

Competency Requirements



MOTOROLA® & ETA® International ASTRO® 25 7.x GTR 8000 Repeater Site Technician (GTT)

The intent of this certification is to ensure technicians have the appropriate knowledge and skills necessary to install, maintain and repair an ASTRO® 25 7.x GTR 8000 Repeater Site. Additional registration information may be found at: www.eta-i.org/motorola_certifications.html.

The certification exam is comprised of an online theory exam and a practical element with troubleshooting and / or procedural scenarios. Completion of the GTR 8000 Repeater Site Workshop, and if necessary the associated prerequisite courses, is required prior to attempting the certification exam. The certification exam can be attempted by using an ETA® International certified proctor. Contact ETA® International for additional information regarding acceptable testing locations.

Prior experience with an ASTRO® 25 7.x radio system is strongly recommended as a prerequisite to the certification. The exam is comprised of the following topics:

Device Configuration	28%
Site Operation	28%
Expandable Site Subsystem Configuration	26%
Troubleshooting and Maintenance	18%

The following is a listing of each topic considered necessary to be included in a course of study towards the education of technicians performing installation, maintenance, and repair of an ASTRO® 25 GTR 8000 Repeater Site. There are 5 categories of training. This COMPETENCY listing is the syllabus, or identification of each individual subject, in which the technician must be knowledgeable and skilled.

ASTRO® 25 GTR 8000 GTT Competencies

1. ASTRO® 25 IV&D Trunked System Overview

- 1.1. List and describe the ASTRO® 25 system features and capabilities
- 1.2. Describe the ASTRO® 25 system sites and their components
- 1.3. Describe in detail the paths used in an ASTRO® 25 Trunking System
 - 1.3.1. Control
 - 1.3.2. Voice
 - 1.3.3. Data
- 1.4. List servers and databases used in an ASTRO® 25 trunked system

2. Bridging the Knowledge Gap for ASTRO® 25

- 2.1. Recall basic modulation techniques like AM, FM, ASK, FSK, and PSK
- 2.2. Identify the main characteristics of ASTRO® signaling
- 2.3. Provide a detailed explanation of the features and call processing of a single site trunking system
- 2.4. Compare the evolution of systems:
 - 2.4.1. Conventional
 - 2.4.2. Single-site Trunking
 - 2.4.3. Voting
 - 2.4.4. Simulcast
 - 2.4.5. SmartZone
 - 2.4.6. Multizone
 - 2.4.7. ASTRO® 25
- 2.5. Obtain foundational knowledge of computer networks necessary to understand the way ASTRO® 25 systems work
- 2.6. Analyze the call processing in an ASTRO® 25 Trunking System

3. Networking Essentials in Motorola Communications Equipment

- 3.1. Recall Basic network terminology
- 3.2. Compare basic configuration types:
 - 3.2.1. Logical
 - 3.2.2. Physical
- 3.3. Describe and compare the basic models:
 - 3.3.1. Open System Interconnect (OSI)
 - 3.3.2. Transmission Control Protocol / Internet Protocol (TCP/IP)
- 3.4. Construct a basic LAN with a Windows Server Domain Controller and workstations
- 3.5. Examine the interaction between the routers through their configurations
- 3.6. Use common network commands to simulate traffic, validate connectivity and routing

4. Advanced Networking Essentials in Motorola Communications Equipment

- 4.1. Recall basic network concepts
- 4.2. Identify the various system network components
- 4.3. Define the LAN topologies for each system
- 4.4. Define the WAN topologies for each system
- 4.5. Diagram the SNMP deployment throughout the system

- 4.6. Identify the HP switches and Motorola series routers
 - 4.7. Perform procedures of routers and LAN switches:
 - 4.7.1. Backup
 - 4.7.2. Restore
 - 4.7.3. Recovery
 - 4.8. Identify network security components and concepts in an ASTRO® 25 system
- 5. ASTRO® 25 IV&D GTR 8000 Repeater Site**
- 5.1. Identify the major components and configurations of the GTR 8000 Repeater Site
 - 5.2. Configure the hardware and software for efficient operation
 - 5.3. Interpret the flow of message and control data in the various configurations
 - 5.4. Analyze the call processing in a site
 - 5.5. Troubleshoot the site, its hardware, and configuration

End of Motorola® ASTRO® 25 7.x GTR 8000 Repeater Site Technician Competencies