



PRODUCT AND SYSTEM TECHNICAL TRAINING COURSE CATALOGUE

MOTOROLA SOLUTIONS - WORLDWIDE EDUCATION



WELCOME

Day in, and day out, governments and businesses around the world rely on effortless and reliable communication. Our customers call it their lifeline. To help businesses operate without interruption and to safeguard communities, workplaces, and ultimately, each one of us, we are determined to help keep the lifeline unbreakable.

With Motorola Solutions, Inc. Education Services, we help your two biggest lifeline investments - your personnel and your technology infrastructure - work together efficiently to maximize the value of your communication technologies.

Whether your organization is new to our latest innovations or has years of experience with us, our Education Services team helps expand your personnel's skills and knowledge for the full application of your technology investment.

Starting with professionally developed, real-world application and content, we always design your training with the learner in mind. Our experienced instructors average 20+ years in the communications industry and specialize in Motorola Solutions technologies and services. Immersive, hands-on experiences, expert lab environments, or online learning ensure we meet your learners with the right kind of learning at the right times.

Whether training is delivered virtually, at your location or in our state-of-the-art facilities, we can help ensure that your personnel know how to amplify your investment, maximize operational efficiency, and ensure an unbreakable lifeline.

We look forward to working with you.



MOTOROLA
SOLUTIONS



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GENERAL INFORMATION

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

For general information contact the Europe, Middle East and Africa Education Services Help Desk at:
training.emea@motorolasolutions.com

INTRODUCTION TO MOTOROLA SOLUTIONS EDUCATION SERVICES

WorldWide Education team up with you in the successful implementation, maintenance, and use of your communication system. We blend our passion for learning and innovation to deliver comprehensive training strategies, targeted to ensure **technicians, administrators, supervisors, and operators** find in us a trusted and effective learning partner.

Our range of services is designed to ensure you find the right learning support your organization's unique characteristics demand. From **Education Packages**, offering a selection of essential training activities, to **Learning Subscriptions** (coming soon!) with unlimited access to technology-specific content, or the most personalized service: a **Training Need Analysis** service followed by a tailored training plan, specifically designed to meet the results you want to achieve.

Our services not only respond to businesses and organizations' needs, but also to limitations uncertain times may bring. Our learning technology allows us to provide **remote instructor-led training**, so your personnel can attend our sessions from anywhere in the region.

Browse this catalogue to learn more about each of these services and their benefits, and also discover a selection of our extensive training portfolio. If you have any questions, contact your Motorola representative.



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EDUCATION PACKAGES

Motorola Solutions Education Packages have been built by our technical education experts, to provide you a simpler way to select the right learning activities from our extensive training portfolio. These packages are all designed considering four vital aspects:

- Your Motorola Solutions Infrastructure & Devices
- The Level of Support provided by Motorola Solutions
- The tasks undertaken by your team, and
- The roles of the professionals in charge of those tasks

Behind these packages there are Education Services professionals whose aim is to fully prepare your team to achieve desired organisational efficiency and outcomes by ensuring that they have the knowledge, skill and competency needed to effectively interact with your Motorola Solutions technology investment.

If you wish to customise your Motorola Solutions training strategy, ask our Professional Education Services team to analyse your specific technical and end user training needs and gaps. Please work with your Motorola Solutions account representative to request this professional service.

Let Motorola Solutions Education Services help you ensure that your organisation provides effortless and reliable communications, and keep your lifeline stronger than ever!

DIMETRA™ INFRASTRUCTURE EDUCATION PACKAGES



COMPLEMENT EDUCATION PACKAGE

Prepare your team to operate your DIMETRA™ Solution, achieving optimal organisational efficiency.

TOPICS

System Overview, Upgrade Differences, MyView Portal, Dispatch End User Best Practices, Device End User Best Practices

SUPPLEMENT EDUCATION PACKAGE

Prepare your team to operate and administer your DIMETRA™ Solution, achieving optimal organisational efficiency.

TOPICS

System Overview, Fleetmapping, Network Management, Dispatch End User Best Practices, Upgrade Differences, Device End User Best Practices, MyView Portal

SUPPORT EDUCATION PACKAGE

Prepare your team to operate, administer, and maintain your DIMETRA™ Solution, achieving optimal organisational efficiency.

TOPICS

System Overview, Network Management, Consoles, Base Stations, Fleetmapping, Dispatch End User Best Practices, Device End User Packages

Talk with your Motorola Solutions contact for a quote, or email us at training.emea@motorolasolutions.com for more information on how to sign your team up for one of our Education Services Packages.

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SAMPLE PACKAGE



This Education Package aligns with the Infrastructure ADVANCED Services Package

- DIMETRA™ SYSTEM OVERVIEW
- MYVIEW PORTAL OVERVIEW
- DIMETRA™ SYSTEM FLEETMAPPING
- DIMETRA™ CONFIGURATION AND ADMINISTRATION
- DIMETRA™ FAULT MANAGEMENT
- LIFECYCLE MANAGEMENT
- CONSOLE ADMINISTRATOR & DISPATCH END USER TRAINING
- RADIO END USER TRAIN THE TRAINER
- WAVE™ ADMINISTRATION & END USER
- IMW OPERATIONS AND ADMINISTRATION
- DIMETRA™ SECURE COMMUNICATIONS
- DIMETRA™ PERFORMANCE MANAGEMENT
- EXECUTIVE OVERVIEW

LEGEND:

- Foundation
- Administration
- Maintenance
- Device & Console Best Practices
- Optional

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TAILORED TRAINING: ANALYSIS AND CONSULTATION SERVICES

The variety of services we offer reflects our desire to make sure all our customers find the right training option for them. For those who demand fully personalized training support, and acknowledge the value consulting with experts brings, we are looking forward to partnering with you in the design, implementation, and evaluation of your product and solutions technical training strategy.

Our training consultants and technology experts will complete a thorough analysis of your infrastructure and the results your organization pursues, the challenges your team faces, the performance they aim to achieve, and the new capabilities they need to acquire.

The outcome of that analysis will be a tailored learning proposal, designed just for you and your particular circumstances and preferences. It will also be the route map for our instructors, and the point of reference for evaluations of learning, results, or expectations.

TRAINING OPTIONS

In this catalogue, you will find a selection of the more than 500 training resources that form our training portfolio, and a variety of learning methodologies.

Choosing the most suitable training delivery method depends on multiple factors, as organizational goals, learning objectives, or circumstances out of our control limiting our choices. Regardless of what those circumstances are, our purpose is to make sure you always find in our training offer a valid alternative to keep your personnel abreast.

LIVE TRAINING

It consists of scheduled sessions delivered either remotely or in a conventional classroom, but always led by a technical instructor.

In Motorola Solutions remote live training, the benefits of instructor-led sessions are moved to a virtual environment; thanks to the distance learning technologies we use and our remote labs, learners and instructors interact and collaborate in real time. Live discussions, demonstrations, and online activities happen in these remote sessions.

The same instructors also deliver training in traditional training facilities, and during those face-to-face sessions, they specially focus on hands-on training, allowing learners to immerse themselves in the subject, and practice in a safe environment.

Whether you are interested in one of these methods or a combination of them, either if our off-the-shelf courses meet your needs or you need them customized to suit your requirements, contact us now to start working together on your training strategy.

SELF-PACED TRAINING

It allows your team to gain foundational knowledge on a variety of topics using their computer and at their own schedule. There are two main types of self-paced training:

- **Online training:** one single module, with defined objectives and estimated duration.
- **Blended learning:** online collection of resources, grouped into related topics.



UNDERSTANDING THE ICONS



LIVE TRAINING

VIRTUAL / FACE-TO-FACE TUTOR-LED TRAINING



SELF-PACED TRAINING

ONLINE / BLENDED LEARNING



EXAM

Where to start? Our training paths will let you know the starting point and milestones of your development, so you can make sure you acquire the right knowledge to make the most of each step of your learning process.

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QUALITY ASSURANCE: THE TPMA FRAMEWORK

MOTOROLA SOLUTIONS WORLDWIDE EDUCATION COMMITS TO EXCELLENCE IN INSTRUCTOR-LED TRAINING

For 45+ years, our instructors continue to be laser-focused on your two lifeline investments - your personnel and your technology infrastructure. Our mission is to work together efficiently to maximize the value of your communication technologies.

Motorola Solutions is aware of the impact training experiences have on your team and your organization. When it comes to supporting the success of your employees and your technology infrastructure, we seek to continually deliver exceptional training to you.

For over 10 years, we have built and implemented the Training Performance

Monitoring & Assessment (TPMA) framework in our organization. Our internal instructors are held to the highest level of training standards outlined within the Learning & Performance Institute (LPI). The TPMA certificate is widely-recognized and accepted as the premiere institute for learning, assessing and benchmarking trainer progress.

Anywhere in the world, those who hold a TPMA certificate demonstrate that they have reached or exceeded the highest standards demanded within the industry.

WHY DO TPMA CERTIFICATIONS MATTER?

Adopting TPMA standards is essential to meet industry trends and leading industry best practices to meet user needs, enhance

instructor development and ultimately leads to a happy customer experience.

LPI ensures the quality of the instructors' training delivery is maintained and meets the highest quality standards, provides expert feedback on their performance and promotes the development of their facilitator skills.

Visit us at learning.motorolasolutions.com to register for our training courses.

ACHIEVING OPTIMAL PERFORMANCE MATTERS TO US

- We focus on the needs of the learner, not the trainer
- The personalized approach and structured consistency of standardized-requirements help win business

"The instructor did an outstanding job. Truly a professional and extremely knowledgeable. Never rushed and always listened. Provided feedback to all questions and allowed students to participate at their own level of expertise and speed."

"The Instructor was extremely helpful during the training. He has an excellent way of teaching and was very attentive to the students when asked questions. I liked that he went over each and every field of CPS. Excellent Instructor! I would recommend to anyone!"

"The instructor showed outstanding skills to combine theory, practice, actual cases and hands-on training. Great training."

"Exceptional course, no words to explain the instructor's commitment and professionalism. Vast experience, humbleness, patience and amazing teaching skills. A different and positive class."

"Excellent coach. Direct, precise, detailed. Explain everything in the right way. Honestly, the best coach I have ever had. They do not skip anything, explain everything in detail. My knowledge after this training is much better. During the entire training, he was fully committed to us."

"The best teacher I have ever had in any previous training courses. Very challenging and interactive teaching helping me to understand the system from the bottom to top with a lot of additional slides from the teacher with extremely good and clear explanations in the system networking for deeper understanding."

"One of the best instructors I had. Speaks clearly, responsive to the students; actions and very good at making the students stay alert and attentive."

"Amazing training, very glad to join it. Amazing trainer, very vibrant, very knowledgeable trainer. Looking forward to more training with him. Good trainer from a good company."



OPERATOR TRAINING

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

Users of your mobile and portable radios require training on their units to understand its basic operation, features and functions.

Dispatchers of your consoles require training to understand basic operation, features and functions; management personnel require training on the Motorola Solutions applications.



TRAIN THE TRAINER

With this option, Motorola Solutions trains people you have identified as qualified instructors so that they in turn can train each individual user in your organisation. These classes are delivered on site using your equipment. The interactive End-user toolkit (iEUTK) and/or tailored end user materials can be utilised.

AUDIENCE

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

COURSE OVERVIEW

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

Note: This course is presented as customer specific and will cover pertinent information on customer equipment.

REQUISITE KNOWLEDGE

Previous training experience and radio system knowledge is a must.

TO REQUEST FIELD TRAINING, PLEASE CONTACT YOUR ACCOUNT MANAGER.

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

OPERATOR TRAINING

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

CONSOLES TRAINING

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

- Overview of console configuration
- Console dispatcher and supervisor operation
- Alias Management
- Messaging

SUBSCRIBER TRAINING

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

- Overview of radio configuration
- General radio operations

COURSES FOR CONSOLE PRODUCTS

- MCC 7000 Series Dispatch Console Operator Training
- MCD 5000 Operator Training

COURSES FOR MOBILES & PORTABLES

- DIMETRA™ Series
- APX™ Series
- MOTOTRBO™ Series



LEARNING EXPERIENCE PORTAL

AN INTERACTIVE PLATFORM... DESIGNED FOR YOU! THE LXP IS YOUR VALUABLE RESOURCE TO SEE THE LATEST COURSES, DESCRIPTIONS, REQUIREMENTS, DATES AND LOCATIONS.

Use the search box and filters feature to quickly and easily search for training or documentation.

View your history and upcoming training on your personalized dashboard.

Receive reminder notifications of upcoming training or changes to your training.

Easily locate and download documents plus stay up-to-date with training news and announcements.



GENERAL INFORMATION

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training.emea@motorolasolutions.com

HOW TO ACCESS THE LEARNING EXPERIENCE PORTAL

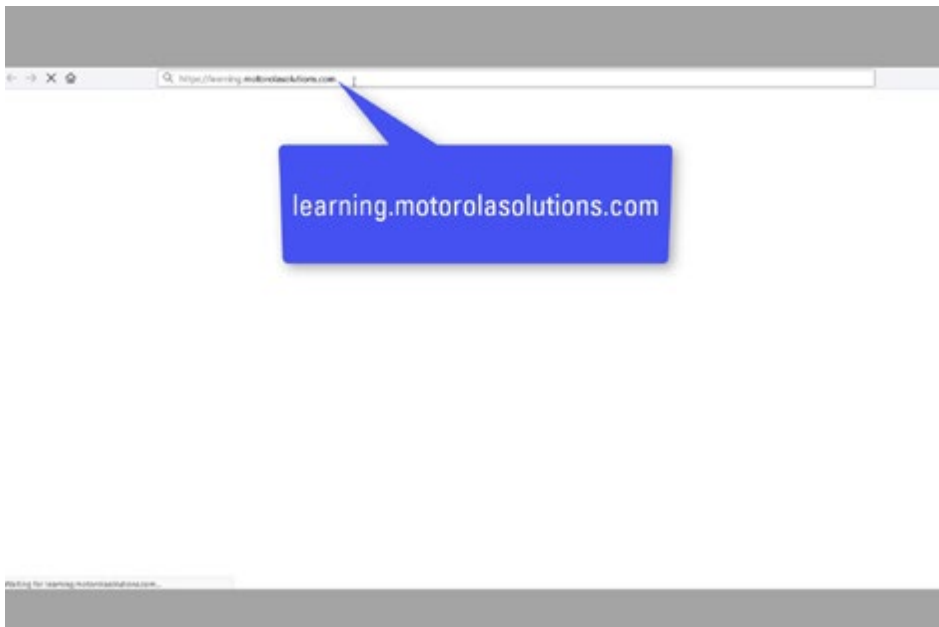
If you are a Motorola Solutions Customer who already has a Motorola Solutions Login ID, you can go to the “Enrol in a course” section for further instructions.

SET UP A NEW USER ACCOUNT AND PASSWORD



- Visit: <https://learning.motorolasolutions.com>
- Click “Register”
- Fill out all the required information on the form; preferably, use a company email address during the registration process (if you are a MSI Customer with an established 10-digit Motorola Customer Account Number, please enter your Company Name in the form)
- Click “Submit”
- You will receive a confirmation of your submission
- You will next receive further information to activate your account (Up to 5 business days)

TO ENROL IN A COURSE (ONCE YOU HAVE AN LXP ACCOUNT)



- Log in to the LXP: <https://learning.motorolasolutions.com>
- Click on “LOG IN”
- **Enter your Log In ID and Password and Click “LOG IN”**
- If you have forgotten your Log In or Password click on “Forgot Log In ID” or “Forgot Password”
- Find a training course by clicking “Browse Training” at the top of the screen Or use “Search Catalog” at the top of the screen

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training.emea@motorolasolutions.com

HELPFUL INFORMATION

HOW TO MAKE PAYMENTS WHEN ENROLLING IN A COURSE

HOW TO MAKE PAYMENTS WHEN REGISTERING

For your convenience we accept the following methods of payment:

- Credit Card
- Purchase Order

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

Contact the help desk above for assistance with payments and P.O. specifications.
All pricing listed is US dollars.

Note: Invoices are available only when using Purchase Orders.

FOR QUESTIONS AND ASSISTANCE

Call the Education Help Desk

Monday – Friday,

9:00 a.m. – 5:30 p.m. Central European Time

or email us at:

training.emea@motorolasolutions.com

CONTACT MOTOROLA SOLUTIONS EUROPE, MIDDLE EAST AND AFRICA

AUSTRIA [GERMAN]	0800 281 195	POLAND [POLISH]	00800 121 5772
DENMARK [ENGLISH]	80 253 546	RUSSIA [RUSSIAN]	810 8002 861 5011
FRANCE [FRENCH]	0800 914 532 (+33 176 775 609)	SAUDI ARABIA [ENGLISH]	800 811 0523
GERMANY [GERMAN]	0800 724 6872 (+49 692 222 1568)	SOUTH AFRICA [ENGLISH]	0800 994 886
ISRAEL [HEBREW]	180 931 5818	SPAIN [SPANISH]	9009 416 84
ITALY [ITALIAN]	800 791 276	UNITED ARAB EMIRATES [ENGLISH]	8000 3570 4387
NETHERLANDS [ENGLISH]	0800 024 9893	UNITED KINGDOM [ENGLISH]	0800 731 3496 (+44 207 019 0461)
NORWAY [ENGLISH]	800 148 02		

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 SOLUTIONS

Motorola Solutions 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.

LAPTOP REQUIREMENTS

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

TRAINING CONTENT AND STRATEGY DISCLAIMER

All of Motorola Solutions training classes are designed to support and align with the Motorola Solutions 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 Solutions products. The repair, replacement, or recovery of these products may vary from product to product. Motorola Solutions reserves the right to change the structure and content of all courses at any time.

FOUNDATIONAL COURSES

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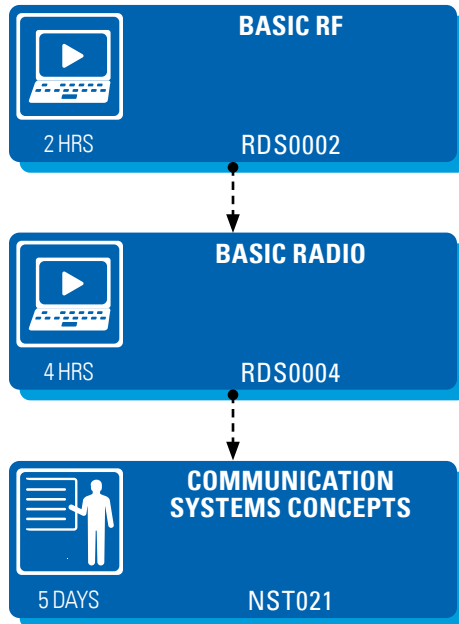
RADIO SOLUTIONS FOUNDATIONAL

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RF FUNDAMENTALS

RF BASICS / RADIO SYSTEM BASICS



CURRICULUM COMPLETE

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

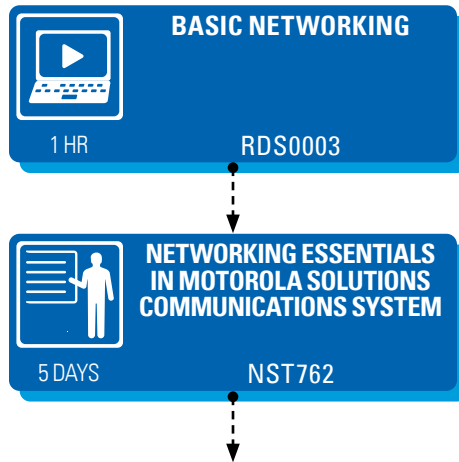


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IP/NETWORKING FUNDAMENTALS



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

DIMETRA™ SYSTEM



DIMETRA™ APPLIED NETWORKING

5 DAYS DMT1108

MOTOTRBO™ SYSTEM



MOTOTRBO™ SYSTEMS APPLIED NETWORKING

4 DAYS PCT2007

ASTRO® 25 SYSTEM



ASTRO® 25 SYSTEMS APPLIED NETWORKING

5 DAYS AST4104

CURRICULUM COMPLETE

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

[CLICK HERE TO GO TO PAGE 23 FOR MORE DETAILS ON DIMETRA](#)

[CLICK HERE TO GO TO PAGE 44 FOR MORE DETAILS ON MOTOTRBO™](#)

[CLICK HERE TO GO TO PAGE 50 FOR MORE DETAILS ON ASTRO® P25](#)

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BASIC RF

2 HRS

RDS0002

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.

TARGET AUDIENCE

Technical staff who need to understand communication systems concepts.

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

PREREQUISITES

None



RF FUNDAMENTALS

5 DAYS

TGTC08

COURSE OVERVIEW

This course delivers a basic understanding of RF.

TARGET AUDIENCE

Technical staff that requires to acquire the fundamentals of RF.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Describe electrical principles including Direct and Alternating current.
- Describe the basic structure of radio transmitters and receivers.
- Describe transmission lines.
- Describe the construction and operation of antennas.
- Describe RF propagation.
- Describe digital communication techniques

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



BASIC RADIO

4 HRS

RDS0004

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.

TARGET AUDIENCE

Individuals who need a foundational overview of two-way radios.

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 analogue 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:

- RDS0002 Basic RF

PREREQUISITES

None

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BASIC NETWORKING
1 HR
RDS0003

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.

TARGET 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 organisations

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



RF FOR RADIO PROFESSIONALS
3 HRS
RDS2012

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.

TARGET 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

By the end of the course, you will be able to:

- Describe basic circuit-related phenomena and elements
- Describe the filtering process and types of RF filters
- 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

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

- RDS0002 RF Basics

PREREQUISITES

None



COMMUNICATION SYSTEMS CONCEPTS
5 DAYS
NST021

COURSE OVERVIEW

This course emphasises the concepts behind RF Systems theory and operation. Major topics covered include:

- RF System Operation, including talkaround, repeater operation, and types of signalling 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

TARGET AUDIENCE

Individuals who are interested in the operational concepts driving modern communication systems.

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

- Knowledge of basic electronics
- Experience using standard communication test equipment

PREREQUISITES

None

RADIO SOLUTIONS FOUNDATIONAL

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

For general information contact the Europe, Middle East and Africa Education Services Help Desk at: training.emea@motorolasolutions.com



**NETWORKING ESSENTIALS
IN MOTOROLA SOLUTIONS
COMMUNICATIONS
EQUIPMENT**

5 DAYS NST762

COURSE OVERVIEW

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

TARGET AUDIENCE

System Technicians

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- An understanding of basic Motorola Communications Systems
- Basic familiarization with computer operating systems
- Completion of Basic Networking course (RDS0003) or equivalent experience

PREREQUISITES

None



INTRO TO R56

1 HR NST9252

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.

TARGET AUDIENCE

Technicians who need an introduction to the R56 processes.

COURSE OBJECTIVES

After completing this course, the student 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.
- Minimise the impact of RF Site Interference, in line with R56 requirements.
- Identify the equipment installation tasks needed to meet R56 requirements.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**SITE INSTALLATION
PRACTICES WORKSHOP R56**

4 DAYS NST925

COURSE OVERVIEW

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

TARGET AUDIENCE

Technicians who need an introduction to the R56 processes.

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

Graduate of a basic electronics course

PREREQUISITES

None

RADIO SOLUTIONS FOUNDATIONAL

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SERVER AND VIRTUALIZATION FOUNDATION

4 DAYS SRV1010

COURSE OVERVIEW

This course will prepare students to install a server and understand the basics of supported virtualization application. The course covers BIOS configuration, installing supported virtualization applications, installing a client and server OS and verifying operations. The course includes hands on lab exercises.

TARGET AUDIENCE

Technical Support Staff who need to understand virtual servers or install servers that utilise Virtual Machines (VM).

COURSE OBJECTIVES

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

- Configure BIOS parameters for server hardware
- Demonstrate basic knowledge of supported virtualization application, including capacity
- Install supported virtualization application on a server platform
- Configure supported virtualization application parameters of supported server hardware
- Install a Client OS and Server OS in a virtual environment
- Verify Server/Client operations in a virtual environment

REQUISITE KNOWLEDGE

Comp-TIA Server+ Certification or equivalent

PREREQUISITES

None



DIMETRA™ APPLIED NETWORKING

5 DAYS DMT1108

COURSE OVERVIEW

This course provides engineers and technicians with the necessary networking information required for the network components applied in the DIMETRA™ systems. The course includes overview of the basic networking concepts, network configuration overview of the transport network components and information assurance applied in the DIMETRA™ systems.

TARGET AUDIENCE

Technical System Managers and Network Technicians

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Define basic IP network hardware and protocols
- Analyse basic IP network connectivity and addressing
- Define DIMETRA™ Master Site VLAN/VRRP Operation
- Define DIMETRA™ Network Transport Subsystem
- Review DIMETRA™ Network Management applications
- Define DIMETRA™ Information Assurance
- Define DIMETRA™ Data Subsystem

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



SYSTEM ENGINEERING OVERVIEW

5 DAYS DMT1086

COURSE OVERVIEW

This course delivers a basic understanding of System Engineering.

TARGET AUDIENCE

Technical staff that require a System Engineering Overview.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Describe electrical principles including AC and DC.
- Describe radio principles.
- Describe Impedance in transmission lines.
- Describe the purposes and operation of an antenna system.
- Describe RF propagation.
- Describe Tetra Air Interface principles.
- Describe RF Site Techniques and Planning.
- Describe DIMETRA™ Call Processing and Networking.
- Describe DIMETRA™ Fleetmapping concept.
- Describe system optimization, the role of NM applications and RF tools used in the optimization process.

REQUISITE KNOWLEDGE

Knowledge of basic electronic & electrical, radio frequency and computer networking is an advantage.

PREREQUISITES

None

RADIO SOLUTIONS FOUNDATIONAL

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**DIMETRA™ IP
FLEETMAPPING
WORKSHOP**

3 DAYS TGTC04

COURSE OVERVIEW

This course includes a system review, basic fleetmapping principles, radio user configuration, dispatch user configuration, mobile radio configuration, text broadcast fleetmapping and system configuration.

TARGET AUDIENCE

Technical staff that require an overview of fleetmapping.

COURSE OBJECTIVES

On completion of this course delegates will be able to:


- Perform the basic planning requirements and complete a simple fleetmap information template
- Write a simple fleetmap based on sample operational requirement information

REQUISITE KNOWLEDGE

Overview of the features and functions of a DIMETRA™ IP system

PREREQUISITES

None



**MOTOTRBO™ SYSTEMS
APPLIED NETWORKING**

4 DAYS PCT2007

COURSE OVERVIEW

The MOTOTRBO™ Systems Applied Networking provides technicians with the necessary information required for understanding the typical networking requirements for implementing a variety of MOTOTRBO™ solutions. The course includes familiarisation/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.

TARGET AUDIENCE

Technical System Managers and Technicians

COURSE OBJECTIVES

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

- Recall Basic Networking Concepts
- Identify recommended network 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:

- NST762 Networking Essentials in Motorola Solutions Communications Equipment

PREREQUISITES

None



**BRIDGING THE KNOWLEDGE
GAP FOR ASTRO® 25 –
TECHNICIAN**

4 HRS ACT100E

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.

TARGET 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 analogue radio communication signalling to ASTRO® 25 radio communications signalling
- 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 signalling information controls that flow of information
- Describe the features of each radio communication system in terms of advantages and disadvantages

REQUISITE KNOWLEDGE

None

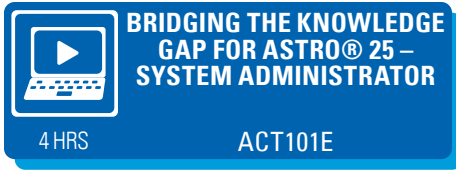
PREREQUISITES

None

RADIO SOLUTIONS FOUNDATIONAL

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training.emea@motorolasolutions.com



COURSE OVERVIEW

This 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 five 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.

TARGET AUDIENCE

This is targeted for System Administrators 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:

- 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 signalling 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

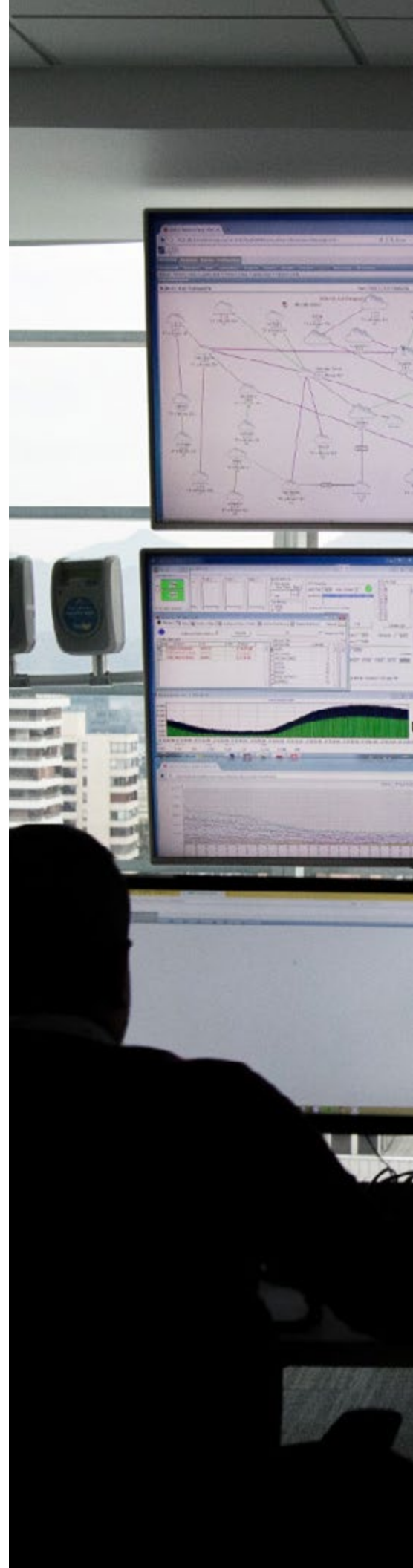
PREREQUISITES

None

DIMETRA™ SYSTEMS COURSES

DIMETRA™ X CORE D9.1 SYSTEM OVERVIEW (DMT9100)	30
DIMETRA™ X CORE D9.1 CONFIGURATION AND ADMINISTRATION WORKSHOP (DMT9101)	30
DIMETRA™ X CORE D9.1 FAULT MANAGEMENT WORKSHOP (DMT9102)	30
DIMETRA™ X CORE D9.1 PERFORMANCE MANAGEMENT WORKSHOP (DMT9103)	31
DIMETRA™ X CORE D9.1 TROUBLESHOOTING AND MAINTENANCE WORKSHOP (DMT9104)	31
DIMETRA™ X CORE D9.1 AIR INTERFACE ENCRYPTION, AUTHENTICATION, AND PROVISIONING (DMT9105)	31
DIMETRA™ X CORE SECURE COMMUNICATIONS WORKSHOP (DMT1094)	32
DIMETRA™ X CORE D9.1 NETWORK SECURITY (DMT9106)	32
DIMETRA™ X CORE D9.1 DISPATCH COMMUNICATIONS SERVER WORKSHOP (DMT9107)	32
DIMETRA™ X CORE D9.1 MSO RESTORATION TRAINING (DMT9108)	33
DIMETRA™ EXPRESS INSTALLATION, CONFIGURATION AND MAINTENANCE WORKSHOP (DMT0036)	33

DIMETRA™ SYSTEM TRAINING IS ALSO AVAILABLE IN PREVIOUS RELEASES, PLEASE CONTACT MOTOROLA SOLUTIONS FOR MORE INFORMATION.

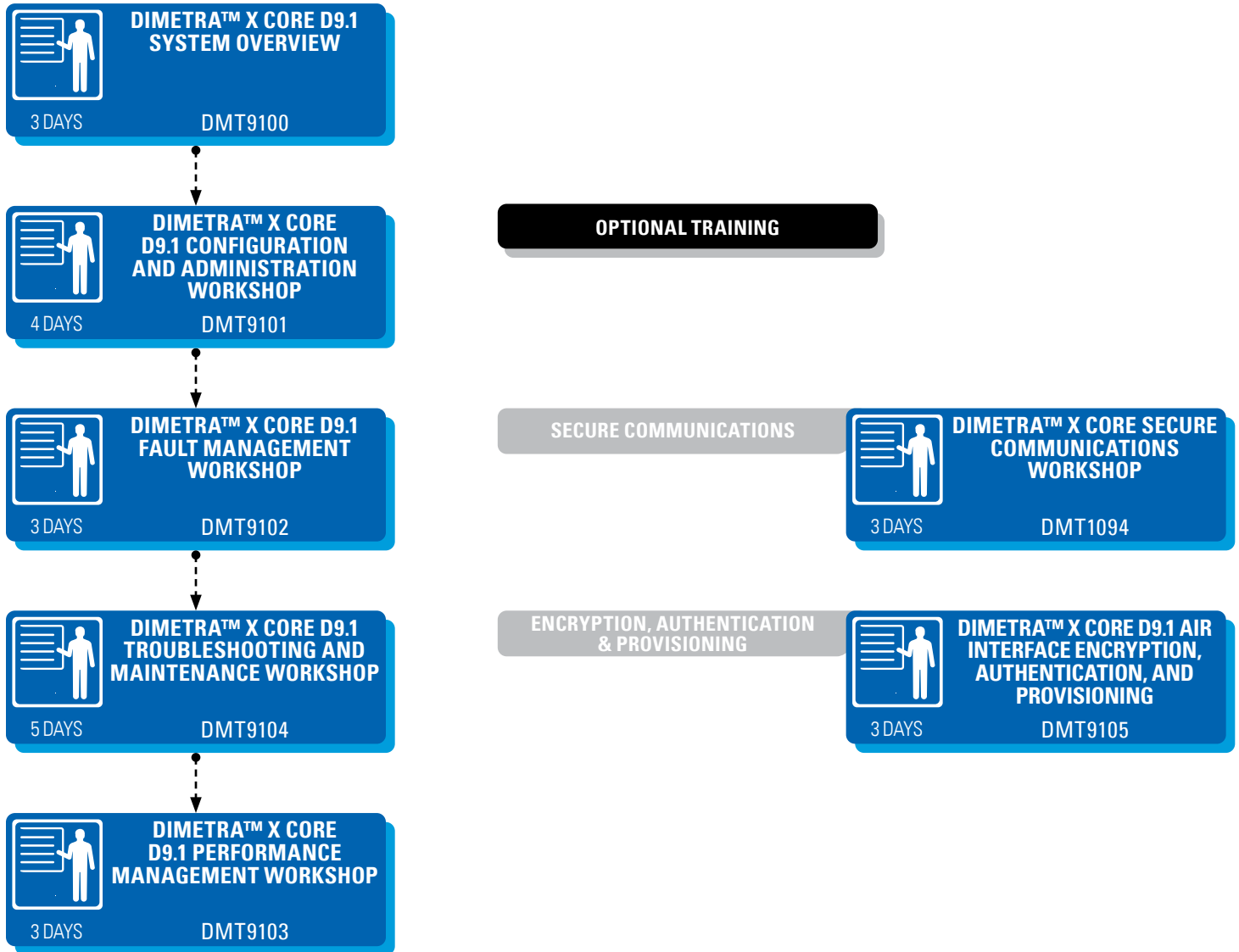


RADIO SOLUTIONS DIMETRA SYSTEMS

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DIMETRA™ MSO SYSTEM ENGINEER

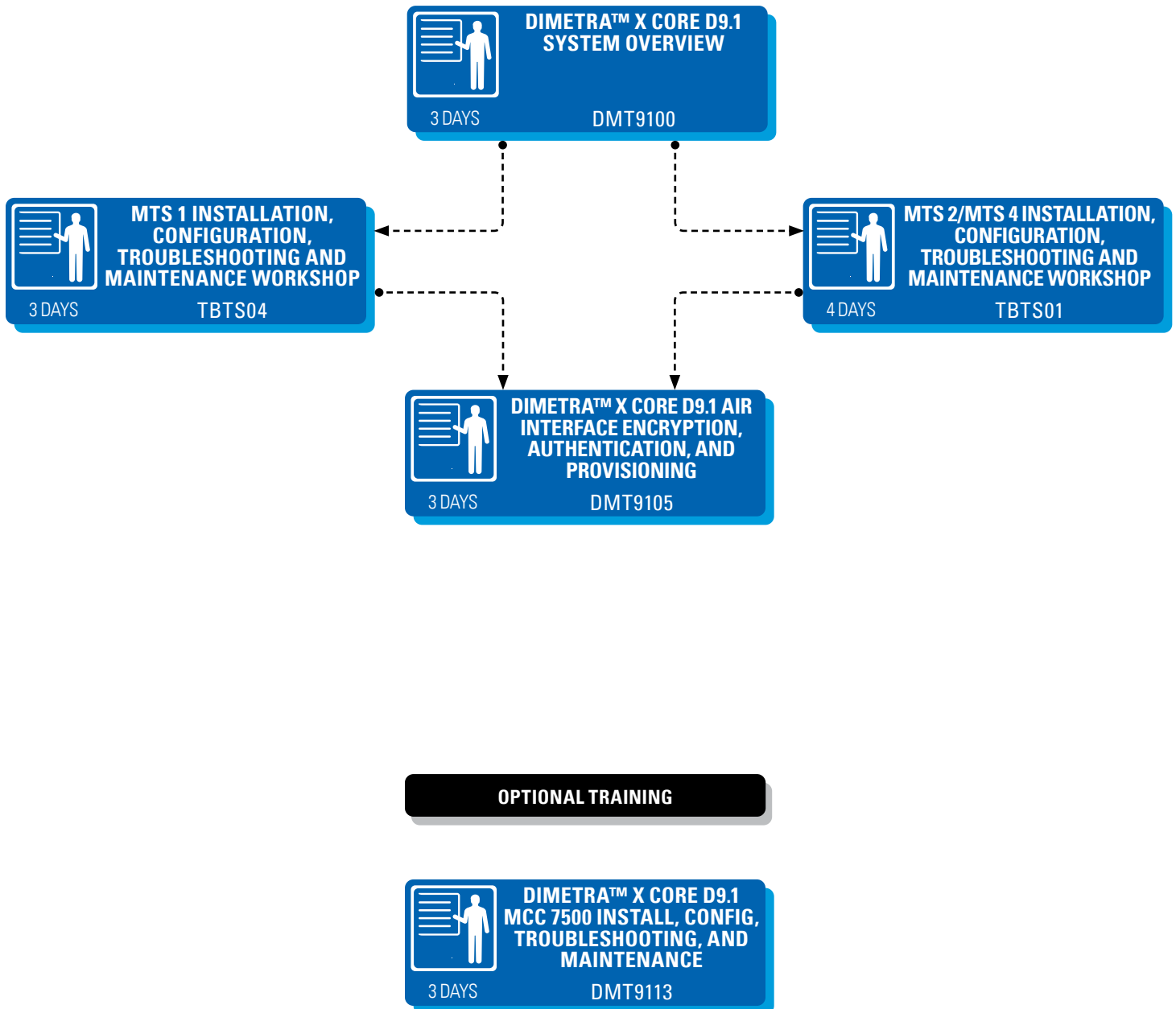


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DIMETRA™ FIELD ENGINEER

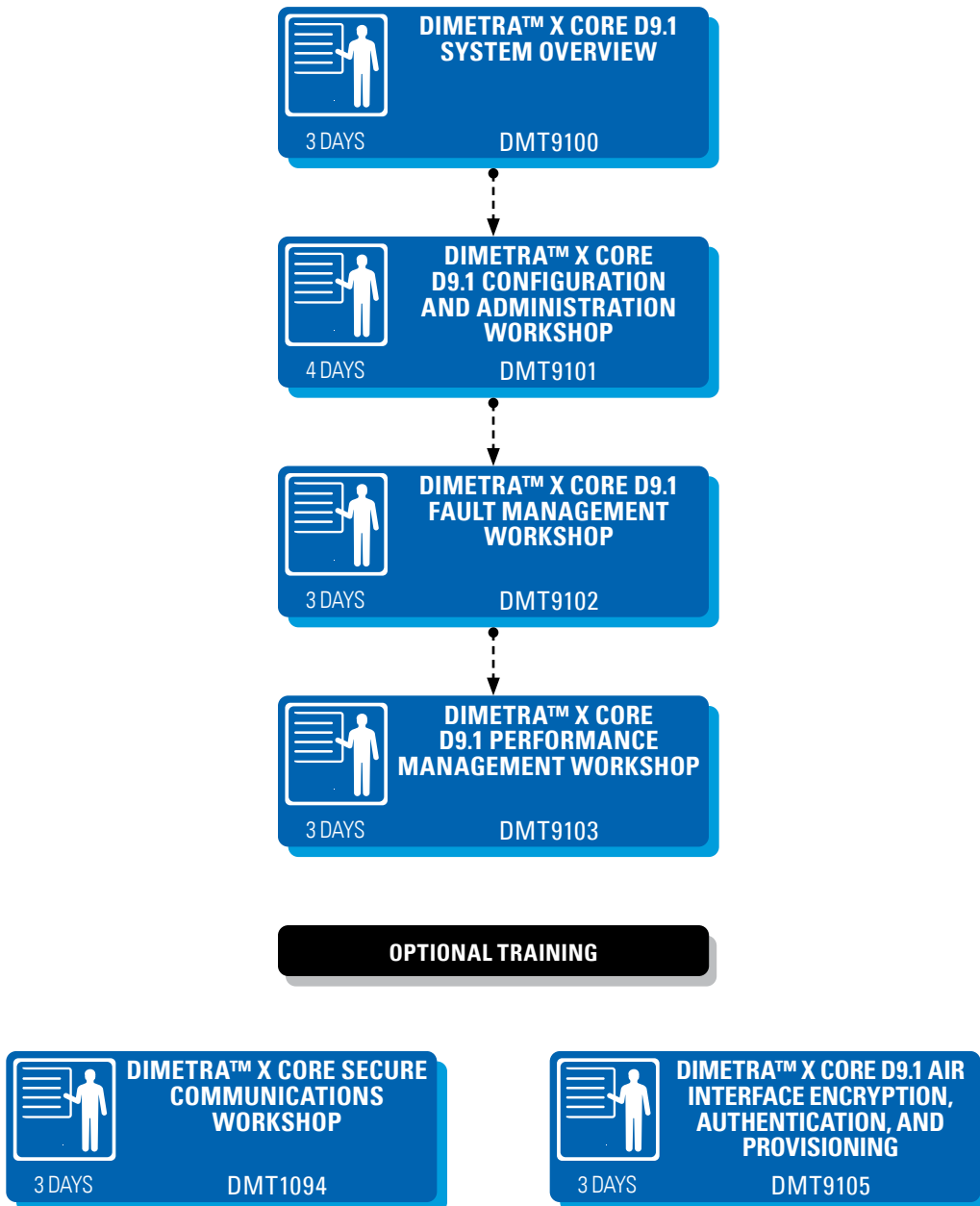


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training.emea@motorolasolutions.com

DIMETRA™ SYSTEM ADMINISTRATOR



DIMETRA™ DISPATCH ADMINISTRATOR



**DIMETRA™ X CORE D9.1
SYSTEM OVERVIEW**

3 DAYS DMT9100



**DIMETRA™ X CORE D9.1
MCC 7500 INSTALL, CONFIG,
TROUBLESHOOTING, AND
MAINTENANCE**

3 DAYS DMT9113



**DIMETRA™ X CORE D9.1
MCC 7500 ADMIN
WORKSHOP**

1 DAY DMT9111

OPTIONAL TRAINING



**DIMETRA™ X CORE SECURE
COMMUNICATIONS
WORKSHOP**

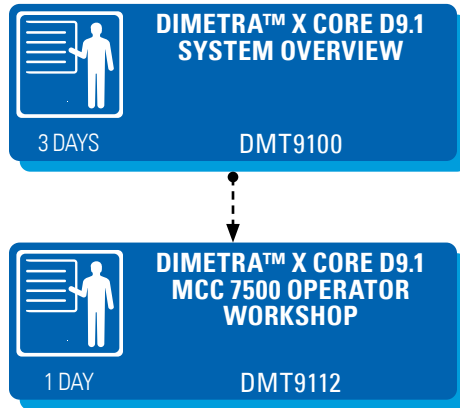
3 DAYS DMT1094

RADIO SOLUTIONS DIMETRA SYSTEMS

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training.emea@motorolasolutions.com

DIMETRA™ DISPATCH OPERATOR



RADIO SOLUTIONS DIMETRA SYSTEMS

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RADIO PROGRAM AND FLEETMAPPING

 **DIMETRA™ X CORE D9.1 SYSTEM OVERVIEW**
3 DAYS DMT9100

 **DIMETRA™ IP FLEETMAPPING WORKSHOP**
3 DAYS TGTC04

 **TETRA TERMINAL PROGRAMMING**
2 DAYS TTER01PLUS

 **INTEGRATED TERMINAL MANAGEMENT (REMOTE PROGRAMMING)**
1 DAY DMT1050

OPTIONAL TRAINING

 **DIMETRA™ X CORE D9.1 TROUBLESHOOTING AND MAINTENANCE WORKSHOP**
5 DAYS DMT9104

 **DIMETRA™ X CORE D9.1 CONFIGURATION AND ADMINISTRATION WORKSHOP**
4 DAYS DMT9101

 **DIMETRA™ X CORE D9.1 AIR INTERFACE ENCRYPTION, AUTHENTICATION, AND PROVISIONING**
3 DAYS DMT9105

RADIO SOLUTIONS DIMETRA SYSTEMS

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DIMETRA™ X CORE D9.1 SYSTEM OVERVIEW

3 DAYS DMT9100

COURSE OVERVIEW

This course provides an overview of the features and functions of a DIMETRA™ X Core system. The course includes descriptions of the various call types and system hardware functionality. Applications overview describes the purpose of the software used to manage and administer the system.

TARGET AUDIENCE

All staff who require an overview of the DIMETRA™ X Core system functionality and features.

COURSE OBJECTIVES

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

- Describe Basic Radio concepts.
- Describe DIMETRA™ X Core benefits.
- Describe DIMETRA™ X Core features and their benefits.
- Describe DIMETRA™ X Core Single Zone system components and their functionality.
- Describe the purpose and function of DIMETRA™ X Core Network Management applications.
- Describe DIMETRA™ X Core Multi-Zone system components and their functionality.
- Describe DIMETRA™ X Core Inter-System Interface functionality.
- Describe how different types of calls are processed through a DIMETRA™ X Core system.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



DIMETRA™ X CORE D9.1 CONFIGURATION AND ADMINISTRATION WORKSHOP

4 DAYS DMT9101

COURSE OVERVIEW

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

TARGET AUDIENCE

System managers responsible for configuration and administration of a DIMETRA™ X Core system.

COURSE OBJECTIVES

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

- Describe the purpose of Configuration Management and Server Administration within your DIMETRA™ X Core system.
- Describe fleetmapping and home zone map function.
- Perform configuration procedures using UCM.
- Perform configuration procedures using ZCM.
- Perform configuration procedures using RCM.
- Perform Network Management Server Administration tasks.
- Explain the importance of daily operational tasks.
- Perform server database administration tasks.

REQUISITE KNOWLEDGE

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

- DMT9100 DIMETRA™ X Core D9.1 System Overview

PREREQUISITES

None



DIMETRA™ X CORE D9.1 FAULT MANAGEMENT WORKSHOP

3 DAYS DMT9102

COURSE OVERVIEW

The workshop will allow delegates to use applications to identify faults on systems components using a live DIMETRA™ X Core system and within the context of business scenarios.

TARGET AUDIENCE

System operations staff and field engineers who perform fault management tasks on a DIMETRA™ X Core system.

COURSE OBJECTIVES

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

- Define the role of Fault Management within Network Management.
- Define the role of each of the applications used within Fault Management.
- Utilise the Unified Event Manager (UEM) application to assist Fault Management within the DIMETRA™ X Core system.
- Use the Transport Network Device Manager (TNDM) to assist Fault Management.
- Use the Zone Configuration Manager application to perform diagnostic functions within the DIMETRA™ X Core system.
- Use the Zone Watch application to assist Fault Management within the DIMETRA™ X Core system.
- Identify file backup procedures.

REQUISITE KNOWLEDGE

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

- DMT9100 DIMETRA™ X Core D9.1 System Overview

PREREQUISITES

None

RADIO SOLUTIONS DIMETRA SYSTEMS

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DIMETRA™ X CORE D9.1 PERFORMANCE MANAGEMENT WORKSHOP

3 DAYS DMT9103

COURSE OVERVIEW

During this workshop delegates will use applications on a live DIMETRA™ X Core system using business scenarios. Using these applications delegates will learn how to interpret system and user performance based on call traffic and device statistics.

TARGET AUDIENCE

System operators and managers who monitor and collect system statistics on a DIMETRA™ X Core system.

COURSE OBJECTIVES

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

- Describe the factors that affect system performance.
- Describe the Performance Management Analysis process.
- List the Performance Management applications used in a DIMETRA™ X Core system.
- Describe the purpose of system reports, system usage applications and device statistics in Performance Management activities.
- Access and navigate DIMETRA™ X Core Performance Management applications to monitor system activity and generate system reports.

REQUISITE KNOWLEDGE

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

- DMT9100 DIMETRA™ X Core D9.1 System Overview

PREREQUISITES

None



DIMETRA™ X CORE D9.1 TROUBLESHOOTING AND MAINTENANCE WORKSHOP

5 DAYS DMT9104

COURSE OVERVIEW

During this workshop delegates will troubleshoot and maintain a live DIMETRA™ X Core system using business scenarios, troubleshooting procedures and diagnostic applications. Delegates will also perform complex FRU/FRE procedures to resolve hardware faults.

TARGET AUDIENCE

System and Field Engineers who troubleshoot and maintain a DIMETRA™ X Core system.

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- DMT9100 DIMETRA™ X Core D9.1 System Overview
- DMT9102 DIMETRA™ X Core D9.1 Fault Management Workshop

PREREQUISITES

None



DIMETRA™ X CORE D9.1 AIR INTERFACE ENCRYPTION, AUTHENTICATION, AND PROVISIONING

3 DAYS DMT9105

COURSE OVERVIEW

During this workshop, students will perform key management tasks on a live DIMETRA™ X Core system. Students will perform authentication and provisioning procedures for the daily administration of user authentication and provisioning based on real business scenarios.

TARGET AUDIENCE

System operators and managers responsible for the provisioning and management of key authentication in a DIMETRA™ X Core system.

COURSE OBJECTIVES

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

- Describe how Air Interface Encryption and Authentication work within the DIMETRA™ X Core system.
- Describe the hardware components used in Encryption and Authentication.
- Describe distribution, storage, key updates and key management of Air Interface Encryption and Authentication keys.
- Perform Encryption Key management procedures using the Enhanced AuC, PrC, and KVL system components.

REQUISITE KNOWLEDGE

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

- DMT9100 DIMETRA™ X Core D9.1 System Overview

PREREQUISITES

None

RADIO SOLUTIONS DIMETRA SYSTEMS

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DIMETRA™ X CORE SECURE COMMUNICATIONS WORKSHOP

3 DAYS DMT1094

COURSE OVERVIEW

During the workshop delegates will perform key management, administrative and maintenance tasks on a live DIMETRA™ X Core system. Using real business scenarios this workshop will allow delegates to perform key management, key transference, maintenance, and troubleshooting procedures on the Key Management Facility (KMF) server and client.

TARGET AUDIENCE

System operators, managers and field technicians responsible for the management and maintenance of secure end-to-end communications in a DIMETRA™ X Core system.

COURSE OBJECTIVES

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

- Describe the theory of DIMETRA™ secure communications operation.
- Carry out KMF client administration tasks.
- Utilize the E2E KVL.
- Perform KMF OTAK/OTEK management activities and procedures.
- Setup an MCC 7500S secure console.
- Administer the KMF server.

REQUISITE KNOWLEDGE

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

- DMT9100 DIMETRA™ X Core D9.1 System Overview

PREREQUISITES

None



DIMETRA™ X CORE D9.1 NETWORK SECURITY

3 DAYS DMT9106

COURSE OVERVIEW

The workshop is designed to give an overview of the elements of the DIMETRA™ X Core network security solution. The generic threat to network security will be discussed. During this workshop, delegates will perform basic procedures using network security software elements.

TARGET AUDIENCE

System Operators, Managers, and Field Technicians responsible for the management and maintenance of Network Security in a DIMETRA™ X Core system.

COURSE OBJECTIVES

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

- Describe the generic threats to network security.
- Describe the DIMETRA™ X Core antivirus protection.
- Describe the DIMETRA™ X Core authentication management.
- Describe the perimeter protection available with the DIMETRA™ X Core system.

REQUISITE KNOWLEDGE

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

- DMT9100 DIMETRA™ X Core D9.1 System Overview

PREREQUISITES

None



DIMETRA™ X CORE D9.1 DISPATCH COMMUNICATIONS SERVER WORKSHOP

3 DAYS DMT9107

COURSE OVERVIEW

This workshop provides an overview of the DIMETRA™ Dispatch Communications Server as well as hands on activities in terms of configuration, administration, troubleshooting and maintenance aspects of the DCS server and DCS clients.

TARGET AUDIENCE

Field and system engineers who support the DCS solution.

COURSE OBJECTIVES

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

- Describe DCS functionality, topology, components and client connectivity.
- Describe DCS solution system limits, throughput and performance.
- Describe how DCS solution is incorporated in DIMETRA™ call processing.
- Perform configuration of DCS solution components.
- Administer and maintain the DCS solution.
- Perform diagnostic and troubleshooting activities for the DCS solution.
- Perform restoration procedures for DCS solution components in the event of failure.

REQUISITE KNOWLEDGE

None

PREREQUISITES

- DMT9100 DIMETRA™ X Core D9.1 System Overview
- DMT9101 DIMETRA™ X Core D9.1 Configuration and Administration Workshop

RADIO SOLUTIONS DIMETRA SYSTEMS

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training.emea@motorolasolutions.com



**DIMETRA™ X CORE D9.1
MSO RESTORATION
TRAINING**

5 DAYS DMT9108

COURSE OVERVIEW

During this workshop delegates will perform complete hardware, software and database restorations for DIMETRA™ X Core D9.1. The tasks will be carried out in a lab environment through hands-on activities according to the procedures and guidelines from system documentation.

TARGET AUDIENCE

Staff who troubleshoots and maintains a DIMETRA™ X Core D9.1 system.

COURSE OBJECTIVES

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

- Restore a DIMETRA™ X Core D9.1 System.
- Perform a complete system backup prior to re-installation.
- Complete a system power down.
- Reinstall system hardware/software.
- Restore a system database and reconfigure the system back to original operating conditions.
- Perform a post-restoration check and test.

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience may be required, depending on the system:

- DMT9105 DIMETRA™ X Core D9.1 Air Interface Encryption, Authentication, and Provisioning
- DMT9106 DIMETRA™ X Core D9.1 Network Security

PREREQUISITES

- DMT9100 DIMETRA™ X Core D9.1 System Overview
- DMT9101 DIMETRA™ X Core D9.1 Configuration and Administration Workshop
- DMT9102 DIMETRA™ X Core D9.1 Fault Management Workshop
- DMT9104 DIMETRA™ X Core D9.1 Troubleshooting and Maintenance Workshop



**DIMETRA™ EXPRESS
INSTALLATION,
CONFIGURATION AND
MAINTENANCE WORKSHOP**

2 DAYS DMT0036

COURSE OVERVIEW

This course will give the opportunity to install and configure a DIMETRA™ Express system from start to finish. Learners will be able to carry out all of the necessary configuration activities required when commissioning a DIMETRA™ Express radio network.

TARGET AUDIENCE

Anyone who has responsibility for setting up or managing DIMETRA™ Express system.

COURSE OBJECTIVES

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

- Describe DIMETRA™ Express main features and functionality.
- Install DIMETRA™ Express system.
- Setup a DIMETRA™ Express system.
- Setup and configure additional sites to the DIMETRA™ Express system.
- Configure a DIMETRA™ Express system using DIMETRA™ Express Network Manager application and procedures.
- Describe/Perform TETRA radio authentication process/provisioning in the DIMETRA™ Express system.
- Perform authentication application administration and management tasks.

REQUISITE KNOWLEDGE

A basic understanding of Radio Frequency (RF) technology and Internet Protocol (IP) fundamentals.

PREREQUISITES

None

CONSOLE COURSES

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DIMETRA™ X CORE D9.1 MCC 7500 OPERATOR WORKSHOP (DMT9112)	35
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MCD 5000 TECHNICAL OPERATIONAL WORKSHOP (RDS1022)	36



RADIO SOLUTIONS CONSOLES

For information on prerequisites and to register for courses visit the LXP at:
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training.emea@motorolasolutions.com



**DIMETRA™ X CORE D9.1
MCC 7500 ADMIN
WORKSHOP**

1 DAY DMT9111

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.

TARGET AUDIENCE

System Administrators for Dispatch Console Operators.

COURSE OBJECTIVES

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

- Identify the hardware components that make up the dispatcher position.
- Describe the Purpose of the Elite Admin application.
- Identify elements that make up the menu and toolbar structure within the Elite Admin software.
- Perform Elite Admin configurations.

REQUISITE KNOWLEDGE

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

- DMT9112 DIMETRA™ X Core D9.1 MCC 7500 Operator Workshop

PREREQUISITES

None



**DIMETRA™ X CORE D9.1
MCC 7500 OPERATOR
WORKSHOP**

1 DAY DMT9112

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.

TARGET AUDIENCE

Dispatch console operators.

COURSE OBJECTIVES

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

- Identify the hardware components that make up the dispatcher position.
- Describe the purpose of the Elite Dispatch application.
- Identify elements that make up the menu and toolbar structure within the Elite Dispatch software.
- Perform dispatcher operations:
 - Communicate with radios: transmit and receive calls within group and individual communications categories.
 - Perform advanced signaling features, i.e. Quicklists, 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.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**DIMETRA™ X CORE D9.1
MCC 7500 INSTALL, CONFIG,
TROUBLESHOOTING, AND
MAINTENANCE**

3 DAYS DMT9113

COURSE OVERVIEW

During this workshop students will perform installation, configuration and troubleshooting procedures relating to the MCC 7500C dispatch console on a live DIMETRA™ X Core D9.1 system.

TARGET 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™ X Core system.

COURSE OBJECTIVES

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

- Install and configure the hardware and software components of the MCC 7500C Dispatch Console subsystem.
- Troubleshoot installation and configuration problems for the MCC 7500C Dispatch Console.

REQUISITE KNOWLEDGE

Completion of the following course or equivalent experience:

- DMT9100 DIMETRA™ X Core D9.1 System Overview

PREREQUISITES

None

RADIO SOLUTIONS CONSOLES

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

For general information contact the Europe, Middle East and Africa Education Services Help Desk at:
training.emea@motorolasolutions.com



**DATAVOICE LIBRA
RECORDER SYSTEM FOR
DIMETRA**

2 DAYS DMT1007

COURSE OVERVIEW

This course will give an overview of the architecture, features, operations, and administration tasks required to maintain the DataVoice Logging solution within a DIMETRA™ system.

TARGET AUDIENCE

System Administrators of the Control Room, which includes MCC 7500 dispatch consoles and DataVoice equipment.

COURSE OBJECTIVES

By the end of the course you will be able to:


- Describe the components of DataVoice Logging Solution.
- Describe the Features and Functions of the DataVoice Logging system.
- State the steps required to perform DataVoice Libra Software Installation.
- Describe the Configuration elements need to operate the DataVoice Logger.
- Describe the backup steps required to restore the DataVoice logging configuration and database.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**DATAVOICE LOGGING
END USER COURSE**

1 DAY DMT1313

COURSE OVERVIEW

This course is an introduction to the DataVoice Logging Solution and WebRecall application, including Live Monitoring.

TARGET AUDIENCE

Users (operators) of the DataVoice Logging Solution.

COURSE OBJECTIVES

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

- Describe the components of the DataVoice Logging Solution.
- Describe the WebRecall features.
- Describe WebRecall operation and functionality, including Live Monitoring.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**MCD 5000 TECHNICAL
WORKSHOP**

3 DAYS RDS1022

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 MCD5000 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 Solutions recommended service level.

TARGET AUDIENCE

MCD 5000 Technicians

COURSE OBJECTIVES

By the end of the course, you 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.

REQUISITE KNOWLEDGE

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

- NST021 Communication Systems Concepts

PREREQUISITES

None

BASE STATIONS COURSES

MTS 2/MTS 4 INSTALLATION, CONFIGURATION, TROUBLESHOOTING & MAINTENANCE WORKSHOP (TBTS01)

38

MTS 1 INSTALLATION, CONFIGURATION, TROUBLESHOOTING AND MAINTENANCE (TBTS04)

38



RADIO SOLUTIONS BASE STATIONS

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MTS 2/MTS 4 INSTALLATION, CONFIGURATION, TROUBLESHOOTING AND MAINTENANCE WORKSHOP

4 DAYS TBTS01

COURSE OVERVIEW

This course 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 of Field Replaceable Units (FRU).

TARGET 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™ IP 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 MTS FRUs.
- Identify FRU part numbers.
- Utilise the Software Download application.
- Perform maintenance and testing procedures using Motorola TETRA BTS Service Software.
- Download a configuration file to the MTS using the BTS Service Software and Software Download Manager applications.
- Perform Ki loading procedures to the MTS.
- Carry out MTS expansion.
- Troubleshoot MTS to FRU level.

REQUISITE KNOWLEDGE

- RF and Field or Bench service background.
- Completion of a DIMETRA™ System Overview course or equivalent experience is recommended.

PREREQUISITES

None



MTS 1 INSTALLATION, CONFIGURATION, TROUBLESHOOTING AND MAINTENANCE

3 DAYS TBTS04

COURSE OVERVIEW

This course includes the theoretical and practical aspects of configuring, maintaining and troubleshooting the MTS 1 base station in a DIMETRA™ IP system. The course includes the practical use of service software and the man-machine commands. Practical sessions include the testing and configuration of the MTS 1.

TARGET AUDIENCE

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

COURSE OBJECTIVES

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

- Describe the function of the MTS 1 within a DIMETRA™ IP 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 - recommended

PREREQUISITES

None

SUBSCRIBER COURSES

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RADIO SOLUTIONS SUBSCRIBERS

For information on prerequisites and to register for courses visit the LXP at:
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training.emea@motorolasolutions.com

TETRA SUBSCRIBER END-USER OPERATOR COURSES

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



ST7000 END-USER OPERATOR

1 DAY DMT1083



MTP3000 SERIES END-USER OPERATOR

1 DAY DMT1054



MTP6000 SERIES END-USER OPERATOR

1 DAY DMT1068



MTM5000 SERIES END-USER OPERATOR

1 DAY DMT1070



MTP8000EX SERIES END-USER OPERATOR

1 DAY DMT1069



ST7500 END-USER OPERATOR

1 DAY DMT0033



MXP600 END USER OPERATOR

1 DAY DMT6003

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 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.

TARGET AUDIENCE

Radio end-user operators

COURSE OBJECTIVES

The goal of End-User Operator courses is to enable the user to identify the features and functions of their chosen subscriber, to make calls and perform basic radio troubleshooting.

After completing any of these courses, the student will be able to:

- Identify the location and function of all subscriber keys and controls.
- Describe radio preparation including assembly and battery charging.
- Make all available Trunked Mode and Direct Mode calls.
- List optional features available to the subscriber.
- Perform basic subscriber troubleshooting.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

RADIO SOLUTIONS SUBSCRIBERS

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OTHER SUBSCRIBER COURSES


Click the boxes below to go to the LXP to get additional information and to register for the following courses.



TETRA TERMINAL PROGRAMMING (CPS PLUS)
2 DAYS TTER01PLUS



TETRA SUBSCRIBER OPERATOR, PROGRAMMING AND MAINTENANCE
1 DAY DMT1107



ADVISOR TPG2200 TETRA TWO-WAY PAGER END USER OPERATOR
0.5 HRS DMT0029



INTEGRATED TERMINAL MANAGEMENT (REMOTE PROGRAMMING)
1 DAY DMT1050



TRACES WORKSHOP
2 DAYS TMSC04

RADIO SOLUTIONS SUBSCRIBERS

For information on prerequisites and to register for courses visit the LXP at:
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MOTOTRBO™ SUBSCRIBER AND REPEATER TECHNICAL SERVICE ACADEMY

4 DAYS TBO300

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 different models within the MOTOTRBO™ family of radios and repeaters.

TARGET AUDIENCE

Radio Technicians

COURSE OBJECTIVES

- 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

REQUISITE KNOWLEDGE

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

- CEDMEL2000 Introduction to MOTOTRBO™ Systems for Technicians

PREREQUISITES

None



MOTOTRBO™ RADIO MANAGEMENT 2.0 CONFIGURATION MODE

1 HR PCT1032

COURSE OVERVIEW

This self-paced course is a basic tutorial of Radio Management (RM) 2.0 Configuration Mode. A set of short videos present installation and deployment of RM components, explain the concepts of sets and configurations, and demonstrate the user how to navigate through RM Client views and functionalities. The course also covers migration from template to configuration mode, backup and restores procedures, as well as user and machine authorization.

TARGET AUDIENCE

Professionals responsible for configuring, deploying, or maintaining MOTOTRBO™ radios and repeaters.

COURSE OBJECTIVES

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

- Explain the purpose of that Radio Management Configuration (RM) Mode.
- Explain the concept of sets and configurations.
- Set up Radio Management 2.0 for the first time.
- Name and navigate through major RM Client views.
- Perform basic RM Configuration Client operations: populate and manage radio database, edit sets and configurations, etc.
- Perform Server Utility operations.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



MOTOTRBO™ RADIO MANAGEMENT WORKSHOP

2 DAYS PCT2022

COURSE OVERVIEW

The MOTOTRBO™ Radio Management 2.0 Workshop course provides technicians with the necessary information and practice to use the MOTOTRBO™ Radio Management 2.0 programming tool effectively.

TARGET AUDIENCE

System Managers and Technicians

COURSE OBJECTIVES

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

- Deploy and use RM 2.0 in a variety of real-world scenarios.
- Create and maintain configurations for basic MOTOTRBO™ Configurations
- Utilise Wi-Fi programming within RM 2.0.
- Use the RM Import and Export feature for database population.
- Convert existing radio templates and codeplugs to RM 2.0 Configurations.
- License and activate Radio and Application features.
- Use advanced features such as Data Mining.
- Use RM 2.0 to ease mass-deployments of subscribers.

REQUISITE KNOWLEDGE

- Networking Essentials or Network + Certification.
- A high-level working knowledge of IP networking.

PREREQUISITES

PCT1032 MOTOTRBO™ Radio Management 2.0 Configuration Mode

RADIO SOLUTIONS SUBSCRIBERS

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

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**APX™ TECHNICAL
SUBSCRIBER ACADEMY**

5 DAYS APX010

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 Level 2 (block-level) theory of operation for the APX family of radios and provide a review of APX CPS and Radio Management programming. In addition to the lecture, large amounts of hands on with scenario-based lab work will be used to reinforce knowledge transfer.

TARGET AUDIENCE

This course is intended for who would like to get familiar with the features, operation principles, troubleshooting steps and disassembly and reassembly of the APX family of radios .

COURSE OBJECTIVES

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

- Distinguish between the features and specifications of APX Portable and Mobile radios
- Verify the correct operation of the various radios within the APX family of subscribers by completing Performance Checks and Alignment procedures
- Disassemble and reassemble APX radios using the documented procedures
- Maintain and troubleshoot radios within the APX family of subscribers

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience:

- NST021 Communication Systems Concepts
- APX7001V APX CPS Programming and Template Building Overview

PREREQUISITES

None



**APX™ RADIO
MANAGEMENT OVERVIEW**

1 HR AST2003

COURSE OVERVIEW

This course provides an overview of the features and functions of the APX™ series Radio Management software. Participants will learn what the Radio Management software is designed to do, and will also learn how to use it to program large and small groups of subscribers.

TARGET AUDIENCE

Technicians and System Managers needing an understanding of the basics of the Radio Management application as well as database and fleet management.

COURSE OBJECTIVES

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


- Identify the solution that Radio Management provides
- Differentiate between All-in-One PC needs and Distributed Use needs regarding Radio Management
- Locate the APX™ Radio Management
- Navigate the APX™ Radio Management screens
- Populate the database
- Schedule a Read job
- Manage multiple APX™ radios simultaneously
- Create, modify, and select programming templates
- Schedule a Write job
- Conduct a search
- Search, sort, and group radios
- Sort and manage information in the Table view
- Identify the function of the Job view

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**APX™ RADIO
MANAGEMENT WORKSHOP**

3 DAYS RDS2017

COURSE OVERVIEW

Participants will learn the capabilities, features, and functions of the APX™ Radio Management Suite. The course contains networking labs and Radio Management labs that focus on installation, configuration, and operation using both wired and POP25 updates to APX™ Subscriber radios in both a LAN and WAN environment.

TARGET AUDIENCE

Radio Technicians, System Managers, Radio Programmers

COURSE OBJECTIVES

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

- Describe the APX™ Radio Management Suite operations and required software and hardware components
- Describe all deployment options for APX™ Radio Management Suite
- Configure a basic APX™ Radio Management system using a single PC, multiple PCs on a LAN, and a deployed server environment.
- Troubleshoot common APX™ Radio Management installation, configuration, and operation issues
- Use Best Practices to implement and optimise Radio Management Performance.

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience:

- APX7001/APX7001V APX™ CPS Programming and Template Building Overview

PREREQUISITES

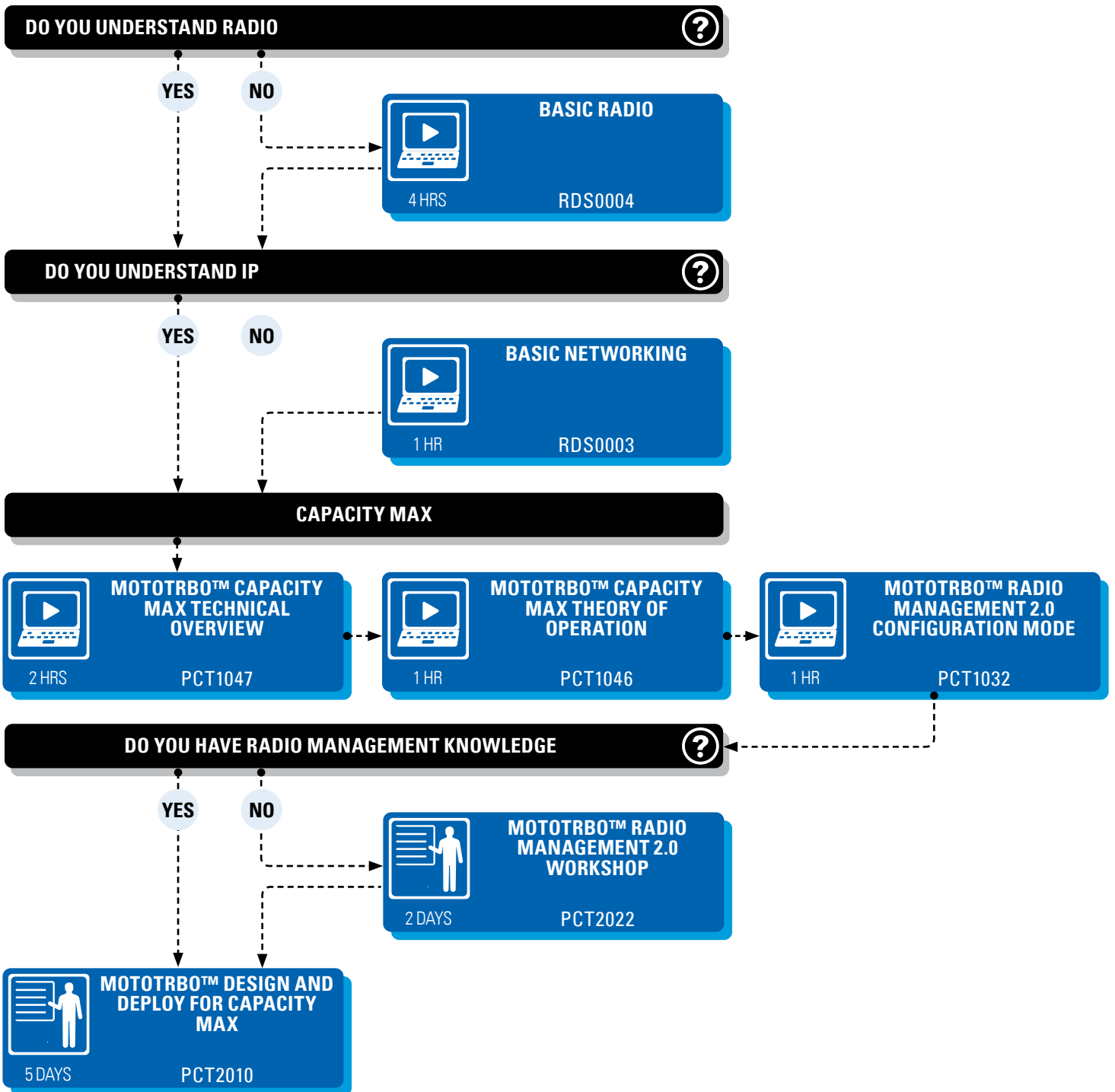
None

MOTOTRBO™ COURSES

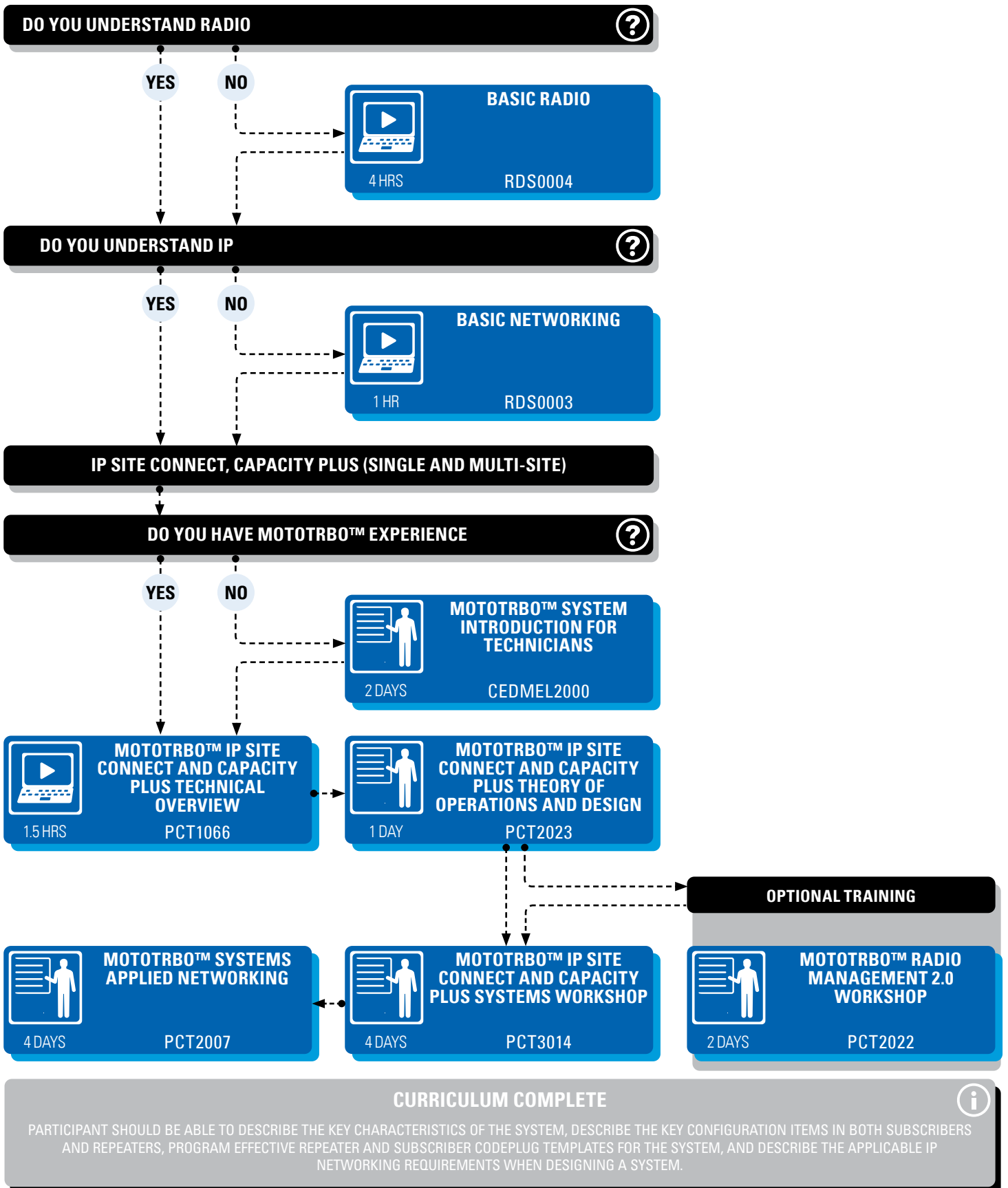
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MOTOTRBO™ TECHNICAL CAPACITY MAX TRAINING CURRICULUM



MOTOTRBO™ TECHNICAL IP SITE CONNECT, CAPACITY PLUS TRAINING CURRICULUM



RADIO SOLUTIONS MOTOTRBO™

For information on prerequisites and to register for courses visit the LXP at:
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training.emea@motorolasolutions.com



MOTOTRBO™ SYSTEM INTRODUCTION FOR TECHNICIANS

2 DAYS CEDMEL2000

COURSE OVERVIEW

This is an introductory course to the MOTOTRBO™ system theory of operation, key components and topologies. MOTOTRBO™ System Introduction for Technicians provides all the basic information about common MOTOTRBO™ features and capabilities, along with system design and deploy principles. Upon successfully completing this course, individuals should be ready to take the more advanced Design and Deploy courses for IP Site Connect, Capacity Plus (Multi-Site and Single Site), Capacity Max and/or Connect Plus.

TARGET AUDIENCE

Professionals responsible for selling, designing, configuring, deploying, or maintaining MOTOTRBO™ Digital Radio Systems.

COURSE OBJECTIVES

At the end of this course, you should be able to:

- Correctly categorize the different components available to build your MOTOTRBO™ system.
- Accurately explain the functional technology that MOTOTRBO™ systems employ
- Propose the MOTOTRBO™ topology that best fits the user requirements.
- Correctly describe MOTOTRBO™'s digital and analog features.
- Analyze the various data applications' capabilities and everyday uses within the MOTOTRBO™ systems.
- Refer to system and channel capacity considerations during system planning.
- Refer to MOTOTRBO™ IP network design considerations during system planning.
- Design a fleetmap in accordance with organizational requirements and resources.
- Select the right MOTOTRBO™ tool for your needs.
- Successfully purchase, register, and activate premium radio features.

REQUISITE KNOWLEDGE

Completion of the following optional courses or equivalent knowledge:

- RDS0003 Basic Networking
- RDS0002 Basic RF
- RDS0004 Basic Radio
- AAE1402 Professional and Commercial Radios (PCR) Portfolio Overview

PREREQUISITES

None



MOTOTRBO™ CAPACITY MAX TECHNICAL OVERVIEW

2 HRS PCT1047

COURSE OVERVIEW

This self-study course is designed to help you learn the fundamentals of the MOTOTRBO™ Capacity Max system. Whether you have a sales or technical background, this training will give you the information that you need to gain a basic understanding of a Capacity Max system. You will begin by exploring the DMR standard and Capacity Max's positioning within the MOTOTRBO™ portfolio of systems. You will also learn about the different hardware and software components that make up a Capacity Max system and gain an understanding of its logical and physical topology. Features, redundancy, design tools and warranty will also be covered in this course.

TARGET AUDIENCE

Professionals responsible for selling, designing, configuring, deploying, or maintaining MOTOTRBO™ radio systems.

COURSE OBJECTIVES

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

- Explain Digital Mobile Radio (DMR)
- Describe a basic Capacity Max system and where it fits in the MOTOTRBO™ Portfolio
- Describe the Capacity Max's system physical and logical topologies
- List the minimum hardware and software requirements for a Capacity Max system
- Distinguish the three different types of Capacity Max Operating Modes
- Identify the different features and license types available for a Capacity Max system


REQUISITE KNOWLEDGE

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

- RDS0004 Basic Radio

PREREQUISITES

None



MOTOTRBO™ CAPACITY MAX THEORY OF OPERATION

1 HR PCT1046

COURSE OVERVIEW

This foundational self-study course is designed to help you understand the theory of how a Capacity Max system functions. It describes the life cycle of a call, which includes: call initiation, call queuing, call grant or rejection, call transmission(s), and call termination. This knowledge is important for system troubleshooting and maintenance purposes.

TARGET AUDIENCE

Professionals responsible for selling, designing, configuring, deploying, or maintaining MOTOTRBO™ radio systems.

COURSE OBJECTIVES

Upon completion of this course, you will be able to describe and explain the functions of:

- Control Channel
- Roaming
- Radio Registration
- Call Request
- Call Setup
- Busy Queue
- Channel Allocation
- Call Termination

REQUISITE KNOWLEDGE

Basic Radio knowledge

PREREQUISITES

PCT1047 MOTOTRBO™ Capacity Max Technical Overview

RADIO SOLUTIONS MOTOTRBO™

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**MOTOTRBO™ DESIGN AND
DEPLOY FOR CAPACITY
MAX**

5 DAYS PCT2010

COURSE OVERVIEW

MOTOTRBO™ Capacity Max Design and Deploy begins by covering the design process for a Capacity Max Radio system. Participants will have the opportunity to practice designing and deploying a small scale, 2 Site/3 Channel, Capacity Max system in a safe classroom environment. This course will also cover how to configure Capacity Max using Radio Management 2.0 Configuration Mode.

TARGET AUDIENCE

This training is intended for professionals responsible for designing, configuring, or deploying MOTOTRBO™ radio systems.

COURSE OBJECTIVES

Upon completion of this course, you will be able to:

- Design a simple a 1-System 2 Site/3 Channel Capacity Max system.
- Calculate Capacity Max capacity and bandwidth using a Case Scenario and System Design tools.
- Using Radio Management Configuration Mode, configure your radios and infrastructure.
- Deploy a 1-System 2 Site/3 Channel Capacity Max system.
- Using System Advisor, learn the fundamentals of troubleshooting and -maintaining a Capacity Max system.
- Execute Radio Management database backup and restore.
- Describe how to optimise a Capacity Max system.

REQUISITE KNOWLEDGE

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

- Understanding IP Network Addressing.
- Knowledge of RF Propagation modeling tools

PREREQUISITES

- PCT1032 MOTOTRBO™ Radio Management 2.0 Configuration Mode
- PCT1046 MOTOTRBO™ Capacity Max Theory of Operation
- PCT1047 MOTOTRBO™ Capacity Max Technical Overview



**MOTOTRBO™ IP SITE
CONNECT AND CAPACITY
PLUS TECHNICAL
OVERVIEW**

1.5 HRS PCT1066

COURSE OVERVIEW

This course is designed to help you understand the basics of a MOTOTRBO™ IP Site Connect and a MOTOTRBO™ Capacity Plus system. We'll begin by exploring their capabilities, features and positioning within the MOTOTRBO™ system solutions. You will also learn about the different system components and their general topology. The course will also review available MOTOTRBO™ services packages.

TARGET AUDIENCE

Professionals responsible for selling, designing, configuring, deploying, or maintaining MOTOTRBO™ radio systems.

COURSE OBJECTIVES

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

- Describe a MOTOTRBO™ IP Site Connect and Capacity Plus system.
- Explain the capabilities of the MOTOTRBO™ IP Site Connect and Capacity Plus system.
- Identify the MOTOTRBO™ IP Site Connect and Capacity Plus system components.
- Identify a MOTOTRBO™ IP Site Connect and Capacity Plus topology.
- Explain the difference in service plans between these systems.

REQUISITE KNOWLEDGE

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

- RDS0004 Basic Radio
- CEDMEL2000 MOTOTRBO™ Systems Introduction for Technicians

PREREQUISITES

None



**MOTOTRBO™ IP SITE
CONNECT AND CAPACITY
PLUS THEORY OF
OPERATIONS AND DESIGN**

1 DAY PCT2023

COURSE OVERVIEW

This course is designed to help you gain a solid foundation and understanding of the theory behind how an IPSC and Capacity Plus system functions. It describes the life cycle of a call, repeater arbitration and Motorola's proprietary Enhanced Channel Access (ECA) feature. In addition, you will learn about the different IPSC and Capacity Plus system design options, fleetmapping and the MOTOTRBO System Design Tool.

TARGET AUDIENCE

Professionals responsible for designing and deploying MOTOTRBO™ radio systems.

COURSE OBJECTIVES

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

- Explain the call processing methods.
- Define repeater arbitration, Enhanced Channel Access (ECA) and All Start.
- List the considerations that must be taken into account when designing a MOTOTRBO™ IP Site Connect, Capacity Plus Single-Site or Capacity Plus Multi-Site system.
- Use the MOTOTRBO™ System Design Tool to size the system.
- Explain the purpose of Fleetmapping, how to conduct a fleetmap and its importance in system design.
- Illustrate possible system deployment topologies based on options selected.
- Describe the roaming process which helps to optimise User coverage.
- Describe Data capabilities.
- Understand the purpose and intent of voting repeaters and receivers.

REQUISITE KNOWLEDGE

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

- RDS0004 Basic Radio
- CEDMEL2000 MOTOTRBO™ Systems Introduction for Technicians

PREREQUISITES

PCT1066 MOTOTRBO™ IP Site Connect and Capacity Plus Technical Overview

RADIO SOLUTIONS MOTOTRBO™

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

For general information contact the Europe, Middle East and Africa Education Services Help Desk at:
training.emea@motorolasolutions.com



MOTOTRBO™ IP SITE CONNECT AND CAPACITY PLUS SYSTEMS WORKSHOP
4 DAYS PCT3014

COURSE OVERVIEW

This course allows the participant to acquire in-depth hands-on experience in planning, configuring, and deploying the following MOTOTRBO™ systems: Digital Conventional, IP Site Connect, Capacity Plus Single and Multi-Site. Under the Instructor's guidance, participants will have the opportunity to practise designing and deploying the systems in a safe classroom environment. The course also provides information on the fleetmapping considerations together with exercises for each system type.

TARGET AUDIENCE

Professionals responsible for deploying MOTOTRBO™ radio systems.

COURSE OBJECTIVES

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

- Describe the MOTOTRBO™ IP Site Connect and Capacity Plus (Single and Multi-Site) systems, their capabilities, system components, and data application.
- Describe the MOTOTRBO™ IP Site Connect and Capacity Plus (Single and Multi-Site) theory of operation.
- Describe the available MOTOTRBO™ IP Site Connect and Capacity Plus (Single and Multi-Site) topologies.
- Take the steps needed to configure IP Site Connect and Capacity Plus (Single and Multi-Site) systems using MOTOTRBO™ CPS to program the subscribers and repeaters.

REQUISITE KNOWLEDGE

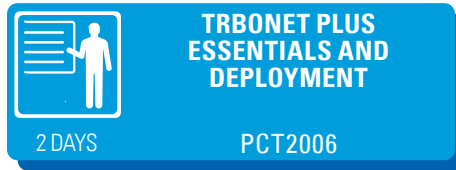
Completion of the following courses or equivalent knowledge:

- RDS0004 Basic Radio
- CEDMEL2000 MOTOTRBO™ System Introduction for Technicians

PREREQUISITES

Completion of the following course or equivalent experience:

- PCT1066 MOTOTRBO™ IP Site Connect and Capacity Plus Technical Overview
- PCT2023 MOTOTRBO™ IP Site Connect and Capacity Plus Theory of Operations and Design



TRBONET PLUS ESSENTIALS AND DEPLOYMENT
2 DAYS PCT2006

COURSE OVERVIEW

The TRBOnet Plus Workshop is a highly interactive course, providing delegates with the information needed to install and configure a TRBOnet Plus system. Information covered includes MOTOTRBO™ control rooms, TRBOnet specifications, as well as installation and configuration procedures.

TARGET AUDIENCE

System operations staff and field engineers involved in the installation and configuration of TRBOnet systems.

COURSE OBJECTIVES

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

- Describe TRBOnet PLUS functionalities
- Describe TRBOnet PLUS solution architecture
- List the system requirements for deploying a TRBOnet PLUS solution
- Describe the system design for IP Site Connect, Capacity Plus, Linked Capacity Plus
- Describe the system design for Connect Plus
- Define the set-up, installation and configuration process of the TRBOnet PLUS Radio Server
- Define the set-up, installation and configuration process of TRBOnet PLUS Dispatcher console functionalities
- Configure MOTOTRBO™ radios and repeaters for TRBOnet PLUS
- Configure MOTOTRBO™ Network Interface Service and MOTOTRBO™ DDMS Administrative Client

REQUISITE KNOWLEDGE

An understanding of IP network addressing and VoIP protocols.

Completion of the following course or equivalent experience:

- CEDMEL2000 Introduction to MOTOTRBO™ Systems for Technicians
- PCT1047 MOTOTRBO™ Capacity Max Technical Overview
- PCT1032 Radio Management 2.0 Configuration Mode

PREREQUISITES

None



SMARTPTT PLUS
3 DAYS PCT2005

COURSE OVERVIEW

This course covers all aspects of the SmartPTT Plus system. It provides detailed information on the system's benefits, architecture and features, including the requirements for deploying a SmartPTT system. The course then goes on to cover the installation and configuration of the Dispatch, Radioserver and associated system components and features.

TARGET AUDIENCE

Technicians and engineers who are involved in the design, deployment and installation or configuration of a SmartPTT Plus system.

COURSE OBJECTIVES

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

- Describe the function of SmartPTT PLUS
- Describe SmartPTT PLUS solution architecture
- List the system requirements for deploying a SmartPTT PLUS solution
- Describe the process of system design for IP Site Connect, Capacity Plus, Linked Capacity Plus
- Describe the system design processes for Connect Plus
- Define the set-up, installation and configuration process for the SmartPTT PLUS Radio Server
- Define the set-up, installation and configuration process for the SmartPTT PLUS Dispatcher console functions
- Configure MOTOTRBO™ radios and repeaters for SmartPTT PLUS
- Configure MOTOTRBO™ Network Interface Service and MOTOTRBO™ DDMS Administrative Client

REQUISITE KNOWLEDGE

An understanding of IP Networking Addressing and VoIP protocols

Completion of the following courses or equivalent knowledge:

- CEDMEL2000 Introduction to MOTOTRBO™ Systems for Technicians
- PCT1047 MOTOTRBO™ Capacity Max technical Overview
- PCT1032 Radio Management 2.0 Configuration Mode

PREREQUISITES

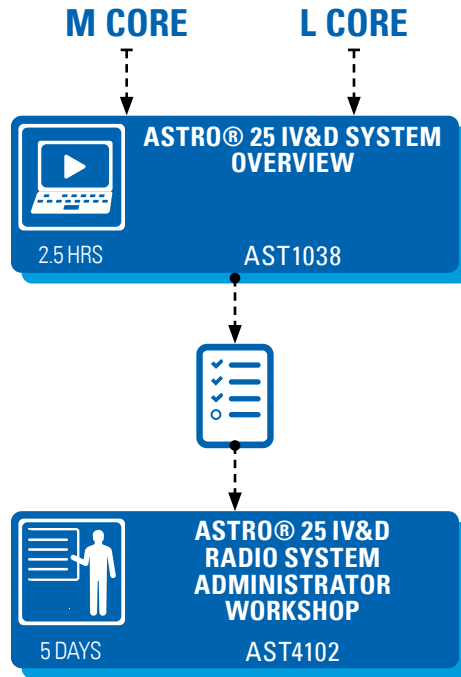
None

ASTRO® 25 IV&D SYSTEM COURSES

ASTRO® 25 IV&D SYSTEM OVERVIEW (AST1038)	55
ASTRO® 25 IV&D RADIO SYSTEM ADMINISTRATOR WORKSHOP (AST4102)	55
ASTRO® 25 IV&D WITH M CORE WORKSHOP (AST4103)	55
ASTRO® 25 IV&D SECURE COMMUNICATIONS WORKSHOP (AST4207)	56
ASTRO® 25 IV&D GTR 8000 REPEATER SITE WORKSHOP (AST4208)	56
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ASTRO® 25 IV&D RADIO SYSTEM ADMINISTRATOR



RECOMMENDED CURRICULUM IS COMPLETE



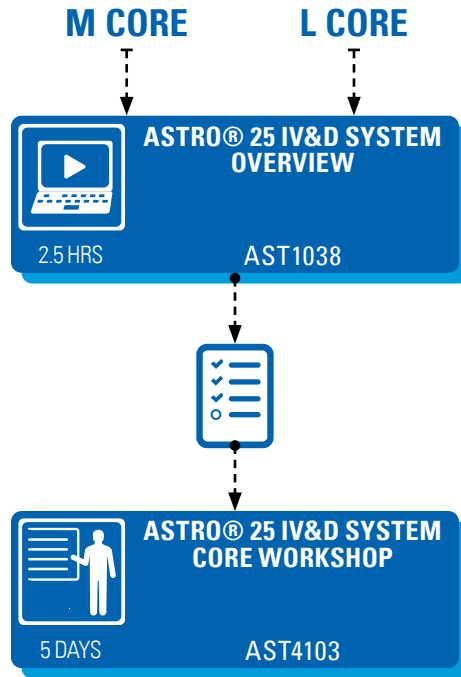
PARTICIPANT SHOULD BE ABLE TO CARRY OUT ADMINISTRATIVE TASKS IN THE ASTRO® 25 IV&D SYSTEM SUCH AS: PROVISIONING SUBSCRIBERS AND TALK GROUPS, GENERATING HISTORICAL REPORTS, CONTROLLING DEPLOYED SUBSCRIBERS AND MANAGING NETWORK ELEMENT CONFIGURATIONS. PARTICIPANT UNDERSTANDS FACTORS OF SYSTEM CONFIGURATION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

RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

For information on prerequisites and to register for courses visit the LXP at:
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training.emea@motorolasolutions.com

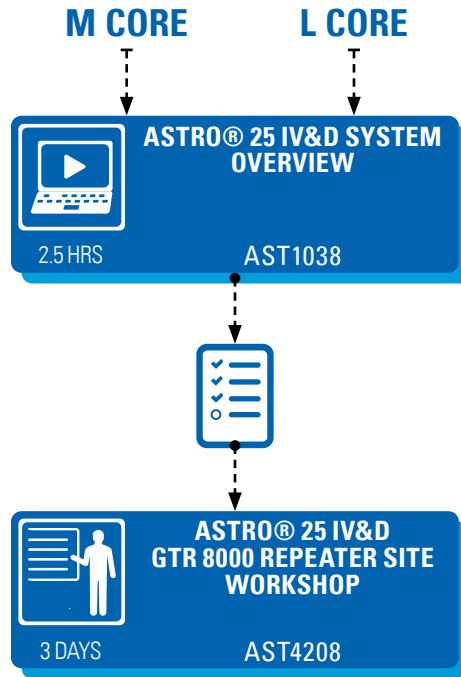
ASTRO® 25 IV&D M/L CORE TECHNICIAN



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 REPEATER SITE TECHNICIAN (GTR)

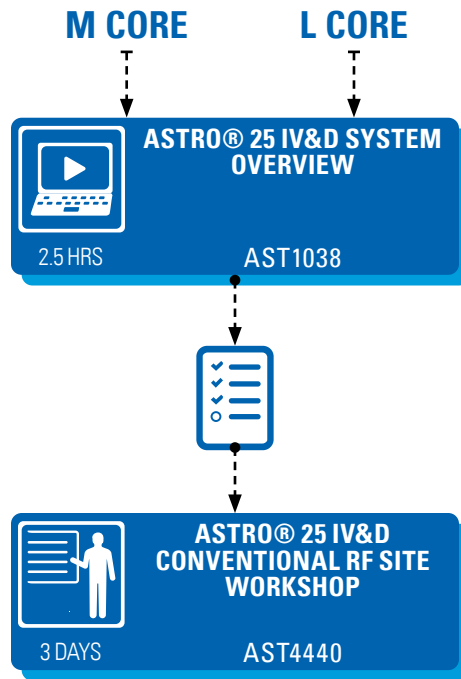


RECOMMENDED CURRICULUM IS COMPLETE



PARTICIPANT CAN MAINTAIN AN ASTRO® 25 REPEATER SITE INCLUDING: GTR8000 BASE STATION, GCP8000 SITE CONTROLLER AND OTHER SITE EQUIPMENT.
*PARTICIPANT PERFORMS ALIGNMENTS TROUBLESHOOTING AND FIELD REPLACEMENT OF SITE DEVICES DURING COURSE.

ASTRO® 25 IV&D CONVENTIONAL RF SITE TECHNICIAN



RECOMMENDED CURRICULUM IS COMPLETE

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

RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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ASTRO® 25 IV&D SYSTEM OVERVIEW

2.5 HRS

AST1038

COURSE OVERVIEW

The ASTRO® 25 IV&D System Overview course will provide participants with knowledge and understanding of the ASTRO® 25 IV&D system. This course will address M, L and K Core systems. System architecture, components and features will be explained. In addition, RF and console sites and their architecture, features and components will be discussed. Finally, call processing for voice and mobile data applications will be covered, and an introduction to applications available in the ASTRO® 25 system will be provided.

TARGET AUDIENCE

Core Technicians, Site Technicians, Console Technicians, Core Managers.

COURSE OBJECTIVES

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

- Understand the general architecture of an ASTRO® 25 IV&D Radio System
- Understand key features of available in the ASTRO® 25 IV&D Radio System
- Understand the components of the ASTRO® 25 Zone Core
- Understand site components in the ASTRO® 25 system
- Understand the features, capabilities and components of the MCC7000 series dispatch consoles
- Understand concepts of Mobility and Call Processing in the ASTRO25
- Understand the applications for managing the ASTRO® 25 system

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



ASTRO® 25 IV&D RADIO SYSTEM ADMINISTRATOR WORKSHOP

5 DAYS

AST4102

COURSE OVERVIEW

This workshop covers administrator functions for an ASTRO® 25 Integrated Voice and Data (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 organisation and personnel for optimal ASTRO® 25 IV&D system use.

TARGET 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.
- Identify the advantages and disadvantages of options available for the configuration of system infrastructure and user parameters.
- Use the report and real-time data to monitor performance and make adjustments necessary to maintain acceptable system performance levels.

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience:

- ACT101E Bridging the Knowledge Gap – System Administrators
- NST762 Networking Essentials in Communication Equipment
- AST4104 ASTRO® 25 Systems Applied Networking
- AST1038 ASTRO® 25 IV&D System Overview

PREREQUISITES

None



ASTRO® 25 IV&D SYSTEM CORE WORKSHOP

5 DAYS

AST4103

COURSE OVERVIEW

The ASTRO® 25 IV&D with ASTRO® 25 System Core course teaches advanced 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.

TARGET AUDIENCE

ASTRO® 25 System Core Master Site Technicians

COURSE OBJECTIVES

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

- Describe the ASTRO® 25 System architecture.
- Identify the functional and radio subsystems that comprise the ASTRO® 25 System.
- Explain and discuss call flow and data flow through Large System Core devices and their subsystems.
- Perform recommended routine maintenance procedures for the ASTRO® 25 Large System Core.
- Utilize the troubleshooting tools to diagnose a fault and restore the Large System Core to the level of the Motorola-supported service strategy.

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience:

- ACT100E or ACT101E Bridging the Knowledge Gap
- NST762 Networking Essentials in Communication Equipment
- AST4104 ASTRO® 25 Systems Applied Networking
- AST1038 ASTRO® 25 IV&D System Overview

PREREQUISITES

None

RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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**ASTRO® 25 IV&D
SECURE COMMUNICATIONS
WORKSHOP**

5 DAYS AST4207

COURSE OVERVIEW

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

TARGET AUDIENCE

System Technicians, System Administrators, Technical System Managers

COURSE OBJECTIVES

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

- Plan, organise, and implement Secure Communications in an ASTRO® 25 IV&D system.
- Install and configure a Key Management Facility (KMF) system and related components.
- Demonstrate centralised 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.

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience:

- ACT100E Bridging the Knowledge Gap - Technicians
- NST762 Networking Essentials in Communication Equipment

PREREQUISITES

None



**ASTRO® 25 IV&D
GTR 8000 REPEATER SITE
WORKSHOP**

3 DAYS AST4208

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.

TARGET 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 courses or equivalent experience:

- ACT101E Bridging the Knowledge Gap - Technicians
- NST762 Networking Essentials in Communication Equipment
- AST4104 ASTRO® 25 Systems Applied Networking
- AST1038 ASTRO® 25 IV&D System Overview

PREREQUISITES

None



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

3 DAYS AST4410

COURSE OVERVIEW

The ASTRO® 25 IV&D Conventional Core with Configuration Manager course teaches advanced troubleshooting skills and best practices for the ASTRO® 25 IV&D Conventional Core with Configuration Manager. It also focuses on administrator functions and how to use the ASTRO® 25 IV&D Configuration Manager applications. A technical introduction to the MCC 7500 as used within the ASTRO® 25 IV&D Conventional Core with Configuration Manager, 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.

TARGET AUDIENCE

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

COURSE OBJECTIVES

After completing the course the participant will be able to:

- Identify changes as a result of the upgrade early to more easily manage the changes.
- Identify operational procedures that will go away as a result of the upgrade.
- Identify operational procedures that will change as a result of the upgrade.
- Identify new operational procedures that will be available as a result of the upgrade.

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience:

- ACT101E Bridging the Knowledge Gap – System Administrators
- NST762 Networking Essentials in Motorola Communications Equipment
- AST4104 ASTRO® 25 Systems Applied Networking
- AST1038 ASTRO® 25 IV&D System Overview

PREREQUISITES

None

RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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**ASTRO® 25 IV&D
CONVENTIONAL RF SITE
WORKSHOP**

3 DAYS AST4440

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.

TARGET AUDIENCE

Site Technicians

COURSE OBJECTIVES

After completing the course the participant will be able to:

- Understand key physical and functional characteristics of conventional site.
- Perform tasks necessary to install conventional site components.
- Perform configuration steps for conventional site components.
- Understand available maintenance tools and indicators in conventional site.

REQUISITE KNOWLEDGE

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

- ACT101E Bridging the Knowledge Gap – System Administrators
- NST762 Networking Essentials in Motorola Communications Equipment
- AST4104 ASTRO® 25 Systems Applied Networking
- AST1038 ASTRO® 25 IV&D System Overview

PREREQUISITES

None



**ASTRO® 25 SYSTEMS
FLEETMAPPING**

3 DAYS RDS1017V

COURSE OVERVIEW

This virtual classroom training 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.

TARGET AUDIENCE

This course is intended for technical support staff who are involved in planning and mapping of an ASTRO® 25 IV&D radio system.

COURSE OBJECTIVES

By the end of the course, you 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

PREREQUISITES

None



**ASTRO® 25 IV&D
RADIO AUTHENTICATION**

2 DAYS AST2038

COURSE OVERVIEW

This course describes the Radio Authentication feature and defines the HW/SW components in the Radio Authentication system. In addition the course describes the Radio Authentication process, discusses the various Keys uses in Radio Authentication. The students will understand how to provision and distribute relevant Keys using the AuC Client GUI to access the AuC Server. Students will understand how to enable Radio Authentication in the System via the AuC Client and how to configure the KVL 4000 for Radio Authentication and manage subscribers from the AuC Client.

TARGET AUDIENCE

Customer Administrators or Technicians.

COURSE OBJECTIVES

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

- Describe Radio Authentication features and HW/SW components
- Describe the Radio Authentication process
- Discuss the Keys used in Radio Authentication
- Provision and Distribute relevant Keys
- Describe the AuC Client GUI
- Enable Radio Authentication in the System
- Configure the KVL 4000 for Radio Authentication
- Manage Subscribers from the AuC Client
- Discuss Radio Authentication functionality in a DSR system

REQUISITE KNOWLEDGE

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

- AAE1400 Radio Authentication.
- Radio System Administration or equivalent knowledge of the Provisioning Manager, ZoneWatch, Historical Reports, ATIA Log Viewer, Unified Event Manager (UEM), Unified Network Configurator (UNC).

PREREQUISITES

Access to customer ASTRO® 25 Radio System, AuC Server/Client is required. Customer to provide working Motorola Solutions' portable radio(s) capable of placing calls on the System, access to working AuC client/server along with admin login credentials, access to a working KVL4000 key loader that can upload keys to the AuC server.

PRIVATE BROADBAND

GINA OPERATOR TRAINING (RDS0011)	59
GINA ADMINISTRATION (RDS0012)	59
INTELLIGENT MIDDLEWARE (IMW) OPERATIONS AND ADMINISTRATION (RDS2025)	59
WAVE PTX USER PROVISIONING PORTAL (PSA0077)	60
WAVE PTX ENTERPRISE CONTACTS AND GROUP MANAGEMENT PORTAL (PSA0078)	60
WAVE PTX HANDSET STANDARD MODE (PSA0079)	60
WAVE PTX HANDSET PTT RADIO MODE (PSA0080)	61
WAVE PTX DISPATCH CONSOLE AND FEATURES (PSA0081)	61



PRIVATE BROADBAND

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training.emea@motorolasolutions.com



**GINA
ADMINISTRATION**

1 DAY RDS0012

COURSE OVERVIEW

The course is intended for individuals performing administrative roles in the management and maintenance of GINA systems. It includes a range of functions that an administrator can perform, from system configuration, logging, and daily upkeep, to user and solution management.

TARGET AUDIENCE

The course is primarily intended for system administrators that have full access rights, and it includes solution management from the backend perspective.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Present GINA architecture from a high-level perspective.
- Present configuration and integration details with Intelligent Middleware.
- Explore administrative options in the GINA Central client.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**GINA
OPERATOR TRAINING**

2 DAYS RDS0011

COURSE OVERVIEW

The course includes a conceptual overview of the solution, and presents operation procedures for the GINA Central environment.

TARGET AUDIENCE

The course is dedicated to system operators responsible for end-user management, dispatch activities, monitoring and processing emergency events.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Present GINA solution from a high-level perspective (IMW context is included).
- Explain basic system concepts.
- Introduce GINA Central from the operator's perspective.
- Present basic and advanced operations within the GINA Central environment.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**INTELLIGENT MIDDLEWARE
(IMW) OPERATIONS AND
ADMINISTRATION**

2 DAYS RDS2025

COURSE OVERVIEW

The purpose of this course is to provide the steps to operate and maintain a customer's IMW system within their Motorola system (ASTRO®, DIMETRA, LTE).

TARGET AUDIENCE

Professionals responsible for the operation and maintenance of a customer's IMW system within their Motorola systems (ASTRO®, DIMETRA, LTE).

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Describe IMW features.
- Configure an IMW system.
- Identify the IMW tools to administer the system.
- Perform routine administration.
- Perform troubleshooting.
- Understand system-specific considerations.

REQUISITE KNOWLEDGE

None


PREREQUISITES

None

PRIVATE BROADBAND

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**WAVE PTX USER
PROVISIONING PORTAL**

0.5 DAYS PSA0077

COURSE OVERVIEW

This course provides a detailed description and parameters required to provision users on the WAVE PTX platform.

TARGET AUDIENCE

Personnel responsible for provisioning and managing the end users on the WAVE platform.

COURSE OBJECTIVES

By the end of the course, you will be able to:


- Analyze and understand the parameters involved in provisioning new subscribers
- Provision individual subscribers on WAVE PTX platform
- Modify existing individual subscribers' personal data on WAVE PTX platform
- Delete subscription in case the subscriber do not intend to continue with the subscription
- View the features enabled for individual subscribers
- Select the featured packages as applicable to the subscriber's day-to-day work profile

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**WAVE PTX ENTERPRISE
CONTACTS AND GROUP
MANAGEMENT PORTAL**

0.5 DAYS PSA0078

COURSE OVERVIEW

The course is designed for the corporate/enterprise/agency administrator's responsible to manage the end users and their associated groups in their corporate/enterprise/agency. Discussion and explanation about certain features that can be enabled using CAT portal for the subscribers provisioned corporate/enterprise/agency on WAVE PTX platform.

TARGET AUDIENCE

Personnel responsible for provisioning and managing corporate (enterprise) contacts and groups for the end users on the WAVE PTX platform.

COURSE OBJECTIVES

By the end of the course, you will be able to:


- Add/remove contacts at an enterprise level for individual subscribers
- Add/remove groups at an enterprise level for individual subscribers
- Create new groups as required on the portal
- Configure status messages to be shared on talkgroups
- Create Inter-op subscribers/talkgroups to be connected with other LMR networks
- Enable/disable features from the portal for individual subscribers
- Add external subscribers into groups as required

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**WAVE PTX HANDSET
STANDARD MODE**

0.5 DAYS PSA0079

COURSE OVERVIEW

This course provides a detailed description of handset client usage for enterprise and features (as applicable and enabled at a customer level) on WAVE PTX platform. Topics include activation of handset standard client, usability of features such as IPA, Presence, Private Calls, Group Calls, Broadcast Group calling, PTX messaging and Location features.

TARGET AUDIENCE

End users and Tier-1 engineers responsible for troubleshooting end user's usage experiences.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Identify different client types.
- Activate the handset standard client type.
- Understand and work on the handset standard client features
- Make/receive different call types
- Send/receive multimedia messages
- Use the Emergency feature options

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

PRIVATE BROADBAND

For information on prerequisites and to register for courses visit the LXP at:
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For general information contact the Europe, Middle East and Africa Education Services Help Desk at:
training.emea@motorolasolutions.com



**WAVE PTX HANDSET PTT
RADIO MODE**

0.5 DAYS PSA0080

COURSE OVERVIEW

This course provides a detailed description of handset PTT Radio client (a.k.a LMR client) usage and features (as applicable and enabled at a customer level) on WAVE PTX platform. Topics include activation of handset PTT Radio client, usability of features such as IPA, Presence, Private Calls, Group Calls, Broadcast Group calling, PTX messaging, Ambient call, Discreet call, Location features and Emergency calling.

TARGET AUDIENCE

End users and Tier-1 engineers responsible for troubleshooting end user's usage experiences.

COURSE OBJECTIVES

By the end of the course, you will be able to:


- Identify different client types.
- Activate the handset PTT Radio client type.
- Understand and use the handset PTT Radio client features.
- Make/receive different call types.
- Send/receive multimedia messages.
- Use the Emergency feature options.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**WAVE PTX DISPATCH
CONSOLE AND FEATURES**

1 DAY PSA0081

COURSE OVERVIEW

This course provides a detailed description of Dispatch Console usage and features (as applicable and enabled for dispatch at customer level) on WAVE PTX platform. Topics include activation of Dispatch Console, usability of features such as Maps, Emergency calling, ABDG, Fleet member management, monitoring services, Location services and features, Private Calls, Group Calls, Broadcast Group calling, PTX messaging, Ambient call and Discreet call, status messaging, emergency services.

TARGET AUDIENCE

End users and Tier-1 engineers responsible for troubleshooting end user's usage experiences.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Activate the WAVE PTX Dispatch Console.
- Understand and work on the features available in Dispatch Console
- Make/receive different call types
- Send/receive multimedia messages
- Monitor activities on talkgroups
- Work on Location based features
- Work on maps for tracking fleet members
- Use the Emergency feature options.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



CYBERSECURITY COURSES

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CYBERSECURITY

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**CYBERSECURITY
FUNDAMENTALS ONLINE
EDITION**

5 HRS CYB0101

COURSE OVERVIEW

This course provides participants with a high-level overview of various aspects of Cybersecurity in the context of a modern and Internet-connected environment. Through lecture, hands-on exercises, and group discussion, you will gain a foundational perspective on the challenges of designing a cybersecurity program, implementing secure systems, and other factors needed for a comprehensive cybersecurity solution. Upon completion of this course, each participant will be able to define cybersecurity terminology, compliance requirements, review sample attacks, and gain an understanding of the impact of current threat trends on cybersecurity implementation.

TARGET AUDIENCE

This course is designed for anyone who needs to raise their cybersecurity awareness in their workplace, and also for those who are looking to increase their knowledge in various cybersecurity related fields.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Provide a general definition of the concept of cybersecurity.
- Identify basic cybersecurity terminology.
- Identify the primary cybersecurity threats from cyber war, cyber terrorism, and cybercrime.
- Describe specific cybersecurity challenges to the Federal government and the Department of Defense (DoD).
- Identify the key challenges to implementing security on the Internet.
- Develop connections between cybersecurity attack methods and motives for attackers.
- Analyze the role of legislation in cybersecurity and determine how countries respond nationally to various cyber attacks.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**CYBER INCIDENT
RESPONSE**

 CYB0103

COURSE OVERVIEW

Cyber Incident Response is a self-directed, self-paced Computer Based Training (CBT) program that equips students with the skills needed to fight back against modern cyber threats. Upon successfully completing this course, students will understand how to effectively prepare for, defend against and respond to successful cyber attacks.

TARGET AUDIENCE

The Cyber Incident Response training is designed for individuals with between 3 and 5 years of experience working in a computing environment as part of a CERT/CSIRT/SOC who desire or are required to protect critical information systems before, during, and after an incident which may be a cybersecurity attack.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Assess information security risk in computing and networking environments
- Collect cyber threat intelligence
- Analyze the cybersecurity threat landscape
- Respond to and investigate cybersecurity threats
- Analyze data collected from security event logs
- Assess and defend against post-attack techniques

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



CYBER ESSENTIALS

1 HR CYB0106

COURSE OVERVIEW

This course provides participants with a foundational understanding of cybersecurity and the everyday terminology used by cybersecurity professionals. From an in-depth discussion of cyber attacks shown through the perspectives of social engineering, phishing, and malware, this material focuses on the types of targets that adversaries look for each and every day. The course concludes with an updated review of best practices that both individuals and organizations alike can use to protect the quality of valuable data and related company information.

TARGET AUDIENCE

This course is designed for anyone who needs to raise their cybersecurity awareness in their workplace, and also for those who are looking to increase their knowledge in various cybersecurity related fields.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Analyze the broad role of NIST and how it relates to the field of cybersecurity.
- Identify the terminology and context of cybersecurity language used by cybersecurity experts every day.
- Contrast learned cybersecurity terminology into offensive versus defensive categories.
- Provide a general definition of the concept of cybersecurity.
- Identify the primary cybersecurity threats and attacks.
- Define the CIA triad security model.
- Compare examples of companies affected by phishing and malware.
- Create a strong security plan to proactively help users avoid instances of phishing and malware.
- Identify IR Plans and outline elements of sample suspicious phishing related emails.

REQUISITE KNOWLEDGE

None to Beginner. This course is designed for those who are either new to the cybersecurity field or want to gain a fundamental knowledge of the field for their own personal understanding. For those interested in exploring these topics further, we have additional courseware that expands on a variety of cybersecurity related topics.


PREREQUISITES

None

CYBERSECURITY

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CONDUCTING A VULNERABILITY ASSESSMENT

1 HR CYB0107

COURSE OVERVIEW

This course provides participants with an introduction to what vulnerability assessments are and how to begin the vulnerability assessment process. As the course takes participants through the ten (10) major steps of a security assessment, the course also discusses the concept of penetration testing (pentesting), the types of scans available, and the importance of developing a solid remediation and mitigation plan. The course concludes with a brief overview of penetration testing best practices and how to continue a scanning cycle that will help remediate future incidents for your organization.

TARGET AUDIENCE

This course is specifically designed as an introduction to vulnerability assessments and is focused towards individuals (directors, program managers, security officers, IT, others) who manage multiple types of assets within your organization on a daily basis.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Identify the focus of a vulnerability assessment
- Recognize the vulnerability assessment legal landscape
- Define the difference between vulnerability assessments and penetration testing

REQUISITE KNOWLEDGE

None to Beginner. This course was built as a foundational introduction to the field of vulnerability assessments and how cybersecurity policies can affect the security of your assets that you manage daily. For those interested in exploring these topics further, we have additional courseware that expands on a variety of these and other cybersecurity related topics.

PREREQUISITES

None



CYBER ATTACK PREPAREDNESS

1.5 HRS CYB0115

COURSE OVERVIEW

This course provides participants with a broad discussion on different cyberattacks and how to prepare and defend against them. The course will highlight the effects of damages inflicted from a cyberattack and provide relevant examples of specific attacks. These examples will include topics like identity theft, loss of personally identifiable information, and also loss of access or the deletion of your personal documents and files.

TARGET AUDIENCE

This course is specifically designed as an introduction to the concept of cyber attacks and how cyber attacks can affect the overall security and safety of your personal and customer data. While this course will be useful to individuals within the IT field, it is also recommended for anyone who works or spends a significant amount of time online each and every day.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Define a cyberattack.
- Describe the effects of a cyberattack.
- Identify 3 types of cyberattack methods.
- Explain the 3 steps in preparing for a cyberattack.
- Locate additional resources for preparing and responding to cyberattacks.

REQUISITE KNOWLEDGE

None to Beginner. This course was built as a foundational introduction to the basics of cyber attacks and they can create varying levels of damage based on the impact of the attack once deployed. By expanding your knowledge of the attack vectors and other related patterns, you can create logical defensive strategies that can help secure both your personal and professional networks. For those interested in exploring these topics further, we have additional courseware that expands on a variety of these and other cybersecurity related topics.

PREREQUISITES

None



THE COMPLETE INCIDENT RESPONSE (IR) PROCESS

2.5 HRS CYB0127

COURSE OVERVIEW

This course provides participants with a comprehensive introduction to the incident response (IR) process from the view of the analyst and general employee. From defining a security incident, to discussing the levels and types of a security breach, this course looks at how information used within your organizational systems can be used as a potential source of vulnerability for malicious organizations and rogue threat actors. The course breaks down IR further through various sources of information, from network and system monitoring, to the Supply Chain, and system audit logs. The modules presented here discuss the impact of a cyber incident and the steps needed for rapid IR response based on the specific impact categories and how response times directly influence internal and external organizational goals. The course concludes with an introduction into documentation, maintaining accurate records, and discussing the value of forensic analysis and how it plays an important role in maintaining the quality of each tailored IR response unique to the situations of your organization.

TARGET AUDIENCE

This course will be useful to individuals within the IT field, it is also recommended for anyone who works or spends a significant amount of time online each and every day.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Identify what constitutes a security incident.
- Outline the incident response process.
- Illustrate different incident indicators and precursors.
- Analyze incident response documentation requirements.

REQUISITE KNOWLEDGE

None to Beginner.

PREREQUISITES

None



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