

TELELINK™ DATA LINK COMMUNICATION SYSTEM FOR THE GLOBAL EXPRESS

REFERENCE GUIDE FOR GLOBAL DATA
CENTER SERVICES



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REFERENCE GUIDE FOR GLOBAL DATA CENTER SERVICES

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Via ACARS Message

“GLOBAL” At the message subject prompt.

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What is the Global Data Center?

The TeleLink™ management unit is a data communication system that provides two way air-to-ground communication and permits access to a wide variety of flight information services. Data may be transmitted through either the VHF (ACARS) or Satellite networks. All communications are routed through the Global Data Center (GDC) located in Redmond, Washington.

The Global Data Center (GDC) provides comprehensive data management, message handling, flight planning, and other flight related products and services. Datalink messages are normally handled automatically by the GDC computer network, and in many cases no human intervention is necessary. However, often times it is desirable to have special handling, therefore users are encouraged to contact the Global Data Center staff at anytime, 24/7, for one-on-one assistance. The GDC is staffed with dedicated aviation professionals who are specially trained and eager to help. The GDC is therefore a virtual extension to your flight department and a communication resource to link your flight department with all segments of aviation.

Using the TeleLink™ System, the following is a list of the current data link services available through the Global Data Center.

Digital ATIS (D-ATIS)

Flight Plan Upload to the FMS

Messages

Oceanic Clearances

Pre-Departure Clearances (PDC)

SIGMETS

Take OFF and Landing Times

Terminal Weather (TAF/METAR/NOTAMS/PIREPS)

TWIP (Doppler Warnings)

Winds Aloft

On the ground, users may also access GDC services over the telephone or through a ground-based computer interface utilizing widely distributed GDC communication software.

ACARS NETWORK

Datalink communications are normally transmitted via one of three VHF networks operated by ARINC, AVICOM, or SITA. This combined network (which is also utilized by most scheduled airlines) is termed the ACARS (Aircraft Communication and Reporting System) network. GDC subscribers are automatically registered to use all three VHF networks.

ARINC North America, and Hawaii

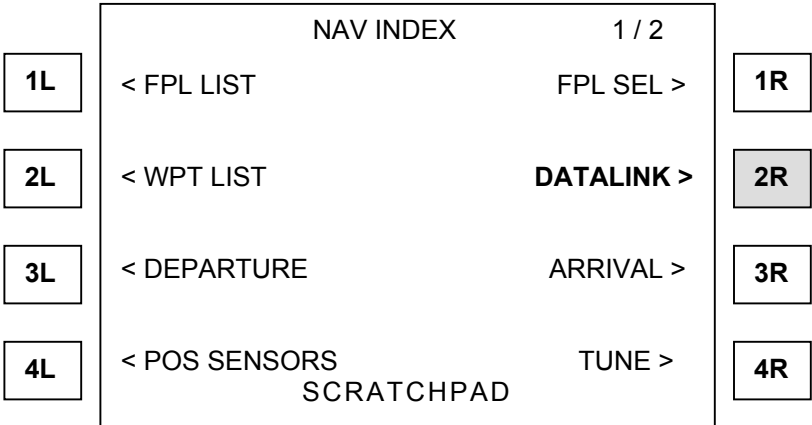
AVICOM Japan

SITA Africa, Europe, South America, Central America,
The Caribbean, Asia, and the South Pacific

ACARS VHF stations are stand-alone facilities and are usually not related to ATC voice communication or navigation facilities. The Telelink™ communications management unit (mini-CMU) uses a VHF transceiver to communicate over the ACARS network. The CMU also interfaces with satellite communication systems for data communications via the satellite network. Communicating in satellite mode is normally used when the aircraft is out of range of VHF stations. Although the CMU can automatically switch between satellite and VHF, the pilot may opt to manually switch between modes at anytime.

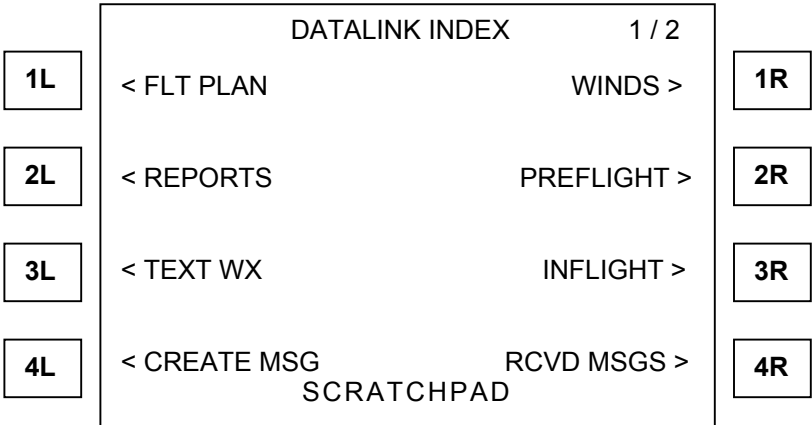
DATALINK ACCESS

The DATALINK INDEX is accessed on the NAV INDEX menu.



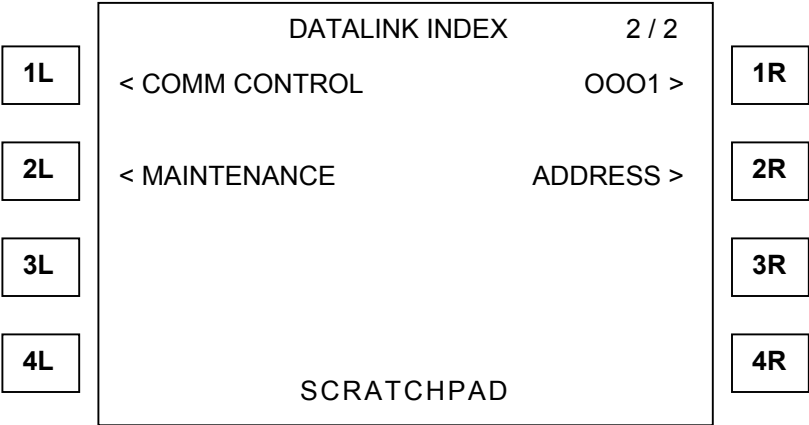
DATALINK INDEX (page 1 of 2)

Accessed from the NAV page, the DATALINK INDEX is the primary page for control of datalink communication and TeleLink functions. The DATALINK INDEX is comprised of two pages.



DATALINK INDEX (page 2 of 2)

DATALINK INDEX.

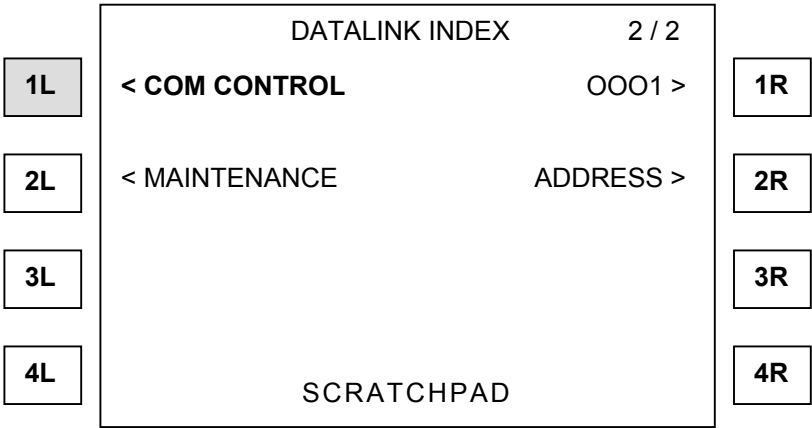


It is recommended that at each power up that the COMM CONTROL pages be reviewed in order to assure that data link transmissions will be sent by the desired network (VHF or SATCOM).

While in VHF mode make sure that AIR CANADA is turned OFF since AIR CANADA has been decommissioned and is no longer in service.

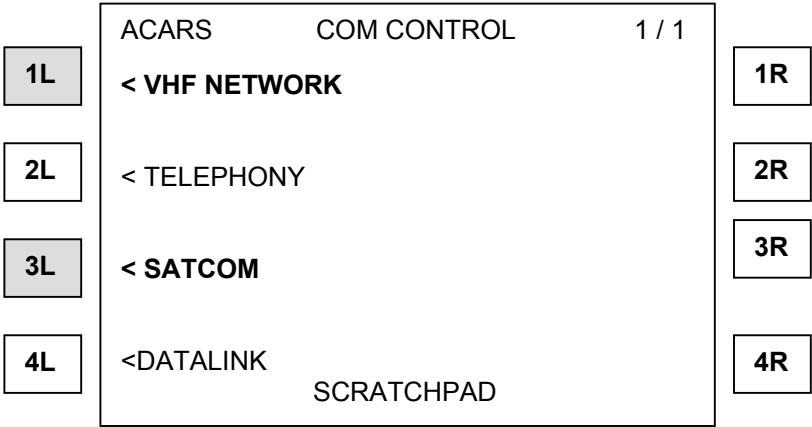
COM CONTROL

The TeleLink™ COM CONTROL page is accessed from the second page of the DATALINK INDEX. This page is used to configure the system communication preferences, and includes provisions for turning on or off the VHF, SAT, and TELEPHONY systems.



Choose the desired communication network settings from the COM CONTROL page. The CMU normally defaults to the VHF Network (ACARS). The Satellite (SAT) network is normally used when out of range of a VHF station. Transmission via the Telephony Network (Magnastar) is not currently supported.

VHF NETWORK



VHF NETWORK

The VHF NETWORK page is accessed from the COM CONTROL page. This page is used to configure the TeleLink™ VHF settings. The following are optimized VHF settings for the widest VHF coverage.

If it is desirable not to transmit via any network, use the OR select keys to TURN OFF the particular network on these pages. AIR CANADA should be turned OFF since the network has been decommissioned.

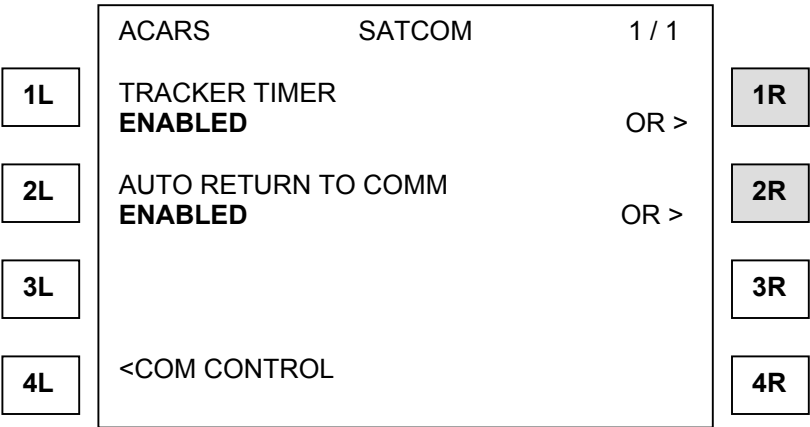
	ACARS	VHF NETWORK	1 / 2	
1L	ARINC	ON	OR >	1R
2L	SITA	ON	OR >	2R
3L	AIR CANADA	OFF	OR >	3R
4L	<COM CONTROL			4R

	ACARS	VHF NETWORK	2 / 2	
1L	AVICOM	ON	OR >	1R
2L	VHF FREQUENCY	-----,-----	OR >	2R
3L	VOICE			3R
4L	<COM CONTROL			4R
	SCRATCHPAD			

SATCOM NETWORK

The SATCOM NETWORK page is accessed from the COM CONTROL page. This page is used to configure the SATCOM system settings.

Select TRACKER TIMER to ENABLE to ready the SATCOM system for datalink transmission. If it is desirable to transmit via SAT and not to transmit via the VHF network, TURN OFF all VHF networks and leave the SATCOM Tracker Timer ENABLED.



The AUTO RETURN TO COMM setting is used to switch the SATCOM system back to the VOICE setting. This should be left in the ENABLED setting unless the SATCOM system is to be dedicated to data transmission only.

FLIGHT PLAN RECALL

Flight plan recall is accessed from the DATALINK INDEX page by selecting FLT PLAN.

Previously computed flight plans stored at the Global Data Center can be recalled from the DATALINK FLT PLAN page by entering the flight plan recall number on the scratchpad then transfer the data in the FPL ID field, and press SEND RQST.

ACARS	DATA LINK FLT PLAN	1 / 1
< FPL ID		
D1234		
		FPL REVIEW >
< DATALINK		SEND RQST >

When a flight plan request is received at the Global Data Center it is processed and the flight plan along with weather for the departure airport, destination airport, alternate airport (if filed), SIGMETS, and PIREPS are sent to the aircraft automatically.

When the flight plan is received the FPL REVIEW prompt will appear. Selecting the FPL REVIEW will allow review of the flight plan and a choice to select uplink winds with the flight plan. Other service provider's flight plans can be requested here as well as long as their flight plan has been sent to the Global Data Center for recall.

WINDS

Winds aloft can be accessed from the DATALINK INDEX by selecting WINDS. Winds can be “ACCEPT” from the flight plan without looking at them or you may select “FPL WPTS” to view each waypoint. Manually entered waypoints are entered on the scratchpad and transferred to the blank line select key indicated by “----”.

ACARS	DATA LINK WINDS	1 / X
< FPL WPTS		
KSEA		

< REJECT		ACCEPT >
SCRATCHPAD		

Once a manually entered waypoint has been moved from the scratchpad a four-character space will appear below the last manually entered waypoint. Up to fifty-two way points can be hand entered.

REPORTS

Currently the TeleLink™ unit does not send automatic position reports but does support manual position reports. To send a POS REPORT select SEND POS REPORT. Current latitude and longitude will be obtained from the FMS and will be transmitted to the ground. FPL ID and SENDING FPL REPORT are currently not supported.

ACARS	REPORTS	1 / 1
< FPL ID		
< SENDING FPL REPORT		
< SEND POS REPORT		
< DATALINK		

PREFLIGHT SERVICES

ACARS	PREFLIGHT	1 / 2
< ATIS		TEXT WX >
< TWIP		DEPART CLX >
< DELAY		OCEANIC CLX >
< DATALINK		

ATIS, TWIP, TEXT WX, DEPART CLX (PDC) and OCEANIC CLX are the initial services offering from the PREFLIGHT page. The remaining options will be added in the future. Access the PREFLIGHT page by selecting the PREFLIGHT line select key from the DATALINK INDEX.

ATIS

ATIS request provides the ability to request Automatic Terminal Information Service (ATIS) at airports that have this service.

ACARS	ATIS	1 / 1
AIRPORT		

DEPT		OR >
		SEND >
< RETURN		

Manually enter the airport ID on the scratch pad. Select the AIRPORT line select key to transfer the data then press SEND.

Contact the Global Data Center for a current list of ATIS airports.

TEXT WX

By pressing the TEXT WX line select key, the TEXT WX pages are displayed. Up to two terminal weather stations may be selected for each TEXT WX request. STATION 1 will display the destination airport, by default.

ACARS	TEXT WX	1 / 2
< STATION 1		RCVD MSGS >
KLAX		
< STATION 2		

		SEND >
< RETURN		
KLGA		

To request TEXT WX, first type the ICAO identifier of the desired airport on the scratchpad, then press the line select key for the desired station. Repeat this procedure for the second terminal weather request.

By default, METAR and TAF reports are automatically included when transmitting the TEXT WX request. Press the NEXT key on the FMS keypad to display the TEXT WEATHER Request page.

ACARS	TEXT WEATHER	1 / 2
< TERMINAL *		RCVD MSGS >
< WINDS		SIGMETS >
< PIREPS *		SEND >
< RETURN		

TEXT WX – continued

The asterisk (*) indicates the default weather products for every TEXT WX request. To select or deselect any or all of the weather products, press the corresponding line select key. The TEXT WEATHER Request page above indicates that each time a TEXT WX request is sent, METAR, TAF, NOTAMS, and PIREPS are to be included for the desired airport identifier(s).

Press the SEND line select key to transmit the request. “SENDING” displays above the SEND line select to indicate that the Telelink™ system is transmitting the request. When the VHF ground station has received the complete request, “SENT” is then displayed..

Pressing the RCVD MSGS line select will display the RCVD MSGS page. This is a handy short cut when a new message has been received.

Press the RETURN line select key to return back to the DATALINK INDEX.

TWIP (Terminal Weather Information for Pilots) (Doppler weather)

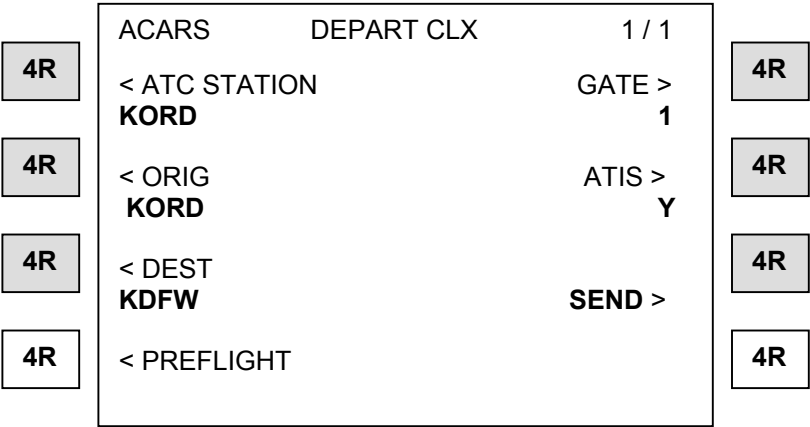
Doppler weather information within 15NM of some US airports is available. Enter the airport ICAO ID in the scratchpad and transfer the ID in the AIRPORT field and then press send.

Information regarding such items as gust fronts, heavy/moderate precipitation, and storm movement within 15nm of the selected airport will be transmitted to the aircraft.

ACARS	TWIP	1 / 1
AIRPORT		

		SEND >
< PREFLIGHT		

PRE-DEPARTURE CLEARANCE (continued)



Press the SEND line select key to transmit the request. "SENDING" displays above SEND to indicate that the Telelink™ system is transmitting the request. When the VHF ground station has received the complete request, "SENT" is then displayed.

When the aircraft receives the PDC, a "NEW MSG" appears on the scratchpad. Press the RCVD MSGS line select key from the DATALINK INDEX. Press the line select key corresponding to the message that contains the PDC. If the PDC requires more than one page, press the NEXT and PREV keys to move back and forth.

CALL-SIGNS

When using a call-sign this page can not be used. The CREATE MSG 2/2 page must be used. In the SUBJECT line simply type "PDC" plus the departure airport ICAO ID, special character such as a dash (-) and then your call-sign. (Example: PDCKORD-GLOBAL1.) A space may not be used between the airport ID and call-sign and the SUBJECT line is limited to twenty-four characters.

OCEANIC CLX

OCEANIC CLX provides the crew with a digitized message containing the oceanic clearance. East bound clearances are automatically forward to aircraft from the Global Data Center provided that the aircraft is maintaining data link communications. An oceanic clearance will be held at the Global Data Center until data link communications to the aircraft have been established or until the clearance has timed out. If data link communications are not being maintained, then an oceanic clearance should be requested as soon as possible, up to one hour before entering Oceanic Airspace. Usually, 70° West is used as a rule of thumb to begin requesting your eastbound Oceanic Clearance. Due to varying times that Gander issues Oceanic Clearances, you may need to request the clearance a second time.

EAST BOUND:

GANDER must be in the ATC STATION field. It is necessary to enter a character (any character will do) into each of the data fields in order to transmit the OCEANIC CLX request.

WESTBOUND: (future service)

All fields require an accurate entry. Enter the ATC STATION, ENTRY POINT, ENTRY TIME, FLT LEVEL, MACH speed, and FLT NO. When all fields are entered, press the SEND key to transmit the OCEANIC CLX request. The Oceanic Clearance will be sent from the Global Data Center in the form of a new message.

ACARS	OCEANIC CLX	1 / 2
< ATC STATION		
GANDER		OR >
ENTRY POINT		

ENTRY TIME		
----Z		SEND >
< RETURN		

OCEANIC CLX USING A CALLSIGN

When using a call-sign it will be necessary to request an oceanic clearance from the CREATE MSG page two. On the SUBJECT line type "CLX" followed by the call-sign (no space between CLX and the call-sign). Press the "PREV PAGE" button and from the CREATE MSG page one, press SEND. The Oceanic Clearance will be sent from the Global Data Center in the form of a new message.

NOTE: Remember to add "AGCS EQUIPPED" to the ATC remarks on your flight plan.

EXAMPLE:

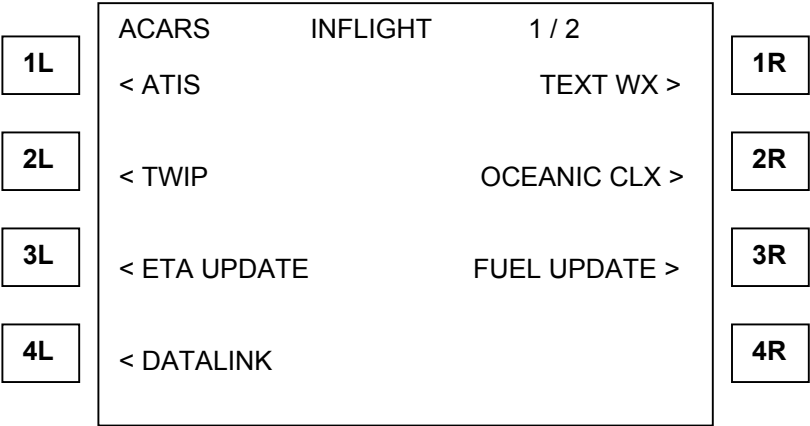
ACARS	CREATE MSG	2 / 7
< SUBJECT:		
CLXGLOBAL1		

< DATALINK		

INFLIGHT SERVICES

ATIS, TEXT WX, TWIP, and OCEANIC CLX are the initial services offering from the INFLIGHT page. The remaining options will be added in the future.

Access the INFLIGHT page by selecting the INFLIGHT line select key from the DATALINK INDEX. The ATIS, TEXT WX, TWIP, and OCEANIC CLX procedures are identical to the procedure described in the PREFLIGHT pages.



CREATE MESSAGE

Access the CREATE MSG page by selecting the CREATE MSG line select key from the DATALINK INDEX.

1L	ACARS	DATALINK INDEX	1 / 2	1R
	< FLT PLAN		WINDS >	
2L				2R
	< REPORTS		PREFLIGHT >	
3L				3R
	< TEXT WX		INFLIGHT >	
4L	< CREATE MSG		RCVD MSG >	4R

From the CREATE MSG page, AFIS messages may be formatted and sent to destinations worldwide: Fax machines, Personal Computers running AFISCOM, phone numbers, GDC (Global Data Center), ARINC, SITA, AVICOM addresses, e-mail address and other data link Equipped aircraft.

1L	ACARS	CREATE MSG	1 / 2	1R
	< FROM:		CLR MSG >	

2L	< TO:			2R

3L	< ADDRESS:		SEND >	3R

4L	< DATALINK			4R

On the CREATE MSG page, both the FROM and TO lines are limited to 14 characters. *DO NOT TYPE THE DESTINATION PHONE, FAX, or GDC AUTOFORWARD CODE ON THE ADDRESS line.* The ADDRESS line is ignored by the GDC.

CREATE MESSAGE (continued)

Use the SUBJECT line located on page 2 of the CREATE MSG page. Press the NEXT key to display the second page CREATE MSG page to address the message.

	ACARS CREATE MSG 2 / 7	
1L	< SUBJECT: F3122445992	1R
2L	ETA KDCA 2130Z. NEED 22000 LBS FUEL	2R
3L	-----	3R
4L	< DATALINK CONFIRM CATERING FOR 0020 DEP	4R

Type the desired destination on the scratchpad and press the SUBJECT line select key. The code or number will be moved to the SUBJECT line. Text messages may be up to 18 lines long and 24 characters per line. Type the text on the scratchpad and press the corresponding line select key, on the left side of the CDU screen, where the text should be placed. To add a space between word or characters use the slash key (/). If all three lines are filled and the message in not yet complete, then press the NEXT key on the FMS keypad, to display the next text page.

Use the CLR MSG line select key to delete all contents of the message but the FROM, TO and ADDRESS fields.

When the message is complete, press the PREV key on the FMS keypad until the first page of the CREATE MSG page is displayed, then press the SEND line select key.

EXAMPLES AND FORMATS OF ADDRESSES AT THE SUBJECT FIELD:

Recipient addresses:

N12345	Datalink equipped aircraft
425-885-8788	Telephone number
F4258858930	Fax number
A4258858947	PC with AFISCom
GDCOPS	GDC auto forward code
AHDQGLXH	ARINC address
NKSNAXGSX	AFTN address
GDC	Global Data Center
JEPP	Jeppesen
ARI	Air Routing International
BASEOPS	Base Ops International
UVAIR	Universal Weather

Auto Forward Code(s):

To send messages with a pre-determined number, e-mail or ARINC/AFTN address - contact the Global Data Center to setup desired codes. These codes will then be entered in the SUBJECT field.

Codes can also be created for multiple destinations such as two fax machines. Again, contact the Global Data Center to setup desired codes.

RECEIVED MESSAGES

Access the RCVD MSG page by selecting the RCVD MSG line select key from the DATALINK INDEX and the TEXT WX pages.

1L	ACARS	DATALINK INDEX	1 / 2	1R
	< FLT PLAN		WINDS >	
2L	< REPORTS		PREFLIGHT >	2R
3L	< TEXT WX		INFLIGHT >	3R
4L	< CREATE MSG		RCVD MSG >	4R

From the RCVD MSG page, view all messages transmitted to the aircraft including text messages, terminal weather, digital ATIS, TWIP and Pre Departure Clearances (PDC). Each screen displays up to three messages by message title, press the NEXT key to display additional received message pages. The message title is extracted from the first twenty-one characters of the message text.

1L	ACARS	RCVD MSGS	1 / 2	1R
	< ETA REPORT RECEIVED B			
2L	< TOWN CAR IS ON RAMP A			2R
3L	< CLEARED VIA THE SUMMA			3R
4L	< RETURN			4R

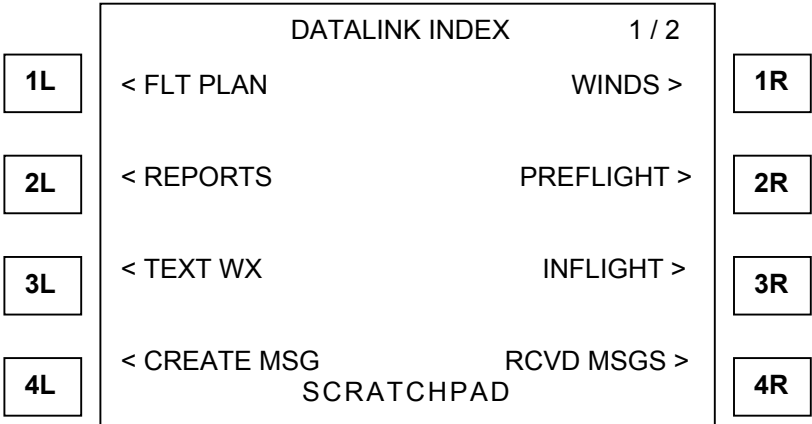
Display the desired message by pressing the corresponding left line select key. If the message is larger than one page, press the NEXT key on the FMS keypad to display the second page of the message.

GLOBAL EXPRESS: TELELINK™ CONFIGURATION CHANGE PROCEDURE

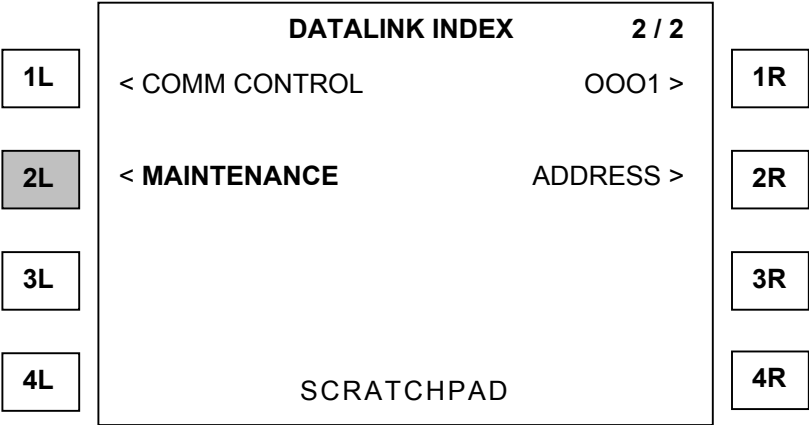
To modify the Telelink default OPERATOR ID code:

1. Initialize the FMS and IRS systems. Then select the DATALINK option from the NAV INDEX page. Press NEXT to go to the second page of the DATALINK INDEX.
2. Press the MAINTENANCE option. You must have "GS" code in OPERATOR ID field. To change the code you must go to the CONFIGURATION page of the maintenance menu and type the password 46639 in the scratchpad -- then press the bottom right line select key. The system will say, "CONFIG PASSWORD ACCEPTED".
3. After it says, "CONFIG PASSWORD ACCEPTED" you can change the operator ID code to GS on the AIRCRAFT page. After you've changed to the OPERATOR ID to GS, go back to CONFIGURATION page and choose the STORE option line select key to write the changes to the configuration module. The system may go blank for a while.

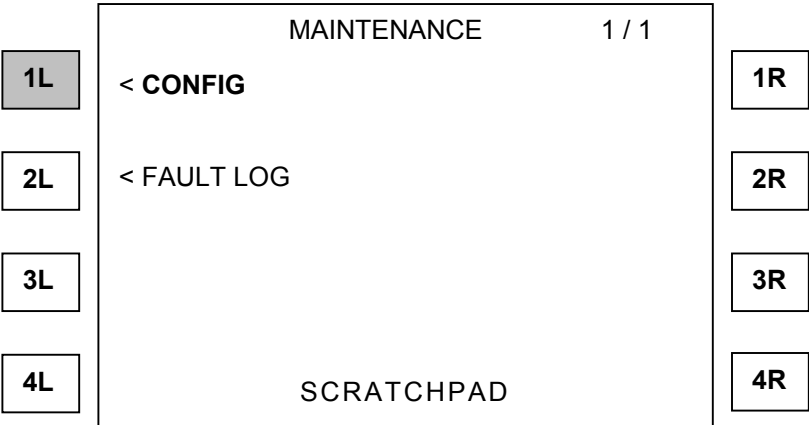
EXAMPLE: Accessed from the NAV page, the DATALINK INDEX is the primary page for control of datalink communication and TeleLink functions.



CONFIGURATION CHANGE PROCEDURE

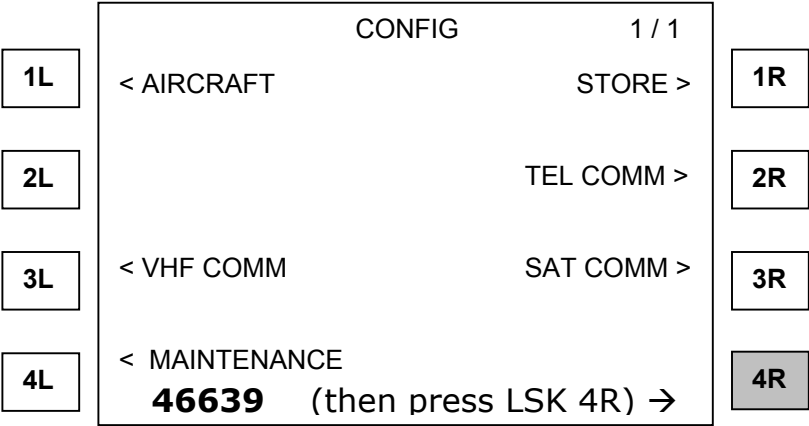


MAINTENANCE page:

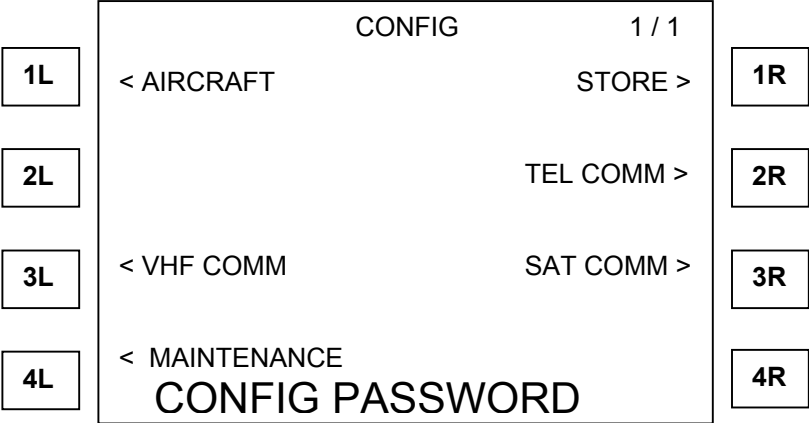


CONFIGURATION CHANGE PROCEDURE

CONFIG page:

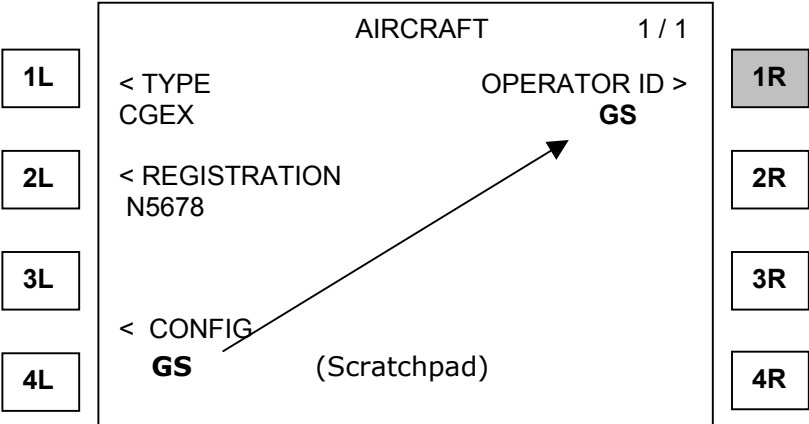


CONFIG PASSWORD ACCEPTED page:

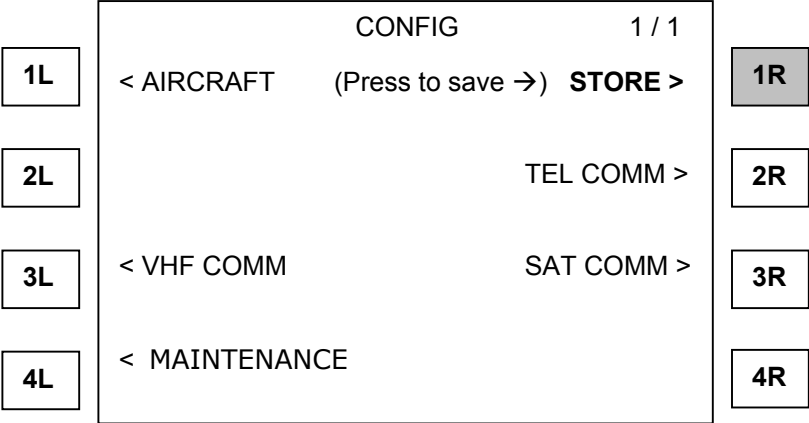


CONFIGURATION CHANGE PROCEDURE

AIRCRAFT page:



CONFIG page:



CONFIGURATION CHANGE PROCEDURE

Other Notes:

- Make sure the system is using 131.550 for ARINC, not 131.450 MHz on the VHF communication page.
- The SAT system must be set to DATA, and there must not be a phone number in the telephony section of the communications page or it will use the Magnastar phone instead of satellite. (If it uses the Magnastar, the system will not switch to SAT because the Magnastar is not supported by the Global Data Center, and therefore the system will get stuck in that mode). Suggest you use VHF, leave SAT in DATA mode, and delete the phone number in Telephony.
- **When sending a message, use the subject field for address info.** The subject field is on page two of the message page. Leave the address field blank. Press PREV to go back to the first page of the message -- then press SEND.
- When asking for TEXT WX or ATIS, the request fields will default to your departure and destination airports. If a different location is desired, line select the one you want to change, then press DEL to clear that field.
- For PDC, select DEPART CLX from the PREFLIGHT menu. You must type the departure airport at ATC station and ORIG fields. The other fields must have an entry or you can not transmit. Type what ever you want to fill the field. (The GDC will ignore all other fields)
- Ignore FUEL UPDATE, DIVERSION, and DELAY fields -- we don't service them.
- Weather, PDC, and ATIS come up as a message.