Rockwell Collins

March 23, 2004

TO: HOLDERS OF THE COLLINS DLM-900/CMU-900 Data Link Management and Communications Management Units Pilot's Guide (CPN 523-0780471-101117)

Addendum 1 Applicability

This addendum applies **only** to DLM-900/CMU-900 users with the updated CMU-900 software, which has been updated to reflect changes to the industry. The new software is most readily identified by viewing the APPLICATION MENU page. The APPLICATION MENU page is the primary CMU-900 page and can be displayed by repeatedly pushing the RETURN line select key (6L). If the page layout looks like the CDU page below, this addendum applies. Otherwise, this addendum does not apply and the original Pilot's Guide information should be used.

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Addendum 1 Instructions

If You Have The Updated Software:

Insert the pages of this addendum in the appropriate locations in the pilot's guide. Retain this cover letter in the front of the book immediately before the Record of Revisions.

If You Do Not Have The Updated Software:

DO NOT DISCARD THIS REVISION. Place the entire addendum intact into the pilot's guide immediately following page 120. Retain this cover letter with the addendum.

Retain this letter of transmittal for future reference in accordance with the instructions.

TECHNICAL OPERATIONS

pilot's guide

DLM-900/CMU-900
Data Link Management and Communications Management Units

pilot's guide

Air Transport Systems

Rockwell Collins

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Introduction

ACARS (Aircraft Communication Addressing and Reporting System) is a system that provides for the transmission of digital data to and from aircraft via VHF, HF, and SATCOM subnetworks. These messages, referred to as uplinks and downlinks, facilitate two-way communication for applications such as digital ATIS, clearances, weather/turbulence reports, delay reports, and free text messaging with airline Dispatch and Maintenance. Other applications include automated OOOI (Out-Off-On-In) reports, engine data reports, position reports, gate assignment uplinks, and connecting gate uplinks, just to name a few.

The original intent of ACARS was to eliminate the need to transmit routine information by voice communications. Several realized benefits of ACARS over voice communications are that it reduces the congestion on voice frequencies, allows for the transmission of large amounts of information in very short bursts, and provides for automated reporting of engine, position, and OOOI data. In the cockpit, advantages include an organized display of uplinked information and text messages which may be stored and selected for display at a later time. If a cockpit printer is installed, any text messages or data, such as OOOI times, may be printed for future reference.

The ACARS system on an aircraft includes, at a minimum, an ACARS Management Unit (MU) or Communications Management Unit (CMU), a Control-Display Unit (CDU), and a VHF, HF, or SATCOM unit. Other optional equipment may be included, such as multiple CDUs, a cockpit printer, and a combination of VHF, HF, and SATCOM.

The DLM-900 and CMU-900 are two generations of ACARS Management Units. The DLM-900 conforms to the ARINC 724B characteristic, and the CMU-900 conforms to the later ARINC 758 characteristic. Both perform the same basic ACARS functions, while the CMU-900 provides a platform to support systems such as high-speed digital VHF Data Link (VDL Mode 2), Controller-Pilot Data Link Communications (CPDLC), and ethernet capability. Unless otherwise noted, all information in this guide pertains to both the DLM-900 and CMU-900 systems.

The CDU is a combination display and keyboard, and is the pilot's primary interface with the ACARS system. The CDU may be a Multi-purpose Control-Display Unit (MCDU) which may be shared with an FMS, ACMS/DFDAU, SATCOM, or other avionics. The CDU may also be one of a variety of Interactive Display Units (IDU) which combines display and entry by using a touch-screen for display, keyboard entry, and line select keypresses.

Introduction (cont)

Since the majority of ACARS installations use an MCDU, the graphics in this guide depict a simulated MCDU screen with line select keys. To conserve space, the keyboard is not shown. Display pages as displayed on an IDU look very similar to those on an MCDU, with the main difference being the touch-screen functionality for line select keys and keyboard entry.

The DLM/CMU-900 system typically includes three software applications; the Airline Operational Control (AOC), Air Traffic Services (ATS), and the Technical applications. Additional applications may be supported based on airline specific needs. These additional applications are not required to have associated display pages. The AOC application provides for the airline specific functionality. The ATS application provides for the air traffic services such as ATIS, TWIP, and Oceanic Clearances. The Technical application provides for link maintenance and other system and maintenance functions which are not typically used by the pilot. For this reason, this guide includes only the portions of the Technical application which may be of procedural interest to the pilot.

The DLM/CMU-900 software system is partioned into three applications to allow the airline to easily make modifications to the AOC functionality and field it quickly. The system is certified such that the AOC application is a user-modification dataset that is not required to be certified. This allows the AOC to be easily modified to meet the needs of the individual airline.

Although the partioning of the applications is designed to be as seamless as possible, it can not be made completely transparent to the user. Therefore, this guide is organized with the intent of providing a logical flow while keeping the contents of each application grouped together. The reader should keep this in mind when looking for a particular function or display page description.

NOTE: This pilot's guide is intended to serve as a quick reference summary. For more detail, consult the Software Requirements Specification.

ADDENDUM 1
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

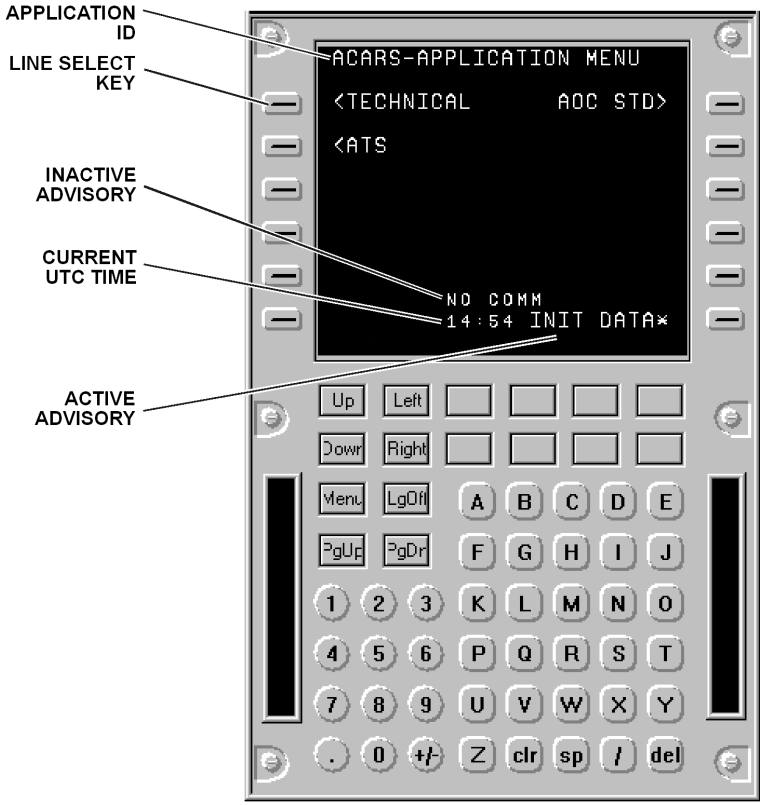
Insert this addendum sheet facing page 3

The illustration below replaces the existing illustration on the page.

Selecting ACARS

Select the MENU button on the MCDU keyboard to access the MCDU menu. Select the line key adjacent to ACARS. The resulting display is the ACARS - APPLICATION MENU.

Several operational functions of the MCDU are shown below. The keyboard portion of the MCDU in this guide will not be shown for any of the subsequent display pages.



Selecting The ACARS Function
Figure 1

Out-Off-On-In (OOOI) Flight Phase States

NOTE: The following description represents the general behavior and expectations for an OOOI state machine. Because this state machine is contained in the AOC there is allowance and expectation of variation from airline to airline.

A typical flight leg starts and stops in the IN state. This state represents the real world situation where the aircraft is sitting at the gate with its doors open and its parking brake set. The IN state consists of BEGIN and END substates. The BEGIN state is when a new flight leg is being initialized. The aircraft is said to be in the END state when a door is opened after a landing and initialization of a new flight leg has not yet begun.

After the aircraft is loaded, the doors are closed and the parking brake is released. This results in a flight phase state change to OUT. At this time, the OUT time is logged and an Out Report message is automatically downlinked.

In a normal flight leg, the aircraft would then taxi to the runway and take off. At take off, when the air/ground sensor shows “air”, the flight phase state changes to OFF. At this time, the OFF time is logged and an Off Report message is automatically downlinked.

The OFF state continues until the aircraft lands and the air/ground sensor shows “ground”. This results in a flight phase state change to ON. At this time, the ON time is logged and an On Report message is automatically downlinked.

After taxiing to the gate, the brake is set and a door is opened (or vice versa). The flight phase state changes to IN when a door is opened. The IN time is logged as the earlier of the last brake set time or the first door open time. An In Report message is automatically downlinked.

After the IN event, if a Flight Summary message has not already been sent by the crew, it will be sent automatically after 10 minutes has elapsed. A new flight leg can be started in one of three ways:

1. At the end-of-flight, entering the INIT DATA page results in a flight phase state change to BEGIN.
2. At the end-of-flight, if the INIT DATA page is not displayed within 15 minutes of the IN event, the flight phase state automactically changes to BEGIN.

Out-Off-On-In (OOOI) Flight Phase States (cont)

3. From the end-of-flight, if the aircraft goes to the OUT state before the INIT DATA page is displayed.

It is at this transition to a new flight that the flight data from the previous flight is cleared, and any message logs are cleared.

Two other special conditions will occasionally occur. The first condition occurs when an aircraft is in the OUT state and, for whatever reason, a door must be opened. At this time, a Return To Gate Report message is automatically downlinked, including the time the door was opened. The FLIGHT LOG page is

cleared and the OOOI state becomes BEGIN. When all doors are once again closed and the brake is released, another Out Report message is automatically downlinked showing this new OUT time.

The second special condition is the touch-and-go. A touch-and-go will cause an On Report to be automatically downlinked, followed shortly by a Touch And Go Report when the aircraft lifts off. The IN time and block time are left blank on the FLIGHT LOG page, and a new flight leg is displayed with the OUT time left blank and the new off time displayed.

Advisories

ACARS is often used to alert the crew to specific events or conditions in the cockpit. It is also used to report any delay or divergence from the expected events in a flight leg. For these purposes, active and inactive advisories are displayed by the DLM/CMU-900 on all display pages. Active advisories alert the crew that a condition requires attention or that a function is available. Active advisories are displayed in the lower right hand corner of the display, adjacent to Line Select 6R. When selected on the display (by pressing Line Select Key 6R), active advisories cause a specific function to be performed.

Inactive advisories are informational in nature, and there is no action required of the crew. Inactive advisories are displayed in the lower center of the display. The following sections list the active and inactive advisories that are defined for the Collins Standard system. They are listed in order of priority, from high to low. When more than one active or inactive advisory is activated simultaneously, only the highest priority active and inactive advisory is displayed. When the highest priority advisory is cleared, the next highest priority advisory is displayed. This continues until all advisories are cleared.

ADDENDUM 1
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

Insert this addendum sheet facing page 7

The text that follows replaces the existing text.

Active Advisories

DATALOAD

This active advisory confirms that a data loader is properly connected to the CMU and is ready to load new software, and the DATALOAD CONFIRM page is not being displayed. Selection of the advisory displays the DATALOAD CONFIRM page, which allows the user to either "PROCEED WITH DATALOAD" or "IGNORE DATALOAD".

CONFIG

This active advisory alerts the user that either the APM airline ID and/or registration number is not available, and the IDENT BLK PGM page is not being displayed. Selection of the advisory displays the IDENT BLK PGM page 1, which allows the user to enter the appropriate information (AIRLINE ID and/or REG NUM) and program the APM.

BAD ACTYPE

This active advisory alerts the user that the APM aircraft type is not supported by the core software, and the IDENT BLK PGM page is not being displayed. Selection of the advisory displays the IDENT BLK PGM page 1, which allows the user to select the appropriate AC TYPE.

APM ICAO

This active advisory alerts the user that the APM status is INDETERMINATE meaning the programmed ICAO address is in conflict with XPDR broadcast ICAO address parameter, and the IDENT BLK PGM page is not being displayed. Selection of the advisory displays the IDENT BLK PGM page 2, which allows the user to enter the appropriate ICAO ADDR.

Active Advisories

DATALOAD

This active advisory confirms for maintenance personnel that a data loader is properly connected to the DLM/CMU-900 and is ready to load new software. This advisory is for maintenance purposes only, and is not activated during normal operation. When selected, this advisory causes a prompt to be displayed that allows the software load process to be started.

CONFIG

This active advisory alerts the crew or maintenance personnel that either the Airline ID or the Registration Number is not available to the DLM/CMU-900. This advisory is activated only when the IDENT BLK PGM page (CMU-900) or the OVERRIDES page (DLM-900) is not being displayed. When selected, this advisory causes the IDENT BLK PGM page (CMU-900) or the OVERRIDES page (DLM-900) to be displayed. On this page, the appropriate Airline ID and Registration Number may be entered. This advisory is cleared when a valid Airline ID and Registration Number have been entered.

SELCAL

This active advisory alerts the crew that a SELCAL (or Voice Go-Ahead) uplink message has been received from the ground. When selected, this advisory causes the SELCAL page to be displayed, showing the voice frequency to be tuned. If voice tuning is enabled in the DLM-/CMU-900, the crew may then select GOTO VOICE to tune the displayed voice frequency on VHF-3 and switch to voice mode. If voice tuning is not enabled, the crew may view the displayed voice frequency and manually tune the radio to establish voice communications. This advisory is cleared when the SELCAL page is displayed, or the DLM/CMU-900 is placed in voice mode.

Active Advisories (cont)

APM WARN (CMU-900 only)

This active advisory alerts the crew that the APM (aircraft personality module) status is either FAIL or ABSENT. When selected, this advisory causes the APM MENU page to be displayed. Generally, maintenance personnel will be needed to resolve this issue, although it may not affect the normal operation of the DLM/CMU-900. This advisory is cleared when selected, or when the APM status is no longer FAIL or ABSENT.

DEP CLX

This active advisory alerts the crew that a Departure Clearance message has been received from the ground and has a status of NEW, OPEN, or VIEWED. When selected, this advisory causes the DEPART CLX REVIEW page to be displayed, showing the text of the received message. This advisory is cleared when the DEPART CLX REVIEW page is being displayed, or when there is no longer a Departure Clearance message stored with a status of NEW, OPEN, or VIEWED. To change the status of a stored Departure Clearance message to ACCEPTED, thereby clearing the advisory, select the ACCEPT prompt on the DEPART CLX REVIEW page.

OCEAN CLX

This active advisory alerts the crew that an Oceanic Clearance message has been received from the ground and has a status of NEW, OPEN, or VIEWED. When selected, this advisory causes the OCEAN CLX REVIEW page to be displayed, showing the text of the received message. This advisory is cleared when the OCEAN CLX REVIEW page is being displayed, or when there is no longer an Oceanic Clearance message stored with a status of NEW, OPEN, or VIEWED. To change the status of a stored Oceanic Clearance message to ACCEPTED, thereby clearing the advisory, select the ACCEPT prompt on the OCEAN CLX REVIEW page.

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Insert this addendum sheet facing page 8

The text that follows replaces the heading **APM WARN (CMU-900 only)** and the accompanying paragraph.

SELCAL

This active advisory alerts the user that a SELCAL (Voice Go-Ahead) uplink message has been received, and the SELCAL page is not being displayed. Selection of the advisory displays the SELCAL page, which shows the VHF frequency to be tuned. The advisory is reset when the VHF mode has changed to voice from data since the uplink has been received.

APM WARN

This active advisory alerts the user that the APM status is FAILED meaning the APM is absent or failed, and this advisory has not been selected since the last CMU power-up. Selection clears the advisory.

CHIMES

This active advisory alerts the user that an AOC application has been responsible for activating the chimes four times within a 60 second window and is now prohibited from any further chime activation until power has been cycled to the CMU. Selection of the advisory displays the CHIMES SUPPRESSED page, which names the offending AOC application and clears the advisory.

Active Advisories (cont)

ATS MSG

This active advisory alerts the crew that a Flight System message has been received from the ground and has a status of NEW or OPEN. When selected, this advisory causes the FLT SYS REVIEW page to be displayed, showing the text of the received message. This advisory is cleared when the FLT SYS REVIEW page is being displayed, or when there is no longer a Flight System message stored with a status of NEW or OPEN. To change the status of a stored Flight System message to VIEWED, thereby clearing the advisory, select the NEXT PAGE key from the FLT SYS REVIEW page until all pages of the message have been displayed.

ATIS

This active advisory alerts the crew that a digital ATIS message has been received from the ground and has a status of NEW or OPEN. When selected, this advisory causes the ATIS REVIEW page to be displayed, showing the text of the received message. This advisory is cleared when the ATIS REVIEW page is being displayed, or when there is no longer an ATIS message stored with a status of NEW or OPEN. To change the status of a stored ATIS message to VIEWED, thereby clearing the advisory, select the NEXT PAGE key from the ATIS REVIEW page until all pages of the message have been displayed.

TWIP

This active advisory alerts the crew that a TWIP message has been received from the ground and has a status of NEW or OPEN. When selected, this advisory causes the TWIP REVIEW page to be displayed, showing the text of the received message. This advisory is cleared when the TWIP REVIEW page is being displayed, or when there is no longer a TWIP message stored with a status of NEW or OPEN. To change the status of a stored TWIP message to VIEWED, thereby clearing the advisory, select the NEXT PAGE key from the TWIP REVIEW page until all pages of the message have been displayed.

Active Advisories (cont)

VOX WAYPT

This active advisory alerts the crew that 8.5 minutes has elapsed since a Waypoint Position Report message was sent to the ground, and it has not been acknowledged. This is to alert the crew that the position report was not received by the ground and a voice radio position report may be necessary. When selected, this advisory causes the VOX WAYPT RPT page to be displayed. This advisory is cleared when selected. Note that support for the Waypoint Position Report in ARINC Specification 623 has recently been removed. This message may not be supported by ground stations; therefore, it is suggested that it not be used. This advisory is not applicable if the Waypoint Position Report is not sent by the crew.

INIT DATA

This active advisory alerts the crew that the new flight leg needs to be initialized in the DLM/CMU-900. This advisory is activated when the required initialization data is not complete on the INIT DATA pages while the flight phase state is OUT, and the INIT DATA page is not being displayed. When selected, this advisory causes the INIT DATA page 1 to be displayed. This advisory is cleared when all required initialization data has been entered, or the flight phase state is no longer OUT.

AUTO INIT

This active advisory alerts the crew that an Automatic Initialization Uplink message has been received from the ground. This uplink message may optionally be sent by the airline to automatically initialize a flight. This message is uplinked in response to an Automatic Initialization Request Downlink message which may be sent by the crew from the INIT DATA page. The uplinked response fills the INIT DATA pages with the flight number, departure date, origination station, destination station, ETD, ETE, gross weight, and up to five employee IDs. This advisory is activated only if the INIT DATA page is not being displayed. When selected, this advisory causes the INIT DATA page 1 to be displayed. This advisory is cleared when it is selected and the INIT DATA page is displayed.

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Insert this addendum sheet facing page 10

The heading VOX WAYPT and the accompanying paragraph are deleted.

Active Advisories (cont)

SUMMARY

This active advisory alerts the crew that the Flight Summary Report needs to be sent at the end of a flight leg. This advisory is activated when the flight phase becomes END LEG (IN) and no Flight Summary Report has been sent, or the data on the FLT SUMMARY page has changed. When selected, this advisory causes the FLT SUMMARY page 1 to be displayed. This advisory is cleared when a Flight Summary message is sent, the FLT SUMMARY page is exited, or the flight phase is no longer END LEG.

MESSAGE

This active advisory alerts the crew that a Free Text “Display” message has been received from the ground and has a status of NEW. When selected, this advisory causes the Message Review page to be displayed, showing the first page of the message text. This advisory is cleared when no stored Display message has a status of NEW. If an ACK prompt is displayed on the Message Review page, this must be selected to change the status from NEW to ACKED, therefore clearing the advisory.

DEP DLA

This active advisory is only enabled while the aircraft is in the BEGIN LEG (IN) flight phase. It alerts the crew that the Estimated Time of Departure (ETD) has been exceeded by more than five minutes and the aircraft has not yet transitioned to the OUT state. When selected, this advisory causes the DEPART DELAY page to be displayed. The crew may then enter data and send a Departure Delay Report message, updating the ETD to that entered on the DEPART DELAY page. The DEP DLA advisory is cleared when the ETD is no longer being exceeded by more than five minutes while the flight phase remains BEGIN LEG.

Active Advisories (cont)

T/O DLA

This active advisory is only enabled while the aircraft is in the OUT flight phase. It alerts the crew that the Estimated Time Off (ETO) has been exceeded by more than five minutes and the aircraft has not yet transitioned to the OFF (airborne) state. The ETO is determined by the DLM/CMU-900 to be the OUT time plus 20 minutes. When selected, this advisory causes the TAKEOFF DELAY page to be displayed. The crew may then enter data and send a Takeoff Delay Report message, updating the ETO to that entered on the TAKEOFF DELAY page. The T/O DLA advisory is cleared when the ETO is no longer being exceeded by more than five minutes while the flight phase remains OUT.

IN RANGE

This active advisory is only enabled while the aircraft is in the OFF (airborne) flight phase. It alerts the crew that the current time is 20 minutes prior to ETA. The ETA is determined by the DLM/CMU-900 to be the OFF time plus Estimated Time Enroute (ETE). Manual entry of ETA by the crew overrides this value. When selected, the IN RANGE advisory causes the IN RANGE page to be displayed. The crew may then enter data and send an In Range Report message, updating the ETA to that entered on the IN RANGE page. This advisory is cleared if an In Range Report has already been sent, when the advisory is selected, or when the flight phase becomes ON.

OPS NORM

This active advisory is only enabled while the aircraft is in the OFF (airborne) flight phase. It alerts the crew that 20 minutes has passed since takeoff, and allows the sending of an Operations Normal Report to the ground. When selected, the advisory causes the ENROUTE page to be displayed. The crew may then select the OPS NORM prompt, causing the report to be sent. This advisory is cleared if an Operations Normal Report has already been sent, when the advisory is selected, or when the flight phase becomes ON.

ADDENDUM 1
TO
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Dated 18 May 00

Insert this addendum sheet facing page 13

The following text is added immediately after the heading **Inactive Advisories**.

LINK TEST SUCCESSFUL

This inactive advisory confirms that a link test has been successful. It is displayed for approximately ten seconds.

Inactive Advisories

UTC UPDATED

This advisory is displayed when a UTC Clock Update message has been received from the ground. It is displayed for approximately ten seconds before being cleared.

VOICE MODE

This advisory is displayed when the DLM/CMU-900 system is in Voice Mode. It is displayed for the duration that the system remains in voice mode, and is cleared when the system returns to data mode.

NO COMM

This advisory is displayed when neither VHF, SATCOM, nor HF media has an established link with the ground over which a message may be sent. It is displayed for the duration that the system remains without a link, and is cleared when the system establishes a link.

VHF IN PROG

This advisory is displayed when the system has sent a downlink message via VHF and has not yet received an acknowledgement from the service provider. It is cleared when all VHF messages have been acknowledged, or the VHF link fails and VHF goes to NO COMM.

SATCOM IN PROG

This advisory is displayed when the system has sent a downlink message via SATCOM and has not yet received an acknowledgement from the service provider. It is cleared when all SATCOM messages have been acknowledged or the SATCOM link fails.

HF IN PROG

This advisory is displayed when the system has sent a downlink message via HF and has not yet received an acknowledgement from the service provider. It is cleared when all HF messages have been acknowledged or the HF link fails.

Visual/Aural Annunciations

The DLM/CMU-900 provides status information to external devices such as an EICAS computer. Based on this status information, these devices may cause the display of certain messages on a forward display in the cockpit. Since these devices, displays, and messages differ (depending on aircraft type and configuration), refer to the specific guide for the appropriate aircraft and device for descriptions of these types of visual annunciations.

The DLM/CMU-900 also provides two sets of relays that can cause certain external devices to provide a visual or aural annunciation of specific events, such as active advisories. These devices are usually recognized as a chime (bell) and light, and may differ depending on aircraft type and configuration. These relays may be triggered by any of the events listed below. When a light is triggered by an active advisory, it will be extinguished when the advisory is cleared. When a light is triggered by any of the other events listed, it may be extinguished by pressing a Voice Go-Ahead Alert Reset button on the panel, or possibly by keying a Push-To-Talk, depending on the aircraft.

The relays may be activated by:

- Manual selection via the RELAYS page in the Technical Application. This is a test of the relay connections and is a maintenance function.
- Activation of the CONFIG advisory, indicating that data such as Airline ID or Registration Number must be entered. This is generally a maintenance function, and should not occur during normal operation.
- Activation of the SELCAL advisory, indicating that a SELCAL (Voice Go-Ahead) message has been received from the ground.
- Activation of the DATALOAD advisory, indicating that a data loader is connected to the DLM/CMU-900 and is ready to load software. This is a maintenance function, and should not occur during normal operation.
- Successful completion of a VHF, SATCOM, or HF link test.
- Activation of the DEP CLX advisory, indicating that a Departure Clearance message has been received from the ground.
- Activation of the OCEAN CLX advisory, indicating that an Oceanic Clearance message has been received from the ground.

Visual/Aural Annunciations (cont)

- Activation of the MESSAGE advisory, indicating that a Free Text (Display) message has been received from the ground. In this case, the relays will be triggered only if the message contains an embedded bell character. If the message does not contain a bell character, the MESSAGE advisory will be activated, but the relays are not triggered.

Display Pages

Display Page Formatting

PROMPTS

Prompts suggest the use of a line select key.

PROMPT	NAME	DESCRIPTION
*	asterisk	Selection executes a function.
> and <	caret	Selection changes the page.
↓	slew	Selection steps through a select list.

FONTS

Two font sizes may be displayed. Data supplied by the MU is displayed in small font. Manually entered data is displayed in large font.

COLORS

Some aircraft are equipped with a color MCDU. The following table shows general color assignments. Not all aircraft types follow these guidelines.

COLOR	DESCRIPTION
White	Page and field titles, comments, page change text, scratchpad.
Cyan	Optional user entry, function calls, active advisories, select lists.
Green	Machine supplied information.
Amber	Mandatory user entry (boxes), scratchpad entry and error messages.

ADDENDUM 1
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision, Dated 18 May 00

Insert this addendum sheet facing page 16

The following table replaces the existing table under the heading COLORS.

COLOR	DESCRIPTION
White	Page and field titles, comments, page change text, scratchpad, mandatory user entry (boxes), and error messages
Cyan	Optional user entry, function calls, active advisories, and select lists.
Green	Machine supplied information.

Display Pages (cont)

Display Page Operation

1. Entry of external data into ACARS data fields is accomplished by:

   A. Keying in alpha, numeric, or other required characters from the MCDU keypad. As data is keyed, it will appear in the scratchpad at the bottom of the display.

   B. Pushing the line select key adjacent to the field into which data is to be entered.

      Note: Pay special attention to data format requirements described in this guide. The following table lists the format indicators used in this guide.

INDICATOR	DESCRIPTION
HHMM	Time: hour, minute
NNN or nnn	Numeric characters (0..9)
-NNN or -nnn	Signed number
AAA or aaa	Alphabetic characters (A..Z)
XXX or xxx	Alpha-numeric characters (0..9, A..Z)
ZZZ or zzz	Free text characters

   Entry fields: "boxes" (□□□) indicate entry is required before the intended function for the page(s) is considered complete. On most pages these fields are required for the activation of the SEND select.

   "brackets" ([ ]) indicate entry is optional.

2. Selection of prefilled data (select list) is accomplished by toggling or scrolling through available options by repeatedly pressing the associated line select key. A select list is depicted using a down-arrow or "slew".

Display Pages (cont)

Display Page Operation (cont)

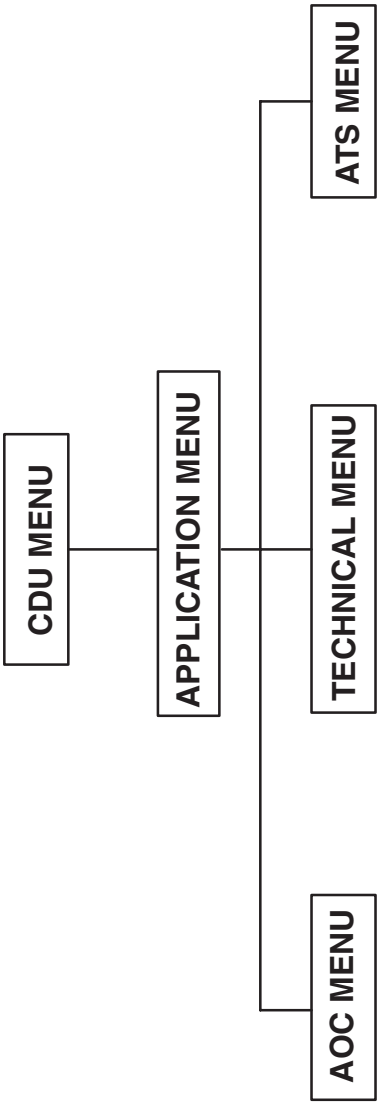
3. Messages are placed in the downlink queue by pressing the line select key adjacent to SEND. Once the message is in the downlink queue it will be transmitted by the first available downlink medium that is allowed by the routing restriction placed on the message. This placement is commonly referred to as “sending” or “downlinking” the message with the normal expectation that the system is INCOMM. The SEND prompt is only displayed when all required entries have been made. When selected, the SEND prompt is removed for approximately five seconds, indicating that the message is being sent.

4. Several pages include a PRINT select that allows the crew to print various information and messages. This select will only be displayed if a printer is available and functioning properly. When selected, the PRINT prompt is removed for approximately five seconds to indicate that the data has been sent to the printer.

5. Use the NEXT PAGE button on the MCDU keypad to access multiple pages when available. Use PREV PAGE button on the MCDU keypad to view previous multiple pages. Multiple pages are available when a page number (e.g., 1/2, 2/2) is displayed in the upper right-hand corner of the page.

6. The RETURN select causes the CMU to display the previous menu page, or to retun to a previous function page, if the currently displayed page was activated using an active advisory.

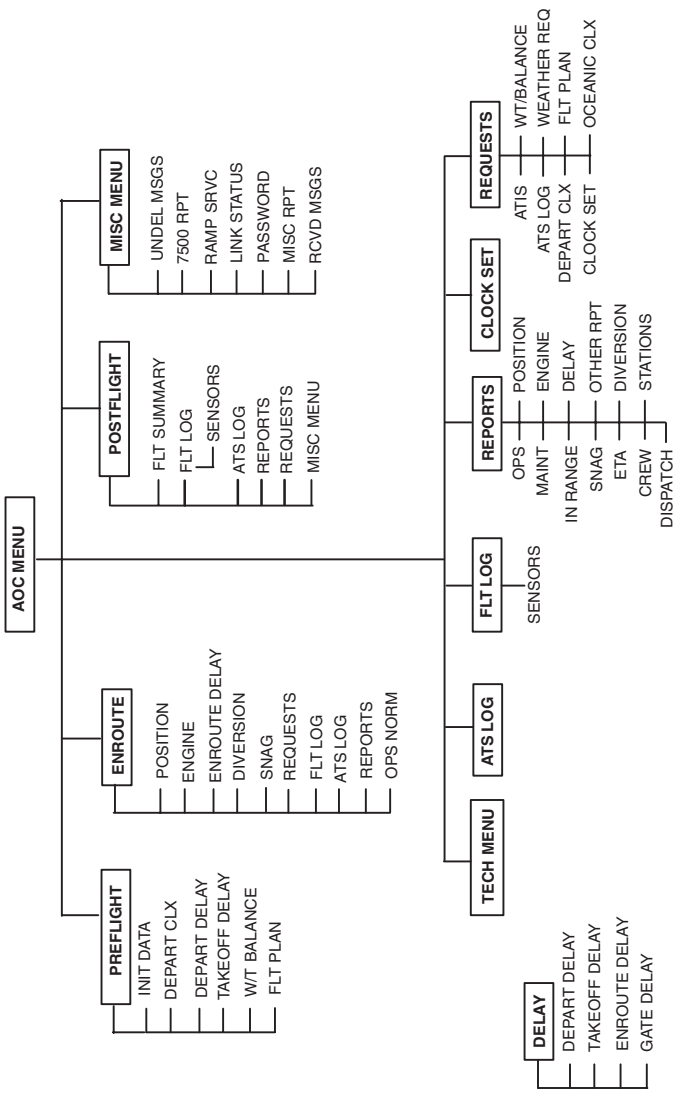
ACARS - System Menu Tree (Application)



ACARS - System Menu Tree
Figure 2

(This page is intentionally left blank.)

Display Page Tree (STANDARD AOC)



Display Page Tree (STANDARD AOC)
Figure 3

AOC MENU

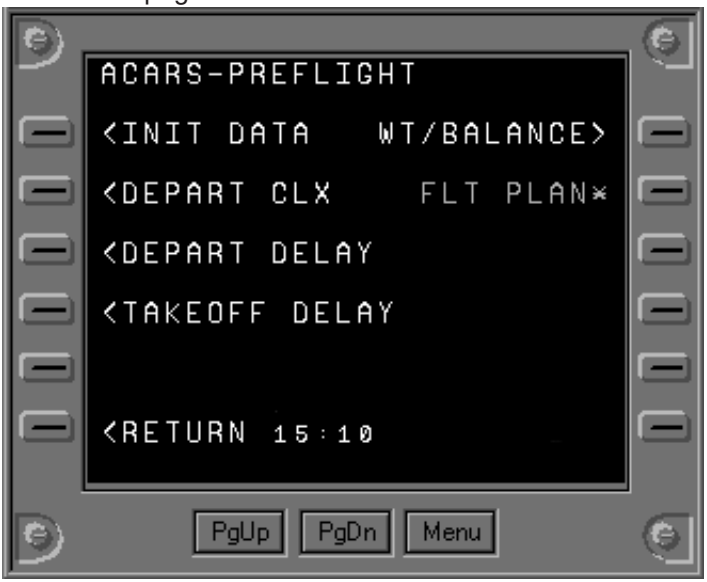
The AOC MENU page is the initial AOC application page. It provides ten page selects.

AOC Menu
Figure 4

PREFLIGHT	Selection displays the PREFLIGHT menu page. Refer to Figure 5.
FLT LOG	Selection displays the FLT LOG page. Refer to Figure 38.
ENROUTE	Selection displays the ENROUTE menu page. Refer to Figure 11.
ATS LOG	Selection displays the ATS LOG page. Refer to Figure 68.
POSTFLIGHT	Selection displays the POSTFLIGHT page. Refer to Figure 40.
REPORTS	Selection displays the REPORTS page. Refer to Figure 20.
CLOCK SET	Selection displays the CLOCK SET page. Refer to Figure 76.
REQUESTS	Selection displays the REQUESTS page. Refer to Figure 33.
TECH MENU	Selection displays the TECHNICAL MENU page. Refer to Figure 71.
MISC MENU	Selection displays the MISC MENU page.

PREFLIGHT

The PREFLIGHT menu page provides five page selects and one function. This page is accessible from the AOC MENU.



PREFLIGHT
Figure 5

INIT DATA	Selection displays the INIT DATA page. Refer to Figure 6.
WT/BALANCE	Selection displays the WT/BALANCE page. Refer to Figure 8.
DEPART CLX	If a Departure Clearance Report has been delivered, selection displays DEPART CLX REVIEW page (refer to Figure 60); otherwise, the DEPART CLX REQ page is displayed (refer to Figure 59).
FLT PLAN*	Selection queues the Flight Plan Request message for downlinking. The FLT PLAN time stamp displays the most recent time the Flight Plan Request message was sent this flight leg. The FLT PLAN time stamp is displayed immediately above the FLT PLAN select text.
DEPART DELAY	Selection displays DEPART DELAY page. Refer to Figure 9.
TAKEOFF DELAY	Selection displays the TAKEOFF DELAY page. Refer to Figure 10.

INIT DATA

The INIT DATA pages allow the operator to enter/review flight initialization information and/or downlink an INIT REQ* message. This page is accessible from the PRE-FLIGHT menu and, when activated, via the INIT advisory.

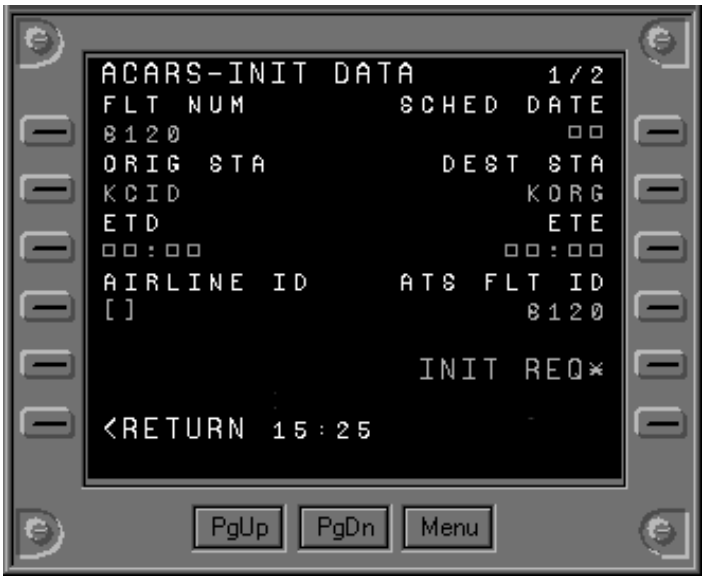
Three sources of information are available for some fields. Manually entered information has the highest priority, uplinked information has the next highest priority, and broadcast information has the lowest priority.

Selecting the INIT REQ* key results in downlinking the Automatic Initialization Request Message. All of the page 1 and page 2 crew id fields may be filled with an Automatic Initialization Uplink Message. If information has been manually entered into any of these fields, the data in succeeding Automatic Initialization Uplink Messages will not be used.

The INIT REQ* selection is available on both pages. If no information has been entered manually, selecting INIT REQ* key will result in downlinking the Automatic Initialization Request Message. If information has been entered manually, the INIT REQ* is changed to CONFIRM*. Selecting CONFIRM* results in downlinking the Automatic Initialization Request Message. If the CONFIRM* key is not selected within 15 seconds nominal the key reverts to INIT REQ*. After the Automatic Initialization Request Message has been downlinked, WAITING is displayed for one minute nominal or until an Automatic Initialization Response Message has been received.

Initialization data is locked after takeoff and can be modified, manually or by uplink, only while in the BEGIN (IN) or OUT states. Manual entries of FOB will be cleared to dashes at the OFF event. At End-of-Flight, all data on this page will be cleared.

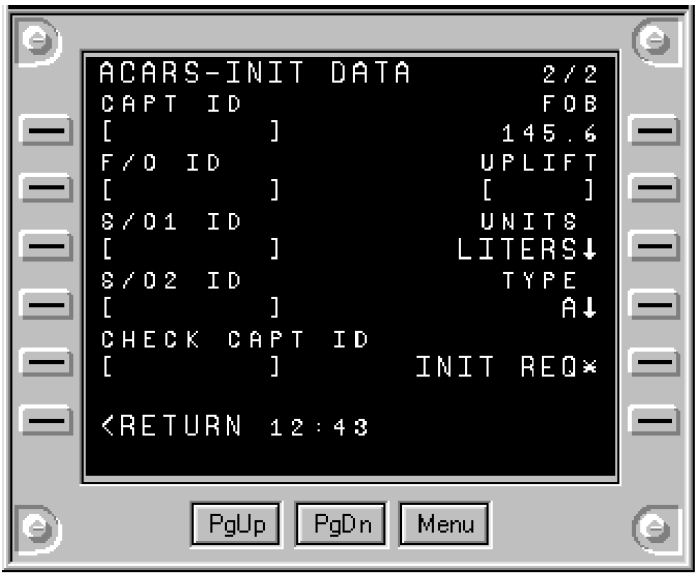
INIT DATA (cont)



INIT DATA (1/2)
Figure 6

FLT NUM	Flight number. Format: 1 - 4 alpha-numeric characters.
SCHED DATE	Flight scheduled departure date. Format: 1 - 2 numeric characters from 1 to 31, left-zero filled.
ORIG STA	Flight departure (origination) station. Format: 3 - 4 alpha characters. Default: Displays DEP STA (flight departure station) as received from broadcast bus, if available.
DES STA	Flight destination station. Format: 3 - 4 alpha characters. Default: Displays DES STA as received from broadcast, if available.
ETD	Estimated time of departure. Format: hhmm (time: hour, minute).
ETE	Estimated flight time enroute. Format: hhmm (time: hour, minute).
AIRLINE ID	Airline identifier. Format: 2 alpha-numeric characters.
ATS FLT ID	ATS flight identifier. Format: 2 - 7 alpha-numeric characters.

INIT DATA (cont)



INIT DATA (2/2)
Figure 7

CAPT ID	Captain's identity code. Format: 1 - 9 numeric characters.
FOB	Current fuel on board. Format: nnn[.]n (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.
F/O ID	First officer's identity code. Format: 1 - 9 numeric characters.
UPLIFT	Uplifted fuel quantity. Format: 1 - 6 numeric characters, left-zero filled.
S/O1 ID	Second officer's #1 identity code. Format: 1 - 9 numeric characters.
UNITS	Selection will step through the following list: LITERS, US GALS, IMP GALS.
S/O2 ID	Second officer's #2 identity code. Format: 1 - 9 numeric characters.
TYPE	Selection will step through the following list: A, A1, B, RP, RT, TS.
CHECK CAPT ID	Check captain's identity code. Format: 1 - 9 numeric characters.
INIT REQ*	Selection queues an Automatic Initialization Request message for downlinking.

WT/BALANCE

The WT/BALANCE page allows the operator to enter/review weight and balance information and downlink a Weight/Balance Request message. This page is accessible from the PRE-FLIGHT menu.

WT/BALANCE
Figure 8

RUNWAY	Takeoff runway number. Format: nna; where “nn” is 1 - 2 numeric characters from 1 to 36, and “a” is L, R, or C.
EDIT	Displays Edit Free Text Page. Refer to Figure 31.
SEND	When RUNWAY has been entered SEND is displayed, and selection queues the WT/BALANCE Request message for downlinking.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.

DEPART DELAY

The DEPART DELAY page allows the operator to enter/review departure delay information and downlink a Departure Delay Report. This page is accessible from the PREFLIGHT menu, the DELAY menu, and, when available, via the DEP DELAY active advisory.

DEPART DELAY
Figure 9

ETD	Estimated departure time. Format: hhmm (time: hour, minute). Manual entry only.
EST TIME OFF	Estimated takeoff time. Format: hhmm (time: hour, minute). Shows ETO calculated as OUT time plus 20 minutes.
FOB	Current fuel on board. Format: nnn[.]n, (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.
EDIT	Displays Edit Free Text Page. Refer to Figure 31.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.

DEPART DELAY (cont)

SEND	When ETD has been entered, SEND is displayed. Selection will disable the DEP DLA advisory and clears INIT DATA - ETD, fills the system ETO parameter, clears the ETD, EST TIME OFF, and FOB manual entry, and queues a Departure Delay Report for downlinking.

TAKEOFF DELAY

The TAKEOFF DELAY page allows the operator to enter/review takeoff delay information and downlink a Takeoff Delay Report. This page is accessible from the PREFLIGHT menu, the DELAY menu, and, when available, via the T/O DELAY active advisory.

TAKEOFF DELAY
Figure 10

EST TIME OFF	Estimated time off. Format: hhmm (time: hour, minutes). Shows ETD calculated as OUT time plus 20 minutes.
FOB	Current fuel on board. Format: nnn[.]n (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.
EDIT	Displays Edit Free Text Page. Refer to Figure 31.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.
SEND	If EST TIME OFF is entered, SEND is displayed and selection queues a Takeoff Delay message for downlinking, clears EST TIMEOFF and FOB manual entries, and displays the calling page.

ENROUTE

The ENROUTE page provides nine page selects and one function call. This page is accessible from the AOC MENU.

ENROUTE
Figure 11

POSITION	Selection displays POSITION page. Refer to Figure 12.
FLT LOG	Selection displays the FLT LOG page. Refer to Figure 38.
ENGINE	Selection displays ENGINE page. Refer to Figure 15.
ATS LOG	Selection displays the ATS LOG page. Refer to Figure 68.
ENROUTE DELAY	Selection displays ENROUTE DELAY page. Refer to Figure19.
REPORTS	Selection displays the REPORTS page. Refer to Figure 20.
DIVERSION	Selection displays DIVERSION page. Refer to Figure 31.
REQUESTS	Selection displays the REQUESTS page. Refer to Figure 33.
SNAG	Selection displays SNAG page. Refer to Figure 36.
OPS NORM*	Selection disables OPS NORM advisory and queues an Operation Normal Report for downlinking.

POSITION

The POSITION page provides selection of the POSITION REPORT page and a REQUEST* function key. This page is accessible from the ENROUTE page.

POSITION
Figure 12

MANUAL RPT	Selection displays the POSITION RPT page. Refer to Figure 14.
REQUEST*	Selection queues a Position Report Req message for delivery to the ACMS/DFDAU/FDAMS.

POSITION RPT

The POSITION RPT pages allow the operator to enter/review position/weather information and downlink a Position/Weather Report. This page is accessible from the POSITION page.

POSITION RPT (1/2)
Figure 13

PRESENT POSITION	Present position (Latitude/Longitude, Waypoint, or Navaid ID). Format: up to 15 characters of free text.
OVER	Time when at PRESENT POSITION. Format: hhmm (time: hour, minute).
ALTITUDE	Present altitude. Format: 1 - 3 numeric characters.
MACH	Crossing speed at PRESENT POSITION. Format: 1 - 3 numeric characters.
2ND POSITION	First following position (latitude/longitude, waypoint, or Navaid ID). Format: up to 15 characters of free text.

POSITION RPT (cont)

EST OVER	Estimated time at 2nd POSITION. Format: hhmm (time: hour, minute).
NEXT POSITION	Second following position (latitude/longitude, waypoint, or Navaid ID). Format: up to 15 characters of free text.
SAT	Static air temperature (negative value only). Format: 2 numeric characters.
FOB	Current fuel on board. Format: nnn[.]n (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.
SEND*	When PRESENT POSITION, OVER, AND ALT fields are filled, SEND is displayed and selection queues Position Report message for downlinking. Moves 2ND POSITION to PRESENT POSITION, moves EST OVER to OVER, moves NEXT POSITION to 2ND POSITION.

POSITION RPT (cont)

POSITION RPT (2/2)
Figure 14

WIND (DIR/VEL)	Wind direction and speed. Format: numeric characters entered as nnn, 0 - 359, for wind direction followed by 1 to 3 additional numbers for wind speed.
SKY COND	Present sky condition. Format: selection will step through the following “CLEAR, SCATTERED, BROKEN, OVERCAST, UNDERCAST”.
TURB	Present turbulence condition. Format: selection will step through the following “SMOOTH, LIGHT, MODERATE, HEAVY, SEVERE”.
SEND*	When PRESENT POSITION, OVER, AND ALT fields are filled, SEND is displayed and selection queues Position Report message for downlinking. Moves 2ND POSITION to PRESENT POSITION, moves EST OVER to OVER, moves NEXT POSITION to 2ND POSITION.

ENGINE

The ENGINE page provides a selection to the ENGINE RPT pages and a function key. This page is accessible from the EN-ROUTE page.

ENGINE
Figure 15

MANUAL RPT — Selection displays the ENGINE RPT page. Refer to Figure 16.

REQUEST* — Selection queues an Engine Report Request message for delivery to the ACMS/ DFDAU/FDAMS.

ENGINE RPT

The ENGINE RPT pages allow the operator to enter/review engine information and downlink the Engine Report.

The number of pages associated with the Engine Report will be determined by the number of engines on the aircraft. An engine page will be available for each engine.

ENGINE RPT (1/4)
Figure 16

GROSS WGT	User entry of gross weight in thousands of pounds. Format: 1 - 4 numeric characters, nnn[.]n, decimal is optional.
PRESS ALT	User entry of altitude in hundreds of feet. Format: 1 - 3 numeric characters.
IAS	User entry of indicated air speed in knots. Format: 1 - 3 numeric characters.
MACH	User entry of mach value. Format: 1 - 3 numeric characters.

ENGINE RPT (cont)

SAT	User entry of static air temperature. Format: characters are [s]nn where “s” is either blank, “–” or “+” and “nn” is a 1 or 2 character number. **NOTE**: Default entry is positive value without requiring sign entry.
RAT/TAT	User entry of total air temperature. Format: 1 - 3 numeric characters.
AC PACK	Air conditioning pack setting Format: 1 - 3 numeric characters.

ENGINE RPT (cont)

ENGINE RPT (2/4)
Figure 17

EPR	Engine pressure ratio. Format: n[.]nn, 1 - 3 numeric characters. Decimal point after first character optional.
FF	Fuel flow. Format: 1 - 4 numeric characters.
N1	Low pressure rotor speed. Format: nn[.]n, 1 - 3 numeric characters. Decimal point optional.
OIL PRESS	Oil pressure. Format: 1 - 3 numeric characters.
EGT	Exhaust gas temperature. Format: 1 - 3 numeric characters.
OIL TEMP	Oil temperature. Format: 1 - 3 numeric characters.
N2	High pressure rotor speed. Format: nn[.]n, 1 - 3 numeric characters. Decimal point optional.
BLEED	Aircraft bleed configuration. Format: selection toggles between “NO“ and “YES“.

ENGINE RPT (cont)

ENGINE RPT (4/4)
Figure 18

EDIT	Selection displays Edit Free Text page. Refer to Figure 31.
*CLEAR TEXT	Selection becomes available when one line of free text has been entered. Selection clears all free text.
SEND*	Select is always available, selection queues message for downlinking.

ENROUTE DELAY

The ENROUTE DELAY page allows the operator to enter/review enroute delay information and downlink an ENROUTE DELAY message. This page is accessible from the ENROUTE page.

ENROUTE DELAY
Figure 19

EFC TIME	Estimated further clearance time. Format: hhmm (time: hours, minutes).
ETA	Estimated time of arrival. Format: hhmm (time: hours, minutes). Default shows system ETA parameter.
FOB	Current fuel on board. Format: nnn[.]n (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.
EDIT	Displays Edit Free Text Page. Refer to Figure 31.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.
SEND*	If EFC TIME and ETA are entered, SEND is displayed and selection queues an Enroute Delay message for downlinking.

REPORTS

The REPORTS menu pages provide 13 page selects. This page is accessible from the ENROUTE or AOC MENU page.

REPORTS (1/2)
Figure 20

POSITION	Selection displays the POSITION page. Refer to Figure 12.
OPS	Selection displays the OPS page. Refer to Figure 22.
ENGINE	Selection displays the ENGINE page. Refer to Figure 15.
MAINT	Selection displays the MAINT page. Refer to Figure 23.
DELAY	Selection displays the DELAY page. Refer to Figure 27.
OTHER RPT	Selection displays the OTHER RPT page. Refer to Figure 29.
DIVERSION	Selection displays the DIVERSION page. Refer to Figure 30.
IN RANGE	Selection displays the IN RANGE page. Refer to Figure 32.
SNAG	Selection displays the SNAG page. Refer to Figure 36.
ETA	Selection displays the ETA page. Refer to Figure 37.

REPORTS (cont)

REPORTS (2/2)
Figure 21

CREW	Selection displays the CREW page. Refer to Figure 24.
STATIONS	Selection displays the STATIONS page. Refer to Figure 25.
DISPATCH	Selection displays the DISPATCH page. Refer to Figure 26.

OPS

The OPS page allows the operator to enter/review operations control information and downlink an Operations Report. This page is accessible from the REPORTS page 1/2.

OPS
Figure 22

EDIT	Selection displays the Edit Free Text page. Refer to Figure 31.
*CLEAR TEXT	Select available when free text is present. Selection clears all free text.
SEND*	Select is available when at least one line of free text has been entered. Selection queues message for downlinking.

MAINT

The MAINT page allows the operator to enter/review maintenance information and downlink a Maintenance Report. This page is accessible from the REPORTS page 1/2.

MAINT
Figure 23

EDIT	Selection displays the Edit Free Text page. Refer to Figure 31.
*CLEAR TEXT	Select available when free text is present. Selection clears all free text.
SEND*	Select is available when at least one line of free text has been entered. Selection queues message for downlinking.

CREW

The CREW page allows the operator to enter/review crew information and downlink a Crew Report. This page is accessible from the REPORTS page 2/2.

CREW
Figure 24

EDIT	Selection displays the Edit Free Text page. Refer to Figure 31.
*CLEAR TEXT	Select available when free text is present. Selection clears all free text.
SEND*	Select is available when at least one line of free text has been entered. Selection queues message for downlinking.

STATIONS

The STATIONS page allows the operator to enter/review station information and downlink a Stations Report. This page is accessible from the REPORTS page 2/2.

STATIONS
Figure 25

EDIT	Selection displays the Edit Free Text page. Refer to Figure 31.
*CLEAR TEXT	Select available when free text is present. Selection clears all free text.
SEND*	Select is available when at least one line of free text has been entered. Selection queues message for downlinking.

DISPATCH

The DISPATCH page allows the operator to enter/review dispatch information and downlink a Dispatch Report. This page is accessible from the REPORTS page 2/2.

DISPATCH
Figure 26

EDIT	Selection displays the Edit Free Text page. Refer to Figure 31.
*CLEAR TEXT	Select available when free text is present. Selection clears all free text.
SEND*	Select is available when at least one line of free text has been entered. Selection queues message for downlinking.

DELAY

The DELAY page provides four delay dependent page selects. This page is accessible from the REPORTS page 1/2.

DELAY
Figure 27

DEPART DELAY	Selection displays the DEPART DELAY page. Refer to Figure 9.
TAKEOFF DELAY	Selection displays the TAKEOFF DELAY page. Refer to Figure 10
ENROUTE DELAY	Selection displays the ENROUTE DELAY. Refer to Figure 19.
GATE DELAY	Selection displays the GATE DELAY page. Refer to Figure 28.

GATE DELAY

The GATE DELAY page allows the operator to enter/review gate delay information and downlink a GATE DELAY message. This page is accessible from the DELAY MENU page.

GATE DELAY
Figure 28

DEST STA	Destination station. Format: 3 or 4 alpha characters, shows system DEST STA parameter.
ERT	Estimated ramp time. Format: hhmm (time: hours, minutes). Shows system ERT parameter
FOB	Current fuel on board. Format: nnn[.]n (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.
EDIT	Displays Edit Free Text Page. Refer to Figure 31.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.
SEND*	If DEST STA and ERT are entered, SEND is displayed and selection queues a GATE Delay message for downlinking. Displays calling page and clears manually entered data.

OTHER RPT

The OTHER RPT page allows the operator to enter/review information and downlink an OTHER REPORT message. This page is used to send free text message to a specific teletype (TTY) address on the ground. A second address field is provided to allow the message to be delivered to a second TTY address without the need for re-entering the text. This page is accessible from the REPORTS MENU page.

OTHER RPT
Figure 29

ADDRESS	TTY address. Format: 7 alpha-numeric characters.
ADDRESS	Additional TTY address. Format: 7 alpha-numeric characters.
EDIT	Displays Edit Free Text Page. Refer to Figure 31.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.
SEND*	When ADDRESS is entered, SEND is displayed and selection queues an OTHER RPT message for downlinking.

DIVERSION

The DIVERSION page allows the operator to enter/review diversion information and downlink a DIVERSION REPORT message. This page is accessible from the REPORTS MENU page.

DIVERSION
Figure 30

DIVERTING TO	Station being diverted to. Format: 3 or 4 alpha characters.
ETA	Estimated time of arrival. Format: hhmm (time: hours, minutes). Shows system ETA parameter, if available.
FOB	Current fuel on board. Format: nnn[.]n (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.
EDIT	Displays Edit Free Text page. Refer to Figure 31.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.
SEND*	If DIVERTING TO and ETA are entered, SEND is displayed and selection queues a Diversion message for downlinking, and clears all manual entry fields.

EDIT FREE TEXT

The EDIT FREE TEXT page allows the operator to edit/review/ accept free text. This page is accessible from the EDIT prompt. The total number of pages required is determined by the number of lines of free text supplied by the calling page. The page title is supplied by the calling page.

EDIT FREE TEXT
Figure 31

free text	Each line is formatted to accept 1 - 24 characters.
ENTER	Select is only available if free text has been changed. Selection returns text to calling page.

IN RANGE

The IN RANGE page allows the operator to enter/review in range information and downlink an In Range Report. This page is accessible from the REPORTS MENU page and, when available, via the IN RANGE active advisory.

IN RANGE
Figure 32

DEST STA	Destination station. Format: 3 - 4 alpha characters. Shows system DEST STA parameter.
ETA	Estimated time of arrival. Format: hhmm (time: hours, minutes). Shows system ETA parameter.
ERT	Estimated ramp time. Format: hhmm (time: hours, minutes). Shows system ERT parameter.
EDIT	Displays Edit Free Text Page. Refer to Figure 31.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.
SEND*	If DEST STA and ETA are entered, SEND is displayed and selection queues message for downlinking. Clears manual entry fields.

REQUESTS

The REQUESTS page provides seven page selects and one function call. This page is accessible from the AOC Menu page.

REQUESTS
Figure 33

WEATHER REQ	Selection displays the WEATHER REQ page. Refer to Figure 34.
WT/BALANCE	Selection displays the WT/BALANCE page. Refer to Figure 8.
ATIS	Selection displays the ATIS page. Refer to Figures 55 and 56.
ATS LOG	Selection displays the ATS LOG page. Refer to Figure 68.
DEPART CLX	If a Departure Clearance Report has been delivered, selection displays DEPART CLX REVIEW page; otherwise, the DEPART CLX REQ page is displayed. Refer to Figure 58.
FLT PLAN*	Selection queues the Flight Plan Request message for downlinking.

REQUESTS (cont)

OCEANIC CLX	If an OCEANIC Clearance Report has been delivered, selection displays OCEANIC CLX REVIEW page; otherwise, the OCEANIC CLX REQ page is displayed. Refer to Figures 61 and 63.
CLOCK SET	This page is part of the technical application. Refer to Figure 75.

WEATHER REQ

The WEATHER REQ page allows the operator to enter/review weather information and downlink a Weather Request message. This page is accessible from the REQUESTS menu.

This page is not cleared after sending, allowing the operator to check the chosen weather periodically without having to reenter the desired stations.

WEATHER REQ
Figure 34

HOURLY WX	The text displayed above WEATHER TYPE is the weather type selected from the WEATHER TYPE page.
WEATHER TYPE	Selection displays the WEATHER TYPE page. Refer to Figure 35. Hourly weather is automatically loaded at the beginning of a flight leg.
SEND*	If STA 1 has been entered, then SEND is displayed and selection queues message for downlinking.

WEATHER TYPE

The WEATHER TYPE page allows the operator to select the type of weather used on the WEATHER REQ page. This page is accessible from the WEATHER REQ page. Selection of any item on this page displays the WEATHER REQ page with the chosen weather shown above the WEATHER TYPE field.

WEATHER TYPE
Figure 35

HOURLY WX	Selection displays the WEATHER REQ page with HOURLY WX shown in the TYPE field.
TERM FCST	Selection displays the WEATHER REQ page with TERM FCST shown in the TYPE field.
AREA FCST	Selection displays the WEATHER REQ page with AREA FCST shown in the TYPE field.
NOTAMS	Selection displays the WEATHER REQ page with NOTAMS shown in the TYPE field.
FLD CONDX	Selection displays the WEATHER REQ page with FLD CONDX shown in the TYPE field.
SEVERE WX	Selection displays the WEATHER REQ page with SEVERE WX shown in the TYPE field.

SNAG

The SNAG page allows the operator to enter/review snag/discrepancy information and downlink a SNAG REPORT. Fifteen snag records are available. When all records are filled, the report must be sent. The snag records are cleared after the report is sent. Entries may be reviewed by using the NEXT PAGE and PREV PAGE selections. This page is accessible from the REPORTS MENU page.

SNAG
Figure 36

FAULT CODE	Format: Fault code in 1 - 8 alpha-numeric characters.
STATUS	Aircraft status. Format: Selection steps through the following: “GO”, “MEET”, “NO GO”.
NEW SNAG	Select available only if the FAULT CODE field is filled, and another record is available. Selection initiates a page for a new snag.
EDIT	Displays Edit Free Text page. Refer to Figure 31.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.
SEND*	Select becomes available when one snag has been entered. Selection queues message for downlinking, and clears the fields.

ETA

The ETA page allows the operator to enter/review ETA information and downlink an ETA Report. This page is accessible from the REPORTS MENU page.

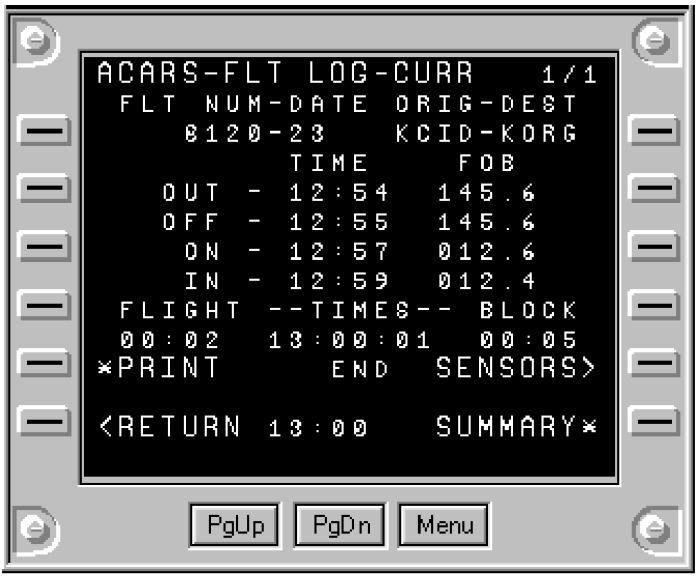
ETA
Figure 37

ETA	Estimated time of arrival. Format: hhmm (time: hours, minutes). Shows shared ETA parameter.
FOB	Current fuel on board. Format: nnn[.]n (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.
EDIT	Displays Edit Free Text page. Refer to Figure 31.
*CLEAR TEXT	Available when free text is present. Selection clears all free text.
SEND*	If ETA is entered, SEND becomes available and selection queues message for downlinking. Clears manually entered FOB and ETA.

FLT LOG

Selection allows the user to review OOOI information for the current and up to four previous flight legs. The current/previous flight leg information is reset at the “end of flight leg event.” This page is accessible from the AOC MENU page.

Any field for which information has not yet been collected is filled using spaces. Any field for which information was not available is filled using dashes “-”.



FLT LOG
Figure 38

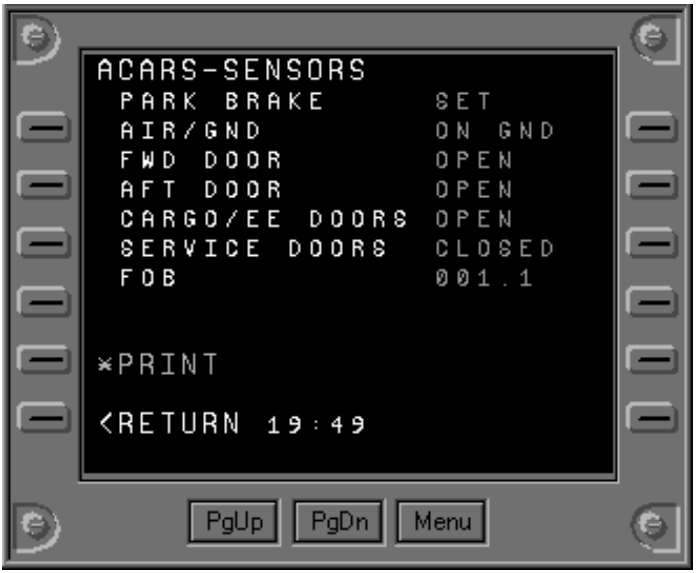
FLT LOG - CURR or PREV	Status of record being displayed. CURR if page 1 and PREV if pages 2 - 5.
FLT NUM	Flight number.
DATE	Scheduled departure date.
ORIG	Origination station.
DEST	Destination station.
OUT TIME	Out event time.
OUT FOB	Fuel on board at out event.
OFF TIME	Off event time.
OFF FOB	Fuel on board at off event.

FLT LOG (cont)

ON TIME	On event time.
ON FOB	Fuel on board at on event.
IN TIME	In event time.
IN FOB	Fuel on board at in event.
FLIGHT TIME	Total flight time, ON TIME minus OFF TIME.
BLOCK TIME	Total block time, IN TIME minus OUT TIME.
PRINT*	Available when a printer is connected and reporting its status as operating.
SENSORS	Selection displays the OOOI SENSORS page. Refer to Figure 39.
System Time	Current system time is displayed as hours: minutes:seconds.
OOOI state	Current OOOI state is displayed.

SENSORS

OOOI sensor information is aircraft fleet dependent. The following section details the Boeing 737-600/700/800 SENSORS page as an example.



SENSORS
Figure 39

Sensor Name	
PARK BRAKE	SET/RELEASED
AIR/GND	ON GND/AIRBORNE
FWD DOOR	OPEN/CLOSED
AFT DOOR	OPEN/CLOSED
CARGO/EE DOORS	OPEN/CLOSED
SERVICE DOORS	OPEN/CLOSED
FOB	Displays system value for fuel on board.
PRINT*	Available when a printer is connected and reporting its status as operating.

POSTFLIGHT

The POSTFLIGHT page provides six page selects. This page is accessible from the AOC MENU page.

POSTFLIGHT
Figure 40

FLT SUMMARY	Selection displays the FLT SUMMARY page. Refer to Figure 41.
FLT LOG	Selection displays the FLT LOG page. Refer to Figure 38.
ATS LOG	Selection displays the ATS LOG page. Refer to Figure 68. This page is part of the ATS application.
REPORTS	Selection displays the REPORTS page. Refer to Figure 20.
REQUESTS	Selection displays the REQUESTS page. Refer to Figure 33.
MISC MENU	Selection displays the MISC MENU page. Refer to Figure 43.

FLT SUMMARY

The FLT SUMMARY page allows the operator to enter/review flight summary information and downlink a Flight Summary Report. This page is accessible from the POSTFLIGHT MENU page and, when available, via the SUMMARY active advisory.

The Flight Summary Report is downlinked automatically if the SEND select is available and the page is exited without selecting the SEND key.

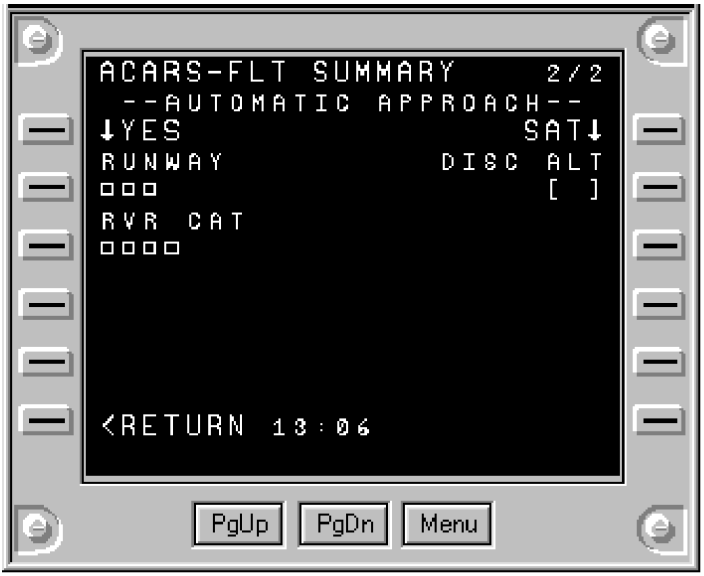
FLT SUMMARY (1/2)
Figure 41

TAKEOFF	Takeoff officer. Format: selection steps through the following list: “CAPT”, “F.O.”, “OTHER”.
LANDING	Landing officer. Format: selection steps through the following list: “CAPT”, “F.O.”, “OTHER”.
FOB	Current fuel on board. Format: nnn[.]n (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.
L IRU ERR	Left IRU error. Format: 1 - 3 numeric characters.

FLT SUMMARY (cont)

C IRU ERR	Center IRU error. Format: 1 - 3 numeric characters.
R IRU ERR	Right IRU error. Format: 1 - 3 numeric characters.
SEND*	Select becomes available only if all required fields are filled, both pages have been viewed, the system is in the END LEG state, and either the Flight Summary Report has never been sent or some data has been altered. Selection queues the Flight Summary Report for downlinking.

FLT SUMMARY (cont)



FLT SUMMARY (2/2)
Figure 42

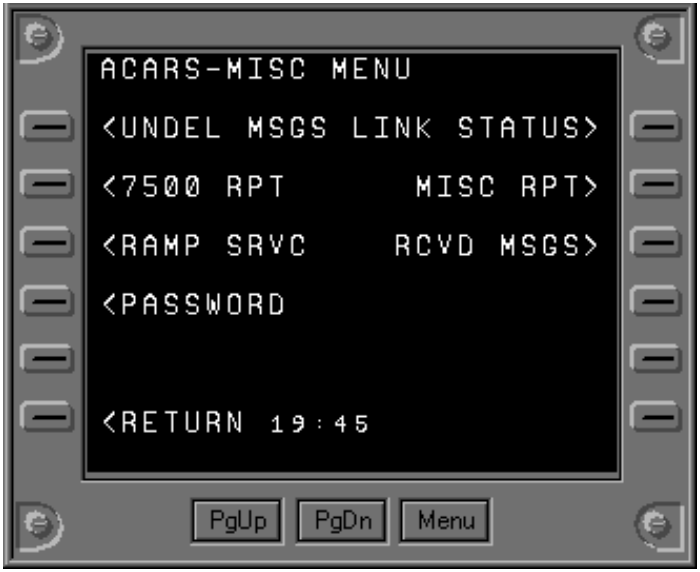
YES/NO	Was automatic approach used? Format: selection toggles between “NO” and “YES”. If “YES” is selected, the listing below is shown.
RUNWAY	Landing runway. Format: nn[a] 1 - 36, and sp, R, L, C. Only displayed when automatic approach is “YES”.
RVR CAT	Runway visual range category. Format: 1 - 4 numeric characters. Only displayed when automatic approach is “YES”.
SAT/UNSAT	Was automatic approach satisfactory? Format: selection toggles between “SAT” and “UNSAT”. Only displayed when automatic approach is “YES”.
DISC ALT	Disconnect altitude. Format: 1 - 3 numeric characters. Only displayed when automatic approach is “YES”.

FLT SUMMARY (cont)

SEND*	Select available only if all required fields are filled, both pages have been viewed, the system is in the END LEG state, and either the Flight Summary Report has never been sent or some data has been altered. Selection queues the Flight Summary Report for downlinking.

MISC MENU

The MISC MENU page provides seven page selects. This page is accessible from the POSTFLIGHT MENU page.



MISC MENU
Figure 43

UNDEL MSGS	Selection displays the UNDEL MSGS page. Refer to Figure 44.
LINK STATUS	Selection displays the LINK STATUS page. This page is part of the technical application. Refer to Figure 72.
7500 RPT	Selection displays the 7500 RPT page. Refer to Figure 46.
MISC RPT	Selection displays the MISC RPT page. Refer to Figure 47.
RAMP SRVC	Selection displays the RAMP SRVC page. Refer to Figure 49.
RCVD MSGS	Selection displays the RCVD MSGS page. Refer to Figure 51.
PASSWORD	Selection displays the PASSWORD page. Refer to Figure 53.

UNDEL MSGS

The UNDEL MSGS menu page allows the operator to review all undelivered messages for which an acknowledgment from the ground has not been received, and select an individual message for viewing. This page is accessible from the MISC MENU page.

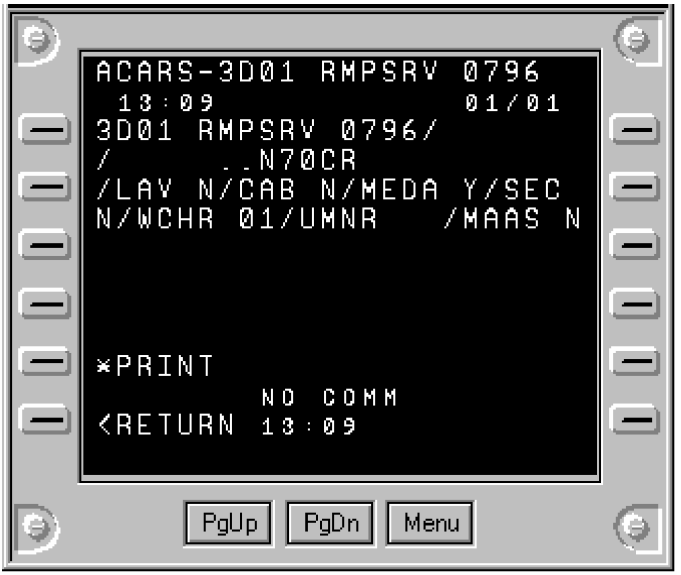
The total number of messages that can be held is dependent on the capacity of the queue. As messages are delivered to the ground network as indicated by the airborne system receiving an acknowledgement, the message is removed from the undelivered messages queue. This queue only displays messages which are destined for the ground network.

UNDEL MSGS
Figure 44

UNDEL MSGS REVIEW

The UNDEL MSGS Review page allows the operator to view any individual Undelivered Message. Any message may be viewed by pressing the select button next to the message title displayed on the UNDEL MSGS menu page.

The queue containing the undelivered messages is cleared when a new flight is started and the flight phase transitions to BEGIN.



UNDEL MSGS REVIEW
Figure 45

7500 RPT

The 7500 RPT page allows the operator to enter/review information about an emergency situation and downlink an Emergency Report message. This page is accessible from the MISC MENU page.

7500 RPT
Figure 46

FREE TEXT	Displays free text lines.
ELAM	Number of males. Format: 1 - 2 numeric characters.
MEF	Number of females. Format: 1 - 2 numeric characters.
PAEW	Are weapons being used? Format: selection toggles between "YES" and "NO".
PMET	What is temperment? Format: selection will step through the following list: "U"nknown, "C"alm, "I"ntense.
TPCNI	Are they in the cockpit? Format: selection toggles between "NO" and "YES".
SEND*	Select is always available. Selection queues message for downlinking.

MISC RPT

MISC RPT allows the operator to enter/review miscellaneous information and downlink a Misc Report message. This page is accessible from the MISC MENU page.

MISC RPT (1/2)
Figure 47

MESSAGE	Format: 1 - 2 numeric characters. Default value is 39.
ADDRESS	Additional TTY address. Format: 7 alpha-numeric characters.
FRMT NUM	Message format number. Format: 1 - 2 numeric characters.
MSG ID	Message identifier. Format: 1 - 6 alpha-numeric characters. Default value is “MISCRP”.
FLT NUM	Flight number. Format: 1 - 6 alpha-numeric characters. Shows system FLT NUM parameter.
SCHED DATE	Flight scheduled departure date. Format: 1 - 2 numeric characters, 1 - 31. Shows system SCHED DATE parameter.

MISC RPT (cont)

ORIG STA	Origination station. Format: 3 - 4 alpha characters. Shows system ORIG STA parameter.
DEST STA	Destination station. Format: 3 - 4 alpha characters. Shows system DEST STA parameter.
SEND*	Select is available when MESSAGE NUM and MSG ID are filled. Queues message for downlinking.

MISC RPT (cont)

Free text may be entered (up to 24 characters on each line for six lines).

MISC RPT (2/2)
Figure 48

EDIT	Selection displays the Edit Free Text Page. Refer to Figure 31.
CLEAR TEXT	Selection available when free text is present. Clears all free text.
SEND*	Select is available when MESSAGE NUM and MSG ID are filled. Queues message for downlinking.

RAMP SRVC

RAMP SRVC allows the operator to enter/review all ramp service information and downlink a Ramp Services Report. This page is accessible from the MISC MENU page.

RAMP SRVC (1/2)
Figure 49

LAV SRVC	Is lavatory service required? Format: selection will step through “NO” and “YES”.
CABIN SRVC	Is cabin service required? Format: selection will step through “NO” and “YES”.
MEDIC	Is paramedical service required? Format: selection will step through “NO” and “YES”.
SECURITY	Is security service required? Format: selection will step through “NO” and “YES”.
WHEEL CHR	Number of wheel chairs required. Format: 1 - 2 numeric characters.

RAMP SRVC (cont)

UNACC MINOR	Number of unaccompanied minors on board. Format: 1 - 2 numeric characters.
MEET/ASST	Is meet/assist service required? Format: selection will step through “NO” and “YES”.
SEND*	Select is always available. Queues message for downlinking. Clears WHEEL CHR, UNACC MINOR.

RAMP SRVC (cont)

Free text may be entered (up to 24 characters on each line for seven lines).

RAMP SRVC (2/2)
Figure 50

EDIT	Selection displays the Edit Free Text Page. Refer to Figure 31.
CLEAR TEXT	Selection available when free text is present. Clears all free text.
SEND*	Select is always available. Queues message for downlinking. Clears WHEEL CHR, UNACC MINOR.

RCVD MSGS MENU

The RCVD MSGS menu page allows the operator to review all uplink display messages and select an individual message for viewing. This page is accessible from the MISC MENU page.

Twenty messages can be held in queue at one time. Any messages received after the queue is full will cause the oldest messages in the queue to be deleted to make room for the incoming messages. The message titles are displayed in order from newest to oldest.

RCVD MSGS (1/2)
Figure 51

status	"NEW" - Message has not been viewed/ acked.
	"ACKED" - Message has been acked when required.
	"VIEWED" - Message has been viewed.
message title	From the sublabel field up to the first <CR> or <LF> or 16 characters, whichever is less.

RCVD MSGS REVIEW

The RCVD MSGS Review page allows the operator to view an uplink display message. Any message may be viewed by pressing the select button next to the message title displayed on the RCVD MSGS menu page

A message may also be displayed by selecting the MESSAGE active advisory when available.

The queue containing the messages is cleared when a new flight is started and the flight phase transitions to BEGIN.

RCVD MSGS, Example
Figure 52

Example of viewed message.

title	Message title.
time	UTC Time message was received.
status	Message status - NEW, VIEWED, or ACKED.
pages	Current page/total pages for message.
text	Displays the message text.

RCVD MSGS REVIEW (cont)

*PRINT	Select is available when a printer is connected and reporting its status as operating.
*ACK	Select is available only when a message is received that contains an ACK field and the message is NEW. When a message contains an ACK field the ground system is indicating that it wants confirmation of receipt of the message. Failure to ACK the message may cause the ground system to resend the message. Selection queues an RB-1 (Free Text Message Acknowledgement) downlink message, disables the ACK* select, and sets the message status to ACKED.

PASSWORD

The PASSWORD page allows the operator to enter the password providing access to protected AOC application functions. Functions are protected when operational performance is dependent on the function. This page is accessible from the MISC MENU.

PASSWORD
Figure 53

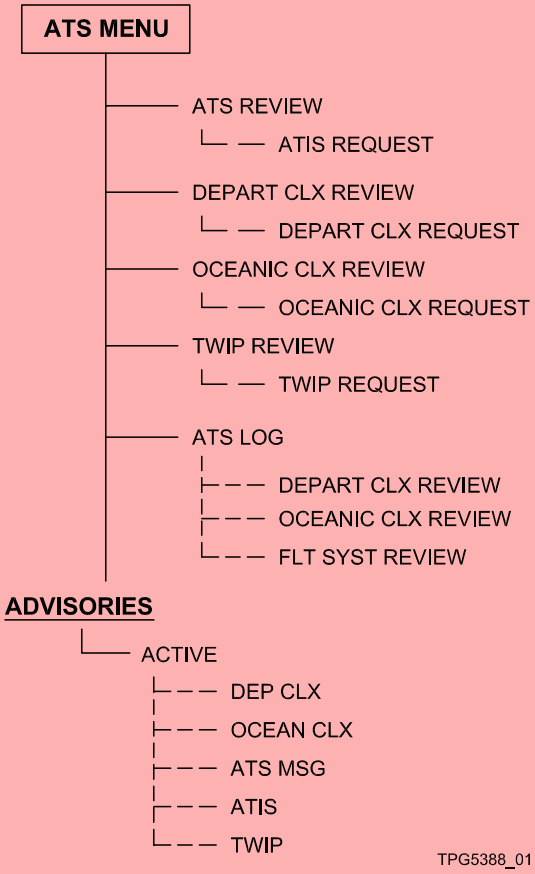
PASSWORD — Selection compares the scratchpad data with the password. If the password is matched, the PARAMETERS page is displayed. If the password is not matched, the text “INVALID” is displayed on the page.

ADDENDUM 1
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

Insert this addendum sheet facing page 83

The illustration below replaces the illustration titled ACARS – System Menu Tree (ATS).



ACARS - System Menu Tree (ATS)

ACARS - System Menu Tree (ATS)
Figure 54

ATS MENU

The ATS MENU page provides access to the Air Traffic Services pages. This page is accessible from the Application Menu display.

ATS MENU
Figure 55

ATIS	If an ATIS Report is available, selection displays the ATIS REVIEW page. Otherwise, the ATIS RQ page is displayed. Refer to Figures 56 and 57.
ATS LOG	Selection displays the ATS LOG page. Refer to Figure 68.
DEPART CLX	If a Departure Clearance Report is available, selection displays the DEPART CLX REVIEW page. Otherwise, the DEPART CLX RQ page is displayed. Refer to Figures 58, 59, and 60.

ADDENDUM 1
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision, Dated 18 May 00

Insert this addendum sheet facing page 84

The illustration below replaces the existing illustration on the page.

ADDENDUM 1
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

Insert this addendum sheet facing page 85

The WAYPT POS RPT entry and the accompanying text are deleted from the page.

ATS Menu (cont)

OCEANIC CLX	If an Oceanic Clearance Report is available, selection displays the OCEANIC CLX REVIEW page. Otherwise, the OCEANIC CLX RQ page is displayed. Refer to Figures 61 and 63.
TWIP	If a TWIP Report is available, selection displays the TWIP REVIEW page. Otherwise, the TWIP RQ page is displayed. Refer to Figures 64 and 65.
WAYPT POS RPT	Selection displays the Waypoint Position Report page. Refer to Figures 66 and 67.

ATIS RQ

The ATIS RQ page allows the operator to send an ATIS Request message. This page is accessible from ATS MENU page if an ATIS Report has not been received. If an ATIS Report has been received, then this page is accessible from the ATIS REVIEW page. Note that not all airports support digital ATIS. In some cases, where digital ATIS is not supported, there is no uplink response to the downlink request.

ATIS RQ
Figure 56

AIRPORT	Airport of interest. Format: 3 or 4 alpha-numeric characters. Default: Departure station before OFF event. Destination station after OFF event.
SERVICE TYPE	ATIS report type. Selection steps through the following list: DEPARTURE ATIS, ENROUTE INFO SERVICE, ARRIVAL ATIS. Default: DEPARTURE ATIS if state is IN or OUT. ARRIVAL ATIS if state is OFF or ON.

ATIS RQ (cont)

REPORTING MODE	Select list is available only when SERVICE TYPE is ARRIVAL ATIS. Selection steps through the following list: SINGLE REPORT, START AUTO-UPDATES, STOP AUTO-UPDATES. Selection allows user to specify a downlink message that will start or stop auto updates.
SEND	Selection available only if the AIRPORT field is filled. Selection queues appropriate ATIS Request message for downlinking. Specific downlink format is dependent on field values as described below.

ATIS Request - ARINC format

Automatically selected when none of the above service providers and types of service are determined. ARRIVAL (with automatic update), DEPARTURE, and ENROUTE INFO SERVICE will be available for SERVICE TYPE field.

NOTE: Some types of service may not be available in certain locations, and service may require subscription.

Default data is available for all fields. Manually entered data is not cleared after the message has been sent.

In some cases older digital ATIS messages are still used. The use of these older messages may be activated via AOC change. When not activated all ATIS messages have the format above. When activated, some ATIS messages have a different format triggered by the following conditions:

ATIS Request - Australian format

Automatically selected when AIRPORT entry is four alpha characters and the first character is 'Y'.

ATIS Request - Japanese format

Automatically selected when AIRPORT entry is four alpha characters and the first character is 'R'.

AEIS Request - Japanese format

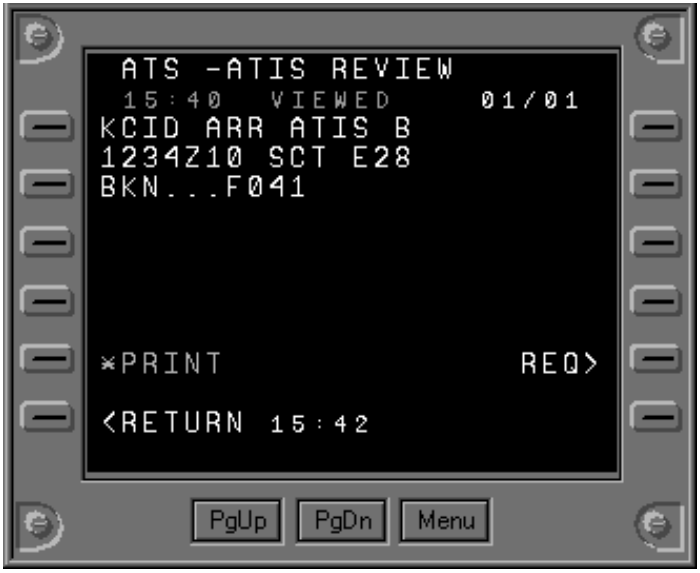
Automatically selected when AIRPORT entry is either 'NSJ', 'WSJ', or 'SSJ'.

The uplink response to these older messages may be an RA uplink message, a label CI printer message, or a label 33 printer message.

ATIS REVIEW

The ATIS REVIEW page allows the operator to view the latest ATIS Report uplink message. This page is accessible as shown on the ATS MENU page, if an ATIS Report has been received, and when available, via the ATIS active advisory.

The total number of pages is dependent on the message size.



ATIS REVIEW
Figure 57

Time	UTC time when message was received.
Status	Message status. Range: NEW Message has not been viewed. OPEN At least one page of the message has been displayed. VIEWED All pages of the message have been displayed.
Text	ATIS Report uplink message text.
PRINT	Selection queues ATIS Message to be printed.
REQ	Selection displays ATIS RQ page.

DEPART CLX RQ

The DEPART CLX RQ page allows the operator to send a Departure Clearance Request message. This page is accessible from the ATS MENU, the DEPART CLX REVIEW page, and the AOC - PREFLIGHT MENU page..

Default data may be available for all fields except FREE TEXT. Default data is updated on this page whenever it changes.

DEPART CLX RQ (1/2)
Figure 58

ATS FLT ID	ATS flight identifier. Default flight ID may be provided. Format: 2 - 7 alpha-numeric characters.
FACILITY	Teletype address of ATC facility servicing predeparture clearance request or four character ICAO airport code. Default data may be available. Format: either 4 or 7 alpha-numeric characters.

DEPART CLX RQ (cont)

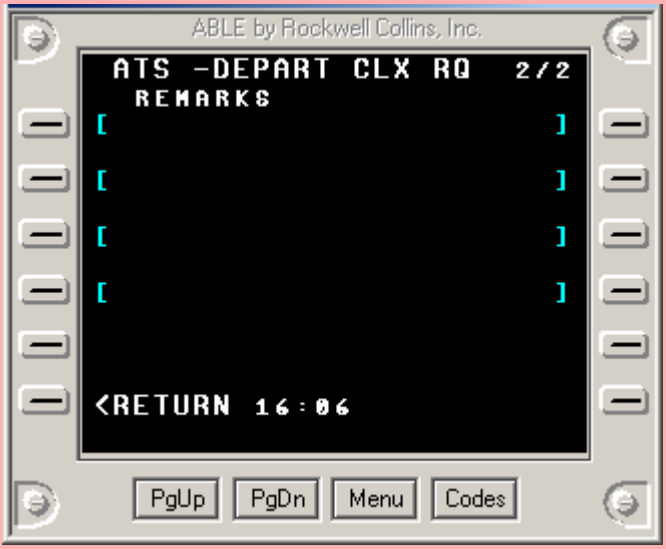
A/C TYPE	Aircraft type. Default data may be available. Format: 2 - 4 alpha-numeric characters.
ATIS	Current received ATIS information designation. Default data may be available if an ATIS Report uplink has been received and viewed. Format: 1 alpha character.
ORIG STA	Departure airport. Four character ICAO airport code. Default data may be available. Format: 4 alpha characters.
DEST STA	Destination airport. Four character ICAO airport code. Default data may be available. Format: 4 alpha characters.
GATE	Current gate position of the aircraft. Default data may be available. Format: 1 - 5 alpha-numeric characters.
SEND*	Select is only available if all required fields are filled. Selection queues Departure Clearance Request message for downlinking.

ADDENDUM 1
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

Insert this addendum sheet facing page 91

The illustration below replaces the illustration titled DEPART CLX RQ (2/2).



The text that follows replaces the text under the caption Figure 59.

REMARKS	Free Text. Format: 1-24 characters of free text/line (four lines).

DEPART CLX RQ (cont)

DEPART CLX RQ (2/2)
Figure 59

REMARKS — Free text.
Format: 1 - 24 characters of free text/line (two lines).

DEPART CLX REVIEW

The DEPART CLX REVIEW page allows the operator to view/accept the selected Departure Clearance Report message. This page is accessible from the ATS MENU, if a Departure Clearance Report message has been received, and when available, via the DEP CLX active advisory.

The total number of pages is dependent on the message size.

DEPART CLX REVIEW
Figure 60

Time	UTC time when message was received.
Status	Message status. Range: NEW Clearance has not been viewed. OPEN At least one page of the clearance has been displayed. VIEWED All pages of the clearance have been displayed. ACCEPTED Clearance has been accepted.
Text	Displays Departure Clearance Uplink Message text.

DEPART CLX REVIEW (cont)

ACCEPT/PRINT	This select cycles between two modes as follows: *ACCEPT Select is available only if displayed Departure Clearance Report message has OPEN status (i.e. not previously accepted). Selection queues Departure Clearance Readback Message for downlinking, marks message status as ACCEPTED, and cycles to PRINT. *PRINT Select is available if message status is ACCEPTED and a printer is connected and functional. Selection queues Departure Clearance Message for printing.
REQ	Selection displays DEPART CLX RQ page.

OCEANIC CLX RQ

The OCEANIC CLX RQ page allows the operator to send an Oceanic Clearance Request message. This page is accessible from the ATS MENU and the OCEANIC CLX REVIEW page.

OCEANIC CLX RQ (1/2)
Figure 61

ATS FLT ID — ATS flight identifier. A default flight ID may be available.
Format: 2 - 7 alpha-numeric characters.

FACILITY — Oceanic clearance facility. Selection will step through the following list: GANDER, REYKJAVIK, SANTA MARIA, SHANWICK.

OCEANIC CLX RQ (cont)

ENTRY POINT	Oceanic track entry point identifier. Latitude/Longitude value is checked for validity. Format: 4 - 11 alpha-numeric characters. Latitude/Longitude: (N or S) + Lat (1, 2 or 4 numeric) + (E or W) + Long (1, 2, 3, or 5 numeric) or Lat (1, 2 or 4 numeric) + (N or S) + Long (1, 2, 3, or 5 numeric) + (E or W). **NOTE**: The Latitude must be less than 90 degrees. The longitude must be less than 180 degrees. Named Reporting Point: Navaid ID/Waypoint: 3 - 5 alpha characters.
AT TIME	Estimated time of arrival at entry fix. Format: hhmm (time: hours, minutes).
MACH	Mach number requested for cruise. Format: two numeric characters.
FLIGHT LEVEL	Altitude requested at entry fix. Format: 1 - 3 numeric characters.
SEND*	Select is only available if all required fields are filled. Selection queues Oceanic Clearance Request message for downlinking.

OCEANIC CLX RQ (cont)

OCEANIC CLX RQ (2/2)
Figure 62

REMARKS	Free text. Format: 1 - 24 characters of free text/line (two lines).
SEND*	Select is only available if all required fields are filled. Selection queues Oceanic Clearance Request message for downlinking.

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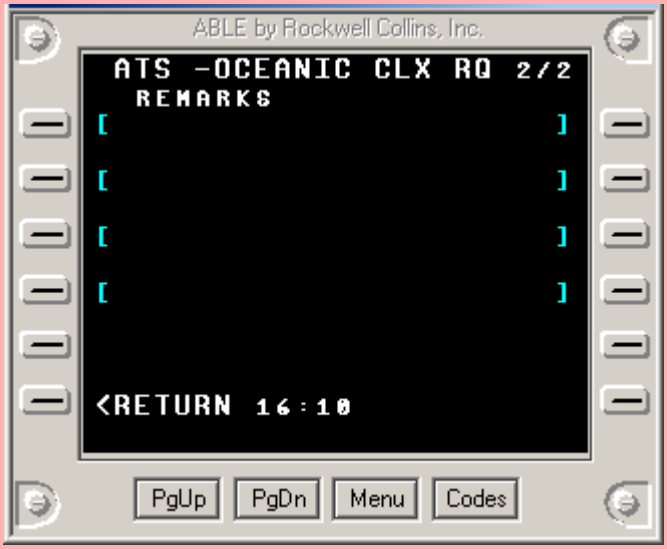
Insert this addendum sheet facing page 96

The illustration below replaces the illustration titled OCEANIC CLX RQ (2/2).



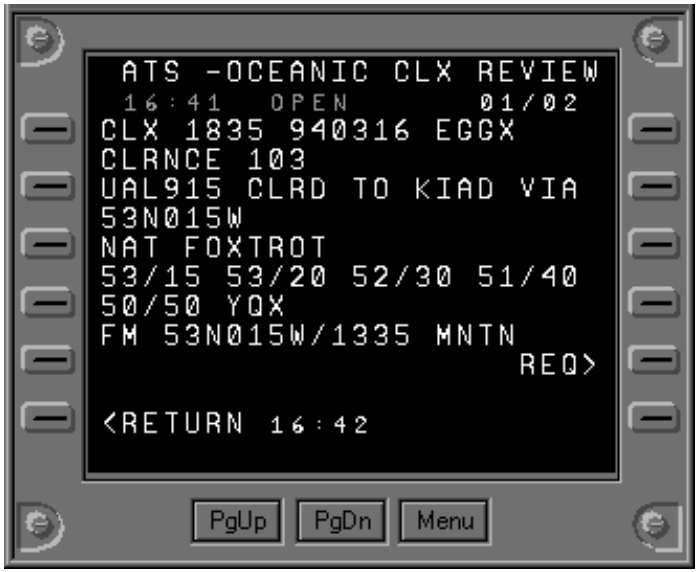
The text that follows replaces the text under the caption Figure 62.

REMARKS	Free Text. Format: 1-24 characters of free text/line (four lines).

OCEANIC CLX REVIEW

The OCEANIC CLX REVIEW page allows the operator to view/accept the selected Oceanic Clearance Report message. This page is accessible from the ATIS MENU if an Oceanic Clearance Report has been received, and, when available, via the OCEAN CLX active advisory.

The total number of pages is dependent on the message size.



OCEANIC CLX REVIEW (1/2)
Figure 63

Time	UTC time when message was received.
Status	Message status. Range: NEW Clearance has not been viewed. OPEN At least one page of the clearance has been displayed. VIEWED All pages of the clearance have been displayed. ACCEPTED Clearance has been accepted.
Text	Displays Oceanic Clearance Uplink Message text.

OCEANIC CLX REVIEW (cont)

ACCEPT/PRINT	This select cycles between two modes as follows: *ACCEPT Select is available only if displayed Oceanic Clearance Report message has OPEN status (i.e., not previously accepted). Selection queues Oceanic Clearance Readback Message for downlinking, marks message status as ACCEPTED, and cycles to PRINT. *PRINT Select is available if message status is ACCEPTED. Selection queues Oceanic Clearance Message for printing.
REQ	Selection displays OCEANIC CLX RQ page.

TWIP RQ

The TWIP RQ page allows the operator to send a TWIP Request message. This page is accessible from the ATS MENU or the TWIP REVIEW page.

The auto update TWIP request message will inform the ground service provider that TWIP reports should be delivered to the airplane as they are updated. Selecting/sending the START AUTO-UPDATES reporting mode starts the automatic updates. Selecting/sending the STOP AUTO-UPDATES reporting mode terminates the automatic updates. Not all airports support the automatic update features.

TWIP RQ
Figure 64

AIRPORT	Airport of interest. Format: 3 - 4 alpha-numeric characters. Default: Departure station before the OFF event. Destination station after the OFF event.
REPORTING MODE	Reporting mode. Selection will step through the following list: SINGLE REPORT, START AUTO-UPDATES, STOP AUTO-UPDATES.

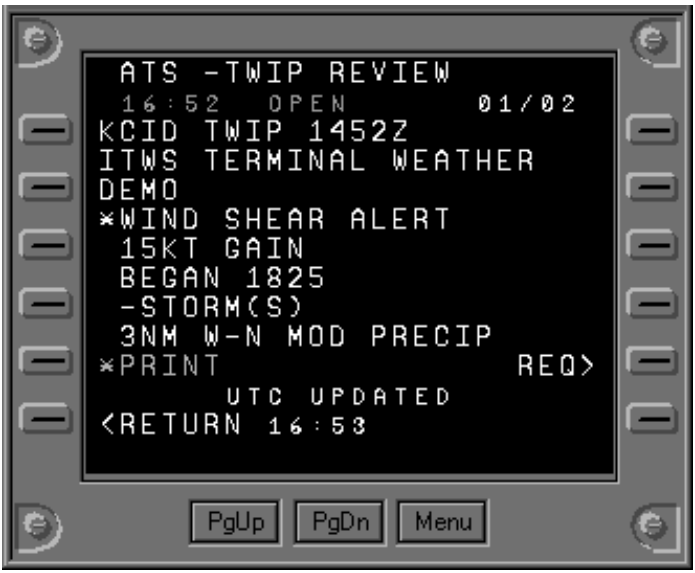
TWIP RQ (cont)

PRESENTATION	Requests text or graphics presentation of TWIP report. Selection will toggle between TEXT and GRAPHICS.
SEND*	Selection available only if all required fields are filled. Selection queues appropriate TWIP Request message for downlinking.

TWIP REVIEW

The TWIP REVIEW page allows the operator to view the selected TWIP Report message. This page is accessible from the ATS MENU if a TWIP Report message has been received, and, when available, via the TWIP active advisory.

The total number of pages is dependent on the message size.



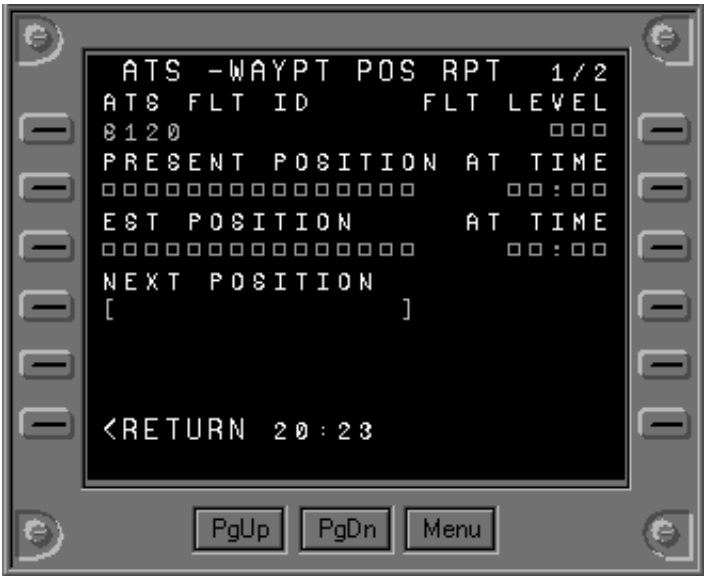
TWIP REVIEW
Figure 65

Time	UTC time when message was received.
Status	Message status. Range: NEW Message has not been viewed. OPEN At least one page of the message has been displayed. VIEWED All pages of the message have been displayed.
Text	Displays TWIP Report Uplink Message text.
PRINT	Select is available if printer is connected and functional. Selection queues TWIP Message to be printed.
REQ	Selection displays TWIP RQ page.

WAYPT POS RPT

The WAYPT POS RPT page allows the operator to send the selected Waypoint Position Report message. After selecting SEND, the WAITING FOR ACK advisory is displayed until the message is confirmed as delivered to the ground. Only one waypoint position report message is allowed to be outstanding at a time. If a message is not delivered within 8.5 minutes, nominal, the VOX WAYPT active advisory is shown. This advisory alerts the crew to contact ATS using voice.

Any latitude/longitude entries will be reformatted to match the downlink message format. The message format is in the form of latitude (followed by N (north) or S (south)) then by the longitude (followed by E (east) or W (west)). For example, a correct entry format would be 45N135W.



WAYPT POS RPT (1/2)
Figure 66

ATS FLT ID — ATS flight identifier. Default data may be available.
Format: 2 - 7 alpha-numeric characters.

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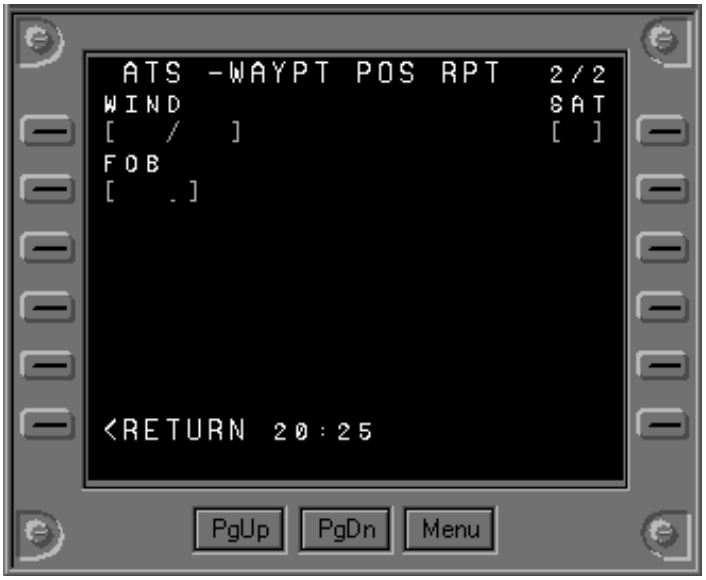
The information (text and illustration) on this page is deleted.

WAYPT POS RPT (cont)

FLT LEVEL	Crossing altitude at PRESENT POSITION. Format: 1 - 3 numerical characters.
PRESENT POSITION	Present position, (latitude/longitude, waypoint, or Navaid ID). Format: See description above.
AT TIME	Time when at PRESENT POSITION. Format: hhmm (time: hours, minutes).
EST POSITION	Estimated first following position, (latitude/longitude,waypoint, or Navaid ID). Format: see description above.
AT TIME	Estimated time when at EST POSITION. Format: hhmm (time: hours, minutes).
NEXT POSITION	Second following position, (latitude/longitude,waypoint, or Navaid ID). Format: see description above.
SEND*	Selection available only if all required fields are filled. Selection queues Waypoint Position Report message for downlinking.

WAYPT POS RPT (cont)



WAYPT POS RPT (2/2)
Figure 67

WIND (DIR/SPD)	Wind direction and speed. Format: numeric characters in nnn[/]nnn, with the first three numbers for direction having a range from 000 to 359, followed by an optional [/], then by 1 - 3 numbers for speed.
SAT	Saturated air temperature. Format: optional sign + or – followed by 1 or 2 numbers. If no sign is used, it is assumed to be positive.
FOB	Current fuel on board. Format: nnn[.]n (1 - 4 numeric characters, decimal is optional). Default: Latest FOB from broadcast bus, if available.

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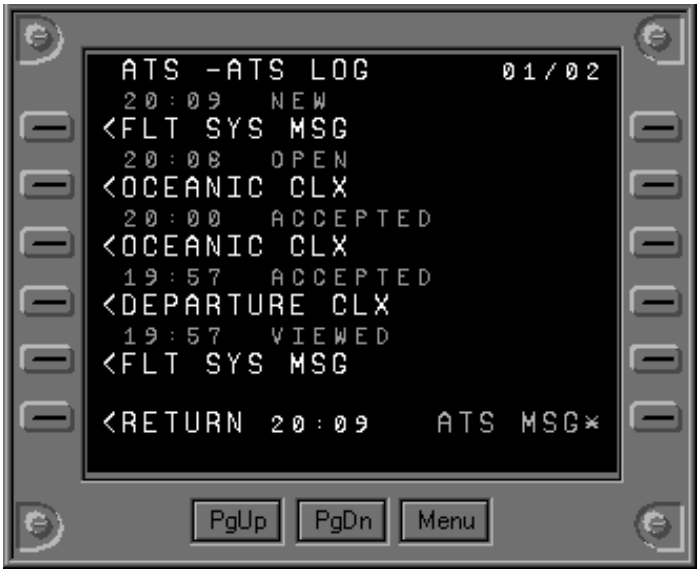
The information (text and illustration) on this page is deleted.

ATS LOG

The ATS LOG page allows the operator to view a list of uplinked Departure Clearance, Oceanic Clearance, and Flight System messages, and select an individual message for viewing. This page is accessible from the ATS MENU and the AOC MENU page.

Up to 25 message titles can be listed on these pages.

The messages on this queue are purged on transition to the start of a new flight leg.



ATS LOG
Figure 68

Time stamp — UTC time when message was received.

View Status — For Departure or OCEANIC Clearance Report messages:

NEW Clearance has not been viewed.

OPEN At least one page of the clearance has been displayed.

VIEWED All pages of the clearance have been displayed.

ACCEPTED Clearance has been accepted.

ATS LOG (cont)

View Status (cont)	For Flight System Messages: NEW Message has not been viewed. OPEN At least one page of the message has been displayed. VIEWED All pages of the message have been displayed.
Message title	DEPART CLX Departure Clearance report. OCEANIC CLX Oceanic Clearance Report. FLT SYS MSG Flight System Message. The message title will default to the first 16 characters of the uplink message if any unknown labels or message format errors are found.

FLT SYS REVIEW

The FLT SYS REVIEW page allows the operator to view/accept a selected Flight System Message. This page is accessible from the ATS LOG page if there is a Flight System Message and, when available, via the ATS MSG active advisory.

FLT SYS REVIEW
Figure 69

Time	UTC time when message was received.
Status	Message status. Range: NEW Message has not been viewed. OPEN At least one page of the message has been displayed. VIEWED All pages of the message have been displayed.
Text	Displays Flight System uplink message text lines.
PRINT	Selection queues Flight System Message to be printed. This select is available only when a printer is connected and functioning properly.

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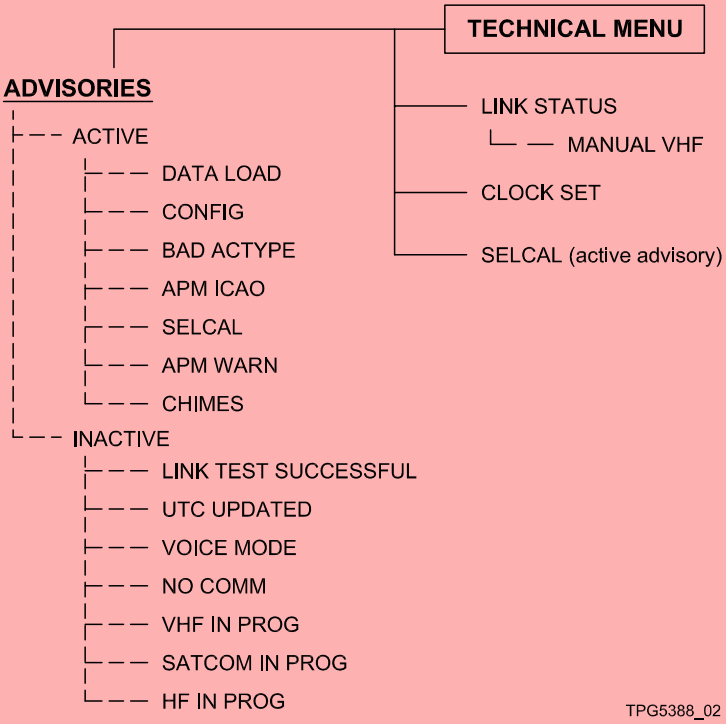
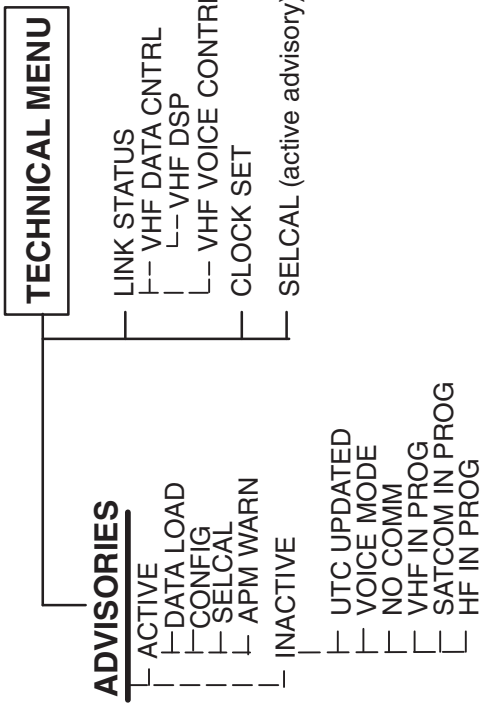
Insert this addendum sheet facing page 109

The illustration below replaces the illustration titled ACARS – System Menu Tree (Technical).



ACARS - System Menu Tree (Technical)



ACARS - System Menu Tree (Technical)
Figure 70

TECHNICAL MENU

The TECHNICAL MENU is the initial Technical application page. This menu provides access to functions such as diagnostics, link maintenance, and other functions not normally accessed during a flight leg.

TECHNICAL MENU
Figure 71

NOTE: This pilot's guide only discusses Technical Application pages which are regularly used by the crew. All other pages are normally used only during installation and maintenance. See the Software Requirements Specification for display pages not covered in this guide.

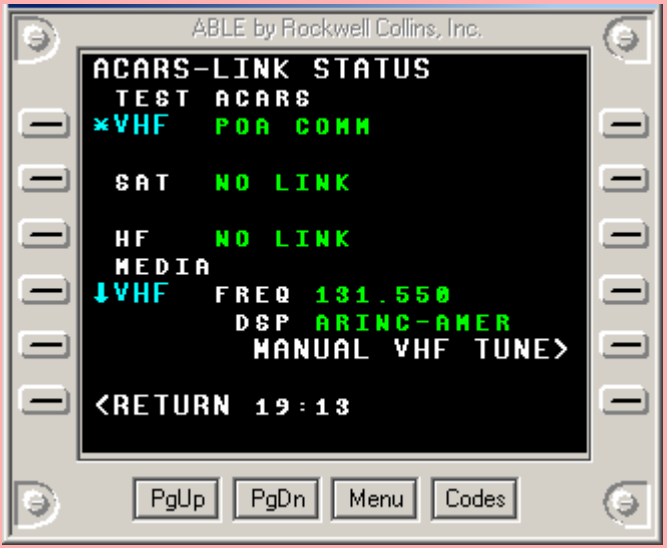
LINK STATUS — Selection displays the LINK STATUS page. Refer to Figure 72.

CLOCK SET — Selection displays the CLOCK SET page. Refer to Figure 76.

ACARS VHF	Displays the current VHF ACARS status. The status legend will be one of the following: • NO LINK – no ACARS datalink service available • POA SCAN – POA frequency search in progress • VDL SCAN – VDL service is available, but not established for AOA link support • VDL LINK – VDL service is established for AOA link support • POA COMM – ACARS established and using POA service • AOA COMM – ACARS established and using AOA service • VOICE – Data unit is in voice suspension
ACARS SATCOM	Displays the current SATCOM ACARS status. The status legend will be one of the following: • NO LINK – data unit is logged off • LINK UP – data unit is logged on • POA COMM – ACARS is established using POA service
ACARS HF	Displays the current HF ACARS status. The status legend will be one of the following: • NO LINK – data unit is logged off • LINK UP – data unit is logged on • POA COMM – ACARS is established using POA service
MANUAL VHF TUNE	Select is available when ACARS status is not NO LINK or VOICE Selection displays the MANUAL VHF page.

Insert this addendum sheet facing page 111

The illustration and text below replace the existing illustration and text after the paragraph under the heading **LINK STATUS**.



VHF	Select is available when either VHF or VDR is configured. Selection initiates a VHF link test.
SAT	Select is available when SATCOM is present. Selection initiates a SATCOM link test.
HF	Select is available when HF is present. Selection initiates a HF link test.
MEDIA	When VHF is selected, displays current frequency and datalink service provider.

LINK STATUS

The LINK STATUS page provides information about the current status of each existing communication medium as well as the ability to perform a link test for each communication medium. This page is accessible as shown on the TECHNICAL MENU page.

LINK STATUS
Figure 72

TEST	Selection initiates a VHF link test. Test is successful if STATE changes to IN COMM.
TEST	Select is available when SATCOM is present. Selection initiates a SATCOM link test.
TEST	Select is available when HF is present. Selection initiates an HF link test.
STATE (VHF)	Current operational state. Range: VHF VOICE System is in voice mode. SCAN System is searching for a data-link. IN COMM System has established a data-link. AUTOTUNE System has been autotuned to an alternate frequency.

LINK STATUS (cont)

STATE (SATCOM, HF)	Range: LOGD ON System is logged on. LOGD OFF System is logged off. IN COMM System has established a data-link.
STATUS	Current medium status. Range: IDLE No uplink or downlink messages currently in progress. UP MSG Uplink message reception currently in progress. DOWN MSG Downlink message transmission currently in progress. UP/DOWN MSG Uplink message and downlink message currently in progress.
AAA...AAA	The select shows: VHF DATA CNTRL while in data mode. VHF VOICE CNTRL while in voice mode. Selection displays VHF DATA CNTRL or VHF VOICE CNTRL page, respectively.

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Insert this addendum sheet facing page 113

The information (text and illustration) on this page is deleted.

VHF DATA CNTRL

The VHF DATA CNTRL page provides control functions for the VHF communication medium while in data mode. This page is accessible as shown on the LINK STATUS page. This page is replaced by the VHF VOICE CNTRL page if the system switches to voice mode.

VHF DATA CNTRL
Figure 73

CURR DSP — Current VHF Datalink Service Provider identity.
Range:

Displayed Text	Description
ARINC-AMER	ARINC Americas
SITA	SITA
SITA-PACIFC	SITA Pacific
TEST-(BON)	SITA at Boeing
AVICOM-JAPN	Japan
SITA-N AMER	SITA, North America
ARINC-THAI	ARINC Thailand
TEST (AS)	SITA at Aerospatiale-Toulouse
TEST (BOS)	SITA at Boeing - Long Beach
ARINC-EUR	ARINC Europe

VHF DATA CNTRL (cont)

CURR FREQ	Displays current VHF data frequency. Range: 118.000 to 136.970 MHz.
GOTO VOICE	Select availability is dependent upon program pins and aircraft fleet type. Selection swaps primary and standby frequencies, loads new voice frequency into primary, and requests voice mode. A pause may occur if system is sending/receiving a message. Selection is not available for the A750 VDR radio interface operating Mode A.
VOICE FREQ	Changes current VHF voice frequency. Range: 118.00 to 136.97 MHz. Format: 5 or 6 digit frequency is entered without the decimal point.
STATE	Current VHF Operational state. Range: VOICE System is in voice mode. SCAN System is searching for a data-link. IN COMM System has established a data-link. AUTOTUNE System has been autotuned to an alternate frequency.
STATUS	Current VHF link status. Range: IDLE No uplink or downlink messages currently in progress. UP MSG Uplink message reception currently in progress. DOWN MSG Downlink message transmission currently in progress. UP/DOWN MSG Uplink and downlink message currently in progress.
TEST	Selection initiates a VHF link test.
SELECT DSP	Selection displays VHF DSP page.

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Insert this addendum sheet facing page 114

The information (text and illustration) on this page is deleted.

Insert this addendum sheet facing page 115

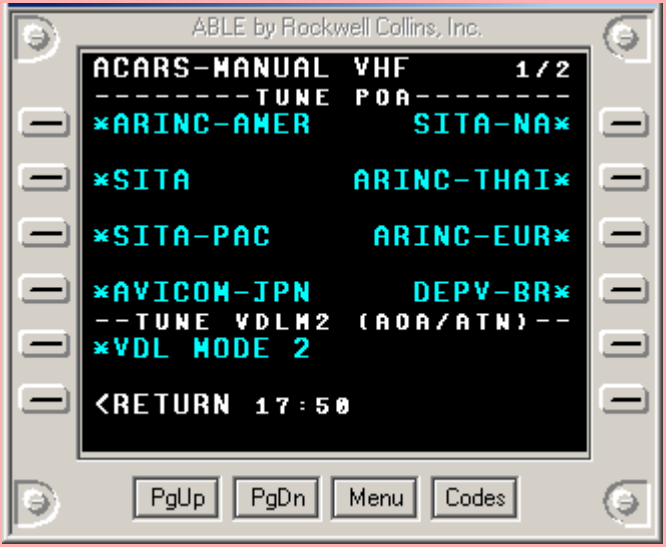
The following information replaces the existing information on the page.

MANUAL VHF

The MANUAL VHF page provides the operator access to all Datalink Service Providers (DSP) included in the scan algorithm. This page is accessible as shown on the LINK STATUS page.

Since the CMU automatically establishes and maintains the media and service, it is not generally necessary for the crew to use the functions on this page. As time goes on DSPs may be added or deleted.

The TUNE POA list is controlled by the AOC and/or the airline ground host computer.



ARINC-AMER — Selection displays the LINK STATUS page and requests that ARINC-Americas be scanned as soon as possible, then returns to the LINK STATUS page.

VHF DSP

The VHF DSP page provides the operator access to all Datalink Service Providers included in the scan algorithm. This page is accessible as shown on the VHF DATA CNTRL page.

Since setting the DSP list is generally an installation or maintenance function, and ACARS automatically scans this list, it is not generally necessary for the crew to use the functions on this page. During normal operation, the link with an appropriate DSP will be automatically initiated and maintained.

Future releases of the Datalink software will include new providers as they become available. Providers that are no longer available will be deleted.

All selections may not be displayed as shown below. Individual providers are made available via a command issued by the AOC Application.

VHF DSP
Figure 74

ARINC-AMER	Selection displays the VHF DATA CNTRL page and requests that ARINC-Americas be scanned as soon as possible.
SITA-N AMER	Selection displays the VHF DATA CNTRL page and requests that SITA, North America be scanned as soon as possible.

VHF DSP (cont)

SITA	Selection displays the VHF DATA CNTRL page and requests that SITA be scanned as soon as possible.
ARINC-THAI	Selection displays the VHF DATA CNTRL page and requests that ARINC-THAI be scanned as soon as possible.
SITA-PACIFC	Selection displays the VHF DATA CNTRL page and requests that SITA-Pacific be scanned as soon as possible.
TEST (AS)	Selection displays the VHF DATA CNTRL page and requests that SITA at Airbus be scanned as soon as possible.
TEST (BON)	Selection displays the VHF DATA CNTRL page and requests that SITA at Boeing be scanned as soon as possible.
TEST (BOS)	Selection displays the VHF DATA CNTRL page and requests that SITA at Boeing - Long Beach be scanned as soon as possible.
AVICOM-JAPN	Selection displays the VHF DATA CNTRL page and requests that AVICOM - Japan be scanned as soon as possible.
ARINC-EUR	Selection displays the VHF DATA CNTRL page and requests that ARINC-EUR be scanned as soon as possible.

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The following information replaces the existing information on the page.

SITA	Selection displays the LINK STATUS page and requests that SITA be scanned as soon as possible, then returns to the LINK STATUS page.
SITA-PAC	Selection displays the LINK STATUS page and requests that SITA-Pacific be scanned as soon as possible, then returns to the LINK STATUS page.
AVICOM-JPN	Selection displays the LINK STATUS page and requests that AVICOM-Japan be scanned as soon as possible, then returns to the LINK STATUS page.
SITA-NA	Selection displays the LINK STATUS page and requests that SITA-North America be scanned as soon as possible, then returns to the LINK STATUS page.
ARINC-THAI	Selection displays the LINK STATUS page and requests that ARINC-Thailand be scanned as soon as possible, then returns to the LINK STATUS page.
ARINC-EUR	Selection displays the LINK STATUS page and requests that ARINC-Europe be scanned as soon as possible, then returns to the LINK STATUS page.
DEPV-BR	Selection displays the LINK STATUS page and requests that DEPV-Brazil be scanned as soon as possible, then returns to the LINK STATUS page.
VDL MODE 2	Select is available when a mode 2 VDR is available. Selection causes CMU to attempt VDL Mode 2 on the common signaling channel (CSC) as soon as possible, then returns to the LINK STATUS page.

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The information (text and illustration) on this page is deleted.

VHF VOICE CNTRL

The VHF VOICE CNTRL page provides control functions for the VHF communication medium while in voice mode. This page is accessible from the LINK STATUS page.

This page is replaced by the VHF DATA CNTRL page if the system switches to data mode. Not available when VHF mode controller is engaged or when an A750 VDR is detected.

VHF VOICE CNTRL
Figure 75

VOICE FREQ	Current tuned frequency.
STANDBY FREQ	Standby voice frequency. Format: 5 or 6 digit frequency is entered without the decimal point. Range: 118.000 to 136.970 MHz.
TUNE STANDBY FREQ	Swaps standby and current frequencies. Select is only available if STANDBY FREQ is filled.
GOTO DATA	Selection requests switch to data mode.

CLOCK SET

The CLOCK SET page provides access to the MU system clock and the ground network system time. This page is accessible as shown on the TECHNICAL MENU.

A clock advisory downlink is queued anytime the internal clock is modified by a period of 60 seconds (nominal) or more.

CLOCK SET
Figure 76

HHMMSS	Selection sets the system clock time. Enter a 6-digit time of the format HHMMSS. Select is only available when the aircraft is in the IN state and ACARS is NO COMM.
DDMMYY	Selection sets the system clock date. Enter a 6-digit date of the format DDMMYY. Select is only available when the aircraft is in the IN state and ACARS is NO COMM.
GROUND REQ	Select is available when system is in communications with the ground. Selection queues a UTC Clock Update Request message. The UTC Clock Update response uplink will synchronize the system time with the ground system time.

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The following information replaces the existing information on the page.

SELCAL

This page shows the contents of the SELCAL uplink message. This page is accessible via the SELCAL active advisory.

VOICE FREQ	Frequency given within uplink message. Range: 118.000 to 136.975.

SELCAL

This page shows the contents of the SELCAL uplink message. This page is accessible via the SELCAL active advisory.

Reception of a SELCAL uplink with a valid voice frequency causes the primary voice frequency to be swapped into the standby frequency, and the uplinked voice frequency to be loaded into the primary voice frequency. A switch into voice mode following the reception of a SELCAL message tunes to the uplinked frequency.

This page is replaced by the VHF VOICE CNTRL page if the system switches to voice mode.

SELCAL
Figure 77

VOICE FREQ	Frequency given within uplink message. Range: 118.000 to 136.970 MHz.
GOTO VOICE	Selection requests switch to voice mode at the VOICE FREQ shown. Not displayed if voice/data switching is not enabled.

NOTE: The switch to voice mode is delayed until the system is done sending or receiving data.

Rockwell Collins

May 4, 2004

TO: HOLDERS OF THE COLLINS DLM-900/CMU-900 Data Link Management and Communications Management Units Pilot's Guide (CPN 523-0780471-101117)

Addendum 2 Applicability

This addendum adds information on the CMU-4000 to the existing DLM/CMU-900 Pilot's Guide.

The CMU-4000 application is identified by viewing the APPLICATION MENU page.The CMU-4000 can be identified by the "DL" in the upper left corner of the APPLICATION MENU page, which is the primary CMU-4000 page and can be displayed by repeatedly pushing the RETURN line select key (6L).

Rockwell Collins

This addendum identifies differences in operations and displays between the CMU-4000 and the DLM/CMU-900.

Addendum 2 Instructions

The title of the DLM/CMU-900 Pilot's Guide is amended to read DLM/CMU-900/CMU-4000 Data Link Management and Communications Management Units Pilot's Guide.

Insert the entire addendum intact just before the back cover. Retain this cover letter in the front of the book immediately before the Record of Revisions.

Retain this letter of transmittal for future reference in accordance with the instructions.

TECHNICAL OPERATIONS

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 1 of the original guide.

The following information is added to the guide following the fourth paragraph under the heading **Introduction.**

The CMU-4000 performs the same basic ACARS functions as the DLM-900 and CMU-900, but is designed to meet the requirements of regional airline aircraft. Like the CMU-900, the CMU-4000 also provides advanced features such as high speed VHF Digital Link (VDL Mode 2) and can host Controller Pilot Data Link Communications (CPDLC) applications. Unless otherwise noted in this addendum, all information in this guide pertaining to the Rockwell Collins Standard AOC application is applicable to the CMU-4000.

The specific differences include the display of "DL" instead of "ACARS" in the upper left corner of the MCDU display. The DL appears on all AOC application pages. Additionally the TECHNICAL applications pages reflect the input/output design of the CMU-4000.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 3 of the original guide.

The illustration below replaces the illustration on the page.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 7 of the original guide.

The text that follows replaces the existing text.

Active Advisories

DATALOAD

This active advisory confirms that a data loader is properly connected to the CMU and is ready to load new software, and the DATALOAD CONFIRM page is not being displayed. Selection of the advisory displays the DATALOAD CONFIRM page, which allows the user to either "PROCEED WITH DATALOAD" or "IGNORE DATALOAD".

CONFIG

This active advisory alerts the user that either the APM airline ID and/or registration number is not available, and the IDENT BLK PGM page is not being displayed. Selection of the advisory displays the IDENT BLK PGM page 1, which allows the user to enter the appropriate information (AIRLINE ID and/or REG NUM) and program the APM.

BAD ACTYPE

This active advisory alerts the user that the APM aircraft type is not supported by the core software, and the IDENT BLK PGM page is not being displayed. Selection of the advisory displays the IDENT BLK PGM page 1, which allows the user to select the appropriate AC TYPE.

APM ICAO

This active advisory alerts the user that the APM status is INDETERMINATE meaning the programmed ICAO address is in conflict with XPDR broadcast ICAO address parameter, and the IDENT BLK PGM page is not being displayed. Selection of the advisory displays the IDENT BLK PGM page 2, which allows the user to enter the appropriate ICAO ADDR.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 8 of the original guide.

The following text replaces the heading **APM WARN (CMU-900 only)** and the accompanying paragraph.

SELCAL

This active advisory alerts the user that a SELCAL (Voice Go-Ahead) uplink message has been received, and the SELCAL page is not being displayed. Selection of the advisory displays the SELCAL page, which shows the VHF frequency to be tuned. The advisory is reset when the VHF mode has changed to voice from data since the uplink has been received.

APM WARN

This active advisory alerts the user that the APM status is FAILED, meaning the APM is absent or failed, and this advisory has not been selected since the last CMU power-up. Selection clears the advisory.

CHIMES

This active advisory alerts the user that an AOC application has been responsible for activating the chimes four times within a 60 second window and is now prohibited from any further chime activation until power has been cycled to the CMU. Selection of the advisory displays the CHIMES SUPPRESSED page, which names the offending AOC application and clears the advisory.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 10 of the original guide.

The heading **VOX WAYPT** and the accompanying paragraph are deleted.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 13 of the original guide.

The following text is added immediately after the heading **Inactive Advisories**.

LINK TEST SUCCESSFUL

This inactive advisory confirms that a link test has been successful. It is displayed for approximately ten seconds.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 14 of the original guide.

The following text is added to the guide. It does not replace the existing text.

Visual/Aural Annunciations (CMU-4000)

The CMU-4000 provides status information to external devices such as an EICAS computer. Based on this status information, these devices may cause the display of certain messages on a forward display in the cockpit. Since these devices, displays, and messages differ (depending on aircraft type and configuration), refer to the specific guide for the appropriate aircraft and device for descriptions of these types of visual annunciations.

The CMU-4000 provides an aural tone/chime that will be played under certain circumstances. The following is a list of events that will cause the chime to be played.

The chimes may be activated by:

- Manual selection via the CHIMES page in the Technical Application. This is a test of the chime tone and is a maintenance function.

- Activation of the CONFIG advisory, indicating that data such as Airline ID or Registration Number must be entered. This is generally a maintenance function and should not occur during normal operation.

- Activation of the SELCAL advisory, indicating that a SELCAL (Voice Go-Ahead) message has been received from the ground.

- Activation of the DATALOAD advisory, indicating that a data loader is connected to the CMU-4000 and is ready to load software. This is a maintenance function and should not occur during normal operation.

  Successful completion of a VHF, SATCOM, or HF link test.

- Activation of the DEP CLX advisory, indicating that a Departure Clearance message has been received from the ground.

- Activation of the OCEAN CLX advisory, indicating that an Oceanic Clearance message has been received from the ground.

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TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 16 of the original guide.

The following table replaces the table under the heading COLORS.

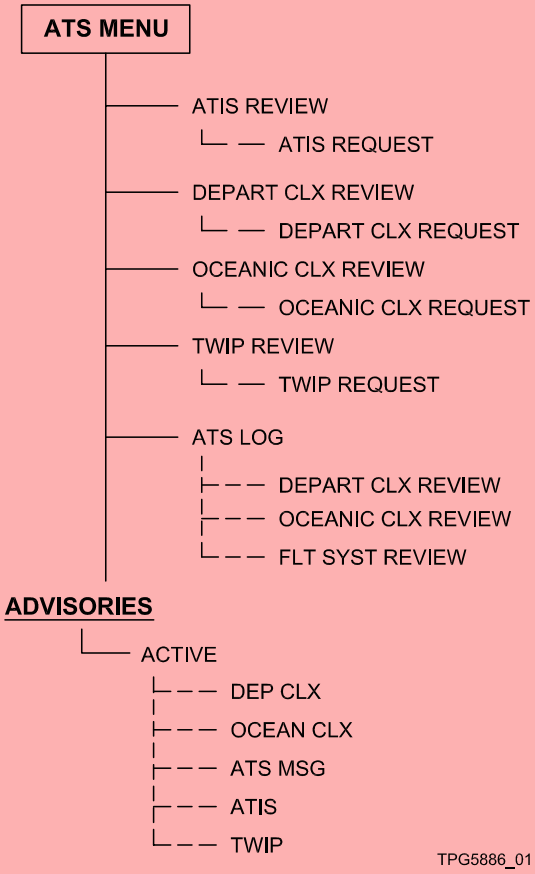
COLOR	DESCRIPTION
White	User-entered data, machine-supplied data, scratchpad entry and errors, page selects, inactive advisories, time, and manual user entry (promt boxes)
Cyan	Page titles, field titles, page numbers, active advisories, function calls, and optional user entry (brackets)
Green	Select lists
Note: The colors listed above are applicable to the RJ-700, RJ-900, and RJ-200 aircraft types.	

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 83 of the original guide.

The illustration below replaces the illustration titled ACARS – System Menu Tree (ATS).



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Part Number 523-0780471-101117, 1st Edition, 1st Revision
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This addendum sheet applies to page 84 of the orginal guide.

The illustration below replaces the illustration on the page.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
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This addendum sheet applies to page 85 of the original guide.

The WAYPT POS RPT entry and the accompanying text are deleted from the page.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 91 of the original guide.

The illustration below replaces the illustration titled DEPART CLX RQ (2/2).

The text that follows replaces the text under the caption Figure 59.

REMARKS	Free Text. Format: 1-24 characters of free text/line (four lines).

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

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This addendum sheet applies to page 96 of the original guide.

The illustration below replaces the illustration titled OCEANIC CLX RQ (2/2).

The text that follows replaces the text under the caption Figure 62.

REMARKS	Free Text. Format: 1-24 characters of free text/line (four lines).

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
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This addendum sheet applies to page 102 of the original guide.

The heading **WAYPT POS RPT** and the accompanying text and illustration on this page are deleted.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
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This addendum sheet applies to page 103 of the original guide.

The text on this page is deleted.

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Part Number 523-0780471-101117, 1st Edition, 1st Revision
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This addendum sheet applies to page 104 of the original guide.

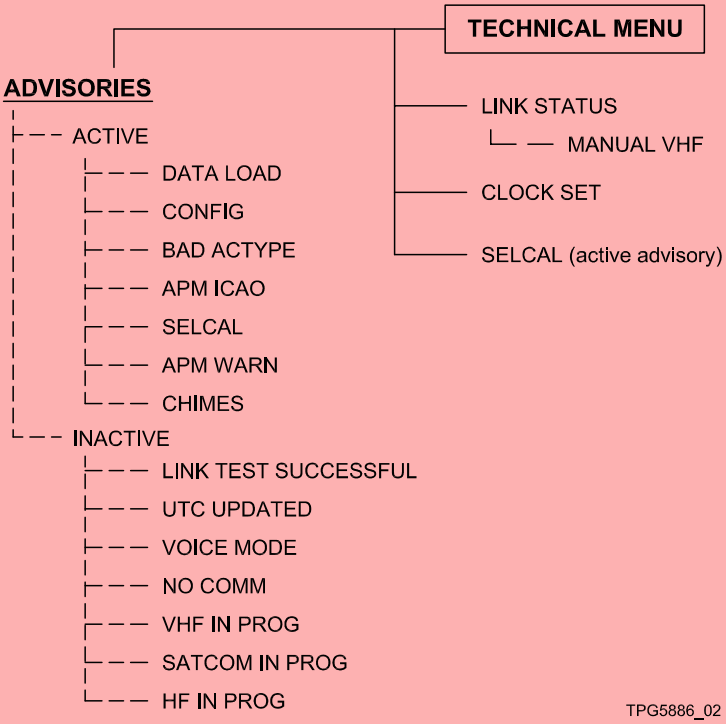
The heading **WAYPT POS RPT (cont)** and the accompanying text and illustration on this page are deleted.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
Dated 18 May 00

This addendum sheet applies to page 109 of the original guide.

The illustration below replaces the illustration titled ACARS – System Menu Tree (Technical).



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Part Number 523-0780471-101117, 1st Edition, 1st Revision
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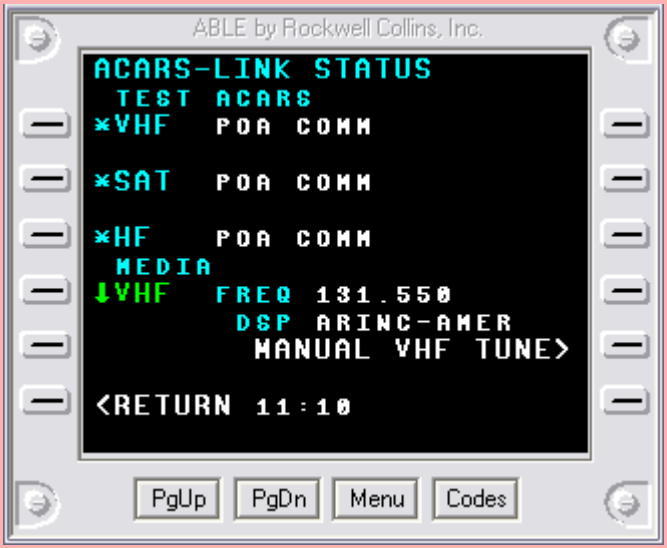
This addendum sheet applies to page 111 of the original guide.

The illustration and text below replace the illustration and text after the paragraph under the heading **LINK STATUS**.



VHF	Select is available when either VHF or VDR is configured. Selection initiates a VHF link test.
SAT	Select is available when SATCOM is present. Selection initiates a SATCOM link test.
HF	Select is available when HF is present. Selection initiates a HF link test.
MEDIA	When VHF is selected, displays current frequency and datalink service provider.

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TO
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Part Number 523-0780471-101117, 1st Edition, 1st Revision
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This addendum sheet applies to page 112 of the original guide.

The following text replaces all of the text on the page.

ACARS VHF	Displays the current VHF ACARS status. The status legend will be one of the following: • NO LINK – no ACARS datalink service available • POA SCAN – POA frequency search in progress • VDL SCAN – VDL service is available, but not established for AOA link support • VDL LINK – VDL service is established for AOA link support • POA COMM – ACARS established and using POA service • AOA COMM – ACARS established and using AOA service • VOICE – Data unit is in voice suspension
ACARS SATCOM	Displays the current SATCOM ACARS status. The status legend will be one of the following: • NO LINK – data unit is logged off • LINK UP – data unit is logged on • POA COMM – ACARS is established using POA service
ACARS HF	Displays the current HF ACARS status. The status legend will be one of the following: • NO LINK – data unit is logged off • LINK UP – data unit is logged on • POA COMM – ACARS is established using POA service
MANUAL VHF TUNE	Select is available when the VHF ACARS status is POA scan, POA comm, POA autotune, VDL scan and when a VDL link is established but ATN services are not available and VHF ATN is not ATN comm.

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Part Number 523-0780471-101117, 1st Edition, 1st Revision
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This addendum sheet applies to page 113 of the original guide.

The heading **VHF DATA CNTRL** and the accompanying text and illustration on this page are deleted.

ADDENDUM 2
TO
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Part Number 523-0780471-101117, 1st Edition, 1st Revision
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This addendum sheet applies to page 114 of the original guide.

The heading **VHF DATA CNTRL (cont)** and the accompanying text on this page are deleted.

This addendum sheet applies to page 115 of the original guide.

The following information replaces the existing information on the page.

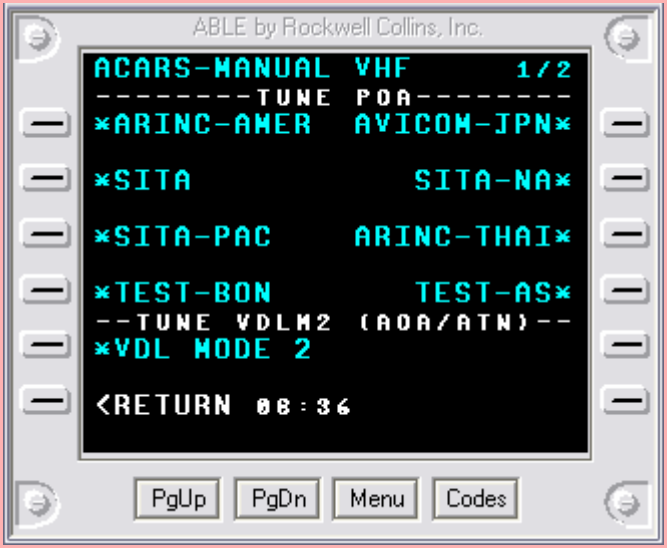
MANUAL VHF

The MANUAL VHF page provides the operator access to all Datalink Service Providers (DSP) included in the scan algorithm. This page is accessible as shown on the LINK STATUS page.

Note: Upon power up, the CMU-4000, by default, displays only the ARINC-AMER and SITA on this page. However, additional DSPs can be enabled through the VHF SCAN page.

Since the CMU automatically establishes and maintains the media and service, it is not generally necessary for the crew to use the functions on this page. As time goes on DSPs may be added or deleted.

The TUNE POA list is controlled by the AOC and/or the airline ground host computer.



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This addendum sheet applies to page 116 of the original guide.

The following information replaces the existing information on the page.

ARINC-AMER	Selection displays the LINK STATUS page and requests that ARINC-Americas be scanned as soon as possible, then returns to the LINK STATUS page.
SITA	Selection displays the LINK STATUS page and requests that SITA be scanned as soon as possible, then returns to the LINK STATUS page.
SITA-PAC	Selection displays the LINK STATUS page and requests that SITA-Pacific be scanned as soon as possible, then returns to the LINK STATUS page.
AVICOM-JPN	Selection displays the LINK STATUS page and requests that AVICOM-Japan be scanned as soon as possible, then returns to the LINK STATUS page.
SITA-NA	Selection displays the LINK STATUS page and requests that SITA-North America be scanned as soon as possible, then returns to the LINK STATUS page.
ARINC-THAI	Selection displays the LINK STATUS page and requests that ARINC-Thailand be scanned as soon as possible, then returns to the LINK STATUS page.
ARINC-EUR	Selection displays the LINK STATUS page and requests that ARINC-Europe be scanned as soon as possible, then returns to the LINK STATUS page.
DEPV-BR	Selection displays the LINK STATUS page and requests that DEPV-Brazil be scanned as soon as possible, then returns to the LINK STATUS page.
VDL MODE 2	Select is available when a mode 2 VDR is available. Selection causes CMU to attempt VDL Mode 2 on the common signaling channel (CSC) as soon as possible, then returns to the LINK STATUS page.

ADDENDUM 2
TO
COLLINS DLM-900/CMU-900 DATA LINK MANAGEMENT AND COMMUNICATIONS MANAGEMENT UNITS PILOT'S GUIDE

Part Number 523-0780471-101117, 1st Edition, 1st Revision
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This addendum sheet appliest to page 117 of the original guide.

The heading **VHF VOICE CNTRL** and the accompanying text and illustration on this page are deleted.

This addendum sheet applies to page 119 of the original guide.

The following information replaces the existing information on the page.

SELCAL

This page shows the contents of the SELCAL uplink message. This page is accessible via the SELCAL active advisory.

VOICE FREQ — Frequency given within uplink message. Range: 118.000 to 136.975.

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Air Transport Systems
Rockwell Collins, Inc.
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