Motorola Solutions® & ETA® International ASTRO® 25 7.x M Core Technician (MCT)

Competency Requirements

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 M-Core Single and/or Multi-Zone communication system. This ITEMS listing is the syllabus, or identification of each individual subject, in which the technician must be knowledgeable and skilled.

The certification exam is comprised of an online technical theory exam with practical elements including troubleshooting and/or procedural scenarios. Completion of the ASTRO® 25 7.x M Core Workshop is **required** prior to attempting the certification exam. The exam is based on knowledge of the currently shipping ASTRO® 25 release which at the time of this printing is ASTRO® 25 **7.14**. The certification exam can then be attempted with the certifying agency, ETA® International, by using a certified proctor. Contact ETA® International for additional information regarding acceptable testing locations. Additional registration information may be found at: http://www.eta-i.org/motorola.html.

Motorola Solutions technicians who take the ASTRO® 25 Series as a Stand-Alone certification are not yet required to take the Associate CET (CETa) exam; however, it is strongly recommended to complete the CETa prior to attempting this certification.

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

Topic	Percentage
Zone Core Hardware Configuration	22%
Unified Event Manager (UEM)	15%
Network Transport Subsystem	15%
Troubleshooting and Maintenance	11%
Provisioning Manager (PM), Unified Network Configurator (UNC) and Zone Watch	11%
Call Management and Control Path	10%
Information Assurance and Data Subsystems	10%
Software Configuration Management	6%

ASTRO® 25 7.x MCT Items Listing:

1. **Radio Systems Fundamentals**
   - 1.1 Radio Frequency Subsystem
   - 1.2 Control Subsystem
   - 1.3 Audio Distribution Subsystem
   - 1.4 Transport Subsystem
   - 1.5 Management Subsystem
   - 1.6 Multiple Site Communications Principles to include:
     - 1.6.1 Terminology Issues
     - 1.6.2 Conventional Multiple Site Systems
     - 1.6.3 Voting Systems
     - 1.6.4 Simulcast Systems
     - 1.6.5 Trunking

2. Networking and Radio Frequency Fundamentals
    2.1   TCP/IP Basics principles
    2.2   Types of Protocols
    2.3   Addressing
    2.4   Microsoft Windows Client and Server
    2.5   Constructing a network
    2.6   Connecting Routers
    2.7   Troubleshooting

3. ASTRO® 25 System Overview
    3.1   Purpose of the ASTRO® 25 IV&D System
    3.2   ASTRO®25 Trunking Concepts
    3.3   ASTRO® 25 System features and capabilities
    3.4   ASTRO® 25 System Subsystems and their respective functions
    3.5   ASTRO® 25 System and Software Tools
    3.6   ASTRO® 25 System Compatible End-User Devices

4. ASTRO® 25 Radio System Administration
    4.1   Provisioning Manager (PM)
    4.2   System Profile
    4.3   Zone Watch – Default Profile
    4.4   Zone Profile
    4.5   ATIA Log Viewer
    4.6   Unified Network Configurator (UNC)
    4.7   Affiliation Display
    4.8   Customer Service Software (CSS)
    4.9   Radio Control Manager (RCM) Basics
    4.10 Reports to include:
          4.10.1 Historical
          4.10.2 Dynamic
          4.10.3 RCM
          4.10.4 System
          4.10.5 Unified Event Manager (UEM)
          4.10.6 Zone

5. Motorola® Communications Networking
    5.1   Introduction to Motorola® Systems
    5.2   Review of basic networking concepts
    5.3   Networking in Motorola® Systems
    5.4   Advanced networking concepts
    5.5   Network security concepts
    5.6   System networks
    5.7   Network troubleshooting

6. ASTRO® 25 7.x Systems
    6.1   System Views
    6.2   Master Site and Call Processing Subsystem
    6.3   Network Transport
    6.4   Network Management
    6.5   Data Subsystem
    6.6   Dispatch Subsystem
    6.7   System Reliability
    6.8   Routine Maintenance
    6.9   Troubleshooting Tools
    6.10 System troubleshooting