

Eastern Arc Installation Skills Training – Overview & Installation Considerations

Facilitator Guide

In this Module

In this module, you will be able to introduce the new installation considerations for Eastern Arc (EA) including:

- How to read an Eastern Arc work order,
- Evaluate site survey considerations,
- No line of site to EA (and the programming restrictions caused by that), and
- Part substitution allowances.
- Mastery of customer installations for all aspects of EA including necessary on-site adjustments in equipment and customer communication regarding programming.

Agenda

- Introduction: 2 minutes
- Overview of Eastern Arc (ELM): 15 minutes
- Instructor Led Training: 38 minutes
- Review: 5 minutes

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Module Time

1 hour



Preparation

- Create an easily accessible link to the site where the ELM training “Eastern Arc Installation Skills Training – Overview” is located
- Print Facilitator Guide
- Print one set of Handouts to make five classroom packets. Print extra sets based on your knowledge of how many technicians may want a copy of their own. The handouts consist of the following files:
 - SampleEAWorkOrder.doc
 - DISH 1000_4 detailed Assembly.pdf
 - EA Programming List.xls
 - Installation of Dish 1000_4.ppt
 - Dish 1000.2 Pictures_Assembly.ppt
 - QuickFacts_DISH1000.4_4.21.08.pdf
 - Strut_Instructions.pdf
 - EA Scenarios for Install Considerations.doc
 - D1000.5 kit

Equipment/Materials Needed

- Computer with Internet and projector
- DISH 1000.2 (or DISH 500 with wing dish)
- DISH 1000.4/5 assembled
- Eastern Arc Repoint Kit for DISH 500+
 - D1000.4 REFLECTOR W/FEED ARM/LNBF BRACKET (157088) Single
 - Mast Foot Strut D500+ / D1000.4 (144835) Single
 - REFLECTOR, D1000.4 (158738) (8 pack)
 - BACKING STRUCTURE, D1000.4 (159756) (4- pack)
 - D1000.4 BACKING STRUCTURE (158735) Single
 - D1000.4 LNBF (157092) Single
- Struts

Room Setup

- Setup computer and projector
- Dishes and struts easily accessible



Value

As the instructor, you will go over the following points:

In January, DISH Network promised our customers that we would boost our national HD channel lineup to 100 by year's end and pledged to add more national channels and local HD markets, as well as offer the best sports and movies in HD. EA is part of this pledge. By using the new orbital locations of 72.7 and 77, DISH Network can provide HD locals to customers in many more markets adding to their total HD programming package.



Objectives

"In this module, you will learn:

- How to read an EA work order,
- Evaluate site survey considerations for EA,
- What to do if there is no line of site to EA (and the programming restrictions caused by that),
- Differences between DISH 1000.2 and DISH 1000.4/5,
- Necessary on-site adjustments in equipment, and
- Customer communication regarding EA installations."



Agenda:

Go over the Agenda.

- Introduction: 2 minutes
- Overview of Eastern Arc (ELM): 15 minutes
- Instructor Led Training: 38 minutes
- Review: 5 minutes



Application

"Ensuring technicians have competency installing DISH 1000.4/5 dishes will reduce trouble calls, save the company time and money, and generate better customer satisfaction."



Review

Ask:

"What questions do you have for me before we begin?"



Introduction

Summarize the following points:

State how Eastern Arc fits into the overall delivery of HD programming to customers.

- In January, DISH Network promised our customers that we would boost our national HD channel lineup to 100 by year's end and pledged to add more national channels and local HD markets, as well as offer the best sports and movies in HD.
- EA is part of this pledge. By using the new orbital locations of 72.7 and 77, DISH Network can provide HD locals to customers in many more markets adding to their total HD programming package.
- Formerly known to techs as a Standard installation (D500, D1000.2, wing dish, etc.), the new term is now Western Arc.
- Eastern Arc programming is slightly different from Western Arc programming. All HD programming is in MPEG 4, requiring a ViP series receiver. The primary differences between EA and WA will be the HD locals, Latino channels, and various international channels.

Describe why customers' locations require different equipment than Western Arc locations.

- There are line of sight differences. EA customers will need to receive signal from 61.5, 72.7, and 77 orbital locations. These orbital slots are not separated as the typical 9-10 degrees found in our other dish antenna LNBFs. (110, 119, 129) thus requiring a new antenna, new LNBF configuration, and different installation requirements.
- As mentioned in the Overview, the primary new antenna is the DISH 1000.4. It is about two inches bigger than the DISH 1000.2. The other new antenna, the DISH 1000.5, is about two inches larger than the new DISH 1000.4 and will be used for customers with signals that are not as strong as those who qualify for a DISH 1000.4.
- In addition, in many parts of Florida and New England, customers are unable to receive signal from the 129 orbital locations. Without the EA solution, this would limit their access to HD programming and locals.



Transition

“First, let’s look at an Overview of the Eastern Arc program.”



First Objective: Overview

Video

- Show the “Eastern Arc Installation Skills Training – Overview” ELM training.
- At the end of the video, ask for any questions about the parts they did not understand.



Transition

“Now let’s look at some particulars of how Eastern Arc is different and how that will affect you directly as technicians.”



Second Objective: EA Work Orders

“Next we will look at a work order. We will start by comparing a standard work order to an EA work order.”



Handouts

Hand out the sample work order (“SampleEAWorkOrder.doc”).



EA Work Order Comparison

Describe the unique parts of the EA work order and how they are different from a non-EA work order.

EA NC work orders are not any different from current NC work orders. We have new equipment and orbit codes but everything else on a NC should look as they do today. Yellow highlighted areas are the new codes.

Note: Install equipment based on items listed in the work order. Only FSMs can change the type of equipment for an EA customer.



Transition

“Next, we will review the site survey process as it relates to EA.”



Third Objective: Site Survey

Reference: “FSS-107 Site Survey” in FSS New Hire training

Describe appropriate locations for DISH installations. Emphasize that the primary difference is that techs are “looking a little further to the east” to get EA. Summary of points to cover are:

- Exterior site survey
- Line of site
- Point dish screen
- Use of inclinometer and compass
- Sight angles
- Ideal installation – For DISH 1000.4/5, struts are required



EA & WA Locations

Ask

“Which satellite orbital location is closest to the following cities’ longitude and which Arc area is it in? (Could possibly put these on a flip chart and have students try to match

- A. *New Haven, Connecticut*: **72.7° Eastern Arc**
- B. *Flagstaff, Arizona*: **110° Western Arc**
- C. *Richmond, Virginia*: **77° Eastern Arc**
- D. *Fresno, California*: **119° Western Arc**

E. Ketchikan, Alaska (in the southernmost part of Alaska, next to Canada): 129° Western Arc



F. San Juan, Puerto Rico: 61.5° Eastern Arc



Pause and give the students a chance to discuss any questions.



No Line of Sight

Discuss what a technician must do if there is no line of sight for an EA installation.

- WA is the alternative



Handouts

Hand out the “DISH 1000_4 detailed Assembly.pdf” package.



Information for EA & WA Locations

Reference: “See pages 11 – 16 for Dish Pointing Angles.”

Go over the table to describe how to get line of sights for EA or WA.



Differences in Programming for EA vs. WA

Discuss the differences in programming and where to find that information.

Eastern Arc customers in the eastern United States:

- Receive HD MPEG-4 receivers for the entire installation
- Receive local HD channels as well as other HD programming packages
- Does not receive all HD programming until orbital location 77° is fully functional
- International programming if there is line of sight to 61.5°
- Latino programming with wing dish to 110°

Western Arc customers in the western United States:

- Can receive HD MPEG-4 receivers for TV 1 and SD for other receiver/TV.
- Receive HD programming packages as well as local HD channels.
- Receive all HD programming, all pay-per-view programming, and Latino, and other International language programming.

When customers in the eastern portion of the United States do not have line of sight for Eastern Arc and a Western Arc installation is necessary:

- Customers do not get the local HD programming. To receive local HD, a wing dish must be installed.
- Receive all WA programming



Handouts

Hand out the “EA Programming List.xls” package.

Go over the list and point out that the short column on the right is programming that will not be available at the start date of Eastern Arc.



Transition

Now you will go to the next objective. You can say:

“Now we will discuss the differences between the DISH 1000.2 and the DISH 1000.4 and .5.”



Fourth Objective: Differences Between DISH 1000.2 (or DISH 500 with wing dish) and DISH 1000.4/5

Reference: “Installation of Dish 1000_4.ppt”, “Dish 1000.2 Pictures_Assembly.ppt”, QuickFacts_DISH1000.4_4.21.08.pdf, and “Strut Instructions.doc” files

Place the DISH 1000.2 (or DISH 500 with wing dish) and DISH 1000.4 on a table so all the students can see them. (If you have a large class, and you have more than one set of equipment and/or instructors, you can have more than one display.)

Compare the differences between the two dishes by comparing actual hardware of various parts of each type of dish.

- Footplate
- Dish size
- Mounting brackets
- Spacing of LNBF
- Keyed LNBF
- Azimuth/elevation adjustment
- Cable mounting
- Support arm
- Struts – **Emphasize that DISH 1000.4/5 require struts for EA installations**

Note: Emphasize that there is NO substitution of parts. Techs must install the equipment that is listed on work orders.



DISH 500+ EA Repoint Kit (a.k.a. D1000.5)

Reference: “2008 DISH Network Installation Reference Handbook, page 29”

Point out the parts that are exchanged and the emphasize that the pointing instructions are different:

- Replaces the DISH 500+ LNBF Assembly and LNBF Arm, but uses the

- existing reflector
- Replaces the LNBF
- Pointing instructions are different
- The Eastern Arc Repoint Kit for DISH 500+ consists of:
 - D1000.4 REFLECTOR W/FEED ARM/LNBF BRACKET (157088) Single
 - Mast Foot Strut D500+ / D1000.4 (144835) Single
 - REFLECTOR, D1000.4 (158738) (8 pack)
 - BACKING STRUCTURE, D1000.4 (159756) (4- pack)
 - D1000.4 BACKING STRUCTURE (158735) Single
 - D1000.4 LNBF (157092) Single



Transition

Now you will go to the last objective. You can say:

“Lastly today we will discuss how to communicate the unique concerns of an Eastern Arc installation to customers by role-playing some real-world scenarios.”



Handouts

Hand out the “EA Scenarios for Install Considerations.doc” sheet.



Fifth Objective: Customer Communication Regarding EA Installations

Based on information discussed in the Overview and the first part of this training, technicians should have an understanding of Eastern Arc installation considerations.

- Use the handout of the scenarios to have technicians role-play the scenarios.
- Have the techs select one scenario and create a short “play” of their own to perform in front of class (or their group, depending on the size of the group) to demonstrate their understanding of correct responses.
- Possibly have one group act as a customer and the other group as technician.
- Then reverse the roles so each group has a chance to “play” each side.
- At the end of the “plays,” discuss the scenarios that were not used for the “plays.”



Review

"In this training, we covered:

- How to read an EA work order,
- Evaluate site survey considerations for EA,
- What to do if there is no line of site to EA (and the programming restrictions caused by that),
- Differences between DISH 1000.2 and DISH 1000.4/5,
- Necessary on-site adjustments in equipment, and
- Customer communication regarding EA installations."



Closing Statement

"DISH Network promised our customers that we would boost our national HD channel lineup to 100 by year's end and pledged to add more national channels and local HD markets, as well as offer the best sports and movies in HD. EA is part of this pledge. By using the new orbital locations of 72.7 and 77, DISH Network can provide HD locals to customers in many more markets adding to their total HD programming package."



Closing

Use two Reinforce Content elements

- Restate Objectives, emphasizing the high-points of each objective
 - How to read an EA work order,
 - Evaluate site survey considerations for EA,
 - What to do if there is no line of site to EA (and the programming restrictions caused by that),
 - Differences between DISH 1000.2 and DISH 1000.4/5,
 - Necessary on-site adjustments in equipment, and
 - Customer communication regarding EA installations.
- Address lingering questions
 - Ask, *"Did we fulfill our objectives?"*
 - Ask, *"What are two things you learned today that you did not know before?"*
- Always include, *"What questions do you have?"* to meet BEST guidelines

Use two Reinforce Value elements

- On the job application
 - *“Ensuring technicians have competency installing DISH 1000.4/5 dishes will reduce trouble calls, save the company time and money, and generate better customer satisfaction.”*
- Connection to the future
 - *“Next week we will cover how to assemble, install, point, and peak Eastern Arc dish antennas. You will be able to get hands-on experience by assembling them yourself.”*

Encourage the students to come up, get a closer look at the dishes, and ask any questions they may have regarding them.