Federal Aviation Administration

EN ROUTE - STAGE IV

Refresher Unit 05
Radar Display Operation/RDP Display

Course 55055

OK-09-5106

FOREWORD

Purpose. This Air Traffic Refresher Unit provides for the systematic review of current Air Traffic Control operational procedures.

This publication is for use in the technical training of FAA Air Traffic Control Specialists. It does not replace, substitute for, or supersede official regulations, procedures, or directives.

Review. Training programs established under the Government Employees Training Act are based on actual needs, and a review of these training needs is conducted at least once every three years.

Recommended Changes. Suggested changes and corrections to this training material should be forwarded to:

DOT, FAA, Mike Monroney Aeronautical Center
En Route Training Section, AMA-511
P.O. Box 25082
Oklahoma City, OK 73125

PREFACE

This refresher unit replaces all previous versions of ER-11-5, Radar Display Operation/RDP Display, and reflects the latest technical changes found in the referenced source documents through February 2010, including FAA Order JO 7110.65, EM-12, and TI 6160.50. See “Stage IV Changes 02/11/10” on the lesson materials download page. The contents of this unit are current as of the date shown on the cover. The material herein will be kept current through unit replacement. This unit is not to be used as a Standard Operating Procedure (SOP). In all cases, a controller’s good judgment is uppermost in applying the procedures advocated.

INSTRUCTIONS

1. Write your answers to the questions in the Question Section on a separate piece of paper. This will allow the unit to be reused.

2. Compare your answers with those in the Answer and Discussion Section.

3. If you answer any questions incorrectly, study the discussion paragraph(s).

4. Review the references given in the Answer and Discussion Section.

5. An informal discussion of this unit with other specialists may help clarify any ambiguities.

RADAR DISPLAY OPERATION/RDP DISPLAY
Question Section

DIRECTIONS: ITEMS 1, 3, AND 5 THROUGH 8 REQUIRE A SHORT ANSWER OF ONE OR TWO SENTENCES. ITEMS 2 AND 4 ARE MULTIPLE CHOICE. INDICATE YOUR SELECTION BY WRITING THE APPROPRIATE LETTER FOR EACH ITEM.

1. What initial action should a controller take if the word “FAIL” appears in Field E of the Full Data Block when an Initiate Handoff message is entered for an aircraft?

2. The words “NOT RECEIVING RADAR” appearing on the radar display indicate that the _____.

   A. radar system is missing targets

   B. controller has suppressed mandatory fields in a data block

   C. radar data is not being received

   D. target histories have been eliminated

3. When receiving a handoff, what does the word “OLD” appearing in Field E of the Full Data Block indicate?

4. Which beacon code(s) may be used for Flight ID?

   A. 2101

   B. 2100

   C. 0600

   D. All of the above

5. What procedure may be used to initiate a handoff on a track that you do **NOT** have control of?

6. Explain the procedure for regaining eligibility on a track after an ARTS “ACCEPT” has been received.

RADAR DISPLAY OPERATION/RDP DISPLAY

Question Section *(Continued)*

7. One of the attention indicators in a Full Data Block is the accent symbol (^) over either the first or second character of Field A (Flight ID). What is the meaning of the accent symbol (^) when it is over Field A2? When it is over Field A1?

RADAR DISPLAY OPERATION/RDP DISPLAY
Answer and Discussion Section

1. What initial action should a controller take if the word “FAIL” appears in Field E of the Full Data Block when an Initiate Handoff message is entered for an aircraft?

   ANSWER: Initiate verbal coordination with the receiving controller or enter an Accept Handoff message for the aircraft (recall of handoff), and then reenter the Initiate Handoff message.

   REFERENCE: JO 7110.65, par. 5-4-5; EM-12, par. 2.1.5

   DISCUSSION: Once “FAIL” has appeared in the Full Data Block, there is no guarantee that successive attempts will not also result in the same response. Therefore, you should initiate verbal coordination and make a manual handoff if time is critical to the situation.

2. The words “NOT RECEIVING RADAR” appearing on the radar display indicate that the _____.

   ANSWER: C. radar data is not being received

   REFERENCE: TI 6160.50, par. 17.1.3; NAS-MD-314, par. 3.9

   DISCUSSION: As part of the assembling and updating of each display, information is stored in an area identified as the Radar Sort Queue. When the storage of this area is exceeded, a message is forced on the radar display indicating:

   NOT RECEIVING RADAR

   The message is emphasized with increased brightness; however, the emphasis is adaptable.

3. When receiving a handoff, what does the word “OLD” appearing in Field E of the Full Data Block indicate?

   ANSWER: Handoff (crosstell) track data updates have not been received.

   REFERENCE: EM-12, par. 2.1.5

   DISCUSSION: A Track Update message is transmitted each time new position information is received for the track. Track Update messages are transmitted until a Track Accept message is received. If the word “OLD” appears in Field E of the Full Data Block, it will remain until an acceptable Track Update message is received on this track and the handoff can be completed.

   Controllers are cautioned, however, that while acceptance of tracks with “OLD” appearing in the Full Data Block is authorized after verbal coordination is effected; the target could be several miles from where the Full Data Block indicates.

RADAR DISPLAY OPERATION/RDP DISPLAY
Answer and Discussion Section *(Continued)*

4. Which beacon code(s) may be used for Flight ID?

ANSWER: A. 2101

REFERENCE: EM-12, par. 3.2.2.3

DISCUSSION: The contents of Field 02, Flight Identification, differ slightly in RDP. Any one of the following formats is usable in a message requiring Field 02.

The majority of radar controller input messages relate to a specific flight. There are five methods available to the radar controller to identify a flight in a message:

(1) Aircraft Identification — The Alphanumeric Keyboard can be used to enter the Aircraft Identification (AID) consisting of a maximum of seven and a minimum of two alphanumeric characters beginning with an alphabetic character.

(2) Trackball — The trackball can be used as a means of flight identification.

(3) Discrete Beacon Code — The Alphanumeric Keyboard can be used to enter the appropriate four-digit octal number.

(4) Computer Identification Number (CID) — The Alphanumeric Keyboard can be used to enter the appropriate CID, consisting of three digits or of two digits followed by a letter.

(5) Mode C Intruder (MCI) Identification (MID) — The Alphanumeric Keyboard can be used to enter the appropriate MID in the format "dLd." This method of identifying a flight is only used in a Data Block Offset action for a Conflict Data Block (CDB) or in a CO message used to suppress/request an MCI alert.

5. What procedure may be used to initiate a handoff on a track that you do **NOT** have control of?

ANSWER: The controller may initiate a handoff by using the Logic Check Override (/OK).

REFERENCE: EM-12, pars. 5.1.4.3, 5.4.1

DISCUSSION: An R controller may enter an Initiate Handoff at a non-controlling sector by using the Logic Check Override (/OK). If there is no FDB or Hold list entry for the aircraft at the entering position, an Accept message is displayed at the R position Computer Readout Device (CRD). This allows an R controller to make handoffs without first having to take track control.

RADAR DISPLAY OPERATION/RDP DISPLAY

Answer and Discussion Section *(Continued)*

6. Explain the procedure for regaining eligibility on a track after an ARTS "ACCEPT" has been received.

ANSWER: The transferring facility may regain eligibility by entry of the Accept Handoff message with the /OK.

REFERENCE: EM-12, pars. 5.1.4.3, 5.1.4.4

DISCUSSION: The transferring facility's eligibility for input ceases as soon as the ARTS "ACCEPT" is received. If, for any reason, the track cannot be handed back from ARTS to center, any message from center on that aircraft is rejected. This situation could develop because of ARTS failure at the sector. The aircraft will reenter from the ARTS facility. A /OK entry will now enable the transferring facility to regain eligibility when entering the Accept Handoff message.

7. One of the attention indicators in a Full Data Block is the accent symbol (^) over either the first or second character of Field A (Flight ID). What is the meaning of the accent symbol (^) when it is over Field A2? When it is over Field A1?

ANSWER: If the accent symbol (^) is over Field A2 of the Flight ID, it indicates that automatic handoff has been inhibited. If the accent symbol (^) is over Field A1 of the Flight ID, it indicates that a flight that has been inhibited from automatic handoff has intruded across the handoff boundary.

REFERENCE: EM-12, par. 2.3.5

DISCUSSION: The automatic handoff feature is enabled at startup. The use of the Automatic Handoff Inhibit message gives the controller the capability to inhibit the automatic handoff for a specified aircraft or all aircraft proceeding to a specified facility or sector. Use of the Automatic Handoff Inhibit message causes the controller to make handoffs through a manually entered handoff message. When specific flights are inhibited, an accent symbol (^) is displayed over the second character of Field A (A2) in the Full Data Block. If the flight intrudes across the handoff boundary, an accent symbol (^) is displayed over the first character of Field A (A1) in the Full Data Block.

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