2016
MOTOROLA SOLUTIONS LEARNING CATALOGUE
MIDDLE EAST

WELCOME

Choosing Motorola is only the beginning.

Next: Get trained on Motorola Solutions' latest innovations and improve your proficiency with our expanding training portfolio!

With versatile training solutions and best practices from our expert instructors and designers, you can increase the return on your technology investment throughout the product and system lifecycle.

Motorola Solutions Learning provides your organization a one-stop shop, end-to-end training service: from needs analysis and consultancy to course development, customization, delivery, and logistics.

Let Motorola Solutions Learning work with your team to ensure that your organization configures, operates and maintains your products and systems to effectively and efficiently meet your specific needs.

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GENERAL INFORMATION

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For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Middle East Learning Help Desk at:
training.apme@motorolasolutions.com

HOW TO REGISTER

THE LEARNING MANAGEMENT SYSTEM (LMS)

The LMS is your valuable resource to see the latest courses, descriptions, requirements, dates and locations.
If you are a Motorola Solutions Customer who already has a Motorola User ID, you can go to the "Enroll in a Course" section for further instructions.

SET UP A NEW USER ACCOUNT AND PASSWORD

CREATE A MOTOROLA USER ID:

- Visit: **https://learning.motorolasolutions.com**
- Click the "Register" link at the bottom right of the Log In box
- Complete all the mandatory fields
- Enter your work email address, i.e., name@company.com.
  This will be your Motorola User ID
- Click the "Submit" button
- You will receive a confirmation of your submission
- When your LMS account setup has been completed, you will receive an email with your login information

LOOK FOR THIS ICON THROUGHOUT THE CATALOG FOR EASY ACCESS TO THE LMS

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

ENROLL IN A COURSE (ONCE YOU HAVE AN LMS ACCOUNT)

ENROLL IN A COURSE:

- Log in to the LMS: **https://learning.motorolasolutions.com**
- Enter your Motorola User ID/work email address
- Enter your Password (If you need to reset your password or forgot it, **click on the Forgot/Reset Password link**
- Click "Log In"
- Navigate to the Training Catalog link
- All Instructor-Led and Online courses are available here
- Select relevant course and click Enroll to begin

QUESTIONS ABOUT YOUR ACCOUNT OR A COURSE?

Your Help Desk information can be located in the top, right hand corner of the catalog pages.
You can also **click here** to view the Help Desk contact information in your region.

TRAINING OPTIONS, POLICIES AND REQUIREMENTS

TRAINING OPTIONS

RESIDENT, INSTRUCTOR-LED TRAINING

Resident training consists of regularly scheduled classes conducted at our Middle East Training Centre in Penang. The centre is set up so students can immerse themselves in the subject matter, with limited distractions. They receive substantial time for hands on training that enables them to develop creative solutions for unique problems. Resident training includes a diverse customer base; therefore, the classroom equipment is modeled upon a standard configuration. In addition, some courses include media-based activities that are facilitated by the instructor. Advance registration is required.

ON-SITE TRAINING AT YOUR LOCATION

All course titles can be delivered at your location, taught by our knowledgeable instructor staff. For more information on our on-site delivery options, contact us at: **training.apme@motorolasolutions.com**.

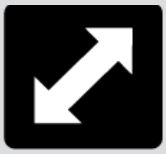
ONLINE SELF-PACED

Online Self-Paced learning allows you to gain foundational knowledge on a variety of topics using your own computer, at your own schedule.

UNDERSTANDING THE ICONS

INSTRUCTOR-LED

ONLINE, SELF-PACED



OPTIONAL COURSE

NEW COURSE OFFERING

POLICIES AND REQUIREMENTS

CANCELLATION AND RESCHEDULING BY THE STUDENT

Customer cancellation or rescheduling made less than 30 days prior to the class start date will be subject to the full course tuition.

CANCELLATION AND RESCHEDULING BY MOTOROLA

Motorola reserves the right to change or cancel classes up to 10 business days prior to the class start date. You will be notified at that time of such change or cancellation.

PROFESSIONALISM

Students are expected to maintain professional conduct and dress at all times. Class dress is casual, but smart. For safety and security reasons, we cannot permit shorts, thong type sandals, or tank tops in the classroom.

LAPTOP REQUIREMENTS

Some of our classes may require students to bring their laptops to the classroom so that they may utilize an electronic copy of the class material. Please review your enrollment confirmation email for specific requirements for your class.

TRAINING CONTENT AND STRATEGY DISCLAIMER

All of Motorola training classes are designed to support and align with the Motorola Service strategy for each product. This strategy may include a combination of (but not limited to) processes, procedures, recommendations, and instructor experiential advice which may involve repair, replacement, and or recovery of hardware, software, or firmware of Motorola products. The repair, replacement, or recovery of these products may vary from product to product. Motorola reserves the right to change the structure and content of all courses at any time.

PRICING AND HELPFUL INFORMATION

FOR QUESTIONS AND ASSISTANCE

Call the Learning Help Desk
Monday - Friday
9am - 6pm Kuala Lumpur/Singapore Time
or email us at:
training.apme@motorolasolutions.com

HOW TO MAKE PAYMENTS WHEN ENROLLING IN A COURSE

HOW TO MAKE PAYMENTS WHEN REGISTERING

For your convenience we accept the following methods of payment:

- Credit Card
- Purchase Order
- Company Check

If prepayment is required to secure your registration, it must be received by Motorola 30 days prior to your attendance.

Contact the Help Desk above for assistance with payments and P.O. specifications.
All pricing listed is US dollars**.**

CONTACT MOTOROLA SOLUTIONS MIDDLE EAST

AUSTRALIA	1800-154-730
CHINA NETCOM	10-800-744-0584
CHINA TELECOM	10-800-440-0565
CHINA UNICOM	400-882-2023
HONG KONG	800-903-237
INDIA	000-800-440-2205
INDONESIA	001-803-44-2142
JAPAN	0120187300
MALAYSIA	1-800-88-0089
MIDDLE EAST	44 203 027 7499 42 053 333 6946
NEW ZEALAND	050-836-2421
PHILIPPINES	1-800-8908-6421
SINGAPORE	1-800-415-5213
SOUTH KOREA	080-554-0880
TAIWAN	0-800-666-712
THAILAND	00-1800-441-4465

OPERATOR TRAINING

For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

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training.apme@motorolasolutions.com

THE SUCCESSFUL IMPLEMENTATION OF YOUR COMMUNICATIONS SYSTEM DEPENDS ON CONFIDENT USERS OF THE SYSTEM.

- **Users of your mobile and portable radios require training on their units to understand its basic operation, features and functions**
- **Dispatchers of your consoles require training to understand basic operation, features and functions**
- **Management personnel require training on the Motorola applications**

TRAIN THE TRAINER

With this option, Motorola trains people you have identified as qualified instructors so that they in turn can train each individual user in your organization. These classes are typically done on site using your equipment. The interactive End User Tool Kit (iEUTK) and/or tailored end user materials can be utilized.

AUDIENCE

This course is geared for customers who have an experienced, dedicated training staff in their organization. This course concentrates on specific product features and how it relates to the training process.

COURSE OVERVIEW

This course provides the customer's identified training personnel knowledge and practice applying training techniques that will enable them to successfully train their students. Trainers will use simulation, facilitation and hands-on activities to facilitate learning events supported by tailored training materials and job aides. Students will become proficient in discussing common tasks associated with the operation of the customer's radios and consoles as identified by the customer's needs analysis.
Note: This course is presented as customer specific and will cover pertinent information on customer equipment.

REQUISITE KNOWLEDGE

Previous training experience and radio system knowledge is a must.

OPERATOR TRAINING

With this option, the users within your organization are trained by a Motorola instructor. These classes are typically done on site using your equipment. The interactive End User Tool Kit (iEUTK) and/or tailored end user materials support this training option.

CONSOLES TRAINING

These courses provide operators and supervisors with an introduction to the basic operation, administration and feature functionality of the Console Systems. Through facilitation and hands-on practice, users learn to perform tasks that are associated with their organization's particular system.

- Overview of console configuration
- Console dispatcher and supervisor operation

SUBSCRIBER TRAINING

These courses provide radio users with an introduction to their radios, a review of their radio's basic functionality by means of job aides tailored to exactly how they use their radios. Through facilitation and hands-on practice, users learn to perform common tasks associated with their radio configuration.

- Overview of radio configuration
- General radio operations

TO REQUEST FIELD TRAINING, PLEASE CONTACT YOUR ACCOUNT MANAGER.

Note: The interactive End User Tool Kit (iEUTK) is not sold as a standalone product but included with our instructor-led, Train-The-Trainer or Operator Training.

COURSES FOR CONSOLE PRODUCTS

- CENTRACOM Elite Admin and Alias Database
- Manager (ADM)
- CENTRACOM Operator
- MCC 7500 Dispatch Console Administrator Training
- MCC 7500 Dispatch Console Operator Training
- Console Operator
- MIP 5000 Dispatch Console

COURSES FOR RADIO PRODUCTS

DIMETRA

PORTABLE

- MTP6550/MTP6750
- MTP3100/MTP3150/MTP3250
- MTP850EX
- MTP810EX
- MTP850S
- MTP850
- TCR1000
- TOM100
- MTH800

MOBILE

- MTM5500
- MTM5400
- MTM5200
- MTM800E

ASTRO®

PORTABLE

- APX1000
- APX2000
- APX3000
- APX6000
- APX7000
- SRX2200

MOBILE

- APX1500
- APX2500
- APX6500
- APX7500
- DVRS
- VRX100

MOTOTRBO™

PORTABLE

- XiR P8600 Series
- XiR P8200 Series
- XiR P6000 Series
- XiR P3688
- XiR P8600 Ex
- DP2000 Series
- DP3000 Series
- DP4000 Series
- DP4000 Ex
- SL Series
- XiR C2660/C2620/C1200
- XiR E8600/8606

MOBILE

- XiR M3188/3688
- Xir M6660
- XiR M8200 Series
- XiR M8600 Series
- DM3000 Series
- DM4000 series

REPEATER

- XiR R8200
- DR3000
- MTR3000

COURSES

FOUNDATIONAL COURSES

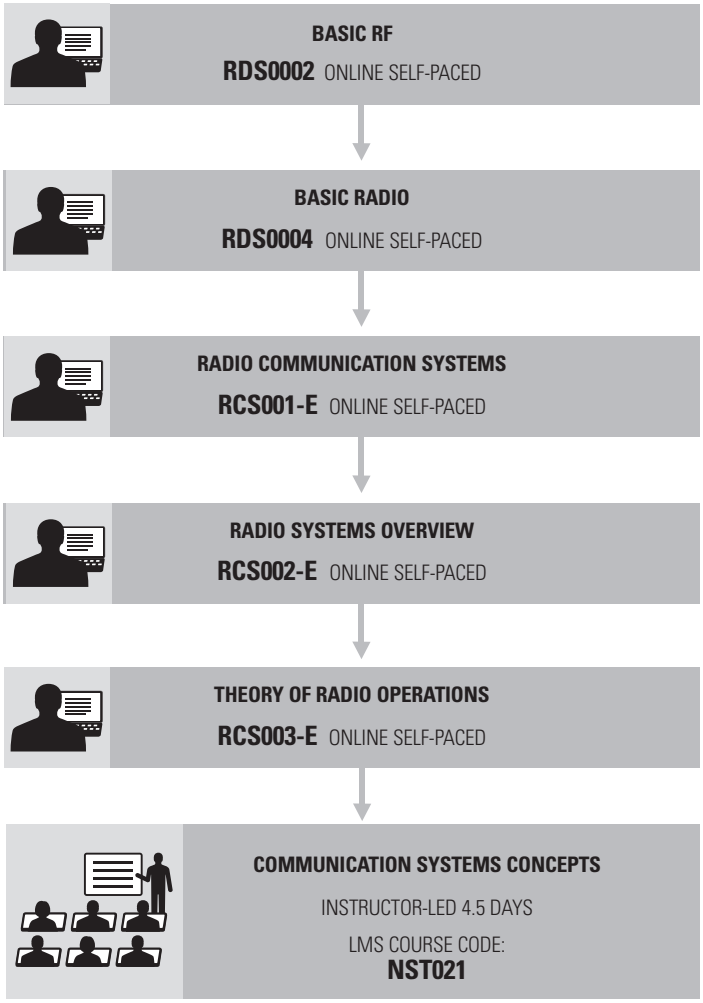
THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

FOUNDATIONAL COURSES (CONTINUED)

RF FUNDAMENTALS

RF BASICS / RADIO SYSTEM BASICS



CURRICULUM COMPLETE

PARTICIPANT HAS RF KNOWLEDGE REQUIRED FOR ADVANCING TO MORE COMPLEX TECHNICAL TRAINING COURSES.

IP/NETWORKING FUNDAMENTALS

BASIC NETWORKING
RDS0003 ONLINE SELF-PACED

NETWORKING ESSENTIALS IN MOTOROLA COMMUNICATIONS SYSTEM
INSTRUCTOR-LED 4.5 DAYS
LMS COURSE CODE:
NST762

CHOOSE ONE OF THE FOLLOWING COURSES BELOW ACCORDING TO YOUR SOLUTION SYSTEM

ASTRO® 25 SOLUTIONS

ASTRO 25 SYSTEMS APPLIED NETWORKING
INSTRUCTOR-LED 4.5 DAYS
LMS COURSE CODE:
NWT003

OR

MOTOTRBO™ SOLUTIONS

MOTOTRBO SYSTEMS APPLIED NETWORKING
INSTRUCTOR-LED 3.5 DAYS
LMS COURSE CODE:
PCT2007

CURRICULUM COMPLETE

PARTICIPANT HAS IP PROTOCOLS AND NETWORKING SKILLS TO USE MOTOROLA SYSTEMS REQUIRING ADVANCED TECHNICAL TRAINING.

NEW

CLICK HERE TO GO TO PAGE 49 FOR MORE DETAILS ON ASTRO 25

ASTRO 25 Domain Controller Administration
LMS Course Code: **AST2016**

NEW

CLICK HERE TO GO TO PAGE 54 FOR MORE DETAILS ON MOTOTRBO

MOTOTRBO Connect Plus System Academy
LMS Course Code: **PCT3003**

MOTOTRBO System Academy
LMS Course Code: **PCT3002**

BASIC RF

COURSE OVERVIEW

This course emphasizes the concepts behind RF Systems theory and operation. Topics include basic radio transmitters and receivers, RF propagation, modulation, antenna systems, transmission lines and data-communications.

AUDIENCE

Technical staff who need to understand Communication Systems Concepts including basic radio, RF propagation, modulation, antenna systems, transmission lines and data-communications.

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Describe electrical principles, including direct and alternating current.
- Describe the basic structure of radio transmitters and receivers.
- Describe the operation of the antenna system.
- Identify different types of transmission media.
- Describe RF propagation and understand system gains in a link budget.

REQUISITE KNOWLEDGE

None

ONLINE, SELF-PACED
LENGTH: **1 HOUR**
LMS COURSE CODE:
RDS0002

BASIC RADIO

COURSE OVERVIEW

The purpose of this course is to provide the student with the basic, foundational land mobile two-way radio knowledge required when working with Motorola Solutions. This course is ideal for all people who sell or service land mobile two-way radios and it was especially designed to meet the needs of the MR Channel and Motorola Solutions employees.

AUDIENCE

Motorola Solutions Partners and Employees

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Define what a two-way radio is.
- Describe two-way radio components.
- Describe communication types.
- List and describe ways of expanding coverage.
- Describe analog and digital solutions.
- Describe how transmit and receive processes work in conventional and trunked two-way radio.
- Define system scalability.
- Identify the considerations to implementing a two-way radio.
- List the characteristics of single-site, single-zone and multi-zone systems.
- Explain the concept of two-way radio security.
- Describe the open standards for the following technologies: APCO P25, TETRA and DMR.

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Basic RF (RDS0002)

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
RDS0004

BASIC NETWORKING

COURSE OVERVIEW

This course provides a detailed description of the fundamentals of system networking. Topics include the OSI seven layer model, bridges and switches, IP and routing, applications and security.

AUDIENCE

Engineers who need to understand the essentials of system networking.

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Identify the Elements and Interconnectivity of a basic network
- Define the OSI and TCP/IP Models
- Define the advantages of different Network Layout Options
- List the Physical and Data-Link Layers of the OSI and TCP/IP Models
- Define the Network and Transport Layers of the OSI and TCP/IP Models
- Identify the Service Layers within the OSI and TCP/IP Model
- Define the concept of Network Security.
- Identify standards organizations

REQUISITE KNOWLEDGE

None

ONLINE, SELF-PACED
LENGTH: **1 HOUR**
LMS COURSE CODE:
RDS0003

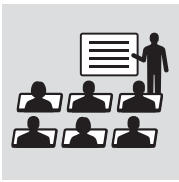
RF FUNDAMENTALS

COURSE OVERVIEW
This course will provide RF Fundamental basics, an overview of RF Designs for each frequency band, frequency planning and guidelines for each band, practical guidelines for antenna system design, intermodulation risk evaluation the 5 step program and an introduction of new products and applications. typically encountered in Motorola Solutions projects

AUDIENCE
Field System Engineers, System Technologists, Field Service Technicians

COURSE OBJECTIVES
By the end of the course, you will be able to perform:
- Spectrum Considerations
- Intermodulation Risk Analysis
- Power monitoring
- RF Distribution Design Guide
- RF Verification of Receive Network
- Antennas

REQUISITE KNOWLEDGE
None



INSTRUCTOR-LED
LENGTH: **2 DAYS**
LMS COURSE CODE:
ENG1015

RADIO COMMUNICATION SYSTEMS

COURSE OVERVIEW
This course provides associates in the technology and telecommunications field knowledge on wireless communications systems. How two-way radio works, and the basic components of a communication system are presented and explained. Simplex, duplex, and repeater operational theory is provided in addition to learning targeted on spectrum, frequency, and range considerations. Participants will also learn foundational operational theory on voting systems, trunking systems, and data communication systems in addition to the role transmission line, antenna, and frequency modulation play in the performance of a two-way radio communication system. Interactive testing accompanies each learning module to help the student retain and apply their foundational knowledge.

AUDIENCE
General

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Understand the terminology associated with two-way radio communication equipment and systems
- Describe the purpose and characteristics of basic two-way radio systems, dispatcher systems, wide and total coverage systems, trunking systems and digital communication systems
- Understand decibels, transmission line characteristics, antennas and modulation concepts

REQUISITE KNOWLEDGE
None

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
RCS001-E

RADIO SYSTEMS OVERVIEW

COURSE OVERVIEW
This course will provide associates in the wireless technology and telecommunications field with foundational technical knowledge on Motorola two-way radio system solutions including conventional systems, trunked systems and Astro 25 digital systems. Each learning module provides instruction on the specific components of the system and engages the student with graphic interaction and challenging questions. After completing this program students will have an excellent foundational, and technical understanding of the primary two-way radio systems utilized by Motorola business and government solution customers. Interactive testing accompanies each learning module to help the student retain and apply their foundational technical knowledge.

AUDIENCE
General

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the signaling features of a conventional radio
- Explain the basic operation of a trunked system
- Describe the signaling features of a trunked radio
- Explain the basic operation of a digital system
- Describe the signaling features of a digital radio
- Explain and understand the characteristics of analog to digital signaling
- Describe digital features including: encryption, error protection, voice and data integration, and continuous unit ID

REQUISITE KNOWLEDGE
None

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
RCS002-E

THEORY OF RADIO OPERATION

COURSE OVERVIEW
This course will provide associates with foundational technical knowledge on the theory of radio operation…how it works. The learning in this course will include basic radio operation, transmitter and receiver operation, frequency generation, control functions, and digital operation. Each learning module provides instruction on the specific operational characteristics of the system and engages the student with graphic interaction and comprehensive theory pertaining to the targeted learning objectives. After completing this course students will have a better understanding of the core operational characteristics of a wireless communication system and be able to apply their foundational knowledge in their technology related discipline. Interactive testing accompanies each learning module to help the student retain and apply their knowledge.

AUDIENCE
General

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Explain the basic operation of a two-way radio.
- Understand the basic signal flow of a two-way radio.
- Describe the elements that comprise a two-way radio.
- Explain the how and why of frequency generation circuitry.
- Explain the how and why of receiver circuitry.
- Explain the basic operation of the transmitter circuitry.
- Explain the basic operation of the controller/audio circuitry.
- Describe the digital elements in a digital radio.
- Understand and describe the basic steps involved in the digital radio transmitter and receiver.

REQUISITE KNOWLEDGE
None

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
RCS003-E

BRIDGING THE KNOWLEDGE GAP FOR ASTRO® 25 – TECHNICIAN

COURSE OVERVIEW
This seven-module course is designed to bring Technicians from different technical backgrounds and experience levels to a common starting point for the ASTRO® 25 curriculum. This course provides seven modules from the basic concepts of radio communication systems and computer networking features, through the evolution that led to the ASTRO 25 trunking system's architecture.

AUDIENCE
This course is intended for System Technicians, and other ASTRO 25 system users who are new to trunked radio systems. Also those with experience in non-IP-based radio systems like SmartNet and SmartZone.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Explain the different radio system concepts as applied to conventional and trunked systems
- Compare analog radio communication signaling to ASTRO 25 radio communications signaling
- Identify different communication concepts using representative block diagrams of the respective systems
- Compare radio system communication concepts using representative block diagrams of the respective systems
- Compare how voice and data, information flow through different radio communication system types and how the signaling information controls that flow of information
- Describe the features of each radio communication system in terms of advantages and disadvantages

REQUISITE KNOWLEDGE
None

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
ACT100-E

BRIDGING THE KNOWLEDGE GAP FOR ASTRO® 25 – SYSTEM ADMINISTRATOR

COURSE OVERVIEW
This five-module course is designed to bring Administrators from different technical backgrounds and experience levels to a common starting point for the ASTRO® 25 curriculum. This course provides seven modules from the basic concepts of radio communication systems and computer networking features, through the evolution that led to the ASTRO 25 trunking system's architecture.

AUDIENCE
System Administrators who are new to trunked radio systems. Also those with experience in non-IP-based radio systems like SmartNet and SmartZone.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Identify different communication concepts using representative block diagrams of the respective systems
- Compare radio system communication concepts using representative block diagrams of the respective systems.
- Compare how voice and data information flows through different radio communication system types, and how the signaling information controls that flow of information
- Describe the features of each radio communication system in terms of advantages and disadvantages
- Explain the Trunked Radio System Concepts

REQUISITE KNOWLEDGE
None

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
ACT101-E

SITE INSTALLATION PRACTICES WORKSHOP (R56)

COURSE OVERVIEW
The Site Installation Practices Workshop (R56) course is designed to present the standards and guidelines for installing a Motorola communication system. Participants will understand how a properly installed system can help to ensure a safe and efficient communications system, reducing system down time.

AUDIENCE
Technical System Managers and Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- List the purposes of grounding and evaluate their importance in terms of personal safety and effective system installation and protection
- Apply principles of basic electronics to the installation standards found in the R56 manual
- Determine how an effectively installed ground system provides protection for a communication system from a lightning strike or electrical anomalies
- List the minimum requirements and specifications for the external and internal ground system
- List the minimum requirements and specifications for installation equipment, cables and documentation for a reliable communication system installation
- Investigate sources for possible solutions to various installation scenarios

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Graduate of a basic electronics course or equivalent experience.

INSTRUCTOR-LED
LENGTH: **3.5 DAYS**
LMS COURSE CODE:
NST925

COMMUNICATION SYSTEMS CONCEPTS

COURSE OVERVIEW
The Communication Systems Concepts course emphasizes the concepts behind RF Systems theory and operation. Major topics covered include:
- RF System Operation, including talkaround, repeater operation, and types of signaling used in RF Systems
- A basic walkthrough of building a communication system from 'Simplex', to 'Half Duplex', 'Voting Systems', and 'Simulcast' is done, emphasizing the improvements in communication obtained with each step
- Trunking Operation, including Smartzone operation
- Types of modulation used in RF System operation, including ASTRO
- Radio frequency path including the antenna and transmission line
- Decibels and their uses on the job
- RF Propagation/RF Interference
- Basic Troubleshooting practices from the system perspective

AUDIENCE
General

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Define terms commonly used in two-way communication systems
- Effectively use two-way radio communication systems knowledge to troubleshoot typical two-way communication radio systems
- Develop requirements for a two-way radio system by establishing programming and protocol requirements as requested
- Improve skills in the interpretation of typical two-way radio checks of the receiver, transmitter and the antenna system to troubleshoot a two-way radio communication system
- Use decibels to interpret the radio frequency path and antenna system to describe expected radio communication system performance and troubleshooting

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Knowledge of basic electronics
- Experience using standard communication test equipment

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
NST021

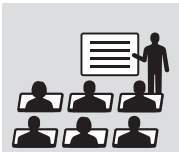
FLEETMAPPING

COURSE OVERVIEW
This course includes a system review, basic Fleetmapping principles, radio user configuration, dispatch user configuration, mobile radio configuration, text broadcast Fleetmapping and system configuration. This course will provide to the ability to perform basic planning and complete a Fleetmap information template.

AUDIENCE
Technical staffs that require an overview of Fleetmapping.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Configure BIOS parameters for server hardware
- Investigate sources for possible solutions to various installation scenarios
- Demonstrate basic knowledge of supported virtualization application, including capacity
- Install supported virtualization application on a server platform
- Configure supported virtualization application parameters of supported server hardware
- Install a Client OS and Server OS in a virtual environment
- Investigate sources for possible solutions to various installation scenarios
- Verify Server/Client operations in a virtual environment

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP System Overview (TSYS01)



INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TGTC04

FIELD ENGINEERING WORKSHOP

COURSE OVERVIEW
This course includes a system review, a description of the role of field engineers, a description of field test tools, system installation and configuration with field and site acceptance testing.

AUDIENCE
Engineers who will be required to install, configure and perform administration tasks on a Dimetra IP System, including for Field Acceptance Tests and Site Acceptance Tests.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Explain a Motorola Radio system diagram or plan.
- List the FE tools used on a Motorola Radio system.
- State and use the FAT/SAT process.
- Describe the procedure for a Motorola system installation.
- Describe a Motorola Fleetmapping process.
- Describe system configuration & administration

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP System Overview course (TSYS01R82)

INSTRUCTOR-LED
LENGTH: **5 DAYS**
LMS COURSE CODE:
TGTC05

TETRA OVERVIEW

COURSE OVERVIEW
This course will provide an introduction to TETRA as a precursor to proprietary TETRA and Dimetra solutions.

AUDIENCE
Personnel requiring a generic introduction to TETRA

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Recall Basic Networking Concepts
- Indentify recommended netwrk components for MOTOTRBO systems
- Define LAN/WAN topologies for MOTOTRBO systems
- Perform backup, restore and recovery of recommended network components
- Identify network security concepts for MOTOTRBO systems

REQUISITE KNOWLEDGE
None

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TGTC06

MOTOTRBO™ SYSTEMS APPLIED NETWORKING

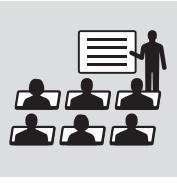
NEW

COURSE OVERVIEW
The MOTOTRBO™ Systems Applied Networking provides technicians with the necessary information required for understanding the typical networking requirements for implementing a variety or MOTOTRBO solutions. The course includes familiarization/review of basic networking concepts and MOTOTRBO-specific networking requirements. This course will focus on specific configurations for IP Site Connect, Linked Capacity Plus, and Connect Plus trunking systems.

AUDIENCE
Technical System Managers and technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Recall Basic Networking Concepts
- Indentify recommended netwrk components for MOTOTRBO systems
- Define LAN/WAN topologies for MOTOTRBO systems
- Perform backup, restore and recovery of recommended network components
- Identify network security concepts for MOTOTRBO systems

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Networking Essentials in Motorola Communication Systems (NST762)



INSTRUCTOR-LED
LENGTH: **3.5 DAYS**
LMS COURSE CODE:
PCT2007

ASTRO® 25 SYSTEMS APPLIED NETWORKING

COURSE OVERVIEW
The ASTRO® 25 Systems Applied Networking course provides technicians with the necessary networking information required for understanding the network components installed in modern Motorola communications systems. The course includes familiarization with basic networking concepts, and the networking components deployed in the ASTRO SmartZone System and ASTRO 25 System.

AUDIENCE
Technical System Managers and Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Recall basic network concepts
- Identify the various system network components
- Define the LAN topologies for each system
- Define the WAN topologies for each system
- Diagram SNMP deployment throughout the system
- Identify the HP switches and Motorola series routers
- Perform backup, restore, and recovery procedures of routers and LAN switches
- Identify network security components and concepts in an ASTRO 25 system

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Networking Essentials in Motorola Communications Equipment (NST762)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
NWT003

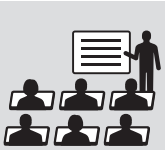
NETWORKING ESSENTIALS IN MOTOROLA COMMUNICATIONS EQUIPMENT

COURSE OVERVIEW
The Networking Essentials in Motorola Communications Equipment course provides the technician with the essential elements of networking required for the installation and maintenance of most Motorola communications systems. The course includes ample hands-on and basic troubleshooting on network elements.

AUDIENCE
System Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Recall basic network terminology
- Compare basic configuration types, both logical and physical
- Describe the basic OSI (Open System Interconnect) model compared with the TCP/IP model
- Construct a basic LAN with a Windows Server Domain Controller and workstations
- Examine the interaction between the routers through their configurations
- Use common network commands to simulate traffic and validate connectivity and routing

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- An understanding of the basic Motorola Communications Systems is highly recommended
- Basic familiarization with computer operating systems is required
- A basic knowledge of networking is helpful and recommended



INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
NST762

DIMETRA IP INFRASTRUCTURE

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

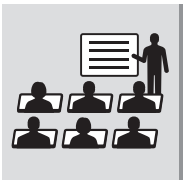
DIMETRA IP R8.2 SYSTEM OVERVIEW

COURSE OVERVIEW
This course provides an overview of the features and functions of a Dimetra IP R8.2 system. The course is divided into eight modules and includes descriptions of the various call types and system hardware functionality. An application overview describes the purpose of the software used to manage and administer the system. Each module includes an assessment designed to test learning.

AUDIENCE
All staff who require an overview of the Dimetra IP system functionality and features.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe Basic Radio Concepts.
- Describe Dimetra IP Benefits
- Describe Dimetra R8.2 Features and their Benefits.
- Describe Dimetra R8.2 Single Zone system Components and their Functionality.
- Describe the Purpose and Function of Dimetra R8.2 Network Management Applications.
- Describe Dimetra R8.2 Multi-Zone system Components and their Functionality.
- Describe how different types of calls are processed through a Dimetra R8.2 System.

REQUISITE KNOWLEDGE
None



INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TSYS01R82

DIMETRA IP R8.2 CONFIGURATION & ADMINISTRATION WORKSHOP

COURSE OVERVIEW
During this workshop delegates will use configuration and administration applications to manage a Dimetra IP R8.2 system as they would on a daily basis. The delegates will perform configuration set up procedures for the more popular features and functions as well as common administration tasks, based on real business scenarios.

AUDIENCE
System managers responsible for configuration and administration of a Dimetra IP R8.2 system

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the purpose of Configuration Management and Server Administration within your Dimetra IP R8.2 System
- Define tools used to perform Configuration Management
- Perform system user and infrastructure configuration procedures
- Perform basic System Security Management procedures
- Define Applications used to perform Network Management Server and Database Administration tasks
- Describe Dimetra R8.2 Multi-Zone system Components and their Functionality.
- Explain the importance of daily operational tasks
- Perform daily operational tasks

REQUISITE KNOWLEDGE
- Dimetra IP R8.2 System Overview Course (TSYS01R82)

INSTRUCTOR-LED
LENGTH: **4 DAY**
LMS COURSE CODE:
TSYS04R82

DIMETRA IP R8.2 FAULT MANAGEMENT WORKSHOP

COURSE OVERVIEW
The workshop will allow delegates to use applications to identify faults on systems components using a live Dimetra IP R8.2 system and within the context of business scenarios.

AUDIENCE
System operations staff and field engineers who perform fault management tasks on a Dimetra IP R8.2 system.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Define the role of Fault Management within Network Management
- Define the role of each of the applications used within Fault Management
- Utilise the Unified Event Manger-UEM application to assist Fault Management within the Dimetra IP system
- Use the TNCT to assist Fault Management
- Use the Zone Configuration Manager application to perform diagnostic functions within the Dimetra IP system
- Use the Zone Watch application to assist Fault Management within the Dimetra IP system
- Identify file backup procedures.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP R8.2 System Overview Course (TSYS01R82)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TSYS06R82

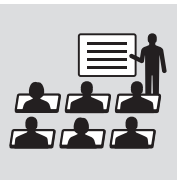
DIMETRA IP R8.2 PERFORMANCE WORKSHOP

COURSE OVERVIEW
During this workshop delegates will use applications on a live Dimetra IP R8.2 system using business scenarios. Using these applications delegates will learn how to interpret system and user performance based on call traffic and device statistics.

AUDIENCE
System operators and managers who monitor and collect system statistics on a Dimetra IP R8.2 system

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the factors that affect system performance.
- Describe the Performance Management Analysis process.
- List the Performance Management applications used in a Dimetra system.
- Describe the purpose of system reports, system usage applications and device statistics in Performance Management activities.
- Access and navigate Dimetra Performance Management applications to monitor system activity and generate system reports.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP R8.2 System Overview Course (TSYS01R82)



INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TSYS08R82

DIMETRA IP R8.2 TROUBLESHOOTING & MAINTENANCE WORKSHOP

COURSE OVERVIEW
During this workshop delegates will troubleshoot and maintain a live Dimetra IP system using business scenarios, troubleshooting procedures and diagnostic applications. Delegates will also perform complex FRU/FRE procedures to resolve hardware faults.

AUDIENCE
System and Field Engineers who troubleshoot and maintain a Dimetra IP R8.2 system.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe troubleshooting model process, system support tools and technical support services provided by Motorola Solutions
- Describe the Dimetra system architecture
- Perform troubleshooting procedures using system troubleshooting tools
- Perform recommended routine maintenance procedures for a Dimetra IP System
- Perform replacement procedures and reconfigure faulty Field Replaceable Units (FRUs) and Field Replaceable Equipment/ Entities (FREs) within a Dimetra IP System.
- Perform verification procedures on FRU/FRE replacement.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP R8.2 System Overview Course (TSYS01R82)
- Dimetra IP R8.2 Fault Management Workshop (TSYS06R81)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TSYS10R82

DIMETRA IP R8.2 AIE, AUTHENTICATION & PROVISIONING

COURSE OVERVIEW
During this workshop students will perform key management tasks on a live Dimetra IP R8.2 system. Students will perform authentication and provisioning procedures for the daily administration of user authentication and provisioning based on real business scenarios.

AUDIENCE
System Operators and Managers responsible for the provisioning and management of key authentication in a Dimetra IP R8.2 system

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe how Air Interface Encryption and Authentication work within the Dimetra IP System
- Describe the hardware components used in the Encryption and Authentication Process
- Describe distribution, storage, key updates and key management of Air Interface Encryption and Authentication keys
- Perform Encryption Key management procedures using the Enhanced AuC, PrC, and KVL system components

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP R8.2 System Overview Course (TSYS01R82)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TSYS12R82

DIMETRA IP R8.2 SECURE COMMUNICATIONS WORKSHOP

COURSE OVERVIEW

During the workshop delegates will perform key management, administrative and maintenance tasks on a live Dimetra IP R8.2 system. The workshop is divided into five modules and real business scenarios will allow delegates to perform key management, key transference, maintenance and troubleshooting procedures on the Key Management Facility (KMF) server and client.

AUDIENCE

System Operators, Managers and Field Technicians responsible for the management and maintenance of secure end-to-end communications in a Dimetra IP R8.2 system.

COURSE OBJECTIVES

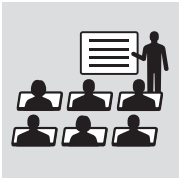
After completing this course, the student will be able to:

- Describe the theory of Dimetra Secure Communications Operation.
- Carry out KMF Administration.
- Utilize the E2E KVL.
- Perform KMF OTAK/OTEK Management Activities and Procedures.
- Administer the KMF Server.
- Setup an MCC 7500S Secure Console.

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent knowledge:

- Dimetra IP R8.2 System Overview Course (TSYS01R82)



INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TSYS16R82

DIMETRA IP COMPACT / SCALABLE

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

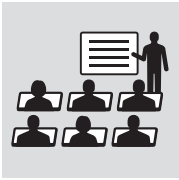
R8.2 SETTING UP AND MANAGING DIMETRA IP COMPACT/SCALABLE

COURSE OVERVIEW
The workshop will provide an overview on how to set-up and run a Dimetra IP Compact/ Scalable IP system. The course will provide a system overview of the components and applications that make up the system as well as hands-on practicals that will allow delegates to perform configuration set-up procedures for common features and functions as well as common administration tasks.

AUDIENCE
System Managers/Staff responsible for setting-up, configuring and administering a Dimetra IP Compact / Scalable IP System, MTS and MCC 7500 equipment.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Setup a Dimetra IP Compact/Scalable IP System.
- Configure a Dimetra IP Compact/Scalable IP System for use using NM applications and procedures.
- Carry out MTS configuration and verification procedures using Motorola BTS Service Software application.
- Setup and configure a MCC 7500 dispatch subsystem for use within the Dimetra IP Compact/ Scalable IP system.
- Carry out system backup and restoration procedures using the Dimetra Enhanced Software Update application and manual techniques.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Network Management Overview (DCOMP01R82)



INSTRUCTOR-LED
LENGTH: **5 DAYS**
LMS COURSE CODE:
DCOMP04R82

R8.2 DIMETRA IP COMPACT/ SCALABLE TROUBLESHOOTING & MAINTENANCE

COURSE OVERVIEW
The workshop will allow delegates an introduction into troubleshooting and maintaining a live Dimetra IP Compact system. Delegates will complete a series of business scenario task sheets, utilising a troubleshooting methodology, diagnostics applications and completing FRU\FRE procedures to resolve issue.

AUDIENCE
Dealers and Distributors who troubleshoot and maintain a Dimetra IP Compact, MTS and MCC 7500 equipment

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe troubleshooting model process, system support tools and technical support services provided by Motorola Solutions
- Describe the Dimetra system architecture
- Perform troubleshooting procedures using system troubleshooting tools
- Perform recommended routine maintenance procedures for a Dimetra IP System
- Perform replacement procedures and reconfigure faulty Field Replaceable Units (FRUs) and Field Replaceable Equipment/ Entities (FREs) within a Dimetra IP System.
- Perform verification procedures on FRU/FRE replacement.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- RF Background knowledge
- Network Management Overview Course (DCOM01R82)
- Setting Up and Managing your Dimetra IP Compact (DCOM04R82)
- Tetra Subscriber End User Tool Kit (DCOMP21R82)

INSTRUCTOR-LED
LENGTH: **4 DAYS**
LMS COURSE CODE:
DCOMP05R82

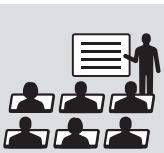
TETRA RADIO OPERATOR, PROGRAMMIMG & MAINTENANCE

COURSE OVERVIEW
This practical course will provide assistance to Tetra terminal users, diagnose terminal problems both locally and remotely, programme the terminal for end users operations and provide first line maintenance for suspected faulty terminals.

AUDIENCE
Technicians and personnel who will be involved in programming and maintaining to level 1.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- List advance features and functionality of a terminal
- Describe the functionality and purpose of the CPS Plus software
- Create a user profile using the CPS plus software for a MTP6750/ MTM5400
- Determine whether a potential problem is, terminal, network or user related.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Working knowledge of MS Windows operating environment for (Customer Programming Software (CPS) Module)
- RF and Field or Bench Service background (an advantage but not essential)



INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE:
DCOMP08R82

NETWORK MANAGEMENT OVERVIEW

COURSE OVERVIEW
The workshop will allow delegates an introduction into troubleshooting and maintaining a live Dimetra IP Compact system. Delegates will complete a series of business scenario task sheets, utilising a troubleshooting methodology, diagnostics applications and completing FRU\FRE procedures to resolve issue.

AUDIENCE
Dealers and Distributors who troubleshoot and maintain a Dimetra IP Compact, MTS and MCC 7500 equipment

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe troubleshooting model process, system support tools and technical support services provided by Motorola Solutions
- Describe the Dimetra system architecture
- Perform troubleshooting procedures using system troubleshooting tools
- Perform recommended routine maintenance procedures for a Dimetra IP System
- Perform replacement procedures and reconfigure faulty Field Replaceable Units (FRUs) and Field Replaceable Equipment/ Entities (FREs) within a Dimetra IP System.
- Perform verification procedures on FRU/FRE replacement.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
None

ONLINE, SELF-PACED
LENGTH: **2 HOURS**
LMS COURSE CODE:
DCOMP01R82

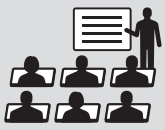
DESIGN A DIMETRA IP R8.2 COMPACT SYSTEM

COURSE OVERVIEW
This course provides best practices in the design of Dimetra IP Compact System. It covers all areas from the initial gathering of customer requirements, selecting the most appropriate hardware and features, through to final technical review and customer acceptance testing. The course is highly practical and covers the use of system design tools, such as the Pricebook Configuration tool, Network Configuration Tool Express and Terminal Pricebook Configuration Tool to produce a final design and cost breakdown of a customer system.

AUDIENCE
Motorola partners and employees who are required to design Dimetra IP Compact systems.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Gather customer system requirements using the 5C question model
- Generate preliminary design using Motorola system design tools
- Select DIPC hardware and features to meet customer needs
- Create a detailed design document for customer approval using Motorola system design tools
- Describe requirements for RF and control site selection
- Develop final system documentation based on customer updates
- Describe installation planning requirements

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Basic RF Fundamentals (AEE1300)
- Basic Networking Fundamentals (AEE1301)
- Dimetra IP Subscriber Portfolio Overview (AAE1403)
- Dimetra IP System Portfolio Overview (AAE1404)
- Tetra Accessories Overview (DMT1018.00E)



INSTRUCTOR-LED
LENGTH: **3 DAY**
LMS COURSE CODE:
AEL2302

DIMETRA MICRO R3.0

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

DIMETRA IP MICRO PARTNER ACCREDITATION TRAINING

COURSE OVERVIEW
A self-paced e-learning package that provides a technical overview of the Dimetra IP Micro system and shows how to install, configure and perform typical administration tasks on the Dimetra IP Micro system.

AUDIENCE
Personnel responsible for the Installation, Configuration and Administration of Dimetra IP Micro Systems.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe in overview the features and functions of the Dimetra IP Micro System.
- Describe the Dimetra IP Micro System Components and their functions.
- Describe how the Dimetra IP Micro System interfaces with other external networks and elements.
- Describe Network Planning and Configuration in overview.
- Describe the procedures for installing and configuring a Dimetra IP Micro System.
- Demonstrate Dimetra IP Micro System operation and administration procedures.
- Demonstrate the Dimetra IP Micro System maintenance procedures.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP R8.2 System Overview Course (TSYS01R82)

ONLINE, SELF-PACED
LENGTH: **5.5 HOURS**
LMS COURSE CODE:
DIPM01R3

SETTING UP AND MANAGING DIMETRA IP MICRO SYSTEMS

COURSE OVERVIEW
The workshop will provide an overview on how to set-up and run a Dimetra IP Micro system. The course will provide a system overview of the components and applications that make up the system as well as hands-on practicals that will allow delegates to perform typical configuration set-up procedures as well as common administration tasks.

AUDIENCE
Personnel responsible for setting-up, configuring and administrating a Dimetra IP Micro system.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the features and functions of the Dimetra IP Micro System.
- Identify the Dimetra IP Micro System Components and describe their functions.
- Describe the procedures for installing a Dimetra IP Micro system.
- Use the Web Network Manager to perform typical system configuration and administration procedures for a Dimetra IP Micro system.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP R8.2 System Overview Course (TSYS01R82)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
DIPM05R3

DIMETRA IP DESIGN A MICRO SYSTEM

COURSE OVERVIEW
This course provides best practices in the design of Dimetra IP Micro systems. It covers all areas from the initial gathering of customer requirements, selecting the most appropriate hardware and features, through to final technical review and customer acceptance testing. The course is highly practical and covers the use of system design tools, such as the Micro Pricebook Configuration tool and Terminal Pricebook Configuration Tool to produce a final design and cost breakdown of a customer system.

AUDIENCE
Motorola partners and employees who are required to design Dimetra IP Micro systems.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Gather customer system requirements using the 5C question model
- Generate preliminary design using Motorola system design tools
- Select DIPM hardware and features to meet customer needs
- Create a detailed design document for customer approval using Motorola system design tools
- Describe requirements for RF and control site selection
- Develop final system documentation based on customer updates
- Describe installation planning requirements

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Setting up and Managing Dimetra IP Micro Systems (DIPM05R3)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
AEL2303

ASTRO® 25 IV&D SYSTEM COURSES

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

ASTRO® 25 IV&D SYSTEM COURSES (CONTINUED)

ASTRO® 25 IV&D RADIO SYSTEM ADMINISTRATOR

M CORE

ASTRO 25 IV&D SYSTEM OVERVIEW WITH M CORE
ACS715200 ONLINE SELF-PACED

OR

ASTRO 25 IV&D CONVENTIONAL WITH M CORE OVERVIEW
ACS715420 ONLINE SELF-PACED

ASTRO 25 IV&D INTRO TO RADIO SYSTEM MANAGEMENT APPLICATIONS
ACS715201 ONLINE SELF-PACED

ASTRO 25 IV&D
RADIO SYSTEM ADMINISTRATOR WORKSHOP
INSTRUCTOR-LED 4.5 DAY COURSE
LMS COURSE CODE:
ACS715102

RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT SHOULD BE ABLE TO CARRY OUT ADMINISTRATIVE TASKS IN THE ASTRO 25 IV&D SYSTEM SUCH AS: PROVISIONING SUBSCRIBERS AND TALK GROUPS, GENERATING HISTORICAL REPORTS, CONTROLLING DEPLOYED SUBSCRIBERS AND MANAGING NETWORK ELEMENT CONFIGURATIONS.
PARTICIPANT UNDERSTANDS FACTORS OF SYSTEM CONFIGURATION THAT IMPACT ASTRO 25 SYSTEM MANAGEMENT.

OPTIONAL TRAINING ROADMAP AVAILABLE. CLICK ON THIS LINK TO GO TO PAGE 37 FOR ADDITIONAL DETAILS.

ASTRO® 25 IV&D M CORE TECHNICIAN

M CORE

ASTRO 25 IV&D SYSTEM OVERVIEW WITH M CORE
ACS715200 ONLINE SELF-PACED

OR

ASTRO 25 IV&D CONVENTIONAL WITH M CORE OVERVIEW
ACS715420 ONLINE SELF-PACED

ASTRO 25 IV&D INTRO TO RADIO SYSTEM MANAGEMENT APPLICATIONS
ACS715201 ONLINE SELF-PACED

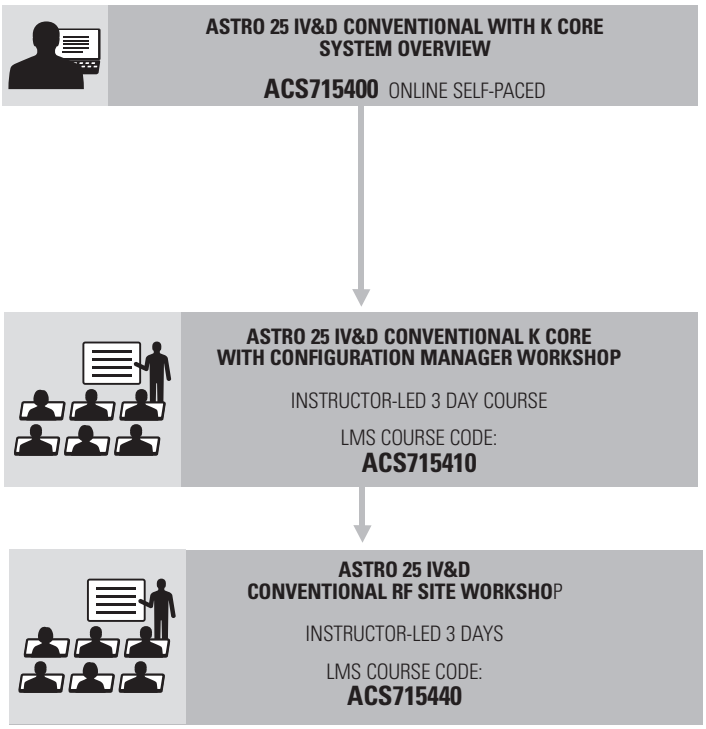
ASTRO 25 IV&D M CORE WORKSHOP
INSTRUCTOR-LED 4.5 DAY COURSE
LMS COURSE CODE:
ACS715103

RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT SHOULD UNDERSTAND ASTRO 25 M CORE COMPONENTS, VIRTUAL SERVERS AND SERVICE STRATEGY. PARTICIPANT CAN INTERPRET SYSTEM ALARMS, PROPOSE SOLUTIONS FOR SYSTEM FAILURES, AND AS WELL AS RESTORING EQUIPMENT TO PROPER FUNCTIONALITY.

OPTIONAL TRAINING ROADMAP AVAILABLE. CLICK ON THIS LINK TO GO TO PAGE 37 FOR ADDITIONAL DETAILS.

ASTRO® 25 IV&D CONVENTIONAL K CORE WITH CONFIGURATION MANAGER TECHNICIAN

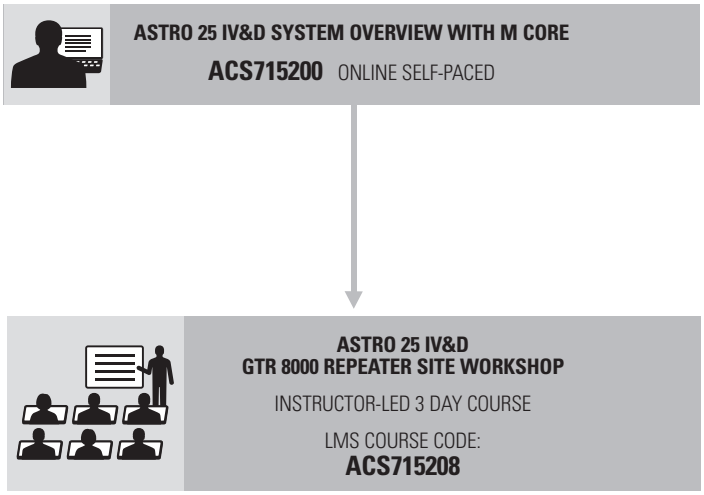


RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT SHOULD UNDERSTAND THE ASTRO 25 K CORE COMPONENTS AND SERVICE STRATEGY. PARTICIPANT CAN USE THE CONFIGURATION MANAGER TO CONFIGURE SYSTEM COMPONENTS AND SUBSCRIBERS. PARTICIPANT SHOULD BE ABLE TO INTERPRET SYSTEM ALARMS, PROPOSE SOLUTIONS FOR SYSTEM FAILURES, AND RESTORE EQUIPMENT TO PROPER FUNCTIONALITY.

OPTIONAL TRAINING ROADMAP AVAILABLE. CLICK ON THIS LINK TO GO TO PAGE 37 FOR ADDITIONAL DETAILS.

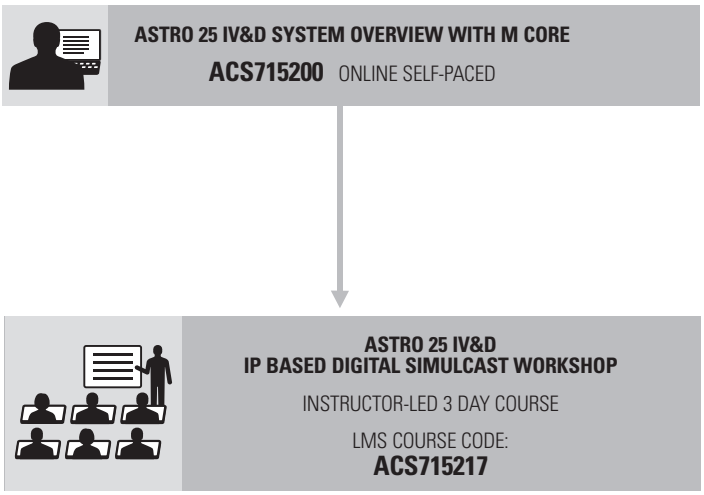
ASTRO® 25 IV&D REPEATER SITE TECHNICIAN (GTR)



RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT CAN MAINTAIN AN ASTRO25 REPEATER SITE INCLUDING: GTR8000 BASE STATION, GCP8000 SITE CONTROLLER AND OTHER SITE EQUIPMENT.
*PARTICIPANT PERFORMS ALIGNMENTS TROUBLESHOOTING AND FIELD REPLACEMENT OF SITE DEVICES DURING COURSE.

ASTRO® 25 IV&D IP SIMULCAST SITE TECHNICIAN



RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT SHOULD BE ABLE TO MAINTAIN AN ASTRO 25 REPEATER SITE INCLUDING THE GTR8000 BASE STATION, GCP8000 SITE CONTROLLER, SITE COMPARATOR AND OTHER SITE EQUIPMENT.

ASTRO® 25 IV&D CONVENTIONAL RF SITE TECHNICIAN

M CORE

ASTRO 25 IV&D CONVENTIONAL WITH M CORE OVERVIEW
ACS715420 ONLINE SELF-PACED

OR

K CORE

ASTRO 25 IV&D CONV WITH K CORE SYSTEM OVERVIEW
ACS715400 ONLINE SELF-PACED

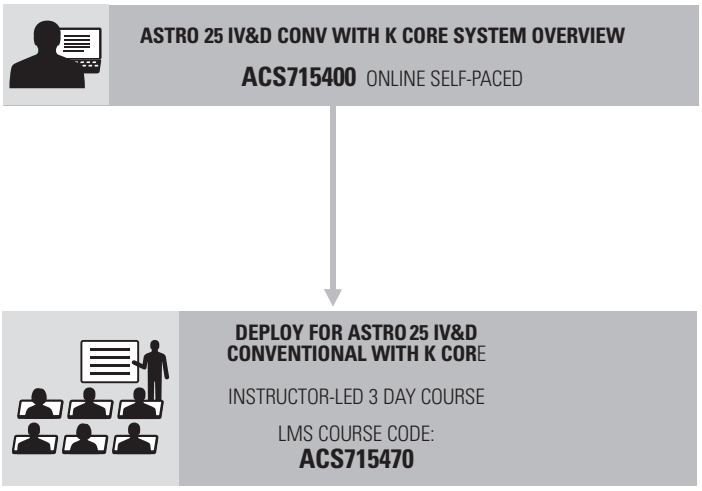
ASTRO 25 IV&D CONVENTIONAL RF SITE WORKSHOP
INSTRUCTOR-LED 3 DAYS
LMS COURSE CODE:
ACS715440

RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT SHOULD BE ABLE TO MAINTAIN AN ASTRO 25 REPEATER SITE INCLUDING THE GTR8000 BASE STATION, GCP8000 SITE CONTROLLER, SITE COMPARATOR AND OTHER SITE EQUIPMENT.

OPTIONAL TRAINING ROADMAP AVAILABLE. CLICK ON THIS LINK TO GO TO PAGE 37 FOR ADDITIONAL DETAILS.

ASTRO® 25 IV&D K CORE DEPLOY TECHNICIAN



RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT UNDERSTANDS THE ASTRO 25 K CORE COMPONENTS AND SERVICE STRATEGY. PARTICIPANT CAN USE THE CONFIGURATION MANAGER TO CONFIGURE SYSTEM COMPONENTS AND SUBSCRIBERS. PARTICIPANT IS ABLE TO INTERPRET SYSTEM ALARMS, PROPOSE SOLUTIONS FOR SYSTEM FAILURES, AND RESTORE EQUIPMENT TO PROPER FUNCTIONALITY.

OPTIONAL TRAINING ROADMAP AVAILABLE. CLICK ON THIS LINK TO GO TO PAGE 37 FOR ADDITIONAL DETAILS.

ASTRO® IV&D OPTIONAL TRAINING CURRICULUM

Motorola Solutions offers optional training for those participants who have completed their ASTRO® 25 cirriculum and want to learn more about their system's infrastructure and/or features.
Select the training course below applicable to your system.

SPECIALIZED INFRASTRUCTURE TRAINING

DYNAMIC SYSTEM RESILIENCE

ASTRO 25 IV&D DYNAMIC SYSTEM RESILIENCE
ONLINE SELF-PACED
ACS715023

SMART X TO SUPPORT CIRCUIT-BASED RF SITES

ASTRO 25 IV&D INTERFACING SMARTZONE 3600 SYSTEMS
ONLINE SELF-PACED
ACS713360

SPECIALIZED FEATURE TRAINING

OTAR

ASTRO 25 IV&D SECURE COMMUNICATIONS WORKSHOP
INSTRUCTOR- LED
4.5 DAYS
ACS713207

NETWORK SECURITY

ASTRO 25 IV&D INFORMATION ASSURANCE
ONLINE SELF-PACED
ACS715211

TELEPHONE INTERCONNECTION

ASTRO 25 IV&D ENHANCED TELEPHONE INTERCONNECT
ONLINE SELF-PACED
ACS715480

ASTRO® 25 IV&D WITH M CORE SYSTEM OVERVIEW

COURSE OVERVIEW
ASTRO® 25 IV&D Trunking with M Core System Overview self-paced course is the starting point of all ASTRO 25 IV&D Trunking with M Core Systems. In order to take other classes, students are required to complete this course and obtain a passing score on the corresponding test. It presents a high-level description of the system's call flow capabilities, components, features and benefits.

AUDIENCE
System Managers, Technical System Managers, System Technicians and other Application Users

COURSE OBJECTIVES
After completing this course, the student will be able to:
- List and describe the ASTRO 25 IV&D Trunking with M Core System features and capabilities
- Describe the ASTRO 25 with M Core system sites and their components
- Describe in detail the paths used for control, voice, and data in an ASTRO 25 IV&D Trunking with M Core system
- List the servers and databases used in an ASTRO 25 IV&D Trunking with M Core system

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO 25 Systems Applied Networking (NWT003)

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
ACS715200

ASTRO® 25 IV&D INTRODUCTION TO RADIO SYSTEM MANAGEMENT APPLICATIONS

COURSE OVERVIEW
This course provides a high-level overview of the Motorola Radio System Management applications through recorded demonstrations of common system tasks.

AUDIENCE
System Managers, Technical System Managers, System Technicians, and other Application Users

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the purpose of Network Management applications used in an ASTRO® system
- Identify high-level capabilities of those Network Administrator applications
- Familiarize with common operations allowed by those Network Administrator applications

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)

Required:
Take one of the following, depending on system supporting:
- ASTRO 25 IV&D with M Core System Overview (ACS715200)
- ASTRO 25 IV&D Conventional with M Core System Overview for (ACS715420)
- ASTRO 25 IV&D Trunking with L Core System Overview for (ACS715430)

ONLINE, SELF-PACED
LENGTH: **10 HOURS**
LMS COURSE CODE:
ACS715201

ASTRO® 25 IV&D CONVENTIONAL WITH M CORE OVERVIEW

COURSE OVERVIEW
The ASTRO® 25 IV&D Conventional with M Core Overview self-paced course is the starting point of all ASTRO 25 IV&D Conventional with M Core systems. In order to take other classes, students are required to complete this course and obtain a passing score on the corresponding test. It presents a high-level description of the system's call flow capabilities, components, features and benefits.

AUDIENCE
System Managers, Technical System Managers, System Technicians and other Application Users

COURSE OBJECTIVES
After completing this course, the student will be able to:
- List and describe the ASTRO 25 IV&D Conventional with M Core system features and capabilities
- Describe the ASTRO 25 IV&D Conventional with M Core system sites and their components
- Describe in detail the paths used for control, voice, and data in an ASTRO 25 IV&D Conventional with M Core system
- List the servers and databases used in an ASTRO 25 IV&D Conventional with M Core system

REQUISITE KNOWLEDGE
Completion of the following courses or equivalent knowledge:
- Bridging the Knowledge Gap for ASTRO 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO 25 Systems Applied Networking (NWT003)

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
ACS715420

ASTRO® 25 IV&D CONVENTIONAL WITH K CORE SYSTEM OVERVIEW

COURSE OVERVIEW
The ASTRO® 25 IV&D Conventional with K Core Overview self-paced course is the starting point of all ASTRO 25 IV&D Conventional with K Core systems. In order to take other classes, students are required to complete this course and obtain a passing score on the corresponding test. It presents a high-level description of the system's call flow capabilities, components, features and benefits.

AUDIENCE
System Managers, Technical System Managers, System Technicians and other Application Users

COURSE OBJECTIVES
After completing this course, the student will be able to:
- List and describe the ASTRO 25 IV&D Conventional with K Core system features and capabilities
- Describe the ASTRO 25 IV&D with Conventional with K Core system sites and their components
- Describe in detail the paths used for control, voice, and data in an ASTRO 25 IV&D Conventional with K Core
- List the servers and databases used in an ASTRO 25 IV&D Conventional with K Core

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
ACS715400

DEPLOY FOR ASTRO® 25 IV&D CONVENTIONAL WITH K CORE

COURSE OVERVIEW
This course provides an overview and implementation plan for deployment of an K1/K2 ASTRO 25 IV&D 7.13 system, contains information and procedures for bringing Motorola Manufacturing Representatives (MRs) up to speed on how to install the K1/K2 system for customers, and acts as a resource on how to reference other training materials for troubleshooting and additional K1/K2 system tasks.

AUDIENCE
Motorola Manufacturing Representatives (MRs) involved in the installation of K1/K2 systems.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Correctly and efficiently install and locally configure a K Core system that has been staged by CCSI
- Perform initial Power On of equipment to verify proper operation
- Commission the K Core System once it has been installed
- Test the K Core System per Acceptance Test Plans (ATP)
- Back up the Infrastructure and System Databases of the K Core System

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Networking Essentials in Communication Equipment (NST762)
- Site Installation Practices Workshop (R56) (NST925)

Required:
Take one of the following, depending on system supporting:
- ASTRO 25 IV&D Conventional with K Core System Overview (ACS715400)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
ACS715470

DESIGN FOR ASTRO® 25 IV&D CONVENTIONAL WITH K CORE

COURSE OVERVIEW
The K Core design course is intended to introduce students to an affordable means of connecting Motorola's MCC 7500 dispatch consoles to traditional and advanced conventional radio systems.

AUDIENCE
Motorola Manufacturing Representatives (MRs) involved in the design of K1/K2 systems.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Instill awareness and understanding of small analog and digital conventional radio systems through the introduction of:

-K Core Systems
-New system designs and configurations
-Basics of conventional IV&D
-MCC 7500 Dispatch Consoles
-Information Assurance
-Standards
-Student participation in designing conventional systems

REQUISITE KNOWLEDGE
None

INSTRUCTOR-LED
LENGTH: **2 DAYS**
LMS COURSE CODE:
EMEL2301

ASTRO® 25 IV&D RADIO SYSTEM ADMINISTRATOR WORKSHOP

COURSE OVERVIEW
This workshop covers administrator functions for an ASTRO® 25 IV&D System. Learning activities in this course focus on how to use the different ASTRO 25 IV&D System Management applications. Participants will be provided with an opportunity to discuss how to structure their organization and personnel for optimal ASTRO 25 IV&D system use.

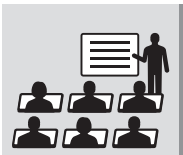
AUDIENCE
System Administrators, Technical System Administrators, System Technicians, and other Application Users

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the relationship between radio programming, console administration and system management, and the impact of this relationship on system planning
- List the network management tools applicable at each phase of the system life cycle
- Use the report and real-time data to monitor performance and make adjustments necessary to maintain acceptable system performance levels
- Identify the advantages and disadvantages of options available for the configuration of system infrastructure and user parameters

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO 25 – System Administrator (ACT101-E)
- Networking Essential in Communication Equipment (NST762)

Required:
Take one of the following, depending on system supporting:
- ASTRO 25 IV&D with M Core System Overview (ACS715200)
- ASTRO 25 IV&D Conventional with M Core System Overview (ACS715420)
- ASTRO 25 IV&D Trunking with L Core System Overview (ACS715430)

AND
- ASTRO 25 IV&D Introduction to Radio System Management Applications (ACS715201)



INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
ACS715102

ASTRO® 25 IV&D M CORE WORKSHOP

COURSE OVERVIEW
The ASTRO® 25 IV&D with M Core course teaches troubleshooting skills and best practices for the Trunked Large Systems. The course also focuses on gathering and analyzing system information to implement appropriate action(s) that return a system to full operational status.

AUDIENCE
M Core Master Site Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the ASTRO 25 IV&D System architecture
- Identify the functional and radio subsystems that comprise the ASTRO 25 IV&D System
- Explain and discuss call flow and data flow through ASTRO 25 IV&D M Core devices and their subsystems
- Perform recommended routine maintenance procedures for ASTRO 25 IV&D M Core
- Utilize the troubleshooting tools to diagnose a fault and restore the ASTRO 25 IV&D M Core to the level of the Motorola-supported service strategy

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO 25 – Technician (ACT100-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO 25 Systems Applied Networking (NWT003)

Required:
Take one of the following, depending on system supporting:
- ASTRO 25 IV&D with M Core System Overview (ACS715200)
- ASTRO 25 IV&D Conventional with M Core System Overview (ACS715420)
- ASTRO 25 IV&D Introduction to Radio System Management Applications (ACS715201)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
ACS715103

ASTRO® 25 IV&D CONVENTIONAL K CORE WITH CONFIGURATION MANAGER WORKSHOP

COURSE OVERVIEW

The ASTRO® 25 IV&D Conventional with K Core and Configuration Manager course teaches advanced troubleshooting skills and best practices for the ASTRO 25 IV&D Conventional K Core. It also focuses on administrator functions and how to use the ASTRO 25 IV&D Configuration Manager applications. A technical **introduction** to the MCC 7000 series consoles as used within the ASTRO 25 IV&D Conventional K Core, including some administrator functions, is also provided. (**Go to page 47 for detailed instructions on MCC 7000 series consoles in a K-core system.)** Learning activities focus on gathering and analyzing system information to implement the appropriate actions that return a system to full operational status.

AUDIENCE

Master Site Technicians, System Administrators, Technical System Administrators, System Technicians and other Application Users

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Describe the ASTRO 25 IV&D Conventional K Core
- Describe the functional and radio subsystems that comprise the ASTRO 25 IV&D Conventional K Core System
- Configure parameters in the Configuration Manager application
- Identify the advantages and disadvantages of options available for the configuration of system infrastructure and user parameters
- Explain and discuss call flow and data flow through ASTRO 25 IV&D Conventional K Core
- Perform recommended routine maintenance procedures for the ASTRO 25 IV&D Conventional K Core
- Utilize the troubleshooting tools to diagnose a fault and restore the ASTRO 25 IV&D Conventional K Core to the level of the Motorola-supported service strategy

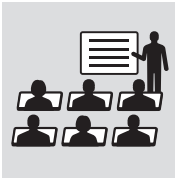
REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Bridging the Knowledge Gap for ASTRO 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO 25 Systems Applied Networking (NWT003)

Required:

- ASTRO 25 IV&D Conventional with K Core System Overview (ACS715400)



INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
ACS715410

ASTRO® 25 IV&D CONVENTIONAL RF SITE WORKSHOP

COURSE OVERVIEW

The ASTRO® 25 IV&D Conventional RF Site workshop describes the components in the different ASTRO 25 IV&D Conventional RF Sites topologies. This course also presents how the different ASTRO 25 IV&D Conventional RF Sites topologies operate and explains the tools and methods available for troubleshooting components within the different ASTRO 25 IV&D Conventional RF Sites topologies.

AUDIENCE

Site Technicians

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Identify the ASTRO 25 IV&D Conventional RF site topologies
- Describe the functionality components of the different ASTRO 25 IV&D Conventional RF Sites topologies
- Configure and troubleshoot components of the different ASTRO 25 IV&D Conventional RF Sites topologies
- Configure and troubleshoot the Network Transport subsystem of the different ASTRO 25 IV&D Conventional RF Sites topologies

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Bridging the Knowledge Gap for ASTRO 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO 25 Systems Applied Networking (NWT003)

Required:

Take one of the following, depending on system supporting:

- ASTRO 25 IV&D Conventional with M Core System Overview (ACS715420)
- ASTRO 25 IV&D Conventional with K Core System Overview (ACS715400)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
ACS715440

ASTRO® 25 IV&D GTR 8000 REPEATER SITE WORKSHOP

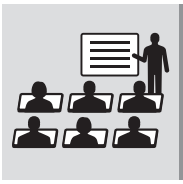
COURSE OVERVIEW
This workshop describes the components in the ASTRO® 25 IV&D System Repeater Site with GTR 8000 expandable site subsystem. This course also presents how the GTR 8000 expandable site subsystem operates and explains the tools and methods available for troubleshooting components within the subsystem.

AUDIENCE
GTR 8000 Site Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the ASTRO 25 IV&D Repeater Site with GTR 8000 Expandable Site Subsystem configurations and components
- Identify the GCP 8000 Site Controller functions and configuration requirements
- Describe the connections and interfaces to the GCP 8000
- Diagnose and troubleshoot the GCP 8000
- Describe the functionality of the GTR 8000 Expandable Site Subsystem
- Configure and troubleshoot the ASTRO 25 Repeater Site with GTR 8000 Expandable Site Subsystem
- Configure and troubleshoot the Network Transport subsystem

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO 25 – Technician (ACT100-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO 25 Systems Applied Networking (NWT003)

Required:
Take one of the following, depending on system supporting:
- ASTRO 25 IV&D with M Core System Overview (ACS715200)
- ASTRO 25 IV&D Trunking with L Core System Overview (ACS715430)



INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
ACS715208

ASTRO® 25 IV&D SECURE COMMUNICATIONS WORKSHOP

COURSE OVERVIEW
This workshop describes planning, installation, configuration, operations, and troubleshooting of Secure Communications within the ASTRO® 25 IV&D System.

AUDIENCE
System Technicians, System Administrators, Technical System Managers

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Plan, organize, and implement Secure Communications in an ASTRO 25 IV&D system
- Install and configure a Key Management Facility (KMF) system and related components
- Demonstrate centralized key management using Over-the-Air-Rekeying (OTAR)
- Perform System Administrator functions using the KMF server and KMF client
- Troubleshoot installation and configuration problems for the KMF server, KMF client, and KMF database
- Implement end-to-end encryption using the MCC 7500 console subsystem

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO® 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)

Required:
Take one of the following, depending on system supporting:
- Bridging the Knowledge Gap for ASTRO 25 – Technician (ACT100-E)
- Networking Essentials in Communication Equipment (NST762)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
ACS713207

ASTRO® 25 IV&D INTERFACING SMARTZONE 3600 SYSTEMS (SMARTX)

COURSE OVERVIEW
ASTRO® 25 IV&D Trunked System - Interfacing SmartZone 3600 Systems with SmartX is designed to allow communication between subscriber radios at existing 3600 RF sites and an ASTRO 25 IV&D system. It is based on the Voice Processor Module hardware platform and enables the continued use of 3600 RF sites and subscriber radios with the release of ASTRO 25 7.7 or higher. This self-study training course is intended to provide information related to the installation and functionality of, including the hardware and software associated with, the SmartX Site Converter in the ASTRO 25 IV&D.

AUDIENCE
System Administrators, System Technicians, Field Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the SmartX Site Converter and its operation within the system
- Identify the major components and functionality.
- Know the requirements and components necessary to install a SmartX Site Converter

REQUISITE KNOWLEDGE
None

ONLINE, SELF-PACED
LENGTH: **2 HOURS**
LMS COURSE CODE:
ACS713360

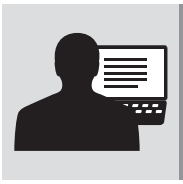
ASTRO® 25 IV&D ENHANCED TELEPHONE INTERCONNECT

COURSE OVERVIEW
This web based course describes the functionality and the hardware and software associated with the Enhanced Telephone Interconnect feature in the ASTRO® 25 IV&D System.

AUDIENCE
System Technicians, System Administrators

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Identify the function and major components for the Enhanced Telephone Interconnect feature
- Define the operation of the Enhanced Telephone Interconnect feature within the system
- Configure the Enhanced Telephone Interconnect equipment
- Troubleshoot the Enhanced Telephone Interconnect equipment

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)



ONLINE, SELF-PACED
LENGTH: **2-4 HOURS**
LMS COURSE CODE:
ACS715480

ASTRO® 25 IV&D INFORMATION ASSURANCE SYSTEM

COURSE OVERVIEW
This web based course describes the functionality and the hardware and software associated CNI Network Security in the ASTRO® 25 IV&D System.

AUDIENCE
System Administrators, System Technicians, Field Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Define network security and its functions
- List the network security components of an ASTRO 25 IV&D system
- Define the functions, components and operation of the Core Server Management Server (CSMS)
- Identify the functions, components and operation of the Interface Barrier (NIB)
- Identify the functions, components and operation of the border router and the peripheral network router

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO 25 Systems Applied Networking (NWT003)

Required:
Take one of the following, depending on system supporting:
- ASTRO 25 IV&D with M Core System Overview (ACS715200)
- ASTRO 25 IV&D Conventional with M Core System Overview (ACS715420)
- ASTRO 25 IV&D Trunking with L Core System Overview (ACS715430)
- ASTRO 25 IV&D Conventional with K Core System Overview (ACS715400)

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
ACS715211

ASTRO® 25 IV&D DYNAMIC SYSTEM RESILIENCE

COURSE OVERVIEW
The ASTRO® 25 IV&D Dynamic System Resilience (DSR) Overview is a self-study training course intended to provide a technical overview of DSR. The course describes how DSR adds a geographically separate backup for the Master Site to protect against a catastrophic failure.

AUDIENCE
System Administrators, System Technicians, Field Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Differentiate between a non-DSR Master Site and a DSR Master Site

Describe the DSR components, operation and functionality of each of the following services:
- Voice
- Data
- Network Management
- Network Transport
- IP Services
- MOSCAD

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- ASTRO 25 IV&D with M Core System Overview (ACS715200)

ONLINE, SELF-PACED
LENGTH: **2 HOURS**
LMS COURSE CODE:
ACS715023

CONSOLE COURSES

DIMETRA CONSOLES

ASTRO CONSOLES

*** PLEASE NOTE:**

MCC 7000 Series Dispatch Consoles Workshop (CON012) focuses on the consoles application in an M-Core System.

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

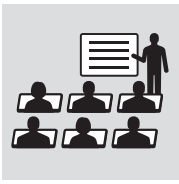
DIMETRA IP R82 MCC 7500 INSTALL, CONFIG, TROUBLESHOOTING & MAINTENANCE

COURSE OVERVIEW
During this workshop students will perform installation, configuration and troubleshooting procedures relating to the MCC 7500C dispatch console on a live Dimetra IP R8.2 system.

AUDIENCE
Control Room Managers, System Engineers and Network Administrators responsible for the installation, configuration and maintenance of control rooms containing MCC 7500C dispatch consoles in a Dimetra IP R8.2 system.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Install and configure the hardware and software components of the MCC 7500C Dispatch Console Subsystem.
- Troubleshoot installation and configuration problems for the MCC 7500C Dispatch Console.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO® 25 (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO® 25 Systems Applied Networking (NWT003)



INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TSYS31R82

DIMETRA IP R82 MCC 7500 OPERATOR WORKSHOP

COURSE OVERVIEW
This course provides students with an introduction to the dispatch console, its basic operation and tailored job aids which will be available for assistance in operation. Through facilitation and hands-on activities, the user learns how to perform common tasks associated with the console operation.

AUDIENCE
Dispatch Console Operators

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Identify the hardware components that make up the dispatcher position
- Describe the purpose of the Elite Dispatch application
- Identify elements that make up the menu and toolbar structure within the Elite Dispatch software
- Perform dispatcher operations:
- Communicate with radios: transmit and receive calls within group and individual communications categories
- Perform advanced signaling features
- Perform basic procedures within screen configuration
- Perform basic procedures within resource groups

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP R8.2 System Overview course (TSYS01R82)

INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE:
TSYS32R82

DIMETRA IP R82 MCC 7500 ADMIN WORKSHOP

COURSE OVERVIEW
This course provides students with an introduction to the Elite Admin application. It enables system administrators to use the software to set up configurations for the Elite Dispatch desktops that organize resources to meet specific user needs. Through facilitation and hands-on activities, the user learns how the configurations created in the Elite Admin can be saved and then distributed among the Elite Dispatch desktops.

AUDIENCE
System Administrators for Dispatch Console Operators.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Identify the hardware components that make up the dispatcher position
- Describe the Purpose of the Elite Admin application
- Identify elements that make up the menu and toolbar structure within the Elite Admin software
- Perform Elite Admin Configurations

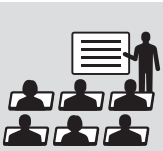
REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP R8.2 MCC 7500 Dispatch Control Console Operator Training (TSYS33R82)

INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE:
TSYS33R82

CONSOLES TECHNICAL TRAINING CURRICULUM

MCC 7000 SERIES DISPATCH CONSOLES OVERVIEW

CON014 ONLINE SELF-PACED



MCC 7000 SERIES DISPATCH CONSOLES WORKSHOP

INSTRUCTOR-LED 4.5 DAYS

LMS COURSE CODE:
CON012

CURRICULUM COMPLETE

PARTICIPANT CAN MAINTAIN A MCC 7000 DISPATCH CONSOLE SITE INCLUDING: CONSOLE PC, VPM, CC GW'S AND AUX I/O SERVERS.
*PARTICIPANT PERFORMS TROUBLESHOOTING AND REPLACEMENT OF SITE DEVICES DURING COURSE.

OPTIONAL CONSOLE TRAINING

MCD 5000 TECHNICAL WORKSHOP

INSTRUCTOR-LED
2.5 DAYS

RDS1022

ASTRO® 25 NICE LOGGER INTEGRATION

INSTRUCTOR-LED
4.5 DAYS

AST1002

ASTRO® 25 DOMAIN CONTROLLER ADMINISTRATION

INSTRUCTOR-LED
3 DAYS

AST2016

MCC 7000 SERIES DISPATCH CONSOLES OVERVIEW

COURSE OVERVIEW
This course provides an overview of the MCC 7000 series of dispatch consoles which consist of the MCC 7100 and MCC 7500 Dispatch Console. It includes a: description of the features, illustrations of subsystem architecture options, descriptions of subsystem components and illustrations of signal flow and call processing.

AUDIENCE
System Administrators, Console Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the features of MCC 7000 series of Dispatch Consoles
- Explain the various system architectures for Dispatch Console subsystems
- Describe system components in a Dispatch Console subsystem
- Describe the steps in the signal flow of call processing from a Dispatch Console

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO® 25 Systems Applied Networking (NWT003)

Required:
- System Overview for ASTRO 25 IV&D with M Core (ACS715200)
- ASTRO 25 IV&D Introduction to Radio System Management Applications (ACS715201)

ONLINE, SELF-PACED
LENGTH: **1 HOUR**
LMS COURSE CODE:
CON014

MCC 7000 SERIES CONSOLES FOR K CORE

NEW

COURSE OVERVIEW
This course provides a detailed discussion of console hardware and hands-on activities with the installation and configuration of the MCC 7000 Series console K-Core configurations.

This course familiarizes technicians in:
- Troubleshooting and repair functions.
- Hardware and software applications for the MCC 7000 Series console
- Configuration of the MCC 7000 Series console using the K Core Configuration Manager.
- Operating procedures of the MCC 7000 Series Console.

AUDIENCE
System Operators, Administrators and Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Install and configure the hardware and software components of the MCC 7000 Series Dispatch Console Subsystem.
- Perform MCC 7000 series site connectivity and bandwidth management.
- Perform System Administrator functions using the Elite Administrator software.
- Troubleshoot installation and configuration problems for the MCC 7000 series Dispatch Console

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Networking Essentials in Motorola Communication Systems (NST762)
- Bridging the Knowledge Gap for ASTRO® 25 (ACT100-E) or (ACT101-E)

Required:
- ASTRO 25 IV&D Conventional with K Core System Overview (ACS715400)
- ASTRO 25 IV&D Conventional K Core and Configuration Manager Workshop (ACS715410)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
AST2011

MCC 7000 SERIES DISPATCH CONSOLES WORKSHOP

COURSE OVERVIEW
This course familiarizes participants with installation, configuration, management and repair of MCC 7000 series dispatch consoles, Archiving Interface Servers, AUX I/O servers, and Conventional Channel Gateways. The focus is on a detailed discussion of console hardware and the installation and configuration of the MCC 7000 series consoles which consist of the MCC 7100 and MCC 7500 dispatch console.

AUDIENCE
System Administrators, Console Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Install and configure the hardware and software components of the MCC 7000 Series Dispatch Consoles Subsystem
- Perform MCC 7000 Series site connectivity and bandwidth management
- Perform System Administrator functions using the MCC 7000 Series Administrator software
- Troubleshoot installation and configuration problems for the MCC 7000 Series Dispatch Consoles

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap (ACT100-E or ACT101-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO® 25 Systems Applied Networking (NWT003)

Required:
- System Overview for ASTRO 25 IV&D with M Core (ACS715200)
- ASTRO 25 IV&D Introduction to Radio System Management Applications (ACS715201)
- MCC 7000 Series Dispatch Consoles Overview (CON014)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
CON012

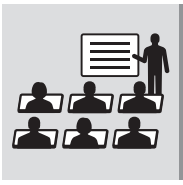
MCC 5500 DISPATCH CONSOLE

COURSE OVERVIEW
This course familiarizes technicians in troubleshooting/ repair functions, operating procedures, and hardware/ software applications for the MCC 5500 console. This course will provide all of the technical information required to configure, program, align, optimize, calibrate and repair the MCC 5500 console based on the recommended service level.

AUDIENCE
Console Technicians, System Managers

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Calculate hardware required for a MCC 5500 installation
- Install and configure all of the relevant hardware
- Test, troubleshoot and configure the main hardware components
- Build, modify, load and troubleshoot a system database

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Experience using common communication test equipment
- Knowledge of basic two-way FM communications theory and logic circuits or completion of: Communication Systems Concepts (NST021)



INSTRUCTOR-LED
LENGTH: **4 DAYS**
LMS COURSE CODE:
CON007

MCD 5000 TECHNICAL WORKSHOP

NEW

COURSE OVERVIEW
This workshop supports those that install, configure, or support the MCD 5000 Deskset. This three day training course will cover installation procedures for the MCD 5000 Deskset, Radio Gateway Unit (RGU), and connectivity to different station types. Configuration and programming of the MCD 5000 and its supporting equipment will be covered through discussion and hands- on lab activities. Troubleshooting and maintenance techniques will be addressed to the Motorola recommended service level.

AUDIENCE
Console Technicians, System Managers

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Identify the MCD 5000 System Components and functions
- Install MCD 5000 Deskset
- Install Radio Gateway Units
- Configure MCD 5000 subcomponents
- Troubleshoot the MCD 5000 System to Motorola Solutions recommended service levels
- Configure MCD 5000 with the Operations and Management Centre (OMC), as applicable.
- Use the Administrator Control Panel (ACP) to configure an MCD 5000 System with OMC.
- Describe the function of the MCD 5000 Deskset
- Describe all tasks on the MCD 5000 Deskset
- Discuss MCD 5000 Deskset Basic Operations

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Communication Systems Concepts (NST021)

INSTRUCTOR-LED
LENGTH: **2.5 DAYS**
LMS COURSE CODE:
RDS1022

ASTRO® 25 NICE LOGGER INTEGRATION

NEW

COURSE OVERVIEW

This workshop covers the tasks and knowledge to implement a NICE logging solution in an ASTRO® 25 system. Learning activities in this course focus on both initial installation and configuration, and operation and troubleshooting the components after installation. Participants will be provided with an opportunity to demonstrate, with available lab equipment, tasks required to install and maintain the related subsystem components.

AUDIENCE

Console Technicians, System Managers

COURSE OBJECTIVES

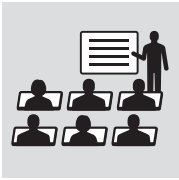
After completing this course, the student will be able to:

- Describe the functionality of the different components and applications required for NICE Radio logging
- Install and configure required components into an ASTRO 25 system
- Perform administrative tasks necessary for operation of the logging solution
- Use system tools and applications to identify potential causes of failure of the logging solution

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- ASTRO 25 IV&D Trunked System Overview (ACS715200)
- MCC 7000 Series Dispatch Console Workshop (CON012)



INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
AST1002

ASTRO® 25 DOMAIN CONTROLLER ADMINISTRATION

NEW

COURSE OVERVIEW

This workshop covers the administrator and management functions in the ASTRO® 25 Domain Controller and how these functions affect both users and computers in the ASTRO 25 system. Learning activities in this course focus on how to use the Domain Controllers to authenticate, administer, and authorize users and devices in the ASTRO 25 System. Group Policies and Organizational Units, RADIUS, and DNS structure will be addressed during this course.

AUDIENCE

Console Technicians, System Managers

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Understand the Domain Controller server platform
- Understand the DNS Hierarchy in the ASTRO 25 system
- Implement RADIUS authentication in applicable devices in an ASTRO 25 system.
- Use Active Directory to control users in the ASTRO 25 system.
- Understand Group Policy objects and how they impact users in the ASTRO 25 Domain.

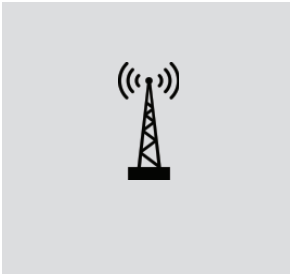
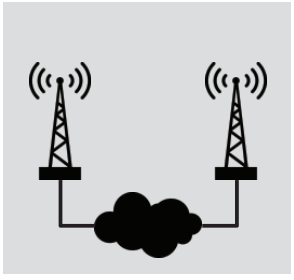
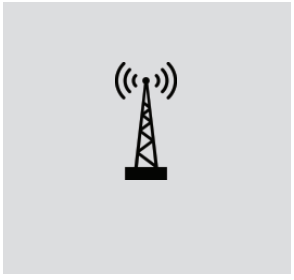
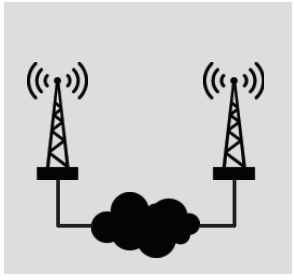
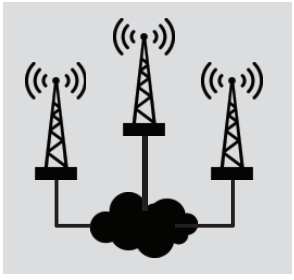
REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- ASTRO 25 IV&D with M Core System Overview (ACS715200)
- ASTRO 25 IV&D Conventional with M Core Overview (ACS715420)
- ASTRO 25 IV&D with L Core System Overview (ACS715430)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
AST2016

MOTOTRBO™ SYSTEMS PORTFOLIO

CONVENTIONAL	IP SITE CONNECT	CAPACITY PLUS	LINKED CAPACITY PLUS	CONNECT PLUS
				
				
NO TRUNKING	NO TRUNKING	DYNAMIC TRUNKING	DYNAMIC TRUNKING	FULL TRUNKING
SINGLE SITE	UP TO 15 SITES	SINGLE SITE	UP TO 15 SITES	UP TO 70 SITES

MOTOTRBO™ COURSES

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Middle East Learning Help Desk at:
training.apme@motorolasolutions.com

MOTOTRBO™ TECHNICAL TRAINING CURRICULUM
BASED ON YOUR CURRENT IP AND MOTOTRBO EXPERIENCE

DO YOU UNDERSTAND IP?

NO

BASIC NETWORKING
RDS0003 ONLINE SELF-PACED

YES

MOTOTRBO SYSTEMS APPLIED NETWORKING
INSTRUCTOR-LED 3.5 DAYS
LMS COURSE CODE:
PCT2007

DO YOU HAVE MOTOTRBO EXPERIENCE?

NO

MOTOTRBO SYSTEM INTRODUCTION FOR TECHNICIANS
INSTRUCTOR-LED 3.5 DAYS
LMS COURSE CODE:
CEDMEL2000

YES

CHOOSE YOUR SPECIALIZED SYSTEM TRAINING

MOTOTRBO SYSTEM ACADEMY
INSTRUCTOR-LED 4.5 DAYS
LMS COURSE CODE:
PCT3002

MOTOTRBO CONNECT PLUS SYSTEM ACADEMY
INSTRUCTOR-LED 3.5 DAYS
LMS COURSE CODE:
PCT3003

IP SITE CONNECT

MOTOTRBO DESIGN AND DEPLOY FOR IP SITE CONNECT

INSTRUCTOR -LED
2 DAYS

AEL2600

CAPACITY PLUS

MOTOTRBO DESIGN AND DEPLOY FOR CAPACITY PLUS

INSTRUCTOR -LED
2 DAYS

CEDMEL2600

LINKED CAPACITY PLUS

MOTOTRBO DESIGN AND DEPLOY FOR LINKED CAPACITY PLUS

INSTRUCTOR -LED
3 DAYS

AEL2601

CONNECT PLUS

MOTOTRBO DESIGN AND DEPLOY FOR CONNECT PLUS

INSTRUCTOR -LED
5 DAYS

PCT3000.00L

CURRICULUM COMPLETE

PARTICIPANT SHOULD BE ABLE TO DESCRIBE THE KEY CHARACTERISTICS OF THE SYSTEM, DESCRIBE THE KEY CONFIGURATION ITEMS IN BOTH SUBSCRIBERS AND REPEATERS, PROGRAM EFFECTIVE REPEATER AND SUBSCRIBER CODEPLUG TEMPLATES FOR THE SYSTEM, AND DESCRIBE THE APPLICABLE IP NETWORKING REQUIREMENTS WHEN DESIGNING A SYSTEM.

For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Middle East Learning Help Desk at:
training.apme@motorolasolutions.com

MOTOTRBO™ TECHNICAL TRAINING CURRICULUM
FOR SUBSCRIBER / REPEATER MAINTENANCE TECHNICIAN

MOTOTRBO SYSTEM INTRODUCTION FOR TECHNICIANS

INSTRUCTOR-LED 3.5 DAYS

LMS COURSE CODE:
CEDMEL2000

MOTOTRBO SUBSCRIBER AND REPEATER TECHNICAL SERVICE ACADEMY

INSTRUCTOR-LED 4 DAYS

LMS COURSE CODE:
TBO300

CURRICULUM COMPLETE

PARTICIPANT WILL LEARN THE COMMON MOTOTRBO FEATURES AND CAPABILITIES TO DESIGN AND DEPLOY MOTOTRBO SYSTEMS. PARTICIPANT SHOULD BE ABLE TO COMPLETE PERFORMANCE CHECKS, RADIO ALIGNMENTS, DISASSEMBLY/REASSEMBLY, MAINTENANCE, AND TROUBLESHOOTING OF VARIOUS MOTOTRBO RADIO TYPES.

MOTOTRBO™ CONNECT PLUS SYSTEM ACADEMY

NEW

COURSE OVERVIEW

MOTOTRBO™ Connect Plus System Academy allows the participant to acquire in-depth experience planning, configuring and deploying MOTOTRBO Connect Plus Trunking systems in a hands-on laboratory environment.
This course reinforces and provides tangible context for individuals who have completed the virtual instructor-led MOTOTORBO Design and Deploy course and who wish to master the key elements of the MOTOTRBO Connect Plus Digital Radio system. In addition to lecture and demonstration of Connect Plus operational theory, this course includes a series of hands-on laboratory experiences. Labs address the key aspects of Connect Plus deployment and operation such as radio configuration, network configuration, controller configuration, system backup, user creation and maintenance, user site steering, over the air file transfer and troubleshooting.

AUDIENCE

System Administrators, System Technicians, Field Technicians, Support Personnel

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Apply Connect Plus system theory and technical capabilities and features to real-world scenarios.
- Create and implement functional programming templates for Connect Plus subscribers and repeaters.
- Configure Connect Plus XRC site controllers for single and multi-site systems.
- Configure Connect Plus XRT gateways for key applications such as MOTOTRBO Anywhere.
- Configure site controller redundancy.
- Determine bandwidth requirements for inter-site links using the Connect Plus System Planner.
- Configure Auto-Fallback operation in subscribers and the site infrastructure.
- Configure Emergency Calling and Emergency Alert operation.
- Configure option board codeplugs for over the air delivery.
- Perform over the air programming (OTAP) of key subscriber files such as the network frequency file, option board firmware and option board codeplugs.
- Describe and configure Network Address Translation (NAT) in site routers that are representative of typical customer equipment.
- Troubleshoot Connect Plus systems from the network, subscriber, and repeater perspectives.

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- MOTOTRBO System Introduction for Technicians (CEDMEL2000)
- MOTOTRBO Connect Plus Design and Deploy (PCT3000.00L)

INSTRUCTOR-LED
LENGTH: **3.5 DAYS**
LMS COURSE CODE:
PCT3003

MOTOTRBO™ SYSTEM ACADEMY

NEW

COURSE OVERVIEW

This course allows the participant to acquire in-depth hands-on experience planning, configuring and deploying the following MOTOTRBO™ Systems and Solutions: Digital Conventional, IP Site Connect, Capacity Plus and Linked Capacity Plus.

NOTE: MOTOTRBO Connect Plus Systems are covered in a separate class, please reference course Design and Deploy for MOTOTRBO Connect Plus (PCT3000.00L) to learn how to plan, configure and deploy MOTOTRBO Connect Plus systems

AUDIENCE

System Administrators, System Technicians, Field Technicians

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Create and implement functional programming templates for example radio sites and systems that include:
- Digital Conventional simplex and repeater-based systems.
- IP Site Connect multisite conventional systems.
- Capacity Plus single-site trunked systems.
- Linked Capacity Plus multisite trunked systems.

Students will also receive instruction and/or hands-on experience with:

- Receiver voting topologies.
- Integrating MOTOTRBO Anywhere
- Integrating Avtec Scout consoles

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- MOTOTRBO System Introduction for Technicians (CEDMEL2000)
- MOTOTRBO Design and Deploy for IP Site Connect (AEL2600)
- MOTOTRBO Design and Deploy for Capacity Plus (CEDMEL2600)
- MOTOTRBO Design and Deploy for Linked Capacity Plus (AEL2601)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
PCT3002

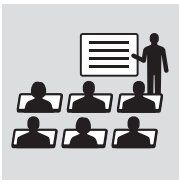
MOTOTRBO™ SUBSCRIBER AND REPEATER TECHNICAL SERVICE ACADEMY

COURSE OVERVIEW
Participants will learn the capabilities, features and functions of the MOTOTRBO™ family of radios and Repeaters as well as how to correctly complete performance checks, radio alignments, disassembly/reassembly, maintenance, and troubleshooting. This Academy will also focus on the detailed theory of operation. In addition to lecture, large amounts of hands on, scenario based lab work will be used to reinforce knowledge transfer. This Academy will cover in detail all models within the MOTOTRBO family of radios and repeaters, including: XPR6550, XPR4550, XPR8400, XPR6350, and XPR4350
NOTE: The MTR 3000 Repeater is not covered in this course

AUDIENCE
RadioTechnicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Distinguish between the features and specifications of the MOTOTRBO portable and mobile radios and repeaters
- Verify the correct operations of the MOTOTRBO radios and repeaters by completing Performance Checks and Alignment procedures
- Maintain and troubleshoot MOTOTRBO Radios and Repeaters
- Disassemble and reassemble the radios using the documented procedures
- Interpret the circuit theory of operation and use this information to isolate faults found at the board level

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- MOTOTRBO System Introduction for Technicians (CEDMEL2000)



INSTRUCTOR-LED
LENGTH: **4 DAYS**
LMS COURSE CODE:
TBO300

MOTOTRBO™ SYSTEMS APPLIED NETWORKING

NEW

COURSE OVERVIEW
The MOTOTRBO™ Systems Applied Networking provides technicians with the necessary information required for understanding the typical networking requirements for implementing a variety or MOTOTRBO solutions. The course includes familiarization/review of basic networking concepts and MOTOTRBO-specific networking requirements. This course will focus on specific configurations for IP Site Connect, Linked Capacity Plus, and Connect Plus trunking systems.

AUDIENCE
Technical System Managers and technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Recall Basic Networking Concepts
- Indentify recommended netwrk components for MOTOTRBO systems
- Define LAN/WAN topologies for MOTOTRBO systems
- Perform backup, restore and recovery of recommended network components
- Identify network security concepts for MOTOTRBO systems

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Networking Essentials in Motorola Communication Systems (NST762)

INSTRUCTOR-LED
LENGTH: **3.5 DAYS**
LMS COURSE CODE:
PCT2007

MOTOTRBO™ SYSTEM INTRODUCTION FOR TECHNICIANS

COURSE OVERVIEW

MOTOTRBO™ System Service Training introduces the theory of operation, key components and architectures of the MOTOTRBO Radio System. This course also considers various MOTOTRBO system applications, and examples of how to configure a MOTOTRBO system. Some of the topics include planning, fleetmapping, system design, programming, and deployment.

The goal of the MOTOTRBO Systems Introduction for Technicians is to give Professional-level Empower Certification seekers all the information they need to know about common MOTOTRBO features and capabilities, along with design and deploy principles common to all MOTOTRBO products. Upon completion of this course, individuals should be ready to take the more advanced Design and Deploy courses for IP Site Connect, Capacity Plus, and/or Connect Plus.

AUDIENCE

Anyone who will sell, design, configure, deploy, or maintain MOTOTRBO Digital Radio Systems. This would include, but is not limited to: Design Engineers, Communication System Technicians, Technical Support Personnel and Service Technicians.

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Describe MOTOTRBO system capabilities and system components, radio portfolio features, and data applications capabilities for IP Site Connect, Capacity Plus, Linked Capacity Plus and Connect Plus
- Explain how to decide which system is better suited to customer needs
- Describe MOTOTRBO system topologies
- Describe MOTOTRBO analog to digital migration strategies
- Describe MOTOTRBO system design considerations for capacity planning, coverage planning, and other system functions.
- Plan and develop a MOTOTRBO fleetmap.
- Setup, install, and configure MOTOTRBO's Customer Programming Software
- Operate MOTOTRBO radios with programmed features as planned in fleetmapping
- List the steps of the system design process.
- List common deployment considerations

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Basic understanding of radio communication fundamentals
- Knowledge of basic two-way FM and digital communications theory

INSTRUCTOR-LED
LENGTH: **3.5 DAYS**
LMS COURSE CODE:
CEDMEL2000

MOTOTRBO™ DESIGN AND DEPLOY FOR IP SITE CONNECT

COURSE OVERVIEW

MOTOTRBO™ IP Site Connect Design and Deploy training introduces the key components and architectures of the MOTOTRBO IP Site Connect radio systems. Participants will be able to describe the MOTOTRBO IP Site Connect system and its capabilities, system components, and data applications capabilities. Participants will also be able to describe various MOTOTRBO IP Site Connect system topologies. Participants will learn how to design and deploy a MOTOTRBO IP Site Connect radio system. This course will also cover how to configure a MOTOTRBO IP Site Connect System using MOTOTRBO Customer Programming Software. This course was designed for individuals who already have a good understanding of MOTOTRBO systems, but who want to now focus on IP Site Connect.

AUDIENCE

Anyone who will sell, design, configure, deploy, or maintain a MOTOTRBO IP Site Connect Digital Radio System. This would include, but is not limited to: Design Engineers, Communication System Technicians, Technical Support Personnel and Service Technicians.

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Describe the MOTOTRBO IP Site Connect system, its capabilities, system components, and data application capabilities
- Describe the MOTOTRBO IP Site Connect theory of operation
- Identify the available MOTOTRBO IP Site Connect topologies
- Configure an IP Site Connect system using MOTOTRBO CPS to program the subscribers and repeaters
- Design an IP Site Connect system, given a sample case study
- Explain the pre-deployment steps for IP Site Connect
- Explain the deployment steps for IP Site Connect

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Basic understanding of radio communication fundamentals
- Knowledge of basic two-way FM and digital communications theory
- Understanding of MOTOTRBO theory of operation
- Knowledge of basic IP networking theory

Required:

- MOTOTRBO System Introduction for Technicians (CEDMEL2000)

INSTRUCTOR-LED
LENGTH: **2 DAYS**
LMS COURSE CODE:
AEL2600

MOTOTRBO™ DESIGN AND DEPLOY FOR CAPACITY PLUS

COURSE OVERVIEW

MOTOTRBO™ Capacity Plus Design and Deploy training covers the key components and architectures of MOTOTRBO Capacity Plus Radio systems. Participants will be able to describe the MOTOTRBO Capacity Plus system, its capabilities, system components, and data applications capabilities. Participants will also be able to describe various MOTOTRBO Capacity Plus system topologies. Participants will learn how to design and deploy a MOTOTRBO Capacity Plus radio system. This course will also cover how to configure a MOTOTRBO Capacity Plus system using MOTOTRBO Customer Programming Software (CPS).

AUDIENCE

Anyone who will sell, design, configure, deploy, or maintain a MOTOTRBO Capacity Plus Digital Radio System. This would include, but is not limited to: Design Engineers, Communication System Technicians, Technical Support Personnel and Service Technicians.

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Describe the MOTOTRBO Capacity Plus system, its capabilities, system components, and data application capabilities
- Describe the MOTOTRBO Capacity Plus theory of operation
- Identify the available MOTOTRBO Capacity Plus topologies
- Configure a Capacity Plus system using MOTOTRBO CPS to program the subscribers and repeaters
- Design a Capacity Plus system, given a sample case study
- Explain the pre-deployment steps for Capacity Plus
- Explain the deployment steps for Capacity Plus

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Basic understanding of radio communication fundamentals
- Knowledge of basic two-way FM and digital communications theory
- Understanding of MOTOTRBO theory of operation
- Knowledge of basic IP networking theory

Required:

- MOTOTRBO System Introduction for Technicians (CEDMEL2000)

INSTRUCTOR-LED
LENGTH: **2 DAYS**
LMS COURSE CODE:
CEDMEL2600

MOTOTRBO™ DESIGN AND DEPLOY FOR LINKED CAPACITY PLUS

COURSE OVERVIEW

MOTOTRBO™ Linked Capacity Plus Design and Deploy training introduces the key components and architectures of MOTOTRBO Linked Capacity Plus radio systems. Participants will be able to describe the MOTOTRBO Linked Capacity Plus system, its capabilities, system components, and data applications capabilities. Participants will also be able to describe the MOTOTRBO Linked Capacity Plus system topology. Participants will learn what's involved with designing and deploying a MOTOTRBO Linked Capacity Plus radio system. This course will also cover how to configure a MOTOTRBO Linked Capacity Plus system using MOTOTRBO Customer Programming Software. This course was designed for individuals who already have a good understanding of MOTOTRBO Capacity Plus Systems, but who want to now focus on Linked Capacity Plus

AUDIENCE

Anyone who will sell, design, configure, deploy, or maintain a MOTOTRBO Linked Capacity Plus Multi Site Digital Radio System. This would include, but is not limited to: Design Engineers, Communication System Technicians, Technical Support Personnel and Service Technicians.

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Describe the MOTOTRBO Linked Capacity Plus system, its capabilities, system components, and data capabilities
- Describe the MOTOTRBO Linked Capacity Plus theory of operation
- Identify the available MOTOTRBO Linked Capacity Plus networking topology
- Configure a Linked Capacity Plus system using MOTOTRBO CPS to program both MOTOTRBO radios and MOTOTRBO repeaters
- Design a Linked Capacity Plus system, given specific parameters and details
- Deploy a Linked Capacity Plus system based on the system designed earlier

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Basic understanding of radio communication fundamentals
- Knowledge of basic two-way FM and digital communications theory
- Understanding of MOTOTRBO theory of operation
- Knowledge of basic IP networking theory

Required:

- MOTOTRBO System Introduction for Technicians (CEDMEL2000)
- MOTOTRBO Design and Deploy for IP Site Connect (AEL2600)
- MOTOTRBO Design and Deploy for Capacity Plus (CEDMEL2600)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
AEL2601

MOTOTRBO™ DESIGN AND DEPLOY FOR CONNECT PLUS

COURSE OVERVIEW

MOTOTRBO™ Connect Plus Design and Deploy introduces the key components and architectures of a MOTOTRBO Connect Plus Digital Radio system. Participants will be able to describe the MOTOTRBO Connect Plus system, its capabilities, system components, site and system management, troubleshooting and 3rd Party Data Applications considerations. Participants will also be able to describe various MOTOTRBO Connect Plus system topologies. Participants will learn what is involved with designing and deploying a MOTOTRBO Connect Plus radio system, as well as what is needed to effectively manage the system. This course will also cover how to configure a MOTOTRBO Connect Plus system using MOTOTRBO Customer Programming Software, MOTOTRBO Connect Plus Option Board CPS and the MOTOTRBO Connect Plus Network Manager Application. This course was designed for individuals who already have a good understanding of MOTOTRBO systems, but who want to now focus on MOTOTRBO Connect Plus.

AUDIENCE

Anyone who will sell, design, configure, deploy, or maintain a MOTOTRBO Connect Plus Digital Radio - Single or Multi-Site System. This would include, but is not limited to: Design Engineers, Communication System Technicians, Technical Support Personnel and Service Technicians.

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Describe the MOTOTRBO Connect Plus system
- Describe in detail MOTOTRBO Connect Plus theory of operation
- Identify the available MOTOTRBO Connect Plus topologies
- Configure a MOTOTRBO Connect Plus system using MOTOTRBO CPS to program both MOTOTRBO radios and MOTOTRBO repeaters
- Configure a MOTOTRBO option board using MOTOTRBO Connect Plus Option Board CPS
- Use the MOTOTRBO Connect Plus Network Management Application to configure, monitor, and make adjustments to MOTOTRBO Connect Plus sites and subscriber units

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Basic understanding of radio communication fundamentals
- Knowledge of basic two-way FM and digital communications theory
- Understanding of MOTOTRBO theory of operation
- Knowledge of basic IP networking theory

Required:

- MOTOTRBO System Introduction for Technicians (CEDMEL2000)

INSTRUCTOR-LED
LENGTH: **5 DAYS**
LMS COURSE CODE:
PCT3000.00L

HELPING PEOPLE BE THEIR BEST IN THE MOMENTS THAT MATTER

BASE STATION

DIMETRA BASE STATIONS

ASTRO BASE STATIONS

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

MTS 2/4 INSTALLATION, CONFIG., TROUBLESHOOTING AND MAINTENANCE

COURSE OVERVIEW

This course is divided into seven modules and includes the theoretical and practical aspects of configuring, maintaining and troubleshooting the MTS base station in a Dimetra IP system. The course includes the practical use of service software and the man-machine interface. Practical sessions include the emoval and replacement Field Replaceable Units (FRU).

AUDIENCE

Field Engineers responsible for installing, configuring and maintaining the base station equipment.

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Describe the function of the MTS within a Dimetra System.
- Identify the field replaceable units (FRUs) within the MTS.
- Describe the function of FRUs within the MTS.
- Perform MTS installation procedures.
- Carry out removal and replacement procedures for all MTS FRUs.
- Identify FRU part numbers.
- Utilise the Software Download application.
- Perform maintenance and testing procedures using Motorola TETRA BTS Service Software.
- Download a configuration file to the MTS using the BTS Service Software and Software Download Manager applications.
- Perform Key loading procedures to the MTS.
- Carry out MTS expansion.
- Troubleshoot MTS to FRU level.

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Dimetra IP System Overview Course (TSYS01R82) an advantage but not essential
- RF and Field or Bench service background

INSTRUCTOR-LED
LENGTH: **4 DAY**
LMS COURSE CODE:
TBTS01

EBTS PR3.0 INSTALLATION, CONFIG., TROUBLESHOOTING AND MAINTENANCE

COURSE OVERVIEW

This course is divided into six modules and includes the theoretical and practical aspects of maintenance and troubleshooting EBTS in a Dimetra system. The course includes the practical use of service software and the man-machine interface. Practical sessions include the removal and replacement Field Replaceable Units (FRU).

AUDIENCE

Field Engineers responsible for installing, configuring and maintaining the base station equipment.

COURSE OBJECTIVES

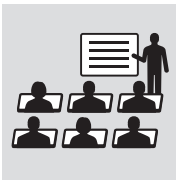
After completing this course, the student will be able to:

- Describe the EBTS System.
- Demonstrate the EBTS Interface Commands
- Describe Site Preparation and Hardware Installation
- Identify the field replaceable units (FRU) in the EBTS.
- Perform removal and replacement procedures for all EBTS FRUs.
- Perform Configuration and Testing of the EBTS System
- Troubleshoot the EBTS to FRU level.

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Dimetra IP System Overview Course (TSYS01R82) an advantage but not essential
- RF and Field or Bench service background



INSTRUCTOR-LED
LENGTH: **4 DAY**
LMS COURSE CODE:
TBTS02

MBTS INSTALLATION, CONFIG., TROUBLESHOOTING AND MAINTENANCE

COURSE OVERVIEW

This course will enable delegates to use the processes required to install and maintain a Base Transceiver Station (MBTS).

AUDIENCE

Internal Field and Repair Engineers responsible for the configuration and maintenance of the base transceiver station.

COURSE OBJECTIVES

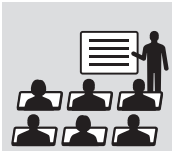
After completing this course, the student will be able to:

- Describe the MBTS System.
- Demonstrate the MBTS Interface Commands
- Describe Site Preparation and Hardware Installation
- Identify the field replaceable units (FRU) in the MBTS.
- Perform removal and replacement procedures for all MBTS FRUs.
- Perform Configuration and Testing of the MBTS System
- Troubleshoot the MBTS to FRU level.

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Dimetra IP System Overview Course (TSYS01R82) an advantage but not essential
- RF and Field or Bench service background



INSTRUCTOR-LED
LENGTH: **4 DAY**
LMS COURSE CODE:
TBTS03

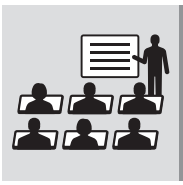
MTS 1 INSTALLATION, CONFIG. AND TROUBLESHOOTING COURSE OVERVIEW

COURSE OVERVIEW
This course is divided into eight modules and includes the theoretical and practical aspects of maintenance and troubleshooting of the MTS 1 base station in a Dimetra system. The course includes the practical use of service software and the man-machine interface. Practical sessions include the testing and configuration of the MTS 1.

AUDIENCE
Field Engineers responsible for installing, configuring and maintaining MTS 1 equipment.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the function of the MTS 1 within a Dimetra System.
- Identify and describe the function of MTS 1 components.
- Describe MTS 1 installation procedures.
- Execute MMI commands using local and telnet access.
- Perform MTS 1 verification test procedures.
- Download configuration and application files using the BTS Service Software and Software Download Manager application.
- Perform MTS 1 Key loading procedures.
- Perform MTS 1 troubleshooting using BTS Service Software.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Dimetra IP System Overview Course (TSYS01R82) an advantage but not essential
- RF and Field or Bench service background



INSTRUCTOR-LED
LENGTH: **2 DAY**
LMS COURSE CODE:
TBTS04

ASTRO® 25 IV&D GTR 8000 REPEATER SITE WORKSHOP

COURSE OVERVIEW
This workshop describes the components in the ASTRO® 25 IV&D System Repeater Site with GTR 8000 expandable site subsystem. This course also presents how the GTR 8000 expandable site subsystem operates and explains the tools and methods available for troubleshooting components within the subsystem.

AUDIENCE
GTR 8000 Site Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the ASTRO 25 IV&D Repeater Site with GTR 8000 Expandable Site Subsystem configurations and components
- Identify the GCP 8000 Site Controller functions and configuration requirements
- Describe the connections and interfaces to the GCP 8000
- Diagnose and troubleshoot the GCP 8000
- Describe the functionality of the GTR 8000 Expandable Site Subsystem
- Configure and troubleshoot the ASTRO 25 Repeater Site with GTR 8000 Expandable Site Subsystem
- Configure and troubleshoot the Network Transport subsystem

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Bridging the Knowledge Gap for ASTRO 25 – Technician (ACT100-E)
- Networking Essentials in Communication Equipment (NST762)
- ASTRO 25 Systems Applied Networking (NWT003)

Required:
Take one of the following, depending on system supporting:
- ASTRO 25 IV&D with M Core System Overview (ACS715200)
- ASTRO 25 IV&D Trunking with L Core System Overview (ACS715430)

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
ACS715208

SUBSCRIBER COURSES

DIMETRA SUBSCRIBERS

ASTRO® SUBSCRIBERS

LEVEL 2 SUBSCRIBER SERVICE TRAINING

We provide level 2 service training for each of the subscribers' products (ASTRO®, DIMETRA & MOTOTRBO™). For more information Please contact **training.apme@motorolasolutions.com**.

Level 2 Service Training is designed to provide service personnel the ability to identify product capability, features and functionality, configuration and troubleshooting with a deeper and broader view towards the radio. In addition to focusing the capability, features and functions of the product in detailed theory, this training will continue to focus the right procedure to complete the various tasks such as performance check, maintenance and also troubleshooting and so on.

The level 2 Service Training will include lecture and lab work on topics such as: Programming using Customer Programming Software, assembling & disassembling of product as well as basic troubleshooting.

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

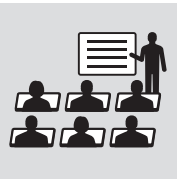
TETRA TERMINAL PROGRAMMING COURSE (CPS PLUS)

COURSE OVERVIEW
This course will provide the background information and the knowledge required to program Motorola Solutions TETRA radios. The course is highly practical in nature and covers everything from software requirements and installation, through to programming and editing radio code plugs and troubleshooting.

AUDIENCE
All Technical staff required to program Motorola Solutions TETRA radios.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Identify and locate all program features
- Describe the function of all major CPS Plus features and tools
- Installation of the CPS and adding RPK files
- Carry out radio programming using CPS Plus
- Carry out CPS Plus troubleshooting procedures

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Must be familiar with Tetra radio features. It is recommended to complete Tetra Radio End User training



INSTRUCTOR-LED
LENGTH: **2 DAYS**
LMS COURSE CODE:
TTER01PLUS

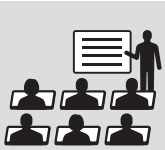
INTEGRATED TERMINAL MANAGEMENT WORKSHOP

COURSE OVERVIEW
This practical course will enable Tetra terminal users to describe the applications used for programming the mobile fleet and perform tasks using these applications.

AUDIENCE
Tetra Terminal Programmers and technical staff requiring knowledge of the Integrated Terminal Management Feature.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the role of the iTM system in managing the mobile terminal fleet.
- Describe the Integrated Terminal Management features
- Identify hardware and software components in the iTM System
- Perform tasks involved with iTM software installation, configuration, and operation.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- A working knowledge of MS Windows operating environment (for Customer Programming Software (CPS) module).
- RF and Field or Bench service background (an advantage but not essential)



INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE:
TTER02

XTS/XTL™ SUBSCRIBER FAMILY

DO YOU HAVE CPS PROGRAMMING EXPERIENCE?

NO

YES

CPS PROGRAMMING AND TEMPLATE BUILDING
ADT001-T

CPS PROGRAMMING AND TEMPLATE BUILDING
ADT001-V VIRTUAL CLASSROOM (5) 2-HOUR SESSIONS

XTS/XTL TECHNICAL SUBSCRIBER ACADEMY

INSTRUCTOR-LED 4.5 DAYS

LMS COURSE CODE:
ADST005

CURRICULUM COMPLETE

PARTICIPANT WILL BE ABLE TO PROGRAM, DEVELOP FLEET TEMPLATES, AND PERFORM MAINTENANCE ON ALL MEMBERS OF THE APX FAMILY OF RADIOS. MAINTENANCE WILL INCLUDE TESTING, ALIGNMENTS, DISASSEMBLY/RE-ASSEMBLY, SUBMERGIBILITY TEST, MOBILE RADIO INSTALLATION, AND TROUBLESHOOT TO THE BOARD LEVEL.

APX™ SUBSCRIBER FAMILY

APX CPS PROGRAMMING AND TEMPLATE BUILDING
APX7001-V VIRTUAL CLASSROOM (5) 2.5-HOUR SESSIONS

APX TECHNICAL SUBSCRIBER ACADEMY

INSTRUCTOR-LED 4.5 DAYS

LMS COURSE CODE:
APX010

CURRICULUM COMPLETE

PARTICIPANT SHOULD BE ABLE TO PROGRAM, DEVELOP FLEET TEMPLATES, AND PERFORM MAINTENANCE ON ALL MEMBERS OF THE APX FAMILY OF RADIOS. MAINTENANCE WILL INCLUDE TESTING, ALIGNMENTS, DISASSEMBLY/RE-ASSEMBLY, SUBMERGIBILITY TEST, MOBILE RADIO INSTALLATION, AND TROUBLESHOOT TO THE BOARD LEVEL.

APX™ QUICK START

COURSE OVERVIEW
This training is designed to give you an in-depth introduction to the APX™ mobiles and portables. You will learn basic information on where APX fits into the Motorola line of mission critical radios, the radioís features, capabilities and available accessories. This course also provides an overview of the APX programming software (CPS) and the new programming keys (Advanced System Keys).

AUDIENCE
Radio Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the features and capabilities of portable and mobile APX radios
- Describe the APX Customer Programming Software (CPS) at high level
- Describe the Advanced System Keys (ASK) at a high level
- Find various resources to learn more about, get support on, and order APX radios

REQUISITE KNOWLEDGE
None

ONLINE, SELF-PACED
LENGTH: **2 HOURS**
LMS COURSE CODE:
AEE0401

CPS PROGRAMMING AND TEMPLATE BUILDING

COURSE OVERVIEW
This course provides communications management personnel and technicians with the knowledge and tools needed to program the radio units in the most efficient way depending on the system, features and options they require. The parameters and exercises shown in the class apply to a wide number of portable and mobile radios, including XTS 5000, XTS 3000, XTS 2500, XTS 1500, XTL™ 5000, XTL 2500, XTL 1500, MTS 2000, MCS 2000, the SPECTRA family, and the Professional Series.

AUDIENCE
Radio Technicians, System Managers

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Program the basic parameters of any radio using the Customer Programming Software (CPS)
- Program the specific parameters of any radio related with the system where the user is going to work: conventional, single site trunking, Simulcast, AMSS, SmartZone or ASTRO® 25
- Demonstrate knowledge of the options and features that can be programmed in a radio
- Create templates for the programming of subscribers in a system

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Basic features and options of two-way radios basic concepts of trunking

VIRTUAL CLASSROOM
LENGTH: **(5) 2-HOUR SESSIONS**
LMS COURSE CODE:
ADT001-V

APX™ CPS PROGRAMMING AND TEMPLATE BUILDING

COURSE OVERVIEW
The APX™ CPS Programming and Template Building course provides communications management personnel and technicians with the knowledge and training necessary to build templates and program the APX family of radios in the most efficient way possible.

AUDIENCE
Radio Technicians, System Managers

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Build the APX family of programming templates using the APX CPS Programming Software
- Program the specific parameters related to the various sytem types in which the subscriber unit will operate: Conventional, Single Site Trunking, Simulcast, SmartZone or ASTRO® 25 IV&D TDMA and ASTRO 25 IV&D X2
- Demonstrate knowledge of the APX CPS navigation, tools, options and features that make effeicient programming of the radio possible
- Demonstrate a complete understanding of the various APX CPS programming efficiency tools, such as: Cloning, Drag and Drop, Codeplug Comparison Tool, Radio Flashing, Advance System Key Administrator, Codeplug Merging and many others

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Experience with the basic features and options of two-way radios and the basic concepts of trunking

VIRTUAL CLASSROOM
LENGTH: **(5) 2.5-HOUR SESSIONS**
LMS COURSE CODE:
APX7001-V

XTS/XTL™ TECHNICAL SUBSCRIBER ACADEMY

COURSE OVERVIEW

Participants will learn the capabilities, features and functions of the XTS/XTL™ family of radios as well as how to correctly complete performance checks, radio alignments, disassembly/reassembly, maintenance and troubleshooting. This academy will also focus on the detailed theory of operation. The XTS/XTL Academy will also cover in detail: Radio Flashing, Encryption, Key Loading (Including configuring the XTS/XTL radio for OTAR), Programming over P25 (Over the Air Programming), Advanced System Key Management, Vacuum and Submersibility Testing, Mobile Radio Installation and many other special setup or configuration modes with the radios. In addition to lecture, large amounts of hands-on, scenario based lab work will be used to reinforce knowledge transfer. This academy will cover in detail all models within the XTS/XTL family of radios, including: XTS 5000, XTS 2500 and XTS 1500 and XTL 5000, XTL 2500 and XTL 1500.

AUDIENCE

Radio Technicians

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Distinguish between the features and specifications of the XTS and XTL 5000 radios
- Verify the correct operations of the XTS and XTL 5000 radios by completing Performance Checks and Alignment procedures
- Maintain and troubleshoot an XTS and XTL 5000 radios
- Disassemble and reassemble the radios using the documented procedures
- Verify the housing integrity of an XTS 5000R portable radio
- Flash upgrade an XTS and an XTL 5000 Radio
- Interpret the circuit theory of operation and use this information to isolate faults found at both the board and the component level

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Communication Systems Concepts (NST021)
- Radio Systems Overview (RCS002-E)
- Theory of Radio Operations (RCS003-E)

AND

- CPS Programming and Template Building Overview (ADT001-V)

OR

- Test Out CPS Programming and Template Building Overview (ADT001-T)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
ADST005

APX™ TECHNICAL SUBSCRIBER ACADEMY

COURSE OVERVIEW

Participants will learn the capabilities, features and functions of the APX™ family of radios as well as how to correctly complete performance checks, radio alignments, disassembly/reassembly, maintenance and troubleshooting. This academy will also focus on a detailed theory of operation for the APX family of radios. The APX Academy will also cover in detail: Radio Flashing, Encryption, Key Loading (Including configuring the APX radio for OTAR), Programming over P25 (Over the Air Programming), Advanced System Key Management, Vacuum and Submersibility Testing, APX Mobile Radio Installation and many other special setup or configuration modes with the radios. In addition to lecture, large amounts of hands-on with scenario based lab work will be used to reinforce knowledge transfer. This academy will cover in detail all models within the APX family of radios.

AUDIENCE

Radio Technicians

COURSE OBJECTIVES

After completing this course, the student will be able to:

- Distinguish between the features and specifications of all available radios within the APX family of subscribers
- Verify the correct operation of the various radios within the APX family of subscribers by completing Performance Checks and Alignment procedures
- Maintain and troubleshoot radios within the APX family of subscribers
- Disassemble and reassemble various APX subscriber radios using the documented procedures
- Verify the housing integrity of an APX portable radio
- Flash upgrade the various radios within the APX family of subscribers
- Interpret the circuit theory of operation and use this information to isolate faults found at both the board and the component level

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Communication Systems Concepts (NST021)
- Radio Systems Overview (RCS002-E)
- Theory of Radio Operations (RCS003-E)

Required:

- APX CPS Programming and Template Building Overview (APX7001-V)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
APX010

PUBLIC SAFETY LTE DELIVERS A HIGH DEGREE OF THE 5 C's

COVERAGE WITHOUT COMPROMISE

Public Safety LTE networks handle peak usage and prioritize system traffic to the end of coverage. Extend network coverage during disaster recovery situations and optimize coverage at the edge with LTE deployable trailers. Because first responders can instantly access video, photos, maps and more, they're better prepared to arrive at a dangerous crime scene or search patient medial records from a moving ambulance.

CAPACITY FOR IT ALL

Capacity isn't only critical for emergencies, it's essential for day-to-day operations. When thousands of people converge at sports venues, concerts, festivals and rallies, mobile capacity must be sufficient and robust to keep everyone safe.

CAPABILITES TO IMPROVE SITUATIONAL AWARENESS

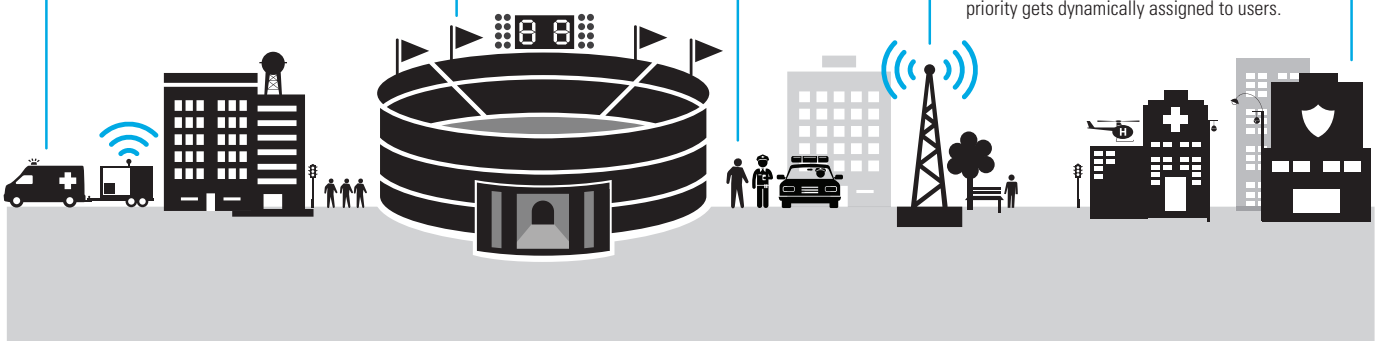
When public safety personnel have a unified picture of what's unfolding, they are better equipped to respond. High-speed data, location information, photos and streaming video can significantly improve collaboration and outcomes.

COST SAVINGS ON A LARGE SCALE

An optimized Public Safety LTE network that saves money via economies of scale on devices and infrastructure partnership where needed.

CONTROL OF YOUR COMMUNICATIONS

An optimized Public Safety LTE network gives you greater control over your system, software and devices. You decide who accesses the system, what changes need to be made and when, what the status of all users is, and how priority gets dynamically assigned to users.



PUBLIC SAFETY LTE COURSES

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to learning.motorolasolutions.com

PUBLIC SAFETY LTE SYSTEM OVERVIEW

COURSE OVERVIEW
The Public Safety LTE System Overview self-paced course presents a high-level description of the Public Safety LTE system and an introduction into the network elements that comprise the system.

AUDIENCE
System Managers, System Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe LTE (Long-Term Evolution) technologies
- Describe the networks and their connections in a Public Safety LTE system
- Describe the functionality of the elements in a Public Safety LTE system
- Describe how Prioritization works
- Describe bearers and data paths
- Describe the User Equipment (UE)

REQUISITE KNOWLEDGE
None

ONLINE, SELF-PACED
LENGTH: **1 HOUR**
LMS COURSE CODE:
AAE1603

PUBLIC SAFETY LTE ARCHITECTURE AND SIGNALING

COURSE OVERVIEW
This lab-based class provides students a practical understanding of 3GPP LTE/EPC signaling as used in a public safety LTE network.

Students use an Aricent EPC core system, Ericsson eNodeB, and Motorola Solutions subscriber units to: manage LTE/EPC network elements and interfaces, determine subscriber and network element status, capture and analyze LTE signaling, and analyze end-to-end service signaling and quality of service.

AUDIENCE
Customers

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe LTE network elements and function
- Describe LTE/EPC interfaces
- Analyze LTE/EPC signaling flows
- Evaluate network element status based on NE interface and signaling state
- Trace UE state based on signaling
- Validate and troubleshoot end-to-end service signaling
- Describe LTE Quality of Service (QoS) operation
- Describe LTE to ASTRO® 25 inter-working options

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Public Safety LTE System Overview (AAE1603)
- Networking Essentials in Motorola Communicatons Equipment (NST762)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
LTE2005

PUBLIC SAFETY LTE SYSTEM ADMINISTRATION

COURSE OVERVIEW
PS-LTE System Administration training covers the key functionality and tasks required to administer and manage a Public Safety LTE system. Participants will understand the functionality of the management applications, requirements for subscriber provisioning, requirements for proper quality of service, fault management and other network administration needs. Participants will perform tasks demonstrating proficiency in using the applications resident on the OSP platform

AUDIENCE
Customer System Managers, Customer Technical Staff

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Understand the function and capabilities of the OSP Platform
- Customize the OSP Interface
- Provision and manage devices on the PS-LTE network
- Detect and respond to faults in the PS-LTE network
- Utilize network monitoring tools available on the OSP platform
- Manage performance of the PS-LTE network

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- IP Fundamentals (AEE1301)
- Public Safety LTE System Overview (AAE1603)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
LTE2006

PUBLIC SAFETY LTE APPLIED NETWORKING

COURSE OVERVIEW

The Public Safety LTE Applied Networking course covers the operation and maintenance of Motorola-supplied network transport equipment used in a PS LTE network. Participants will learn the operation and replacement tasks required to maintain Layer 2 switches, Layer 3 switches, the NTP server, DNS server, firewalls, and other devices which provide backhaul transport and connectivity services in the network.

This lab-based course offers students practice with critical maintenance procedures on standalone equipment without impacting network operation.

AUDIENCE

Customer System Managers, Customer Network Transport Technical Staff

COURSE OBJECTIVES

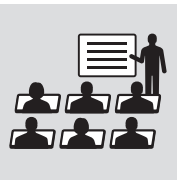
After completing this course, the student will be able to:

- Check and manage status of LTE network transport devices
- Upgrade and downgrade device firmware or operating system
- Backup and restore device configuration
- Replace device hardware
- Validate and troubleshoot device operation

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:

- Public Safety LTE System Overview (AAE1603)
- Networking Essentials in Motorola Communicatons Equipment (NST762)



INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
LTE2007

MOTOROLA SOLUTIONS LEARNING

MIDDLE EAST

CONTACT US

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