CPDLC Preflight Setup

1. Ensure you have the following documents in paper form, EFB, or iPad:
    a. ICAO Global Operational Data Link Document (GOLD)
    b. GAC OMS-4
2. Review latest ICAO NAT Bulletins
3. Verify the following appears in your ICAO Flight Plan
    a. Block 7 - Aircraft ID agrees with FMS Flight ID
    b. Block 10A - Equipment Code "J3" and "J5" (Data Link System)
    c. Block 10B - Equipment Code "D1" (ADS)
4. Master Document / En Route Charts
    a. Annotate FIR boundaries
    b. Check FIRs versus GOLD Appendix E and make note of:
        i. CPDLC status
        ii. ADS-C status
        iii. AFN address
    c. Any instructions under Remarks
5. Confirm COM/NAV3 in Data Mode
6. Verify Data Link works by any of the following methods:
    a. Downlink the flight plan
    b. Downlink D-ATIS
    c. Downlink PDC
    d. Downlink Terminal Wx
7. Check AOC STATUS page 1/3
    a. DLK > SYSTEM > DATALINK MGR
        i. If data link is GND VHF (VDL) test SATCOM (DLK > STATUS > TEST > DATALINK SEND)
        ii. If data link is SAT check GND VHF (VDL) when airborne
8. Confirm FMS Settings for CPDLC
    a. Confirm Flight ID entered into TCAS details page of FMS agrees with Block 7 of Flight Plan
    b. Confirm Data Link is Operational:
        i. DLK > SYSTEM > DATALINK MGR
        ii. VHF available
        iii. SATCOM available

CPDLC Log On

1. When:
   a) On the ground at a departure airfield within 15 minutes of an OCA or FIR that supports CPDLC, you are expected to log on NET 45 minutes prior to takeoff.
   b) If you are unable to log on from the ground, wait until passing 10,000 feet. Log on to the current FIR unless you are within 15 to 25 minutes of the next FIR, then log on to the next FIR.
   c) If already airborne, log on to the next ATSU NET 45 minutes NLT 15 minutes from reaching their airspace.
2. Log On Procedure
   a) NAV > ATC > LOGON STATUS
   b) Ensure FLT ID and TAIL NO are correct
   c) Ensure ADS ARMED
   d) Ensure ADS EMERGENCY mode is OFF
   e) On second page, ensure ATC COMM is ARMED
   f) On first page, enter LOGIN ID of FIR (From GOLD Appendix E, En Route Chart, or GAC-OMS-4)
   g) SEND
3. You should see ACCEPTED on LOGON field
4. Once handed over to an ATSU with CPDLC you should see:
   a) ATC COMM ESTABLISHED
   b) LOGON TO field should go blank
   c) The FIR's ID should be in the ATC CTR field
   d) ATC COMM should now be ACTIVE
5. If you are also in an ADS location, you will see ADS ESTABLISHED and the ADS will go from ARMED to ACTIVE.

CPDLC Latency Timer Message Response

1. You may get "CONFIRM MESSAGE LATENCY TIMER OFF" or "SET UPLINK DELAY VALUE TO 40 SECONDS"
2. The G-450 does not have a latency timer
3. Respond using free text "TIMER NOT AVAILABLE"

Downlink Oceanic Clearance

1. From a DSP (Everywhere except New York Oceanic)
   a) DLK > ATS > OCEANIC REQ
   b) Set ENTRY POINT, ENTRY TIME, and adjust Req Mach and Req FL if required
   c) SEND
   d) ACKNOWLEDGE on receipt
2. From NY Oceanic using CPDLC
   a) Will get the oceanic from NY Oceanic via ATC UPLINK message
   b) ACCEPT within 60 seconds
   c) REVIEW
   d) ATC CLEARANCE to interpret LLXX waypoints
   e) ACTIVATE to insert into FMS flight plan
   f) Remove extraneous waypoints at end of flight plan

CPDLC Crossing an FIR Boundary

1. Before crossing an FIR boundary, you should get a conditional clearance to contact the next ATSU.
2. Accept the clearance, send, but do not contact the next ATSU yet.
3. On the LOGON/STATUS page you will see the NEXT CTR field has the next ATSU listed.
4. When the next ATSU takes control, you will see ATC COMM ESTABLISHED
5. A check-in with the departing controller is not necessary.
6. At the waypoint listed, contact the new controller.

CPDLC Coast Out (North Atlantic Example)

1. Establish log on NET 45 minutes, NLT 15 minutes prior to oceanic FIR
2. Verify ATC COMM ESTABLISHED and ATSU in ACT CTR
3. When sent to HF, for example:

   _____ Radio, November _____, CPDLC, _____ Next,

   "Shanwick Radio, November one two three alpha alpha, CPDLC, Gander Next,

   flight level _____, request SELCAL check _____

   flight level four one zero, request SELCAL check Alpha Bravo Charlie Delta"

   Note: the flight level and term "CPDLC" are no longer required but seem to be expected by most radio operators.
4. If you also have ADS-C, you should hear: "November one two three alpha bravo, Shanwick Radio, SELCAL check OK, voice reports not required in Shanwick OCA, at 30 West contact Gander on three zero one six primary or five five niner eight secondary."
5. For most ATSU's around the world, you will also send a position report. (This is not required in the North Atlantic.) Check GOLD Appendix E Remarks for the ATSU's requirements.

Crossing an Oceanic Boundary

1. You should get new ADS contracts at least 15 minutes prior to the boundary.
2. At the boundary you should get ATC COMM ESTABLISHED.
3. If you will be leaving oceanic airspace after this OCA, include the last two fixes on the cleared route, for example:

   _____ Radio, November _____, CPDLC, _____, _____,

   "Gander Radio, November one two three alpha alpha, CPDLC, CARPE, REDBY,

   flight level _____ request SELCAL check _____

   flight level four one zero request SELCAL check alpha, bravo, Charlie, delta."

   Note: the flight level and term "CPDLC" are no longer required but seem to be expected by most radio operators.

Switch CMF (If data link frozen)

   Note: before you switch CMFs, record or print any logged data (such as OUT and OFF times) or new messages (such as from Data Link). They will be lost on switching.

1. Select MENU
2. Select MISC
3. Toggle LSK 5L to the other CMF. It will take a few seconds, but you should see the change reflected on the screen.

Force SATCOM / Disable VHF Data Mode

1. RADIO Page 2/2
2. COM / NAV 3
3. MODE VOICE

Make a SATCOM Short Code Call

1. You can contact most oceanic radio centers using SATCOM for any emergency or non-routine situation. To dial the 6-digit short code from the MCDU:
   a. Select MENU > SAT
   b. Type the number in the scratch pad
   c. Push MAKE CALL (4L)
   d. The system dials the number
   e. To end the call, push END CALL (2R)
2. The oceanic numbers are given on some en route charts and are reproduced here:
   a. Gander Radio: 431613
   b. New York Radio (ARINC): 436623
   c. Iceland Radio (Emergency): 425101 or 425103
   d. Iceland Radio (Com Failure): 425105
   e. Santa Maria Radio: 426305 or 426302
   f. Shanwick Radio: 4250002

Constrain a Satellite

1. Under normal operations, constraining a satellite is not necessary. If, for some reason a particular satellite drops you, this might be helpful.
2. Before ADS-C LOGON on the MCDU:
   a. MENU
   b. SAT (6L)
   c. SUBMENU (6L)
   d. LOGON (2L)
   e. GES (6L)
   f. Constrain the satellite in question
   g. LOGON (6L)
   h. GES (6L)
   i. Constrain the satellite in question
   j. LOGON (6L)

Unconstrain a Satellite

1. MENU
2. SAT (6L)
3. SUBMENU (6L)
4. LOGON (2L)
5. AUTO LOGON (2L)

Exiting CPDLC and ADS-C Airspace

1. The CPDLC connection and the ADS contract should terminate automatically.
2. If not, switch both off