2016
PRODUCT AND SYSTEM TECHNICAL TRAINING COURSE CATALOG

MOTOROLA SOLUTIONS LEARNING
LATIN AMERICA

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.

CATALOG
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GENERAL INFORMATION

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

For general information contact the Latin America Learning Help Desk at:
training.LACR@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.

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TRAINING OPTIONS, POLICIES AND REQUIREMENTS

TRAINING OPTIONS

RESIDENT, INSTRUCTOR-LED TRAINING
Resident training consists of regularly scheduled classes conducted at one of the Motorola Technical Training Centers. The centers are 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.lacr@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. Select courses from the recommendations listed in the Training Roadmaps from each product area of the catalog, or simply based upon your own personal need. Just look for courses with the Online Self-paced.

UNDERSTANDING THE ICONS

INSTRUCTOR-LED

ONLINE SELF-PACED

OPTIONAL COURSE

TEST

NEW COURSE

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
Many of our classes now 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.

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training.LACR@motorolasolutions.com

HELPFUL INFORMATION

FOR QUESTIONS AND ASSISTANCE

The LMS Helpdesk is available for you Monday - Friday from 8:00am - 6:00pm (U.S. EST) on the phone numbers listed on the table below. Attention is available in Spanish, Portuguese and English. You may also email our LMS Helpdesk at: **training.lacr@motorolasolutions.com**.

Call the phone number of your convenience in the **Learning Helpdesk** phone numbers list below:

COUNTRY	LOCAL PHONE NUMBER
Argentina	0800-333-3708
Brazil	0800-892-4264
Chile	123-0020-2126
Colombia	01-800-710-2285
Costa Rica	0800-013-1450
Mexico	001-855-241-8253
Panama	001-800-205-3867
Peru	0800-55760
Venezuela	0800-100-9332

For assistance you can also dial one of the following direct phone lines according to your language of preference:

LEARNING HELPDESK PHONE NUMBERS	
Spanish	DID 3127255372
Portuguese	DID 3127255373
Caribbean	DID 3127255368

For assistance specific for partner accounts please contact us at: **partners.lacr@motorolasolutions.com**.

HOW TO MAKE PAYMENTS WHEN ENROLLING IN A COURSE

HOW TO MAKE PAYMENTS WHEN REGISTERING

For your convenience we accept the following method of payment:

- Credit Card
- Bank Transfer

Prepayment is required to secure your registration and it must be received by Motorola 30 days prior to your attendance.

Contact the Help Desk for assistance with payment and Bank Transfer specifications. All pricing listed is US dollars.

DOWNLOAD THE LATIN AMERICA TRAINING SCHEDULE
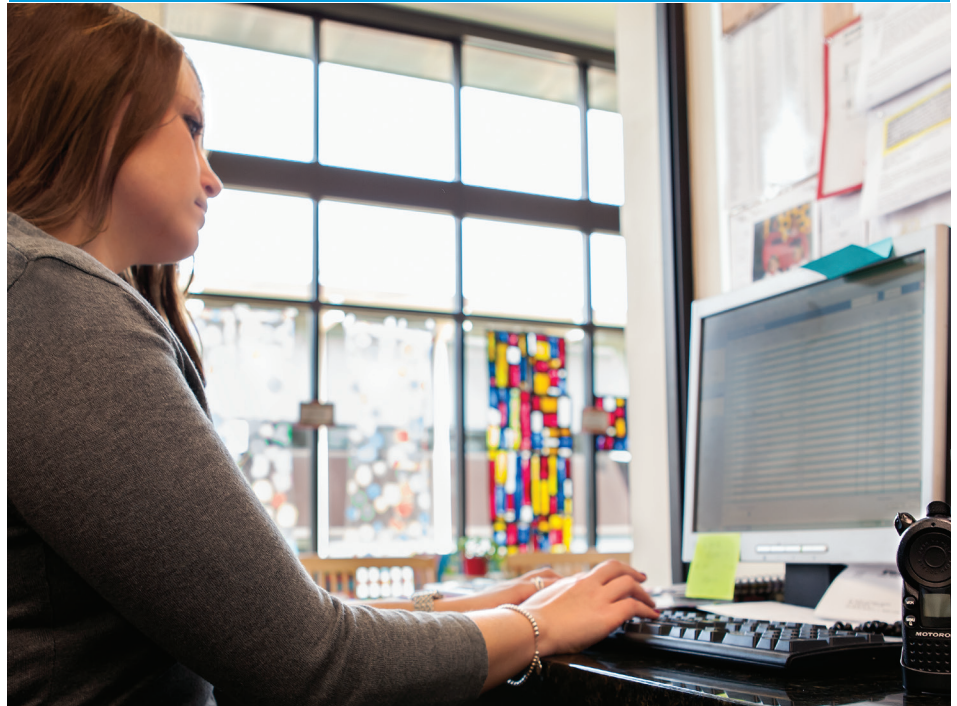
TRAINING SCHEDULE

Click on the above download link to access the schedule file or visit:
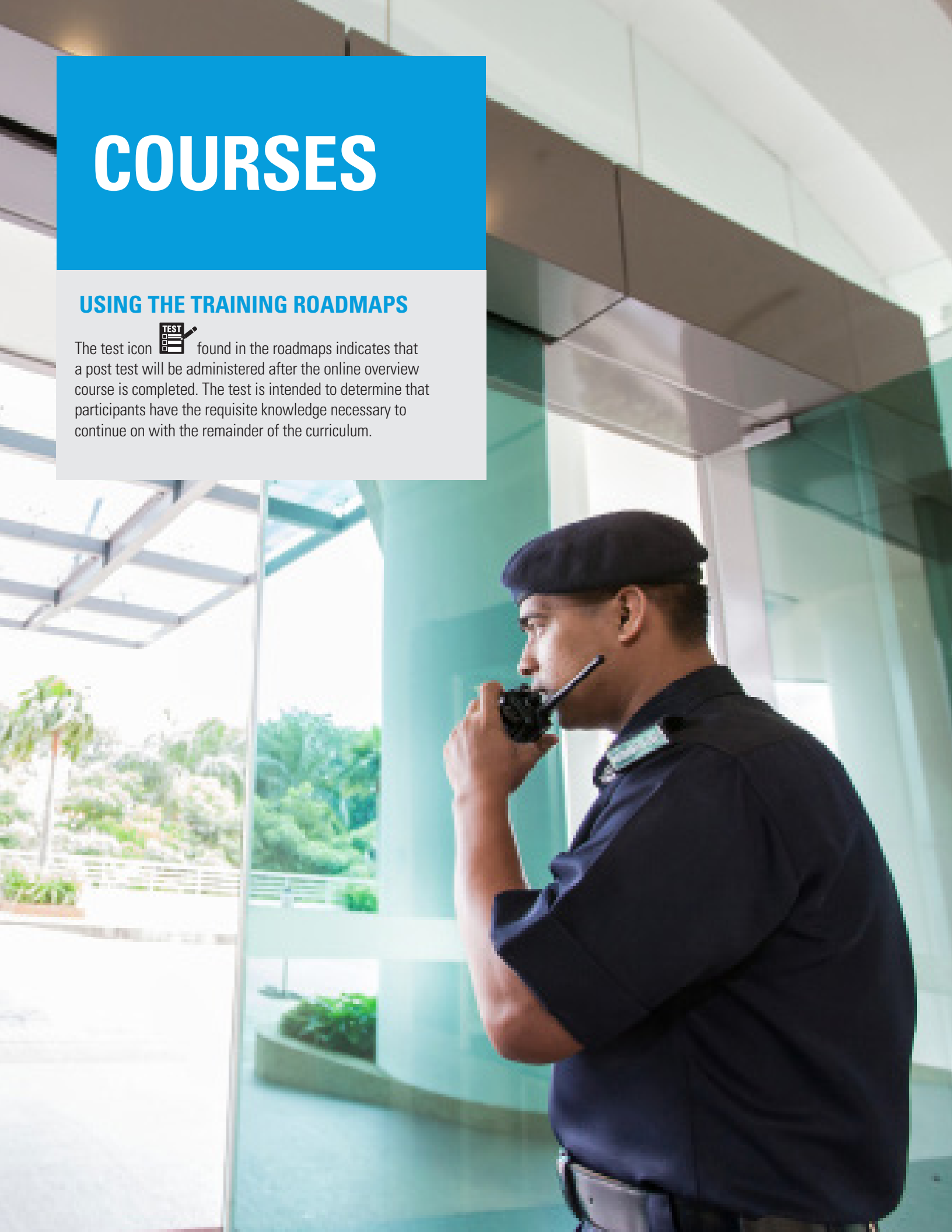
Latin America Training Schedule

To view the most current details for any of our courses, please register for an account (see Page 4) and log into the Motorola Solutions Learning Management System (LMS) at: **learning.motorolasolutions.com** or call the helpdesk for assistance. Attention is available in Spanish, Portuguese and English. You may also email our LMS Helpdesk at: **training.lacr@motorolasolutions.com**.

COURSES

USING THE TRAINING ROADMAPS

The test icon [TEST] found in the roadmaps indicates that a post test will be administered after the online overview course is completed. The test is intended to determine that participants have the requisite knowledge necessary to continue on with the remainder of the curriculum.

FOUNDATIONAL COURSES

THE LEARNING MANAGEMENT SYSTEM (LMS)

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

RF FUNDAMENTALS

RF BASICS / RADIO SYSTEM BASICS
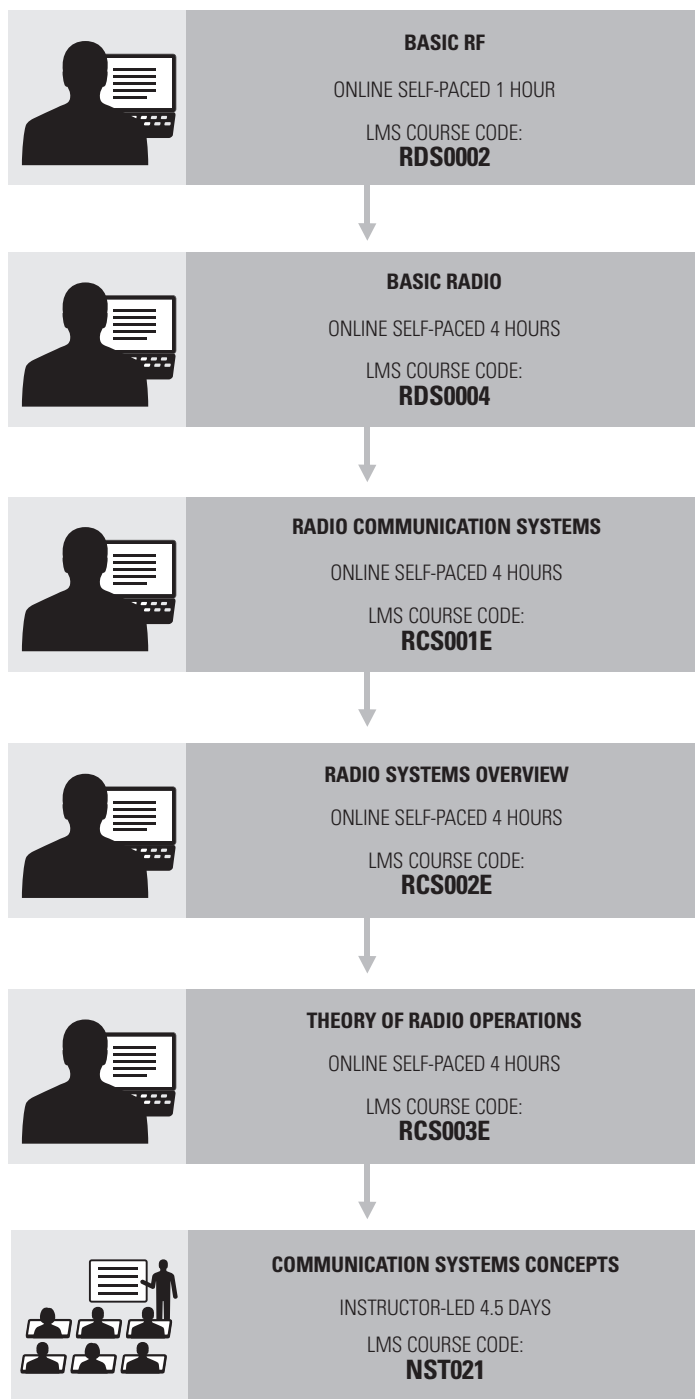
BASIC RF

ONLINE SELF-PACED 1 HOUR

LMS COURSE CODE:
RDS0002

BASIC RADIO

ONLINE SELF-PACED 4 HOURS

LMS COURSE CODE:
RDS0004

RADIO COMMUNICATION SYSTEMS

ONLINE SELF-PACED 4 HOURS

LMS COURSE CODE:
RCS001E

RADIO SYSTEMS OVERVIEW

ONLINE SELF-PACED 4 HOURS

LMS COURSE CODE:
RCS002E

THEORY OF RADIO OPERATIONS

ONLINE SELF-PACED 4 HOURS

LMS COURSE CODE:
RCS003E

COMMUNICATION SYSTEMS CONCEPTS

INSTRUCTOR-LED 4.5 DAYS

LMS COURSE CODE:
NST021

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

IP/NETWORKING FUNDAMENTALS
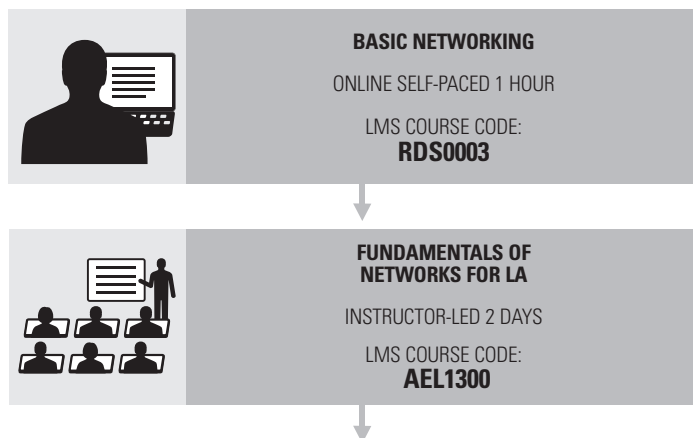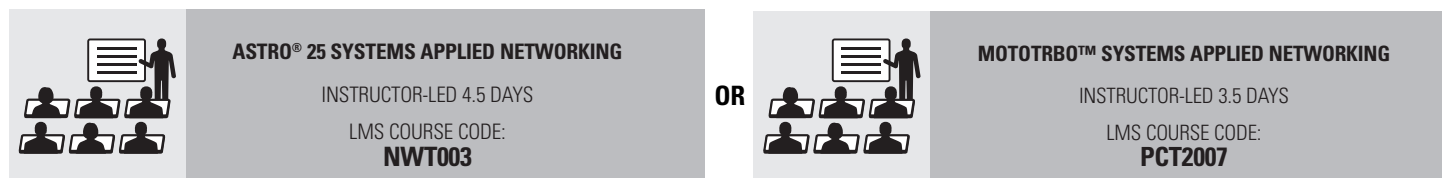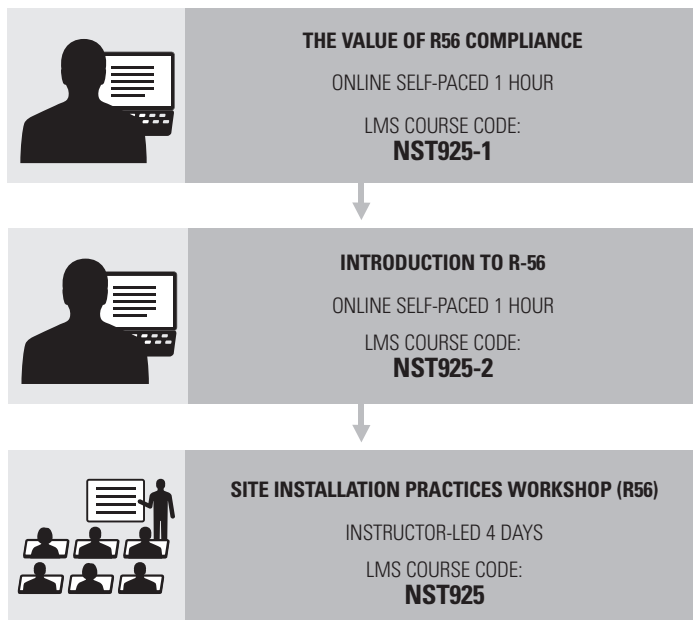
BASIC NETWORKING

ONLINE SELF-PACED 1 HOUR

LMS COURSE CODE:
RDS0003

FUNDAMENTALS OF NETWORKS FOR LA

INSTRUCTOR-LED 2 DAYS

LMS COURSE CODE:
AEL1300

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™ SYSTEMS APPLIED NETWORKING

INSTRUCTOR-LED 3.5 DAYS

LMS COURSE CODE:
PCT2007

R56 FUNDAMENTALS

THE VALUE OF R56 COMPLIANCE

ONLINE SELF-PACED 1 HOUR

LMS COURSE CODE:
NST925-1

INTRODUCTION TO R-56

ONLINE SELF-PACED 1 HOUR

LMS COURSE CODE:
NST925-2

SITE INSTALLATION PRACTICES WORKSHOP (R56)

INSTRUCTOR-LED 4 DAYS

LMS COURSE CODE:
NST925

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

RADIO SOLUTIONS **FOUNDATIONAL**

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

CLICK HERE TO VIEW THE
LATIN AMERICA SCHEDULE

RADIO SOLUTIONS **FOUNDATIONAL**

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training.LACR@motorolasolutions.com

RF FOR RADIO PROFESSIONALS

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
Course consists of six modules: Advanced RF: Introduction, Transmission Lines, RF Hardware Filters, RF Performance, Test Equipment, and Troubleshooting.

After completing this course, the student will be able to:
- Describe basic circuit-related phenomena and elements
- Describe the filtering process and types of RF filters List
- Describe and compare digital modulation schemes List common frequency spectrum bands and describe their common uses
- Describe the transmission line theory Provide the rules for cable selection, routing and installation
- List advanced RF hardware filters, and provide their descriptions
- Discuss RF performance issues
- List and describe transmitter performance parameters
- List and describe receiver performance parameters
- List and describe common test equipment Describe the RF troubleshooting process

REQUISITE KNOWLEDGE
Basic RF (RDS0002)

ONLINE SELF-PACED
LENGTH: **1 HOUR**
LMS COURSE CODE:
RDS2012

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:
RCS001E

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:
RCS002E

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LATIN AMERICA SCHEDULE

RADIO SOLUTIONS **FOUNDATIONAL**

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:
RCS003E

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

CLICK HERE TO VIEW THE
LATIN AMERICA SCHEDULE

RADIO SOLUTIONS **FOUNDATIONAL**
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training.LACR@motorolasolutions.com

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
- 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**

THE VALUE OF R56 COMPLIANCE

COURSE OVERVIEW
This course presents the value of following Motorola Solutions Standards and Guidelines for Communication Sites (R56) manual to the parties involved in site development on each stage of the RF site design and development process.

AUDIENCE
- Customer-facing personnel who want to understand the value in using R56 processes
- Anyone who wants to understand the value in using R56 processes

COURSE OBJECTIVES
By the end of the course, you will be able to:
- Describe the site design and development tasks needed to meet R56 requirements
- Describe the building and shelter design and installation tasks needed to meet R56 requirements
- Identify the proper external and internal grounding tasks needed to meet R56 requirements
- Identify transient voltage surge suppression needs that meet R56 requirements
- Minimize the impact of RF Site Interference, in line with R56 requirements
- Identify the equipment installation tasks needed to meet R56 requirements

REQUISITE KNOWLEDGE
None
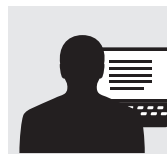
ONLINE SELF-PACED
LENGTH: **1 HOUR**
LMS COURSE CODE: **NST925-1**

CLICK HERE TO VIEW THE **LATIN AMERICA SCHEDULE**

RADIO SOLUTIONS **FOUNDATIONAL**

INTRODUCTION TO R56

COURSE OVERVIEW
The purpose of this course is to present a high level overview of the RF site design and construction process, in line with the guidelines listed in Motorola Solutions' Standards and Guidelines for Communication Sites (R56) manual.

AUDIENCE
- Technical Associates who need to use the R56 processes
- Anyone who needs a technical introduction to the R56 processes

COURSE OBJECTIVES
By the end of the course, you will be able to:
- Describe the site design and development tasks needed to meet R56 requirements
- Describe the building and shelter design and installation tasks needed to meet R56 requirements
- Identify the proper external and internal grounding tasks needed to meet R56 requirements
- Identify transient voltage surge suppression needs that meet R56 requirements
- Minimize the impact of RF Site Interference, in line with R56 requirements
- Identify the equipment installation tasks needed to meet R56 requirements

REQUISITE KNOWLEDGE
- The Value of R56 Compliance (NST925-1)

ONLINE SELF-PACED
LENGTH: **1 HOUR**
LMS COURSE CODE:
NST925-2

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
- Introduction to R56 (NST925-2)

INSTRUCTOR-LED
LENGTH: **4 DAYS**
LMS COURSE CODE:
NST925

FUNDAMENTALS OF NETWORKS FOR LA

COURSE OVERVIEW
This course explains the basic concepts of networks, specifies the basic components of a communications network, describes the standard architectures used for its creation and the communication protocols used by the industry. Additionally, it explains the basic concepts related to network routing, as well as an introduction to the generalities of switches and routers, specifying the equipment used by Motorola in their networks.

AUDIENCE
Persons who wish to acquire basic knowledge of Communications Networks.

COURSE OBJECTIVES
- Understand basic conformation of a network
- Describe the different architectures of a Network
- Understand the basic protocols TCP / IP
- Understand Network Routing - Switches Overview
- Routers Overview

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: **2 DAYS**
LMS COURSE CODE:
AEL1300

CLICK HERE TO VIEW THE
LATIN AMERICA SCHEDULE

MOTOTRBO™ SYSTEMS APPLIED NETWORKING

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:

- Fundamentals of Networks for LA (AEL1300)

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:

- Fundamentals of Networks for LA (AEL1300)

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

CLICK HERE TO VIEW THE
LATIN AMERICA SCHEDULE

ASTRO® 25 SYSTEMS PORTFOLIO

FLEXIBLE CHOICES TO MEET EVERY NEED

SINGLE SITES		SIMPLIFIED CONFIGURATIONS		FULLY FEATURED CONFIGURATIONS	
CONVENTIONAL	**TRUNKED**	**CONVENTIONAL WITH DATA**	**TRUNKED WITH DATA**	**TRUNKED AND CONVENTIONAL WITH DATA**	**MULTI-ZONE TRUNKED AND CONVENTIONAL WITH DATA**
STANDALONE CONVENTIONAL	EXPRESS TRUNKING	K CORE	L CORE	M1/M2 CORE	M3 CORE
P25 DIGITAL ANALOG	P25 DIGITAL TDMA	P25 DIGITAL ANALOG INTEGRATED DATA	P25 DIGITAL FDMA TDMA INTEGRATED DATA	P25 DIGITAL ANALOG FDMA TDMA INTEGRATED DATA ENHANCED DATA HPD	P25 DIGITAL ANALOG FDMA TDMA INTEGRATED DATA ENHANCED DATA HPD
1 SITE	1 SITE	50 CHANNELS	5 SITES	24 SITES	7 ZONES 150 SITES

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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)

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

ASTRO® 25 IV&D RADIO SYSTEM ADMINISTRATOR

M CORE

L CORE

ASTRO 25 IV&D TRUNKING WITH M CORE SYSTEM OVERVIEW

ACS715200 ONLINE SELF-PACED

OR

ASTRO 25 IV&D CONVENTIONAL WITH M CORE OVERVIEW

ACS715420 ONLINE SELF-PACED

OR

ASTRO 25 IV&D TRUNKING WITH L CORE SYSTEM OVERVIEW

ACS715430 ONLINE SELF-PACED

TEST

TEST

TEST

ASTRO 25 IV&D INTRO TO RADIO SYSTEM MANAGEMENT APPLICATIONS

ACS716201 ONLINE SELF-PACED

ASTRO 25 IV&D RADIO SYSTEM ADMINISTRATOR WORKSHOP

INSTRUCTOR-LED 4.5 DAY COURSE

LMS COURSE CODE:
ACS716102

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.

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	

TEST

ASTRO 25 IV&D INTRO TO RADIO SYSTEM MANAGEMENT APPLICATIONS

ACS716201 ONLINE SELF-PACED

ASTRO 25 IV&D M CORE WORKSHOP

INSTRUCTOR-LED 4.5 DAY COURSE

LMS COURSE CODE:
ACS716103

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.

ASTRO® 25 IV&D K CORE TECHNICIAN
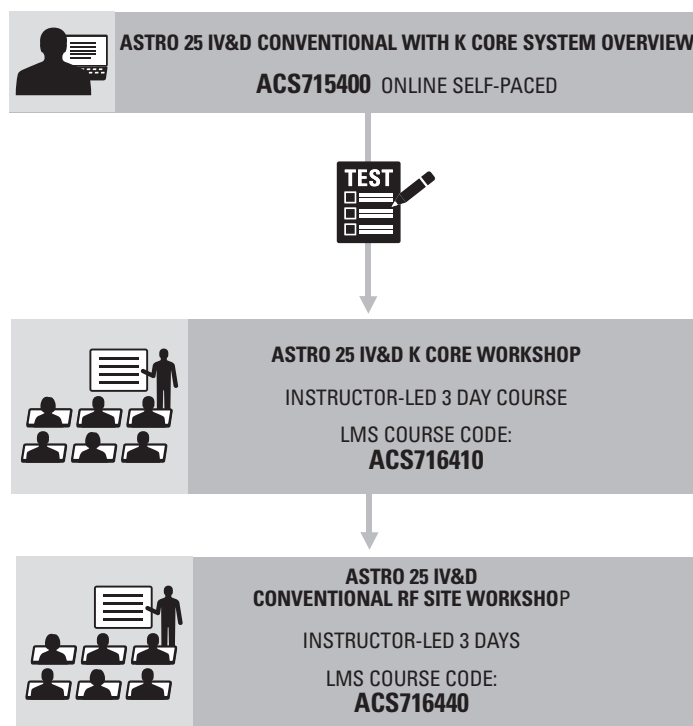
ASTRO 25 IV&D CONVENTIONAL WITH K CORE SYSTEM OVERVIEW
ACS715400 ONLINE SELF-PACED

TEST

ASTRO 25 IV&D K CORE WORKSHOP

INSTRUCTOR-LED 3 DAY COURSE
LMS COURSE CODE:
ACS716410

**ASTRO 25 IV&D
CONVENTIONAL RF SITE WORKSHO**P

INSTRUCTOR-LED 3 DAYS
LMS COURSE CODE:
ACS716440

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.

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

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

M CORE

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

TEST

L CORE

OR

ASTRO 25 IV&D TRUNKING SYSTEM OVERVIEW WITH L CORE
ACS715430 ONLINE SELF-PACED

TEST

ASTRO 25 IV&D
GTR 8000 REPEATER SITE WORKSHOP

INSTRUCTOR-LED 3 DAY COURSE

LMS COURSE CODE:
ACS716208

RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT CAN MAINTAIN AN ASTRO25 REPEATER SITE INCLUDING: GTR 8000 BASE STATION, GCP8000 SITE CONTROLLER AND OTHER SITE EQUIPMENT.
*PARTICIPANT PERFORMS ALIGNMENTS TROUBLESHOOTING AND FIELD REPLACEMENT OF SITE DEVICES DURING COURSE.

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

ASTRO® 25 IV&D IP SIMULCAST SITE TECHNICIAN

M CORE

L CORE

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

OR

ASTRO 25 IV&D TRUNKING SYSTEM OVERVIEW WITH L CORE
ACS715430 ONLINE SELF-PACED

TEST

TEST

**ASTRO 25 IV&D
IP BASED DIGITAL SIMULCAST WORKSHOP**

INSTRUCTOR-LED 3 DAY COURSE

LMS COURSE CODE:
ACS716217

RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT SHOULD BE ABLE TO MAINTAIN AN ASTRO 25 REPEATER SITE INCLUDING THE GTR 8000 BASE STATION, GCP8000 SITE CONTROLLER, SITE COMPARATOR AND OTHER SITE EQUIPMENT.

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

ASTRO® 25 IV&D CONVENTIONAL RF SITE TECHNICIAN

M CORE

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

TEST

K CORE

OR

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

TEST

ASTRO 25 IV&D
CONVENTIONAL RF SITE WORKSHOP

INSTRUCTOR-LED 3 DAYS

LMS COURSE CODE:
ACS716440

RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT SHOULD BE ABLE TO MAINTAIN AN ASTRO 25 REPEATER SITE INCLUDING THE GTR 8000 BASE STATION, GCP8000 SITE CONTROLLER, SITE COMPARATOR AND OTHER SITE EQUIPMENT.

ASTRO® 25 IV&D L CORE DEPLOY TECHNICIAN

ASTRO 25 IV&D TRUNKING WITH L CORE SYSTEM OVERVIEW
ACS715430 ONLINE SELF-PACED

TEST

DEPLOY FOR ASTRO 25 IV&D CONVENTIONAL WITH L CORE
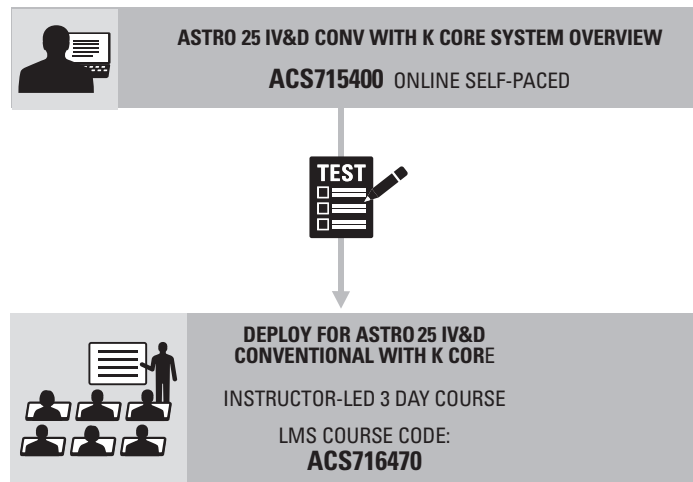
INSTRUCTOR-LED 3 DAYS

LMS COURSE CODE:
ACS716460
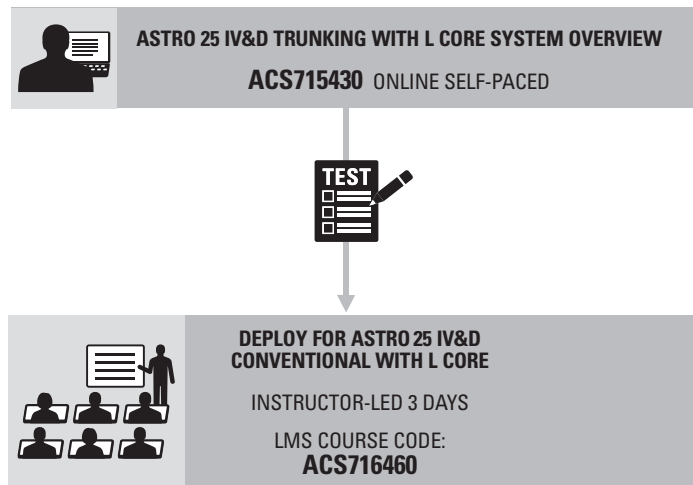
RECOMMENDED CURRICULUM IS COMPLETE

PARTICIPANT UNDERSTANDS ASTRO 25 L CORE COMPONENTS, VIRTUAL SERVERS AND SERVICE STRATEGY. PARTICIPANT CAN INTERPRET SYSTEM ALARMS, PROPOSE SOLUTIONS FOR SYSTEM FAILURES, AND RESTORE EQUIPMENT TO PROPER FUNCTIONALITY.

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
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For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

ASTRO® 25 IV&D K CORE DEPLOY TECHNICIAN

ASTRO 25 IV&D CONV WITH K CORE SYSTEM OVERVIEW

ACS715400 ONLINE SELF-PACED

TEST

DEPLOY FOR ASTRO 25 IV&D CONVENTIONAL WITH K CORE

INSTRUCTOR-LED 3 DAY COURSE

LMS COURSE CODE:
ACS716470

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 28 FOR ADDITIONAL DETAILS.

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
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For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

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

**ISSI GATEWAY TO
SUPPORT INTERFACING
TO ASTRO 25**

**ASTRO 25
IV&D ISSI 8000 / CSSI 8000
FEATURE OVERVIEW**
ONLINE SELF-PACED

AST2005

**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

MUTUAL AID

**ASTRO 25 IV&D
DIGITAL MUTUAL AID**
ONLINE SELF-PACED

ACS78210

**TELEPHONE
INTERCONNECTION**

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

ACS715480

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

ASTRO® 25 SYSTEMS FLEETMAPPING

NEW

COURSE OVERVIEW

This workshop addresses topics necessary for the effective planning and mapping of an ASTRO® 25 IV&D radio system. During this course, the participants will learn about ASTRO 25 features, capabilities, and restrictions in order to effectively plan and prepare for a new or upgraded ASTRO 25 system.

AUDIENCE

New system managers, system planning personnel

COURSE OBJECTIVES

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

- Discuss what a fleetmap is and why one is needed
- Discuss the methodologies used to configure radio users and groups with the goal of optimizing the system resources
- Describe the content to assist with fleetmapping decisions
- Discuss frequency band plan organization and management
- Describe basic planning requirements and complete a simple Fleetmap information template
- Complete worksheets required to create a Fleetmap based on sample operational requirement information

REQUISITE KNOWLEDGE

None

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
RDS1017

UNS OPERATION AND ADMINISTRATION

NEW

COURSE OVERVIEW

The purpose of this course is to provide the steps to operate and maintain a customer's UNS within their Motorola system (ASTRO® 25). The course should provide system so students can have hands-on practice going through the operation, maintenance, and troubleshooting steps listed in 6871026P41-A UNS Administrators Guide.

AUDIENCE

Customers who would be responsible for the operation and maintenance of a customer's UNS within their Motorola system (ASTRO 25).

COURSE OBJECTIVES

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

- Describe the Features of UNS
- Configure a UNS system
- Identify the UNS tools to administer the system
- Identify the UNS tools to administer the system

REQUISITE KNOWLEDGE

None

INSTRUCTOR-LED
LENGTH: **2 DAYS**
LMS COURSE CODE:
AST2007

ASTRO® 25 SECURITY PATCH MANAGEMENT

COURSE OVERVIEW

Provide Motorola ASTRO® 25 Land Mobile Radio (LMR) system administrators the information to access and patch their radio system infrastructure, update antivirus definitions, review log files and understand account management.

AUDIENCE

M Core Master Site Technicians

COURSE OBJECTIVES

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

- Successfully access servers in the M-Core
- Successfully patch their radio system infrastructure
- Update Anti-virus (A/V) Definitions for their radio system infrastructure
- Perform basic review of UNIX logs
- Create user and group accounts
- Assist with basic tasks in Account Management on the LMR system

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:
- ASTRO 25 IV&D M Core Workshop (ACS716103)

INSTRUCTOR-LED
LENGTH: **4 DAYS**
LMS COURSE CODE:
AST2001

CLICK HERE TO VIEW THE
LATIN AMERICA SCHEDULE

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

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: **2 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: **2 HOURS**
LMS COURSE CODE:
ACS716201

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: **2 HOURS**
LMS COURSE CODE:
ACS715420

CLICK HERE TO VIEW THE
LATIN AMERICA SCHEDULE

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

ASTRO® 25 IV&D TRUNKING WITH L CORE OVERVIEW

COURSE OVERVIEW

The ASTRO® 25 IV&D with L Core Overview self-paced course is the starting point of all ASTRO 25 IV&D L 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 with L Core System features and capabilities
- Describe the ASTRO 25 IV&D with L Core System sites and their components
- Describe in detail the paths used for control, voice, and data in an ASTRO 25 IV&D with L Core System
- List the servers and databases used in an ASTRO 25 IV&D with L 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: **ACS715430**

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: **1 HOUR**
	LMS COURSE CODE: **ACS715400**

DEPLOY FOR ASTRO® 25 IV&D TRUNKING WITH L CORE

COURSE OVERVIEW

This course provides an overview and implementation plan for deployment of an L1/L2 ASTRO® 25 IV&D 7.13 system, contains information and procedures for bringing Motorola Manufacturing Representatives (MRs) up to speed on how to assemble and install the L1/L2 system for customers, and acts as a resource on how to reference other training materials for troubleshooting and additional L1/L2 system tasks.

AUDIENCE

Motorola Manufacturing Representatives (MRs) involved in the installation of L1/L2 systems

COURSE OBJECTIVES

After completing this course, the student will be able to:
- Correctly and efficiently install and locally configure an L Core system that has been staged by CCSI
- Perform initial Power On of equipment to verify proper operation
- Commission the L Core System once it has been installed
- Test the L Core System per Acceptance Test Plans (ATP)
- Back up the Infrastructure and System Databases of the L 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:
- ASTRO 25 IV&D Trunking with L Core System Overview (ACS715430)

	INSTRUCTOR-LED
	LENGTH: **3 DAYS**
	LMS COURSE CODE: **ACS716460**

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

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.X 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:
ACS716470

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)

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

RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

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 (ACS716201)
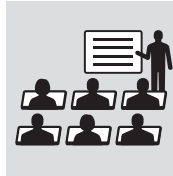
INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
ACS716103

NEW FEATURES INTRODUCTION FOR ASTRO® 25 IV&D SYSTEMS

COURSE OVERVIEW
This course describes the new features introduced in the ASTRO® 25 7.15 system release. These features are broadly classified into migration related features, efficiency and safety related features, resilience and reliability related features, network management and design related features, system capacity related features and inter-system communication related features. Optional features are introduced along with standard enhancements in this release.

AUDIENCE
System Administrators, System Technicians, Field Technicians, Application Users

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe the standard enhancements in the ASTRO 25 7.16 system release
- Describe optional enhancements in the ASTRO 25 7.16 system release
- Describe the key optional features available in the ASTRO 25 7.16 system release

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- ASTRO 25 IV&D Curriculum (Release 7.9 or later) or equivalent knowledge for supported job role

VIRTUAL CLASSROOM
LENGTH: **2 HOURS**
LMS COURSE CODE:
AST1029

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LATIN AMERICA SCHEDULE

ASTRO® 25 IV&D K CORE 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. 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
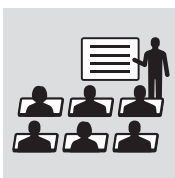
REQUISITE KNOWLEDGE

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:
ACS716410

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LATIN AMERICA SCHEDULE

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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:
ACS716440

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
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 (ACS716201)

INSTRUCTOR-LED
LENGTH: **4.5 DAYS**
LMS COURSE CODE:
ACS716102

ASTRO® 25 IV&D IP BASED DIGITAL SIMULCAST WORKSHOP

COURSE OVERVIEW
The ASTRO® 25 IV&D IP Based Digital Simulcast workshop provides an understanding of the components that comprise the ASTRO 25 IV&D IP Simulcast subsystem, and how they operate in conjunction with each other. The workshop also explains the tools and methods available for troubleshooting components within the IP Based Simulcast subsystem.

AUDIENCE
Simulcast Site Technicians

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Recognize the flow of message and control data within an ASTRO 25 IV&D IP Digital Simulcast subsystem
- Identify the major components and connections within an ASTRO 25 IV&D IP Digital Simulcast subsystem prime and remote sites
- Recognize how calls are processed within an ASTRO 25 IV&D IP Digital Simulcast subsystem
- Perform maintenance and troubleshooting of select components in an ASTRO 25 IV&D IP Digital Simulcast 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:
- 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:
ACS716217

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RADIO SOLUTIONS **ASTRO® 25 IV&D SYSTEMS**
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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:
ACS716208

NEW

STANDALONE GTR 8000 CONVENTIONAL BASE RADIO

COURSE OVERVIEW

This course is designed to give the participants the ability to align, troubleshoot and repair the Standalone GTR 8000 Base Station/Repeater to Motorola Solutions recommended service levels.

Emphasis is placed on the use of Configuration Service Software (CSS) and its role in configuration, maintenance, diagnostics, alignments, and optimization of the Standalone GTR 8000 Base Radio/ Repeater

AUDIENCE

Maintenance Technicians

COURSE OBJECTIVES

After completing this course, the student will be able to:
- Understand basic concepts of the various radio systems supported by the GTR 8000 Conventional Base Radio
- Identify the equipment modules of the GTR 8000 Conventional Base Radio
- Operate and perform routine maintenance on the GTR 8000 Conventional Base Radio
- Understand basic operational theory of GTR 8000 Conventional Base Radio components
- Configure the GTR 8000 Conventional Base Radio using Configuration Service Software (CSS)
- Identify the different backplane connections on the GTR 8000 Conventional Base Radio
- Perform calibration and alignment adjustments for the GTR 8000 Conventional Base Radio
- Troubleshoot problems and identify/replace faulty modules in the GTR 8000 Conventional Base Radio

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:
- General RF Knowledge and Skills
- Basic Knowledge of Two-Way Radio systems

INSTRUCTOR-LED
LENGTH: **2 DAYS**
LMS COURSE CODE:
AST2006

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ASTRO® 25 ISSI 8000 / CSSI 8000 FEATURE OVERVIEW

COURSE OVERVIEW

The ISSI 8000 / CSSI 8000 Feature Overview self-paced course describes the optional Inter-RF Subsystem Interface available in an ASTRO® 25 IV&D System. It presents a description of the feature, its benefits and components, call processing scenarios, and an overview of the installation process.

AUDIENCE

System Managers, Technical System Managers, System Technicians, Application Users

COURSE OBJECTIVES

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

- Describe the ISSI 8000 / CSSI 8000 feature
- Describe the components of the ISSI 8000 / CSSI 8000 feature
- Describe the communication scenarios if this feature is enabled
- Follow the installation and configuration process if this feature is added to an ASTRO system

REQUISITE KNOWLEDGE

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

- Bridging the Knowledge Gap for ASTRO 25 – Technician (ACT100-E)

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 for (ACS715430)

ONLINE, SELF-PACED
LENGTH: **4 HOURS**
LMS COURSE CODE:
AST2005

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

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

CLICK HERE TO VIEW THE
LATIN AMERICA SCHEDULE

ASTRO® 25 IV&D DIGITAL MUTUAL AID

COURSE OVERVIEW

This web based course describes the functionality and the hardware and software associated with using Mutual Aid 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 the Mutual Aid feature
- Determine the configurations available for mutual aid in an ASTRO 25 IV&D system
- List the components for use with Digital Mutual Aid and Analog Mutual Aid in the ASTRO 25 IV&D
- Configure Digital Mutual Aid and Analog Mutual Aid in the ASTRO 25 IV&D system
- Troubleshoot Digital Mutual Aid and Analog Mutual Aid in the ASTRO 25 IV&D 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)

Required:
- ASTRO 25 IV&D with M Core System Overview (ACS715200)

ONLINE, SELF-PACED
LENGTH: **1 HOUR**
LMS COURSE CODE: **ACS78210**

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 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**

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TETRA SYSTEMS PORTFOLIO

DIPM	DIPC	DIPS
DIMETRA IP MICRO	DIMETRA IP COMPACT	DIMETRA IP SCALABLE
TETRA NON-REDUNDANT	TETRA OPTIONAL REDUNDANT	TETRA MANDATORY REDUNDANT
5 SITES	24 SITES	7 ZONES X 64 CLUSTERS X 100 SITES

TETRA SYSTEM

THE LEARNING MANAGEMENT SYSTEM (LMS)

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

DIPM - DIMETRA IP MICRO
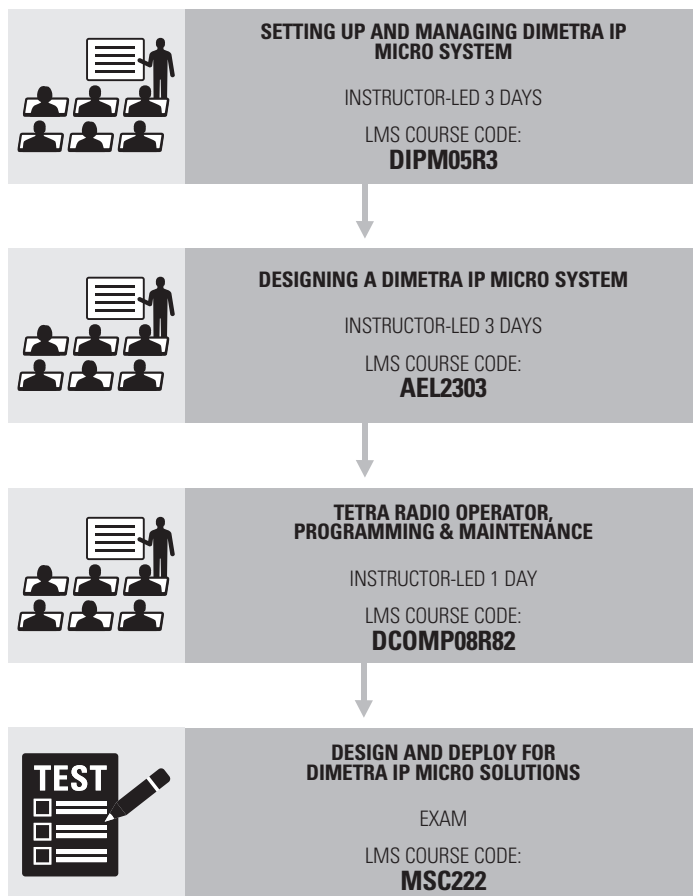
SETTING UP AND MANAGING DIMETRA IP MICRO SYSTEM

INSTRUCTOR-LED 3 DAYS

LMS COURSE CODE:
DIPM05R3

DESIGNING A DIMETRA IP MICRO SYSTEM

INSTRUCTOR-LED 3 DAYS

LMS COURSE CODE:
AEL2303

THIS COURSE BELONGS TO TETRA SUBSCRIBER.
CLICK ON THIS LINK TO GO TO PAGE 58 FOR ADDITIONAL DETAILS.

TETRA RADIO OPERATOR, PROGRAMMING & MAINTENANCE

INSTRUCTOR-LED 1 DAY

LMS COURSE CODE:
DCOMP08R82

TEST

DESIGN AND DEPLOY FOR DIMETRA IP MICRO SOLUTIONS

EXAM

LMS COURSE CODE:
MSC222

CURRICULUM COMPLETE

PARTICIPANT HAS DIMETRA IP MICRO KNOWLEDGE TO SETUP, MANAGE, DESIGN AND DEPLOY A DIMETRA IP MICRO SOLUTION SYSTEM AND OPERATE, PROGRAMMING AND MAINTAIN TETRA RADIO.

DIPC/DIPS - DIMETRA IP COMPACT/ DIMETRA IP SCALABLE
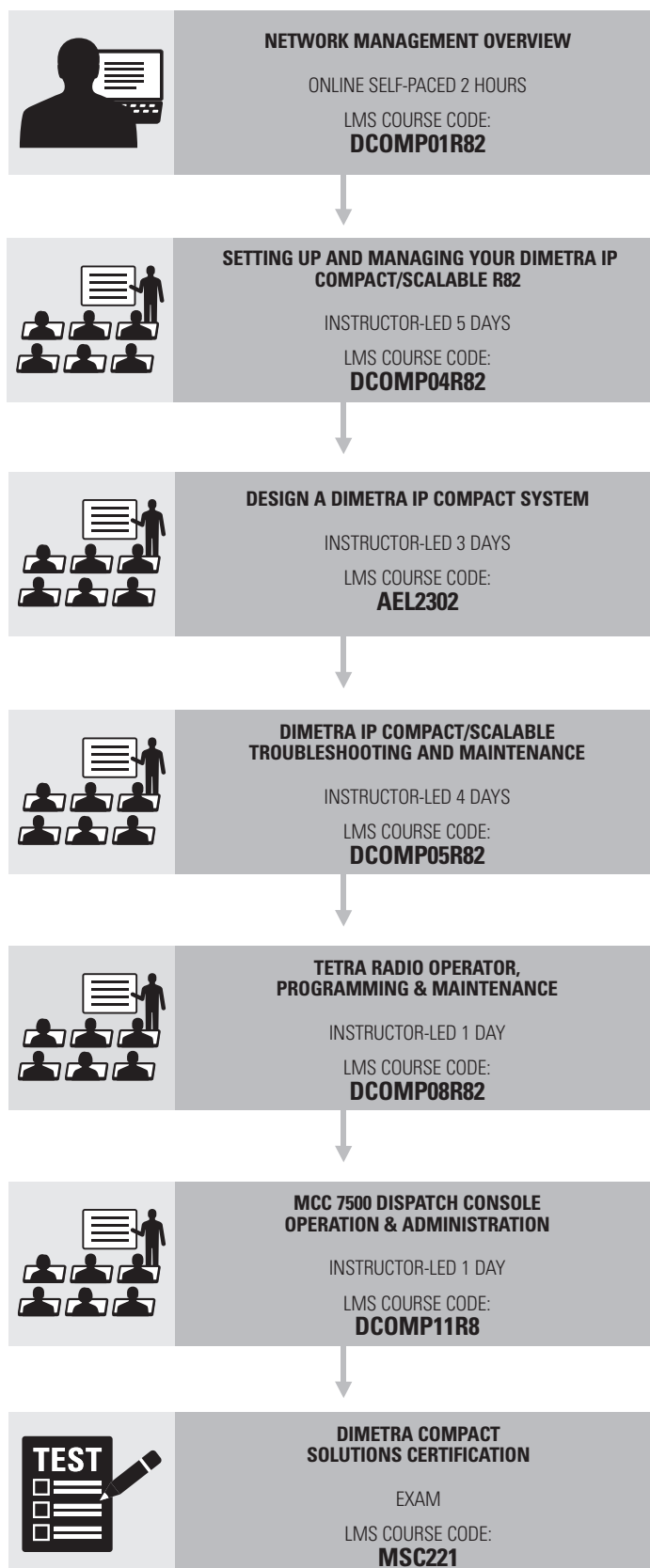
NETWORK MANAGEMENT OVERVIEW

ONLINE SELF-PACED 2 HOURS

LMS COURSE CODE:
DCOMP01R82

SETTING UP AND MANAGING YOUR DIMETRA IP COMPACT/SCALABLE R82

INSTRUCTOR-LED 5 DAYS

LMS COURSE CODE:
DCOMP04R82

DESIGN A DIMETRA IP COMPACT SYSTEM

INSTRUCTOR-LED 3 DAYS

LMS COURSE CODE:
AEL2302

DIMETRA IP COMPACT/SCALABLE TROUBLESHOOTING AND MAINTENANCE

INSTRUCTOR-LED 4 DAYS

LMS COURSE CODE:
DCOMP05R82

THIS COURSE BELONGS TO TETRA SUBSCRIBER.
CLICK ON THIS LINK TO GO TO PAGE 58 FOR ADDITIONAL DETAILS.

TETRA RADIO OPERATOR, PROGRAMMING & MAINTENANCE

INSTRUCTOR-LED 1 DAY

LMS COURSE CODE:
DCOMP08R82

THIS COURSE BELONGS TO TETRA CONSOLES.
CLICK ON THIS LINK TO GO TO PAGE 51 FOR ADDITIONAL DETAILS.

MCC 7500 DISPATCH CONSOLE OPERATION & ADMINISTRATION

INSTRUCTOR-LED 1 DAY

LMS COURSE CODE:
DCOMP11R8

CURRICULUM COMPLETE

PARTICIPANT HAS DIMETRA IP COMPACT / DIMETRA IP SCALABLE KNOWLEDGE TO SETUP, MANAGE, DESIGN, TROUBLESHOOTING AND MAINTAIN A DIMETRA IP COMPACT / DIMETRA IP SCALABLE SOLUTION SYSTEM. OPERATE, PROGRAMMING AND MAINTAIN TETRA RADIO AND OPERATE AND ADMINISTRATA A DISPATCH CONSOLE.

TEST

DIMETRA COMPACT SOLUTIONS CERTIFICATION

EXAM

LMS COURSE CODE:
MSC221

DIMETRA 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

- 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

NETWORK MANAGEMENT OVERVIEW

COURSE OVERVIEW

This e-Learning course provides an overview of the functions of Configuration and Administration Management, Fault Management and Performance Management. The applications used in each functional area are demonstrated based on business scenarios.

AUDIENCE

System Managers, Operators and Engineers needing an overview of the Network Management Applications used for FCAPS in a Dimetra IP R8.2 system.

COURSE OBJECTIVES

After completing this training course you will be able to:

- Identify the role and purpose of Network Management (NM) within a Dimetra IP System
- Define the FCAPS structure, and how Motorola Dimetra IP applications are associated with it
- Identify common navigation features of NM applications within the Dimetra IP system and how to access the applications
- Define the role of Configuration, Fault and Performance within NM
- Define key NM application features and tools
- Identify tasks related to Configuration, Fault and Performance using the relevant NM applications

REQUISITE KNOWLEDGE

None

ONLINE SELF-PACED
LENGTH: **1.5 HOURS**
LMS COURSE CODE:
DCOMP01R82

SETTING UP AND MANAGING DIMETRA IP MICRO SYSTEM

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

- IP background, RF Fundamentals

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

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For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

SETTING UP AND MANAGING YOUR DIMETRA IP

COURSE OVERVIEW
The workshop will provide an overview on how to set-up and run a Dimetra IP Compact/Scalable 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 system, MTS and MCC 7500 equipment.

COURSE OBJECTIVES
By the end of the course, the student will be able to:

- Setup a Dimetra IP Compact/Scalable System
- Configure a Dimetra IP Compact/Scalable 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 system
- Carry out system backup and restoration procedures using the Dimetra Enhanced Software Update application and manual techniques

REQUISITE KNOWLEDGE
- Server Administration, Linux, Windows Server and Windows7 operating systems
- Pre-requisite
- Network Management Overview.(DCOMP01R82)

INSTRUCTOR-LED
LENGTH: **4 DAYS**
LMS COURSE CODE:
DCOMP04R82

DESIGNING A DIMETRA IP 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
Partners and employees who need to design Dimetra IP Micro systems.

COURSE OBJECTIVES
Students will be able to operate and practices in Dimetra IP Micro system from Motorola.

After the course, students will be able to:

- Gather client system requirements using the model question 5C
- Generate preliminary design using the Motorola system design tools
- Select DIPM hardware and resources to meet customer needs
- Create a detailed design document for customer approval using the Motorola system design tools
- Describe the requirements for RF and select the best location
- Create the final documentation system based on client updates
- Describe the planning of installation requirements

REQUISITE KNOWLEDGE
None

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

DESIGN A DIMETRA IP COMPACT SYSTEM

COURSE OVERVIEW
This course provides best practices in the design of Dimetra IP Compact System R8.2 and 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
By the end of the course, you 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
Must be familiar with the Dimetra Products, system design techniques and questioning techniques.

Pre requisites:

- TETRA Radio Portfolio Overview (AAE1403)
- Dimetra IP System Portfolio Overview (AAE1404)
- Design a Dimetra IP Compact System R8.2 (AEL2302)
- TETRA Accessories Portfolio Overview (DMT1018.00E)
- Basic RF (RDS0002)
- Basic Networking (RDS0003)

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

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RADIO SOLUTIONS **TETRA**
For information on prerequisites and to register for courses visit the LMS at:
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For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

DIMETRA IP COMPACT/SCALABLE TROUBLESHOOTING AND MAINTENANCE

COURSE OVERVIEW
The workshop will allow delegates an introduction into troubleshooting and maintaining a live Dimetra IP Compact/Scalable system. Delegates will complete a series of business scenario task sheets, utilizing 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/Scalable

COURSE OBJECTIVES
Upon completing this course, the participant will be able to:

- Describe troubleshooting model process, system support tools and technical support services provided by Motorola Solutions
- Describe the Dimetra IP Compact/Scalable system architecture
- Perform troubleshooting procedures using system troubleshooting tools
- Perform recommended routine maintenance procedures for a Dimetra IP Compact/Scalable system
- Perform replacement procedures and reconfigure faulty Field Replaceable Units (FRUs) and Field Replaceable Equipment/ Entities (FREs) within a Dimetra IP Compact/Scalable system
- Perform verification procedures on FRU/FRE replacement

REQUISITE KNOWLEDGE
- Server Administration, Linux and Windows operating systems.TFTP setup and IP networking basics

Pre requisites:

- Network Management Overview (DCOMP01R82)
- R8.2 Setting Up and Managing Your Dimetra IP Compact/Scalable (DCOMP04R82)

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

MTS 1 INSTALATION, CONFIG & TROUBLESHOOTING COURSE OVERVIEW

COURSE OVERVIEW
This course includes the theoretical and practical aspects of configuring, maintaining and troubleshooting the MTS 1 base station covering Dimetra Release 8.2 software. The course includes the practical use of service software and the man-machine. Practical sessions include the testing and configuration of the MTS 1.

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

COURSE OBJECTIVES
By the end of the course, you 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 Ki loading procedures
- Perform MTS 1 troubleshooting using BTS Service Software

REQUISITE KNOWLEDGE
- RF and Field or Bench service background

INSTRUCTOR-LED
LENGTH: **2.5 DAYS**
LMS COURSE CODE:
TBTS04

MTS 2/4 INSTALATION, 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 removal and replacement Field Replaceable Units (FRU).

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

COURSE OBJECTIVES
By the end of the course, you 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
- Utilize 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 Ki loading procedures to the MTS
- Carry out MTS expansion
- Troubleshoot MTS to FRU level

REQUISITE KNOWLEDGE
- RF and Field or Bench service background

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TBTS01

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DIMETRA IP DATA SUBSYSTEM COURSE

COURSE OVERVIEW

This course will give an overview of the function of the data subsystem, its hardware and software components and how the data subsystem interacts with the Dimetra IP R6.2SSR System.

AUDIENCE

All staff who require an overview of the Dimetra IP Data Subsystem functionality and features.

COURSE OBJECTIVES

By the end of the course, the student will be able to understand:

- Overview of the Data Subsystem
- Hardware Components
- Software Components
- Interaction with other subsystem
- Backup & Restore procedures
- FRU\FRE Procedures

REQUISITE KNOWLEDGE

None

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
TSYS18

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CONSOLES COURSES

ASTRO® CONSOLES

TETRA CONSOLES

* PLEASE NOTE:

MCC 7000 SERIES DISPATCH CONSOLES WORKSHOP (CON012) focuses on the consoles application in an M-Core System.

MIP 5000 INSTALLATION AND MAINTENANCE (CON013) applies to all platforms: ASTRO, TETRA and MOTOTRBO.

THE LEARNING MANAGEMENT SYSTEM (LMS)

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

ASTRO® CONSOLES TECHNICAL TRAINING CURRICULUM

MCC 7000 SERIES DISPATCH CONSOLES OVERVIEW

ONLINE SELF-PACED 1 HOUR

LMS COURSE CODE:
CON014

MCC 7000 SERIES DISPATCH CONSOLES WORKSHOP

INSTRUCTOR-LED 5 DAYS

LMS COURSE CODE:
CON012
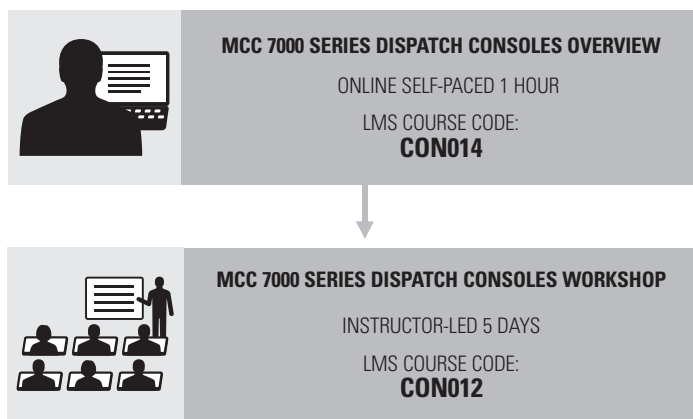
CURRICULUM COMPLETE

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

OPTIONAL CONSOLE TRAINING

MCD 5000 TECHNICAL WORKSHOP	**ASTRO® 25 NICE LOGGER INTEGRATION**	**ASTRO® 25 DOMAIN CONTROLLER ADMINISTRATION**
MCD 5000 TECHNICAL WORKSHOP	**ASTRO 25 NICE LOGGER INTEGRATION**	**ASTRO 25 DOMAIN CONTROLLER ADMINISTRATION**
INSTRUCTOR-LED 4 DAYS	INSTRUCTOR-LED 4.5 DAYS	INSTRUCTOR-LED 3 DAYS
RDS1022	**AST1002**	**AST2016**

RADIO SOLUTIONS **CONSOLES**
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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)
- Fundamentals of Networks for LA (AEL1300)
- 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 (ACS716201)

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

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)
- Fundamentals of Networks for LA (AEL1300)
- 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 (ACS716201)
- MCC 7000 Series Dispatch Consoles Overview (CON014)

INSTRUCTOR-LED
LENGTH: **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 MCC5500 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: **3.5 DAYS**
LMS COURSE CODE:
CON007

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LATIN AMERICA SCHEDULE

RADIO SOLUTIONS **CONSOLES**

MIP 5000 INSTALLATION AND MAINTENANCE

COURSE OVERVIEW
The goal of the MIP 5000 Installation and Maintenance training is to teach participants how to correctly install and maintain a MIP 5000 console in the field. All platforms (ASTRO, MOTOTRBO and TETRA).

AUDIENCE
Motorola Solutions Employees, Customers, Two-way Dealer Channel, MR Channel.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Describe what the MIP 5000 does
- Describe the System Architecture
- Describe the Distributed Call Processing Module (DCPM)
- Explain the purpose of the Discovery Form
- Properly Install a MIP 5000 Console
- Properly Configure a MIP 5000 Console
- Describe the purpose of the DCPM Service Manager
- List common troubleshooting problems and their solutions

REQUISITE KNOWLEDGE
Recommended:
- Any version of CEDMEL2000 – MOTOTRBO System Introduction for Technicians
- Associate level MOTOTRBO Certification courses

INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE: **CON013**

MCD 5000 TECHNICAL WORKSHOP

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 MCD5000 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 Center (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: **4 DAYS**
LMS COURSE CODE: **RDS1022**

ASTRO® 25 NICE LOGGER INTEGRATION

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**

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ASTRO® 25 DOMAIN CONTROLLER ADMINISTRATION

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)

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

TETRA CONSOLES

DIMETRA IP MCC 7500 TROUBLESHOOTING AND MAINTENANCE WORKSHOP

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

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

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DIMETRA IP MCC 7500 DISPATCH CONSOLE OPERATOR TRAINING

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
- 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 configurations
– Perform basic procedures within resource groups

REQUISITE KNOWLEDGE
None

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

DIMETRA IP MCC 7500 DISPATCH CONSOLE ADMINISTRATOR TRAINING

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
- 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
- TSYS33R82 Dimetra IP MCC 7500 Operator Course (preferred)

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

MCC 7500 DISPATCH CONSOLE OPERATION & ADMINISTRATION

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 and administration supervisors.

COURSE OBJECTIVES
- Communicating with radios: transmitting and receiving calls within group and individual communications categories
- Perform advanced signaling features i.e. Quick lists, Emergency call and alarms, Ambience Listening calls
- Perform basic procedures within screen configurations i.e. expanding and compressing resources, adjusting volume
- Perform basic procedures within resource groups i.e. multiselect or patch group, APB and patch transmit Course

REQUISITE KNOWLEDGE
None

INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE:
DCOMP11R8

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SUBSCRIBERS COURSES

ASTRO® SUBSCRIBERS

TETRA SUBSCRIBERS

TETRA PORTABLE & MOBILE SUBSCRIBERS

MOTOTRBO™ SUBSCRIBERS

THE APX RADIO TECHNICAL ACADEMY AND THE XTS/XTL RADIO TECHNICAL ACADEMY

These "academy" style technical training courses are designed to provide technicians handling install, configuration, maintenance and troubleshooting support on APX or XTS/XTL subscribers, with a broader and deeper view of the APX radio and XTS/XTL radio. In addition to focusing on the capability, function and features of the APX and XTS/XTL radios as well as the detailed theory of operation of those radios, these academies will continue to focus on the correct procedures used to complete radio performance checks, radio alignment, maintenance and troubleshooting. They will also highlight other useful skills. These radio academies will include lecture and lab work on topics such as: Radio Flashing, Encryption (including configuring radios for OTAR), Programming Over P25 (POP 25), Advanced System Key Management, Vacuum and Submersibility testing, Mobile radio installation, Multiple Control Head configuration and many other special setup or configuration modes.

NOTE: As new APX models are released, they will be addressed during the APX Academy training. This approach provides technicians the expertise they need to work on the whole family of radios.

XTS/XTL SUBSCRIBER FAMILY

CPS PROGRAMMING AND TEMPLATE BUILDING

INSTRUCTOR-LED 1 DAY

LMS COURSE CODE:
ADT001

OR

CPS PROGRAMMING AND TEMPLATE BUILDING

EXAM

LMS COURSE CODE:
ADT001-T

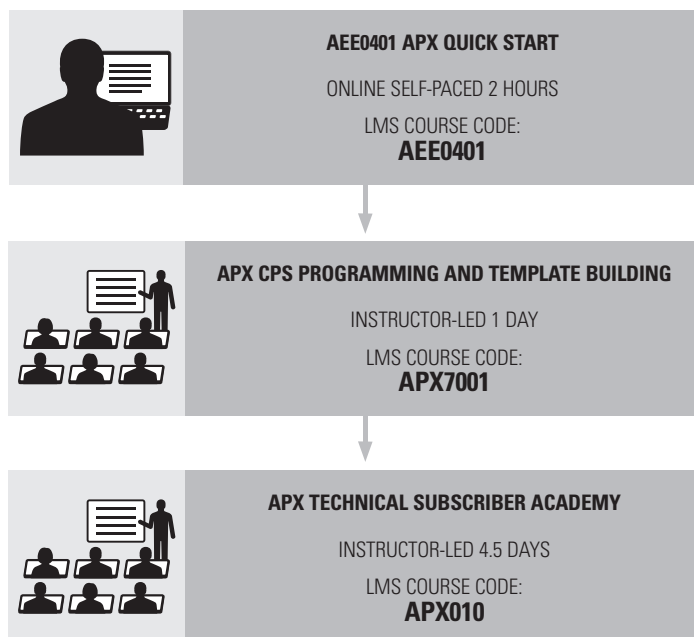**XTS/XTL TECHNICAL SUBSCRIBER ACADEMY**

INSTRUCTOR-LED 4.5 DAYS

LMS COURSE CODE:
ADST005
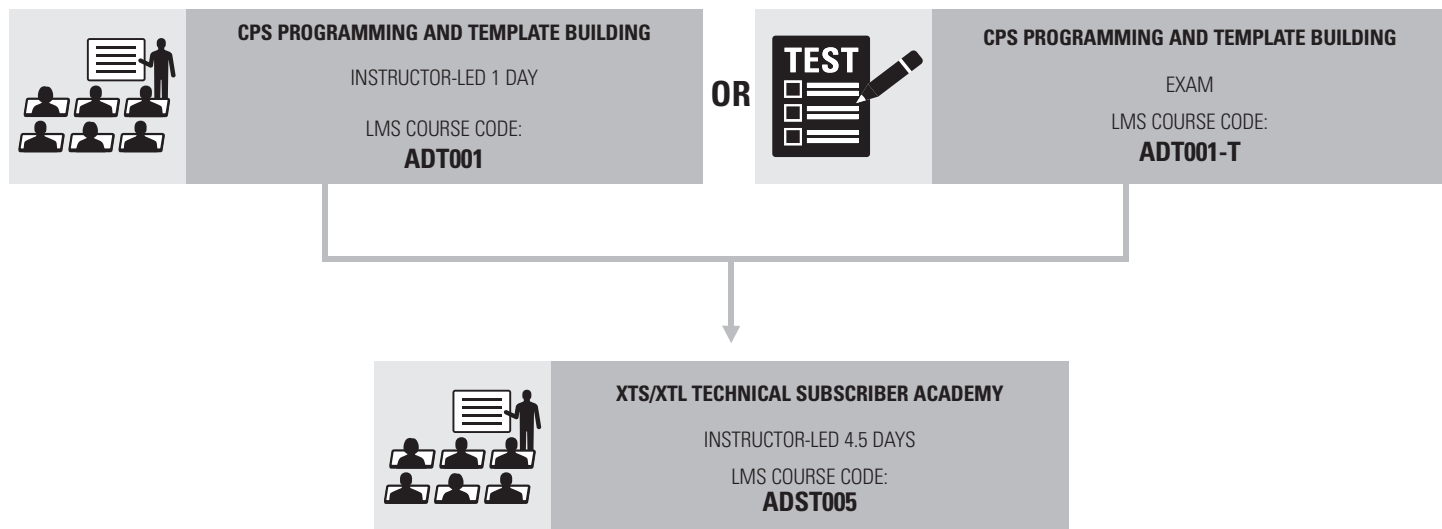
CURRICULUM COMPLETE

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

AEE0401 APX QUICK START

ONLINE SELF-PACED 2 HOURS

LMS COURSE CODE:
AEE0401

APX CPS PROGRAMMING AND TEMPLATE BUILDING

INSTRUCTOR-LED 1 DAY

LMS COURSE CODE:
APX7001

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.

ASTRO® SUBSCRIBERS

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 radios 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

INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE: **ADT001**

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 system 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 efficient 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
- APX Quick Start (AEE0401)

INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE: **APX7001**

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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 (RCS002E)

- Theory of Radio Operations (RCS003E)
  AND
- CPS Programming and Template Building Overview (ADT001)
  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 (RCS002E)

- Theory of Radio Operations (RCS003E)

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

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

TETRA SUBSCRIBERS

TETRA TERMINALS PROGRAMMING COURSE

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 codeplugs and troubleshooting.

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

REQUISITE KNOWLEDGE
- 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

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.

REQUISITE KNOWLEDGE
- 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: **2 DAYS**
LMS COURSE CODE: **TTER02**

TRACES WORKSHOP

COURSE OVERVIEW
This course provides an overview of the features and functions of the TETRA RF Automated Coverage Evaluation Solution (TRACES). The course is divided into four modules and includes: Overview of the TRACES tool and features, Overview of TRACES architecture and components, Overview of installation and software license requirements and Operation of the TRACES tool.

AUDIENCE
Network administrators and all staff who require an overview of the TETRA RF Automated Coverage Evaluation Solution (TRACES) functionality and features.

REQUISITE KNOWLEDGE
- A working knowledge of MS Windows operating environment

INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE: **TMSC04**

MTC TETRA PDA PROGRAMMING

COURSE OVERVIEW
This practical based workshop will enable delegates to program and configure the Motorola MTC100 TETRA PDA. The training is divided into five modules.

AUDIENCE
Technicians and personnel responsible for programming MTC100 PDAs.

REQUISITE KNOWLEDGE
- A working knowledge of MS Windows operating environment and TETRA system

INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE: **TTER05**

TETRA RADIO OPERATOR, PROGRAMMING & MAINTENANCE

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

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

REQUISITE KNOWLEDGE
None

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

CLICK HERE TO VIEW THE
LATIN AMERICA SCHEDULE

TETRA PORTABLE & MOBILE SUBSCRIBER END-USER OPERATOR COURSES

Click here to go to the LMS to get additional information and to register for the following subscriber courses. The course description to the right applies to all subscriber courses listed below.

CEP400 END-USER OPERATOR (TTER17)
MTP810 / 850EX30S END-USER OPERATOR (TTER13)
MTP850 END-USER OPERATOR (TTER06)
MTP850S END-USER OPERATOR (TTER08)
MTP3000 END-USER OPERATOR (DMT1054)
MTP3100 END-USER OPERATOR (TTER41)
MTP3250 END-USER OPERATOR (TTER42)
MTP3200 END-USER OPERATOR (TTER43)
MTP3500/3550 END-USER OPERATOR (RDS1033)
MTP6550 END-USER OPERATOR (TTER44)
MTP6750 END-USER OPERATOR (DMT1017)
MTM5200 END-USER OPERATOR (TTER51)
MTM5400 END-USER OPERATOR (TTER28)
MTM5500 END-USER OPERATOR (TTER49)
MTM800E END-USER OPERATOR (TTER11)

COURSE OVERVIEW

Our subscriber end-user operator courses will provide the background information and the knowledge required to allow delegates to be fully conversant with the features and functions of their chosen Tetra subscriber. It will provide users with an introduction to their subscriber, its operation and builds on theoretical instruction with practical exercises designed to allow delegates to practice and confirm their understanding of all features and functions covered in the course.

AUDIENCE

Radio end-user operators

REQUISITE KNOWLEDGE

None

MOTOTRBO™ SUBSCRIBERS

PROFESSIONAL AND COMMERCIAL RADIOS (PCR) PORTFOLIO OVERVIEW (LACR)

COURSE OVERVIEW

The PCR Portfolio Overview provides an overview of all professional and commercial tier radios. It covers available analog and digital radio models as well as system configurations, repeaters, controllers, software applications, accessories and services.

ONLINE SELF-PACED
LENGTH: **1 HOUR**

LMS COURSE CODE:
AAE1402

AUDIENCE

Channel Partner Sales and Technical Associates in all the regions of the World.

REQUISITE KNOWLEDGE

General two-way radio knowledge

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

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

LEVEL 2 MOTOTRBO SERVICE TRAINING

Click here to go to the LMS to get additional information and
to register for the following subscriber courses.The course description to
the right applies to all subscriber courses listed below.

ONLINE SELF-PACED

DGM 5000/8000 SERIES LEVEL 2 SERVICE TRAINING (PCT0005)

INSTRUCTOR LED

DGP 5000/8000 SERIES LEVEL 2 SERVICE TRAINING (PCT0009)
DEP 400/500 SERIES LEVEL 2 SERVICE TRAINING (PCT0023)
DEP 450 LEVEL 2 SERVICE TRAINING (PCT0033)
DEM 300/400 LEVEL 2 SERVICE TRAINING (PCT0025)
DGM 5000/8000 SERIES LEVEL 2 SERVICE TRAINING (PCT0017)

COURSE OVERVIEW
Our subscriber end-user operator courses will provide
The purpose of this course is to train Motorola
authorized DGM 5000/8000 Series service personnel
on how to carry out Level Two service on DGM
5000/8000 Series two-way radios. The course will
cover the product introduction, CPS programming,
performance checks, tuning and disassembly/
reassembly. This course will not cover detailed PCB
troubleshooting.

AUDIENCE
You should attend this training course if you are
Motorola authorized DGM 5000/8000 Series service
personnel.

REQUISITE KNOWLEDGE
None

LEVEL 3 MOTOTRBO SERVICE TRAINING

Click here to go to the LMS to get additional information and
to register for the following subscriber courses.The course description to
the right applies to all subscriber courses listed below.

INSTRUCTOR LED

DGP 5000/8000 SERIES LEVEL 3 SERVICE TRAINING (PCT0038)
DEP 400/500 SERIES LEVEL 3 SERVICE TRAINING (PCT0048)
DEP 450 SERIES LEVEL 3 SERVICE TRAINING (PCT0041)
DEM 300/400 LEVEL 3 SERVICE TRAINING (PCT0039)

COURSE OVERVIEW
Our subscriber end-user operator courses will provide
This course is intended to train Motorola Solutions
authorized DGP 5000/8000 Series service personnel
to carry out Level Three service DGP 5000/8000 series
two-way radios. The training includes a
comprehensive practical exercise designed to allow
participants to practice and confirm their
understanding of all features and functions covered in
the course.

AUDIENCE
Motorola Solutions Technicians and Authorized Level
Three Service Dealers.

REQUISITE KNOWLEDGE
• Radio Communication Fundamentals
• Knowledge of basic two-way FM and Digital
Communications
• PCT0009 – DGP 5000/8000 Series Level 2 Service
Training

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

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

MOSCAD™ NFM PROGRAMMING, MAINTENANCE AND OPERATOR

COURSE OVERVIEW

The MOSCAD Network Fault Management (NFM) course covers the programming, maintenance and operation of the:
- Site Device Manager Unit (SDM)3000 Remote Terminal Unit (RTU)
- NFM/NFM XC Remote Terminal Unit (RTU)
- SDM3000 Network Translator (SNT)
- IP Gateway
- Graphic Master Computer (GMC)

The course focuses on a detailed discussion of the different types of Network Fault Management systems, SDM3000 RTU hardware, hands-on activities with programming the RTU's, Attach Site Builder Applications for Tag Generation, Generating Tags and Files, navigating with the web browser features and the Graphic Master Computer.

AUDIENCE

System Managers, Service Technicians, Motorola Service Center, End Users.

COURSE OBJECTIVES

After completing this course, the student will be able to:
- Install NFM SDM3000 builder software on students' laptops
- Install NFM software on students' laptops
- Configure alarm points using SDM3000 builder
- Configure alarm points using Site Builder
- Generate Tags and Files to import alarm tags
- Use SDM Builder to Generate Tags and Files to import alarm tags
- Navigate and acknowledge alarms at the Graphic Master Computer
- Utilize the web browser features to view and configure the system
- Create Custom Tabs
- Create Custom Maps

- Describe basic planning requirements and complete a simple Fleetmap information template.
- Complete worksheets required to create a Fleetmap based on sample operational requirement information.

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:
- Basic understanding of Windows navigation
- Laptop computer with Windows XP or newer
- Windows program files must be on the "C" directory

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
FXD010

QUANTAR/QUANTRO BASE STATIONS

COURSE OVERVIEW

This course is designed to give the participant the ability to align, troubleshoot and repair the QUANTAR/QUANTRO Base Station/Repeater to Motorola recommended service levels. Emphasis is placed on the use of Radio Service Software and its role in configuration, maintenance, diagnostics, alignments and optimization of the QUANTAR/QUANTRO Base Station/Repeater.

AUDIENCE

Maintenance Technicians.

COURSE OBJECTIVES

After completing this course, the student will be able to:
- Recall the features and capabilities of the Base Station/Repeater
- Configure a Base Station/Repeater using the Quantar Windows RSS
- Verify proper operation of a Base Station/Repeater
- Troubleshoot, align, optimize and calibrate the Base Station/Repeater using the Radio Service Software
- Troubleshoot a Base Station/Repeater to the Motorola recommended service level

REQUISITE KNOWLEDGE

Completion of the following course(s) or equivalent experience:
- Knowledge of basic two-way FM communications theory and logic circuits or completion of Communication Systems Concepts (NST021)

INSTRUCTOR-LED
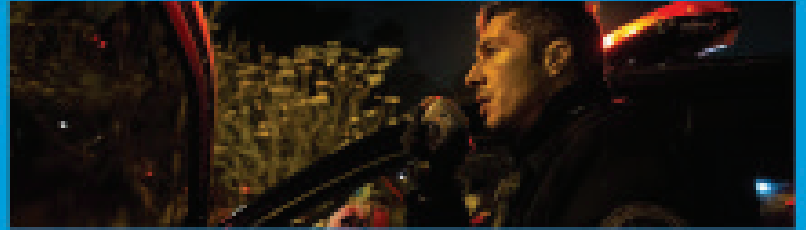LENGTH: **3.5 DAYS**
LMS COURSE CODE:
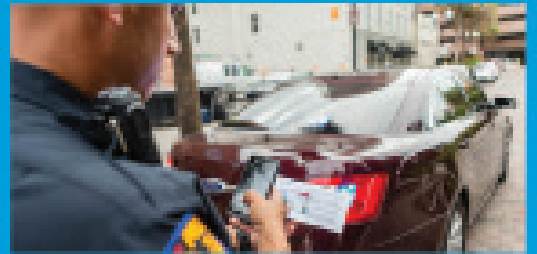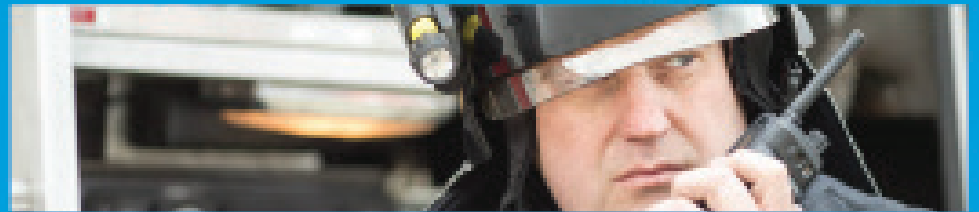**NST250**

CLICK HERE TO VIEW THE
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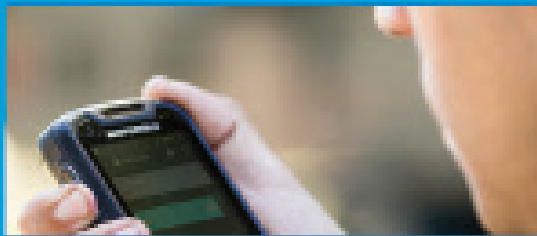
HELPING PEOPLE BE THEIR BEST IN THE MOMENTS THAT MATTER

MOTOTRBO™ SYSTEMS PORTFOLIO

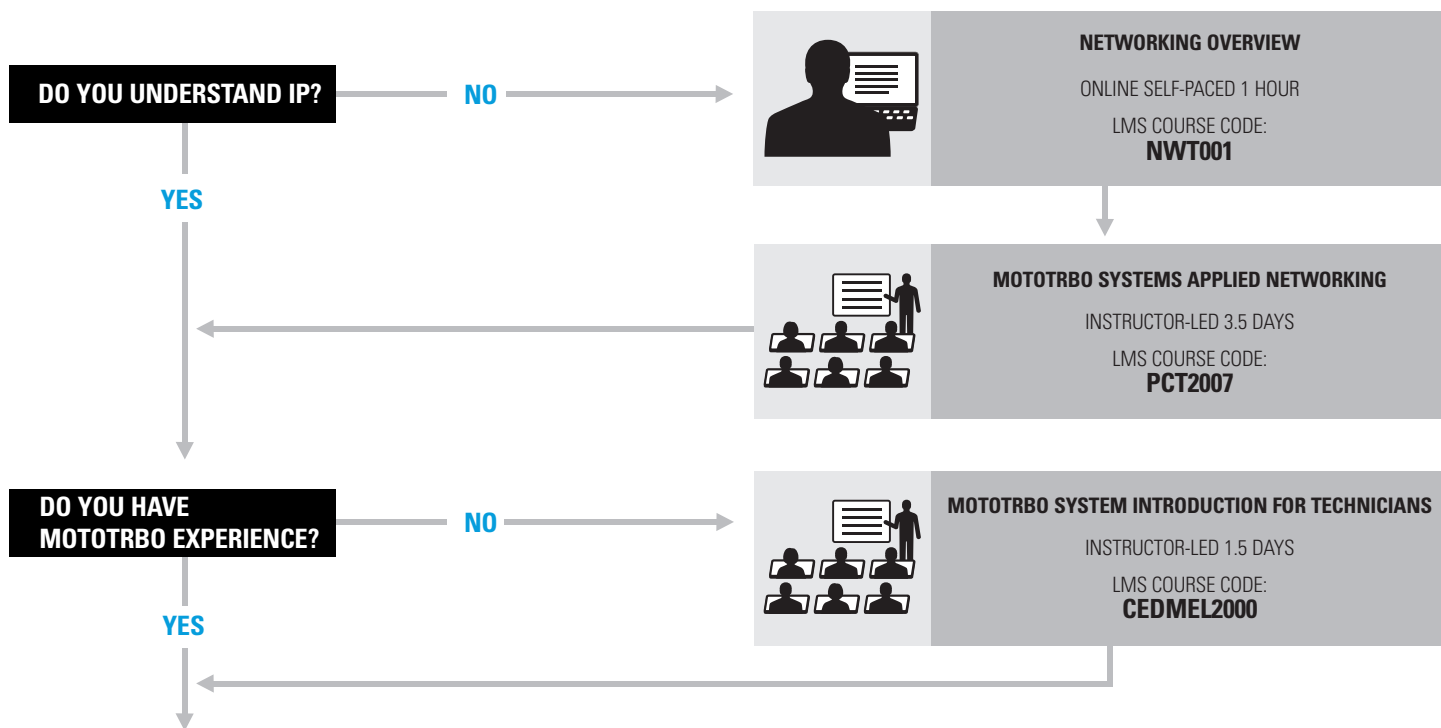| CONVENTIONAL	IP SITE CONNECT	CAPACITY PLUS	LINKED CAPACITY PLUS	CONNECT PLUS
NO TRUNKING	NO TRUNKING	DYNAMIC TRUNKING	DYNAMIC TRUNKING	FULL TRUNKING
SINGLE SITE	UP TO 15 SITES	SINGLE SITE	UP TO 15 SITES	UP TO 70 SITES

MOTOTRBO™ COURSES

THE LEARNING MANAGEMENT SYSTEM (LMS)

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

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

DO YOU UNDERSTAND IP? — NO →

NETWORKING OVERVIEW

ONLINE SELF-PACED 1 HOUR

LMS COURSE CODE:
NWT001

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 1.5 DAYS

LMS COURSE CODE:
CEDMEL2000

YES

CHOOSE YOUR SPECIALIZED SYSTEM TRAINING

MOTOTRBO SYSTEM INTRODUCTION FOR TECHNICIANS

INSTRUCTOR-LED 4 HOURS

LMS COURSE CODE:
CEDMEL2400

MOTOTRBO DESIGN AND DEPLOY FOR CONNECT PLUS

INSTRUCTOR-LED 4 DAYS

LMS COURSE CODE:
AEL3601

MOTOTRBO SUBSCRIBER AND REPEATER TECHNICAL SERVICE ACADEMY

INSTRUCTOR-LED 3.5 DAYS

LMS COURSE CODE:
TBO300

MOTOTRBO CONNECT PLUS SYSTEM ACADEMY

INSTRUCTOR-LED 3.5 DAYS

LMS COURSE CODE:
PCT3003
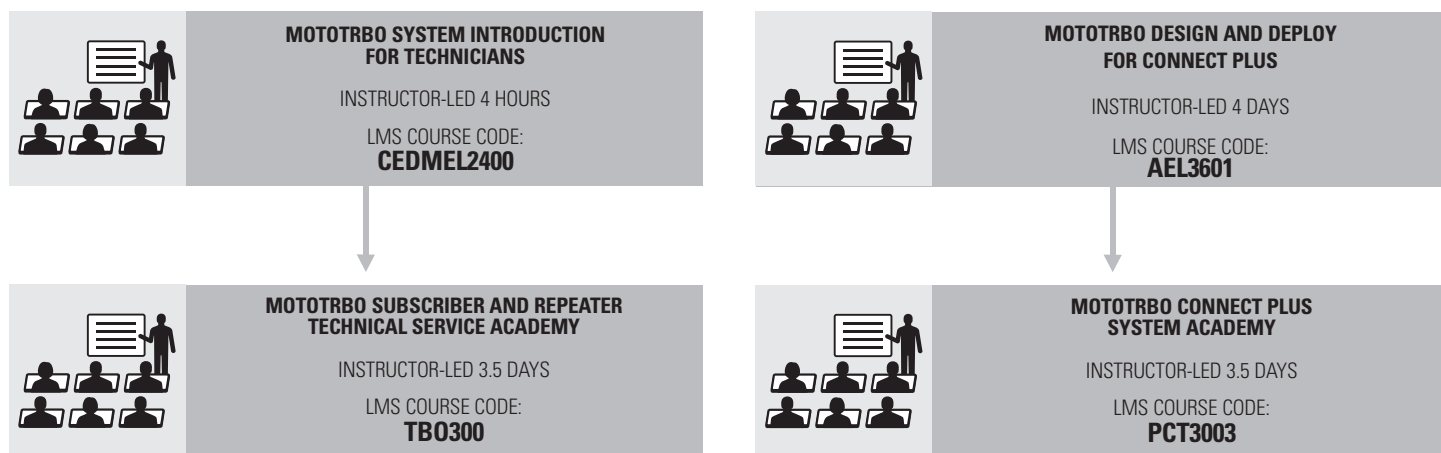
CURRICULUM COMPLETE

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.

RADIO SOLUTIONS **MOTOTRBO™**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

MOTOTRBO™ TECHNICAL TRAINING CURRICULUM
FOR SUBSCRIBER / REPEATER MAINTENANCE TECHNICIAN

MOTOTRBO DESIGN AND DEPLOY FOR IP SITE CONNECT

INSTRUCTOR-LED 2 DAYS

LMS COURSE CODE:
AEL2600

OR

MOTOTRBO DESIGN AND DEPLOY FOR CAPACITY PLUS

INSTRUCTOR-LED 2 DAYS

LMS COURSE CODE:
CEDMEL2600

LINKED CAPACITY PLUS MOTOTRBO DESIGN AND DEPLOY FOR LINKED CAPACITY PLUS

INSTRUCTOR-LED 3 DAYS

LMS COURSE CODE:
AEL2601

MOTOTRBO SYSTEM ACADEMY

INSTRUCTOR-LED 4.5 DAYS

LMS COURSE CODE:
PCT3002
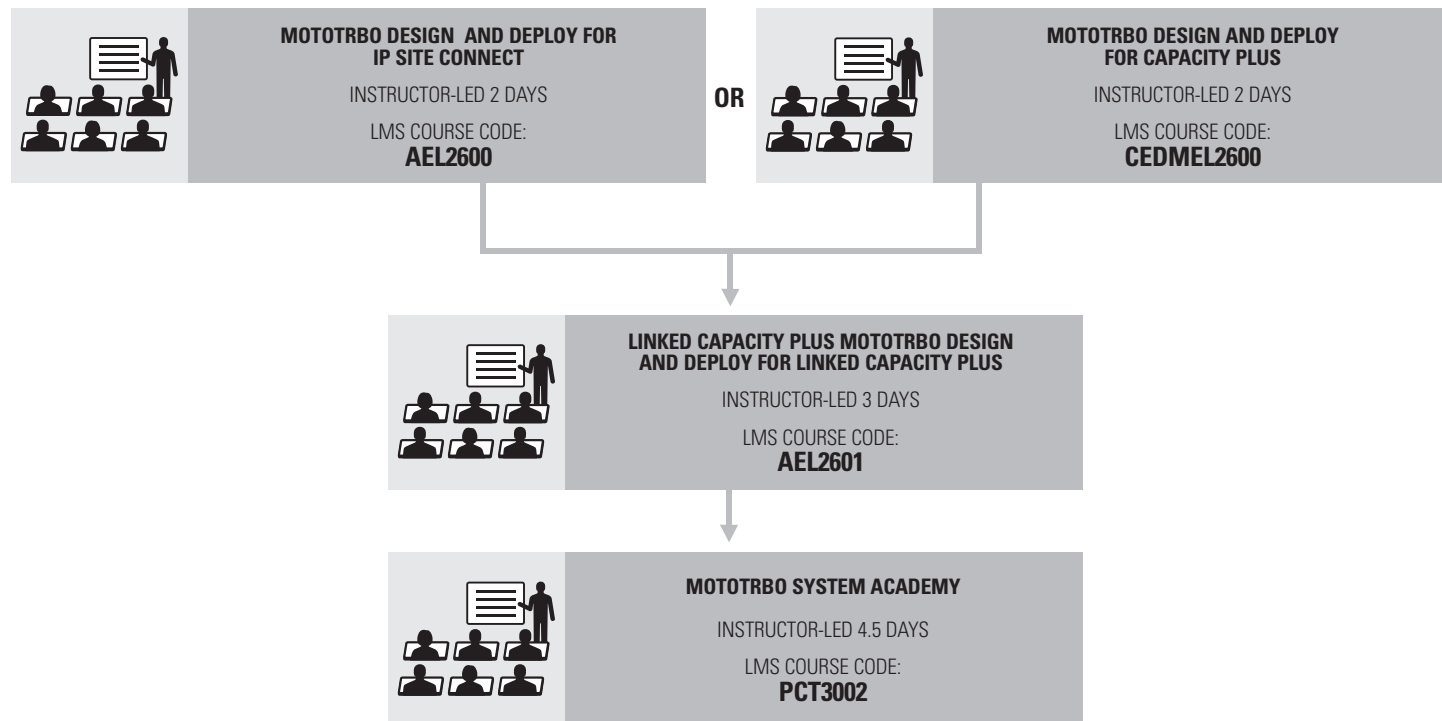
CURRICULUM COMPLETE

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.

SPECIALIZED FEATURE TRAINING

MOTOTRBO WARRIORS

MOTOTRBO

INSTRUCTOR-LED
4 DAYS

DSL2400

BASE STATION

BASE STATION / MTR3000 REPEATERS

INSTRUCTOR-LED
1 DAY

AAL0900

MTR3000 LEVEL 2

MTR3000 LEVEL 2

INSTRUCTOR-LED
3 DAYS

DEL3402

NETWORKING OVERVIEW

COURSE OVERVIEW
In the Networking Overview course, you will learn basic networking concepts. This knowledge is not specific to any system. Instead, industry standards are covered to extend a more useful knowledge transfer.

AUDIENCE
General.

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

- Describe the fundamentals, architectures, protocols, software and infrastructure used in networking

REQUISITE KNOWLEDGE
None

ONLINE SELF-PACED
LENGTH: **1 HOUR**
LMS COURSE CODE:
NWT001

MOTOTRBO™ SYSTEMS APPLIED NETWORKING

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:
- Fundamentals of Networks for LA (AEL1300)

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

RADIO SOLUTIONS **MOTOTRBO™**
For information on prerequisites and to register for courses visit the LMS at:
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For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

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: **1.5 DAYS**
LMS COURSE CODE:
CEDMEL2000

TECHNICAL ENABLEMENT FOR MOTOTRBO™ SUBSCRIBER

COURSE OVERVIEW

The purpose of this course is to provide an in-depth view of MOTOTRBO™ subscriber technical capabilities. Radio CPS, configuration, and setup considerations are covered on this course. Course also covers material for first level radio diagnostics servicing, basic maintenance and radio feature software upgrades.

AUDIENCE

Channel Partners/Resellers, Customers, Employees, Technical personnel.

COURSE OBJECTIVES

At the end of the training, the participants will be able to:
- List differences between analog and digital audio technology
- Identify tools required for radio servicing for the different levels of service
- Identify Transceiver Performance Testing
- Demonstrate performance test execution via front panel access as well as visual troubleshooting
- Describe Fleetmapping
- Describe features, functionality and benefits of CPS
- Setup and install the CPS
- Configure the radio
- Purchase, register, and activate premium radio features
- Generate customer reports
- Verify the correct operations of PCR subscribe
- Complete basic radio check ups
- Perform recommended maintenance and troubleshooting procedures on PCR subscribers for level 1, including accessories

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience:
- MOTOTRBO System Introduction for Technicians (CEDMEL2000)

INSTRUCTOR-LED
LENGTH: **4 HOURS**
LMS COURSE CODE:
CEDMEL2400

CLICK HERE TO VIEW THE
LATIN AMERICA SCHEDULE

RADIO SOLUTIONS **MOTOTRBO™**
For information on prerequisites and to register for courses visit the LMS at:
LEARNING.MOTOROLASOLUTIONS.COM

For general information contact the Latin America Learning Help Desk at:
training.LACR@motorolasolutions.com

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: **3.5 DAYS**
LMS COURSE CODE:
TBO300

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

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LATIN AMERICA SCHEDULE

RADIO SOLUTIONS **MOTOTRBO™**
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training.LACR@motorolasolutions.com

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

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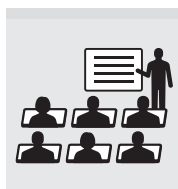
INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
AEL2601

MOTOTRBO™ SYSTEM ACADEMY

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 (AEL3601) 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

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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: **4 DAYS**
LMS COURSE CODE:
AEL3601

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MOTOTRBO™ CONNECT PLUS SYSTEM ACADEMY

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 (AEL3601)
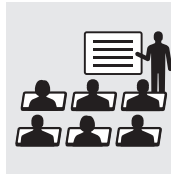
INSTRUCTOR-LED
LENGTH: **3.5 DAYS**
LMS COURSE CODE:
PCT3003

MOTOTRBO™ WARRIORS™

COURSE OVERVIEW

The MOTOTRBO™ Warriors™ course provides knowledge of the system and its components with the objective of making the participant comfortable with the concept of a digital system and the features that it offers. This course is a mix of theory reinforced with hands-on practice. Course delivered in laboratory in Plantation Florida USA.

AUDIENCE

Partners, alliances and distributors - Anyone looking to sell, or resell, MOTOTRBO.

COURSE OBJECTIVES

- Learn about the components that make up a MOTOTRBO communication system
- Understand the programming parameters that allow to configure the system
- Set up and configure the system to practice the functionality of the components

REQUISITE KNOWLEDGE

None
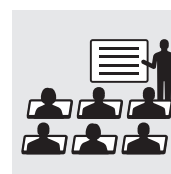
INSTRUCTOR-LED
LENGTH: **4 DAYS**
LMS COURSE CODE:
DSL2400

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training.LACR@motorolasolutions.com

BASE STATION / MTR3000 REPEATERS

COURSE OVERVIEW

The main objective of this course is to introduce the capabilities, modes of operation and the analog, digital and Dynamic Mixed Mode functionalities of the Base Station or MTR3000 Repeater; besides the order process and updates of a MTR2000 of MOTOTRBO™ platform

AUDIENCE

Sales personal and people who work on design, implementation, programming or maintenance of MOTOTRBO Digital Radio System.

COURSE OBJECTIVES

- Describe the features and functionality of the base station MOTOTRBO MTR3000, system components and data applications capabilities
- Describe the principle of operation
- Identify the repeater components
- Configure different types of systems using the MTR3000 and CPS

REQUISITE KNOWLEDGE

- Basic knowledge of MOTOTRBO platform

INSTRUCTOR-LED
LENGTH: **1 DAY**
LMS COURSE CODE:
AAL0900

MTR3000 LEVEL 2

COURSE OVERVIEW

This course will enable radio Technicians to troubleshoot, program and repair the MTR3000 repeaters. Participants will learn the product theory of operation, Board Level Operation, Troubleshooting and Repair of Faults in the product to the module level. The participants will learn via lectures and/or hands on experience.

AUDIENCE

Technicians with experience in electronics directly involved in the maintenance and service base station Motorola MTR3000.

COURSE OBJECTIVES

Upon completion, the participants will be able to:

- Demonstrate RSS/CPS programming and program the product
- Demonstrate the use and the benefits of the product
- Provide a detailed explanation of circuit theory of operation
- Isolate faults in the product, to the module level, using the troubleshooting procedures found in the service manual
- Utilize RSS/CPS software to perform alignment

REQUISITE KNOWLEDGE

- Basic theoretical knowledge of communications FM 2-way land mobile, fundamentals of microprocessors, logic circuits and operation of the operating systems on PC disk
- Equivalent Course: Concepts used in communication systems, concepts and systems maintenance 2-way radio
- Experience in handling the equipment used to verify communications systems equivalent Course Concepts and maintenance of the systems 2-way radio
- Experience in managing PCs with Windows XP or higher

INSTRUCTOR-LED
LENGTH: **3 DAYS**
LMS COURSE CODE:
DEL3402

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VERTICAL MARKET

CREATING VERTICAL VALUE (ASE1200)*

PARCEL AND POST (ASE1201)

HOSPITALITY (ASE2200)

RETAIL (ASE2201)

HEALTHCARE (ASE2202)

EDUCATION (ASE2203)

ENERGY: UTILITIES (ASE2204)

DISCRETE MANUFACTURING (ASE2205)

TRANSPORTATION AND LOGISTICS (ASE2206)

ENERGY: OIL AND GAS (ASE2207)

PROCESS MANUFACTURING (ASE2208)

FIRE AND EMS (ASE2209)

LAW ENFORCEMENT (ASE2210)

PUBLIC ADMINISTRATION ASE2211)

KNOW THE INDUSTRY (KTI) COURSES

These connected learning courses in the online Vertical Competency Program provide the participant with information on an industry area by introducing its background profile, addressing Motorola Solutions value propositions and key benefits, and identifying industry decision makers. These courses demonstrate how to establish a consultative relationship with customers in the industry to help the participant better align the value of Motorola Solutions portfolio offerings to the customer's business.

* PLEASE NOTE:

CREATING VERTICAL VALUE (ASE1200) is a prerequisite class for all courses listed.

THE LEARNING MANAGEMENT SYSTEM (LMS)

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

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.
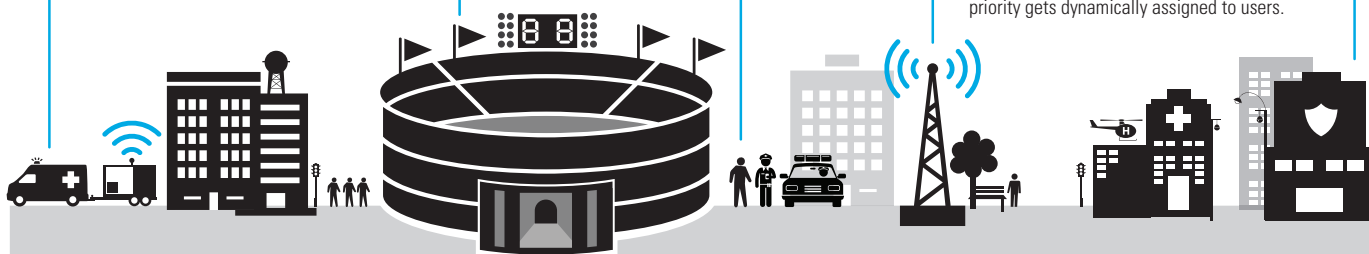
PUBLIC SAFETY LTE COURSES

THE LEARNING MANAGEMENT SYSTEM (LMS)

To register for a course, go to
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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

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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

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OTHER COURSES

THE LEARNING MANAGEMENT SYSTEM (LMS)

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

MOSCAD™ NFM PROGRAMMING, MAINTENANCE AND OPERATOR

COURSE OVERVIEW
The MOSCAD Network Fault Management (NFM) course covers the programming, maintenance and operation of the:
- Site Device Manager Unit (SDM)3000 Remote Terminal Unit (RTU)
- NFM/NFM XC Remote Terminal Unit (RTU)
- SDM3000 Network Translator (SNT)
- IP Gateway
- Graphic Master Computer (GMC)

The course focuses on a detailed discussion of the different types of Network Fault Management systems, SDM3000 RTU hardware, hands-on activities with programming the RTU's, Attach Site Builder Applications for Tag Generation, Generating Tags and Files, navigating with the web browser features and the Graphic Master Computer.

AUDIENCE
System Managers, Service Technicians, Motorola Service Center, End Users.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Install NFM SDM3000 builder software on students' laptops
- Install NFM software on students' laptops
- Configure alarm points using SDM3000 builder
- Configure alarm points using Site Builder
- Generate Tags and Files to import alarm tags
- Use SDM Builder to Generate Tags and Files to import alarm tags
- Navigate and acknowledge alarms at the Graphic Master Computer
- Utilize the web browser features to view and configure the system
- Create Custom Tabs
- Create Custom Maps

- Describe basic planning requirements and complete a simple Fleetmap information template.
- Complete worksheets required to create a Fleetmap based on sample operational requirement information.

REQUISITE KNOWLEDGE
Completion of the following course(s) or equivalent experience:
- Basic understanding of Windows navigation
- Laptop computer with Windows XP or newer
- Windows program files must be on the "C" directory

INSTRUCTOR-LED
LENGTH: 3 DAYS
LMS COURSE CODE:
FXD010

QUANTAR/QUANTRO BASE STATIONS

COURSE OVERVIEW
This course is designed to give the participant the ability to align, troubleshoot and repair the QUANTAR/QUANTRO Base Station/Repeater to Motorola recommended service levels. Emphasis is placed on the use of Radio Service Software and its role in configuration, maintenance, diagnostics, alignments and optimization of the QUANTAR/QUANTRO Base Station/Repeater.

AUDIENCE
Maintenance Technicians.

COURSE OBJECTIVES
After completing this course, the student will be able to:
- Recall the features and capabilities of the Base Station/Repeater
- Configure a Base Station/Repeater using the Quantar Windows RSS
- Verify proper operation of a Base Station/Repeater
- Troubleshoot, align, optimize and calibrate the Base Station/Repeater using the Radio Service Software
- Troubleshoot a Base Station/Repeater to the Motorola recommended service level

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

INSTRUCTOR-LED
LENGTH: 3.5 DAYS
LMS COURSE CODE:
NST250

TRAINING SCHEDULE

DOWNLOAD THE LATIN AMERICA TRAINING SCHEDULE

- **Easy to print:** Standalone file that is not part of this larger catalog.
- **Easier to use:** Each course is hyperlinked to it's sign-up page in the Learning Management System (LMS).
- **Updated frequently:** Download the latest version for the most current training schedule.

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