

Competency Requirements MOTOROLA® & ETA® International ASTRO® 25 7.x GTR 8000 Repeater Site Technician (GTT) 2011



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.

Students must register with the certifying agency, ETA® International, prior to attempting this certification. Additional registration information may be found at:

www.eta-i.org/motorola_certifications.html.

Motorola Technicians who take the ASTRO® 25 Series as a Stand-Alone certification are not required to take the Associate CET (CETa) exam. Technicians who would like to use their ASTRO® Series certification to become a Journeyman CET must obtain the ASTRO® 25 7.x M Core Technician, ASTRO® 25 7.x GTR 8000 Repeater Site Technician, and ASTRO® 25 7.x Radio Network Administrator certifications in addition to the Associate CET (CETa).

The certification is comprised of a written 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. The written assessment can be conducted at the conclusion of the course or can be completed at a later time using an ETA® International certified proctor, such as a local library. Contact ETA® International for additional information regarding acceptable testing locations. **The practical exam is typically administered the following day after the conclusion of the training class.**

Prior experience with an ASTRO® 25 7.x radio system is strongly recommended as a prerequisite to the certification. The written 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