# MAINTENANCE

Menu Navigation: UNILINK MENU > MAINTENANCE

Maintenance pages are used to access UniLink maintenance related functions. No operation-related functions are performed on this page or subpages. Operational tests can be conducted via the TESTS option.

From the UniLink Menu, press MAINTENANCE, LSK [4L]. The MAINTENANCE 1/3 page will display.

**<u>NOTE</u>**: See the associated UniLink Installation Manual for installation and maintenance procedures.



# Tests

Menu Navigation: UNILINK MENU > MAINTENANCE > TESTS

There are several tests available to exercise the functionality of UniLink. They include PRINTER Test, IMAGE Test, UniLink SELF-TEST, PTT (UL-801 only), FANS ALERTS, and UPLINK Test.

Press TESTS, LSK [2R] on the MAINTENANCE page to display the TESTS page.



## **Printer Test**

Menu Navigation: UNILINK MENU > MAINTENANCE > TESTS > PRINTER

If a printer is connected and configured, selection of PRINTER, LSK [1L] will send test message text to the printer. If there is no printer configured, the PRINTER option will not be displayed.

When PRINTER is selected, a pop-up window PRINTER TEST IN PROGRESS is displayed. When complete, the pop-up window will no longer display.

The following will be printed:

THIS IS NOT AN UPLINK. THIS ΤS AN INTERNALLY GENERATED PRINTER TEST MESSAGE. !"#\$%&'()\*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^ ` { | }~;

### Image Test

Menu Navigation: UNILINK MENU > MAINTENANCE > TESTS > IMAGE

Selection of IMAGE, LSK [2L] is used to display a test image. While the test image is being displayed, any key push will cause the display to return to the MAINTENANCE page. Image Test is not available when the aircraft is in the air.

When IMAGE is selected, a pop-up window IMAGE TEST IN PROGRESS will display. Upon test completion, an ADVISORY will display on the CDU and NEW WX MAP is displayed adjacent LSK [5L] (LSK for MCDU may be different).



Press NEW WX MAP, LSK [5L] to display the generated test weather image. A test weather map is displayed with the title IMAGE BUS TEST.



**NOTE**: This image will display on an EFI-890R or MFD if installed and configured.

To exit the image, press RTN, LSK [5R]. The display returns to the TESTS page (NEW WX MAP and ADVISORY are no longer displayed).

### **UniLink Self-Test**

#### Menu Navigation: UNILINK MENU > MAINTENANCE > TESTS > SELF-TEST

Selection of SELF-TEST, LSK [3L] places the system in a power up test mode.

When the test is selected a pop-up window requesting to CONFIRM or CANCEL the test is displayed. Selecting CANCEL closes the popup window and returns to the current display. Selecting CONFIRM reboots UniLink. The message UNILINK/FMS COMM ERROR RESELECT UNILINK is displayed. During the period of reboot, the UNILINK option displayed on the CDU/MCDU (LSK [5L]) is not 23-20-06.02 91

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selectable (smaller font, no arrow). When the test is complete, UNILINK will be selectable. Selecting UNILINK will display the UNILINK MENU page.

## PTT (Push-To-Talk) (UL-801 only)

Menu Navigation: UNILINK MENU > MAINTENANCE > TESTS > PTT

If available, this test commands the radio to transmit for 3 seconds. A pop-up window PTT TEST IN PROGRESS will display for 3 seconds.

### FANS ALERTS

#### <u>Menu Navigation: UNILINK MENU > MAINTENANCE > TESTS > FANS</u> <u>ALERTS</u>

A FANS-equipped aircraft is required to have audio and visual alerts. Based on installation, one or two ATC annunciators (or visual annunciations) will be visible to the crew. Check with the installer for details.

- 1. Press FANS ALERTS, LSK [1R]. A pop-up window FANS DISCRETE TEST IN PROGRESS will display, then close.
- **NOTE**: The ATC annunciator(s) will illuminate for approximately 3 seconds during the test. Aural alerts are installation-dependent.



MSG will annunciate in the upper right-hand of the screen.

2. Press the [MSG] key to view test results (UNILINK ATC ALERT).

### Uplink Test

Menu Navigation: UNILINK MENU > MAINTENANCE > TESTS > UPLINK

Selection of UPLINK, LSK [4R] causes a test uplink to be placed in the OPS message log, generating a NEW MSG advisory at the bottom of the display.



1. Press NEW MSG, LSK [5L] to display message.



- 2. If desired, press PRINT, LSK [4R] to print the screen (printer must be configured).
- 3. Press DELETE, LSK [4L] to delete the test message. The display returns to the TESTS page.

# OPS

### Menu Navigation: UNILINK MENU > OPS

On the UNILINK MENU page, press OPS, LSK [1R], to access the OPS 1/2 page. This page provides access to the FREE TEXT, OOOI, TEXT WX, WX MAPS, WX MAP LOG, and MSG LOGS options



Pressing the [NEXT] key displays the OPS 2/2 page. This page provides access to the DELAY, DIVERSION, ETA UPDATE, SELCAL (when made available), SITUATION, and POS REPORT options.



# FREE-TEXT

Menu Navigation: UNILINK MENU > OPS(1/2) > FREE-TEXT

The FREE-TEXT option is available at LSK [2L] on the OPS 1/2 page. The FREE TEXT page allows the user to create and edit text messages.



#### **Create and Send a Message**

- **NOTE**: Messages sent using this procedure will go to a service provider website.
- 1. Press FREE-TEXT, LSK [2L] on the OPS 1/2 page.
- 2. With the TO: field active, enter the destination identifier/recipient and press [ENTER].
- 3. Enter the destination/recipient telephone number (if known) in the NO: field and press [ENTER]. Pressing [ENTER] moves the cursor to the first text line of the TEXT EDIT page.

**NOTE**: Pressing LSK [2L] will also bring up the TEXT EDIT page.



- 4. Create a message using the alphanumeric text option keys.
  - The [ ± ] key is used to insert a space.
  - The text automatically word wraps to the next line.
  - The number of pages in the message will increase as necessary to accommodate entered text.
  - The left LSKs are used to insert special characters as indicated on the display. Selecting the same special character key multiple times will cause the selected character to cycle between the three displayed choices.
  - The right LSKs are used to move the cursor (+) position within the text that has been entered.
  - Any text entered at the cursor position in front of other text will be inserted and word wrapping will automatically occur as necessary.
  - To start a new line of text, press [ENTER] and the cursor (+) will start a new line of text.
- 5. When finished editing the text portion of the message, press RETURN, LSK [5R]. The entered text is displayed on the FREE TEXT page for review with additional pages added as necessary.
- 6. Press SEND to place the message in queue for transmission.

#### Send a Message to another Aircraft

- 1. On the Free Text page, enter the destination aircraft registry (tail number) in the TO field and press [ENTER].
- 2. Enter the letter "A" in the first position of the NO field followed by the registry of the destination aircraft and press [ENTER].
- 3. Enter the message text in the free text area. When finished editing the text portion of the message, press RETURN, LSK [5R]. The entered text is displayed on the FREE TEXT page for review with additional pages added as necessary.
- 4. Press SEND, LSK [4R] to place the message in queue for transmission.

#### Send an E-Mail

- **NOTE**: Arrangement with DSP must be made for e-mail capability to be available. Specific detailed instructions for email operation may differ from the following procedure, depending on the service provider.
- 1. With the TO line active, press [ENTER] to make the NO field active.
- 2. Enter "E" in the first position of the NO field and press [ENTER].
- 3. In the free text area, enter the destination e-mail address. Use DA for a dash (-), DOT for dot (.) and AT for at symbol (@). Delimit the address with ST (Example: SCOTT AT AOL DOT COM ST). Use spaces as indicated in the example and press [ENTER].
- **<u>NOTE</u>**: The message will not send if symbols are used in place of text (i.e., DA, DOT, AT).
- **<u>NOTE</u>**: Spaces are placed in text using the plus/minus ([+]) key.
- 4. Enter the message text beginning on the next line after ST.
- **NOTE**: If previously entered text is still in the Free-Text area, press CLEAR, LSK [4L] before entering new text.
- 5. When finished editing the text portion of the message, press RETURN, LSK [5R]. The entered text is displayed on the FREE TEXT page for review with additional pages added as necessary.
- Press SEND, LSK [4R] to place the message in queue for transmission. A confirmation message will display if the e-mail is sent successfully.

#### Send a Fax

- 1. On the FREE TEXT page, enter the fax recipient in the TO field and press [ENTER].
- 2. In the NO field, enter the letter "F" followed by the destination fax number with no spaces. Include: country code, area code, fax number (Example: F17139434610) and press [ENTER].
- 3. Enter the message text in the free text area. When finished editing the text portion of the message, press RETURN, LSK [5R]. The entered text is displayed on the FREE TEXT page for review with additional pages added as necessary.

4. Press SEND, LSK [4R] to place the message in queue for transmission.

### Send a Page to a Skytel Pager (Skytel Customers Only)

- 1. Enter "P" followed by the Skytel Pager PIN number, (no spaces) in the NO field and press [ENTER].
- 2. Enter the message text in the free text area. When finished editing the text portion of the message, press RETURN, LSK [5R]. The entered text is displayed on the FREE TEXT page for review with additional pages added as necessary.
- 3. Press SEND, LSK [4R] to place the message in queue for transmission.

# 0001

### Menu Navigation: UNILINK MENU > OPS(1/2) > OOOI

OOOI pages record data about the current flight and flight history. The OOOI option is available (if configured) at LSK [3L] on the OPS 1/2 page.

### **OOOI Operation**

OOOI (Out, Off, On, In) reports allow a dispatch or schedule office to track a flight as well as provide accurate flight times and block times. Based on installation, UniLink may use inputs from one or more doors, the parking brake, and weight-on-wheels (WOW) status input. OOOI reports may also use digital inputs from devices such as the FMS or configured Input/Output Processors (IOP).

UniLink monitors the state of each discrete and the WOW condition at power-up, but does not issue any reports unless a change in state is detected. The OUT requirement is met when all doors are closed and then the parking brake is released. The ideal sequence is:

- 1) UniLink powered up with brake set and doors open
- 2) Doors closed
- 3) Brake released
- 4) OUT report generated

Once the OUT report has been generated, if the door is opened prior to takeoff, an OUT/RETURN IN report will be generated.

A change in the WOW status from on-ground to in-air will result in an OFF report.

If UniLink is powered up or reset in flight, it will monitor the WOW state, determine that the aircraft is airborne and ignore all changes in status of doors and brakes. A change to the WOW status from in-air to on-ground will result in the ON report.

For an IN report to be generated, UniLink must:

- detect an OUT transition
- detect an OFF transition
- detect an ON transition
- and then detect that the door is opened

23-20-06.02 December 2011 The IN time that is recorded for the IN event is the last time the brake was set prior to the door opening, or the time that the door opens if the brake was not set. The time for all other OOOI events is the time that the UniLink detected the last state change required for the transition to occur.

### **Ground Delay (Optional)**

Menu Navigation: UNILINK MENU > MAINTENANCE > SENSOR STATUS

To determine OOOI status, navigate to the SENSORS 1/2 page.

A GROUND DELAY ADVISORY occurs when the configured time on the Ground Delay Timer expires after doors closed /brakes released (OUT event) but before Weight-Off-Wheels/Takeoff (OFF event).

The GROUND DELAY ADVISORY annunciation will display at LSK [5L].



Pressing LSK [5L] will display the DELAY page. The crew can send a ground delay report by following the procedure listed in the DELAY section of this manual.

### **OOOI Current**

Menu Navigation: UNILINK MENU > OPS(1/2) > 0001



**NOTE**: The FUEL fields display the Fuel Onboard quantity from the FMS when an event is triggered. The FMS will auto-populate time and fuel information at each event. The crew must ensure that the FMS fuel information is initialized.

Depending on the installation and configuration, each field may or may not show the recorded times; a message is sent automatically when any of these four events take place.

**OUT** - Door Closed and Parking Brake Released. Includes OUT time, Fuel Onboard, Departure Airport, and Destination Airport,

**OFF** - Weight Off Wheels. Includes OFF time, Departure Airport, and Destination Airport.

**ON** - WOW. Includes ON time, Departure Airport, and Destination Airport.

**IN** - Parking Brake Set and Door Open. Includes IN time, Fuel On Board, Departure Airport, and Destination Airport.



#### **OOOI History**

### Menu Navigation: UNILINK MENU > OPS(1/2) > OOOI > [NEXT]

The most recently stored events are displayed on OOOI HIST 2/9 page. The next most recent are displayed on OOOI HIST 3/9. A maximum of eight OOOI HIST pages are available. OOOI HIST is accessed from the OOOI CURR page by pressing the [NEXT] key. OOOI data is retained during a power cycle.

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# **Text Weather Report Requests**

#### Menu Navigation: UNILINK MENU > OPS (1/2) > TEXT WX

The TEXT WX REQUEST page allows the user to request four types of text weather reports from up to six locations.

TERMINAL weather received from this request will apply to stations entered on this page, and will include both actual and forecast conditions for each station.

WINDS (Winds Aloft), SIGMETS (Significant Meteorological Information), and PIREPS (Pilot Weather Reports) will apply to the flight plan route from the FMS. If a manual data entry is made in STATIONS fields (LSKs [1L & 2L]), the Winds Aloft will apply to waypoints along the great circle route from the aircraft's present position to the airport identifier. Stored text weather messages are accessed via the OPS MSG LOG page (accessed from the MESSAGE LOGS page).

To request Text Weather:

- 1. Press TEXT WX, LSK [1R] on OPS 1/2 page.
- On the TEXT WX REQUEST page, enter up to six reporting stations (STATIONS) using LSKs [1L] and [2L] and the [ENTER] key. The first station will default to the FMS destination airport identifier.

NOTE: When exiting this page, all stations entered are cleared.



3. Press TYPES, LSK [1R] to choose the type of reports to receive. The WX TYPE SELECT page will display.

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4. Multiple report types may be selected. Press the LSK adjacent the report types to request.

**NOTE**: Terminal is selected by default (indicated by <\*>).

- 5. Press RETURN to go back to the TEXT WX REQUEST page. An asterisk will display next to the selected report types.
- 6. Press SEND, LSK [4R] to place the request in queue for transmission.
- **NOTE:** DATA REQUIRED displays if no reporting stations have been entered.

## Weather Map Requests

<u>Menu Navigation: UNILINK MENU > OPS (1/2) > WX MAPS or TEXT</u> <u>WX>WX MAPS</u>

The OPS 1/2 page allows the user to request and view graphical weather maps. Maps are available only over an airborne telephony link and the WX MAP REQUEST page is only available when the WX MAPS configuration selection is enabled. Graphic weather maps are available on Flat Panel Control Display Units (FPCDU) having graphics capability.

**NOTE**: The WX MAP REQUEST page is accessed by pressing WX MAPS, LSK [2R] on the OPS 1/2 page, or TEXT WX on the OPS 1/2 page, then WX MAPS.



### **US Composite Radar**

Menu Navigation: UNILINK MENU > OPS (1/2) > WX MAP > COMP RADAR

The US COMP RADAR page allows the user to request Composite Radar Weather maps at specified weather stations and ICAO airports.



To request a Composite Radar graphic:

- 1. Press COMP RADAR, LSK [1L] on the WX MAP REQUEST page. The US COMP RADAR page will display.
- Enter an airport identifier in the STATION field and press [ENTER], or accept the default destination airport identifier from the FMS.
- **NOTE**: If an incomplete identifier is entered, the message TOO FEW CHARACTERS will display and the field will flash. Pressing the LSK and re-entering a complete identifier will correct the error.
- Select a Map Range using the range LSK options. A <\*> indicator will display adjacent to the selected range.

**NOTE:** The selected range is retained through system power cycles.

- 4. Press SEND, LSK [4R] to place the request in queue for transmission.
- **<u>NOTE</u>**: The SEND LSK will not be active and DATA REQUIRED displays if no airport identifier has been entered.

#### **US Radar Tops and Movement**

Menu Navigation: UNILINK MENU > OPS(1/2) > WX MAP > TOPS/MVMT

The US TOPS/ MVMT page is used to request US Radar Tops and Movement graphics from a specific geographical area.

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To request a Tops and Movement graphic:

- 1. Press TOPS/ MVMT, LSK [2L] on the WX MAP REQUEST page. The US TOPS/MOVEMENT page will display.
- Press REGION, LSK [2L] to display the REGION-US TOPS/MVMT page.



- Select a region LSK option for display and return to the US TOPS/MVMT page. The last selection will remain through system power cycles.
- 4. Press SEND, LSK [4R] to place the request in queue for transmission.

### **IR Satellite**

Menu Navigation: UNILINK MENU > OPS (1/2) > WX MAP > IR SAT

The IR SATELLITE page allows the user to request worldwide IR Satellite Weather maps.



To request an IR Satellite Map graphic:

- 1. Press IR SAT, LSK [3R] on the WX MAP REQUEST page. The IR SATELLITE page will display.
- Press REGION, LSK [2L] to display the REGION-IR SATELLITE 1/2 page. If needed, press NEXT to display the REGION-IR SATELLITE 2/2 page.
- 3. Select a region for display and return to the IR SATELLITE page. The last selection will remain through system power cycles.



4. Press the SEND LSK to place the request in queue for transmission.

### Icing/Turbulence Potential

Menu Navigation: UNILINK MENU > OPS (1/2) > WX MAP > ICING/TURB

The ICING/TURB page is used to request worldwide icing potential or turbulence potential maps.



To request an Icing Potential or Turbulence Potential Map:

- 1. Press ICING/TURB, LSK [4L] on the WX MAP REQUEST page. The ICING/TURB page will display.
- Press REGION, LSK [2L] to display the REGION-ICING TURB page.



- 3. Select a region for display and return to the ICING/TURB page. The last selection will remain through system power cycles.
- 4. Press ALTITUDE to access the ALTITUDE-ICING/TURB page.
- Select an altitude option by pressing the adjacent LSK and return to the ICING/TURB page. The last selection will remain through system power cycles.



6. Press ICING SEND or TURB SEND to place the request in queue for transmission.



### IFR/MVFR

Menu Navigation: UNILINK MENU > OPS (1/2) > WX MAP > IFR/MVFR

The IFR/MVFR page is used to request worldwide IFR/MVFR maps.



To request an IFR/MVFR Map:

- 1. Press IFR/MVFR, LSK [1R] on the WX MAP REQUEST page. The IFR/MVFR page will display.
- 2. Press REGION, LSK [2L] to display REGION-IFR/MVFR page.



- 3. As needed, press the [NEXT] key to display the REGION 2/3 and 3/3 pages. Select a region and return to the IFR/MVFR page.
- **NOTE**: The last selection will be retained through system power cycles.
- 4. Press SEND, LSK [4R] to place the request in queue for transmission.

### **Significant Weather**

Menu Navigation: UNILINK MENU > OPS (1/2) > WX MAP > SIG WX

The SIGNIFICANT WX page allows the user to request High Level Significant Weather Maps.



To request a Significant Weather Map:

- 1. Press SIG WX, LSK [2R] on the WX MAP REQUEST page. The SIGNIFICANT WX page will display.
- 2. Press REGION, LSK [2L] to display the REGION-SIGNIFICANT WX 1/2 page.



- As needed, press NEXT to display the REGION-SIGNIFICANT WX 2/2 page. Select a region for display and return to the SIGNIFICANT WX page. The last selection will remain through system power cycles.
- 4. Press SEND, LSK [4R] to place the request in queue for transmission.



### Winds Aloft

Menu Navigation: UNILINK MENU > OPS (1/2) > WX MAP > WINDS ALOFT

The WINDS ALOFT page allows the user to request the most current worldwide Winds Aloft maps by region.



To request The Winds and Temperature Aloft graphic:

- 1. Press WINDS ALOFT, LSK [3R] on the WX MAP REQUEST page. The WINDS ALOFT page will display.
- Press REGION, LSK [2L]. The REGION-WINDS ALOFT 1/3 page will display.



- 3. As needed, press the [NEXT] key to display the REGION-WINDS ALOFT pages 2/3 and 3/3. Select a region for display by pressing the adjacent LSK and return to the WINDS ALOFT page. The last selection will remain through system power cycles.
- 4. Press ALTITUDE, LSK [3L] to access the ALTITUDE-WINDS ALOFT 1/2 page.

5. As needed, press the [NEXT] key to display the ALTITUDE-WINDS ALOFT 2/2 page. Select an altitude by pressing the adjacent LSK and return to the WINDS ALOFT page. The last selection will remain through system power cycles.



6. Press SEND, LSK [4R] to place the message in queue for transmission.

### Weather Map Log

#### Menu Navigation: UNILINK MENU > OPS (1/2) > WX MAP > WX MAP LOG

The WX MAP LOG pages allow the user to select previously uplinked weather graphics for viewing on a CDU (but not on a MCDU), MFD, EFI-890R, or for deletion. Weather map titles are listed in the order they are received with the last map received appearing first. UniLink stores up to 32 maps.



**NOTE**: The WX MAP LOG 1/X page can be accessed from the OPS 1/2 page, the MESSAGE LOGS page, the TEXT WX REQUEST page, or the WX MAP REQUEST page.

To display a weather map:

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- 1. Press WX MAP LOG, LSK [4R] on the WX MAP REQUEST page.
- 2. Press the left-hand LSK adjacent the desired weather map.
- **<u>NOTE</u>**: Pressing any key while the map is displayed will return the display to the MAP LOG page.

To display a new weather map after receiving a NEW WX MAP RCVD message:

- 1. On the DATA 1/X page or MESSAGE 1/X page, press the UNILINK LSK to access the UNILINK MENU page.
- 2. Press NEW WX MAP advisory prompt to view the weather map.

To delete an uplinked weather map:

- 1. Select the map to delete by pressing the adjacent LSK. This places the cursor over the map and displays the delete option window.
- 2. Press the DELETE LSK to delete the map.
- To delete all uplinked weather maps, select the DELETE ALL option. DELETE ALL only appears on the WX MAP LOG 1/X page.

# **MESSAGE LOGS**

Menu Navigation: UNILINK MENU > OPS (1/2) > MSG LOGS

The MESSAGE LOGS page allows the user to view, print, or delete messages.



**Verified Messages** – The VERIF MSGS 1/X page displays all ATS and other verified messages (with the exception of FANS messages, which are maintained in the ATC MSG LOG). Press VERIF MSG LOG, LSK [1R] to access the VERIF MSGS page.

**Operations Messages** – The OPS MSGS 1/X page displays all unverified messages (messages containing unverified data). This data is advisory only and should not be used for safety of flight operations. Press OPS MSG LOG, LSK [2R] to access the OPS MSGS page.

**WX Map Uplinks** – The WX MAP LOG 1/X page displays all weather graphic uplinks. Press WX MAP LOG, LSK [3R] to access the WX MAP LOG pages.

Message titles will appear on these pages in the inverse order they are received. The newest message will appear first. If more than one page of message titles exists, use the [PREV] and [NEXT] keys to cycle through the pages. A new message may be viewed from any UniLink page by pressing the NEW MESSAGE ADVISORY LSK.

Messages may be viewed by selecting the left-hand LSK adjacent the message title.

To delete all messages from a message log, press the DELETE ALL LSK. This prompt is only displayed on page 1 of the message log pages.

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#### **Verified Messages**

Menu Navigation: UNILINK MENU > OPS > MSG LOGS > VERIF MSG LOG

The VERIF MSGS page displays all ATS, Clearance, and other verified messages (with the exception of FANS messages). Press VERIF MSG LOG, LSK [1R] to access the VERIF MSGS page. The total number of pages increases as messages are sent and received. If more than one page of message titles exists, use the [PREV] and [NEXT] keys to cycle through the pages.



LSKs [1L] through [3L] on page 1/X and [1L] through [4L] on succeeding pages display ATS and other verified message titles. Status information is displayed above the message title and includes the time received, transmission medium, uplink ( $\uparrow$ ) or downlink ( $\downarrow$ ) indicator, and status.

Messages are sorted with the newest at the top of the list. Pressing the left-hand LSK adjacent a message displays the corresponding message if the message contains viewable text.

- **NOTE**: The UniLink Verified Message Log (VERIF MSGS) retains the most recent 40 uplinks (excluding AFN and CPDLC uplinks). The crew will need to monitor the log and remove non-clearance uplinks.
- **NOTE**: UniLink does not check the format of OCL (Oceanic Clearance) messages. The crew should verify all clearance and re-clearance information.

Pressing a right-hand LSK displays the message pop-up window for the corresponding message and allows the deletion or printing of the message (see the **Delete or Print a Message** section later in this manual). Any key press other than [1R] or [2R] will exit the pop-up window.

The DELETE ALL LSK on page 1/X is used to delete all messages from the displayed log.

The RETURN LSK returns the display to the MESSAGE LOGS page.

#### Message Status Descriptions

- **NEW** The uplink is available in the log and has not been viewed.
- **OLD** The uplink has been viewed and does not require an acknowledgement.
- ACK RQD The uplink has been viewed and the ACARS ATS facility requests that the crew manually acknowledge receipt of the message.
- **ACKED** The uplink has been viewed and an acknowledgement has been sent.
- **SENT** The downlink has been successfully transmitted at the indicated time.
- **SENDING** The downlink is being transmitted via the indicated medium (VHF, SAT, TEL)
- **DEFERRED** The downlink message lacks priority for immediate transmission and is deferred pending availability of other downlink messages with which it can be bundled for transmission.
- **EXPIRED** The downlink message ceased being valid or useful before it could be successfully transmitted (as determined by the downlink message timer).

#### **Operations Messages**

Menu Navigation: UNILINK MENU > OPS > MSG LOGS > OPS MSG LOG

The OPS MSGS page displays all operations unverified messages including Text Weather and Free Text. This data is advisory only and should not be used for safety of flight operations. Press OPS MSG LOG, LSK [2R] to access the OPS MSGS page. The total number of pages increases as messages are received. If more than one page of message titles exists, use the [PREV] and [NEXT] keys to cycle through the pages.



LSKs [1L] through [3L] on page 1/X and [1L] through [4L] on succeeding pages display unverified uplink message titles. Status information is displayed above the message title and includes the time received, transmission medium, uplink ( $\uparrow$ ) or downlink ( $\downarrow$ ) indicator, and status.

Messages are sorted with the newest at the top of the list. Pressing a left-hand LSK displays the corresponding message if the message contains viewable text.

Pressing a right-hand LSK displays the message pop-up window for the corresponding message and allows the deletion or printing of the message (see the **Delete or Print a Message** section later in this manual). Any key press other than [1R] or [2R] will exit the pop-up window.

The DELETE ALL LSK on page 1/X is used to delete all messages from the log.

The RETURN LSK returns the display to the MESSAGE LOGS page.

Message Status Descriptions

- **NEW** The uplink is available in the log and has not been viewed.
- **OLD** The uplink has been viewed and does not require an acknowledgement..
- ACK RQD The uplink has been viewed and the customer AOC facility requests that the crew manually acknowledge receipt of the message.
- **ACKED** The uplink has been viewed and an acknowledgement has been sent.
- **SENT** The downlink has been successfully transmitted at the indicated time.
- **SENDING** The downlink is being transmitted via the indicated medium (VHF, SAT, TEL)
- **DEFERRED** The downlink message lacks priority for immediate transmission and is deferred pending availability of other downlink messages with which it can be bundled for transmission.
- **EXPIRED** The downlink message ceased being valid or useful before it could be successfully transmitted (as determined by the downlink message timer).

#### Weather Map Log

(See the section titled Weather Map Logs, or the WX MAP REQUEST page).

# View Message - Detailed Message Screen

A detailed message screen will display when a message is viewed by selecting a corresponding message LSK or via the NEW MESSAGE ADVISORY.

 On the message log page (VERIF MSGS, OPS MSGS, or WX MAP LOG), press the left-hand LSK adjacent a message title to view a message. A detailed message screen or weather graphic will display.



2. Press the [PREV] and [NEXT] keys to cycle through the pages.



**NOTE**:OPS messages are advisory only and should not be used for safety of flight operations.

# **Delete or Print a Message**

<u>NOTE</u>: This procedure is available on the VERIF MSGS, OPS MSGS, and WX MAP LOG pages.

- 1. Access the desired message log page.
- 2. Press the right-hand LSK of a message. This activates the message pop-up window.



- 3. Press the PRINT LSK to print the message (a printer must be installed and configured).
- 4. Press the DELETE LSK to delete the message.
- 5. Press the CANCEL LSK to exit the pop-up menu.
- **NOTE**: Any LSK or CDU keyboard selection other than LSKs [1R] or [2R] removes the pop-up window.



# DELAY

Menu Navigation: UNILINK MENU > OPS (2/2) > DELAY

The DELAY page is used to report estimated ground delays prior to take off.



To send a Ground Delay report:

- 1. Press DELAY, LSK [1L] from OPS page 2/2 or from any page when selecting the GROUND DELAY advisory.
- 2. With EST DELAY (estimated delay) active, enter the estimated time in minutes.
- 3. Press REASON, LSK [1R] to access the DELAY REASON page.



- 4. Press the LSK adjacent the appropriate reason option. The display will return to the DELAY page. NONE is the default if no entry is made on this page.
- 5. Press SEND, LSK [4R] to place the message in queue for transmission.

# DIVERSION

Menu Navigation: UNILINK MENU > OPS (2/2) > DIVERSION

The DIVERSION page is used to send a revised destination message.



To send a diversion message:

- 1. Press DIVERSION, LSK [2L] from OPS page 2/2. The DIVERSION page will display.
- 2. With NEW DEST active, enter a destination and press [ENTER], or verify new destination data from the FMS.
- 3. If not active, press ETA, LSK [3L], enter an ETA, and press [ENTER], or verify ETA data from the FMS.
- 4. Press REASON, LSK [1R] to access the DIVERT REASON page.



 Press the LSK adjacent the appropriate Divert Reason option and return to the DIVERSION page. NONE will be selected by default if no entry is made on this page.

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- 6. Press the SEND LSK to place the report or message in queue for transmission.
- **NOTE**: During a given flight leg, the first press sends a Diversion Report downlink and each subsequent press sends a Revised Diversion Report downlink.

# ETA UPDATE

Menu Navigation: UNILINK MENU > OPS (2/2) > ETA UPDATE

The ETA UPDATE page is used to send an ETA update message.



To send an ETA Update message:

- 1. Press ETA UPDATE, LSK [3L] from OPS page 2/2. The ETA UPDATE page will display.
- 2. With ETA active, enter an ETA and press [ENTER], or verify ETA data from the FMS.
- If not active, press DEST, LSK [3L], enter a destination airport identifier and press [ENTER]; or verify the default identifier from the FMS.
- **<u>NOTE</u>**: This field will display dashes if the destination airport is not available.

THE FMS ETE field is provided for reference only and displays the current computed FMS estimated time enroute.

4. Press REASON, LSK [1R] to access the ETA REASON page.



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- 5. Press the LSK adjacent the appropriate ETA Reason and return to the ETA UPDATE page.
- 6. Press SEND, LSK [4R] to place the report or message in queue for transmission.
- **NOTE**: During a given leg, the first press sends an ETA Update Report downlink and each subsequent press sends a Revised ETA Report downlink.

# SITUATION

#### Menu Navigation: UNILINK MENU > OPS (2/2) > SITUATION

The SITUATION page permits the sending of emergency report messages for mechanical and medical emergencies.



All situation reports include FUEL ONBD and ENDURANCE data from FMS FUEL page 2/5.

To make the report:

- 1. Press SITUATION, LSK [2R] on OPS page 2/2. The SITUATION page will display.
- 2. With SOULS active, enter the number of persons onboard and press [ENTER].
- 3. If not active, press REMARKS, LSK [2L] (optional) and enter information as needed. Up to 24 characters may be entered.
- 4. Press REASON, LSK [1R] to access the SITUATION REASON page.



- Press the LSK adjacent the appropriate reason and return to the SITUATION page. If no selection is made the REASON field will default to NONE.
- 6. Press the SEND LSK to place the report in queue for transmission.

# POS REPORT

Menu Navigation: UNILINK MENU > OPS (2/2) > POS REPORT

The POS REPORT page is used to modify Position Report data prior to sending, and to enable and disable the Auto Position report (AUTO) function.

Data on this page is prefilled FMS/ADC data. Normally this data will be valid for the Position Report; however, temporary manual entries are possible for the current manually initiated transmission only.

To make the report:

1. Press POS REPORT, LSK [3R] from OPS page 2/2. The POS REPORT page will display.



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- 2. With TO WPT active, enter a waypoint name. Press [ENTER].
- The TO WPT ETA information is supplied by the FMS. To change, if not active, press LSK [2L] and enter up to four digits (Time is UTC time), then press [ENTER].
- 4. If not active, press GROUNDSPEED, LSK [3L] and enter up to three digits. Press [ENTER].
- 5. If not active, press WINDS, LSK [4L] and enter three digits for wind direction. Press [ENTER] to advance the cursor to the velocity field and enter up to three digits. Press [ENTER].
- 6. If not active, press ALTITUDE, LSK [3R] and enter the current altitude if no ADC altitude is available. Press [ENTER].
- 7. Press the SEND LSK to place the report in queue for transmission.

#### Automatic Position Reporting

1. Press AUTO, LSK [1R] to toggle the Automatic Report function to ENABLED or DISABLED (default is based on configuration setting). The current status is displayed to the left of AUTO.



- If AUTO is set to ENABLED, press IN AIR INTV, LSK [2R] to set the report interval time (default is based on configuration setting). Press [ENTER].
- **NOTE:** The IN AIR INTV option is not present if AUTO is set to DISABLED.

# SELCAL

Menu Navigation: UNILINK MENU > SELCAL

The SELCAL (Selective Call) CONTACT page displays the Ground Voice Request frequency. The SELCAL option on the UNILINK MENU will only display if a voice frequency request is received and the SELCAL advisory has been selected. This prompt is hidden at the beginning of each flight leg.



Press RETURN to return to the MAIN MENU or the CDU/MCDU page displayed when the ADVISORY was pressed to access the SELCAL contact message.

**NOTE** If not currently in a UNILINK page when the SELCAL request is received, the MSG annunciation will flash in the upper right-hand corner of the CDU/MCDU. Navigate to the UNILINK MENU page to access the SELCAL option.



# **GLOSSARY**

Acronym/Abbreviation/ Term	Description
ACARS	Aircraft Communication Addressing and Reporting System
ACK	Acknowledgement
ADC	Air Data Computer
ADS-C	Automatic Dependent Surveillance - Contract
AFN	ATS Facilities Notification
ALT	Altitude
ΑΟΑ	ACARS Over Aviation VHF Link Control (AVLC)
AOC	Aeronautical (airline) Operational Control
ARINC	Aeronautical Radio, Inc. (data interface format standard)
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Service (see D-ATIS)
АТМ	Air Traffic Management
ATN	Aeronautical Telecommunications Network
ATS	Air Traffic Services
ATSU	Air Traffic Service Unit
AVLC	Aviation VHF Link Control
CDA	Current Data Authority
CDB	Customer Database
CDU	Control Display Unit
Circuit Mode Data	A full duplex bi-directional communication link in which data is transmitted and received simultaneously. A hand shake must be established prior to data being exchanged. Supported by a UniLink RS-

Acronym/Abbreviation/ Term	Description
	232 port configured for TEL
CLX	Clearance
СМ	Configuration Module
СМИ	Communications Management Unit
CNS	Communication Navigation Surveillance
COMM	Communication
CPDLC	Controller-Pilot Datalink Communications
CRC	Cyclic Redundancy Check
CSDB	Commercial Standard Data Bus (data interface format standard)
CTS	Clear to Send
CVFDR	Cockpit Voice and Flight Data Recorder (UASC)
CVR	Cockpit Voice Recorder
D-ATIS	Digital Automatic Terminal Information System (also referred to as ATIS)
DEPT CLX	Departure Clearance
DM	Downlink Message
DP	Display Processor
DTU	Data Transfer Unit (UASC)
DTU-100	Data Transfer Unit – 100 (UASC)
DSP	Datalink Service Provider (sometimes referred to as DLSP)
EFB	Electronic Flight Bag
EFI	Electronic Flight Instrument
EFI-890R	Electronic Flight Instrument – 890R (UASC)
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
EUROCAE	European Organization for Civil Aviation Equipment

Acronym/Abbreviation/ Term	Description
EXP	Expected
FAA	Federal Aviation Administration
FANS	Future Air Navigation Systems
FL	Flight Level
FLT NO	Flight Number
FMC	Flight Management Computer
FMS	Flight Management System
FPL	Flight Plan
FREQ	Frequency
GND SPD	Ground Speed
GNSS	Global
GPS	Global Positioning System
HS	High Speed
ICAO	International Civil Aviation Organization
ID	Identification, Identifier
IFR	Instrument Flight Rules
IOP	Input/Output Processor
I/O	Input/Output
LAN	Local Area Network
LRU	Line-Replaceable Unit
LS	Low Speed
LSK	Line Select Key
MCDU	Multifunctional Control Display Unit (UASC)
	Multi-Purpose Control Display Unit (ARINC)
MCU	Modular Concept Unit
MDM	Modem
MFD	Multifunctional Display
MSG	Message

Acronym/Abbreviation/ Term	Description
MSK	Minimum Shift Keying
MVFR	Marginal Visual Flight Rules
ND	Navigation Display
NO COMM	No Communication
NO CVG	No Coverage
ONBD	Onboard
0001	Out, Off, On, In (used to detect and report changes to the major flight phases of the aircraft)
Packet Mode Data	A half-duplex bi-directional communication link in which data is accumulated in packets of various lengths and sent out in a burst or bursts so therefore does not support voice communications. Packet switching is the process of routing and transferring data by means of addressed packets so that a channel is occupied during the transmission of the packet only. Upon completion of the data transfer, the channel is made available for the transfer of other traffic. Supported by a UniLink ARINC port configured to provide VHF and SAT capability.
PIREP	Pilot Weather Report
PDC	Pre-Departure Clearance
POA	Plain Old ACARS
POS	Position
RCDU	Remote Control Display Unit
RCVD	Received
RPTS	Reports
RQD	Required
RTE	Route
RTS	Request to Send

Acronym/Abbreviation/ Term	Description
RX	Receive
SAT	Abbreviation for Satellite Communications Link. The SAT link provides communication via Iridium Short Burst Data (SBD) and packet mode data Inmarsat equipment that utilizes a specific satellite constellation. When SAT is commanded for use by UniLink, a SAT- configured ARINC 429 (741 protocol) port is used. SAT provides VHF backup in most cases and does not support weather graphics.
SatCom	Satellite Communications
SCN	Software Control Number
SDU	Satellite Data Unit
SELCAL	Selective Calling
SIGMET	Significant Meteorological Information
SITA	Society of International Aeronautical Telecommunications (Societe Internationale de Telecommunications Aeronautiques)
SQP	Signal Quality Parameter
SSDTU	Solid State Data Transfer Unit (UASC)
TEL	Abbreviation for telephony. The telephony communication link provides a circuit mode data connection via a dial-up modem. A hand shake must be established prior to data being exchanged. Only an RS-232 capable SatCom can be used. The circuit mode connection will be used for obtaining color weather graphics and may be used for VHF back up in most cases. However, this link will not support safety services communications, which consists of flight information services.

Acronym/Abbreviation/ Term	Description
	which is a UniLink service.
TWIP	Terminal Weather Information for Pilots
ТХ	Transmit
UASC	Universal Avionics Systems Corporation
UL	UniLink (UASC)
UM	Uplink Message
UNVERIFIED Message	An UNVERIFIED message is one that does not contain safeguards to prevent data corruption during transmission. Such messages are labeled AOC on the page in which they are displayed. (See VERIFIED Message)
USB	Universal Serial Bus
UTC	Universal Time Coordinated
VDL	VHF Digital Link
VDR	VHF Data Radio
VERIFIED Message	A VERIFIED message is one that has been safeguarded against potential data corruption during transmission and is determined to be error-free using CRC code comparisons and validity indicators. (See UNVERIFIED Message)
VHF	Very high frequency terrestrial-based packet mode. This is a data communications link used for obtaining textual weather, D-ATIS, and the transmission of position reporting, OOOI, and safety services communications (UniLink Flight Information Services). Does not support weather graphics.
VOX	Voice
WOW	Weight On Wheels
WPT	Waypoint

Acronym/Abbreviation/ Term	Description
WX	Weather
XOFF	Transmission Off
XON	Transmission On



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