Federal Aviation Administration

En Route ERAM Ghost Pilot (GP) Training

Lesson 2: Interpreting Ghost Pilot Displays

Course FAA55149002

Version: V 2019-05

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LESSON PLAN DATA SHEET

Section	Description
Course Name	En Route ERAM Ghost Pilot (GP)
Course Number	FAA55149002
Lesson Title	Interpreting Ghost Pilot Displays
Duration	1 Hour
Date Revised	May 2019
Version	V.2019-05
Software Compatibility	Microsoft Word, Power Point
Reference(s)	• TI 6110.106, ERAM Ghost Pilot Quick Reference Card • TI 6110.154, ERAM ARTCC System Support Manual: Simulation User's Guide • ATPilot Situational Display Data (SDD) User Manual
Handout(s)	None
Exercise(s)/ Activity(s)	Part Task Scenario 2
Assessments	End-of-course Knowledge and Performance Tests
Materials and Equipment	Projector
Other Pertinent Information	None

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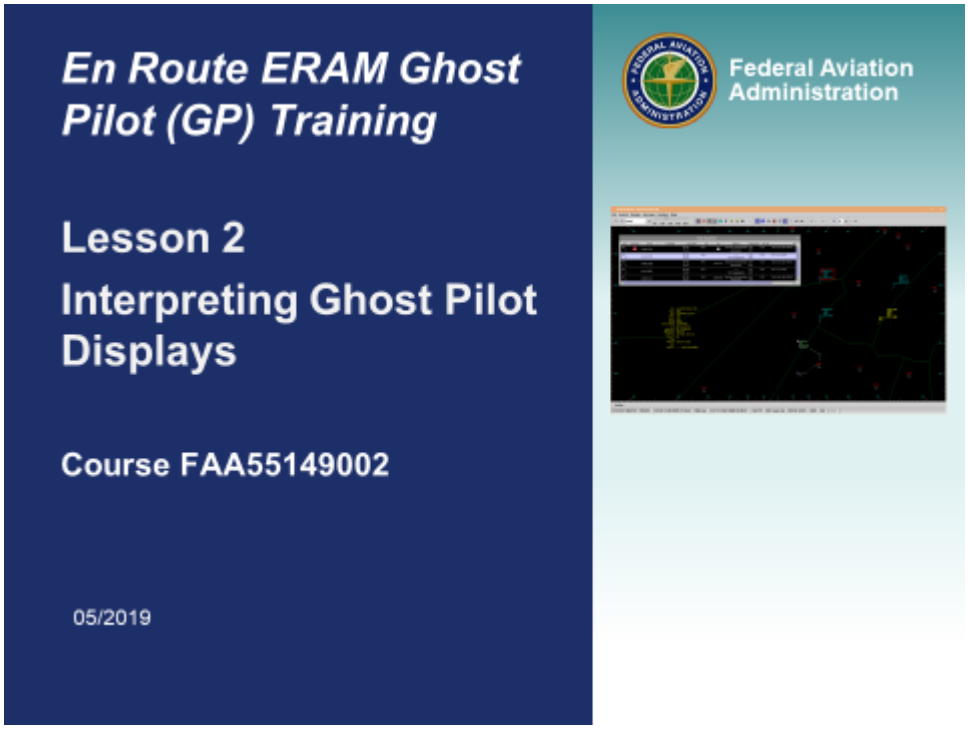
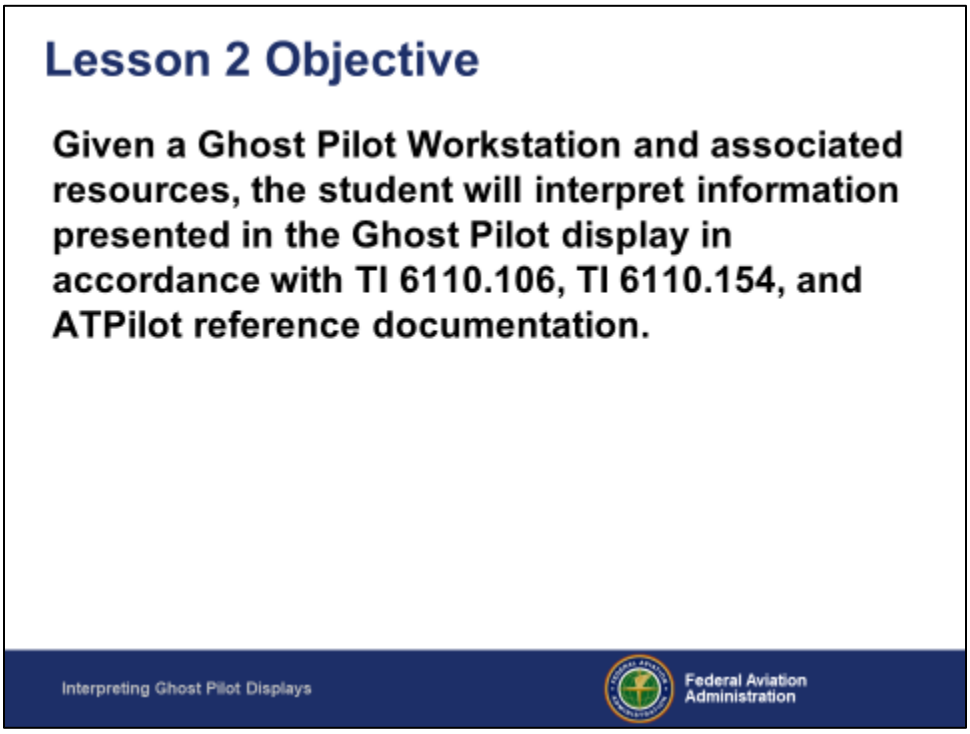
Slide - 1.


En Route ERAM Ghost Pilot (GP) Training
Lesson 2
Interpreting Ghost Pilot Displays
Course FAA55149002
05/2019
Federal Aviation Administration

Slide - 2.


Lesson 2 Objective
Given a Ghost Pilot Workstation and associated resources, the student will interpret information presented in the Ghost Pilot display in accordance with TI 6110.106, TI 6110.154, and ATPilot reference documentation.
Interpreting Ghost Pilot Displays
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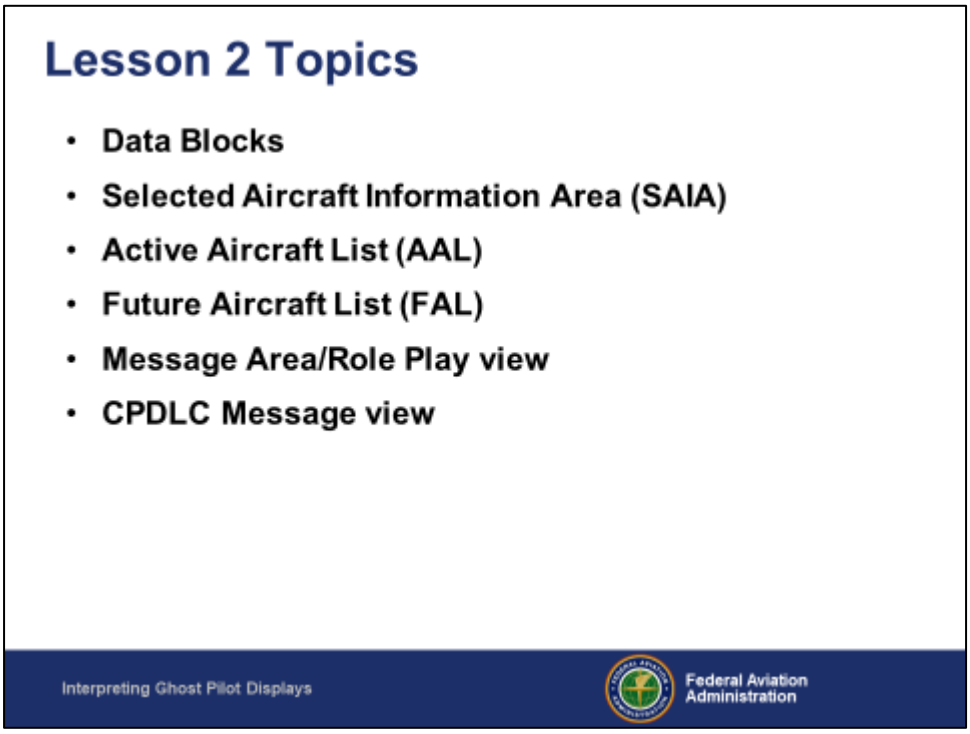
Slide - 3.


Lesson 2 Topics
• Data Blocks
• Selected Aircraft Information Area (SAIA)
• Active Aircraft List (AAL)
• Future Aircraft List (FAL)
• Message Area/Role Play view
• CPDLC Message view
Interpreting Ghost Pilot Displays
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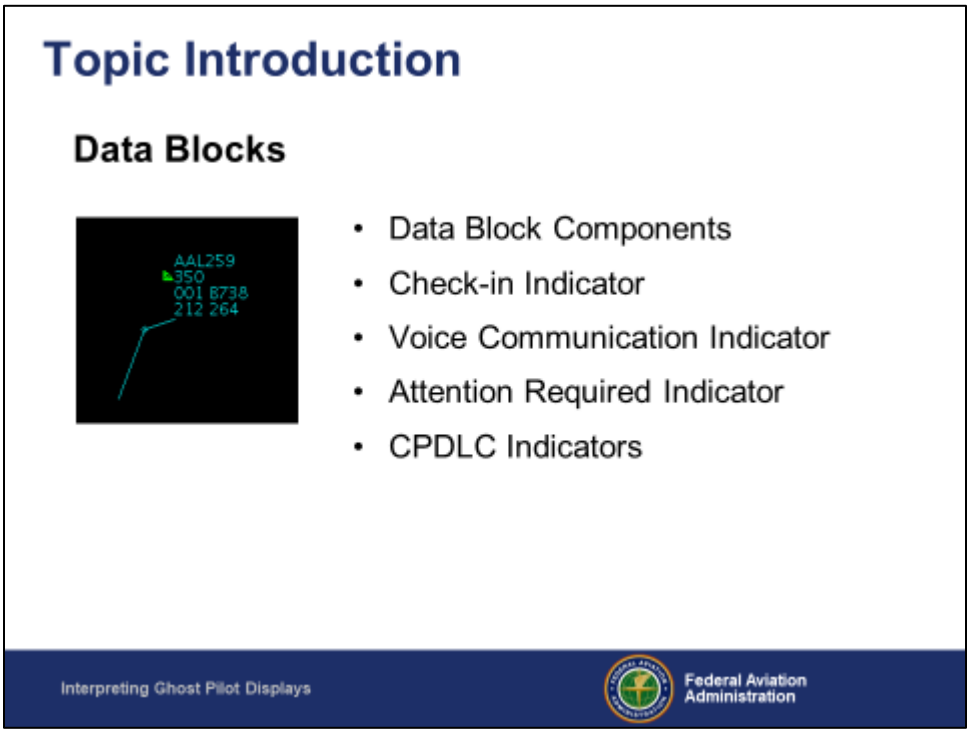
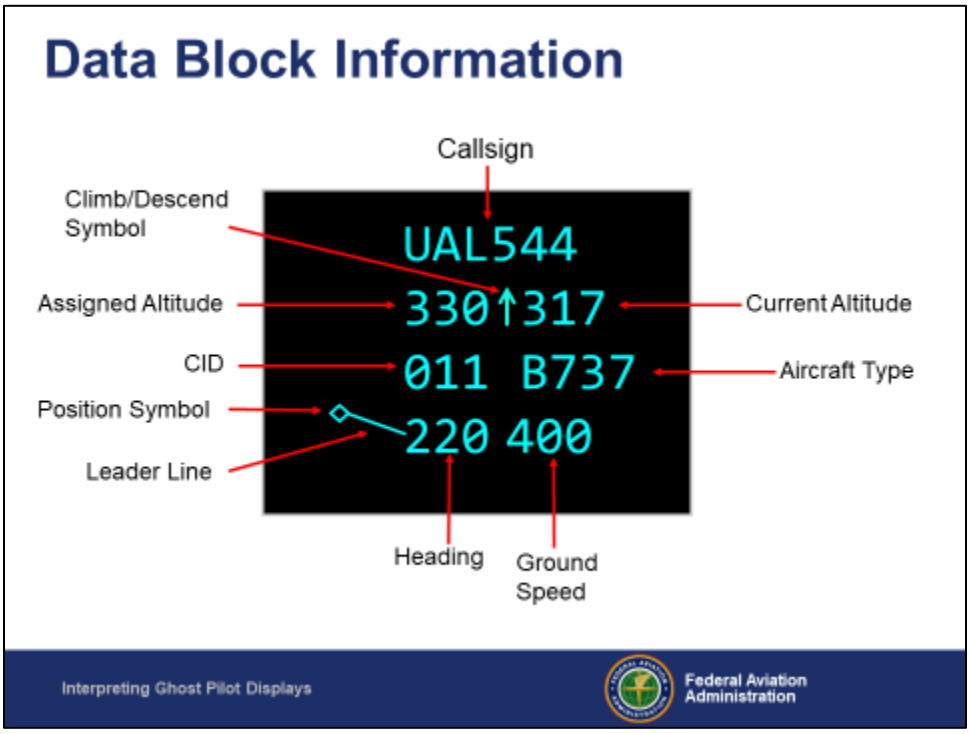
Slide - 4.



A Data Block provides information about a target. This includes:

- Basic information such as callsign, altitude, speed and heading.
- Color coding to alert the Ghost Pilot to check-in via voice with the controller.
- Coding that indicates the aircraft has checked-in and the type of communication used (i.e., voice or digital message using Controller Pilot Data Link Communication, or CPDLC).
- Coding to alert the Ghost Pilot that an action must be taken.
- For CPDLC equipped aircraft, information about the status of CPDLC communications.

Slide - 5.



The ATPilot Full Data Block, or FDB, is very similar to the FDB presented to controllers at the R-position. At the Ghost Pilot position, the term target label can refer to the FDB or LDB.

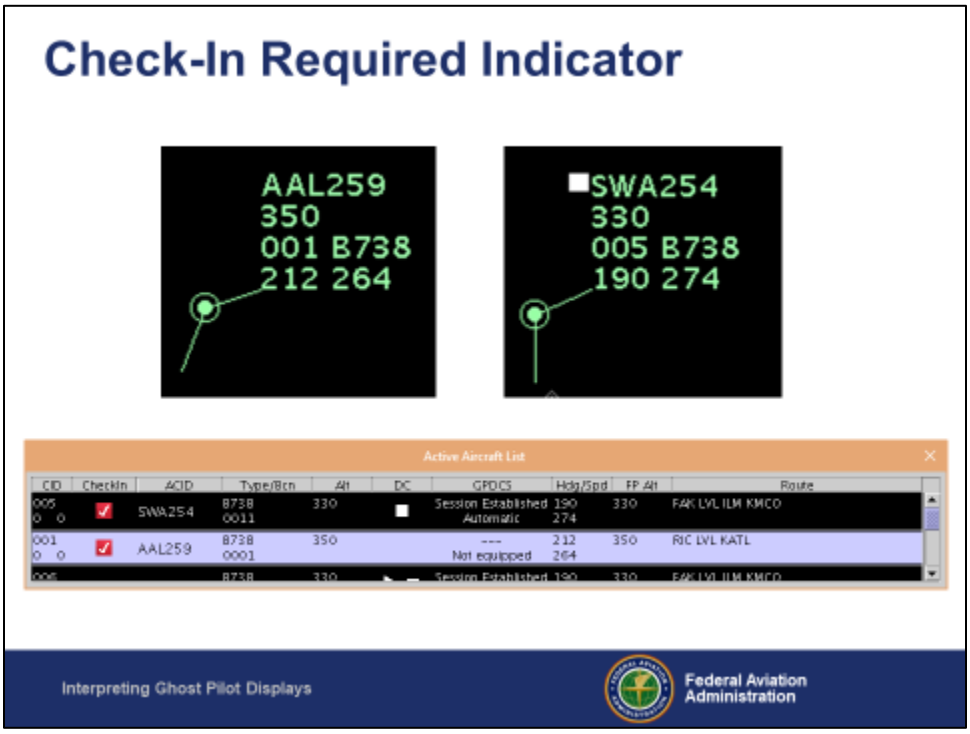
The target is identified by the FDB, a position symbol and a target label. There is also a leader line that connects the label FDB and position symbol.

The FDB provides the following information:

- Callsign
- Assigned altitude – If the assigned altitude is the only altitude displayed, the assigned and current altitudes are the same.
- Current altitude – Only if the current and assigned altitudes are different.
- A climb or descend arrow - Only if the current and assigned altitudes are different.
- Computer Identification number (CID)

- Aircraft type
    - Replaced by handoff indicators when the aircraft is in handoff status.
- Current heading
- Current ground speed

Slide - 6.



During actual air traffic operations, controllers instruct aircraft to contact the next sector's frequency after the next sector has accepted the handoff. The pilot will acknowledge the instruction, switch to the next sector's frequency, and transmit the aircraft's current altitude (if climbing or descending) and assigned altitude to the new controller. The entire process is called the Transfer of Communication. The initial communication with the new controller is referred to as checking-in.

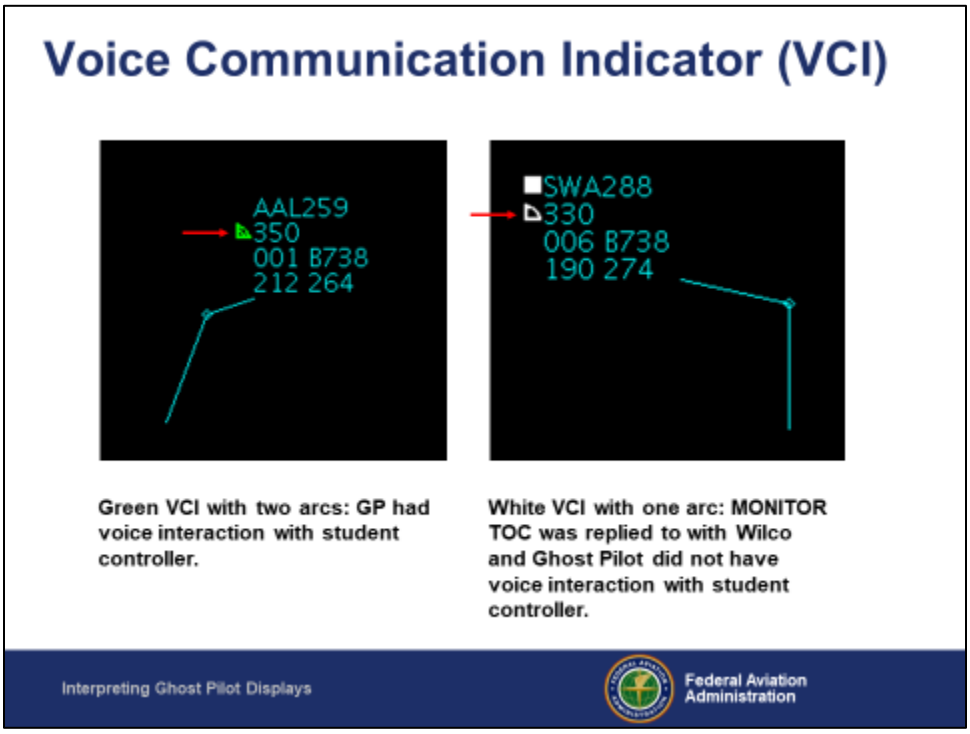
A transfer of communication can be accomplished via voice or CPDLC. CPDLC equipped aircraft can either receive a CONTACT or MONITOR instruction when the transfer of communication message is uplinked.

- The Contact instruction requires the pilot to switch to the new frequency and check-in via voice.
- The Monitor instruction simply requires the pilot to switch to the new frequency. It is referred to as a silent check-in. The assumption is that CPDLC is the primary communication option.

A Data Block will change color to alert the Ghost Pilot that a voice check-in is required. The default Check-in Required indicator color is light green.

On the Active Aircraft List, there will be a checkmark in the CheckIn column if that column is being displayed.

Slide - 7.



Once a check-in is completed, the data block will display a Voice Communication Indicator, or VCI.

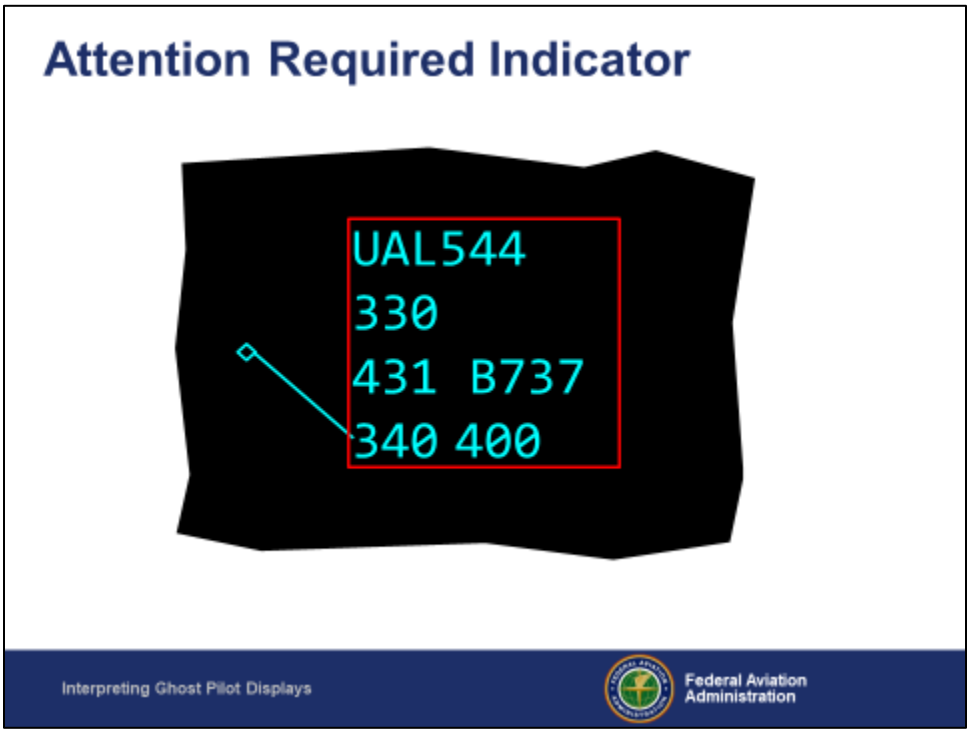
For voice check-ins, a Ghost Pilot must acknowledge that the check-in was completed (to be covered in a later lesson). When that happens a Manual VCI will be displayed next to the altitude. The Manual VCI is green and has two arcs.

For silent check-ins, an Auto VCI will appear once ATPilot sends a WILCO response to the MONITOR uplink. The Auto VCI is white with one arc.

The Ghost Pilot can remove a VCI from the data block by left clicking on the indicator. To redisplay a VCI, the Ghost Pilot must select the CheckIn option on the Target Control menu.

The VCI is automatically removed from the data block of CPDLC targets upon transmission of a WILCO response to a CONTACT or MONITOR message sent to the next sector/facility.

Slide - 8.



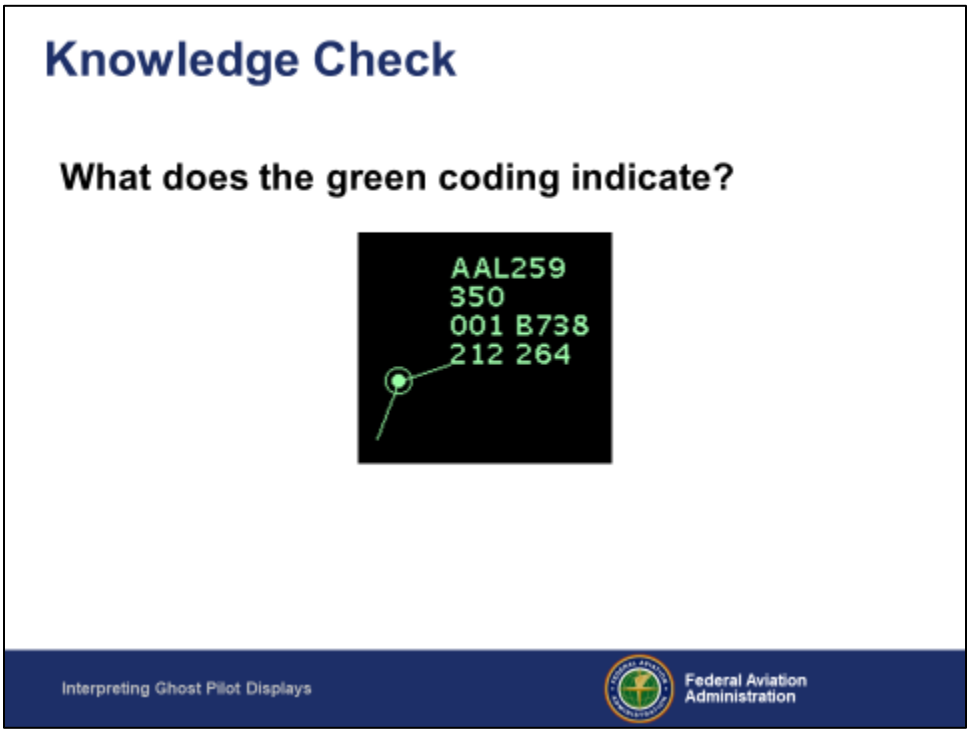
An Attention Required indicator (ARI) will appear to alert the Ghost Pilot that an action or response is required. The indicator is a red square around the data block.

Various conditions trigger the display of the Attention Required indicator:

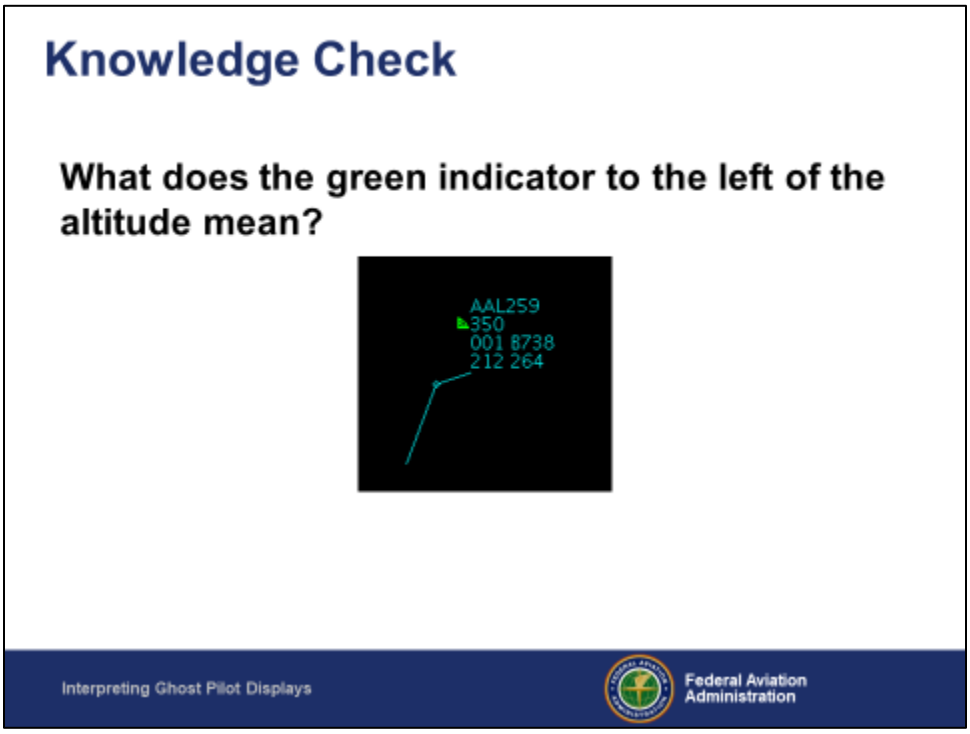
- There is a Ghost Pilot prompt for the target.
- The Ghost Pilot must manually respond to a CPDLC uplink.
- An automatic UNABLE message was sent in response to a CPDLC uplink.
- A CPDLC route uplink with a STAR was received and requires review, and possibly revision, by the Ghost Pilot.

These conditions will be covered in later lessons.

Slide - 9.


Knowledge Check
What does the green coding indicate?
AAL259
350
001 B738
212 264
Interpreting Ghost Pilot Displays
Federal Aviation Administration

Slide - 10.


Knowledge Check
What does the green indicator to the left of the altitude mean?
AAL259
350
001 8738
212 264
Interpreting Ghost Pilot Displays
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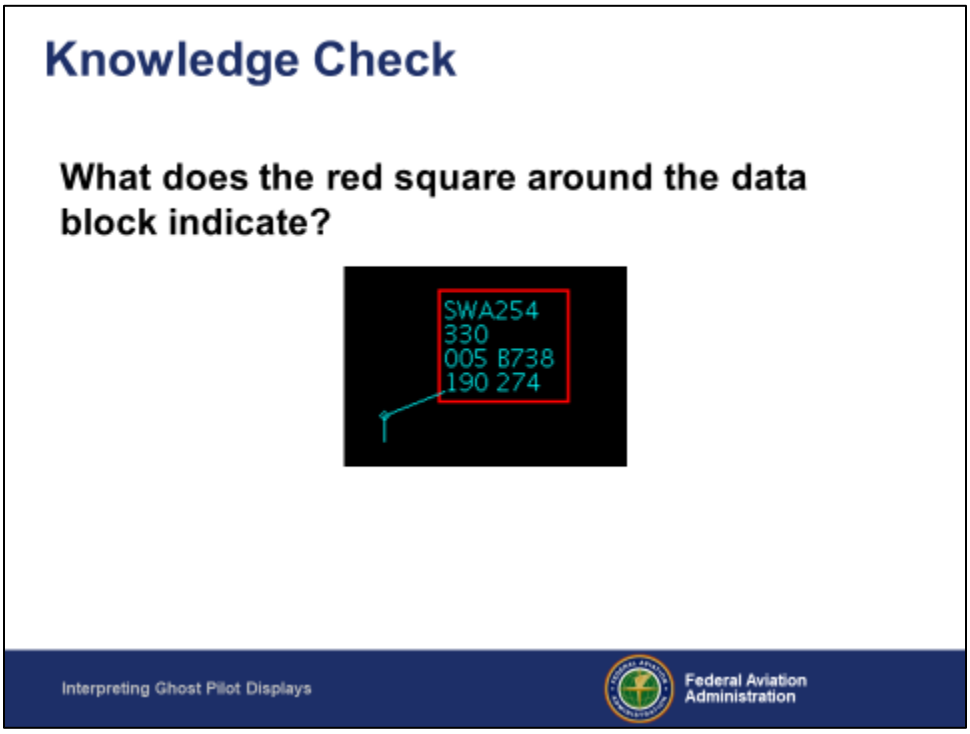
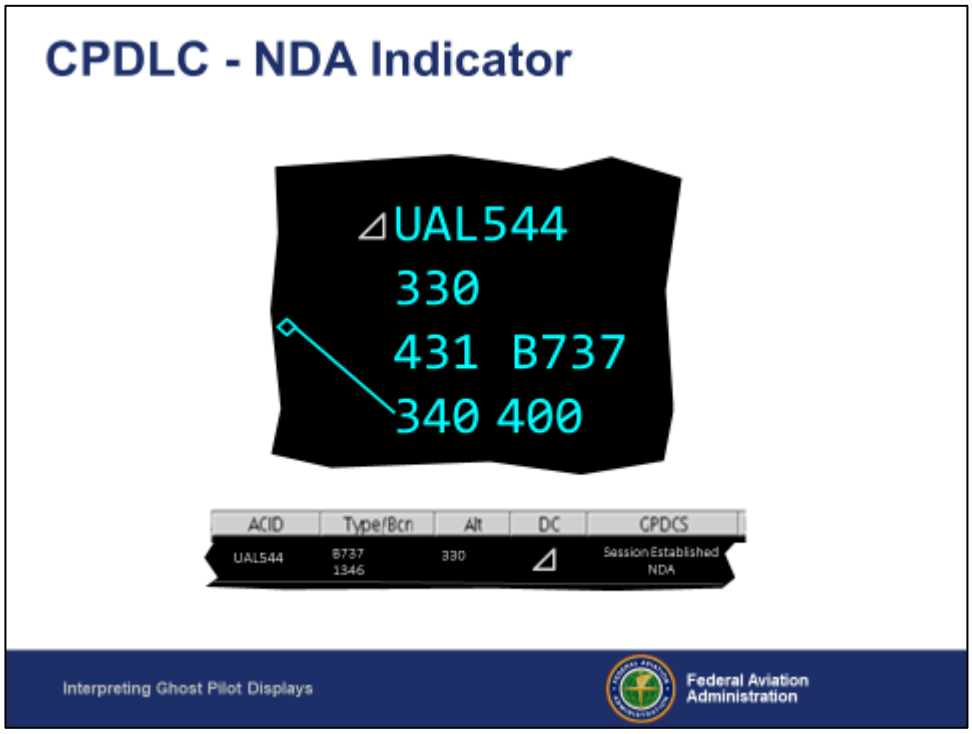
Slide - 11.


Knowledge Check
What does the red square around the data block indicate?
SWA254
330
005 B738
190 274
Interpreting Ghost Pilot Displays
Federal Aviation Administration

Slide - 12.



The data block for CPDLC targets also provides information about the status of CPDLC communications.

A target with a Next Data Authority (NDA) session will display the NDA session indicator to the left of the callsign. The indicator is a white hollow triangle.

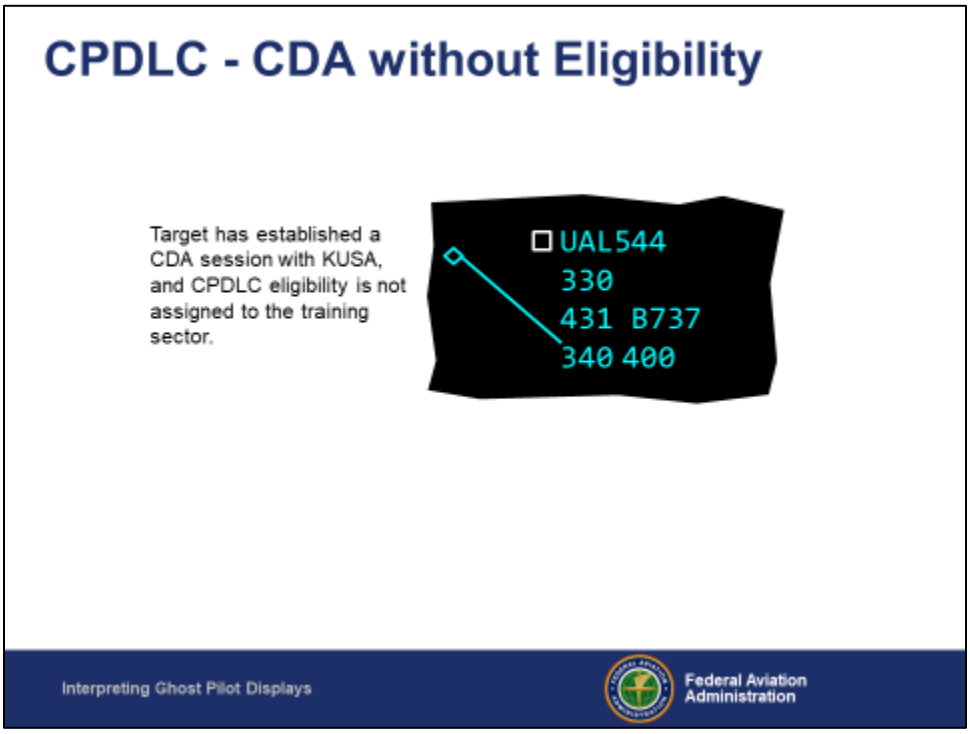
- A Next Data Authority (NDA) session means the aircraft has established a session in preparation for using CPDLC.

The NDA session indicator will also appear in the Active Aircraft List and Future Aircraft List if the DC (i.e., Data Comm) column is being displayed.

Ghost Pilots will normally see the NDA indicator in scenarios that include aircraft transitioning from Canadian or ATOP airspace to US airspace.

NDA indicators also appear when a CDPLC target first appears in a scenario and goes through the process of establishing a Current Data Authority (CDA) session.

Slide - 13.



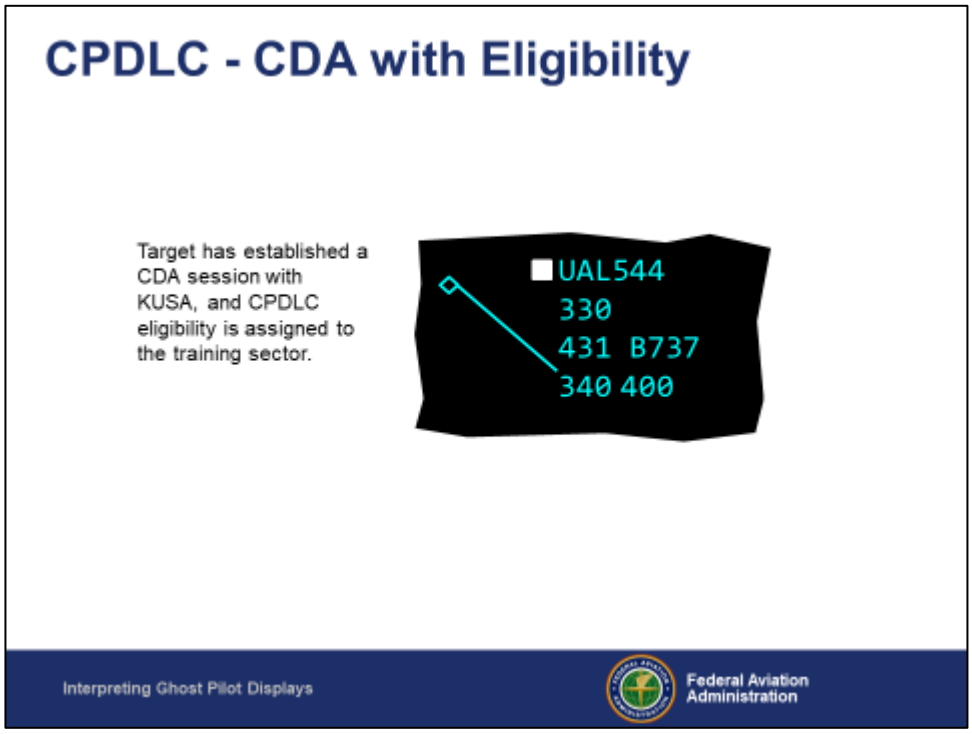
A target with a Current Data Authority (CDA) session will display the CDA session indicator to the left of the callsign.

- CDA means the aircraft has a session with KUSA.

The indicator is a white hollow square if the CDA session is established but the training sector is not the sector eligible to communicate with the aircraft via CPDLC.

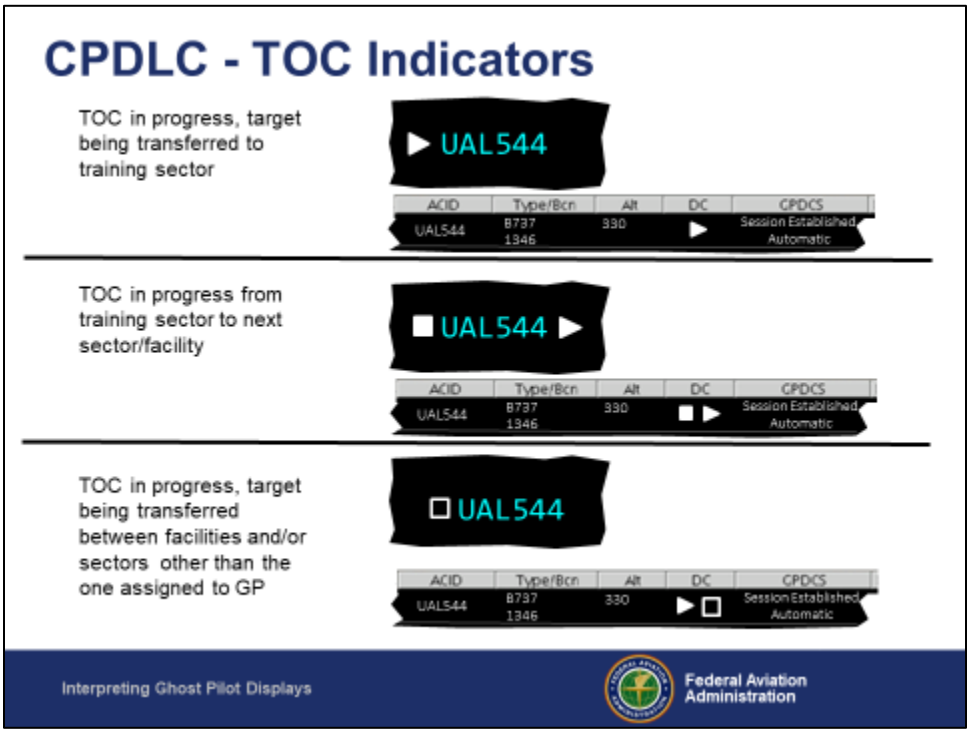
Only one sector at a time may communicate with an aircraft via CPDLC.

Slide - 14.



The indicator for a CDA session with eligibility is a solid white square. Targets with this indicator can communicate with the training sector using CPDLC.

Slide - 15.



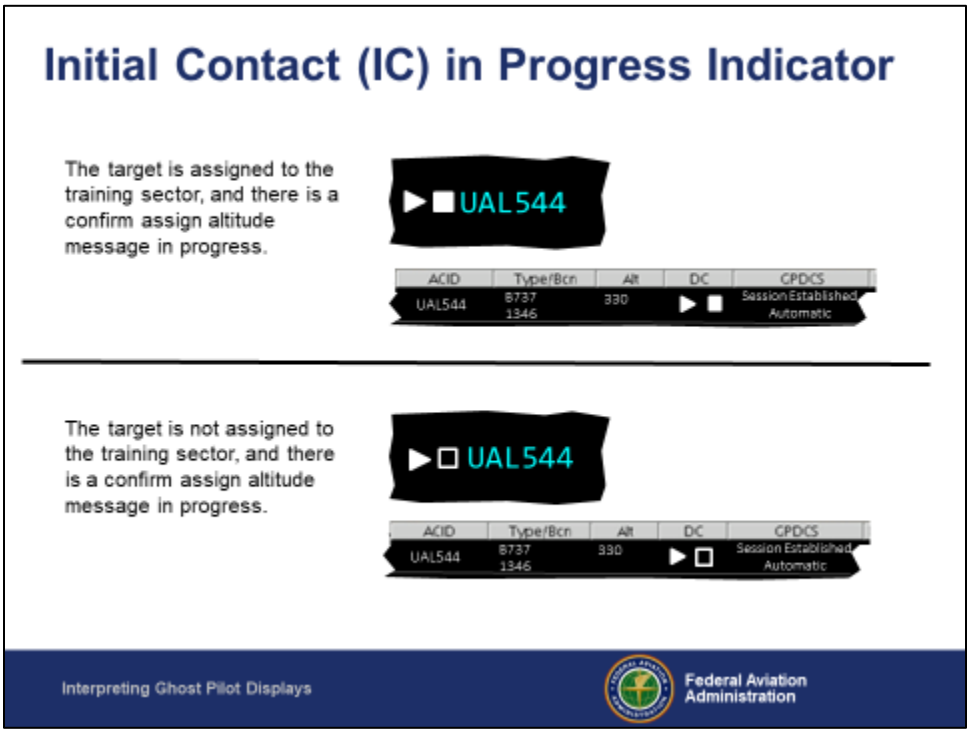
Special coding is displayed during a CPDLC Transfer of Communication, also referred to as a TOC.

For targets inbound to the training sector, the CDA session without eligibility will be replaced by a TOC in progress indicator (i.e., a white right-pointing triangle). The same indicator is displayed on the AAL if the DC column is being displayed.

For targets outbound from the sector, a TOC in progress indicator appears to the right of the callsign. The same indicators are displayed on the AAL if the DC column is being displayed.

For targets neither inbound nor outbound, there is no TOC coding in the data block. The AAL will display a TOC in progress indicator and a CDA session without eligibility for this case.

Slide - 16.

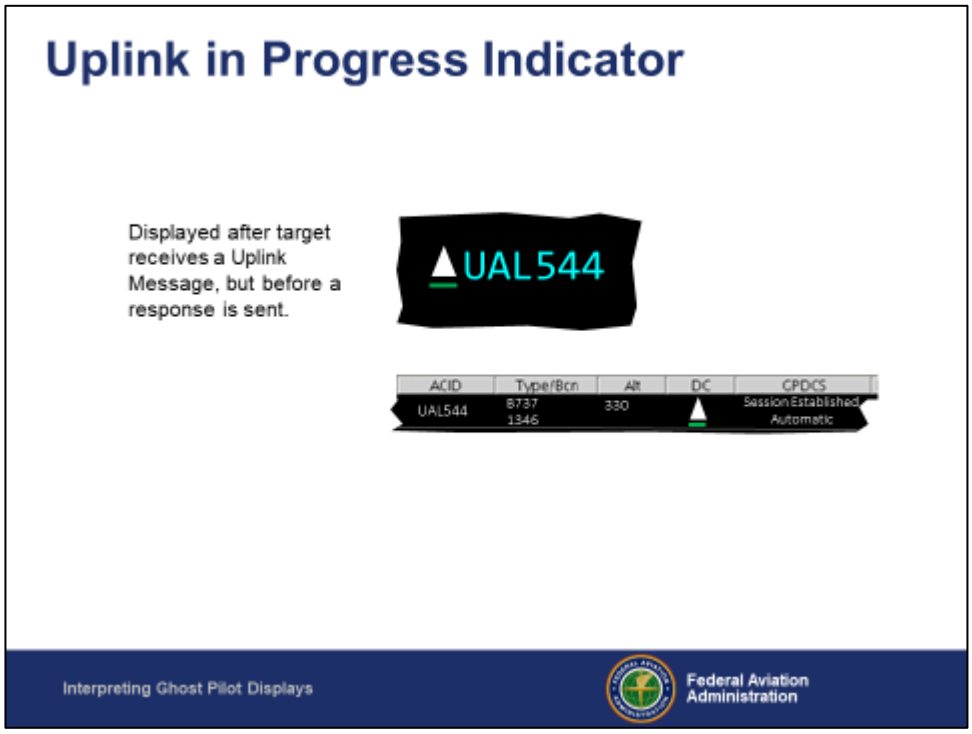


During a “silent” check-in, the system will automatically request that the pilot downlink their assigned altitude to confirm it matches the assigned altitude in ERAM. The CPDLC term for this is Initial Contact, or IC. Special coding is displayed to the controller if the altitudes do not match (IC Mismatch).

A controller can also manually uplink the altitude confirmation request.

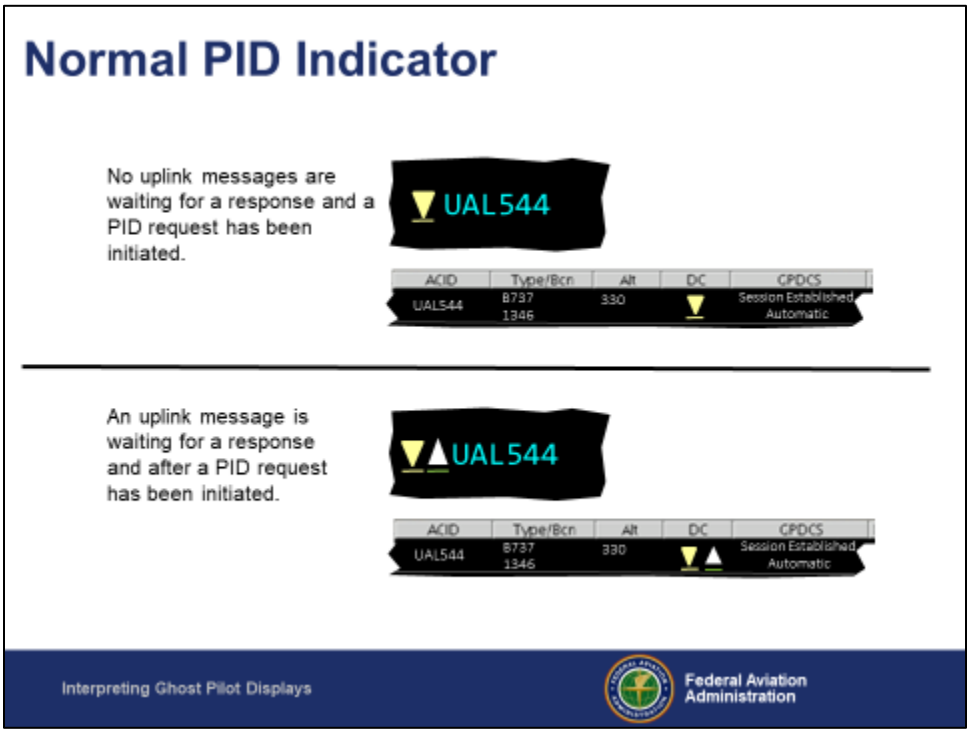
An IC in progress indicator is shown, which consists of the right-pointing triangle next to the CDA indicator. The IC in progress indicator will remain until the altitude confirmation downlink is received.

Slide - 17.



The Uplink in progress indicator is displayed from the time a target receives a CPDLC message from the controller. During this time, the uplink is considered to be open until the time a response is sent.

Slide - 18.



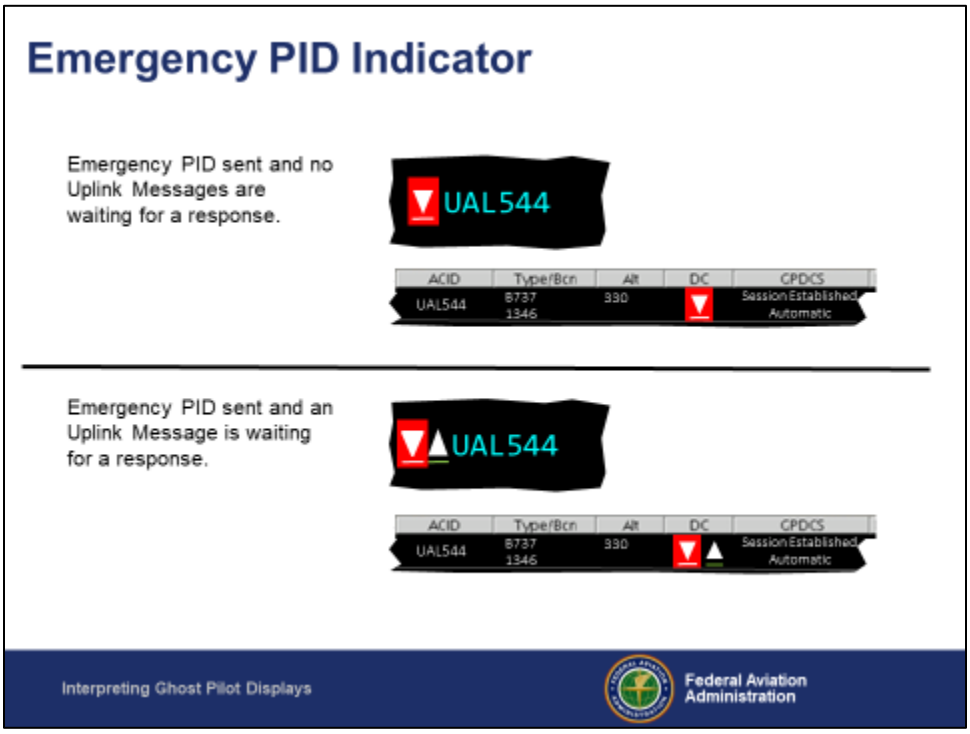
Ghost Pilots may use CPDLC to request an altitude, direct routing to a fix on their current route (not necessarily flight plan route), or to use voice. The CPDLC term for this is a Normal Pilot Initiated Downlink, or PID.

The Normal PID in progress indicator is displayed from the moment the PID is sent to the moment a controller response is received.

The Normal PID in progress indicator appears next to the callsign if there are no open uplinks or to the left of the Uplink in progress indicator if an uplink is open.

The same coding is used in the AAL.

Slide - 19.



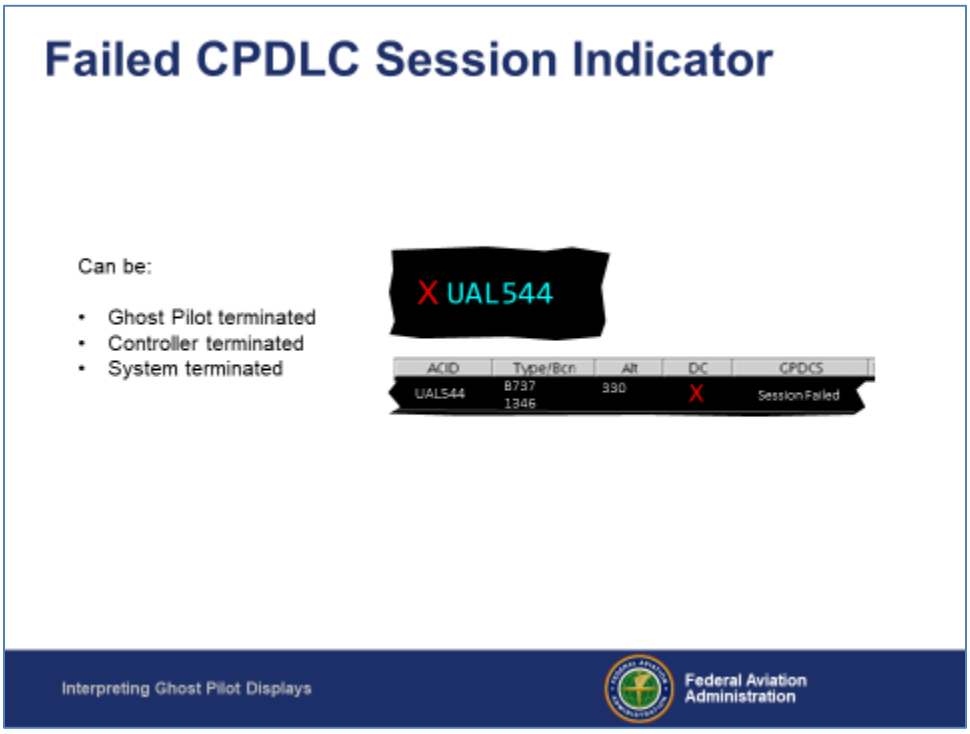
Pilots may use CPDLC to downlink an emergency message to the controller. Examples include Mayday or request to deviate. The CPDLC term for this is an Emergency Pilot Initiated Downlink, or PID.

The Emergency PID in progress indicator is displayed the moment the Emergency PID is sent. The Ghost Pilot must acknowledge the emergency PID downlink entry in the CPDLC Message view to clear the indicator (covered in a later lesson).

The Emergency PID in progress indicator appears next to the callsign if there are no open uplinks or to the left of the Uplink in progress indicator if an uplink is open.

The same coding is used in the AAL.

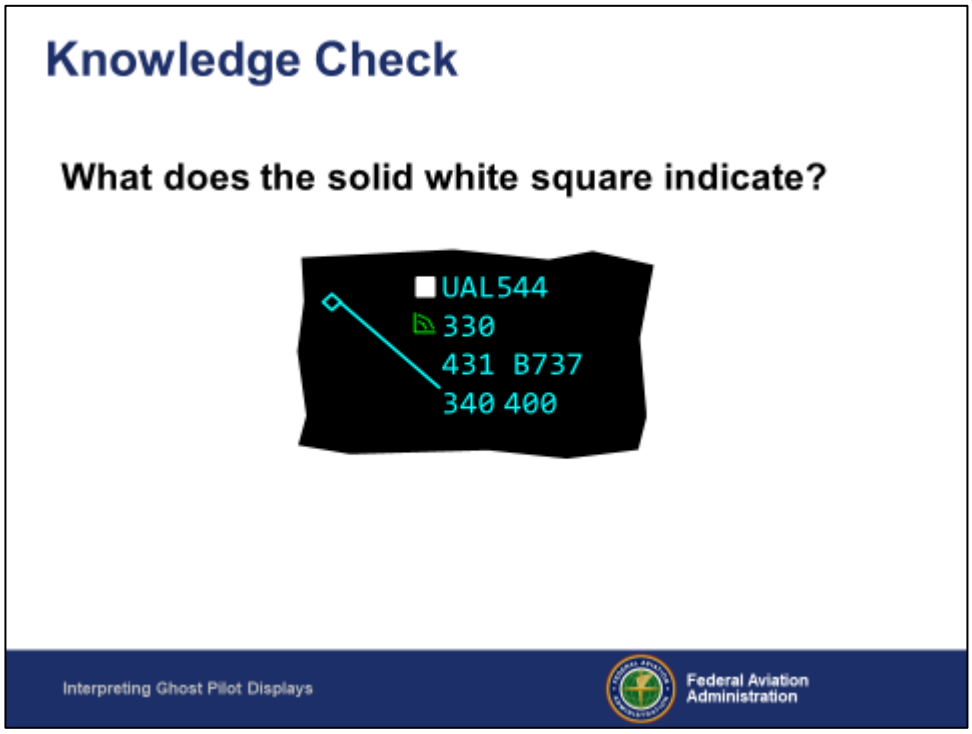
Slide - 20.



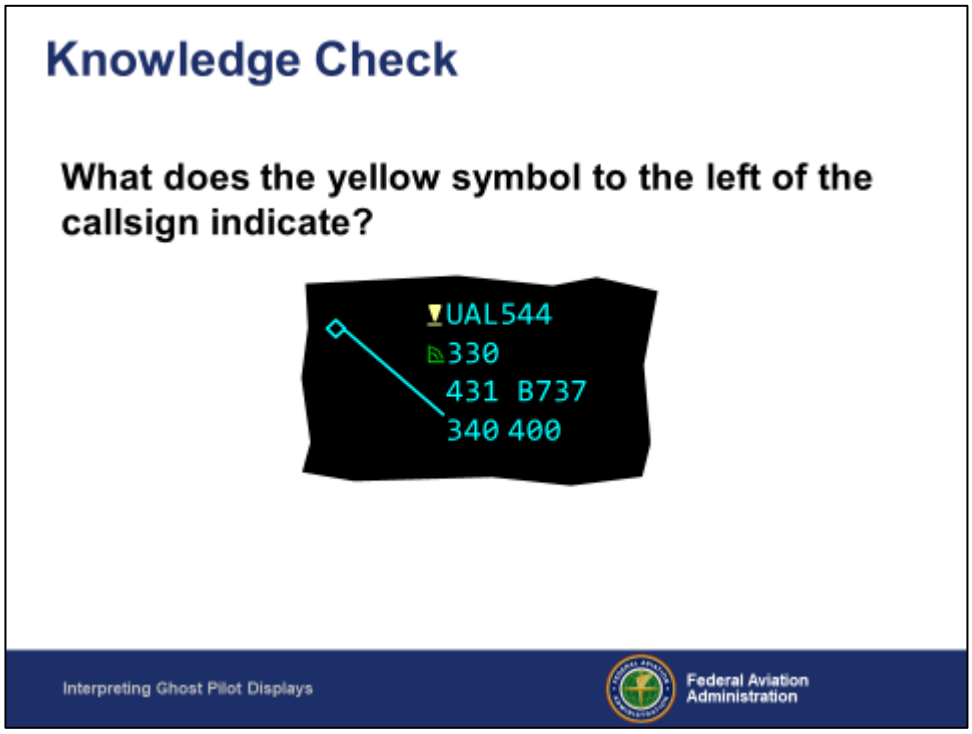
A pilot or controller can terminate a CPDLC session. There are also situations when the system terminates the session due to some abnormal condition. These are all considered a “Failed” session.

The Failed CPDLC Session indicator is displayed whenever a CPDLC session fails. The indicator is displayed for the remainder of the scenario unless a new session is successfully started.

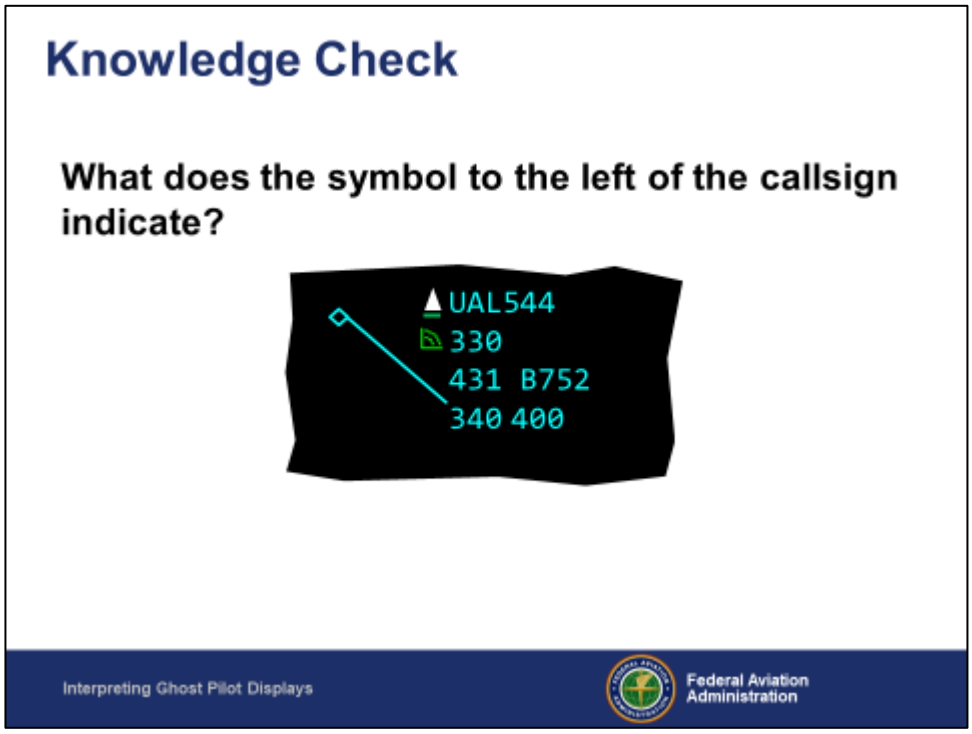
Slide - 21.


Knowledge Check
What does the solid white square indicate?
UAL544
330
431 B737
340 400
Interpreting Ghost Pilot Displays
Federal Aviation Administration

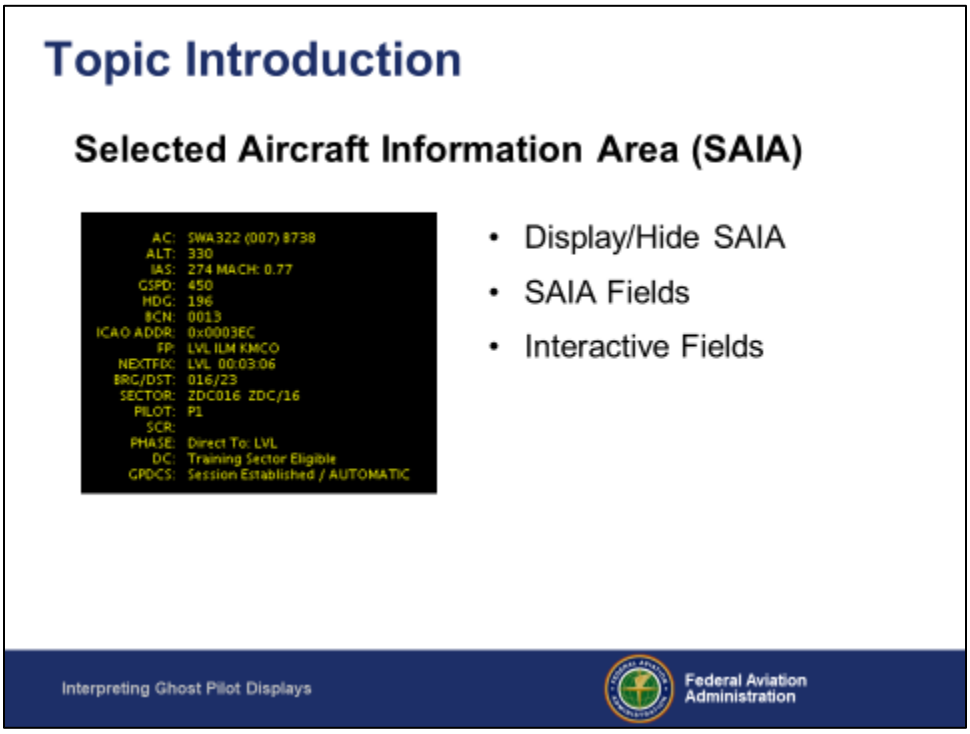
Slide - 22.


Knowledge Check
What does the yellow symbol to the left of the callsign indicate?
UAL544
330
431 B737
340 400
Interpreting Ghost Pilot Displays
Federal Aviation Administration

Slide - 23.


Knowledge Check
What does the symbol to the left of the callsign indicate?
UAL544
330
431 B752
340 400
Interpreting Ghost Pilot Displays
Federal Aviation Administration

Slide - 24.



The Selected Aircraft Information Area (SAIA) provides information about the selected target. A target is selected by clicking on the callsign or on the target position symbol. The default color for a selected target is yellow.

The data in the SAIA updates dynamically.

In this section, we will cover:

- How to display or hide the view.
- The information provided in the view.
- The selectable fields available to perform target control tasks.

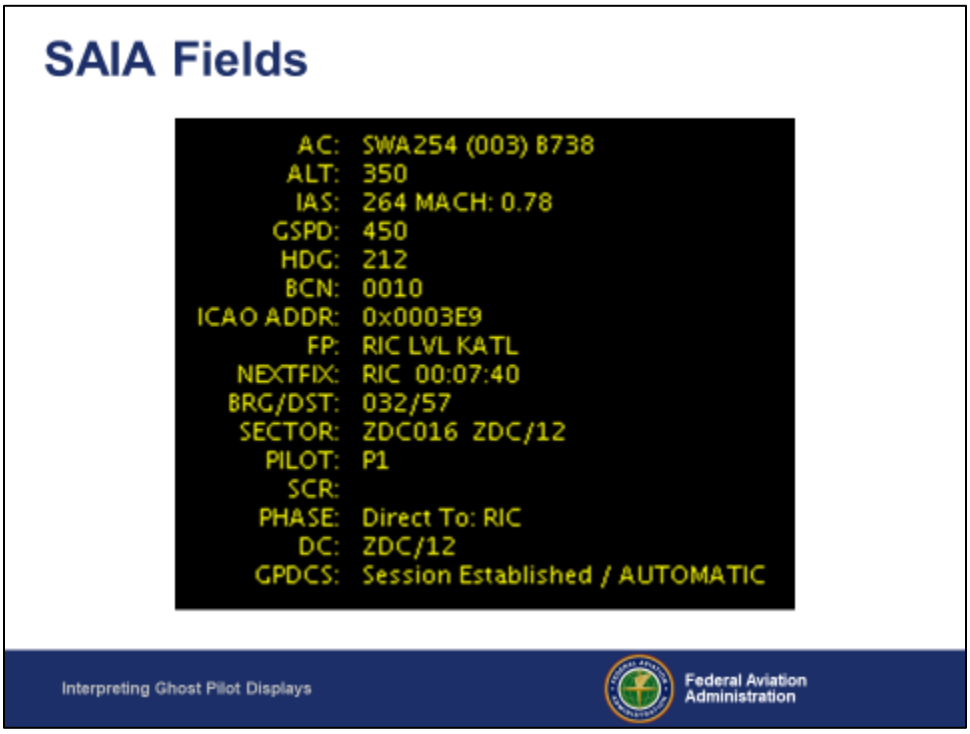
Slide - 25.

Click the SAIA icon on the Views toolbar to display or hide the SAIA. The icon has a gray outline when the view is displayed.

The SAIA will only be displayed while a target is selected.

The view can be moved by clicking-and-dragging any part of the view.

Slide - 26.



The SAIA view provides the following information:

AC	Aircraft callsign, the ERAM Computer Identification number (CID) assigned to the flight, and the aircraft type.
ALT	Assigned and current altitude in the same format as used in the data block.
IAS	Indicated Air Speed and Mach speed
GSPD	Ground speed
HDG	Heading
BCN	The beacon code being squawked
ICAO ADDR	The ICAO address, which is a unique identifier used by ERAM.
FP	The current ATPilot path the target is programmed to fly. This is equivalent to the route in an aircraft's Flight Management System (FMS) and not necessarily the same route as in the ERAM flight plan.
NEXTFIX	The next fix in the ATPilot route, and the estimated time of arrival there.
BRG/DST	The bearing and distance from the next fix on the flight plan to the target position symbol.

SECTOR: The training sector and the sector currently with track control (if different from the training sector).

PILOT The Ghost Pilot position number assigned to the target.

SCR The Scribble field is a free text field that a Ghost Pilot can use to make notes. Click on the field to open the Scribble menu and enter the desired text.

PHASE The phase of flight (i.e., Direct to, Departure, Landing, Hold).

DC The Data Comm field provides CPDLC session, eligibility, and activity information. The possible field content corresponds to the data block indicators previously described:

- Next Data Authority
- Facility/sector with eligibility (e.g., ZDC/12) - if not the training sector
- Training Sector Eligible
- TOC from Training Sector
- TOC to Training Sector
- TOC in Progress
- IC in Progress by Training Sector
- IC in Progress
- Uplink in Progress
- Downlink in Progress
- Uplink + Downlink in Progress
- Pilot Terminated
- Session Terminated

GPDCS The Ghost Pilot Data Comm Status field provides CPDLC logon and response mode information. Possible logon states:

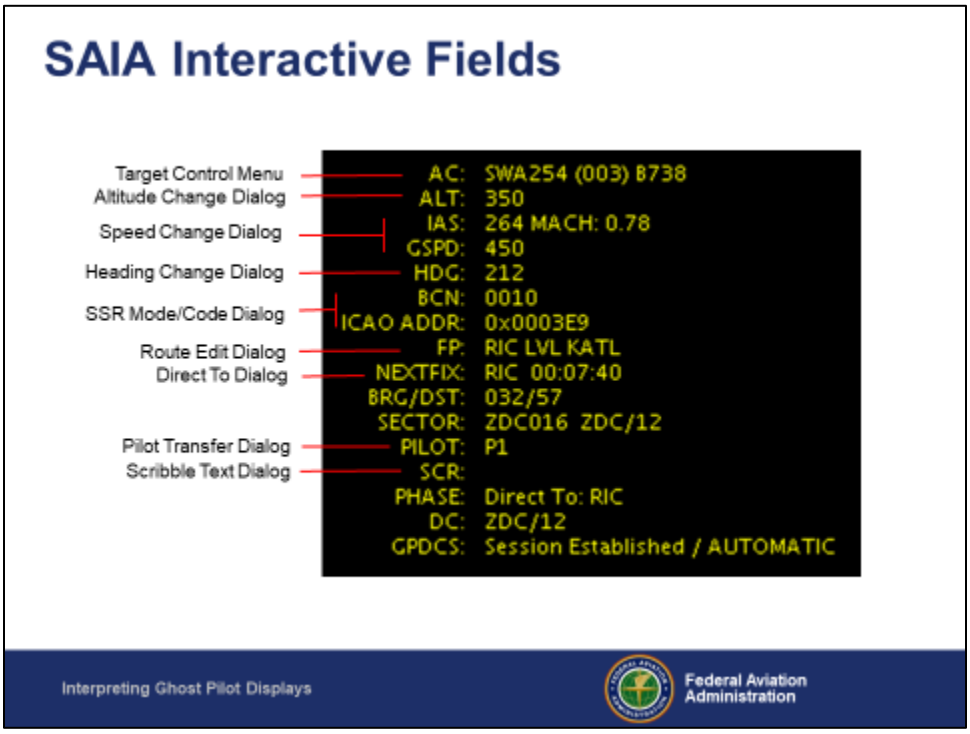
- Logon Sent
- No Logon Sent
- Session Established

There are three response modes:

- Automatic
- Manual
- NDA

The scenario developer sets the response mode for an entire scenario, but can also do so for a target. A Ghost Pilot can also set the response mode for a target. We will provide detail about response modes later in this lesson.

Slide - 27.

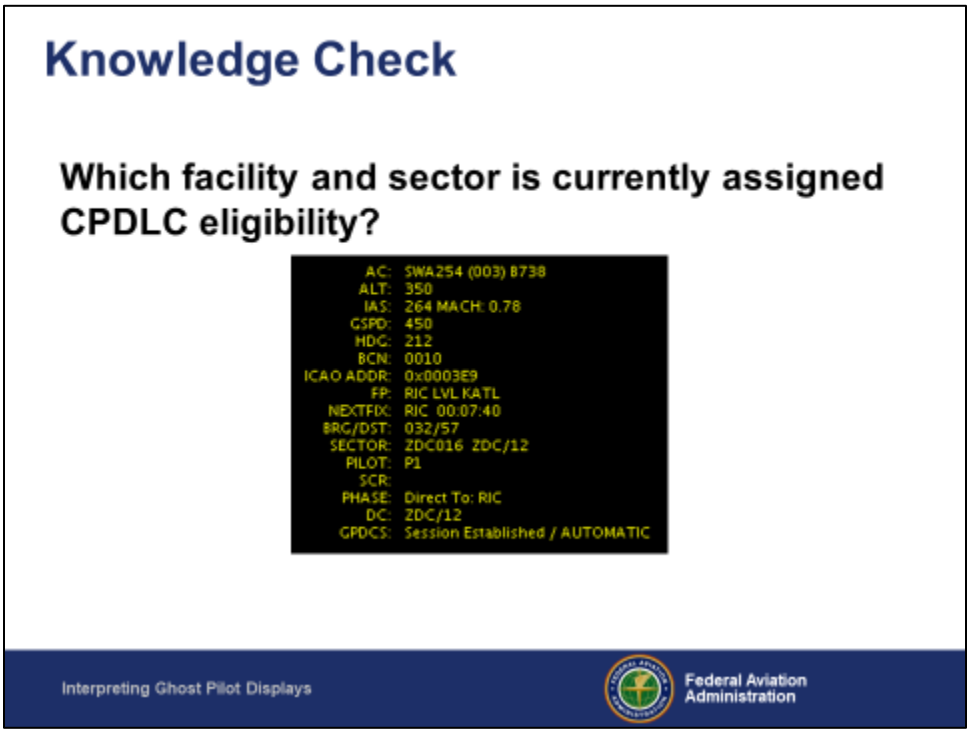


In addition to providing information, clicking on many of the fields will access dialogs used to perform target control tasks. For example, clicking on ALT will open the Altitude Change dialog used to change a target's altitude.

Right-clicking on the callsign will bring up the Target Control menu.

Use of these dialogs is covered in later lessons.

Slide - 28.


Knowledge Check
Which facility and sector is currently assigned CPDLC eligibility?
AC: SWA254 (003) B738
ALT: 350
IAS: 264 MACH: 0.78
GSPD: 450
HDG: 212
BCN: 0010
ICAO ADDR: 0x0003E9
FP: RIC LVL KATL
NEXTFIX: RIC 00:07:40
BRG/DST: 032/57
SECTOR: ZDC016 ZDC/12
PILOT: P1
SCR:
PHASE: Direct To: RIC
DC: ZDC/12
GPDCS: Session Established / AUTOMATIC
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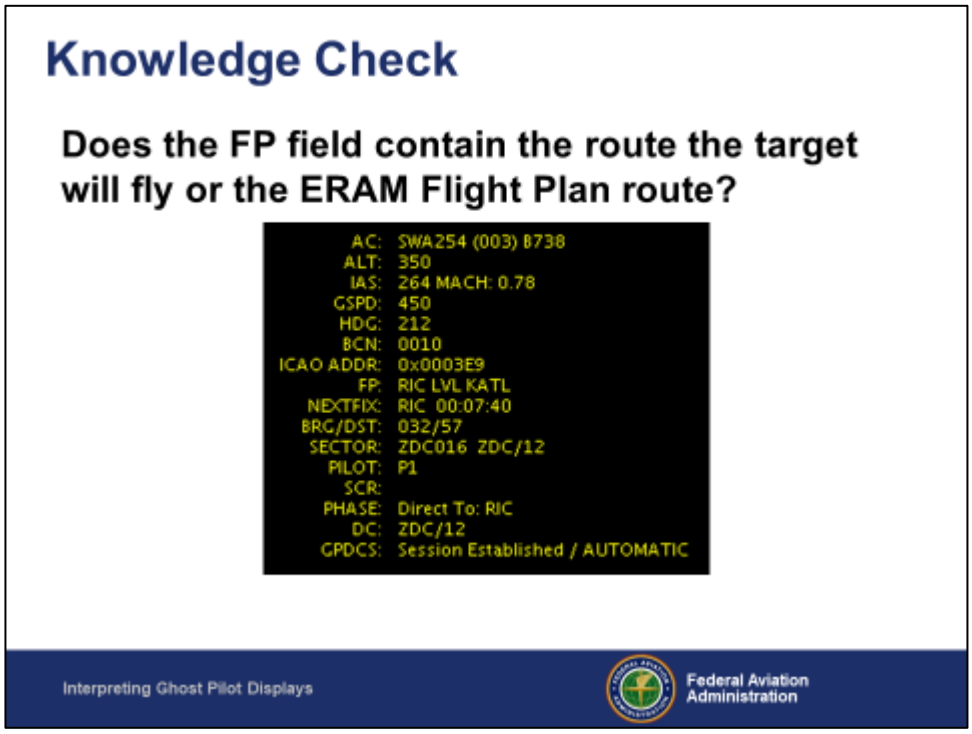
Slide - 29.


Knowledge Check
Does the FP field contain the route the target will fly or the ERAM Flight Plan route?
AC: SWA254 (003) B738
ALT: 350
IAS: 264 MACH: 0.78
GSPD: 450
HDG: 212
BCN: 0010
ICAO ADDR: 0x0003E9
FP: RIC LVL KATL
NEXTFIX: RIC 00:07:40
BRG/DST: 032/57
SECTOR: ZDC016 ZDC/12
PILOT: P1
SCR:
PHASE: Direct To: RIC
DC: ZDC/12
GPDCS: Session Established / AUTOMATIC
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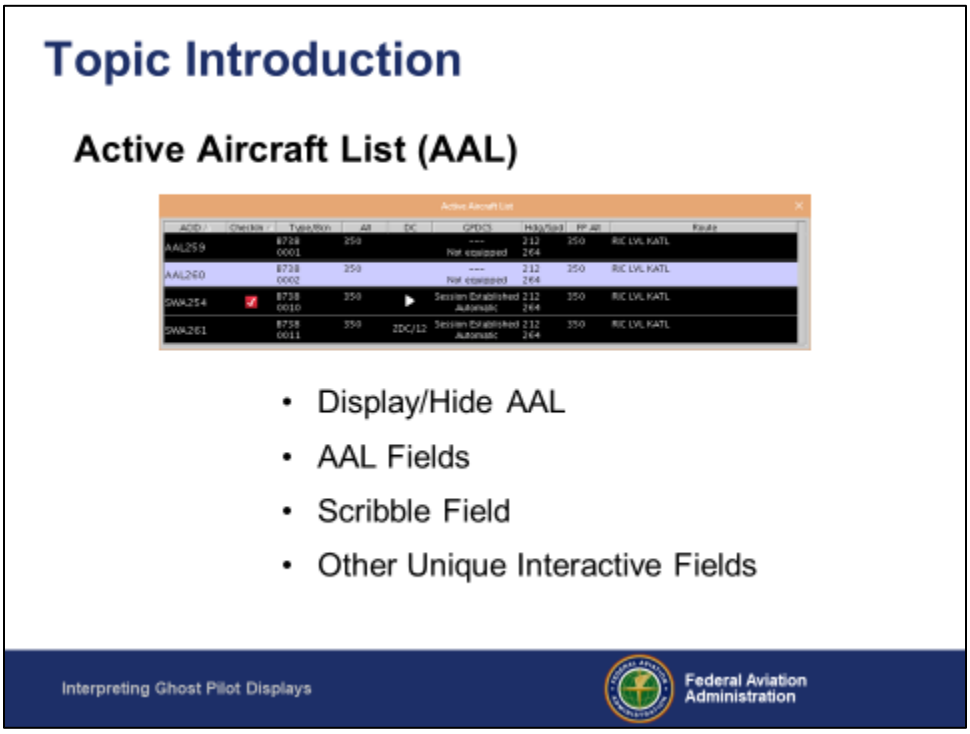
Slide - 30.



The Active Aircraft List (AAL) provides much of the same information as the SAIA but includes all active targets in the scenario. The data in the AAL updates dynamically.

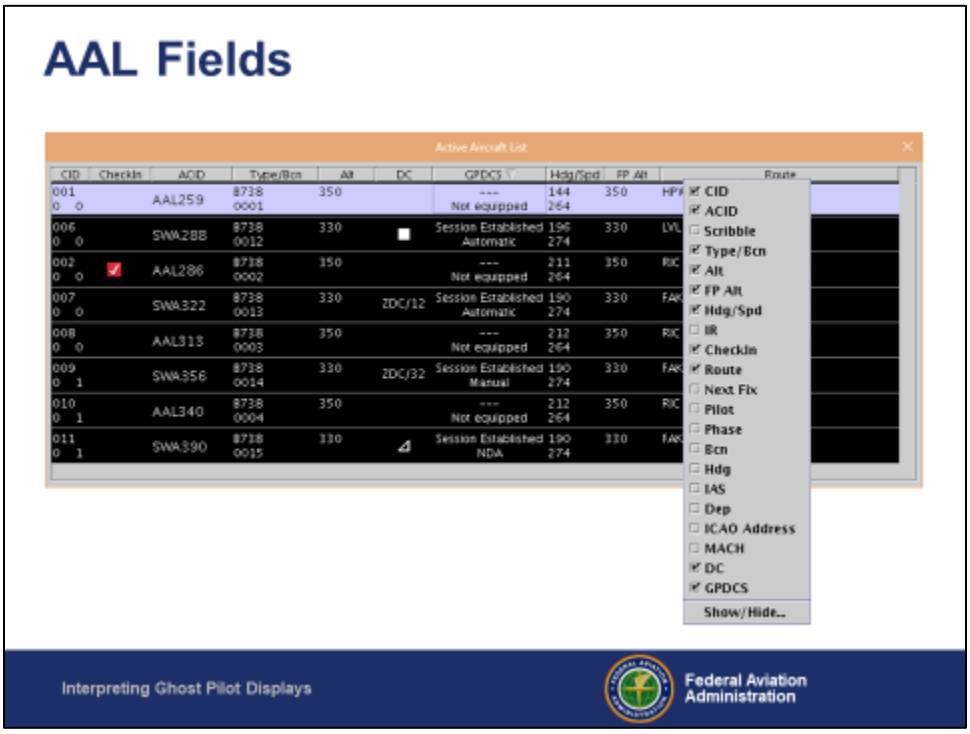
In this section, we will cover:

- How to display or hide the view.
- The information provided in the view.
- How to use the Scribble field.
- The unique fields available to perform target control tasks.

Slide - 31.

Click the AAL icon on the Views toolbar to display or hide the AAL. The icon has a gray outline when the view is displayed.

Slide - 32.

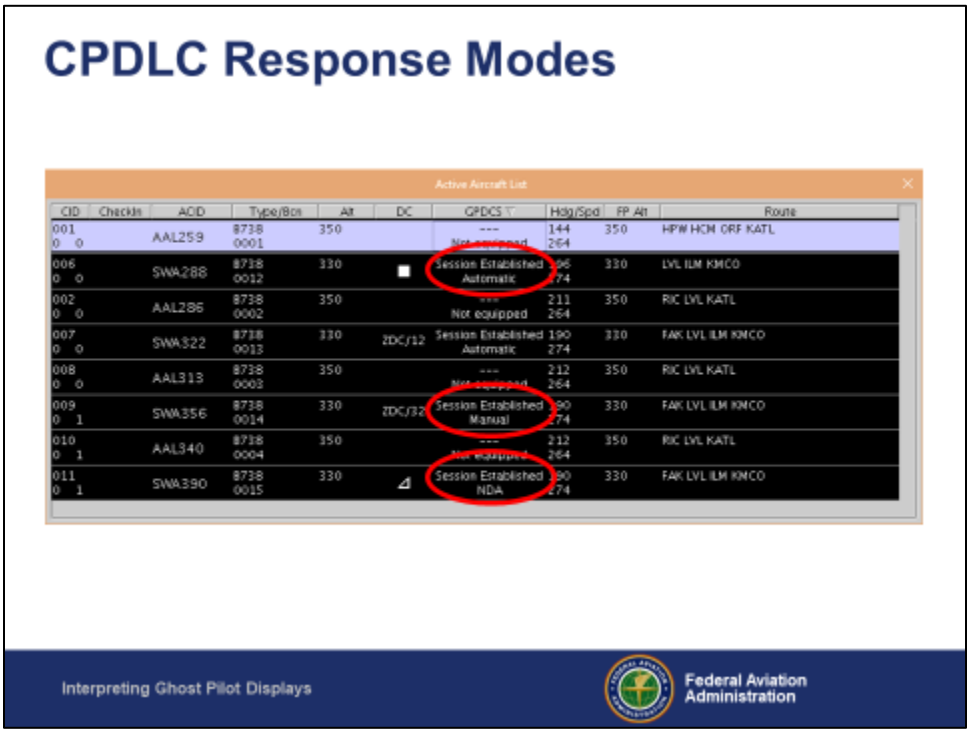


The AAL view provides the following information:

CID	The ERAM Computer Identification number (CID) assigned to the flight. Below the CID are two numbers. The one on the left is the number of pending commands awaiting execution (pending commands are covered in a later lesson). The one on the right is the number of Ghost Pilot prompts remaining.
ACID	Aircraft callsign
SCRIBBLE	The Scribble field is a free text field that a Ghost Pilot can use to make notes. Click on the field to open the Scribble menu and enter the desired text.
TYPE/BCN	Aircraft type and beacon code being squawked.
ALT	Current altitude
FP ALT	Assigned altitude
HDG/SPD	The current heading and indicated air speed together in one column. The heading is in the first row, the indicated air speed is below it.

IR	An indicator that the target was an independent release target. Scenario developers choose whether a target starts automatically or requires manual activation by the Ghost Pilot. Independent Release is the term for targets that require manual activation by the Ghost Pilot.
CHECKIN	An indicator to alert the Ghost Pilot that they must check in with the training sector via voice (equivalent to color-coding in the data block).
ROUTE	The current ATPilot path the target is programmed to fly. This is equivalent to the route in an aircraft's Flight Management System (FMS) and not necessarily the same route as in the ERAM flight plan.
NEXTFIX	The next fix in the ATPilot route, and the estimated time of arrival there.
PILOT	The Ghost Pilot position number assigned to the target.
PHASE	The phase of flight (i.e., Direct to, Departure, Landing, and Hold).
BCN	The beacon code being squawked by the target.
HDG	Heading
IAS	Indicated Air Speed
DEP	Departure airport
ICAO ADDR	The ICAO address, which is a unique identifier used by ERAM.
MACH	Mach speed
DC	The Data Comm field provides CPDLC session, eligibility, and activity information. The possible field content corresponds to the data block indicators previously described.
GPDCS	The Ghost Pilot Data Comm Status field provides CPDLC logon and response mode information. Possible logon states: • Logon Sent • No Logon Sent • Session Established Three response modes can be assigned to each CPDLC target: • Automatic • Manual • NDA "Not equipped" will be displayed if the target is not CPDLC equipped.

Slide - 33.



As mentioned, a CPDLC target can be in one of three CPDLC response modes.

- Automatic
- Manual
- NDA

In Automatic mode, the Ghost Pilot will not need to respond to CPDLC messages. ATPilot will do it. This is the most typical response mode.

When an uplink is received, ATPilot will automatically derive the ATCoach target control command to comply with the uplink, and send a response.

- ATCoach will validate the command, and if the command can be executed, a WILCO or ROGER response will be downlinked. The ATCoach command will then be executed.
- If the command validation fails, an UNABLE response will be downlinked and the command will not be executed.
    - An Attention Required Indicator will be displayed and the Ghost Pilot should expect the controller to contact them via voice.

If the response mode is set to Manual, the Ghost Pilot will need to manually respond to the uplink and execute the command.

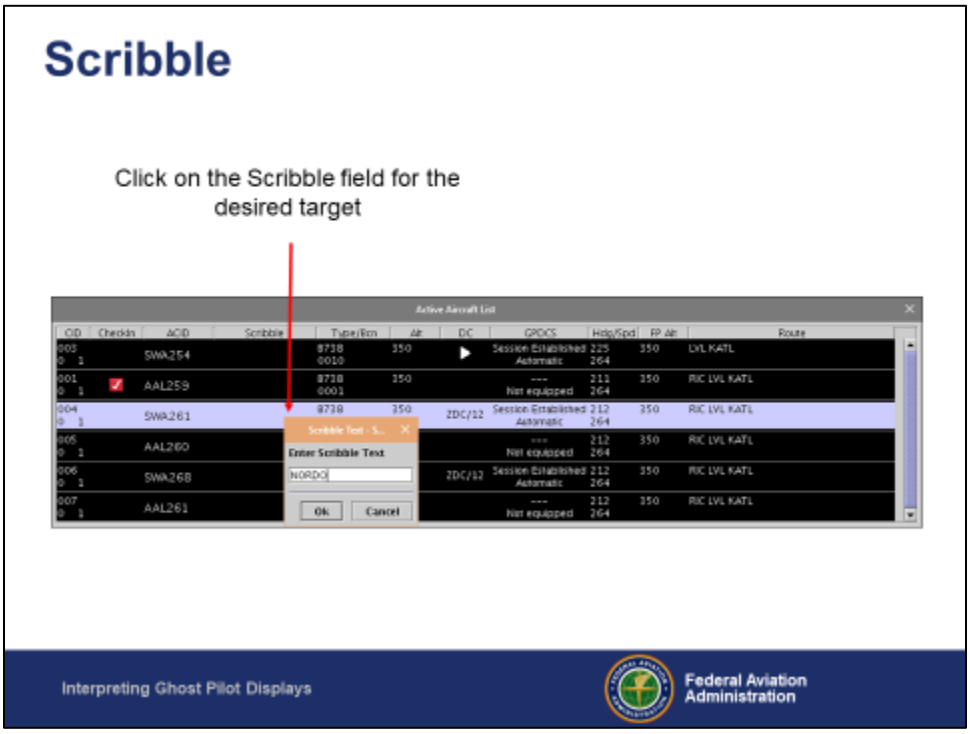
- ATPilot will automatically derive the ATCoach target control command to comply with the uplink, but will not send a response.
- ATCoach will not validate the generated target control command.
- The best practice is to manually execute the command (e.g. crossing restriction), then manually send the appropriate response:
    - WILCO if the command executed.
    - UNABLE if the command was rejected.

  This is to ensure that the aircraft can perform the command entered.

The process for manually responding to a CPDLC uplink will be covered in a later lesson.

If the response mode is set to NDA, ATCoach will automatically respond to any uplink with an error at the controlling sector.

Slide - 34.

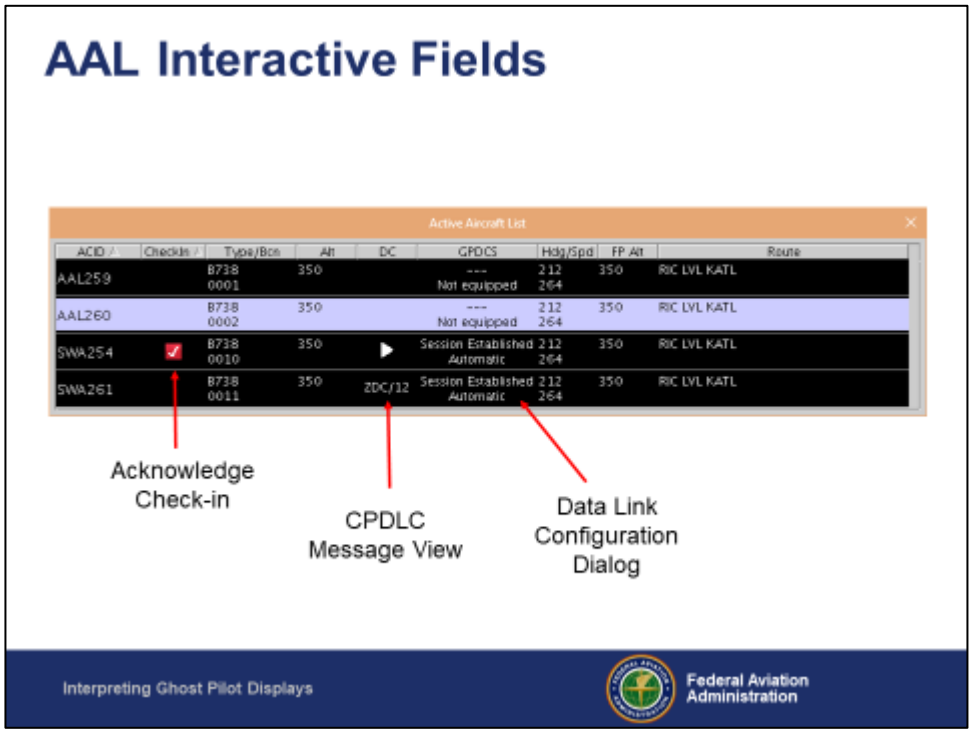


The Scribble field is available for the Ghost Pilot to make notes about a target.

To add Scribble text:

1. Click on the Scribble field for the desired target. The Scribble Text dialog will appear.
2. Enter the desired text in the input area.
3. Click **Ok**.

Slide - 35.



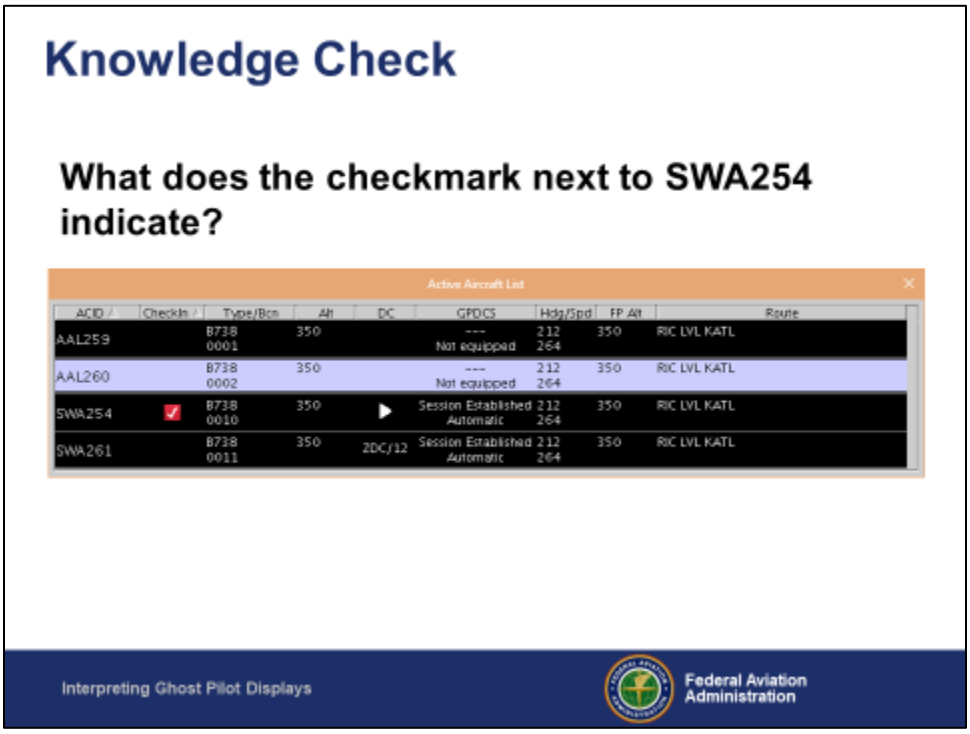
The same interactive fields available in the SAIA are available in the AAL. For example, clicking on the Alt field for a given target will open the Altitude Change dialog for that target.

In addition, there are four interactive fields in the AAL that are not interactive in the SAIA.

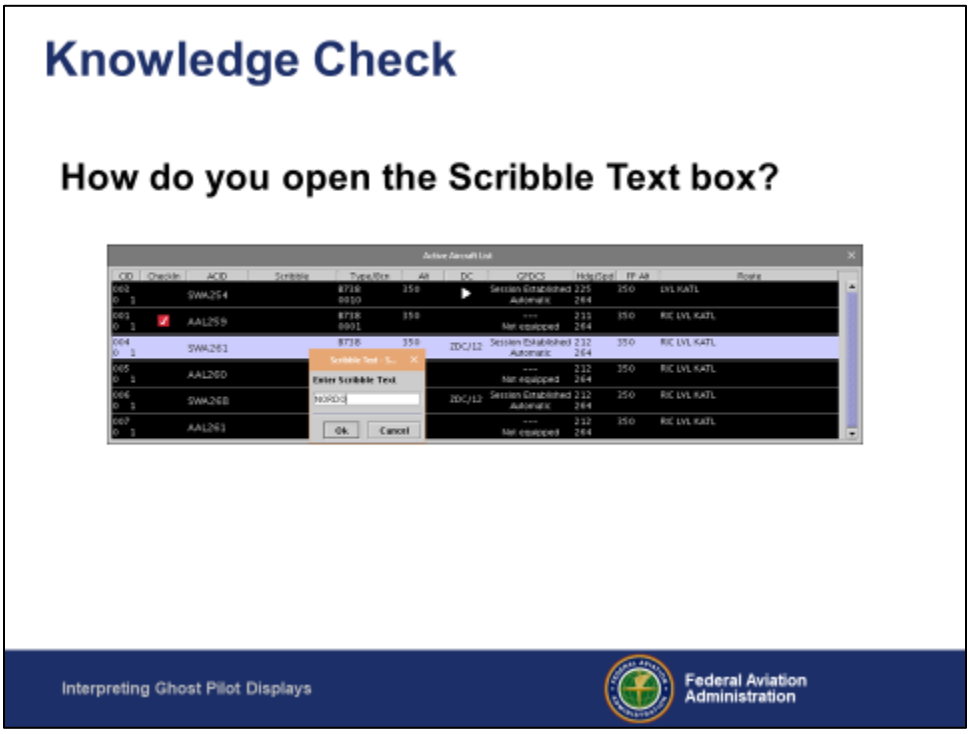
- Click on the ACID of the desired target to display the Target Control menu. If there is an unacknowledged prompt for that target, the Prompt List view will be displayed instead.
- Click on the Check-in indicator of the desired target to acknowledge the voice check-in was completed.
- Click on the DC field of the desired target to open the CPDLC Message view.
- Click on the GPDCS field of the desired target to open the Data Link Configuration dialog.

Use of these views and dialogs is covered in later lessons.

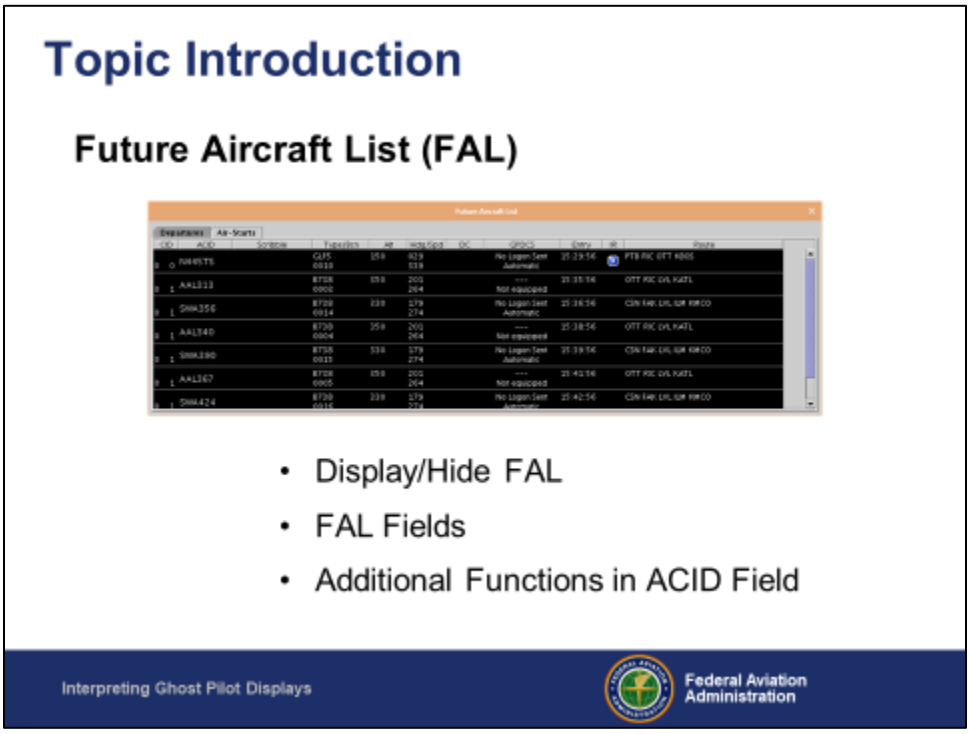
Slide - 36.


Knowledge Check
What does the checkmark next to SWA254 indicate?
Active Aircraft List
ACID / Checkin / Type/Bcn Alt DC GPDCS Hdg/Spd FP Alt Route
AAL259 B738 0001 350 --- Not equipped 212 264 350 RIC LVL KATL
AAL260 B738 0002 350 --- Not equipped 212 264 350 RIC LVL KATL
SWA254 B738 0010 350 Session Established Automatic 212 264 350 RIC LVL KATL
SWA261 B738 0011 350 2DC/12 Session Established Automatic 212 264 350 RIC LVL KATL
Interpreting Ghost Pilot Displays
Federal Aviation Administration

Slide - 37.


Knowledge Check
How do you open the Scribble Text box?
Interpreting Ghost Pilot Displays
Federal Aviation Administration

Slide - 38.

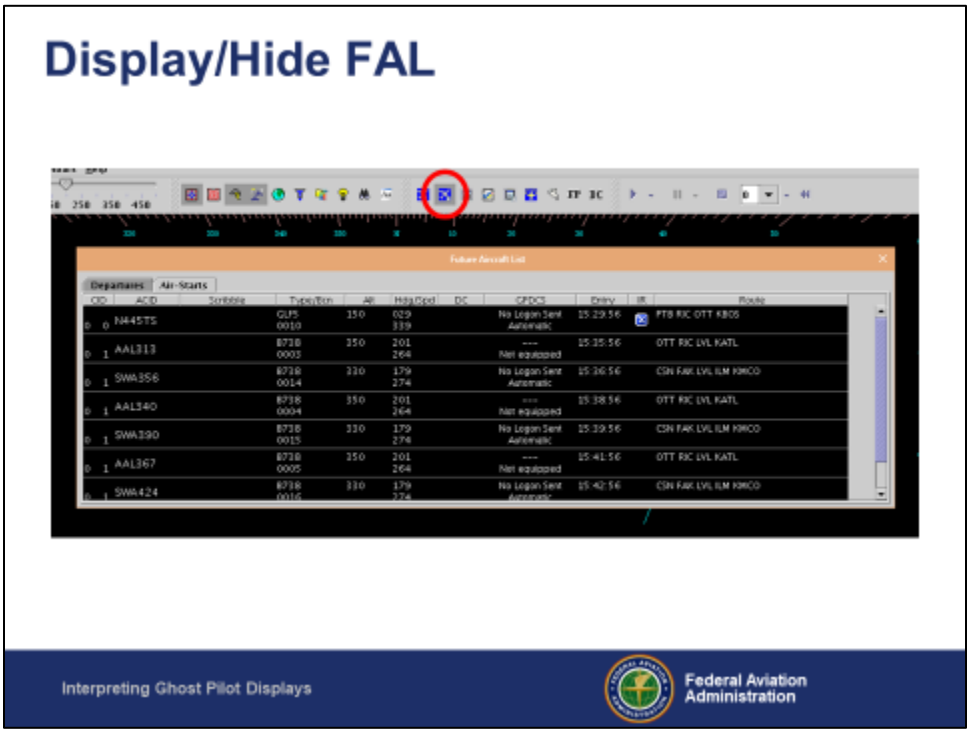


The Future Aircraft List (FAL) provides much of the same information as the AAL. The entries in the list are for targets that will be activated later in the scenario. The data in the FAL updates dynamically.

In this section we will cover:

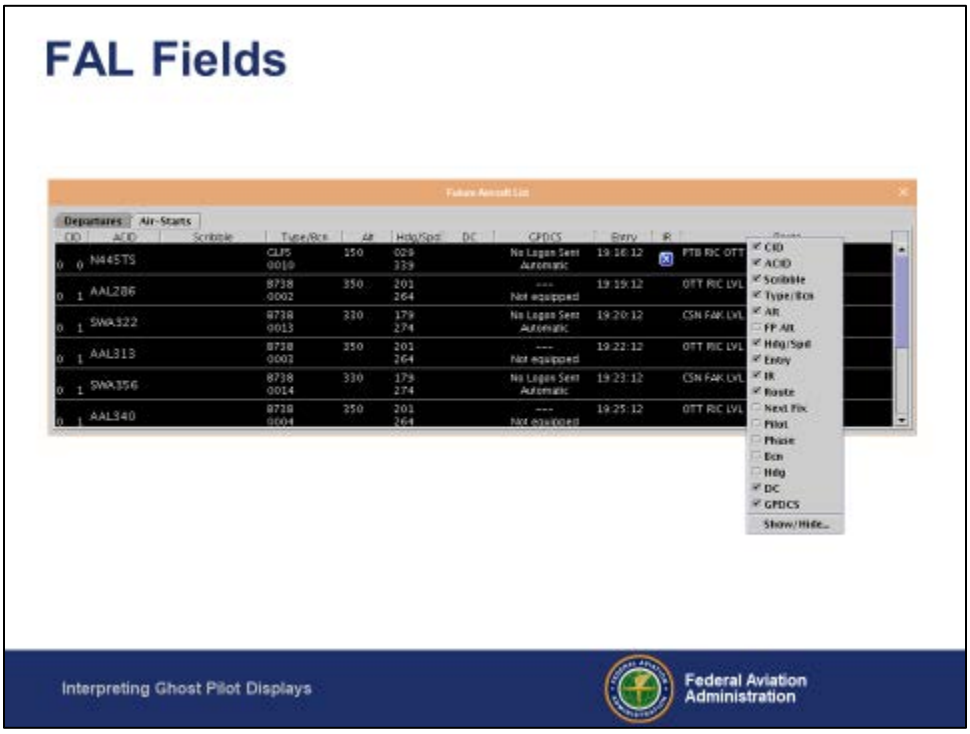
- How to display or hide the view.
- The information provided in the view.
- Target control functions available via the ACID field.

Slide - 39.



Click the FAL icon on the Views toolbar to display or hide the FAL. The icon has a gray outline when the view is displayed.

Slide - 40.



The FAL view has two tabs. The Departures tab contains all targets that will be departing from an airport. The Air-Starts tab contains all targets that will start already in flight. The slide shows the Air-Starts tab selected.

The available fields in the FAL are as follows:

CID	The ERAM Computer Identification number (CID) assigned to the flight. No CIDs are displayed in the FAL because the flight is not active. The second row of the CID field contains two numbers. The one on the left is the number of pending commands awaiting execution (pending commands are covered in a later lesson). The one on the right is the number of Ghost Pilot prompts remaining.
ACID	Aircraft callsign
SCRIBBLE	The Scribble field is a free text field that a Ghost Pilot can use to make notes.
TYPE/BCN	Aircraft type and beacon code being squawked.
ALT	Current altitude at the time the target starts.
FP ALT	Assigned altitude

HDG/SPD — The heading and indicated air speed at the time the target starts together in one column. The heading is in the first row, the indicated air speed is below it.

ENTRY — The time the target will start.

IR — An indicator that the target is an independent release target. Scenario developers choose whether a target starts automatically or requires manual activation by the Ghost Pilot. Independent Release is the term for targets that require manual activation by the Ghost Pilot.

- An example of an independent release is a target departing from an uncontrolled airport. Since the departure is dependent on a controller clearance, the exact departure time is not known. The Ghost Pilot must manually activate the target after the clearance is received.

ROUTE — The current ATPilot path the target is programmed to fly. This is equivalent to the route in an aircraft's Flight Management System (FMS) and not necessarily the same route as in the ERAM flight plan.

NEXTFIX — The next fix in the ATPilot route, and the estimated time of arrival there.

PILOT — The Ghost Pilot number assigned to the target.

PHASE — The phase of flight (e.g., Direct to, Approach, Hold).

BCN — The beacon code the target will squawk.

HDG — Heading at the time the target starts.

DC — The Data Comm field provides CPDLC session, eligibility, and activity information. The possible field content corresponds to the data block indicators previously described.

GPDCS — The Ghost Pilot Data Comm Status field provides CPDLC logon and response mode information. Possible logon states:

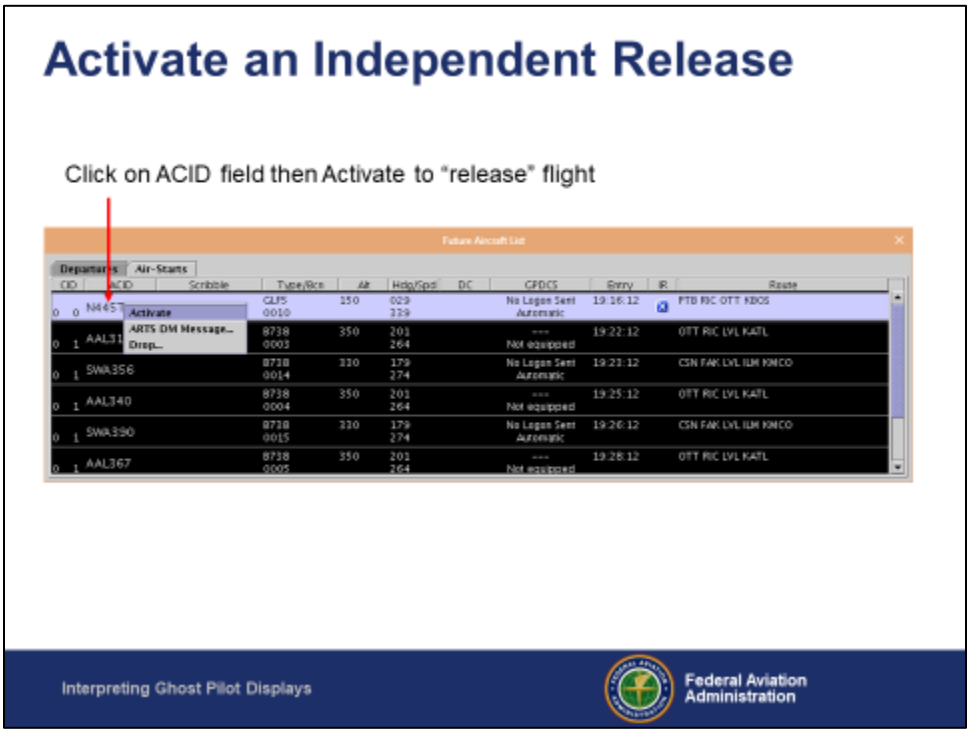
- Logon Sent
- No Logon Sent
- Session Established

Three response modes can be assigned to each CPDLC target:

- Automatic
- Manual
- NDA

"Not equipped" will be displayed if the target is not CPDLC equipped.

Slide - 41.

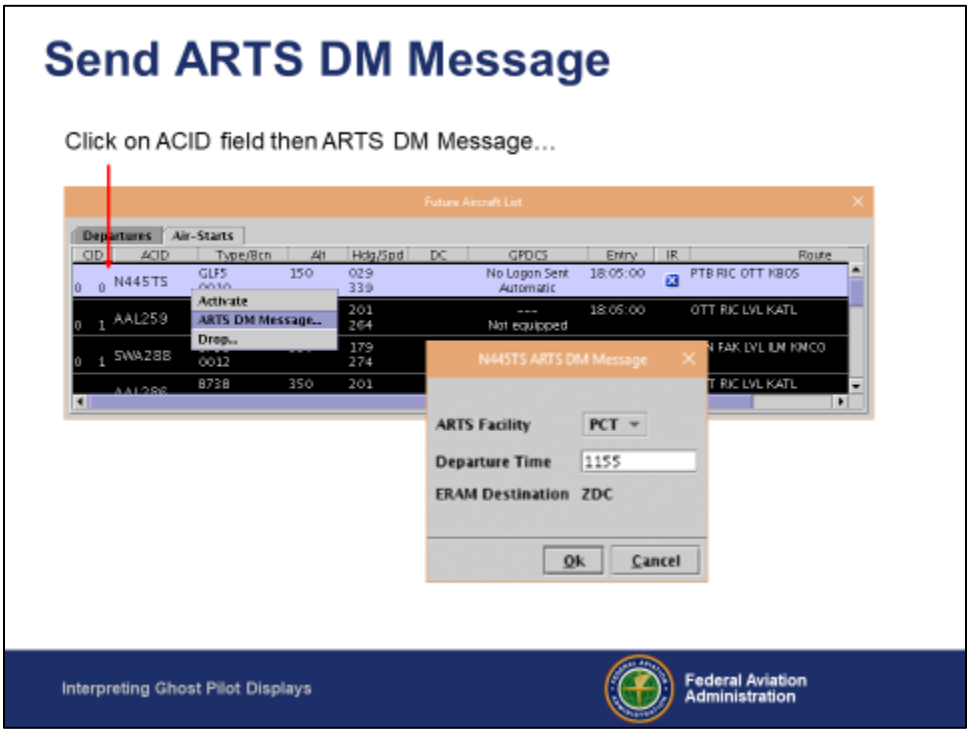


The same interactive fields available in the SAIA and AAL are available in the FAL.

The FAL ACID is used to access a modified Target Control menu with three options:

- The **Activate** option will start an independent release target. It is grayed out for targets that start automatically. To activate an independent release target:
  1. Click on the ACID field to open the modified Target Control menu.
  2. Click on the **Activate** option.
- The **ARTS DM Message…** option is used to inject an ERAM departure message from the appropriate TRACON.
- The **Drop…** option is used to drop the target. The Drop function will be covered in a later lesson.

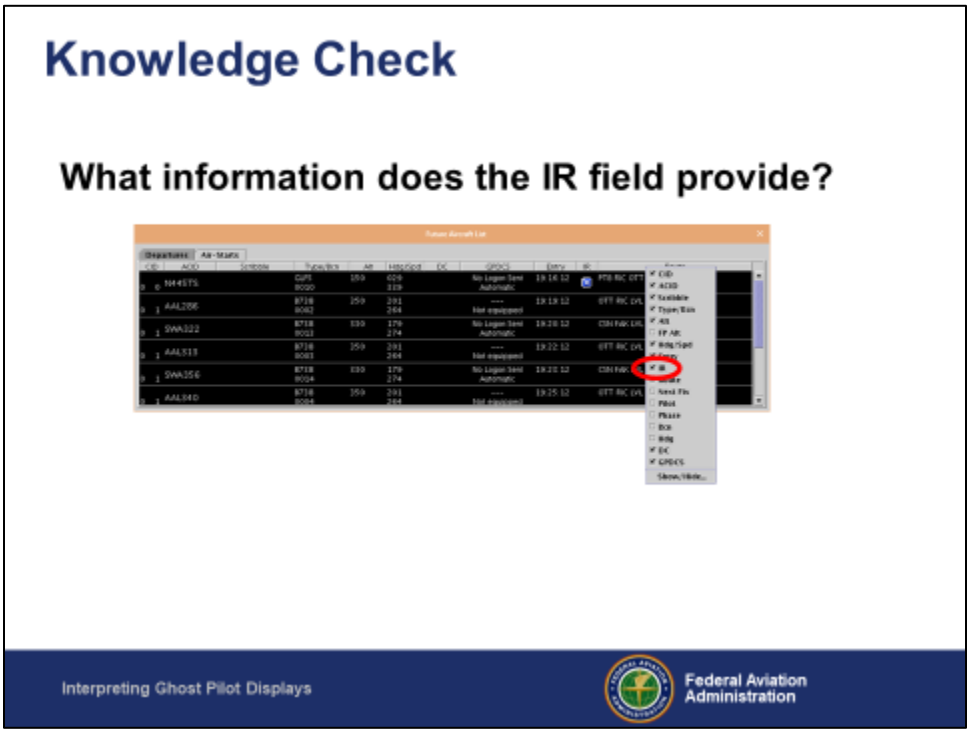
Slide - 42.



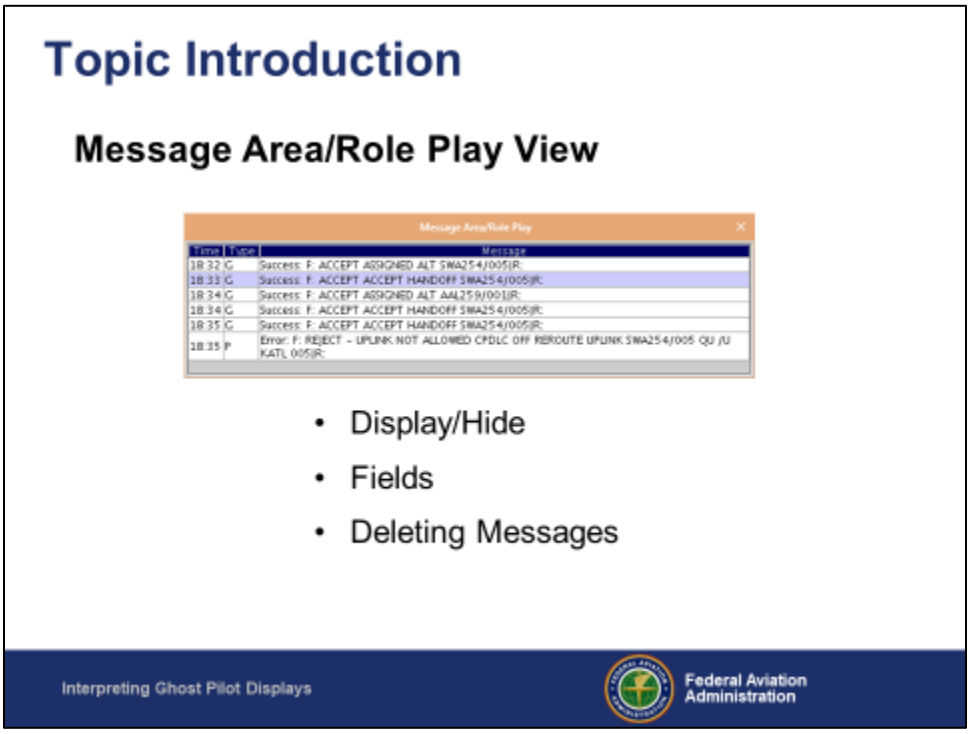
To send an ARTS departure message:

1. Click on the ACID field to open the modified Target Control menu.
2. Click on the **ARTS DM Message …** option. The ARTS DM Message dialog will open.
3. Use the **ARTS Facility** list menu to select the source facility.
4. Enter the desired departure time.
5. Click **Ok**.

Slide - 43.


Knowledge Check
What information does the IR field provide?
Interpreting Ghost Pilot Displays
Federal Aviation Administration

Slide - 44.



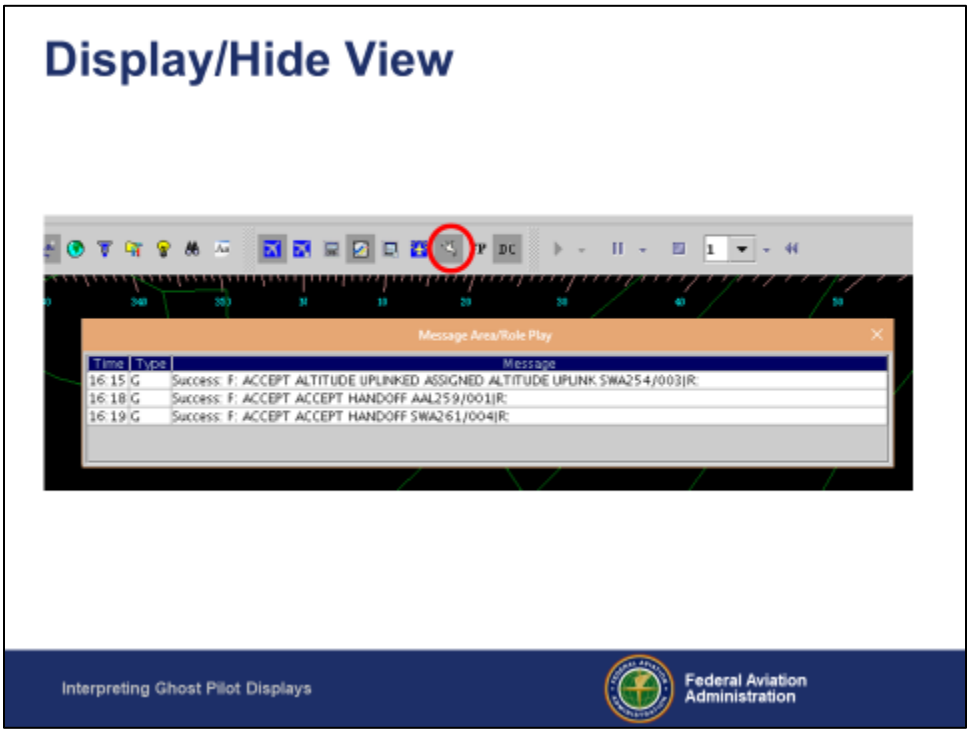
The Message Area/Role Play view serves three purposes:

- Display system messages.
- Provide access to a dialog used to enter ERAM commands.
- Provide access to a dialog used to send a text message to any other Ghost Pilot working the scenario.

In this section, we will cover:

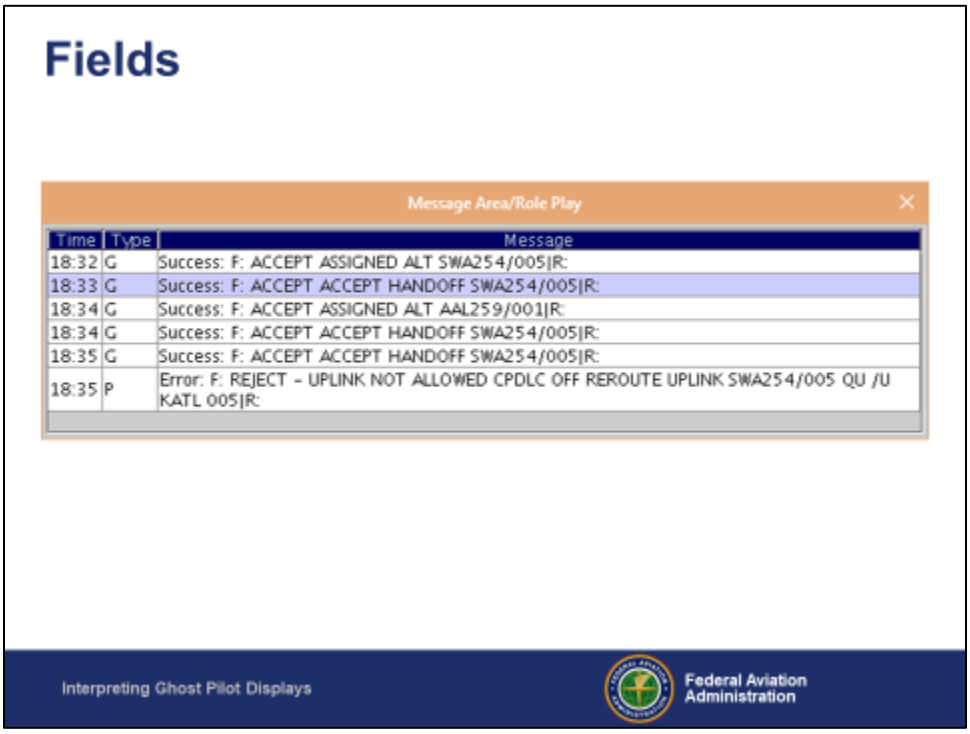
- How to display or hide the view.
- The information provided in the view.
- The steps to delete messages from the view.

Slide - 45.



Click the Ghost icon on the Views toolbar to display or hide the Message Area/Role Play view. The icon has a gray outline when the view is displayed.

Slide - 46.



The view contains three fields:

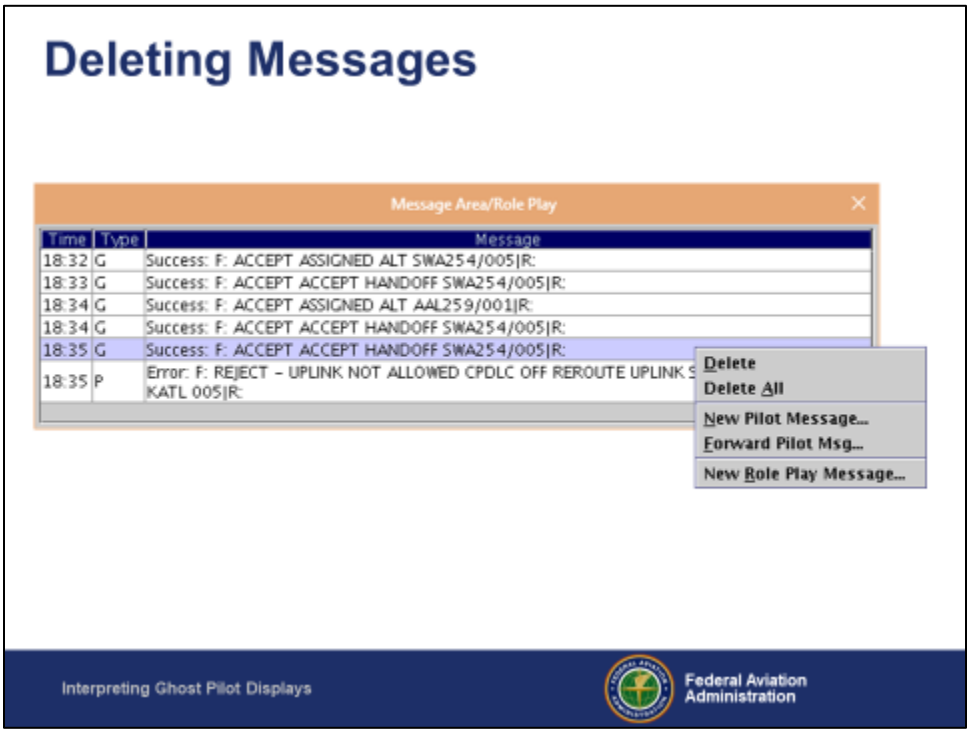
TIME The time the message was generated.

TYPE The type of message.

- G General
- P Problem
- I Information

MESSAGE The message content.

Slide - 47.



The Ghost Pilot can delete one or all messages displayed in the view. To delete one message:

1. Select the desired message.
2. Right-click anywhere in the view. A pop-up menu will be displayed.
3. Select the **Delete** option.

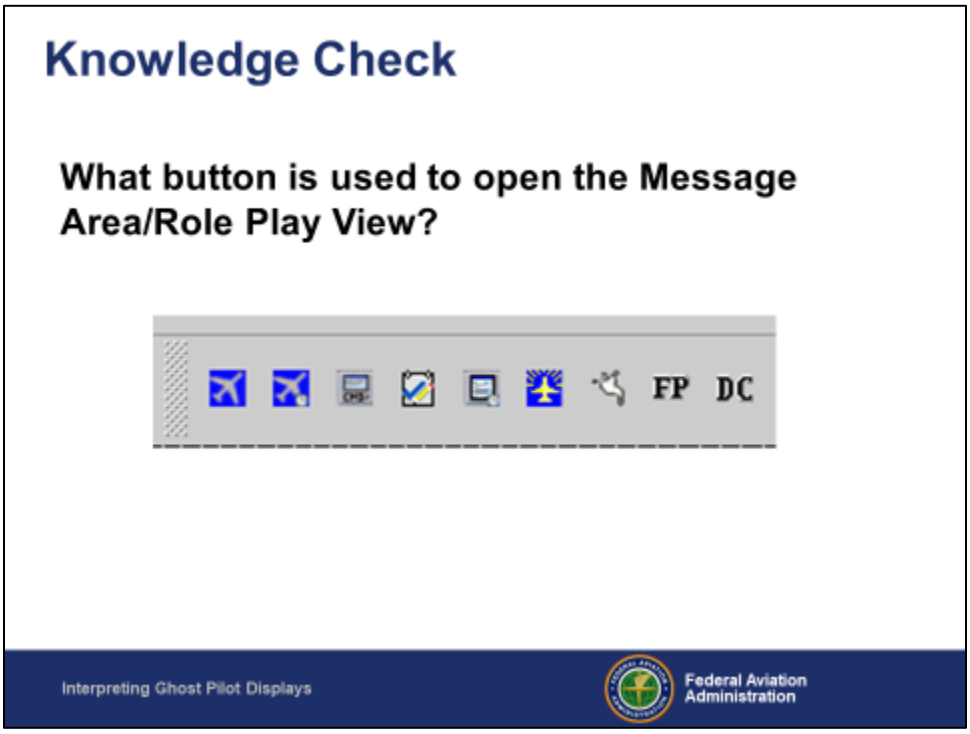
To delete all messages:

1. Right-click anywhere in the view. A pop-up menu will be displayed.
2. Select the **Delete All** option.

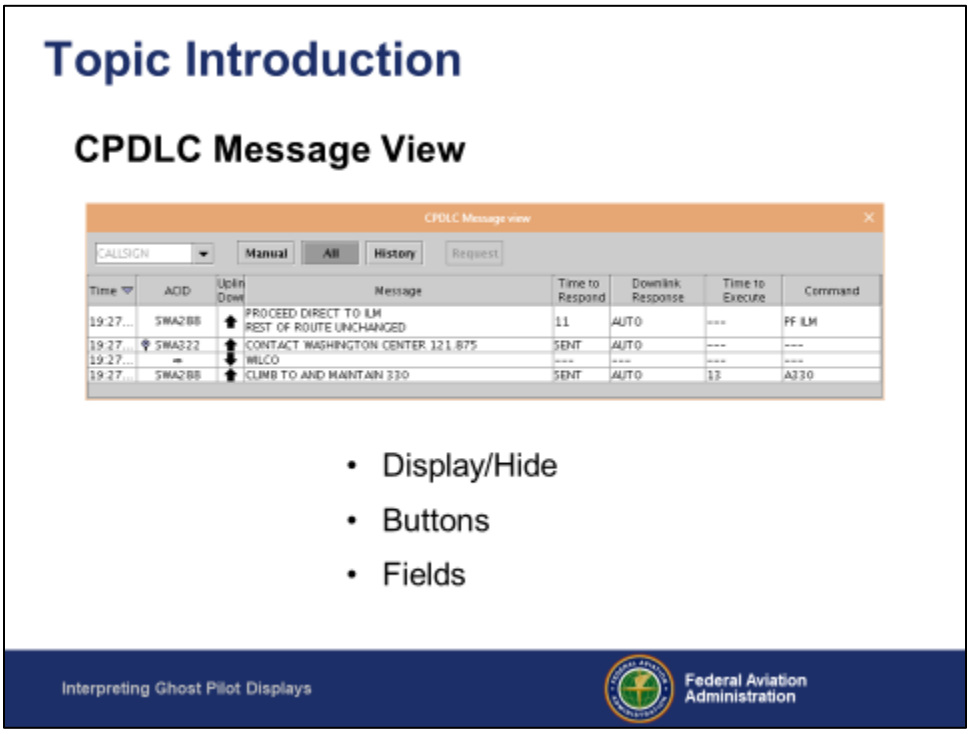
The pop-up menu has three additional options:

- The **New Pilot Message…** option opens a dialog used to send a text message to any other Ghost Pilot working the same scenario.
- The **Forward Pilot Msg…** option opens a dialog used to forward a text message to any other Ghost Pilot working the same scenario.
- The **New Role Play Message…** option is used to enter ERAM commands in order to simulate entries made by an adjacent sector/facility. This option will be covered in a later lesson.

Slide - 48.


Knowledge Check
What button is used to open the Message Area/Role Play View?
FP
DC
Interpreting Ghost Pilot Displays
Federal Aviation Administration

Slide - 49.



The CPDLC Message view is used to view the content and status of CPDLC uplinks and downlinks. It is also used to access a dialog to edit CPDLC response elements.

In this section we will cover:

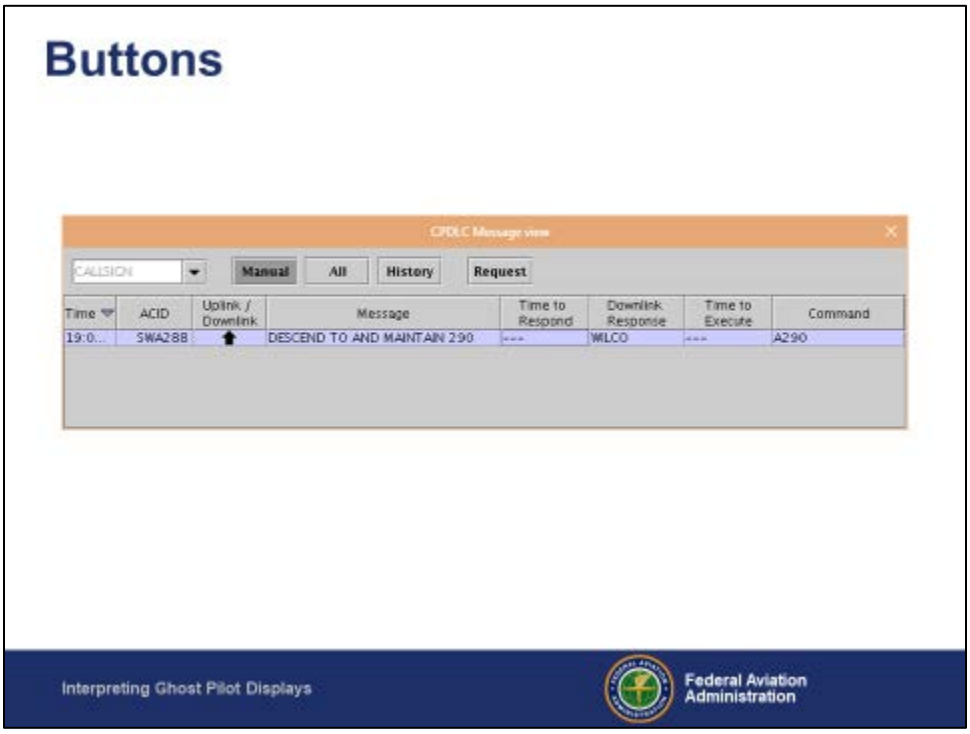
- How to display or hide the view.
- The four buttons available in the view.
- The information provided in the view.

The steps for manually responding to a message are covered in a later lesson.

Slide - 50.

Click the DC icon on the Views toolbar to display or hide the CPDLC Message view. The icon has a gray outline when the view is displayed.

Slide - 51.



The view contains four buttons.

The **Manual** button filters the view so only entries that require a manual response are displayed.

- Messages for targets in manual mode will be displayed at all Ghost Pilot positions regardless of assignment.

The **All** button is used to display all open uplinks/downlinks. An uplink is considered open until a response is sent and any associated ATCoach command is executed.

- Messages for targets in automatic mode will only be displayed at the Ghost Pilot position to which the target is assigned.

The **History** button is used to display all closed messages and any messages manually sent to the History page. Messages are considered closed after the response is sent and any associated ATCoach command executed.

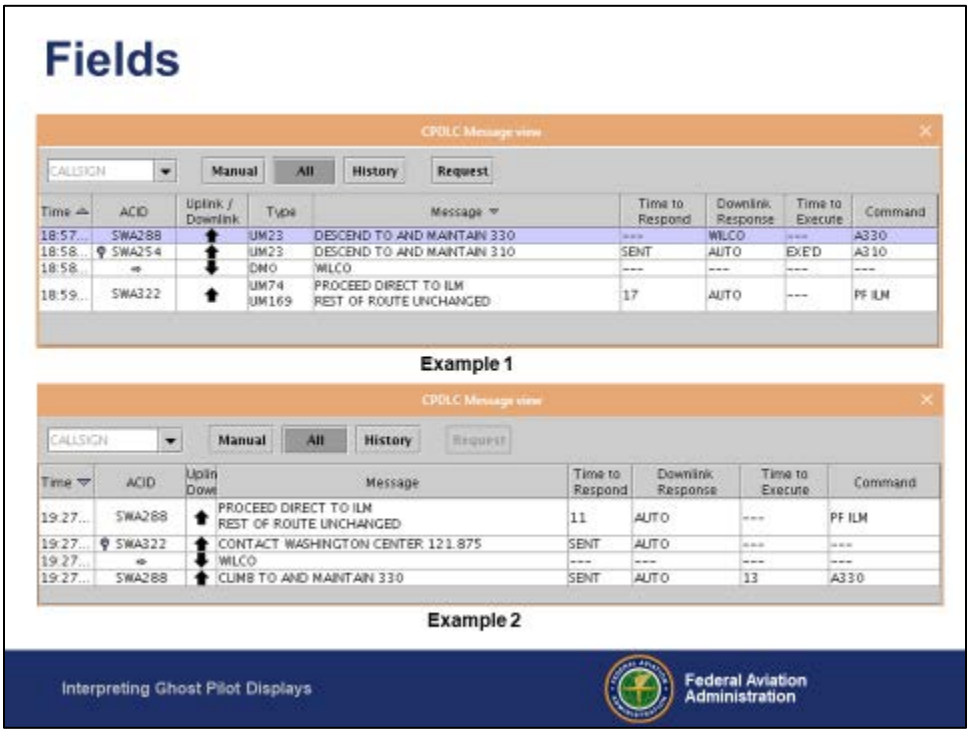
- All messages are moved to the History page a short time after the response has been sent and any associated ATCoach command has been executed.

The **Request** button is used to open a dialog for creating Pilot Initiated Downlink (PID) requests. A target entry must be selected for the button to be active. This dialog will be covered in the next lesson.

The view also contains an input box used to filter the display so only entries for a specific target are shown. There are two ways to do this:

- Manually enter a callsign.
- Select a callsign from the dropdown list (all callsigns in the scenario).

Slide - 52.



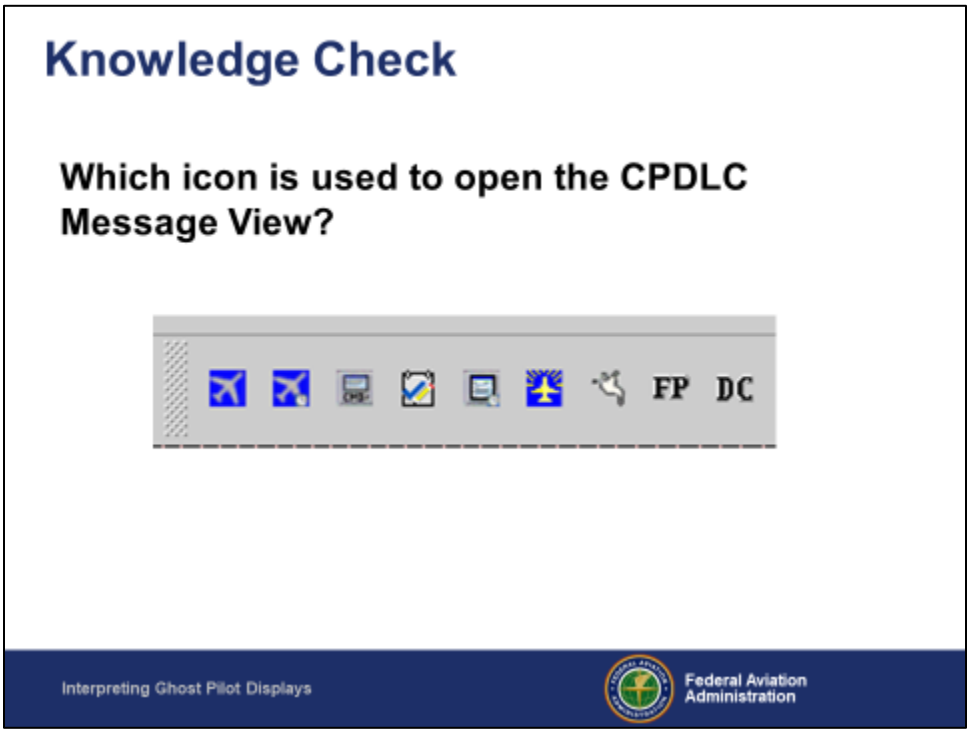
The CPDLC Message view provides the information listed below.

All entries requiring a manual response are highlighted in blue.

TIME	The time the message was added to the view.
ACID	Callsign. A symbol to the left of the callsign appears on the original message of any message set. Click on the symbol to toggle between displaying just the original message or all messages in the set. An example is SWA254. A right arrow indicates the message was a response. An example is SWA254.
UPLINK/DOWNLINK	An up arrow indicates an uplink. A down arrow indicates a downlink.
TYPE	The “Global CPDLC Standards” message number for the type of downlink or uplink. Ghost Pilots typically do not display this field.

MESSAGE	The message text.
TIME to RESPOND	For targets set to Automatic response mode, the field displays a countdown timer, in seconds, prior to message transmission. Once the message is sent, the text SENT will appear. Ghost Pilots can change the time to respond for targets set to Automatic response mode (to be covered in a later lesson). The purpose is to simulate the amount of time it would take for the flight crew to receive, read, and respond to the message. For targets in Manual response mode, the response is sent as soon as the Ghost Pilot enters the command to do so. No timer is necessary.
DOWNLINK RESPONSE	For targets set to Automatic response mode, the word AUTO is displayed. For targets set to Manual response mode, the field displays the response that will be sent when the Ghost Pilot manually releases the message. The default response is WILCO. Ghost Pilots can change the response in either mode (to be covered in a later lesson).
TIME TO EXECUTE	For targets set to Automatic response mode, the field displays a countdown timer, in seconds, prior to command execution. Once the command is executed, the text EXE'D will appear. Ghost Pilots can change the time to execute for targets set to Automatic response mode (to be covered in a later lesson). The purpose is to simulate the amount of time it would take the pilot to execute the clearance. For targets in Manual response mode, the command is executed by the Ghost Pilot. No timer is necessary.
COMMAND	The ATCoach command that will be executed. This is automatically derived by ATPilot but can be edited by the Ghost Pilot (to be covered in a later lesson).

Slide - 53.


Knowledge Check
Which icon is used to open the CPDLC Message View?
FP
DC
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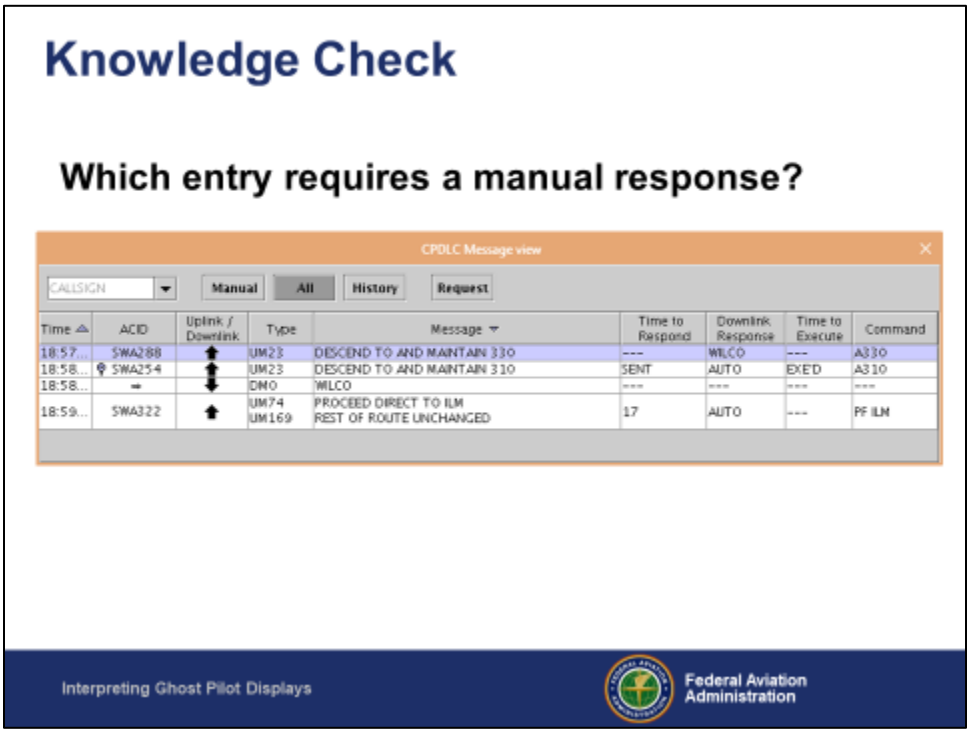
Slide - 54.


Knowledge Check
Which entry requires a manual response?
CPDLC Message view
CALLSIGN
Manual
All
History
Request
Time
ACID
Uplink / Downlink
Type
Message
Time to Respond
Downlink Response
Time to Execute
Command
18:57...
SWA288
UM23
DESCEND TO AND MAINTAIN 330

WILCO

A330
18:58...
SWA254
UM23
DESCEND TO AND MAINTAIN 310
SENT
AUTO
EXED
A310
18:58...
DM0
WILCO
18:59...
SWA322
UM74
UM169
PROCEED DIRECT TO ILM
REST OF ROUTE UNCHANGED
17
AUTO
PF ILM
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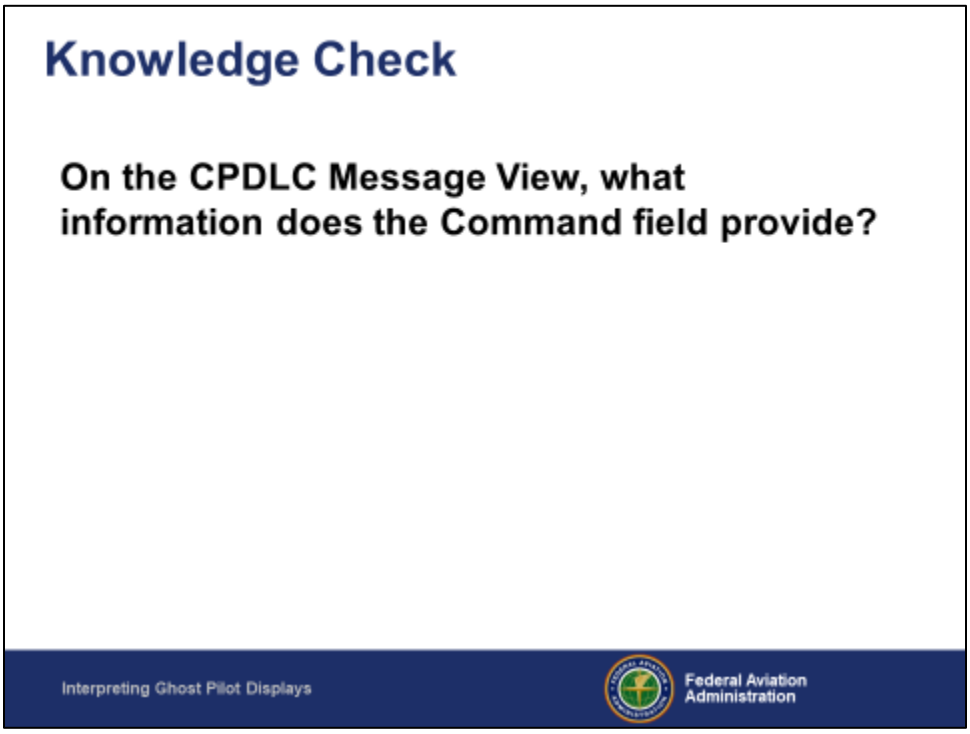
Slide - 55.


Knowledge Check
On the CPDLC Message View, what information does the Command field provide?
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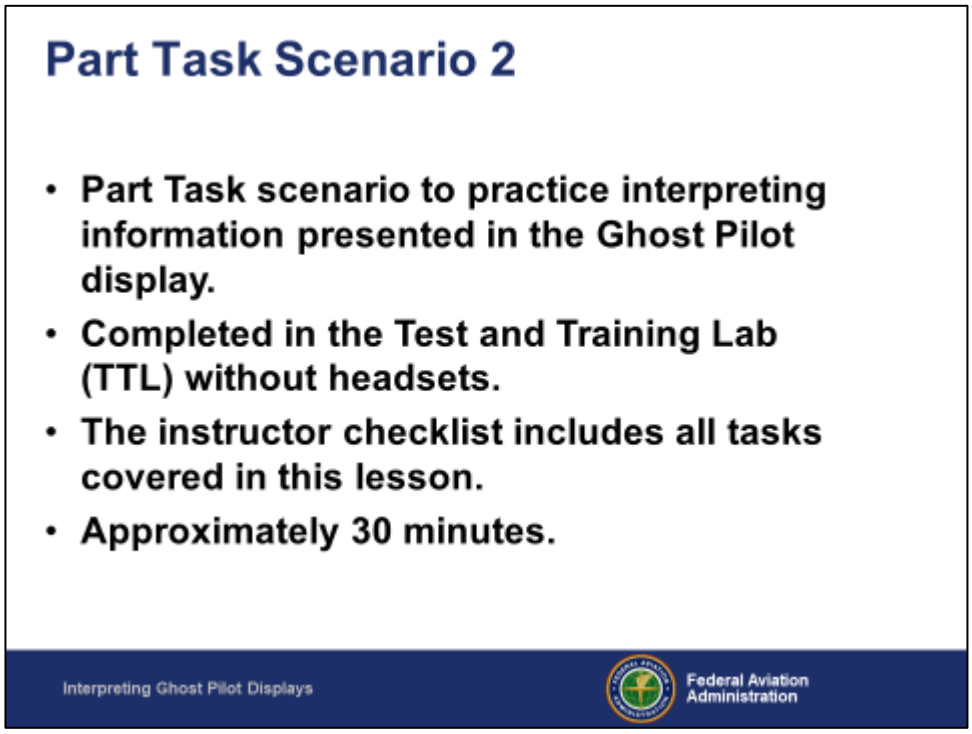
Slide - 56.

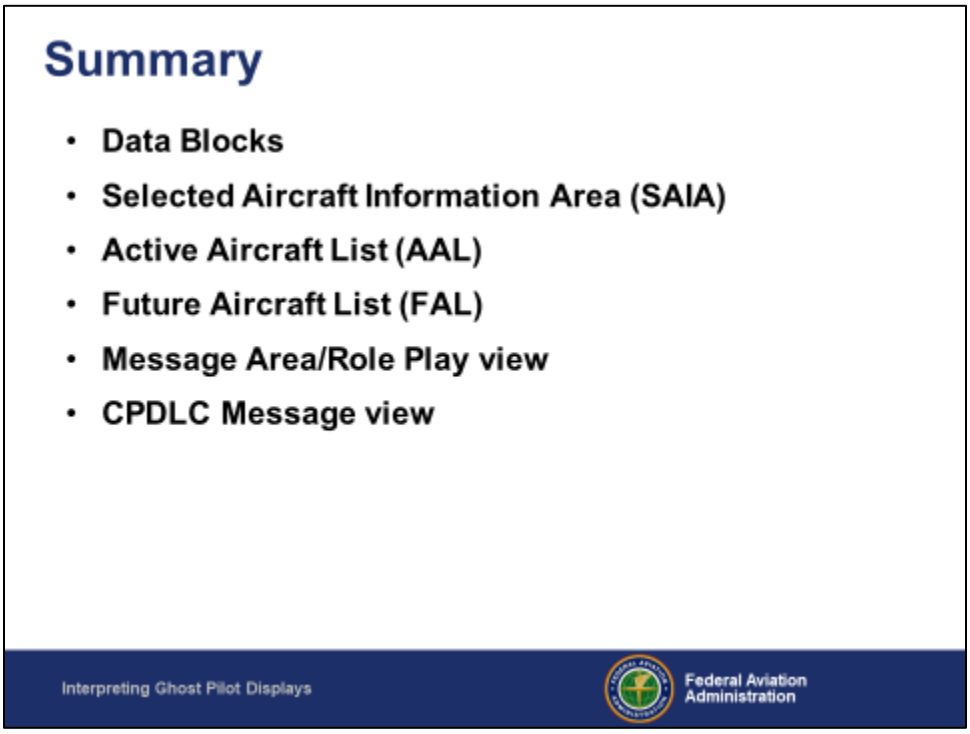


After completion of this exercise, this lesson will resume in the classroom. Your instructor will provide the details.

Part Task Scenario 2:

Purpose	To practice interpreting information presented at the Ghost Pilot display.
Materials	The instructor will use the Part Task Scenario 2 checklist. No student handouts are required.
Directions	A locally developed scenario should be loaded and ready to start in the TTL. Requirements for the scenario have been provided to the facility. No controllers are needed. No headsets are needed. Instructors should use the checklist to step through all the functionality to be practiced. Instructors should assist students as necessary. Approximate duration of the exercise is 30 minutes.

Slide - 57.


Summary
• Data Blocks
• Selected Aircraft Information Area (SAIA)
• Active Aircraft List (AAL)
• Future Aircraft List (FAL)
• Message Area/Role Play view
• CPDLC Message view
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Slide - 58.


THE END
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