



PRODUCT AND SYSTEM TECHNICAL TRAINING COURSE CATALOGUE

MOTOROLA SOLUTIONS EDUCATION SERVICES





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 maximise the value of your communication technologies.

Whether your organisation 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 specialise 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 at your location or you visit our state-of-the-art facilities, we can help ensure that your personnel know how to amplify your investment, maximise operational efficiency, and ensure an unbreakable lifeline.

We look forward to working with you.



MOTOROLA
SOLUTIONS



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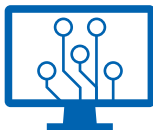


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GENERAL INFORMATION

AN INTERACTIVE LEARNING MANAGEMENT SYSTEM... DESIGNED FOR YOU!

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

View your history and upcoming training on your personalised 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

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

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

THE LEARNING MANAGEMENT SYSTEM (LMS)

The LMS is your valuable resource to see the latest courses, descriptions, requirements, dates and locations.

If you are a Motorola Solutions Customer who already has a Motorola 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
- 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 LMS ACCOUNT)



- Log in to the LMS: **<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 OPTIONS

In this catalogue you will find a wide range of learning initiatives; some of them have been developed to be completed at your own pace, and others are led by our Technical Instructors:

LIVE TRAINING

It consists of scheduled live sessions, delivered either in class or in a virtual environment by our Technical instructors. Participants can immerse themselves in the subject; they receive substantial time for hands-on training that enables them to develop creating solutions for

unique problems. In both classes, the number of seats available is limited and advanced registration is required.

On the job training is also available, for those who prefer a more direct instruction.

ONLINE TRAINING

Online self-paced learning allows your team to gain foundational knowledge on a variety of topics using their computer, at their own schedule.

Where to start? Our training roadmaps 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.



UNDERSTANDING THE ICONS



LIVE TRAINING



ONLINE TRAINING



EXAM

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.

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HELPFUL INFORMATION

HOW TO MAKE PAYMENTS WHEN ENROLING IN A COURSE

HOW TO MAKE PAYMENTS WHEN REGISTERING

For your convenience we accept the following methods of payment:

- Credit Card
- Purchase Order
- Company Check

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

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

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ITALY	800 791 276
KINGDOM OF SAUDI ARABIA	800 811 0523
NETHERLANDS	0800 024 9893
NORWAY	800 148 02
POLAND	00800 121 5772
RUSSIA	810 8002 861 5011
SPAIN	9009 416 84
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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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training.emea@motorolasolutions.com

SAMPLE PACKAGE



DIMETRA INFRASTRUCTURE SUPPLEMENT EDUCATION 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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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 typically done on site using your equipment. The interactive End-user tool Kit (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 tool Kit (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 tool Kit (iEUTK) and/or tailored end user materials support this training option.

CONSOLES TRAINING

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

- MTP/MTM Series
- APX™ Series
- MOTOTRBO™ Series



SECURE, FLUENT AND COMPETENT USAGE OF YOUR NETWORK THROUGH SIMULATOR BASED TRAINING.

TETRASIM™ TRAINING

WHAT IS TETRASIM™ TRAINING?

Motorola Solutions Education Services EMEA can now provide a full portfolio of customised subscriber training through TETRAsim, the global leader in Tetra Training simulators, to simulate a Tetra operational environment in the safety of the classroom.

Motorola Solutions Education Services is pleased to offer customised training for your workforce to simulate a real TETRA operational environment using the TETRAsim simulator.

Traditional training with real devices requires extra hardware, maintenance and load on the operational TETRA network. Field training is complicated, immeasurable and uncontrollable. Cooperation between the authorities is difficult to track and there are no metrics for valid feedback.

Rather than providing subscriber operational training to your workforce using a real device, we offer the safety and support of training within a simulator classroom that includes network simulations and authentic realistic scenarios for hands-on practice, facilitating both individual practicals or group and tactical exercises.

SECURE, FLUENT AND COMPETENT USAGE OF YOUR NETWORK THROUGH SIMULATOR BASED TRAINING.

TETRAsim displays 3D subscriber models with real voice and data, with supporting graphics, instructions, feedback and a high level of user interaction.

Your training can be customised to your exact requirements and to mimic your system equipment and radio type, including radio parameters.

TETRAsim offers a variety of options for the instructor to plan, control and evaluate the training. It also enables controllable dispatcher training on all TETRA features and organisationally specific operational procedures.

During the simulations, every action is automatically measured to ensure that the trainees' skills meet the standard level. Afterwards the instructor can provide feedback to the group referencing specific behaviours at specific time marks.

We can provide training on TETRAsim subscriber simulators or TETRAsim command and control simulators.

OUR CLASSROOMS ARE CONFIGURED TO SUPPORT:

- THE TRAINER SYSTEM
- A NETWORK SIMULATOR
- UP TO 100 RADIO SIMULATORS
- UP TO 50 DISPATCHER/API SIMULATORS
- INTEGRATED APPLICATIONS

FOUNDATIONAL COURSES

BASIC RF (RDS0002)	16
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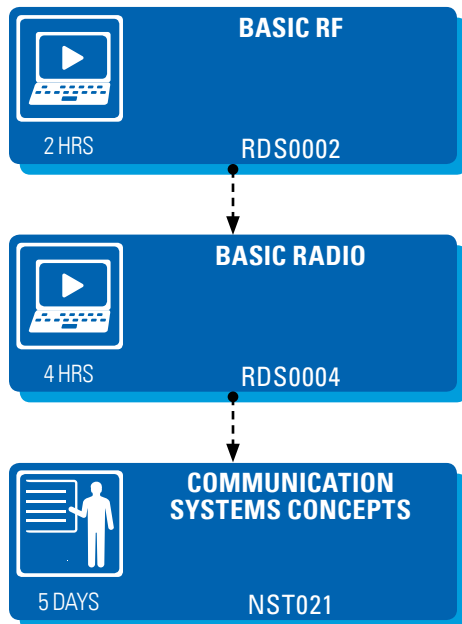
RADIO SOLUTIONS FOUNDATIONAL

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training.emea@motorolasolutions.com

RF FUNDAMENTALS

RF BASICS / RADIO SYSTEM BASICS

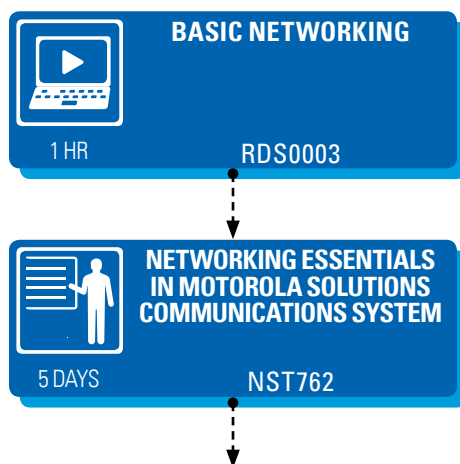


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IP/NETWORKING FUNDAMENTALS



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

NWT003

CURRICULUM COMPLETE

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



[CLICK HERE TO GO TO
PAGE 22 FOR MORE
DETAILS ON DIMETRA](#)

[CLICK HERE TO GO TO
PAGE 49 FOR MORE
DETAILS ON MOTOTRBO™](#)

[CLICK HERE TO GO TO
PAGE 57 FOR MORE
DETAILS ON ASTRO® 25](#)

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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 including basic radio, RF propagation, modulation, antenna systems, transmission lines and data-communications.

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

None

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 and it was especially designed to meet the needs of the MR Channel and Motorola Solutions employees.

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

**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

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**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

Technical System Managers and Technicians

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- Graduate of a basic electronics course

PREREQUISITES

None

**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

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

- Comp-TIA Server+ Certification or equivalent

PREREQUISITES

None

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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

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

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

PREREQUISITES

None



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 the basic Motorola Solutions Communications Systems is highly recommended
- Basic familiarisation with computer operating systems is required
- A basic knowledge of networking is helpful and recommended

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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**BRIDGING THE KNOWLEDGE
GAP FOR ASTRO® 25 –
SYSTEM ADMINISTRATOR**

4 HRS

ACT101E

COURSE OVERVIEW

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

TARGET AUDIENCE

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

COURSE OBJECTIVES

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

- Identify different communication concepts using representative block diagrams of the respective systems
- Compare radio system communication concepts using representative block diagrams of the respective systems.
- Compare how voice and data information flows through different radio communication system types, and how the 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



**ASTRO® 25 SYSTEMS
APPLIED NETWORKING**

5 DAYS

NWT003

COURSE OVERVIEW

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

TARGET AUDIENCE

Technical System Managers and Technicians

COURSE OBJECTIVES

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

- Define basic IP network concepts, hardware and protocols.
- Describe the LAN topologies for the ASTRO® 25 system.
- Describe the WAN topologies for the ASTRO® 25 system.
- Identify the current and legacy network components such as switches and routers.
- Perform backup, restore, and recovery procedures of routers and LAN switches.
- Use basic IP network connectivity and addressing.
- Define ASTRO® 25 Master Site VLAN/VRRP operation.
- Define ASTRO® 25 Network Transport Subsystem.
- Describe the various ASTRO® 25 Network Management applications.
- Identify network security components and concepts in an ASTRO® 25 system.
- Diagram SNMP deployment throughout the system.


REQUISITE KNOWLEDGE

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

- NST762 Networking Essentials in Motorola Communications Systems

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

RADIO SOLUTIONS FOUNDATIONAL

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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



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 List
- Describe and compare digital modulation schemes
- List common frequency spectrum bands and describe their common uses
- Describe the transmission line theory
- Provide the rules for cable selection, routing and installation
- List advanced RF hardware filters, and provide their descriptions
- Discuss RF performance issues
- List and describe transmitter performance parameters
- List and describe receiver performance parameters
- List and describe common test equipment
- Describe the RF troubleshooting process

REQUISITE KNOWLEDGE

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

- RDS0002 RF Basics

PREREQUISITES

None



TETRA OVERVIEW

3 DAYS

TGTC06

COURSE OVERVIEW

This course will provide an introduction to TETRA as a precursor to proprietary TETRA and DIMETRA solutions.

TARGET AUDIENCE

Personnel requiring a generic introduction to TETRA.

COURSE OBJECTIVES

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

- Describe the history and function of the TETRA Standard and ETSI Role in the European Standard
- Describe the purpose and function of the various TETRA interfaces
- Describe the Benefits of the TETRA services provided
- List the benefits provided by the TETRA system
- Describe the TETRA specifications for, system parameters, protocol specifications and the TETRA spectrum
- Describe the various security safeguards in place within the TETRA standard for Radio communication systems
- Describe the functions and purpose of TETRA

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

RADIO SOLUTIONS FOUNDATIONAL

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**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



**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 D8.2 system

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

DIMETRA SYSTEMS COURSES

DIMETRA IP D9.0 SYSTEM OVERVIEW (TSYS01R90)	30
DIMETRA IP D9.0 CONFIGURATION & ADMINISTRATION WORKSHOP (TSYS04R90)	30
DIMETRA IP D9.0 FAULT MANAGEMENT WORKSHOP (TSYS06R90)	30
DIMETRA IP D9.0 PERFORMANCE MANAGEMENT WORKSHOP (TSYS08R90)	31
DIMETRA IP D9.0 TROUBLESHOOTING AND MAINTENANCE WORKSHOP (TSYS10R90)	31
DIMETRA IP D9.0 AIR INTERFACE ENCRYPTION, AUTHENTICATION AND PROVISIONING (TSYS12R90)	31
DIMETRA IP D9.0 SECURE COMMUNICATION COURSE (TSYS16R90)	32
DIMETRA IP D9.0 NETWORK SECURITY (TSYS17R90)	32
DIMETRA X CORE D9.0 SYSTEM OVERVIEW (DMT1088)	32
DIMETRA X CORE D9.0 CONFIGURATION AND ADMINISTRATION (DMT1089)	33
DIMETRA X CORE D9.0 FAULT MANAGEMENT (DMT1090)	33
DIMETRA X CORE D9.0 PERFORMANCE MANAGEMENT (DMT1091)	33
DIMETRA X CORE D9.0 TROUBLESHOOTING AND MAINTENANCE (DMT1092)	34
DIMETRA X CORE AIR INTERFACE ENCRYPTION, AUTHENTICATION AND PROVISIONING (DMT1093)	34
DIMETRA X CORE NETWORK SECURITY (DMT1095)	34
DIMETRA X CORE MSO RESTORATION (DMT1098)	35





DIMETRA SYSTEMS COURSES CTD

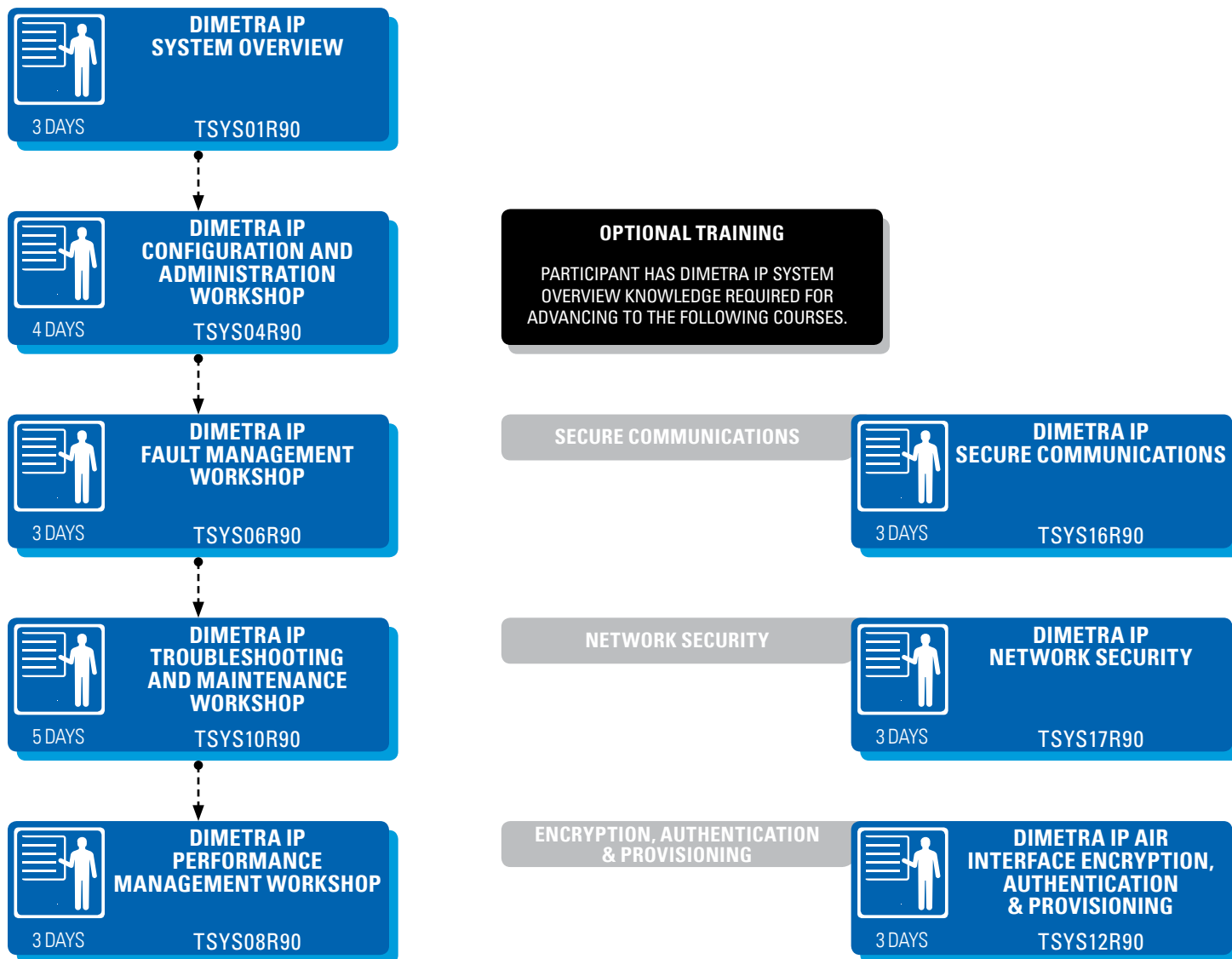
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DIMETRA APPLIED NETWORKING (DMT1108)	36
DIMETRA IP D8.2 DISPATCH COMMUNICATIONS SERVER WORKSHOP (DMT1112)	37

RADIO SOLUTIONS DIMETRA SYSTEMS

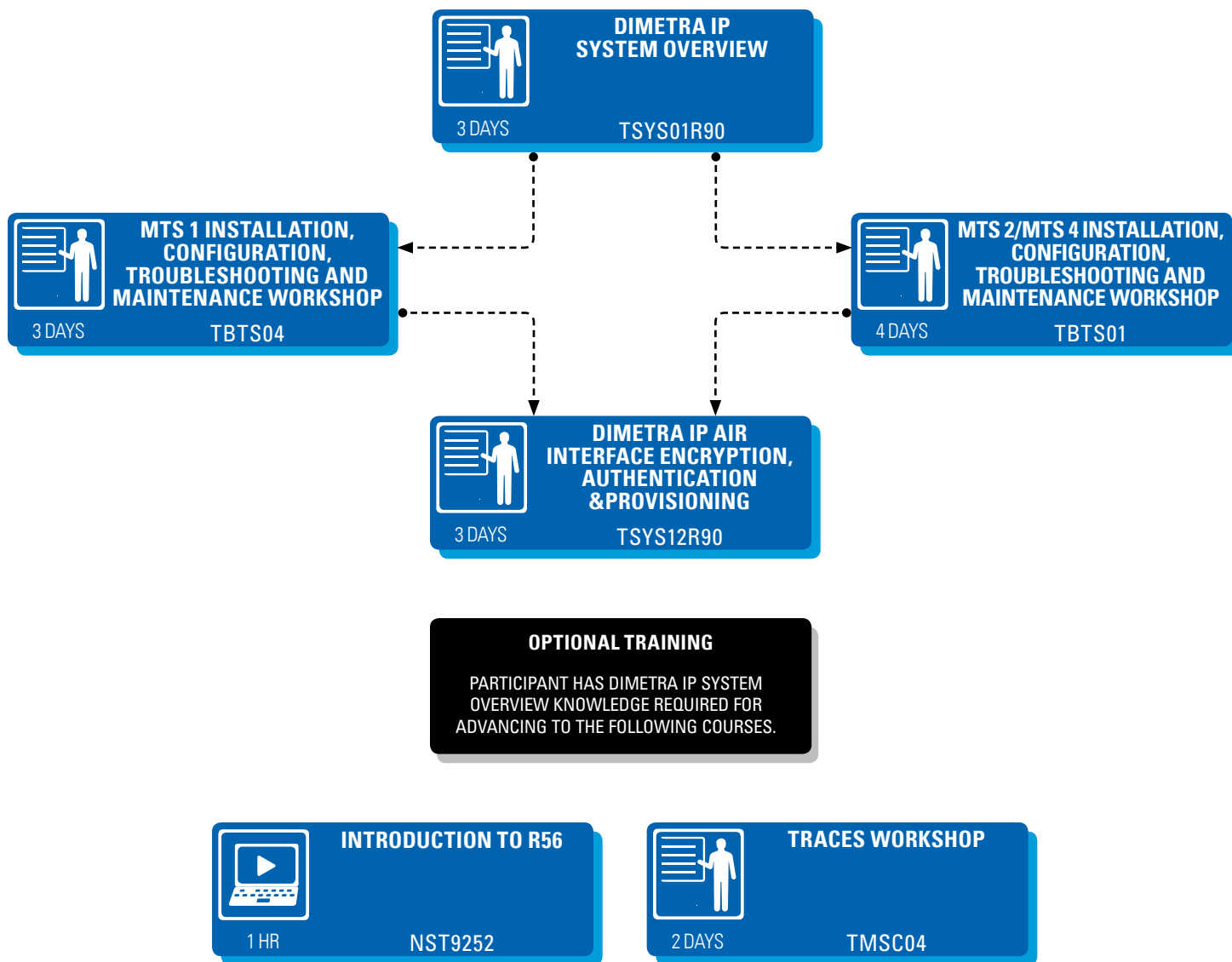
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DIMETRA IP MSO SYSTEM ENGINEER



DIMETRA IP FIELD ENGINEER




RADIO SOLUTIONS DIMETRA SYSTEMS

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DIMETRA IP SYSTEM ADMINISTRATOR



**DIMETRA IP
SYSTEM OVERVIEW**

3 DAYS TSYS01R90



**DIMETRA IP
CONFIGURATION AND
ADMINISTRATION
WORKSHOP**

4 DAYS TSYS04R90



**DIMETRA IP
FAULT MANAGEMENT
WORKSHOP**

3 DAYS TSYS06R90



**DIMETRA IP
PERFORMANCE
MANAGEMENT WORKSHOP**

3 DAYS TSYS08R90

OPTIONAL TRAINING

PARTICIPANT HAS DIMETRA IP SYSTEM
OVERVIEW KNOWLEDGE REQUIRED FOR
ADVANCING TO THE FOLLOWING COURSES.



**DIMETRA IP
SECURE COMMUNICATIONS**

3 DAYS TSYS16R90



TRACES WORKSHOP


2 DAYS TMSC04



**DIMETRA IP AIR
INTERFACE ENCRYPTION,
AUTHENTICATION
& PROVISIONING**

3 DAYS TSYS12R90

DIMETRA IP DISPATCH ADMINISTRATOR



**DIMETRA IP
SYSTEM OVERVIEW**

3 DAYS

TSYS01R90



**DIMETRA MCC7500
TROUBLESHOOTING
AND MAINTENANCE**

3 DAYS

TSYS31R90



**DIMETRA MCC7500
OPERATOR
TSYS32R90**

1 DAY

TSYS32R90



**DIMETRA MCC7500
ADMINISTRATOR
TSYS33R90**

1 DAY

TSYS33R90

OPTIONAL TRAINING

PARTICIPANT HAS DIMETRA IP SYSTEM
OVERVIEW KNOWLEDGE REQUIRED FOR
ADVANCING TO THE FOLLOWING COURSES.



**DIMETRA IP
SECURE COMMUNICATIONS**

3 DAYS

TSYS16R90



**DISPATCH
COMMUNICATIONS
SERVER WORKSHOP**

3 DAYS

DMT1112



**DIMETRA IP AIR
INTERFACE ENCRYPTION,
AUTHENTICATION
& PROVISIONING**

3 DAYS

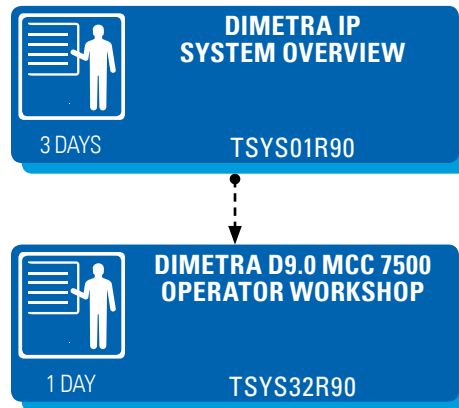
TSYS12R90

RADIO SOLUTIONS **DIMETRA SYSTEMS**

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DIMETRA IP DISPATCH OPERATOR

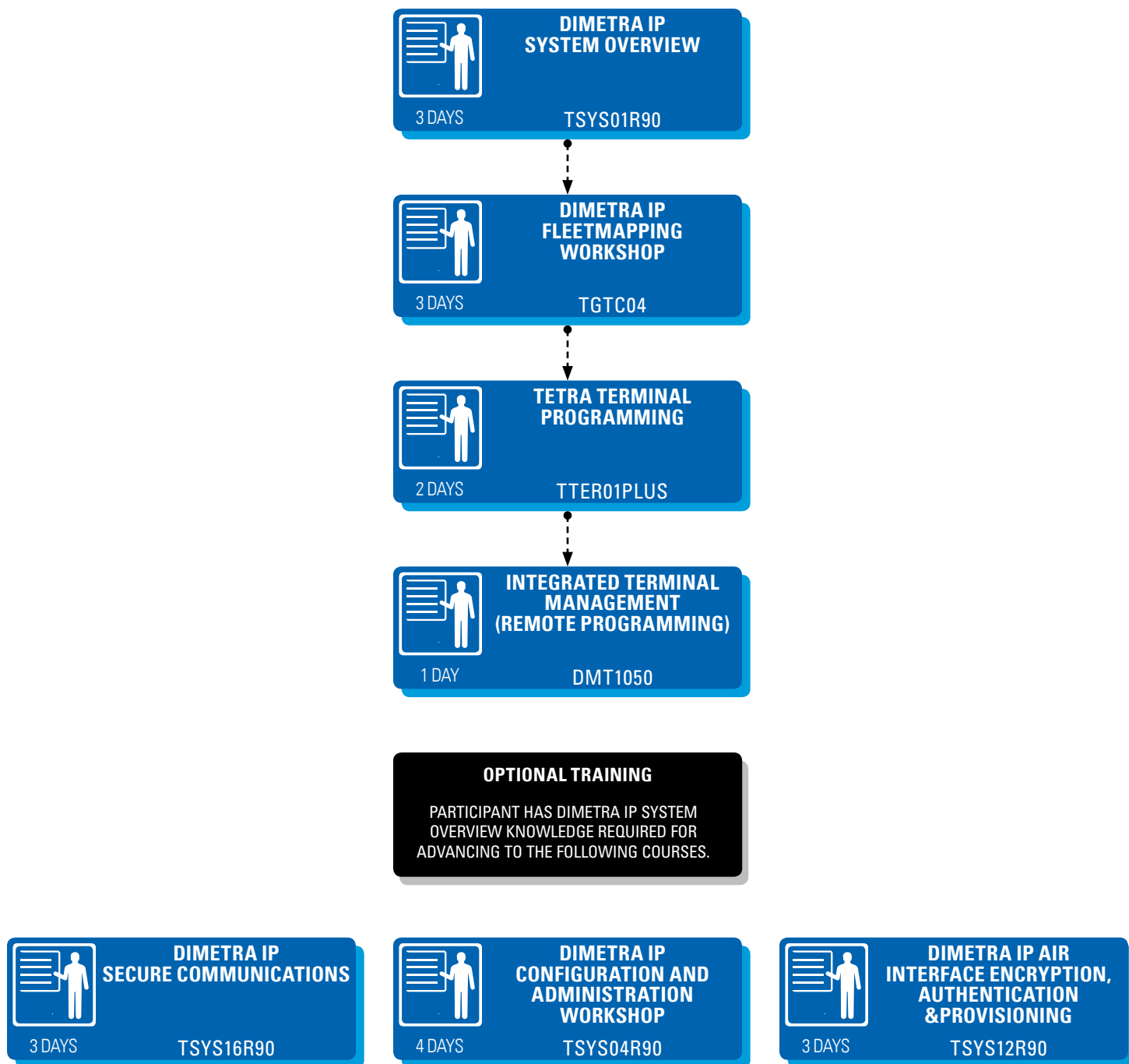


RADIO SOLUTIONS DIMETRA SYSTEMS

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RADIO PROGRAM AND FLEETMAPPING



RADIO SOLUTIONS DIMETRA SYSTEMS

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**DIMETRA IP D9.0
SYSTEM OVERVIEW**

3 DAYS

TSYS01R90

COURSE OVERVIEW

This course provides an overview of the features and functions of a DIMETRA IP D9.0 system. The course is divided into eight modules and includes descriptions of the various call types and system hardware functionality. An application overview describes the purpose of the software used to manage and administer the system. Each module includes an assessment designed to test learning.

TARGET AUDIENCE

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

COURSE OBJECTIVES

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

- Describe Basic Radio concepts.
- Describe DIMETRA IP benefits.
- Describe DIMETRA IP D9.0 features and their benefits.
- Describe DIMETRA IP D9.0 Single Zone system components and their functionality.
- Describe the purpose and function of DIMETRA IP D9.0 Network Management applications.
- Describe DIMETRA IP D9.0 Multi-Zone system components and their functionality.
- Describe how different types of calls are processed through a DIMETRA IP D9.0 system.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**DIMETRA IP D9.0
CONFIGURATION &
ADMINISTRATION
WORKSHOP**

4 DAYS

TSYS04R90

COURSE OVERVIEW

During this workshop delegates will use configuration and administration applications to manage a DIMETRA IP D9.0 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 IP D9.0 system.

COURSE OBJECTIVES

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

- Describe the purpose of Configuration Management and Server Administration within your DIMETRA IP D9.0 System
- Define tools used to perform Configuration Management
- Perform system user and infrastructure configuration procedures
- Perform basic System Security Management procedures
- Define Applications used to perform Network Management Server and Database Administration tasks
- Explain the importance of daily operational tasks
- Perform daily operational tasks.

REQUISITE KNOWLEDGE

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

- TSYS01R90 DIMETRA IP D9.0 System Overview course

PREREQUISITES

None



**DIMETRA IP D9.0 FAULT
MANAGEMENT WORKSHOP**

3 DAYS

TSYS06R90

COURSE OVERVIEW

The workshop will allow delegates to use applications to identify faults on systems components using a live DIMETRA IP D9.0 system and within the context of business scenarios.

TARGET AUDIENCE

System operations staff and field engineers who perform fault management tasks on a DIMETRA IP D9.0 system.

COURSE OBJECTIVES

After completing this course, the participant 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 IP system
- Use the TNCT to assist Fault Management
- Use the Zone Configuration Manager application to perform diagnostic functions within the DIMETRA IP system
- Use the Zone Watch application to assist Fault Management within the DIMETRA IP system
- Identify file backup procedures.

REQUISITE KNOWLEDGE

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

- TSYS01R90 DIMETRA IP D9.0 System Overview course

PREREQUISITES

None

RADIO SOLUTIONS DIMETRA SYSTEMS

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**DIMETRA IP D9.0
PERFORMANCE
MANAGEMENT WORKSHOP**

3 DAYS

TSYS08R90

COURSE OVERVIEW

During this workshop delegates will use applications on a live DIMETRA IP D9.0 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 IP D9.0 system.

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- TSYS01R90 DIMETRA IP D9.0 System Overview course

PREREQUISITES

None



**DIMETRA IP D9.0
TROUBLESHOOTING AND
MAINTENANCE WORKSHOP**

5 DAYS

TSYS10R90

COURSE OVERVIEW

During this workshop delegates will troubleshoot and maintain a live DIMETRA IP D9.0 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 IP D9.0 system.

COURSE OBJECTIVES

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

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


REQUISITE KNOWLEDGE

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

- TSYS01R90 DIMETRA IP D9.0 System Overview course
- TSYS06R90 DIMETRA IP D9.0 Fault Management Workshop

PREREQUISITES

None



**DIMETRA IP D9.0 AIR
INTERFACE ENCRYPTION,
AUTHENTICATION
AND PROVISIONING**

3 DAYS

TSYS12R90

COURSE OVERVIEW

During this workshop students will perform key management tasks on a live DIMETRA IP D9.0 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 IP D9.0 System.

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- TSYS01R90 DIMETRA IP D9.0 System Overview course

PREREQUISITES

None

RADIO SOLUTIONS DIMETRA SYSTEMS

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**DIMETRA IP D9.0 SECURE COMMUNICATION COURSE**

3 DAYS

TSYS16R90

COURSE OVERVIEW

During the workshop delegates will perform key management, administrative and maintenance tasks on a live DIMETRA D9.0 system. The workshop is divided into six modules and real business scenarios will allow delegates to perform key management, key transference, maintenance and troubleshooting procedures on the Key Management Facility (KMF) server and client.

TARGET AUDIENCE

System Operators, Managers and Field Technicians responsible for the management and maintenance of secure end-to-end communications in a DIMETRA D9.0 system.

COURSE OBJECTIVES

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

- Describe the theory of DIMETRA Secure Communications Operation.
- Carry out KMF Client Administration Tasks.
- Utilise the E2E KVL.
- Perform KMF OTAK/OTEK Management Activities and Procedures.
- Setup an MCC7500S Secure Console.
- Administer the KMF Server.

REQUISITE KNOWLEDGE

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

- TSYS01R90 DIMETRA IP D9.0 System Overview course

PREREQUISITES

None

**DIMETRA IP D9.0 NETWORK SECURITY**

3 DAYS

TSYS17R90

COURSE OVERVIEW

The workshop is designed to give an overview of the elements of the DIMETRA IP network security solution. The generic threat to network security will be discussed. The course is divided into six modules during which 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 IP D9.0 system.

COURSE OBJECTIVES

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

- Describe the Generic Threats to Network Security
- Describe the DIMETRA AntiVirus protection
- Describe the DIMETRA Authentication Management
- Describe and manage DIMETRA IP firewall protection

REQUISITE KNOWLEDGE

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

- TSYS01R90 DIMETRA IP D9.0 System Overview course

PREREQUISITES

None

**DIMETRA X CORE D9.0 SYSTEM OVERVIEW**

3 DAYS

DMT1088

COURSE OVERVIEW

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

TARGET AUDIENCE

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

COURSE OBJECTIVES

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

- Describe Basic Radio concepts.
- Describe DIMETRA X Core benefits.
- Describe DIMETRA X Core D9.0 features and their benefits.
- Describe DIMETRA X Core D9.0 Single Zone system components and their functionality.
- Describe the purpose and function of DIMETRA X Core D9.0 Network Management applications.
- Describe DIMETRA X Core D9.0 Multi-Zone system components and their functionality.
- Describe DIMETRA X Core D9.0 Inter-System Interface functionality.
- Describe how different types of calls are processed through a DIMETRA X Core D9.0 system.

REQUISITE KNOWLEDGE

None


PREREQUISITES

None

RADIO SOLUTIONS DIMETRA SYSTEMS

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**DIMETRA X CORE D9.0
CONFIGURATION
AND ADMINISTRATION**

4 DAYS

DMT1089

COURSE OVERVIEW

During this workshop delegates will use configuration and administration applications to manage a DIMETRA X Core D9.0 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 D9.0 system.

COURSE OBJECTIVES

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

- Describe the purpose of Configuration Management and Server Administration within your DIMETRA X Core D9.0 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:

- DMT1088 DIMETRA X Core D9.0 System Overview

PREREQUISITES

None



**DIMETRA X CORE D9.0
FAULT MANAGEMENT**

3 DAYS

DMT1090

COURSE OVERVIEW

The workshop will allow delegates to use applications to identify faults on systems components using a live DIMETRA X Core D9.0 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

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

- Define the role of Fault Management within Network Management.
- Define the role of each of the applications used within Fault Management.
- Utilise the Unified Event 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:

- DMT1088 DIMETRA X Core D9.0 System Overview

PREREQUISITES

None



**DIMETRA X CORE
D9.0 PERFORMANCE
MANAGEMENT**

3 DAYS

DMT1091

COURSE OVERVIEW

During this workshop delegates will use applications on a live DIMETRA X Core D9.0 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 D9.0 system.

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- DMT1088 DIMETRA X Core D9.0 System Overview

PREREQUISITES

None

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**DIMETRA X CORE D9.0
TROUBLESHOOTING AND
MAINTENANCE**

5 DAYS

DMT1092

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 D9.0 system.

COURSE OBJECTIVES

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

- Describe troubleshooting model process, system support tools and technical support services provided by Motorola Solutions.
- Describe the DIMETRA 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:

- DMT1088 DIMETRA X Core System Overview course
- DMT1090 DIMETRA X Core Fault Management Workshop

PREREQUISITES

None



**DIMETRA X CORE AIR
INTERFACE ENCRYPTION,
AUTHENTICATION AND
PROVISIONING**

3 DAYS

DMT1093

COURSE OVERVIEW

During this workshop, students will perform key management tasks on a live DIMETRA X Core D9.0 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 D9.0 System.

COURSE OBJECTIVES

After completing 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:

- DMT1088 DIMETRA X Core System Overview course

PREREQUISITES

None



**DIMETRA X CORE NETWORK
SECURITY**

3 DAYS

DMT1095

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. The course is divided into six modules during which 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

After completing this course, the participant 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:

- DMT1088 DIMETRA X Core System Overview course

PREREQUISITES

None

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**DIMETRA X CORE MSO
RESTORATION**

5 DAYS

DMT1098

COURSE OVERVIEW

During this workshop delegates will perform complete hardware, software and database restorations for DIMETRA X Core. 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

Individuals that troubleshoot and maintain a DIMETRA X Core system.

COURSE OBJECTIVES

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

- Restore a DIMETRA X Core 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 course(s) or equivalent experience:

- IP networking

PREREQUISITES

- DMT1088 DIMETRA X Core D9.0 System Overview
- DMT1089 DIMETRA X Core D9.0 Configuration & Administration Workshop
- DMT1090 DIMETRA X Core D9.0 Fault Management Workshop
- DMT1091 DIMETRA X Core D9.0 Performance Workshop
- DMT1092 DIMETRA X Core D9.0 Troubleshooting & Maintenance Workshop
- DMT1093 DIMETRA X Core D9.0 Air Interface Encryption, Authentication and Provisioning
- DMT1095 DIMETRA X Core D9.0 Network Security



**DIMETRA EXPRESS SECURITY
FEATURES: INSTALLATION,
CONFIGURATION AND
MAINTENANCE**

0.5 HRS

DMT1114

COURSE OVERVIEW

Students will learn how to perform authentication, provisioning and air interface encryption procedures within a DIMETRA Express System. You will learn how to install, configure and maintain the DIMETRA Express security features.

TARGET AUDIENCE

System Operators and Managers responsible for the provisioning and management of key authentication in a DIMETRA Express System.

COURSE OBJECTIVES

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

- Describe how Air Interface Encryption and Authentication work within the DIMETRA Express System.
- Describe the hardware components used in the Encryption and Authentication Process.
- Describe distribution, storage, key updates and key management of Air Interface Encryption and Authentication keys.
- Perform Encryption Key management procedures.

REQUISITE KNOWLEDGE

Knowledge of the DIMETRA Express configuration and administration graphical user interface.

PREREQUISITES

None



**DIMETRA EXPRESS
INSTALLATION,
CONFIGURATION AND
MAINTENANCE**

1.5 HRS

DMT1087

COURSE OVERVIEW

The course provides an overview on how to set-up and run a DIMETRA Express system. The course covers system overview, installation, configuration for the sites, users, dispatch operation, as well as practical demonstrations that will allow delegates to perform configuration set-up procedures for common features and functions as well as common administration and maintenance tasks.

TARGET AUDIENCE

System Managers/Staff responsible for setting-up, configuring, administering, and maintaining the DIMETRA Express system and MTS equipment.

COURSE OBJECTIVES

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

- Describe DIMETRA Express main features and functionality.
- 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.
- Setup, configure, and operate a DIMETRA Express Dispatch Console for use within the DIMETRA Express system.
- Carry out maintenance procedures.
- Carry out system backup and restoration procedures.
- Carry out upgrade procedures.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

RADIO SOLUTIONS DIMETRA SYSTEMS

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**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



**DIMETRA IP SYSTEM
OVERVIEW**

2 HRS

AAE1404

COURSE OVERVIEW

After a brief review of Professional Mobile Radio (PMR) and Terrestrial Trunked Radio (TETRA) technologies, this course will focus on introducing Motorola Solutions' DIMETRA IP Portfolio. The course will describe Professional Mobile Radio (PMR) properties and applications. The TETRA standard, system structure, modes of operation and TETRA services, and will then look at Motorola's DIMETRA Portfolio, and the DIMETRA IP system options and services. This course includes the option to Test Out of the assessment.

TARGET AUDIENCE

You should attend this training course if you require a generic introduction to DIMETRA IP.

COURSE OBJECTIVES

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

- Describe Professional Mobile Radio (PMR) properties and applications.
- Describe the TETRA standard, system structure, modes of operation and TETRA services.
- Identify Motorola's DIMETRA Portfolio, DIMETRA IP system options and services.

REQUISITE KNOWLEDGE

None

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

After completing this course, the student 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

RADIO SOLUTIONS DIMETRA SYSTEMS

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COURSE OVERVIEW

This workshop provides an overview of the DIMETRA Dispatch Communication 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 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

- TSYS01R82 DIMETRA IP D8.2 System Overview
- TSYS04R82 DIMETRA IP D8.2 Configuration & Administration

PREREQUISITES

None

CONSOLE COURSES

ASTRO® 25 NICE LOGGER INTEGRATION (AST1002)	39
MCD 5000 TECHNICAL WORKSHOP (RDS1022)	39
DIMETRA D9.0 MCC7500 ADMINISTRATOR (TSYS33R90)	39
DIMETRA D9.0 MCC7500 TROUBLESHOOTING AND MAINTENANCE (TSYS31R90)	40
DIMETRA D9.0 MCC7500 OPERATOR (TSYS32R90)	40
DIMETRA D9.0 NICE VOICE LOGGING WITH INFORM SERVER HP DL360 GEN9 (DMT0035)	40
JASCO VOICE LOGGING END USER COURSE (TCSC40)	41
JASCO DATAVOICE LIBRA RECORDER SYSTEM FOR DIMETRA (DMT1007)	41



RADIO SOLUTIONS CONSOLES

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**ASTRO® 25
NICE LOGGER INTEGRATION**

5 DAYS

AST1002

COURSE OVERVIEW

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

TARGET AUDIENCE

Console Technicians, System Managers

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- AST1038 ASTRO® 25 IV&D System Overview
- CON012 MCC7000 Series Dispatch Console Workshop

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



**DIMETRA D9.0 MCC7500
ADMINISTRATOR**

1 DAY

TSYS33R90

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 organise 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

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

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

REQUISITE KNOWLEDGE

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

- TSYS32 DIMETRA MCC 7500 Operator

PREREQUISITES

None

RADIO SOLUTIONS CONSOLES

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**DIMETRA D9.0 MCC7500
TROUBLESHOOTING
AND MAINTENANCE**

3 DAYS

TSYS31R90

COURSE OVERVIEW

During this workshop students will perform installation, configuration and troubleshooting procedures relating to the MCC 7500C dispatch console on a live DIMETRA IP 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 D9.0 system.

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- TSYS01R90 DIMETRA IP D9.0 System Overview course

PREREQUISITES

None



**DIMETRA D9.0 MCC7500
OPERATOR**

1 DAY

TSYS32R90

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

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

- Identify the hardware components that make up the dispatcher position
- Describe the Purpose of the Elite Dispatch application
- Identify elements that make up the menu and toolbar structure within the Elite Dispatch software
- Perform dispatcher operations:
 - Communicate with radios: transmit and receive calls within group and individual communications categories
 - Perform advanced signaling features 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 D9.0 NICE VOICE
LOGGING WITH INFORM
SERVER HP DL360 GEN9**

2 DAYS

DMT0035

COURSE OVERVIEW

This course is aimed at system administrators that need to configure and/or carry out software maintenance and troubleshooting issues on the NICE Voice Logging System with Inform Reconstruction replay. The course also provides a better understanding on how various software components of the NICE Voice Logging with Inform Server.

TARGET AUDIENCE

System Administrator of the MCC7500 NICE Logger with Inform Server

COURSE OBJECTIVES

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

- Describe the components of NICE Logging Solution.
- Describe the Features and Functions of the NICE Logging system.
- List the steps required to perform NICE Software Installation.
- Describe the Administration, Configuration, and Operations aspects of NICE VoIP Logger.
- Describe NICE Inform applications.

REQUISITE KNOWLEDGE

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

- TSYS01R90 DIMETRA IP D9.0 System Overview
- TSYS04R90 DIMETRA IP D9.0 Configuration & Administration Workshop
- TSYS33R90 DIMETRA D9.0 MCC7500 Administrator
- TSYS31R90 DIMETRA D9.0 MCC7500 Troubleshooting and Maintenance


PREREQUISITES

None

RADIO SOLUTIONS CONSOLES

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**JASCO
VOICE LOGGING
END USER COURSE**

1 DAY

TCSC40

COURSE OVERVIEW

This course includes an Introduction to the MOTOROLA Integrated Recording Solution and JASCO WebRecall playback application.

TARGET AUDIENCE

User (operator) for the MOTOROLA Integrated Recording Solution, including WebRecall utilization on Playback clients.

COURSE OBJECTIVES

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

- Describe the components of JASCO Logging Solution.
- Describe the WebRecall features.
- Describe WebRecall operation and functionality.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**JASCO
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 JASCO Voice Logging solution within a DIMETRA system.

TARGET AUDIENCE

System Administrators and Field Engineers that require an understanding of how the JASCO Logging system integrates within a DIMETRA system.

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

BASE STATIONS COURSES

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

43

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

43



RADIO SOLUTIONS BASE STATIONS

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**MTS 2/MTS 4 INSTALLATION,
CONFIGURATION,
TROUBLESHOOTING AND
MAINTENANCE WORKSHOP**
4 DAYS
TBTS01

**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 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

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

TETRA SUBSCRIBER END-USER OPERATOR COURSES	45
ADVISOR TPG2200 TETRA TWO-WAY PAGER END USER OPERATOR (DMT0029)	46
MOTOTRBO™ SUBSCRIBER AND REPEATER TECHNICAL SERVICE ACADEMY (TBO300)	46
MOTOTRBO™ SUBSCRIBER TECHNICAL ENABLEMENT (PCT2017)	46
APX™ CPS PROGRAMMING AND TEMPLATE BUILDING (APX7001V)	47
APX™ TECHNICAL SUBSCRIBER ACADEMY (APX010)	47
APX™ RADIO MANAGEMENT WORKSHOP (RDS2017)	47
SI 500 RADIO MANAGEMENT R2.X (PSA1053)	48
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RADIO SOLUTIONS SUBSCRIBERS

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TETRA SUBSCRIBER END-USER OPERATOR COURSES

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

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 the End User Operator course is to 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

OTHER SUBSCRIBER COURSES

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



TETRA TERMINAL PROGRAMMING (CPS PLUS)

2 DAYS TTER01PLUS



TRACES WORKSHOP

2 DAYS TMSC04




INTEGRATED TERMINAL MANAGEMENT (REMOTE PROGRAMMING)

1 DAY DMT1050

RADIO SOLUTIONS SUBSCRIBERS

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

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



**ADVISOR TPG2200
TETRA TWO-WAY
PAGER END USER
OPERATOR**

0.5 HRS

DMT0029



**MOTOTRBO™ SUBSCRIBER
AND REPEATER TECHNICAL
SERVICE ACADEMY**

4 DAYS

TB0300



**MOTOTRBO™ SUBSCRIBER
TECHNICAL ENABLEMENT**

2 HRS

PCT2017

COURSE OVERVIEW

This course will provide background information and knowledge required to allow delegates to be fully conversant with the features and functions of the ADVISOR TPG2200 TETRA two-way pager. It will provide users with an introduction to their pager and its operation and builds on theoretical instruction with practical exercises. The training includes a comprehensive practical exercise designed to allow delegates to practice and confirm their understanding of features and functions covered in the course.

TARGET AUDIENCE

You should attend this training course if you are the ADVISOR TPG2200 TETRA two-way pager end user operator.

COURSE OBJECTIVES

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

- Identify the location and functions of the ADVISOR TPG2200 pager keys and controls.
- Perform pager preparation, including assembly and battery charging.
- Receive and send Trunked Mode and Direct Mode messages.
- Use optional features available for the ADVISOR TPG2200 pager.
- Perform basic troubleshooting of the ADVISOR TPG2200 pager.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

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

COURSE OVERVIEW

The MOTOTRBO™ Subscriber Technical Enablement course provides a technical overview of selected MOTOTRBO™ subscribers. The purpose of this course is to provide an in-depth view of MOTOTRBO™ subscriber technical capabilities, Customer Programming Software, configuration, and setup considerations. Course also covers material for first level radio diagnostics, servicing, basic maintenance, and radio feature software upgrades.

TARGET AUDIENCE

Technical Personnel

COURSE OBJECTIVES

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

- Identify tools required for radio servicing for the different levels of service.
- Identify Transceiver Performance Testing.
- Demonstrate performance test execution via front panel access as well as visual troubleshooting.
- Describe Fleetmapping.
- Describe features, functionality and benefits of CPS.
- Setup and install the CPS.
- Configure the radio.
- Purchase, register, and activate premium radio features.
- Generate customer reports.
- Verify the correct operations of PCR subscribers.
- Complete basic radio check ups.
- Perform recommended level 1 maintenance and troubleshooting procedures on PCR subscribers.
- Describe the firmware upgrade process.

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience:

- General two-way radio knowledge

PREREQUISITES

None

RADIO SOLUTIONS SUBSCRIBERS

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**APX™ CPS PROGRAMMING
AND TEMPLATE BUILDING**

2 DAYS

APX7001V



**APX™ TECHNICAL
SUBSCRIBER ACADEMY**

5 DAYS

APX010



**APX™ RADIO
MANAGEMENT WORKSHOP**

3 DAYS

RDS2017

COURSE OVERVIEW

The APX CPS Programming and Template Building course provides communications management personnel and technicians with the knowledge and training necessary to build templates and program the APX family of radios in the most efficient way possible. Supplemental videos for this VILT course can be seen by enrolling in RDS1018 and RDS1019 in the LMS.

TARGET AUDIENCE

Radio Technicians, System Managers

COURSE OBJECTIVES

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

- Build the APX family of programming templates using the APX CPS programming Software Program the specific parameters related to the various system types in which the subscriber unit will operate: Conventional, Single Site trunking, Simulcast, SmartZone or ASTRO® 25 IV&D TDMA and ASTRO® 25 IV&D x2.
- Demonstrate knowledge of the APX CPS navigation, tools, options and features that make efficient programming of the radio possible.
- Demonstrate a complete understanding of the various APX CPS programming efficiency tools, such as: Cloning, drag and drop, Codeplug Comparison tool, radio Flashing, Advance System Key Administrator, Codeplug Merging and many others.

REQUISITE KNOWLEDGE

Knowledge of the basic features and options of two-way radios and the basic concepts of trunking.

PREREQUISITES

None

COURSE OVERVIEW

Participants will learn the capabilities, features and functions of the APX family of radios as well as how to correctly complete performance checks, radio alignments, disassembly/reassembly, maintenance and troubleshooting. This Academy will also focus on a detailed theory of operation for the APX family of radios. The APX Academy will also cover in detail: Radio Flashing, Encryption, Key Loading (Including configuring the APX radio for OTAR), Programming over P25 (Over the Air Programming), Advanced System Key Management, Vacuum and Submersibility Testing, APX Mobile Radio Installation and many other special setup or configuration modes with the radios.

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 the all the available radio's within the APX family of subscribers
- Verify the correct operation of the various radio's within the APX family of subscribers by completing Performance Checks and Alignment procedures
- Maintain & troubleshoot radio's within the APX family of subscribers
- Disassemble and reassemble various APX subscriber radio's using the documented procedures
- Verify the housing integrity of an APX 7000 portable radio
- Flash upgrade the various radio's within the APX family of subscribers
- Interpret the circuit theory of operation and use this information to isolate faults found at both the board and the component level

REQUISITE KNOWLEDGE

Completion of the following courses or equivalent experience:

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

PREREQUISITES

None

COURSE OVERVIEW

Participants will learn the capabilities, features, and functions of the APX Radio Management Suite.

This course covers an APX CPS overview, APX Radio Management Overview, Basic Networking Primer, ASTRO25/CEN Networking and UNS Overview, and APX Radio Management Installation, Configuration, and Operations.

In addition, the course contains 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 multiple PCs on a WAN.
- 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:

- APX7001V APX CPS Programming and Template Building Overview

PREREQUISITES

None

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**SI 500 RADIO
MANAGEMENT R2.X**

1 HR

PSA1053

COURSE OVERVIEW

This course provides an overview and presentation of the basic functions available in Radio Management tool from the perspective of Si devices management. It includes video simulations of typical operations performed in Radio Management on Si devices, together with useful tips and practical examples.

TARGET AUDIENCE

Radio Management users

COURSE OBJECTIVES

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

- Describe the Radio Management application and its features.
- Lead users through their first logging.
- Demonstrate typical operations performed in Radio Management on Si devices.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

**SI500 VSM GENERIC END
USER FOR MODEL N7001**

1 HR

PSA1081

COURSE OVERVIEW

This course covers the operation of the Si500 model N7001 Video Speaker Microphone also known as the Body Worn Camera. This course covers key operational parameters as well as all the proper ways the device can be worn by and officer.

TARGET AUDIENCE

End Users Operators

COURSE OBJECTIVES

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

- Describe the Si500 Video Speaker Microphone.
- Operate the Si500 Video Speaker Microphone.
- Describe how to properly wear the Si500 Body Worn Camera
- Describe the importance of Chain of Custody

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

**WEARABILITY OPTIONS
FOR THE SI SERIES VIDEO
SPEAKER MICROPHONE
(BODY WORN CAMERA)**

0.25 HRS

PSA1047

COURSE OVERVIEW

This video starts out by describing the Si device carry holster and how it can be converted to various mounting options. It then shows the proper way to mount a Si device carry holster using the most flexible, least permanent mounting options, through the most secure mounting options. It shows the proper use of the RSM clip, the low profile pocket clip, the shoulder straps, and finally the Peter Jones Mount. It then describes the single battery charger and shows the different ways it can be used to keep a spare battery charged.

TARGET AUDIENCE

Body Worn Camera End Users; Individuals who want to learn about the way to properly wear a Body Worn Camera

COURSE OBJECTIVES

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

- Change the Si device carry holster from an RSM clip holster to a Low profile pocket clip, Shoulder Mount, or a Peter Jones mount.
- Properly mount an Si device using the RSM clip
- Properly mount an Si device using the low profile pocket clip
- Properly mount an Si device using the Shoulder straps
- Properly mount an Si device using the Peter Jones Mount
- Describe how to properly use the single battery charger

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

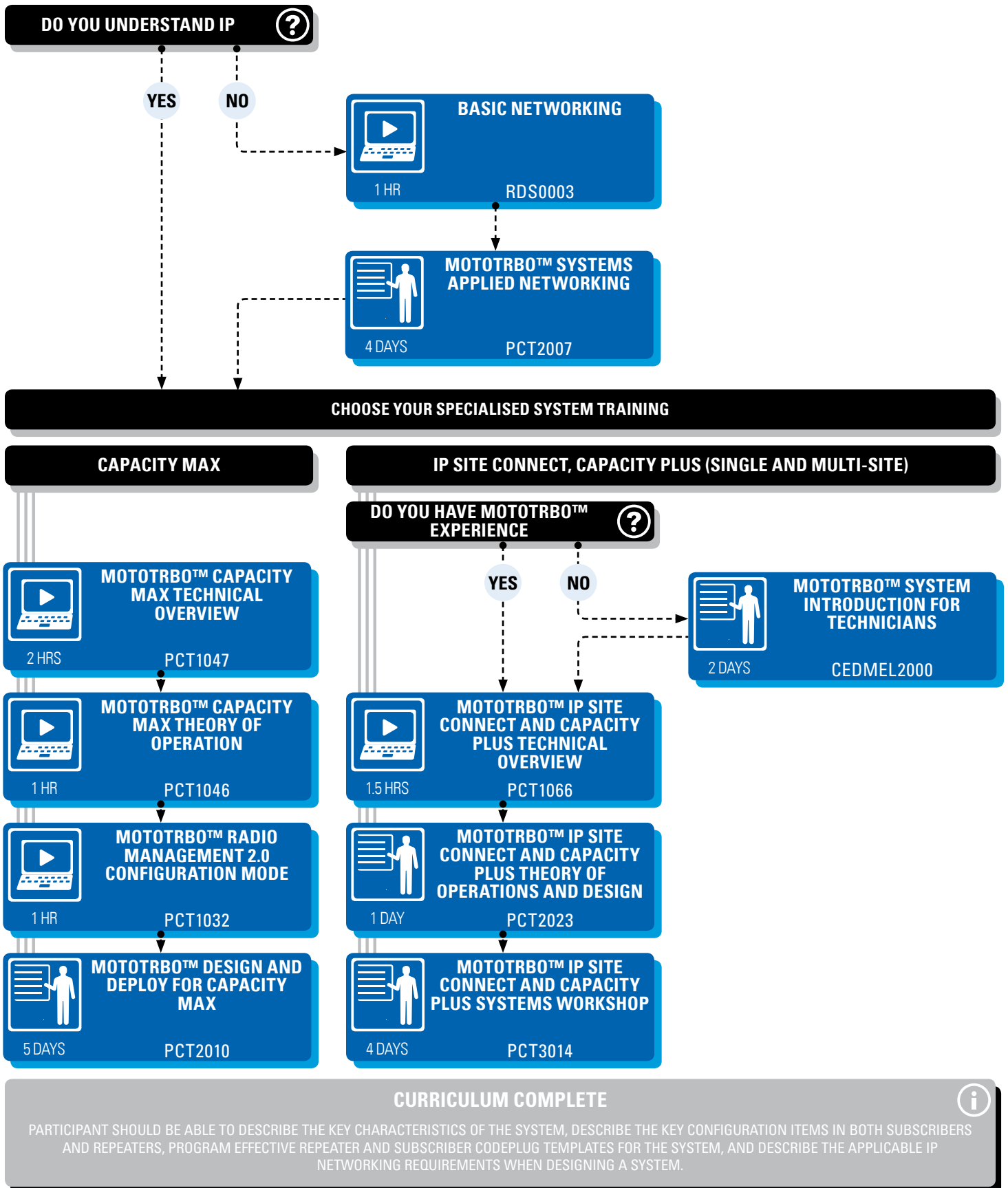
MOTOTRBO™ COURSES

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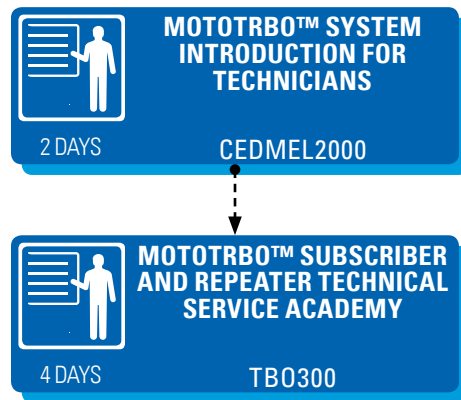
SEE ALSO TBO300 MOTOTRBO SUBSCRIBER
AND REPEATER TECHNICAL SERVICE
ACADEMY ON PAGE [CLICK HERE TO GO TO](#)
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MOTOTRBO™ TECHNICAL TRAINING CURRICULUM



MOTOTRBO™ TECHNICAL TRAINING CURRICULUM FOR SUBSCRIBER/REPEATER MAINTENANCE TECHNICIAN



CURRICULUM COMPLETE



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



**MOTOTRBO™ 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.

TARGET AUDIENCE

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

COURSE OBJECTIVES

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

- Describe the different components available to build your MOTOTRBO™ system.
- Explain the MOTOTRBO™ Modes and Systems.
- Describe the various Data Applications' capabilities and everyday uses within the MOTOTRBO™ systems.
- Describe MOTOTRBO's Digital and Analogue features.
- Explain system and channel capacity planning.
- Explain MOTOTRBO™ IP network design considerations.
- Describe organisational requirement and resources needed to design the fleetmap.
- Describe the use and purpose of various tools such as: Radio Management, Tuner, RDAC, Air Tracer, Site Survey and 3rd Party Application Tools.
- Navigate the main screens of the Customer Programming Software (CPS) needed to configure the radios and repeaters.


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™ 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 Communication Systems

PREREQUISITES

None



**MOTOTRBO™ RADIO
MANAGEMENT 2.0
TEMPLATE MODE**

1 HR

PCT1026

COURSE OVERVIEW

This course is an introduction to MOTOTRBO's Radio Management (RM) 2.0 Template Mode software. You will learn how to install and use the enhancements of RM 2.0 Template Mode to program your fleet of radios.

TARGET AUDIENCE

This training is intended for individuals who are interested in learning MOTOTRBO's Radio Management (RM) 2.0 Template Mode software.

COURSE OBJECTIVES

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

- Describe MOTOTRBO™ Radio Management, its capabilities and functions.
- Set up Radio Management Template Mode.
- Manage your fleet using RM Template Mode.
- Manage the following functions:
 - Firmware
 - Language Packs
 - Voice Announcements
 - Text To Speech Packs
 - OTAP, Symmetric, RAS, & Privacy Keys
- Purchase and enable radio features using License Management.
- Create a group and assign radios.
- Sort groups.
- Search records.

REQUISITE KNOWLEDGE

None

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. Completion of the final quiz is required to receive course credit.

TARGET AUDIENCE

Professionals responsible for configuring, deploying, or maintaining MOTOTRBO™ radios and repeaters. This would include, but is not limited to: communication system technicians, technical support personnel, service technicians and radio programmers

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 (Connect Plus and Capacity Max excluded).
- 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 is important.

PREREQUISITES

PCT1032 MOTOTRBO™ Radio Management 2.0 Configuration Mode



**MOTOTRBO™ CAPACITY
MAX TECHNICAL
OVERVIEW**

2 HRS

PCT1047

COURSE OVERVIEW

This self-study course is designed to help you learn the fundamentals of Capacity Max. Whether you have a sales or technical background, this training will give you the information that you need to gain a basic understanding of Capacity Max. Begin by exploring the DMR standard and Capacity Max's positioning within the MOTOTRBO™ portfolio of systems.

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 addressed.

TARGET AUDIENCE

Professionals responsible for selling, designing, configuring, deploying, or maintaining MOTOTRBO™ radio systems. This would include, but is not limited to: communication system technicians, technical system managers, technical support personnel, service technicians, and sales representatives.

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

Basic Radio knowledge

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.

* This training is required prior to enrolling in the more advanced Capacity Max courses.

TARGET AUDIENCE

Professionals responsible for selling, designing, configuring, deploying, or maintaining MOTOTRBO™ radio systems. This would include, but is not limited to: communication system technicians, technical system managers, technical support personnel, service technicians, and sales representatives.

COURSE OBJECTIVES

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

- 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



**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™ CAPACITY
MAX SYSTEM ADVISOR
TUTORIAL**

1 HR

PCT1031

COURSE OVERVIEW

This course is a step-by-step tutorial on how to navigate the MOTOTRBO™ Capacity Max System Advisor Application. Participants will learn how to identify, search, create, manage, and customise the application.

TARGET AUDIENCE

Professionals responsible for managing MOTOTRBO™ radio systems. This would include, but is not limited to: communication system technicians, technical system managers, technical support personnel, service technicians, and sales representatives.

COURSE OBJECTIVES

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

- Perform standard operations in the System Advisor.
- Navigate the System Advisor.
- Perform Network Database, Fault Management, and Performance Management tasks.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

RADIO SOLUTIONS MOTOTRBO™

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**MOTOTRBO™ IP SITE
CONNECT AND CAPACITY
PLUS TECHNICAL
OVERVIEW**
1.5 HRS
PCT1066

**MOTOTRBO™ IP SITE
CONNECT AND CAPACITY
PLUS THEORY OF
OPERATIONS AND DESIGN**
1 DAY
PCT2023

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

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; then, you will learn about the different components and their general topology, ending with a brief discussion on services packages available.

Whether you have a sales or technical background, this training provides you with the basic information to begin understanding how these MOTOTRBO™ systems operate, and prepares you to take the more advanced system courses.

TARGET AUDIENCE

Professionals responsible for selling, designing, configuring, deploying, or maintaining MOTOTRBO™ radio systems. This would include, but is not limited to: communication system technicians, technical system managers, technical support personnel, service technicians, and sales representatives.

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:

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

PREREQUISITES

None

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. This would include, but is not limited to: design engineers, communication system technicians, technical system managers, technical support personnel, service technicians, and sales representatives.

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:

- Basic Radio knowledge
- CEDMEL2000 MOTOTRBO™ Systems Introduction for Technicians
- PCT1066 MOTOTRBO™ IP Site Connect and Capacity Plus Technical Overview

PREREQUISITES

None

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

Basic Radio knowledge

PREREQUISITES

- CEDMEL2000 MOTOTRBO™ System Introduction for Technicians
- 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

Completion of a DIMETRA System Overview course or equivalent experience is required.

PREREQUISITES

None



**SMARTPTT PLUS
ESSENTIALS AND
DEPLOYMENT**

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)	63
ASTRO® 25 IV&D WITH M CORE WORKSHOP (ACS717103)	63
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SYSTEM OVERVIEW FOR ASTRO® 25 IV&D INFORMATION ASSURANCE (ACS713211)	66

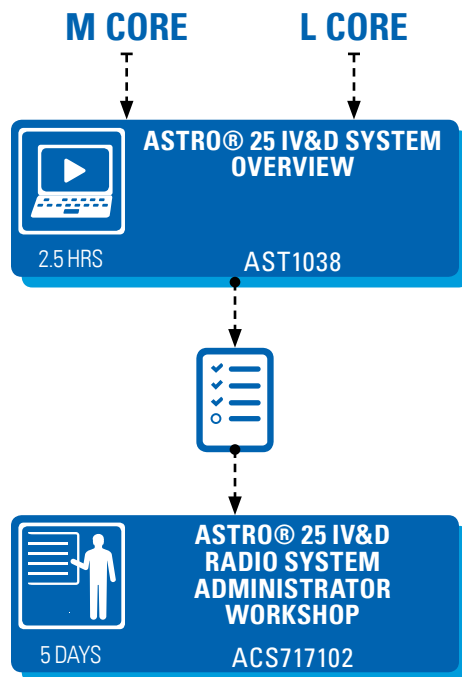


RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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

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

ASTRO® 25 IV&D RADIO SYSTEM ADMINISTRATOR



RECOMMENDED CURRICULUM IS COMPLETE

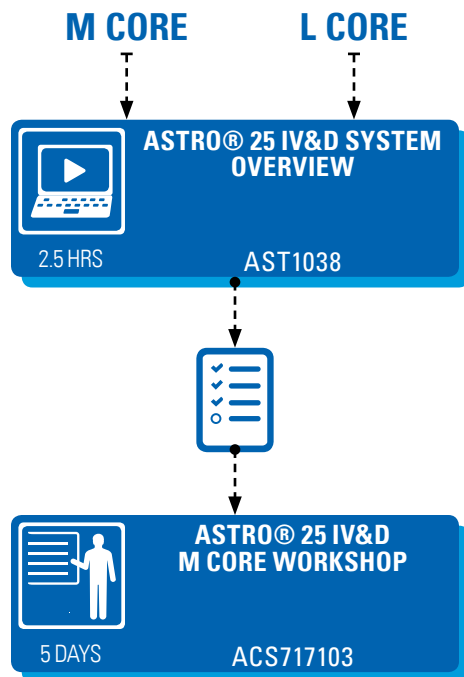


PARTICIPANT SHOULD BE ABLE TO CARRY OUT ADMINISTRATIVE TASKS IN THE ASTRO® 25 IV&D SYSTEM SUCH AS: PROVISIONING SUBSCRIBERS AND TALK GROUPS, GENERATING HISTORICAL REPORTS, CONTROLLING DEPLOYED SUBSCRIBERS AND MANAGING NETWORK ELEMENT CONFIGURATIONS. PARTICIPANT UNDERSTANDS FACTORS OF SYSTEM CONFIGURATION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

OPTIONAL TRAINING ROADMAP

OPTIONAL TRAINING ROADMAP AVAILABLE.
CLICK ON THIS LINK TO GO TO PAGE 62
FOR ADDITIONAL DETAILS.

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.

OPTIONAL TRAINING ROADMAP

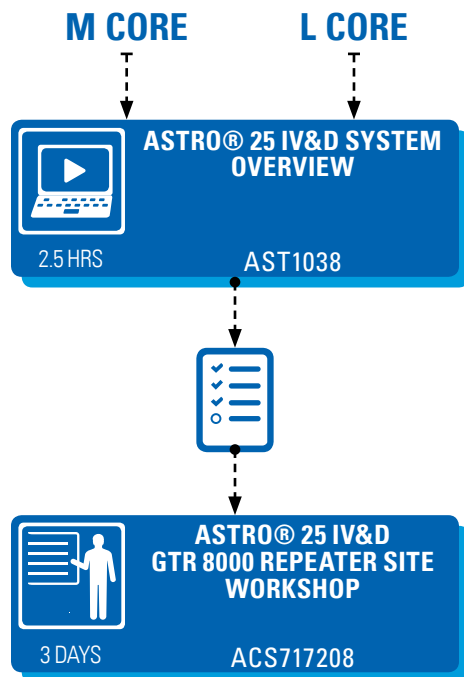
OPTIONAL TRAINING ROADMAP AVAILABLE.
CLICK ON THIS LINK TO GO TO PAGE 62
FOR ADDITIONAL DETAILS.

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

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



RECOMMENDED CURRICULUM IS COMPLETE

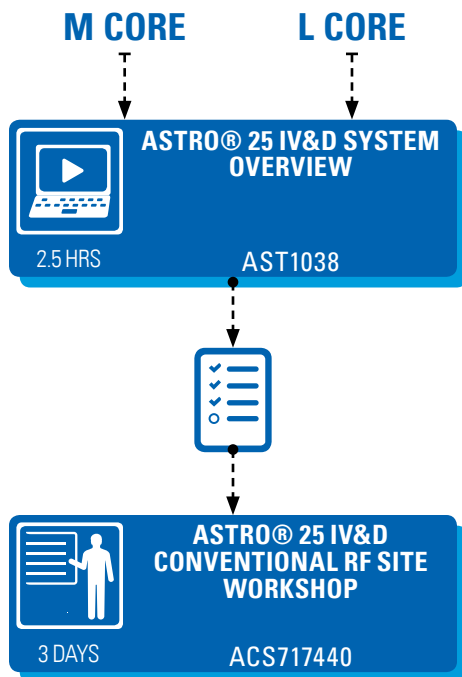


PARTICIPANT CAN MAINTAIN AN ASTRO® 25 REPEATER SITE INCLUDING: GTR8000 BASE STATION, GCP8000 SITE CONTROLLER AND OTHER SITE EQUIPMENT.
*PARTICIPANT PERFORMS ALIGNMENTS TROUBLESHOOTING AND FIELD REPLACEMENT OF SITE DEVICES DURING COURSE.

OPTIONAL TRAINING ROADMAP

OPTIONAL TRAINING ROADMAP AVAILABLE.
CLICK ON THIS LINK TO GO TO PAGE 62
FOR ADDITIONAL DETAILS.

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.

OPTIONAL TRAINING ROADMAP

OPTIONAL TRAINING ROADMAP AVAILABLE.
CLICK ON THIS LINK TO GO TO PAGE 62
FOR ADDITIONAL DETAILS.

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




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training.emea@motorolasolutions.com

ASTRO® IV&D OPTIONAL TRAINING CURRICULUM

Motorola Solutions offers optional training for those participants who have completed their ASTRO® 25 curriculum and want to learn more about their system's infrastructure and/or features.

Select the training course below applicable to your system.

 2 HRS ASTRO® 25 IV&D DYNAMIC SYSTEM RESILIENCE ACS715023	 2 HRS ASTRO® 25 IV&D INFORMATION ASSURANCE ACS713211
 2 HRS ASTRO® 25 IV&D ENHANCED TELEPHONE INTERCONNECT ACS715480	
 5 DAYS ASTRO® 25 IV&D SYSTEMS FLEETMAPPING RDS1017	 2 DAYS ASTRO® 25 IV&D RADIO AUTHENTICATION AST2038

SUBSCRIBER OPTIONAL TRAINING CURRICULUM

 2 DAYS APX™ CPS PROGRAMMING AND TEMPLATE BUILDING APX7001V
--

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
M CORE WORKSHOP**

5 DAYS

ACS717103

COURSE OVERVIEW

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

TARGET AUDIENCE

M Core Master Site Technicians

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- ACT100E Bridging the Knowledge Gap for ASTRO® 25 – Technician
- NST762 Networking Essentials in Communication Equipment
- NWT003 ASTRO® 25 Systems Applied Networking

PREREQUISITES

AST1038 ASTRO® 25 IV&D System Overview



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

3 DAYS

ACS717410

COURSE OVERVIEW

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

TARGET AUDIENCE

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

COURSE OBJECTIVES

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

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

REQUISITE KNOWLEDGE

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

- ACT101 Bridging the Knowledge Gap – System Administrators
- NST762 Networking Essentials in Communication Equipment
- NWT003 ASTRO® 25 Applied Networking

PREREQUISITES

AST1038 ASTRO® 25 IV&D System Overview

RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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**ASTRO® 25 IV&D
RADIO SYSTEM
ADMINISTRATOR
WORKSHOP**

5 DAYS

ACS717102



**ASTRO® 25 IV&D
SYSTEMS FLEETMAPPING**

5 DAYS

RDS1017



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

2 DAYS

AST2038

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. The applications covered in this course may only apply to customers with releases 7.17.

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:

- ACT101 Bridging the Knowledge Gap – System Administrators
- NST762 Networking Essentials in Communication Equipment
- NWT003 ASTRO® 25 Applied Networking

PREREQUISITES

AST1038 ASTRO® 25 IV&D System Overview

COURSE OVERVIEW

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

TARGET AUDIENCE

Pre-sale customers, new system managers, system planning personnel

COURSE OBJECTIVES

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

- Discuss what a fleetmap is and why one is needed.
- Discuss the methodologies used to configure radio users and groups with the goal of optimising the system resources.
- Describe the content to assist with fleetmapping decisions.
- Discuss frequency band plan organisation 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

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 e-learning course.
- 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 ASTRO25 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.

RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

For information on prerequisites and to register for courses visit the LMS at:
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**ASTRO® 25 IV&D
SECURE COMMUNICATIONS
WORKSHOP**

5 DAYS

ACS717207

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

ACS717208

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:

- ACT100 Bridging the Knowledge Gap - Technicians
- NST762 Networking Essentials in Communication Equipment
- NWT003 ASTRO®25 Applied Networking

PREREQUISITES

AST1038 ASTRO® 25 IV&D System Overview



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

3 DAYS

ACS717440

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 this course, the student 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:

- ACT101 Bridging the Knowledge Gap – System Administrators
- NST762 Networking Essentials in Communication Equipment
- NWT003 ASTRO® 25 Applied Networking

PREREQUISITES

AST1038 ASTRO® 25 IV&D System Overview

RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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**ASTRO® 25 IV&D
DYNAMIC SYSTEM
RESILIENCE**

2 HRS

ACS715023

COURSE OVERVIEW

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

TARGET AUDIENCE

System Administrators, System Technicians, Field Technicians

COURSE OBJECTIVES

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

- Differentiate between a non-DSR Master Site and a DSR Master Site
- Describe the DSR components, operation and functionality of each of the following services:
 - Voice
 - Data
 - Network Management
 - Network Transport
 - IP Services

REQUISITE KNOWLEDGE

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

- ACS715200 System Overview for ASTRO® 25 IV&D with M Core

PREREQUISITES

None



**ASTRO® 25 IV&D
ENHANCED TELEPHONE
INTERCONNECT**

2 HRS

ACS715480

COURSE OVERVIEW

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

TARGET AUDIENCE

System Technicians, System Administrators

COURSE OBJECTIVES

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

- Identify the function and major components for the Enhanced Telephone Interconnect feature
- Define the operation of the Enhanced Telephone Interconnect feature within the system
- Configure the Enhanced Telephone Interconnect equipment
- Troubleshoot the Enhanced Telephone Interconnect equipment


REQUISITE KNOWLEDGE

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

- ACT100E or ACT101E Bridging the Knowledge Gap for ASTRO® 25
- NST762 Networking Essentials in Communication Equipment

PREREQUISITES

None



**SYSTEM OVERVIEW
FOR ASTRO® 25 IV&D
INFORMATION ASSURANCE**

4 HRS

ACS713211

COURSE OVERVIEW

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

TARGET AUDIENCE

System Administrators, System Technicians, Field Technicians

COURSE OBJECTIVES

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

- Define network security and its functions
- List the network security components of an ASTRO® 25 IV&D system
- Define the functions, components and operation of the Core Server Management Server (CSMS)
- Identify the functions, components and operation of the Interface Barrier (NIB)
- Identify the functions, components and operation of the border router and the peripheral network router

REQUISITE KNOWLEDGE

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

- ACT100E or ACT101E Bridging the Knowledge Gap for ASTRO® 25
- NST762 Networking Essentials in Communication Equipment
- NWT003 ASTRO® 25 Systems Applied Networking

PREREQUISITES

Take one of the following depending on system supporting:

- ACS713200 ASTRO25 IV&D with M Core System Overview
- ACS713420 ASTRO25 IV&D Conventional with M Core Overview
- ACS713430 ASTRO25 IV&D with L Core System Overview
- ACS713400 ASTRO25 IV&D Conventional with K Core System Overview

SOFTWARE & APPLICATIONS

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INTELLIGENT MIDDLEWARE 5.2 OPERATION AND ADMINISTRATION (RDS2025)	68
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WAVE™ ONCLOUD LMR INTEROPERABILITY TO MOTOTRBO™ (PSA1051)	69
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SOFTWARE & APPLICATIONS

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**WAVE™ CERTIFIED
INTEGRATION ENGINEER**

5 DAYS AST3001

COURSE OVERVIEW

The WAVE™ Certified Integration Engineer course provides instruction in designing, integrating, and troubleshooting WAVE™ systems. It also provides the groundwork for a basic understanding of how WAVE™ delivers a Radio-over-IP solution. The training scope covers WAVE™ integration to MOTOTRBO™, ASTRO®, and DIMETRA systems.

TARGET AUDIENCE

Sales/Systems Engineers who will design and implement WAVE™ solutions.

COURSE OBJECTIVES

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


- Understand and identify WAVE™ components.
- Install and configure the WAVE™ Management Server, Media Server, Proxy Server, Desktop Communicator, Advanced Desktop Communicator, and Mobile Communicators.
- Identify radio systems compatible with WAVE™ and list integration steps.
- Maintain and support a WAVE™ domain.

REQUISITE KNOWLEDGE

General knowledge of IP Networking, IP Telephony, Server-class Operating Systems

PREREQUISITES

None

**WAVE™ 5000
SYSTEM ADMINISTRATION**

2 DAYS AST1035

COURSE OVERVIEW

This course provides an overview of the WAVE™ 5000 Solution, its features, hardware requirements, and software and is targeted to the Administrator role and or support roles.

TARGET AUDIENCE

You should attend this training course if you are an Administrator or support personnel of a WAVE™ 5000 solution.

COURSE OBJECTIVES

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

- Add, edit and delete Channels.
- Create, edit and delete Channel Groups.
- Perform administration tasks for Users, Profiles, and Subscribers Manage Media and Proxy Servers.
- Manage Console.
- Understand SIP.
- Describe what QoS is.
- Describe Morse Call Signs public safety feature
- View log entries and delete log records in System Log.
- Search, play, and download recordings.
- Add, change, and delete audio files.
- Describe the WAVE™ Database.
- Find answers to troubleshooting questions.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

**INTELLIGENT MIDDLEWARE
5.2 OPERATION 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

SOFTWARE & APPLICATIONS

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**WAVE™ ONCLOUD
ADMINISTRATOR**

0.5 HRS

PSA2001

COURSE OVERVIEW

This course provides an overview of the WAVE™ OnCloud application, its key features, integration possibilities, and roles within the application. It includes clickable software simulations showing basic operations, operations on Customers, and operations on Partner Employees within the Administrator role.

TARGET AUDIENCE

This training is intended for WAVE™ OnCloud users who want to get familiar with Administrator features and functionalities of the application.

COURSE OBJECTIVES

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


- Describe the WAVE™ OnCloud application, its key features, integration possibilities, and roles within the system.
- Perform basic operations.
- Perform operations on Customers: adding, editing Customers, Employees, Users, and TalkGroups.
- Perform operations on Partner Employees: adding and editing Partner Employees.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None



**WAVE™ ONCLOUD
LMR INTEROPERABILITY
TO MOTOTRBO™**

1 HR

PSA1051

COURSE OVERVIEW

This course provides instructions on how to integrate the WAVE™ OnCloud application with MOTOTRBO™ Systems. It includes software simulations showing how to add radio systems and gateways. It also provides guidance on how to associate Gateways with Radio Systems, edit Radio Systems, add Subscribers and TalkGroups.

TARGET AUDIENCE

This training is intended for WAVE™ OnCloud users who want to get familiar with the process of WAVE™ OnCloud integration with MOTOTRBO Systems, including operations on Radio Systems, Gateways, Subscribers and TalkGroups.

COURSE OBJECTIVES

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


- Add Radio Systems in WAVE™ OnCloud (Capacity Plus Single Site, Capacity Plus Multi-Site, and Capacity Max).
- Add Gateways in WAVE™ OnCloud and associate them with Radio Systems.
- Edit Radio Systems, add Subscribers and TalkGroups.

REQUISITE KNOWLEDGE

PSA2001 WAVE™ OnCloud Administrator

PREREQUISITES

None



**WAVE™ ONCLOUD
END USER**

0.5 HRS

PSA0004

COURSE OVERVIEW

This course provides an overview of the WAVE™ OnCloud Push-to-Talk application. It offers step-by-step guidelines for signing up for a free WAVE™ OnCloud trial and creating Users and TalkGroups. It also includes demonstrations of how to make calls, share location, and send secure multimedia messages.

TARGET AUDIENCE

This training is intended for new WAVE™ OnCloud users who want to start using the application and get familiar with its interface and features.

COURSE OBJECTIVES

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

- Sign up for the WAVE™ OnCloud trial and upgrade to a paid subscription.
- Add Users and TalkGroups to the WAVE™ OnCloud account.
- Navigate the new WAVE™ OnCloud Push-to-Talk application's interface.
- Make calls, share location, and send secure multimedia messages.

REQUISITE KNOWLEDGE

None

PREREQUISITES

None

SOFTWARE & APPLICATIONS

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

For general information contact the Europe, Middle East and Africa Education Services Help Desk at:
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

After completing this course, the student 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

CONTACT US

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