio control panel.

## Boom Microphone/Headphone Panel



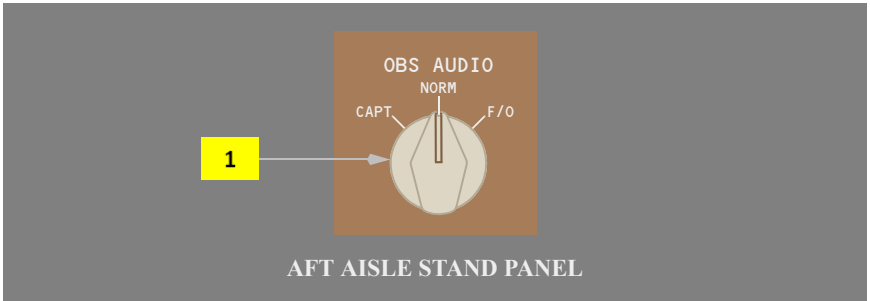
### 1 Headphone Jack

Accepts a flight crew headphone plug.

## 2 Boom Mic Jack

Accepts a flight crew boom mic plug.

## Observer Audio Selector



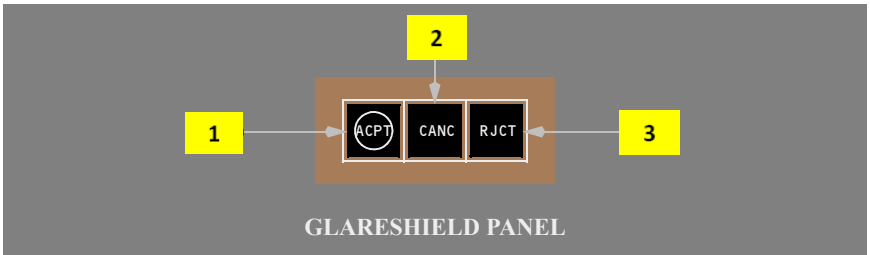
### 1 Observer (OBS) AUDIO Selector

Captain (CAPT) – connects the captain's hand microphone, headphone, boom microphone/headset, oxygen mask microphone, speaker, and mic/interphone switches to the first observer audio control panel.

Normal (NORM) – the first observer audio control panel is connected to the first observer's hand microphone, headphone, boom microphone/headset and oxygen mask microphone.

First Officer (F/O) – connects the first officer's hand microphone, headphone, boom microphone/headset, oxygen mask microphone, speaker, and mic/interphone switches to the first observer audio control panel.

## Data Link Accept/Cancel/Reject Switches



### 1 Accept (ACPT) Switch

Push –

- a positive response to a displayed message is downlinked to the origin of the displayed message
- functions the same as selecting an MFD communications display ACCEPT command key.

## 2 Cancel (CANC) Switch

Push –

- the message is removed from the display
- functions the same as selecting an MFD communications display CANCEL command key.

## 3 Reject (RJCT) Switch

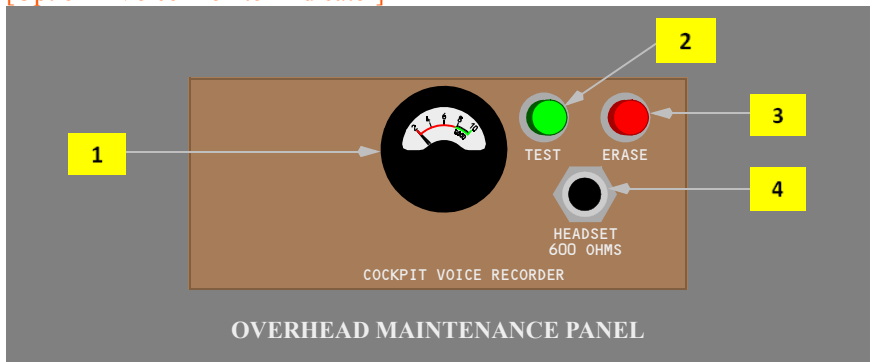
Push –

- a negative response to the displayed message is downlinked to the origin of the displayed message
- functions the same as selecting an MFD communications display REJECT command key.

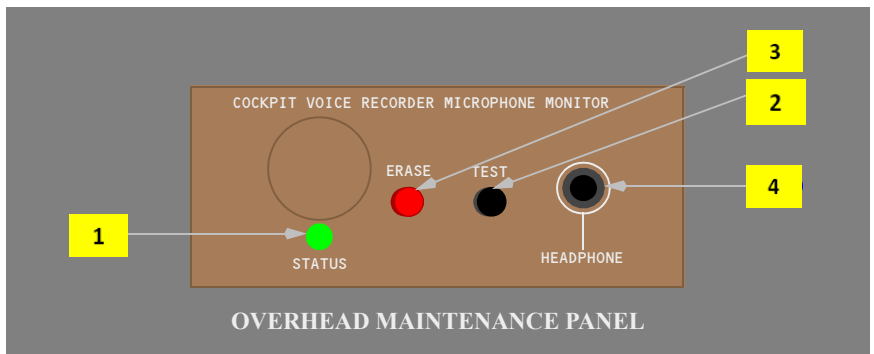
## Cockpit Voice Recorder System

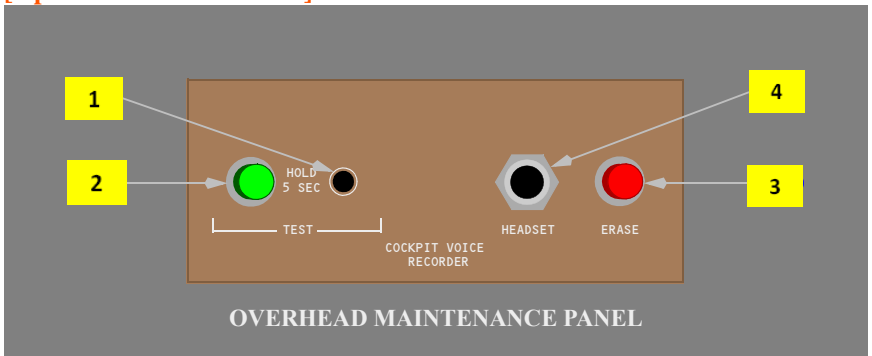
### Cockpit Voice Recorder Panel

[Option – Voice Monitor Indicator]



[Option – Status Indicator]



**[Option – Status Indicator]****1 Cockpit Voice Monitor Indicator****[Option]**

Pointer deflection indicates recording or erasure on all channels.  
During test, the pointer rises into the green band.

**1 STATUS Indicator****[Option]**

Illuminated – test completed successfully. Extinguished after one second.

**1 STATUS Indicator****[Option]**

Illuminated – test completed successfully. Extinguished after button is released.

**2 Cockpit Voice Recorder TEST Switch**

Push and hold for five seconds – tests all four cockpit voice recorder channels (1 per second).

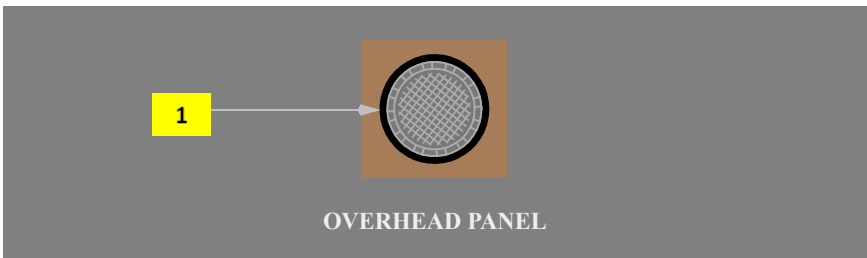
**3 Cockpit Voice Recorder ERASE Switch**

Push and hold for three seconds – erases voice recorder if on the ground, AC power on, and parking brake set.

**4 Cockpit Voice Recorder Headset Jack**

A headset may be plugged in to monitor playback of voice audio, or to monitor tone transmission during test.

## Cockpit Voice Recorder Microphone [Typical]

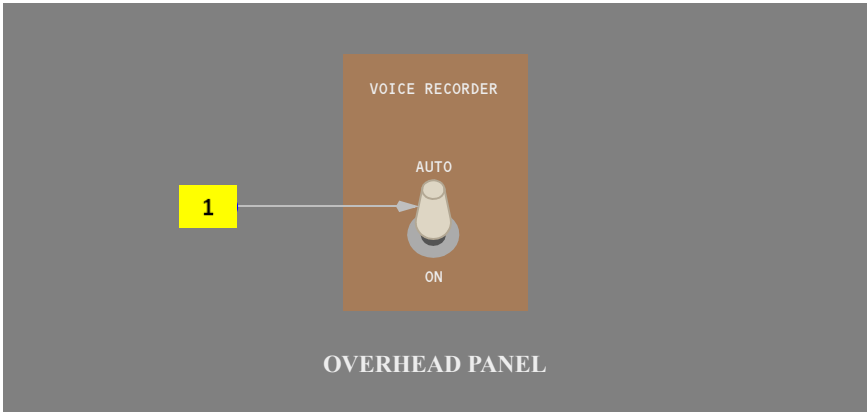


### 1 Cockpit Voice Recorder Microphone

Area microphone for the voice recorder.

## Cockpit Voice Recorder Switch

[Option]

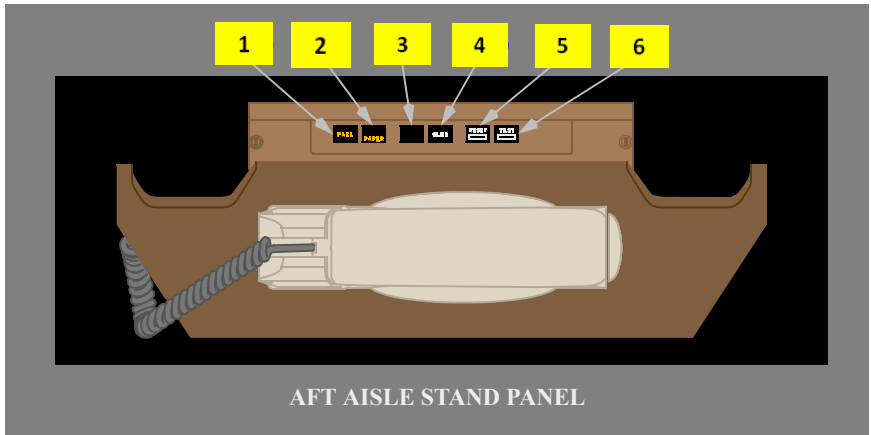


### 1 VOICE RECORDER Switch

AUTO – The cockpit voice recorder runs from first engine start until 5 minutes after last engine shutdown (spring-loaded).

ON – The cockpit voice recorder runs until first engine start, then spring-loaded to AUTO.

## Printer Controls



### 1 Printer FAIL Light

Illuminated amber –

- the printer is failed.

### 2 Printer PAPER Light

Illuminated PAPER (amber):

- the printer is out of paper, or
- the paper is jammed.

### 3 Switch is not functional

### 4 Printer SLEW Switch

Push and hold – advances the printer paper.

### 5 Printer RESET Switch

Push – resets the printer if it stops operating.

### 6 Printer TEST Switch

Push –

- tests the printer and printer lights
- prints a test pattern.



## Introduction

The communication systems include:

- cockpit voice recorder system
- radio communication system
- SELCAL system
- SATCOM system
- communication crew alerting system
- interphone communication system (refer to Section 30 of this chapter)
- data communication system (refer to Section 40 of this chapter).

The communication systems are controlled using the:

- audio control panels
- radio tuning panels
- control display unit (CDU) communications pages (refer to Section 30 of this chapter)
- multifunction display (MFD) communications pages (refer to Section 40 of this chapter)

## Audio Control Panels

The audio control panels are used to manage the radio and interphone communication systems. Navigation receiver audio can also be monitored. The captain, first officer, and first observer audio control panels are installed on the aft aisle stand.

Microphones are keyed by pushing the desired audio control panel transmitter select switch and using the MIC (microphone) position of a control wheel or audio control panel microphone/interphone switch, a glareshield MIC switch, or a hand microphone push-to-talk switch. Systems are monitored using headphones or speakers. An oxygen mask microphone is enabled and the boom microphone is disabled when the oxygen mask stowage doors are open. The oxygen mask microphone is disabled and the boom microphone is enabled when the left oxygen mask stowage box door is closed and the RESET/TEST switch is pushed.

## Cockpit Voice Recorder System

The cockpit voice recorder records any transmitted or received flight deck audio as selected on the audio control panels. It also records flight deck area conversations using an area microphone. All inputs are recorded continuously.

## Radio Tuning Panels

The radio tuning panels are used to tune the VHF and HF radios. The panels are designated left, center, and right, and are normally associated with the respective VHF and HF radios.

## Radio Communication Systems

The radio communication systems consist of the very high frequency (VHF) communication system, the high frequency (HF) communication system, the satellite communication (SATCOM) system, and the selective calling (SELCAL) system.

## VHF Communication System

Three independent VHF voice/data radios, designated VHF L (left), VHF C (center), and VHF R (right) are installed. Any VHF radio can be controlled by any radio tuning panel. The audio control panels are used to control voice transmission and receiver monitoring.

### [Option]

When a VHF radio is tuned to frequency 121.5, all flight crew automatically monitor the radio. The receiver lights on all audio control panels illuminate.

VHF L is configured for voice communication only. VHF C and VHF R can be configured for data or voice communication. However, only one VHF radio can operate in the data mode at a time. Data communication is normally selected on VHF C.

### Data Mode

The data mode can be selected and deselected on the MFD COMM display or by pushing the frequency transfer switch on the radio tuning panel. If the selected VHF radio is the default data radio (selected on the MFD COMM display), then the word DATA is displayed in the radio tuning panel active frequency window. When a standby frequency is transferred to the active window, DATA is displayed in the standby window. If a new frequency is selected in the standby window when DATA is displayed, DATA is replaced by the new frequency. Data can be returned to the standby window by selecting a frequency higher or lower than the allowable VHF frequency range.

When a VHF radio is in the data mode, it is not available for voice communications. A VHF radio can be returned to the voice communication mode by transferring a voice frequency into the ACTIVE frequency window.

## HF Communication System

There are two independent HF communication radios, designated HF L (left) and HF R (right). Each HF radio can be tuned by any radio tuning panel. HF radio sensitivity can only be set on the on-side radio tuning panel.

The audio control panels are used to control voice transmission and receiver monitoring.

When an HF transmitter is keyed after a frequency change, the antenna tunes while a continuous tone can be heard through the audio system. A tone lasting longer than 7 seconds indicates failure of the system to tune.

When an HF transmitter is keyed after a frequency change, the antenna tunes while a continuous or intermittent tone may be heard through the audio system. A tone lasting longer than 7 seconds indicates failure of the system to tune. Data is stored in memory for the last 100 tuned frequencies. Stored frequencies may tune quickly and a tone may not be noticeable.

Both HF radios use a common antenna. When either HF radio is transmitting, the antenna is disconnected from the other HF radio, and it cannot be used to transmit or receive. However, both HF radios can receive simultaneously if neither is being used for transmitting.

HF L and HF R can be configured for data or voice communication. However, only one HF radio can operate in the data mode at a time.

### Data Mode

The data mode can be selected and deselected on the MFD COMM display or by pushing the frequency transfer switch on the radio tuning panel. If the selected HF radio is the default data radio (selected on the MFD COMM display), then the word DATA is displayed in the radio tuning panel active frequency window. When a standby frequency is transferred to the active window, DATA is displayed in the standby window. If a new frequency is selected in the standby window when DATA is displayed, DATA is replaced by the new frequency. Data can be returned to the standby window by selecting a frequency higher or lower than the allowable HF frequency range.

HF data link operation is inhibited on the ground. When an HF radio is in the data mode, it is not available for voice communications. An HF radio can be returned to the voice communication mode by transferring a voice frequency into the ACTIVE frequency window.

### Stuck Mic Protection

In the event a VHF or HF radio transmits for more than 30 seconds, the EICAS advisory message RADIO TRANSMIT is displayed. The message is removed when the transmission stops.

On the ground with both engines shut down, any VHF radio that transmits for more than 35 seconds is automatically disabled and dashes appear in the tuning panel frequency window for that radio. That radio is enabled when the microphone switch for that radio is released.

## **Selective Calling (SELCAL) System**

The SELCAL system monitors the three VHF radios and the two HF radios. When the system receives a call from a ground station, the crew is alerted through the communication crew alerting system.

## **Satellite Communication (SATCOM) System**

The SATCOM system provides both data and voice communications. The system is managed by the satellite data unit. Flight deck voice calls are controlled using the CDUs and audio control panels.

The SATCOM control pages are displayed by selecting SAT on the CDU menu page. Directories of airline-defined numbers are line-selectable or numbers may be manually entered if function is enabled by the operator.

Incoming SATCOM calls are annunciated by a SELCAL chime and illumination of a CALL light on the audio control panel. Pressing the respective transmitter select switch connects the call to the pilot headset/hand mic.

SATCOM calls are terminated when the CALL light extinguishes (ground party hang-up or pilot ends call).

The EICAS communication message SATCOM MESSAGE displays when a SATCOM message requires flight crew attention. Servicing the message clears the EICAS message.

## **Communication Crew Alerting System**

The communication crew alerting system provides aural and visual alerts for normal operations requiring crew awareness that may require crew action. Visual alerts are presented as EICAS messages preceded by a bullet symbol (•). The aural alert is a high–low chime. The following table shows communication crew alert categories and the respective aural and visual alerts for each category. Refer to section 50 of this chapter for a list of possible messages.

## Crew Alert Categories

<b>Communication Crew Alert Category</b>	<b>Aural Alert</b>	<b>Visual Alert</b>	<b>Comments</b>
High	High–low chime	Communication EICAS alert	None currently implemented. Reserved for future use.
Medium	High–low chime	Communication EICAS alert	Message awareness required. Crew action may be required.
Low	None	Communication EICAS alert	Crew action may be required.

## Interphone Communication System

The interphone communication system includes the:

- flight interphone system
- cabin interphone system
- service interphone system
- passenger address (PA) system.

The flight interphone, service interphone, and passenger address systems are normally operated through the audio select panel. The cabin interphone is operated through the CDU or the flight deck handset.

### Flight Interphone System

The flight interphone system provides communications on the flight deck and between the flight deck and the ground crew through the flight interphone jack on the APU ground control fire protection panel in the nose landing gear wheel well.

The system is used by selecting the INT (interphone) position of a control wheel or audio control panel mic/interphone switch. The interphone can also be used by selecting the FLT transmitter selector on an audio control panel and then selecting one of the following microphone switches:

- MIC position of a control wheel switch
- MIC position of an audio control panel mic/interphone switch
- a hand microphone push to talk switch
- a glareshield MIC switch.

Crew alerting of a ground crew initiated call is provided by an aural alert chime, the GROUND CALL EICAS communications alert message, and a CALL light illuminated on the audio control panel transmitter select switch.

### Service Interphone System

The service interphone system provides voice communications between ground crew stations at various locations around the airplane. The system can be connected to the flight interphone system through the service interphone switch on the overhead panel.

### Passenger Address System

The passenger address (PA) system is used by the flight crew to make cabin announcements. Pushing a PA transmitter select switch on an audio control panel and activation of a microphone switch provides direct access to all PA areas.

The system is monitored by pushing the PA receiver volume control on an audio control panel. The PA system can also be selected through the cabin interphone system or the flight deck handset.

Cabin PA announcement priorities are:

- flight deck announcements from an audio control panel
- cabin handset direct access announcements
- priority (all area) announcements
- normal announcements from flight attendant or flight deck handsets.

## Cabin Interphone System

The cabin interphone system provides voice communications between the flight deck and the flight attendant stations. Boom microphones, oxygen mask microphones, and hand microphones are used by selecting the CAB (cabin) transmitter select switch on an audio control panel and pushing the mic/interphone switch to the MIC position. A cabin interphone station(s) must be selected and a call initiated from the center CDU to alert the desired station to pick up the call.

EICAS communications alert messages and chimes alert the pilots to incoming cabin calls. Normal priority calls from the cabin display the CABIN CALL EICAS message. Normal priority calls made to the flight deck while another call is in progress will result in a busy signal at the handset, the calling station being displayed in the call queue, and the CABIN CALL memo message being set in EICAS. The call queue and memo messages will be cleared when communication is established between that calling station and the flight deck. Priority calls from the cabin display the CABIN ALERT EICAS message. Priority calls automatically disconnect lower priority cabin interphone calls. Priority calls placed while a priority call is in progress are automatically connected as a conference call.

The cabin interphone call queue, speed dial numbers, and directories are accessed from the center CDU cabin interphone menu.

Calls are initiated by:

- line selecting the call location on the CDU display, or
- entering the appropriate call code in the CDU scratchpad and selecting SEND.

Pushing the audio control panel CAB (cabin) transmitter select switch twice within one second places a priority call to an airline-designated call location.

A station which is in use will be disconnected from the call in progress and connected to the flight deck.

**Note:** Flight deck initiated calls will not interrupt a current PA announcement from the dialed station.

Calls can be answered by selecting an audio control panel CAB transmitter select switch or, if a CAB transmitter select switch is already pushed in, by pressing a mic/interphone switch to the MIC position.

Calls can be ended by selecting the CDU prompt END CALL or de-selecting the CAB transmitter selector on the audio control panel. The call also ends if the other party terminates the call.

Calls can also be answered or placed using the flight deck handset. Desired call locations are entered using the numeric keys on the handset. Pressing the handset reset switch or placing the handset back on the cradle terminates the call.

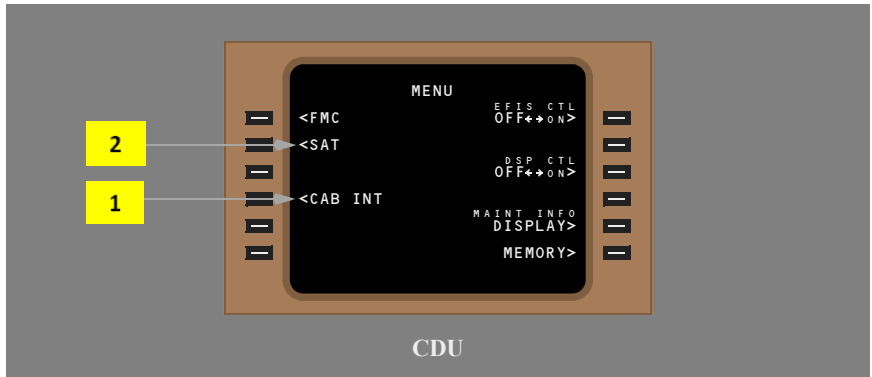
**Note:** The handset PA push-to-talk switch is not required to operate the handset except for PA announcements.

**Note:** The cabin interphone system provides access to voice gate link (if installed at the gate). Gate link allows phone calls to and from the flight deck while the airplane is at the gate.

## CDU Menu Page

Pushing the CDU MENU key displays the CDU menu page.

Normally, the cabin interphone (CAB INT) and SATCOM (SAT) displays are viewed on the center CDU. The SATCOM prompt is available on all CDUs.



### 1 CAB INT

Push – displays the CDU cabin interphone pages.

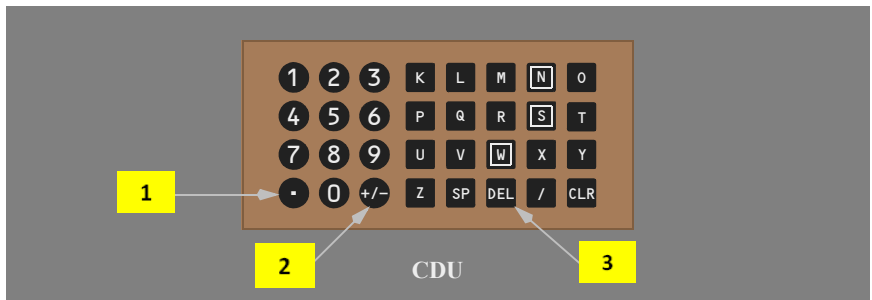
**Note:** Available only on the center CDU.

### 2 SAT

Push – displays the CDU SATCOM pages.



## Cabin Interphone CDU Controls



### 1 Period (.) key

Push – displays an asterisk (\*) in the scratchpad.

### 2 Plus/Minus (+/-) Key

Push – displays a pound sign (#) in the cabin interphone scratchpad.

### 3 Delete Key

Push –

- displays DELETE in the cabin interphone scratchpad
- used to delete calls from the call queue.

## Cabin Interphone Main Menu

The cabin interphone menu allows the pilots to send or end calls. Calls are sent by selecting a station from the speed dial page or the directory. Two digit station codes can be manually entered into the scratchpad and the call sent using the SEND prompt. A list of the two digit station codes is located on the handset.

The directory of stations is created by the customer airline and is not shown here. The following depict typical main menu pages and selected options.

### Speed Dial

The speed dial menu provides a quick means to call up to five predefined stations or groups of stations. A single push initiates the selected call.

### Call Queue

When the flight deck is involved in a call, additional incoming calls are displayed in the queue. Up to four calls can be displayed in order of the priority assigned as follows:

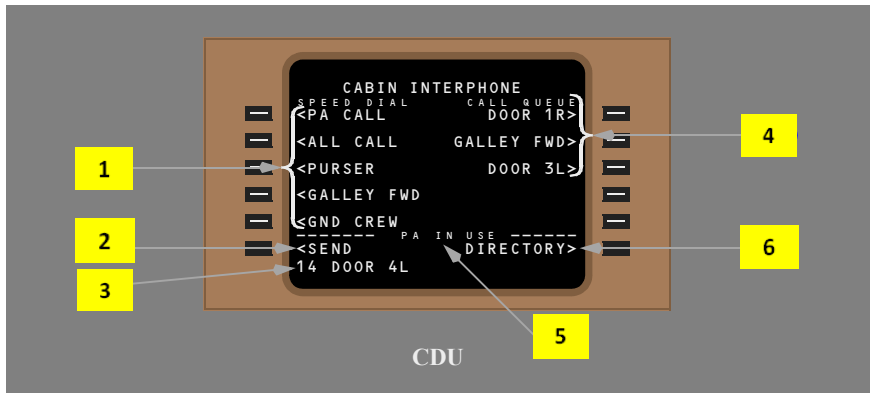
- PILOT ALERT
- conference calls

- cabin calls
- other calls.

The PILOT ALERT queue entry is displayed only when the flight deck is using the PA and an incoming call is received.

When there are four calls in the queue and a new, higher priority call is received, the lowest priority call is removed from the queue and the new call is displayed in the proper priority.

## Cabin Interphone Main Menu Page [Typical]



### 1 SPEED DIAL Labels

Lists the dial code labels of predefined stations, station groups, or functions:

- PA CALL – selects the passenger address system
- ALL CALL – selects all cabin interphone stations
- PURSER – selects the purser station
- GALLEY FWD – selects the forward galley station
- GND CREW – activates an alert horn in the nose wheel well. When selected, the horn sounds briefly to alert the ground crew for communications with the flight crew.

Push – directly dials the selected station, station group or enables the selected call function.

### 2 SEND

A two–digit dial code may be manually entered with the CDU keyboard. If the dial code is valid, the dial code, dial code label, and SEND are displayed. If the dial code is invalid, INVALID CODE is displayed in the scratchpad.

Push – initiates a call to the selected station.

## 2 END CALL

Displayed during a connect call.

Push – disconnects all existing call connections.

## 3 CURRENT CALL

Displays the most recently selected dial code and label when a call is being connected. Dial code is removed when call is established.

**Note:** XX BUSY appears in the scratchpad when a cabin interphone call is attempted from the CDU to a handset that is off the hook. Line selecting <END CALL will remove the XX BUSY annunciation.

## 4 CALL QUEUE Labels

Lists the dial code labels of unanswered calls to the flight deck.

Push –

- initiates a call back to the displayed station(s)
- adds station(s) to the existing call (if the flight deck is currently connected in a call).

## 5 IN USE Status

PA IN USE –

- a portion of the airplane PA system is in use, or
- both the PA and video entertainment systems are in use.

VIDEO IN USE – a portion of the video entertainment system is in use.

Blank (dashes) – neither the PA or video system is in use.

## 6 DIRECTORY

Push – displays the cabin interphone DIRECTORY page.

### **Cabin Interphone Directory Page [Typical]**

The cabin interphone directory pages are used to access subdirectory pages. CDU cabin interphone directory pages and individual directory entries are predefined by the airline. Each directory label is the name of a subdirectory where the dial code labels of the individual stations or functions are listed.

Selection of the specific location(s) is accomplished on the subdirectory page.



### 1 Directories

Up to 20 subdirectories can be predefined.

Push – displays the appropriate subdirectory page

### 2 CAB INT

Push – returns the display to the cabin interphone main menu page.

## Cabin Interphone Subdirectory Page [Typical]

Selecting a dial code label on the subdirectory page initiates a call to that station or station group.

The cabin interphone subdirectory pages are used to view and select individual locations through their dial code labels.

Typical stations or station groups are:

- individual cabin station
- two or more cabin stations for conference calls
- PA call to all cabin areas
- PA call to individual cabin areas
- PA priority call to all cabin areas
- ground crew alert
- gate station (on the ground).



### 1 Dial Code Labels

Push – initiates a call to the appropriate station(s).

### 2 CAB INT

Push – returns the display to the cabin interphone main menu page.

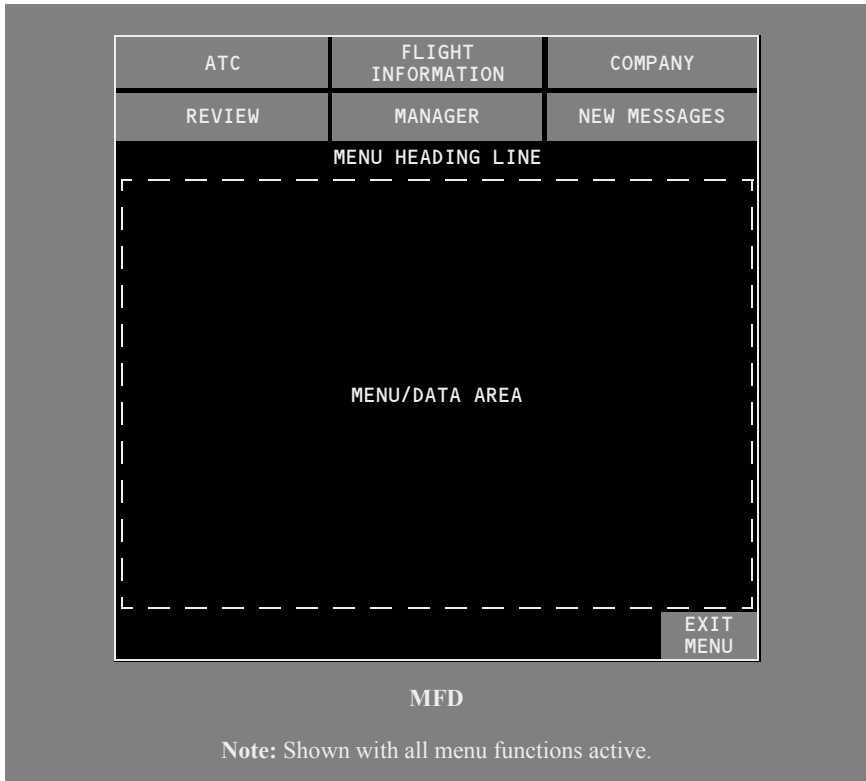
## Introduction

The MFD communications functions are used to control data link features. Data link messages not processed by the FMC are received, accepted, rejected, reviewed, composed, sent, and printed using communications functions on the MFD. Data link communications can be established with participating ATC and company locations. ACARS and data link radio management functions are provided through communications management menus.

The display select panel communication (COMM) display switch displays the communications main menu on the selected multifunction display (MFD). Communications functions are selected using the cursor control device. Message text entry is accomplished by entering data into the CDU scratchpad and transferring it to the appropriate area. Messages can be printed on the flight deck printer. Incoming message traffic is annunciated by EICAS communications messages.

Illustrations shown in this section depict the COMM menu with all features enabled. ATC data link requires appropriate airplane and ATC capability.

## Communications Menus



Company communications functions can be customized by airlines. Descriptions and illustrations provided in this section are examples of a typical installation with all communications functions active (depending on airline configuration or function availability, some functions may be inhibited).

Selectable menu items (active functions) have white text on a gray background. Inhibited items have cyan text on a black background with a cyan border. Inhibited items cannot be selected. The background color for a selected top level function is green.

Selecting ATC, FLIGHT INFORMATION, COMPANY, REVIEW, MANAGER, or NEW MESSAGES selection:

- places the appropriate title in the menu heading line
- displays the subordinate menu selections for that function in the menu/data area.

Subordinate menu items which lead to subsequent subordinate menu(s) are followed by three dots (...). Making a selection from the subordinate menu places the title of that function in the menu heading and displays a new subordinate menu or data below. Making a selection from the subordinate menu displays the appropriate title, the menu heading, and the data below.

ATC provides downlink messages to ATC, where available.

FLIGHT INFORMATION provides for future downlink messages to the National Weather Service or a similar provider.

COMPANY provides for downlink messages to airline facilities.

REVIEW displays a list of all transmitted messages, received messages not requiring a response, or received messages with the response already sent.

REVIEW is inhibited if there are no listed messages.

MANAGER provides the controls for data link and communications systems in general.

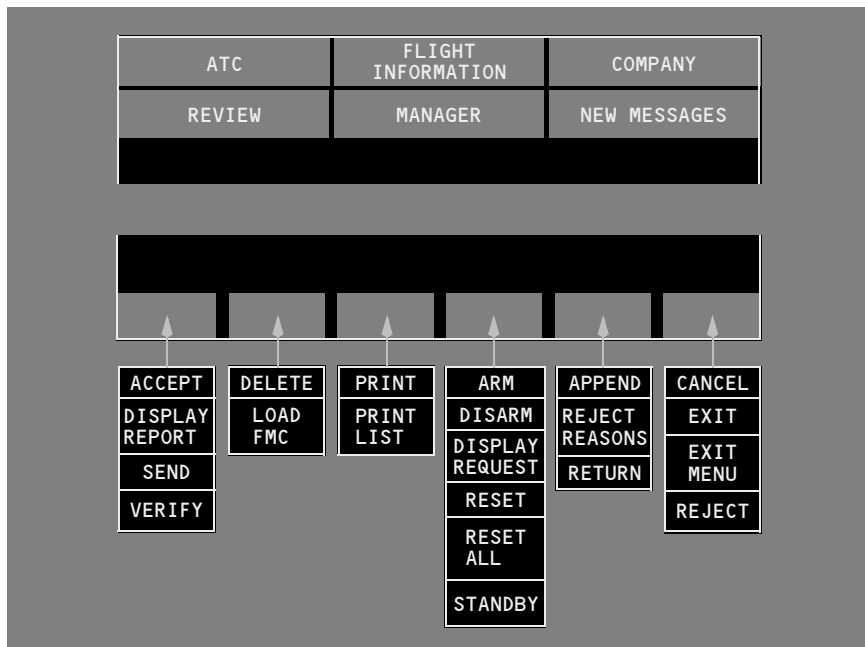
NEW MESSAGES displays a list of uplinked messages that have not been displayed or responded to. NEW MESSAGES is inhibited when there are no new messages.



## Communications Control and Input Functions

Communications menus, controls, and data input methods are similar for ATC, FLIGHT INFORMATION, and COMPANY functions. Basic functions are explained here.

### Command Key Locations



Communications command keys are displayed at the bottom of communications pages. Command keys change as appropriate for pages displayed. Each key has a label which changes based on the page displayed and the possible action. Only one label is displayed in a single location for a specific condition on the page.

## Command Key Functions

The following table describes the key functions and labels for all ATC, FLIGHT INFORMATION, and COMPANY functions.

Command key label	Displayed/Inhibited	Key function
ACCEPT (uplink messages)	<p>Displayed when:</p> <ul style="list-style-type: none"> <li>message requires an accept/reject response, and</li> <li>all message pages have been displayed.</li> </ul> <p>Inhibited for first 2 seconds of message display.</p>	<p>Select:</p> <ul style="list-style-type: none"> <li>message acceptance downlinked to message sender</li> <li>ACCEPT &amp; REJECT keys removed</li> <li>message status displayed in info box</li> <li>CANCEL command key displayed.</li> </ul>
APPEND (company downlink accept/reject response)	<p>Displayed when:</p> <ul style="list-style-type: none"> <li>all pages of the uplinked message have been displayed, and</li> <li>company data link capability is operational.</li> </ul> <p>Inhibited when:</p> <ul style="list-style-type: none"> <li>for first 2 seconds of uplink display, or</li> <li>when company data link capability is not operational.</li> </ul>	<p>Select:</p> <ul style="list-style-type: none"> <li>uplink message is removed, and</li> <li>downlinked message page is displayed.</li> </ul>
ARM (ATC downlink reports)	<p>Displayed when an armable report is open:</p> <ul style="list-style-type: none"> <li>REPORT LEAVING</li> <li>REPORT LEVEL</li> <li>REPORT PASSING</li> <li>REPORT REACHING.</li> </ul>	<p>Select:</p> <ul style="list-style-type: none"> <li>arms the report for automatic downlink to ATC when report conditions are met</li> <li>key function changes to DISARM</li> <li>report status changes from OPEN to ARMED</li> </ul>

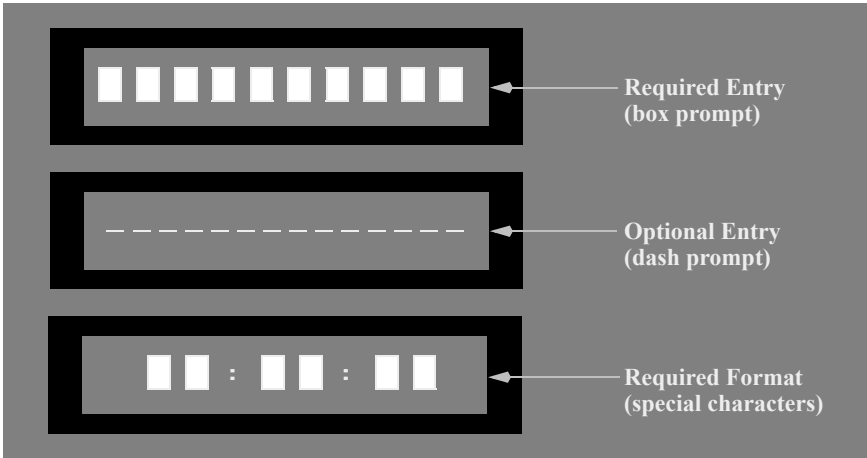
Command key label	Displayed/Inhibited	Key function
CANCEL	Displayed when: <ul style="list-style-type: none"><li>• uplink message is displayed which does not require an accept or reject response, or</li><li>• an uplink message is displayed which has been accepted, rejected, or</li><li>• review message is displayed.</li></ul> Inhibited for first 2 seconds of message display.	Message is removed.
DELETE (ATC reports)	Displayed when a downlink report page is open for entry.	Select: <ul style="list-style-type: none"><li>• deletes the report without sending.</li><li>• displays the COMM menu.</li></ul>
DISARM (ATC reports)	Displayed when an armable report is ARMED: <ul style="list-style-type: none"><li>• REPORT LEAVING</li><li>• REPORT LEVEL</li><li>• REPORT PASSING</li><li>• REPORT REACHING</li></ul>	Select: <ul style="list-style-type: none"><li>• disarms automatic report downlink to ATC</li><li>• key function changes to ARM</li><li>• Report status changes from ARMED to OPEN</li></ul>
DISPLAY REPORT	Displayed after accepting an uplink message which contains a report.	Displays the downlink report attached to an uplinked message.
DISPLAY REQUEST	Displayed after accepting an ATC uplink message which contains a request.	Downlink request which required an ATC response is displayed,
EXIT	Displayed when: <ul style="list-style-type: none"><li>• a downlink message is displayed, or</li><li>• a manager page is displayed.</li></ul>	COMM main menu is displayed.

<b>Command key label</b>	<b>Displayed/Inhibited</b>	<b>Key function</b>
EXIT MENU	Displayed when menu is displayed.	COMM main menu is displayed.
LOAD FMC (ATC uplink)	Displayed when uplinked ATC message contains data which can be loaded into the FMC.  Inhibited when active route is in a MOD condition.	Select: <ul style="list-style-type: none"><li>• FMC data is transferred into the active route, and</li><li>• FMC modification is started.</li></ul>
PRINT	Displayed when: <ul style="list-style-type: none"><li>• displayed message can be printed, and</li><li>• printer is available.</li></ul> Inhibited when printer is not available.	Message is sequenced for printing.
PRINT LIST	Displayed when: <ul style="list-style-type: none"><li>• new message list page is displayed, or</li><li>• review list page is displayed.</li></ul> Inhibited when printer is not available.	All messages in the list are sequenced for printing.
REJECT (uplink messages)	Displayed when: <ul style="list-style-type: none"><li>• message requires an accept/reject response, and</li><li>• all message pages have been displayed.</li></ul> Inhibited for first 2 seconds of message display.	Select: <ul style="list-style-type: none"><li>• message rejection downlinked to message sender</li><li>• ACCEPT and REJECT command keys removed</li><li>• CANCEL command key displayed</li><li>• message status displayed in info box, and</li><li>• message cleared from the display 5 seconds after status changes to REJECTED.</li></ul>

<b>Command key label</b>	<b>Displayed/Inhibited</b>	<b>Key function</b>
REJECT REASONS (ATC reject downlink)	Displayed when an uplink message requires an accept or reject response.	Displays REJECT REASON page.
RESET (downlink pages)	Displayed when downlink page is displayed.	Message parameters are reset to their default values.
RESET ALL (ATC downlink pages)	Displayed when ATC VERIFY REQUEST page is displayed.	Select: <ul style="list-style-type: none"><li>• all request parameters on the VERIFY REQUEST are set to reset/default values</li><li>• ATC combined request pages are reset, or</li><li>• COMM main menu is displayed.</li></ul>
RETURN	Displayed when: <ul style="list-style-type: none"><li>• a review message is displayed, or</li><li>• a downlink message is displayed, or</li><li>• a VERIFY REQUEST page is displayed, or</li><li>• a manager page is displayed.</li></ul>	Previous list page, request page, or menu is displayed.
SEND (downlink messages)	Displayed when: <ul style="list-style-type: none"><li>• required data complete, and</li><li>• all company message pages have been displayed.</li></ul> Inhibited when transmission queue is full.	Select: <ul style="list-style-type: none"><li>• message transmission initiated</li><li>• message status displayed in info box, and</li><li>• message cleared from the display 5 seconds after status changes to SENT.</li></ul>

Command key label	Displayed/Inhibited	Key function
TANDBY (ATC uplink messages)	Displayed when: <ul style="list-style-type: none"><li>• uplinked message is received which requires an accept/reject response, and</li><li>• STANDBY has not been previously selected for this message.</li></ul>	Standby response is sent.
VERIFY	Displayed when data is entered on more than one of the following ATC pages: <ul style="list-style-type: none"><li>• ALTITUDE REQUEST</li><li>• ROUTE REQUEST</li><li>• SPEED REQUEST.</li></ul>	Displays VERIFY REQUEST page.

## Text Entry



Downlink message pages provide text entry fields. Scratchpad entries transfer to selected entry fields when a cursor select switch is pushed. Scratchpad entries blank when successfully transferred. Scratchpad entries remain and an INVALID ENTRY message is displayed on the MFD when the entry is not valid.

An entry field resets to a default value when a blank scratchpad is transferred. An entry field blanks when a space is transferred. An entry field resets to the default entry prompt when DELETE is transferred.

Box and dash prompts indicate the maximum number of characters allowed.

Some entry fields have format requirements. Entry prompts display the required entry format, with special characters separating entry boxes. The required data is entered without the special characters or spaces. Scratchpad data is transferred to entry boxes after being checked for proper format. Invalid data or format prevents transfer and displays an INVALID ENTRY message.

## Menu Entry Fields



Menu entry fields are used to make text entry selections from a list. Menu entry fields distinguish mandatory versus optional entry in the same manner as CDU entry field.

The menu entry field is distinguished from other entry fields by the pointer to the right of the field.

When initially selected, a list of menu items is displayed to the side of the pointer. If an item from the list is then selected using the cursor and cursor select switch, that item is transferred to the entry field. If the menu prompt is selected again and the CDU contains a valid value, that CDU value is transferred to the entry field. Actions for invalid values, an empty scratchpad, space characters, and the delete key are the same as for the CDU entry field. When the entry field is selected with text already inserted, the menu list is removed from the display.

### Invalid Entries

When the scratchpad contains invalid data for the entry field, the INVALID ENTRY message is displayed in the INFO BOX. Re-entering valid data clears the INVALID ENTRY message on an ATC downlink page. Selecting the EXIT INFO key also clears the INVALID ENTRY message and removes the info box.

INVALID ENTRY messages on a company downlink page must be individually cleared by selecting the EXIT INFO key before valid data is re-entered into the field.




## Message List

Message titles and related information can be displayed in a list. The illustration shows the REVIEW message list. A similar list is available for NEW MESSAGES.

The NEW MESSAGE list is sorted by the time of receipt, the most current message at the top. ATC uplink messages have an ATC label to the right of the message block. The message remains in the list until it is accepted, rejected, or displayed. Messages requiring an accept/reject remain in the list until the accept/reject response is accomplished.

Selecting an item from the list with the cursor and pushing the cursor select switch displays the message page. Lists are also used to view new messages.



The screenshot shows a message list interface with a table structure. The table has three columns: ATC, FLIGHT INFORMATION, and COMPANY. The first row is highlighted in green and contains 'REVIEW', 'MANAGER', and 'NEW MESSAGES'. Below this, there are several rows of messages. Callout 1 points to the time '1848Z'. Callout 2 points to the time '1832Z'. Callout 3 points to the word 'RECEIVED'. Callout 4 points to the word 'DISPLAYED'.

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
1848Z	RECEIVED	
1842Z	VHF-VOICE CONTACT	ACCEPTED
1832Z	WEATHER	DISPLAYED
1820Z	ATIS	DISPLAYED

### 1 Current Time

Displays current time.

### 2 Message Time

For new messages – time the message is received.

For review messages – time the message is received or sent.

### 3 Message Title

Displays message title information.

#### 4 Message Status

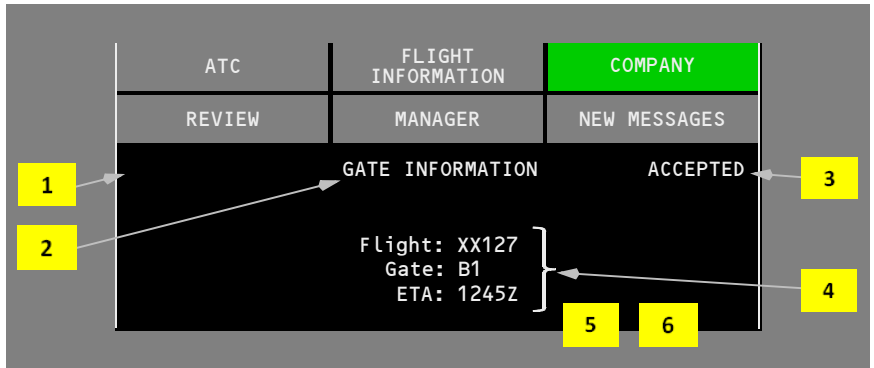
Only displayed for review list boxes.

The appropriate status indicator is displayed.

### Message Display Format

A typical message display format is shown. Messages selected from a list are displayed in this format.

**Note:** Selection of a main menu item exits the message page.



#### 1 Message Time

For downlink messages – current time.

For new messages – time the message is received.

For review messages – time the message is received or sent.

#### 2 Message Title

Displays message title information.

#### 3 Review State

Only displayed for review messages.

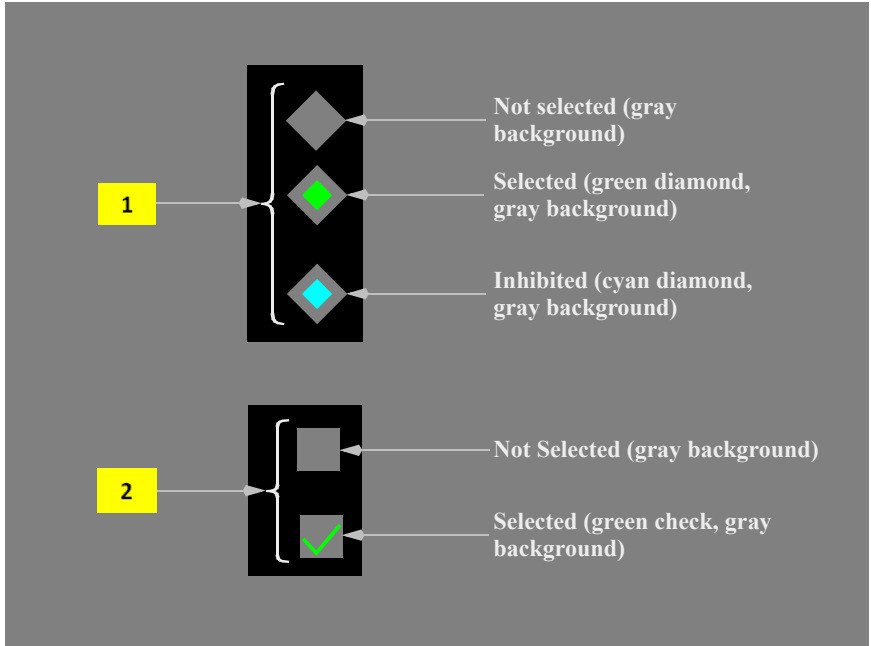
The appropriate state indicator is displayed.

#### 4 Message Content

Located between the title and the keys.

## Exclusive and Nonexclusive Select Keys

Manager and new message pages can contain select keys to activate features. Pushing the cursor select switch when the key is highlighted makes the selection. A second selection of a nonexclusive key toggles to the deselected state.



### 1 Exclusive Select Key

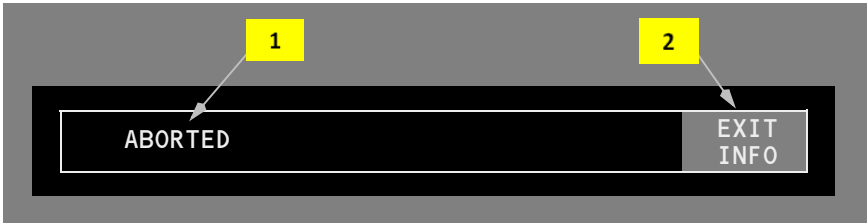
The diamond-shaped exclusive select keys are used to select a single feature from a group. Selecting a key activates the feature and all other exclusive select keys in that group are deselected. The keys are displayed in their selected or default condition. If selection is required, the SEND key is not displayed until a selection is made.

### 2 Nonexclusive Select Key

The square-shaped nonexclusive select keys are used to select multiple features. Selecting a key activates the feature. The keys are displayed in their previously selected or default condition. If selection is required, the SEND key is not displayed until a selection is made.

## Information Messages

Messages are displayed in an information box at the bottom of the MFD. The information box covers command keys. Information messages, such as INVALID ENTRY, are cleared by selecting EXIT INFO. Some information messages automatically disappear.



### 1 Information Message Text

The text starts at the left of the box.

### 2 EXIT INFO Key

Select – removes the information box for the displayed message from the display.

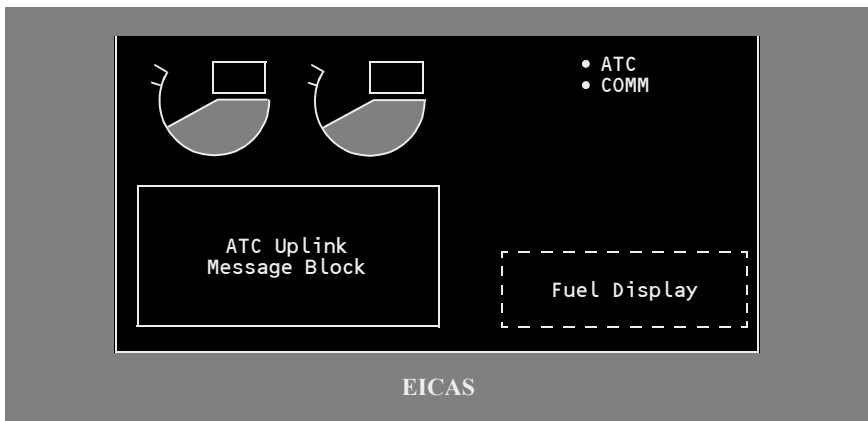
## Communications Information Messages

Communications information messages are described in the following table.

Information Message	Condition
ABORTED	ATC connection not established, lost, or loss of handoff to a new active center, while a message is transmitting, or before acceptance.
ACCEPTED	ACCEPT response received.
ACCEPTING	ACCEPT response sent.
DISPLAYED	All pages of a message not requiring an ACCEPT or REJECT response have been displayed.
COMM CONTROL TRANSITION – COMPANY MESSAGES LOST	Airplane data link system switched to a new AIMS master. Company datalink information may be lost. Incomplete company downlink messages are lost and must be created/transmitted again. If previously received Company messages are required, they must be requested again. ATC connections, data, and messages are not affected.
INCOMPLETE MESSAGE	Only part of the displayed message is received.

Information Message	Condition
INVALID ENTRY	An entry box is selected and the CDU scratchpad value is not valid.
LOADING	ATC uplink route modification is loading into the FMC.
MESSAGE TO PRINTER	Selected message(s) sent to printer.
NO ACCEPT (company)	ACCEPT response is not successfully transmitted or an ACCEPT response is not required.
NO PRINT	An attempt to send a message(s) to the printer is unsuccessful.
NO REJECT (company)	REJECT response is not successfully transmitted or a REJECT response is not required by the message.
NO SEND	An attempt to send a downlink message is unsuccessful.
PRINTING	ATC message is printing.
REJECTED	REJECT response received.
REJECTING	REJECT response transmitting.
SENDING	The downlink message is sent.
SENT	The downlink message is received.
UNABLE TO LOAD	ATC uplink route modification can not be loaded into the FMC.

## Uplink Message



## **ATC Uplinks**

Arriving ATC uplink messages are annunciated by an •ATC communications message, an aural chime, and the display of the EICAS ATC message block. The message text is displayed below the normal EICAS engine display. Uplink messages too large to fit in the message area display the message LARGE ATC MESSAGE. The message text is displayed using the NEW MESSAGE menu selection.

## **Company Uplinks**

Arriving company uplink messages are annunciated by a •COMM communications message and an optional aural chime.

## **Accept/Reject Uplinks**

ATC messages requiring an accept or reject response display those options on the EICAS display. The MFD message page displays ACCEPT, STANDBY, REJECT REASONS, and REJECT keys at the bottom. Select ACCEPT or REJECT to respond to the uplink message. The REJECT REASONS key can be selected to inform ATC why the message is being rejected.

Company messages can also be accepted or rejected on the message page.

After making a selection, the status changes to ACCEPTING/REJECTING while the response is transmitting. When the communications network sends a response indicating that the message was received, the message status changes to ACCEPTED/REJECTED. After a message has been accepted or rejected, a CANCEL key is displayed at the bottom of the page. Selecting CANCEL will clear the message from the display. Rejected messages are automatically removed 5 seconds after the message status changes to REJECTED.

The ACCEPT, CANCEL, and REJECT buttons on the glareshield perform the same function as the same keys on the MFD.

## Reject Reasons Page

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
1234Z	REJECT REASONS	
<input type="checkbox"/>	DUE TO AIRCRAFT PERFORMANCE	
<input type="checkbox"/>	DUE TO WEATHER	
<input type="checkbox"/>	NOT CONSISTENT, PLEASE RE-SEND	
FREE TEXT:	<input type="text"/> <input type="text"/> <input type="text"/>	
	RESET	RETURN
		REJECT

If the response to an ATC uplink message is to reject the message, the REJECT REASONS key can be selected to inform ATC why the clearance message is being rejected. Up to three lines of text can be included. Select REJECT to send the reject message with the applicable reasons.

### Standby Response

When more time is required to respond to an ATC uplink, use the STANDBY key to send a delay notification.

### ATC Data Link

ATC data link communicates with participating air traffic control centers, reducing the need for VHF voice communications. Airplane situation reports, route changes, speed and vertical clearances, and voice contact requests can be sent or received as appropriate. The COMM display ATC menu selection allows display of downlink message pages.

Uplink and downlink messages are stored. All messages are assigned the time of receipt/transmission and are printable.

ATC data link requires manual logon to a participating ATC facility. Once logged on, transfer to adjacent ATC facilities is normally automatic.

## Crew Feedback

ATC uplinks containing clearance data that the crew can set on the MCP or EFIS control panel have a crew feedback display function. When the message is displayed on EICAS or the message page, the data values change from white to green when properly set by the crew. Data which provides feedback is:

- MCP speed
- MCP heading
- MCP altitude
- barometer setting
- transponder code
- VHF frequency
- HF frequency.

## FMC Data Loading

Some ATC uplinks contain data for loading into the FMC. Display of the LOAD FMC command key indicates that FMC data is available for loading. Selecting LOAD FMC transfers data to the FMC and creates an FMC modification.

Both MFD information messages and FMC scratchpad messages provide indications of loading progress.

## Downlink Pages

### ATC Menu

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
<b>ATC</b>		
ALTITUDE REQUEST	WHEN CAN WE EXPECT	EMERGENCY REPORT
ROUTE REQUEST	VOICE CONTACT REQUEST	ATC REQUESTED REPORTS...
SPEED REQUEST	LOGON / STATUS	POSITION REPORT
CLEARANCE REQUEST		FREE TEXT MESSAGE

ATC Menu

The ATC menu provides access to ATC downlink pages.

The ATC REQUESTED REPORTS menu selection is inhibited (cyan) when no reports are requested by ATC.

**Note:** This menu is not repeated when describing individual pages.



## Altitude Request

The ALTITUDE REQUEST page allows selection of an altitude, an altitude block, or a VMC descent. A second request page allows selection of a reason for the request.



ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
1234Z ALTITUDE REQUEST		
1	ALTITUDE: ----- STEP AT: ----- CRUISE CLIMB	1
2	BLOCK: ----- TO: -----	2
3	REQUEST VMC DESCENT	
SEND	PRINT	RESET
RETURN	EXIT	

### 1 ALTITUDE

The requested altitude is entered into the dash prompt and the SEND key becomes active.

Pushing the SEND key requests a normal climb at climb power unless otherwise requested, or a normal descent.

Additional climb or descent options are:

- STEP AT – allows entering a time or position for the start of the climb or descent
- CRUISE CLIMB – begin a cruise climb from present position.

STEP AT is inhibited when the ALTITUDE value is less than 150 feet from current airplane altitude. Altitude entries are any valid FMC altitude. Time entries are in four digit, hours and minutes, optionally followed by a Z. Position entries are any valid FMC position.

## 2 BLOCK

BLOCK is the beginning of a block altitude. TO is the end of the altitude block. Altitude entries are any valid FMC altitude.

The SEND key becomes active with an entry.

## 3 REQUEST VMC DESCENT

A VMC descent is begun from present position.

The SEND key becomes active with this selection.

### Altitude Request Reason Page

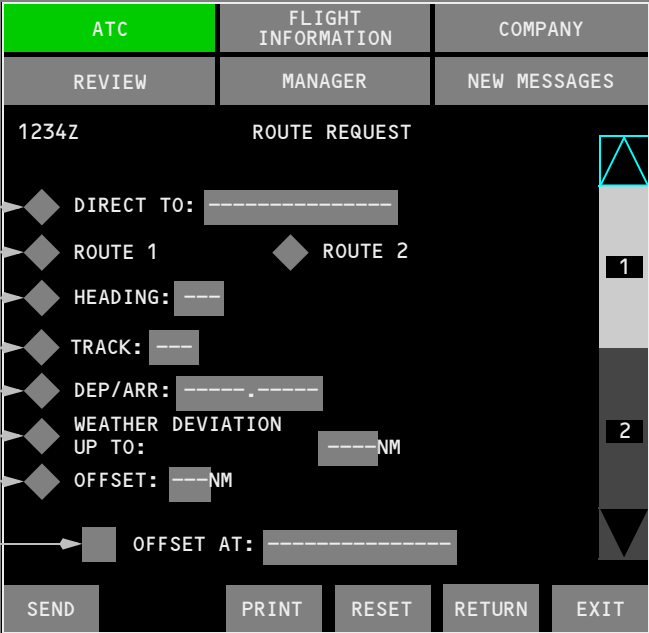


ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
1234Z ALTITUDE REQUEST		
<input type="checkbox"/>	AT PILOTS DISCRETION	
<input type="checkbox"/>	DUE TO WEATHER	
<input type="checkbox"/>	DUE TO AIRCRAFT PERFORMANCE	
<input type="checkbox"/>	MAINTAIN OWN SEPARATION AND VMC	
FREE TEXT:	<input type="text"/> <input type="text"/> <input type="text"/>	
SEND	PRINT	RESET
RETURN	EXIT	

The page scroll bar selects a second ALTITUDE REQUEST page. Reasons for a request are optionally entered on this page. Up to three lines of free text can be included.

## Route Request

The ROUTE REQUEST page allows selection of a direct to waypoint, new route, heading or track, departure and transition, arrival and transition, weather deviation, or a route offset. A second request page allows selection of a reason for the request.



### 1 DIRECT TO

Enter any valid FMC waypoint. The SEND key becomes active with this selection.

### 2 ROUTE

Selects FMC route 1 or 2. Sends the selected route, including any modifications. The SEND key becomes active with this selection.

### 3 HEADING

Enter desired heading. When displays are referenced to true north, a TRU label is displayed right of the heading. The SEND key becomes active with this selection.

#### 4 TRACK

Enter desired ground track. When displays are referenced to true north, a TRU label is displayed right of the ground track. The SEND key becomes active with this selection.

#### 5 DEP/ARR

Enter one of the following:

- departure
- arrival
- departure and transition
- arrival and transition.

Default entries are:

- departure procedure/transition selected for the selected route
- the approach procedure/transition selected for the active route when the airplane is in the air and an arrival procedure/transition is not selected.

The SEND key becomes active when one of the check boxes is selected.

#### 6 WEATHER DEVIATION UP TO

Enter desired offset in nautical miles. Valid entries are L (left) or R (right) NNN (NNN is any number from 1 to 128). The SEND key becomes active with this selection.

#### 7 OFFSET

Enter desired FMC route offset in nautical miles. Valid entries are L (left) or R (right) XX (XX is any number from 1 to 99). The SEND key becomes active with this selection.

#### 8 OFFSET AT

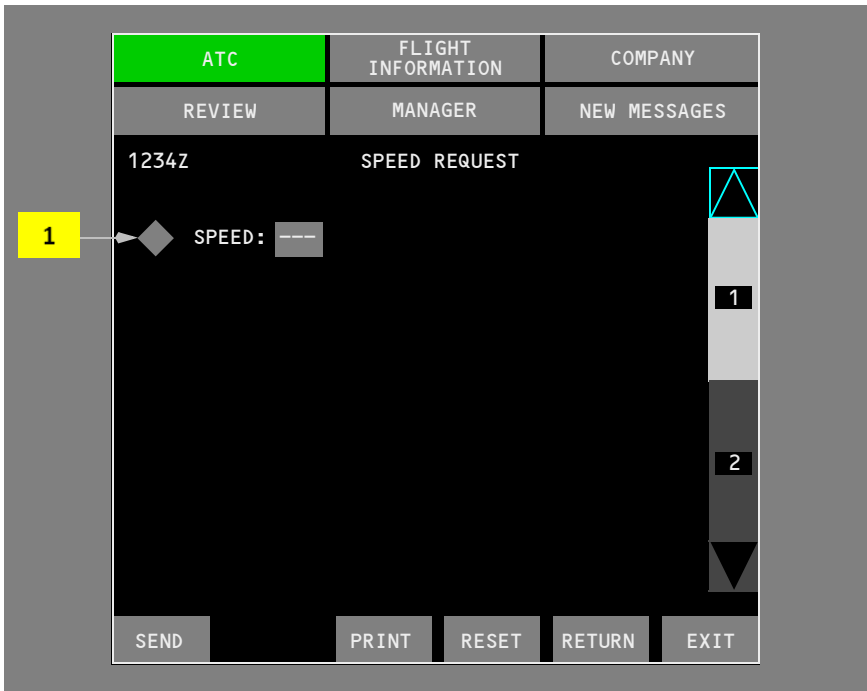
Enter a time or position to begin the offset. Time entries are in four digit, hours and minutes, optionally followed by a Z. Position entries are any valid FMC position.

### Route Request Reason Page

The page scroll bar selects a second ROUTE REQUEST page similar to the ALTITUDE REQUEST page previously described. The reasons for a request are optionally entered on this page. Up to three lines of free text can be included.

## Speed Request

The SPEED REQUEST page allows selection of speed. A second request page allows selection of a reason for the request.



### 1 SPEED

Enter any valid FMC speed or mach number. IAS entries are rounded to the nearest 10 knots. The SEND key becomes active with this entry.

### Speed Request Reason Page

The page scroll bar selects a second SPEED REQUEST page similar to the ALTITUDE REQUEST page previously described. The reasons for a request are optionally entered on this page. Up to three lines of free text can be included.

## Clearance Request





ATC	FLIGHT INFORMATION	COMPANY		
REVIEW	MANAGER	NEW MESSAGES		
1234Z CLEARANCE REQUEST				
<input type="checkbox"/> REQUEST CLEARANCE				
FREE TEXT: ----- ----- -----				
SEND	PRINT	RESET	RETURN	EXIT

Selecting REQUEST CLEARANCE informs ATC that the crew is ready for a clearance, such as predeparture or pushback. Up to three lines of free text can be included. The SEND key becomes active with this selection.

## Combination Downlink Request

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES


  

1234Z	ALTITUDE REQUEST	
 ALTITUDE: FL330		1
 STEP AT: -----		
 CRUISE CLIMB		

SEND	PRINT	RESET	RETURN	EXIT
------	-------	-------	--------	------

1234Z	SPEED REQUEST	
SPEED: .84		1

VERIFY	PRINT	RESET	RETURN	EXIT
--------	-------	-------	--------	------

1234Z	VERIFY REQUEST	
REQUEST CRUISE CLIMB TO FL 330, REQUEST SPEED .84		

SEND	PRINT	RESET	RETURN	EXIT
------	-------	-------	--------	------

*Note: An arrow points from the VERIFY key in the second table to the VERIFY REQUEST page.*

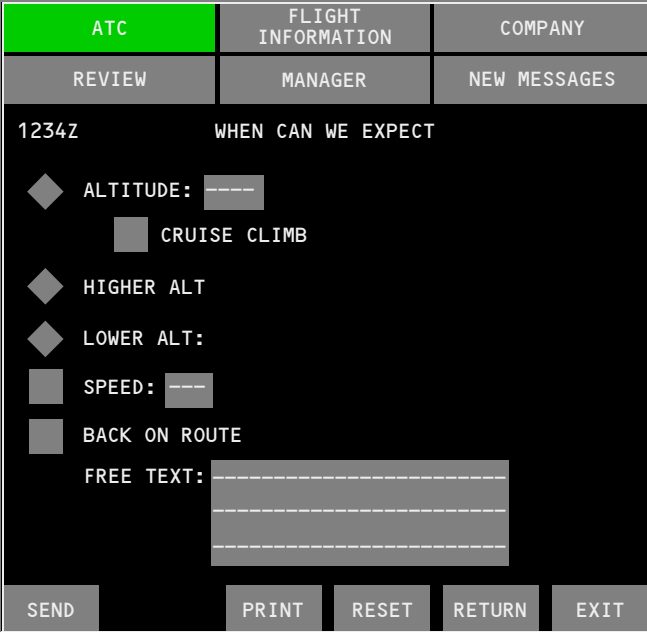
Requests from the altitude, speed, and route pages can be combined into one downlink request. Each request is individually selected and filled out. Select subsequent request pages by selecting RETURN, and selecting additional downlink pages from the ATC main menu. When data is entered into the second request page, the SEND key changes to VERIFY.

The SEND key is active on the VERIFY REQUEST page. A combined request is limited to five elements. Selecting a sixth request element displays the MESSAGE LIMIT EXCEEDED information message.

The verify page provides a display of the combined request elements. Each element is displayed on separate lines. Elements requiring revision before sending are revised on their respective request page. Selecting SEND transmits the combined downlink message to ATC.

The example shows a combined altitude and speed request. The altitude request is created first.

## When Can We Expect



ATC	FLIGHT INFORMATION	COMPANY		
REVIEW	MANAGER	NEW MESSAGES		
1234Z                      WHEN CAN WE EXPECT				
<input type="checkbox"/>	ALTITUDE: ----			
<input type="checkbox"/>	CRUISE CLIMB			
<input type="checkbox"/>	HIGHER ALT			
<input type="checkbox"/>	LOWER ALT:			
<input type="checkbox"/>	SPEED: ----			
<input type="checkbox"/>	BACK ON ROUTE			
	FREE TEXT:			
SEND	PRINT	RESET	RETURN	EXIT

Making selections asks ATC the time or location the crew can expect clearance for the requested items. Altitude, speed, and cruise climb entry rules are the same as on the ALTITUDE REQUEST and SPEED REQUEST pages. Up to three lines of free text can be included. The SEND key becomes active when a check box is selected.



## Voice Contact Request

ATC	FLIGHT INFORMATION	COMPANY	
REVIEW	MANAGER	NEW MESSAGES	
1234Z VOICE CONTACT REQUEST			
<input type="checkbox"/> REQUEST VOICE CONTACT			
FREE TEXT: <input type="text"/>			
<input type="text"/>			
<input type="text"/>			
SEND	PRINT	RESET	
		RETURN	EXIT

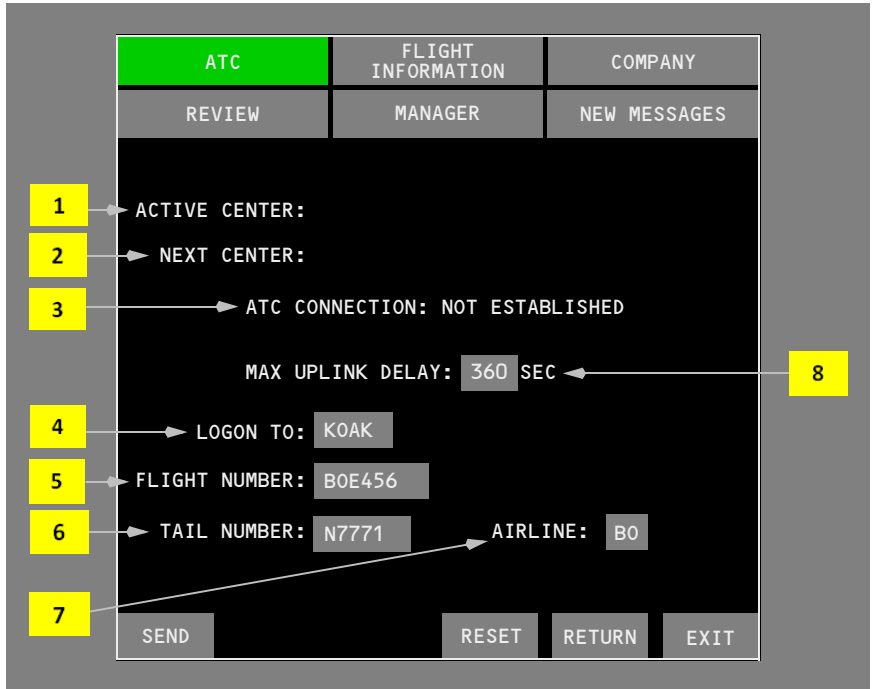
Making selection asks ATC for a voice contact. Up to three lines of free text can be included. The SEND key becomes active when the request for voice contact box is selected.

### ATC Logon/Status

The ATC LOGON/STATUS page allows entry of the desired ATC facility for establishment of a data link connection.

The SEND key is displayed after all logon entries are completed. Selecting the SEND key displays SENDING status during logon transmission. Boeing B777 - System after the logon status changes to SENT, the page is exited.

[AIMS BP 2003 or AIMS BP 2005]



### 1 ACTIVE CENTER

Displays the ATC facility identifier where a connection is established.

### 2 NEXT CENTER

Displays the ATC facility identifier to which an automatic handoff transfers the connection.

### 3 ATC CONNECTION

Displays the status of the ATC connection, ESTABLISHED or NOT ESTABLISHED.

**4 LOGON TO**

Box prompts are initially displayed. Enter the ICAO four letter identifier for the desired ATC center. The display changes to dashed prompts after establishing an ATC connection.

**5 FLIGHT NUMBER**

Normally displays the flight number entered on the FMC route page. When the flight number is not available, box prompts are displayed. Flight number entry on this page is copied to the FMC route page. Changing this entry after establishing an ATC connection cancels the ATC connection.

**6 TAIL NUMBER**

Normally supplied by the airplane system once it has been manually entered, unless battery power to AIMS is interrupted. When the airplane tail number is not available to the system, box prompts are displayed. Changing this entry after establishing an ATC connection cancels the ATC connection. Tail number is provided on the SELCAL placard.

**7 AIRLINE**

Normally supplied by the airplane system once it has been manually entered, unless battery power to AIMS is interrupted. When the airline identifier is not available to the system, box prompts are displayed. Changing this entry after establishing an ATC connection cancels the ATC connection.

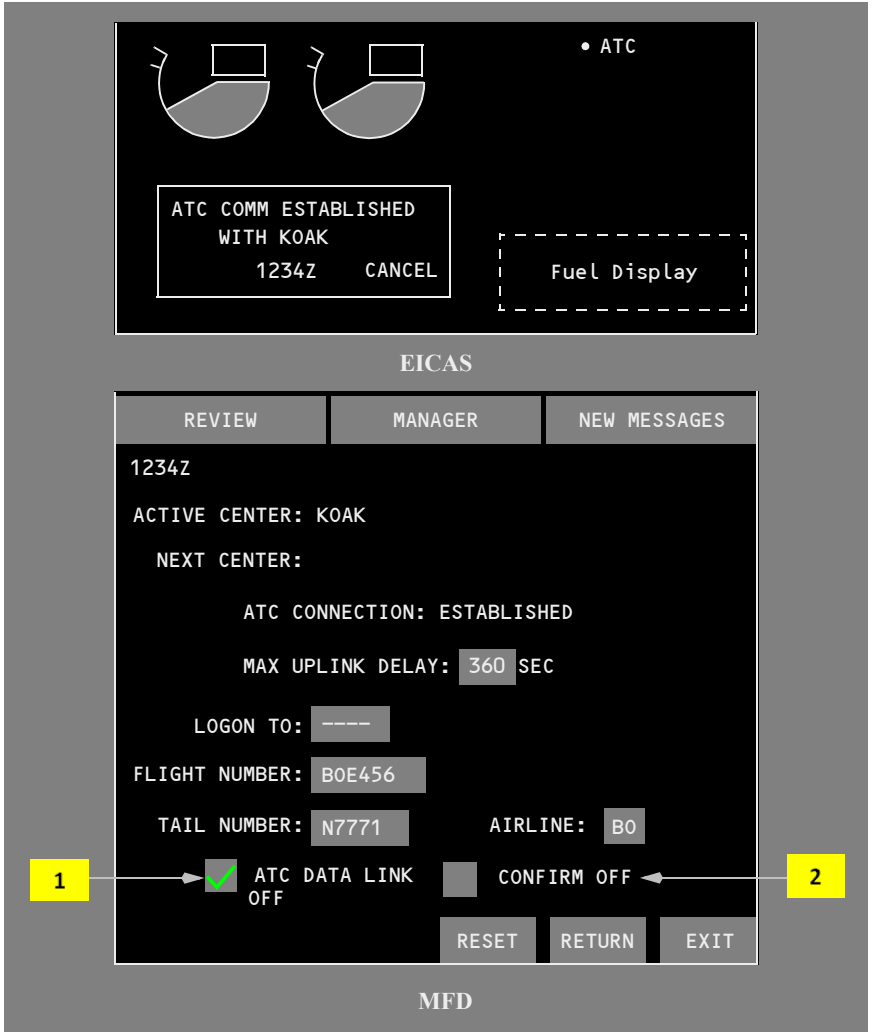
**8 MAX UPLINK DELAY****[AIMS BP 2005]**

Elapsed time from transmission to receipt of an ATC uplink message that triggers a late annunciation. The words “UPLINK DELAY EXCEEDED” precede any late ATC uplink message. Valid entries are from 1 to 999. Resets to off and displays dashes at:

- power-up
- datalink system reset
- ATC connection terminated
- “DELETE” entry.

## ATC Connection Displays

[AIMS BP 2003 or AIMS BP 2005]



### 1 ATC DATA LINK OFF

Displayed when an ATC connection is established.

Selecting ATC DATA LINK OFF displays the CONFIRM OFF selection.

### 2 CONFIRM OFF

Selecting CONFIRM OFF sends the termination request.

The EICAS ATC DATALINK LOST message is displayed when the connection is terminated.

### Loss of ATC Connection

If the EICAS advisory message DATALINK LOST is displayed for 16 minutes, the ATC connection is automatically lost and the EICAS advisory message ATC DATALINK LOST is displayed.

Once an ATC connection is terminated or lost, the logon entries revert to the default values.

### Emergency Report

This page informs ATC of an emergency. Sending this report places automatic dependant surveillance (ADS) into the emergency mode.

ATC		FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES	
1234Z	EMERGENCY REPORT		
1	<input type="checkbox"/> MAYDAY	<input type="checkbox"/> PAN	<input type="checkbox"/> CANCEL EMERGENCY
2	DIVERTING TO: <input type="text"/>	VIA ROUTE X	
3	FUEL REMAINING	[ - - - - ]	
4		<input type="text"/> HOURS+MINUTES	
5	SOULS ON BOARD: <input type="text"/>		
6	DESCENDING TO: <input type="text"/>		
7	OFFSETTING: <input type="text"/>		
8	FREE TEXT: <input type="text"/>		
SEND		PRINT	RESET
		RETURN	EXIT

#### 1 MAYDAY, PAN, CANCEL EMERGENCY

Select MAYDAY or PAN emergency. The SEND key becomes active. CANCEL EMERGENCY informs ATC that a previous emergency is now canceled and returns ADS to the normal mode. CANCEL EMERGENCY is inhibited until MAYDAY or PAN downlink is sent.

**2 DIVERTING TO**

Defaults to the destination airport from the active route. The default route number is displayed. Enter any valid FMC position.

**3 FUEL REMAINING**

Displays the FMC fuel remaining from the PROGRESS page.

**4 FUEL REMAINING – HOURS + MINUTES**

Defaults to time provided from the FMC. Manually enter fuel remaining in hours and minutes. Use two numeric characters for hours followed by two numeric characters for minutes.

**5 SOULS ON BOARD**

Manual entry of number of souls on board is required. Enter up to three numeric characters.

**6 DESCENDING TO**

Enter the altitude for an immediate descent. The default value is the MCP altitude when it is more that 150 feet below current altitude.

**7 OFFSETTING**

Enter any valid FMC route offset value.

**8 FREE TEXT**

24 characters of free text can be included.

## ATC Reports

### ATC Requested Report

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
1230Z ATC UPLINK		
CLIMB TO AND MAINTAIN FL330, REPORT REACHING FL330.		

DISPLAY REPORT	CANCEL
----------------	--------

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
ATC REPORT		
REACHING FL330		

SEND	DELETE	PRINT	ARM	RETURN	CANCEL
------	--------	-------	-----	--------	--------

ATC uplink messages can contain a request for a report. When the uplink is accepted, the DISPLAY REPORT key is displayed. Selecting DISPLAY REPORT displays the ATC requested report. A displayed report can be sent. Some reports can be armed for automatic transmission when conditions are met.

## Armable Report

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
ATC		
ALTITUDE REQUEST	WHEN CAN WE EXPECT	EMERGENCY REPORT
ROUTE REQUEST	VOICE CONTACT REQUEST	ATC REQUESTED REPORTS...
SPEED REQUEST	LOGON / STATUS	POSITION REPORT
CLEARANCE REQUEST		FREE TEXT MESSAGE

ATC REPORT	ARMED
LEAVING FL330	


ATC REPORT	ARMED
LEVEL FL330	

ATC REPORT	ARMED
PASSING SEA	

ATC REPORT	ARMED
REACHING FL330	



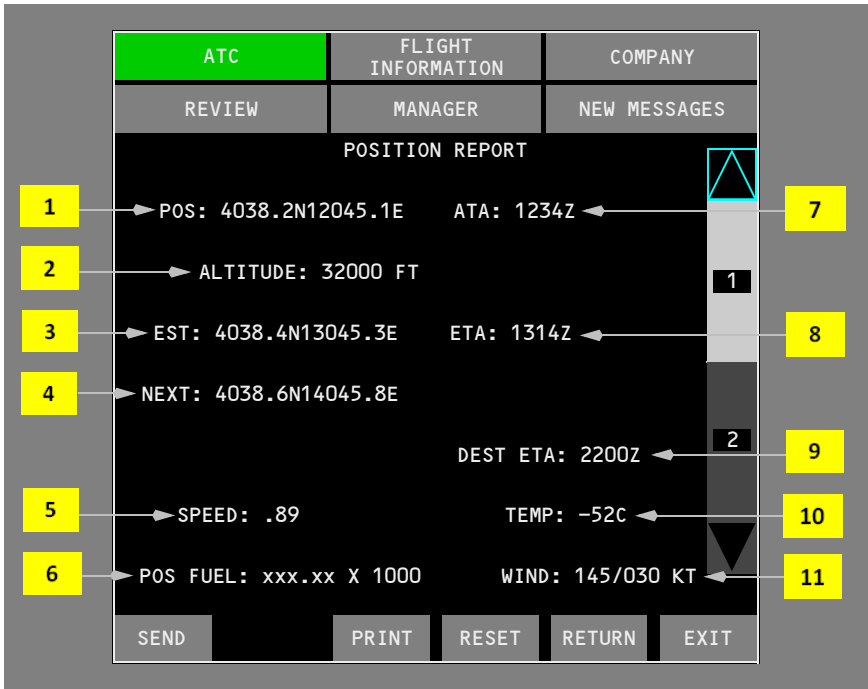
All reports requested by ATC can be displayed using the ATC REQUESTED REPORT menu selection. The LEAVING, LEVEL, PASSING, and REACHING reports can be armed for automatic transmission. Selecting the ARM key for a report displays ARMED for the report status. When a report is armed, the ARM key changes to DISARM. When a report is automatically transmitted, an ATC uplink message confirms the report was sent.



## Position Report

Use the POSITION REPORT page to manually send a position report.

**Note:** When the POSITION REPORT page is displayed during waypoint sequencing, the data fields may not update properly. If this occurs, the page can be updated by selecting RESET, or EXIT then reselect.



### 1 POS

Displays the last sequenced FMC waypoint. Displays all asterisks (\*) when no FMC data is available.

Latitude and longitude are displayed in the same order as the FMC position report page. Degree and minute values precede the compass letter, just as the crew uses in a voice report.

### 2 ALTITUDE

Displays current altitude.

**3 EST**

Displays the next FMC waypoint. Accepts any valid FMC waypoint entry. Requires manual entry for ATC reporting position which is not a route waypoint.

**4 NEXT**

Displays the next FMC waypoint following EST waypoint. Accepts any valid FMC waypoint entry. Requires manual entry for ATC reporting position which is not a route waypoint.

**5 SPEED**

Displays the current FMC speed. Accepts valid speed entry. Displays all asterisks (\*) when no FMC data is available.

**6 POS FUEL**

Displays FMC calculated fuel remaining at the POS waypoint. Displays all asterisks (\*) when no FMC data is available.

**7 ATA**

Displays actual time of arrival at the last sequenced FMC waypoint. Displays all asterisks (\*) when no FMC data is available.

**8 ETA**

Displays estimated time of arrival for the next FMC waypoint. Accepts valid time entry.

**9 DEST ETA**

Displays estimated time of arrival for the last FMC waypoint. Accepts a valid time entry. Displays all asterisks (\*) when no FMC data is available.

**10 TEMP**

Displays current air temperature. Displays all asterisks (\*) when no FMC data is available.

**11 WIND**

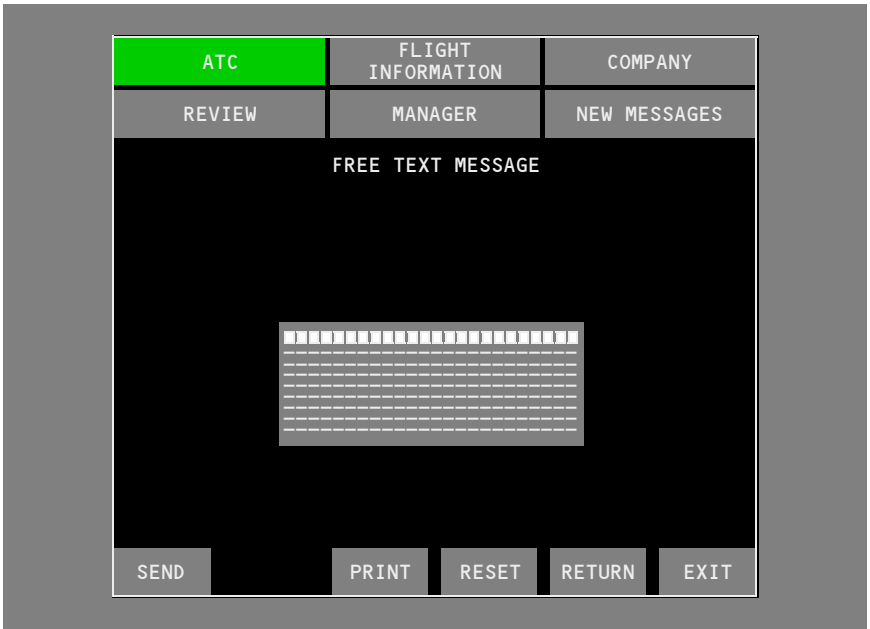
Displays current wind bearing and speed. Displays all asterisks (\*) when no FMC data is available.

## Optional Position Report Items



A report of current turbulence and icing conditions can be included with the position report.

## Free Text Message

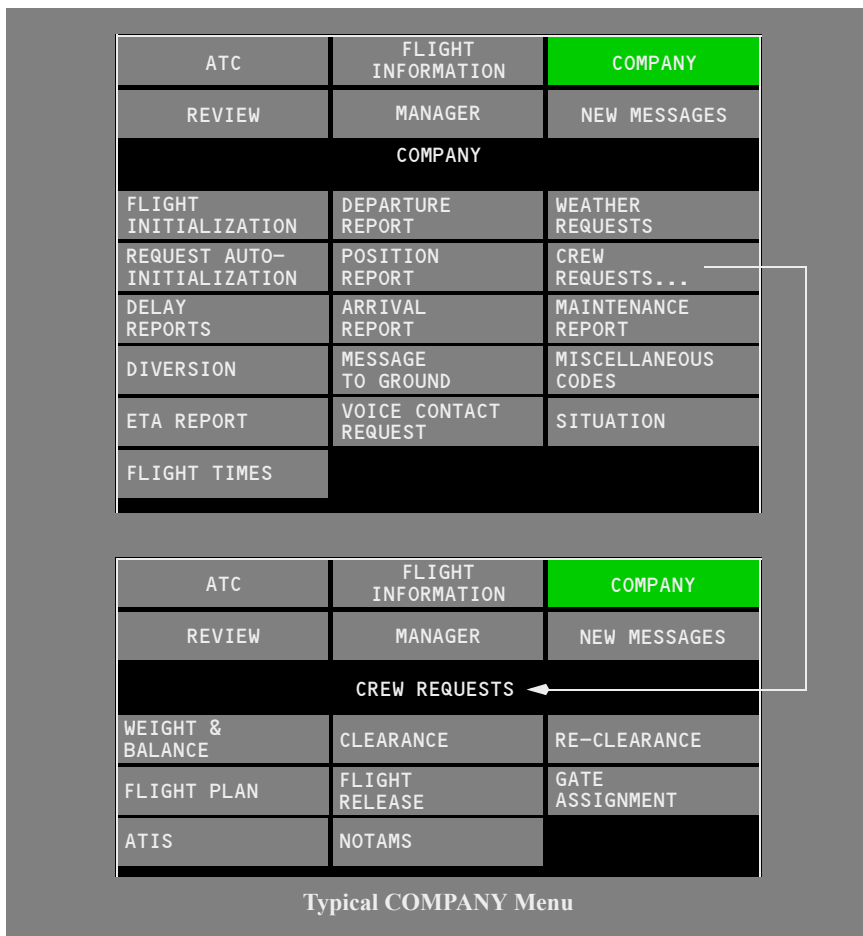


Nine lines of text can be transmitted.

## Flight Information

The flight information function is reserved for future use. The communications main menu FLIGHT INFORMATION selection is inhibited.

## Company Menu



ATC	FLIGHT INFORMATION	<b>COMPANY</b>
REVIEW	MANAGER	NEW MESSAGES
<b>COMPANY</b>		
FLIGHT INITIALIZATION	DEPARTURE REPORT	WEATHER REQUESTS
REQUEST AUTO-INITIALIZATION	POSITION REPORT	CREW REQUESTS...
DELAY REPORTS	ARRIVAL REPORT	MAINTENANCE REPORT
DIVERSION	MESSAGE TO GROUND	MISCELLANEOUS CODES
ETA REPORT	VOICE CONTACT REQUEST	SITUATION
FLIGHT TIMES		

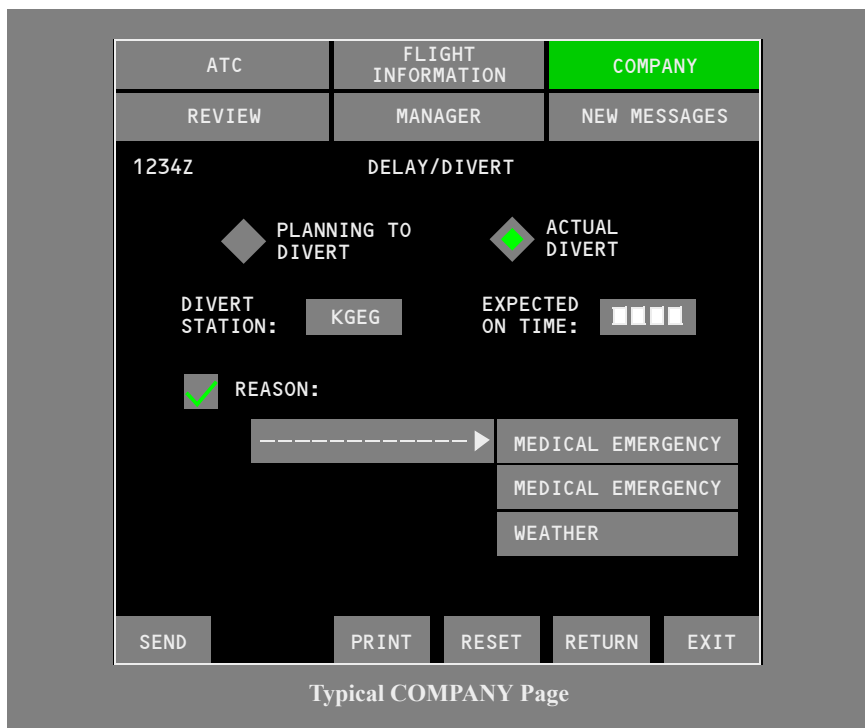
  

ATC	FLIGHT INFORMATION	<b>COMPANY</b>
REVIEW	MANAGER	NEW MESSAGES
<b>CREW REQUESTS</b> ←		
WEIGHT & BALANCE	CLEARANCE	RE-CLEARANCE
FLIGHT PLAN	FLIGHT RELEASE	GATE ASSIGNMENT
ATIS	NOTAMS	

**Typical COMPANY Menu**

Company downlink menus are accessed by selecting the COMPANY function. Actual menu and page layout is determined by the airline. An example of a typical menu and report page are provided to show common features.

## Company Downlink Message Page



This COMPANY report page shows both exclusive and nonexclusive selections, a required entry, and optional menu selections.

## Review Menu

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
REVIEW		
ATC UPLINK...	FLIGHT INFORMATION	SENT...
ATC DOWNLINK...		RECEIVED...
		WEATHER...

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
1420Z	REVIEW ←	
1350Z	ALTITUDE REQUEST	SENT
1315Z	SPEED ALTITUDE ROUTE REQUEST	RESPONSE RCVD
1240Z	WHEN CAN WE EXPECT	RESPONSE RCVD
1234Z	CLIMB TO AND MAINTAIN FL280	ABORTED

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
1420Z	VERIFY REQUEST	RESPONSE RCVD ←
	REQUEST .82, REQUEST CRUISE CLIMB TO FL410 DUE TO WEATHER, REQUEST DIRECT GANDER.	
	FREE TEXT: ROUGH RIDE HERE AT FL350	

Typical REVIEW Menu

Review messages are accessed by selecting the REVIEW menu. Both uplink and downlink messages are displayed in review lists. The review menu is inhibited (cyan) if there are no review messages in that category.

## Review State Indicators

Each review message list field and each review message displays the last state of the referenced message. Only one state can apply to a message at a time.

<b>State Indicator</b>	<b>Condition</b>
ABORTED	ATC data link connection lost before sending response to uplink message or completing a downlink message.
ACCEPTING	The received message was displayed and an ACCEPT response was initiated.
ACCEPTED	The received message was displayed, an ACCEPT response was initiated, and the service provider has acknowledged receipt of the response.
DISPLAYED	The received message was displayed (no accept/reject response was required).
NO ACCEPT	The received message was displayed, an ACCEPT response was initiated, but the service provider did not acknowledge receipt of the response.
NO REJECT	The received message was displayed, a REJECT response was initiated, but the message destination did not acknowledge receipt of the response.
NO SEND	The downlink message was initiated to be sent and the service provider did not acknowledge receipt of the message.
REJECTING	The received message was displayed and a REJECT response was initiated.
REJECTED	The received message was displayed, a REJECT response was initiated, and the message destination has acknowledged receipt of the response.
RESPONSE RCVD	ATC uplink message received in response to a downlink request.
SENDING	The downlink message was initiated to be sent.
SENT	The downlink message was initiated to be sent and the service provider has acknowledged receipt of the message.



## Manager Functions

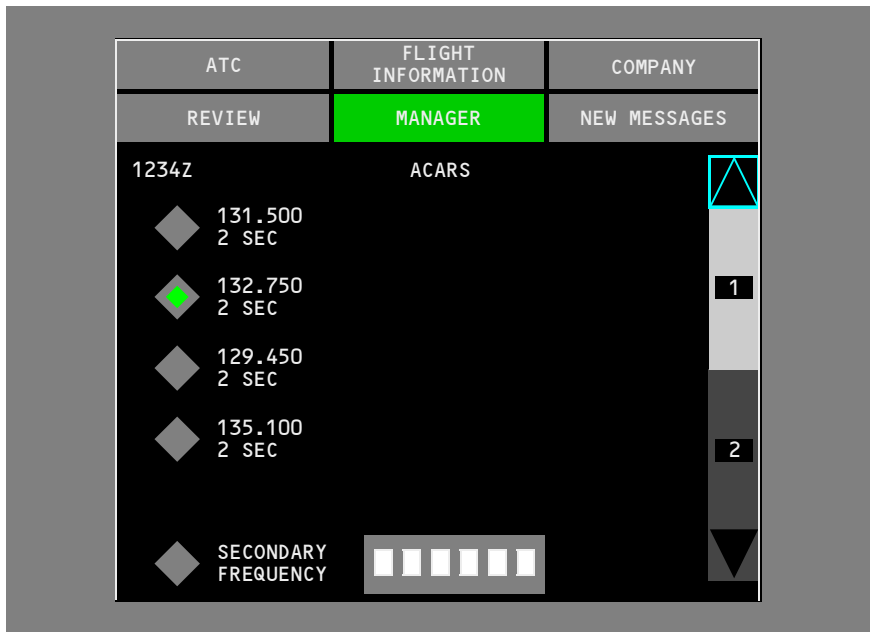
### Manager Menu

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
MANAGER		
ACARS	SYSTEM INFO	
VHF	PRINTER	
SATCOM	AUTOMATIC MESSAGES	
ADS	MASTER	
HF		

Typical MANAGER Menu

The MANAGER menu page provides access to the manager functions.

## ACARS Manager



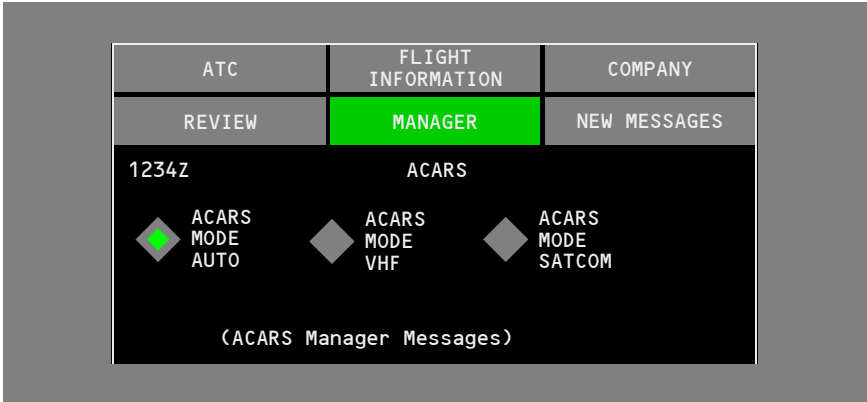
The ACARS manager page provides selection of ACARS frequencies, scan rates, and mode. Manager messages related to ACARS are on ACARS page two.

If a FREQUENCY key is selected, the ACARS system tunes to the appropriate frequency and scan rate. If a secondary frequency is entered, the SECONDARY FREQUENCY key becomes active and must be selected to tune to the secondary frequency. Frequency and scan rate selections can be changed automatically by ACARS.

## ACARS Manager Page 2/2

### [Not AIMS 2003]

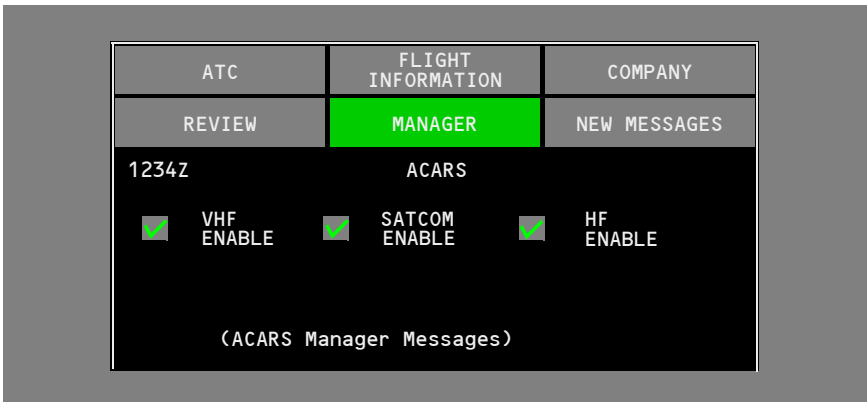
ACARS MODE AUTO is the normal ACARS mode. This permits the ACARS system to automatically select the VHF or SATCOM (if VHF is unavailable) mode. If ACARS MODE VHF is selected, ACARS changes to VHF. If ACARS MODE SATCOM is selected, ACARS changes to SATCOM.



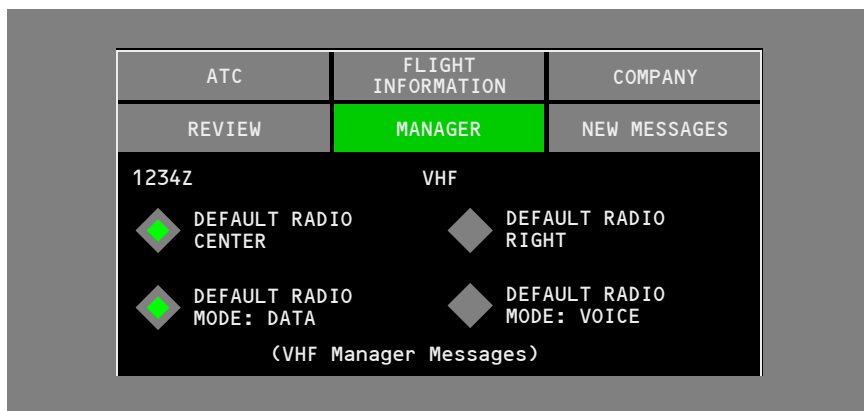
### [AIMS 2003 and SATCOM and HF Datalink]

This page allows the operator to select/deselect VHF, SATCOM, or HF transmission of data. ACARS is set to auto mode (all boxes selected) at power-up or data communication system reset. Normally, this permits ACARS to automatically use VHF, SATCOM (if VHF is unavailable), or HF (if VHF and SATCOM are unavailable). If all boxes are deselected, ACARS loses the capability to send downlink messages, but can receive and display uplink messages.

### [AIMS 2003 and SATCOM and HF Datalink]



## VHF Manager



The VHF manager page provides the capability to select the default radio and to configure the default radio to the voice or data mode. Manager messages related to the VHF system are also presented on this page.

### [Not AIMS 2003]

Changes to the default radio selections are inhibited (cyan text) unless ACARS MODE VHF is selected on page 2 of the ACARS manager pages.

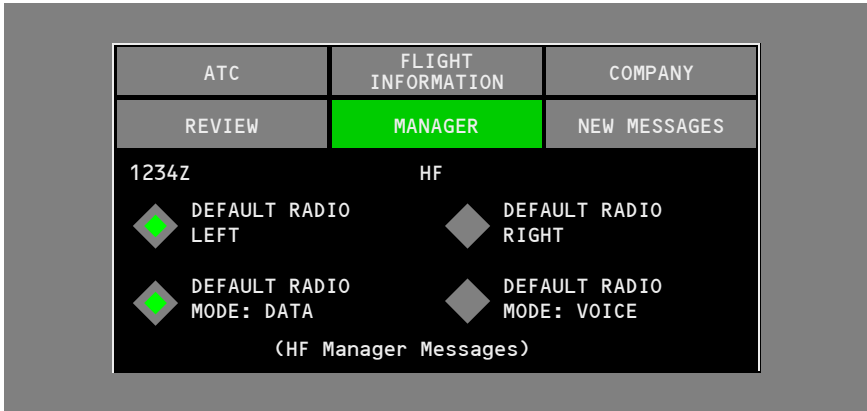
If the DEFAULT RADIO CENTER key is selected, the center VHF radio becomes the default radio. If the DEFAULT RADIO RIGHT key is selected, the right VHF radio becomes the default radio.

If the DEFAULT RADIO MODE DATA key is selected, the default radio is set to the data mode. If the DEFAULT RADIO MODE VOICE key is selected, the default radio is set to the voice mode

**Note:** The default radio can also be set to the data or voice mode via the Radio Tuning Panel.

## HF Manager

[AIMS 2003 and HF Datalink]

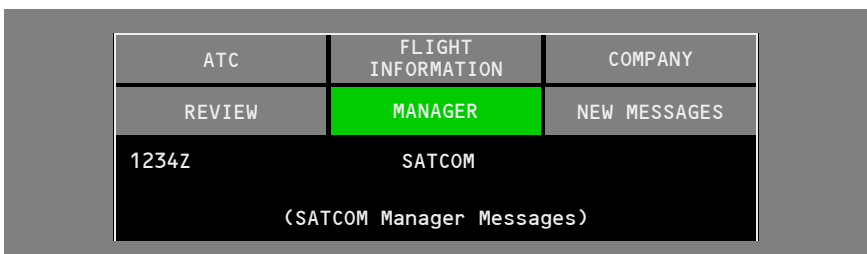


If the DEFAULT RADIO LEFT is selected, the left HF radio becomes the default radio. If the DEFAULT RADIO RIGHT is selected, the right HF radio becomes the default radio.

If the DEFAULT RADIO MODE: DATA is selected, the default HF radio is set to data mode. If the DEFAULT RADIO MODE: VOICE is selected, the default HF radio is set to voice mode.

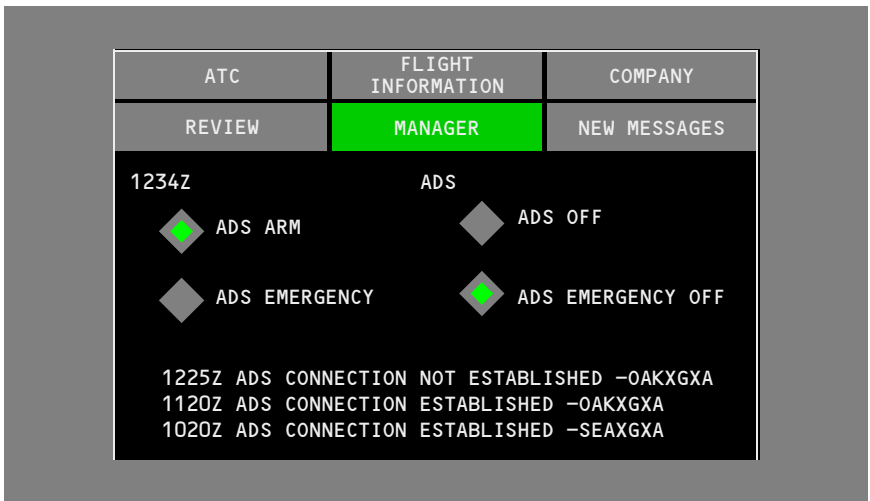
**Note:** The default HF radio can also be set to the data or voice mode via the Radio Tuning Panel.

## SATCOM Manager



The SATCOM manager page displays manager messages related to the SATCOM system.

## Automatic Dependent Surveillance Manager



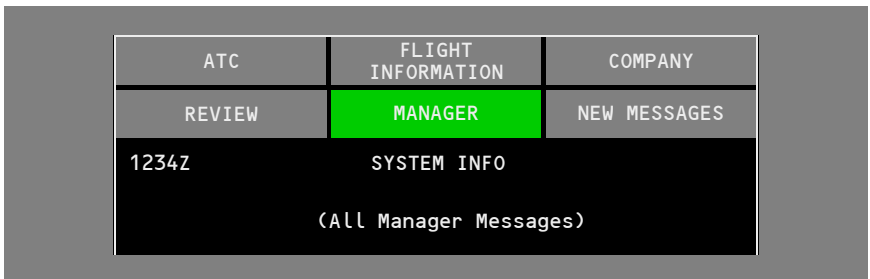
When automatic dependant surveillance (ADS) is armed, AUTOMATIC position report messages are sent to ATC and COMPANY.

The ADS page controls the following airplane ADS functions:

- ADS ARM – allows airplane ADS functions
- ADS OFF – inhibits airplane ADS functions
- ADS EMERGENCY – provides more frequent position reports (resets to ADS EMERGENCY OFF at power-up)
- ADS EMERGENCY OFF – provides position reports at normal frequency.

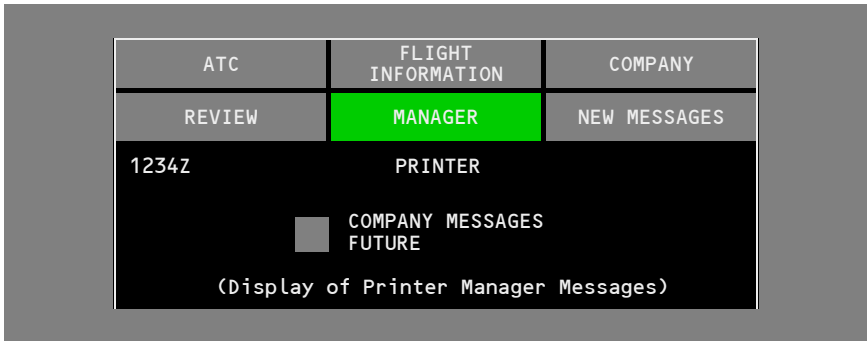
A list of ADS connection status is displayed on the ADS page.

## System Information Manager



The system information manager page displays manager messages for all applicable systems.

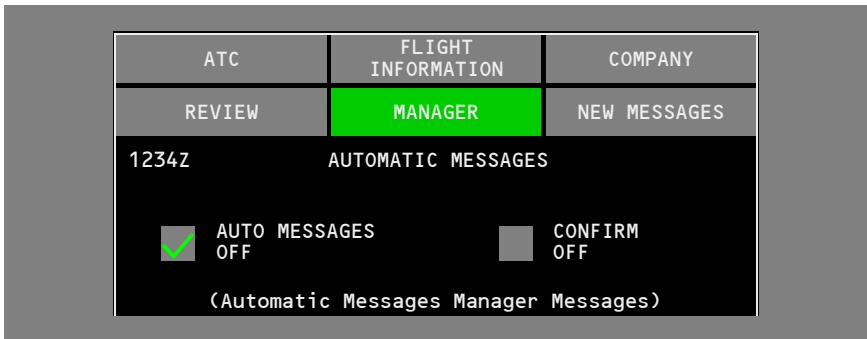
## Printer Manager



The printer manager page can be set to send messages directly to the printer. Manager messages related to the printer system are also presented on this page.

If the COMPANY MESSAGES FUTURE key is selected, company messages are sent directly to the printer and the •PRINTER EICAS message is displayed. Future messages are not included in the new messages or review categories.

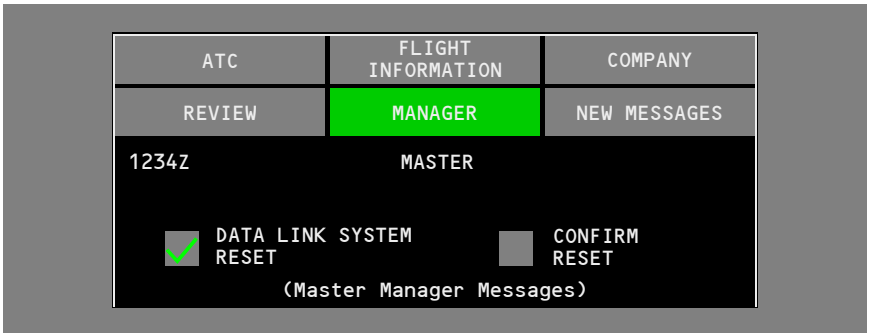
## Automatic Messages Manager



The AUTO MESSAGES OFF selection inhibits automatic sending of flight operations related messages. Manager messages related to the automatic messages capability are also presented on this page.

When the AUTOMATIC MESSAGES OFF key is selected, the CONFIRM OFF key is displayed. Selecting the CONFIRM OFF key turns off the capability to automatically send flight operations related messages.

## Master Manager



The master manager page provides the capability to reset the data communication system. Manager messages related to the master features are also presented on this page.

If the DATA LINK SYSTEM RESET key is selected, the CONFIRM RESET key is displayed. If the CONFIRM RESET key is selected, the following occurs:

- ATC connection is reset to not established
- review messages are deleted
- the center VHF radio is selected as the default
- the VHF default radio is set to data mode on the ground or voice mode in the air
- the right HF radio is selected as the default and set to voice mode
- ACARS is set to the auto mode
- automatic messages are set to ON
- the future company messages to printer feature is deselected
- downlink message parameters are initialized
- ADS EMERGENCY is reset to ADS EMERGENCY OFF
- two seconds after selection, the CONFIRM RESET key is removed from the display and the DATA LINK SYSTEM RESET key is displayed as not selected.

This reset does not occur at power-up.

### [Option – Automatic Reset]

The data communication system is automatically reset after each flight. Reset occurs approximately 10 minutes after the last engine is shut down, and with any passenger entry door open.

Data link capability for the flight management system, OMS, and EICAS related maintenance functions, and cabin functions are not reset with this feature.



## Manager Messages

Manager messages are displayed in reverse chronological order (the newest message is nearest the top of the display). The time of occurrence is displayed with each message. The manager messages are listed in the following table.

### [AIMS 2003 and HF Datalink]

Function	Manager Message
ACARS	ACARS CONNECTION ESTABLISHED
	NO ACARS CONNECTION
	ACARS MODE VHF - ENABLE
	ACARS MODE VHF - NOT ENABLE
	ACARS MODE SATCOM - ENABLE
	ACARS MODE SATCOM - NOT ENABLE
	ACARS MODE HF - ENABLE
	ACARS MODE HF - NOT ENABLE
ADS	ADS CONNECTION ESTABLISHED – ATC facility
	ADS CONNECTION LOST – ATC facility
	ADS CONNECTIONS LOST
VHF	VHF LINK ESTABLISHED
	NO VHF LINK
	VHF DATA MODE RADIO FAILURE
	VHF DATA MODE RADIO NORMAL
SATCOM	SATCOM LINK ESTABLISHED
	NO SATCOM LINK
	SATCOM DATA MODE FAILED
	SATCOM DATA MODE NORMAL
PRINTER	PRINTER OPERABLE
	PRINTER NOT OPERABLE
	PRINTER BUFFER FULL
	COMPANY FUTURE MESSAGES TO PRINTER – ON
	COMPANY FUTURE MESSAGES TO PRINTER – OFF

<b>Function</b>	<b>Manager Message</b>
AUTOMATIC MESSAGES	AUTOMATIC MESSAGES – ON
	AUTOMATIC MESSAGES – OFF
MASTER	DATA LINK SYSTEM – RESET
HF	HF LINK ESTABLISHED
	NO HF LINK
	HF DATA MODE RADIO FAILURE
	HF DATA MODE RADIO NORMAL

## New Messages

### New Messages Menu

ATC	FLIGHT INFORMATION	COMPANY
REVIEW	MANAGER	NEW MESSAGES
1234Z	NEW MESSAGES	
1228Z	CLIMB AND MAINTAIN FL330	ATC
1233Z	PASSENGER INFORMATION - CONNECTING FLIGHTS	
1220Z	WEATHER INFORMATION FOR KPDx, KSFO, KLAX	
1215Z	CONTACT DISPATCH	

Typical NEW MESSAGE List

New uplink messages are displayed with ATC messages displayed above flight information messages which are displayed above company messages. Within ATC, flight information and company, messages are listed by the time they are received. The newest message is at the top of the group. Messages are removed from the list when displayed or an accept/reject response is sent.

New messages can also be accessed by selecting the NEW MESSAGES menu, which displays list boxes for all pending messages. A message is displayed by selecting the appropriate message line.

New ATC uplinks which respond to downlink requests display a key which displays the original downlink request.

## New Message – No Response Required



Received messages remain in the new messages list until after they are displayed. If an ACCEPT or REJECT response is required, the message remains in the list until accepted or rejected.

The display above shows a received message that does not require a response. The ACCEPT and REJECT keys are not displayed for this message. The message can be cleared by selecting the CANCEL key on the MFD or pushing the CANCEL switch on the glareshield.

## New Message – Response Required



The display above shows a message that requires an ACCEPT or REJECT response. The ACCEPT and REJECT keys are displayed.

An APPEND capability is provided for certain received messages which require an accept or reject response. In this case, the APPEND key is displayed.

## Communications EICAS Alert Messages

The following EICAS alert messages can be displayed.

### Datalink

Message	Level	Aural	Condition
ATC DATALINK LOST	Advisory		An established ATC datalink has been lost.
DATALINK LOST	Advisory		Datalink is temporarily lost.
DATALINK SYS	Advisory		Datalink system has failed.

### [AIMS 2003 and HF Datalink]

HF DATALINK	Advisory		HF datalink has failed.
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VHF DATALINK	Advisory		VHF datalink has failed.
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### Radios

Message	Level	Aural	Condition
RADIO TRANSMIT	Advisory		A VHF or HF radio is keyed for 30 seconds or more.

### Satcom

Message	Level	Aural	Condition
SATCOM	Advisory		SATCOM system has failed.
SATCOM DATALINK	Advisory		SATCOM datalink has failed.
SATCOM VOICE	Advisory		SATCOM voice communication has failed.
SATVOICE LOST	Advisory		SATCOM voice communication is temporarily lost.

## EICAS Communication Messages

The following EICAS communication messages can be displayed.

### Crew Communications

EICAS Communication Message	Level	Condition	Crew Action
•CABIN ALERT	Medium	Pilot alert received over cabin interphone.	Respond to the alert.
•CABIN CALL	Medium	Pilot call received over cabin interphone.	Respond to the call.
•CABIN READY	Medium	CABIN READY received over cabin interphone.	Crew awareness. Automatically removed after one minute.
•GROUND CALL	Medium	Pilot call received over flight interphone from nose wheel well.	Respond to the call.

### Data Link

EICAS Communication Message	Level	Condition	Crew Action
•COMM	Medium/ low	A data link message has been received.	Select COMM display on the MFD.
•COMM BUSY	Medium	Communications system pending data link message queue is full.	Respond to current pending data link messages.
•FMC	Medium	An FMC related data link message has been received.	Select FMC from the CDU MENU page if not already in the FMC mode.  View the message title in the CDU scratchpad.  View the message on the appropriate CDU page.
•PRINTER (with data link installed)	Medium/ low	A data link message has been received and sent to the printer.	Review the printed message.

<b>EICAS Communication Message</b>	<b>Level</b>	<b>Condition</b>	<b>Crew Action</b>
•ATC	Medium	An ATC data link message has been received or an armed report has been sent.	Respond to message displayed on EICAS or select the MFD communications display.

## SATCOM

<b>EICAS Communication Message</b>	<b>Level</b>	<b>Condition</b>	<b>Crew Action</b>
•SATCOM MESSAGE	Medium/low	SATCOM voice system information available if SATCOM system is selected on a CDU.	View the SATCOM CDU message.

## SELCAL

<b>EICAS Communication Message</b>	<b>Level</b>	<b>Condition</b>	<b>Crew Action</b>
•SELCAL	Medium	SELCAL received or any SATCOM voice call received.	Respond to the call.