



# Product and system technical training course catalogue

Global Education. Asia Pacific edition - December 2025



# 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 Global Education, we help your two biggest lifeline investments - your personnel and your technology infrastructure - work together efficiently to maximize the value of your communication technologies.

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

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

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

We look forward to working with you.



**MOTOROLA**  
SOLUTIONS



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## GENERAL INFORMATION

For information on prerequisites and to register for courses visit the Learning Center at: [learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)

For general information contact the Asia Pacific Education Services Help Desk at: [training.apac@motorolasolutions.com](mailto:training.apac@motorolasolutions.com)

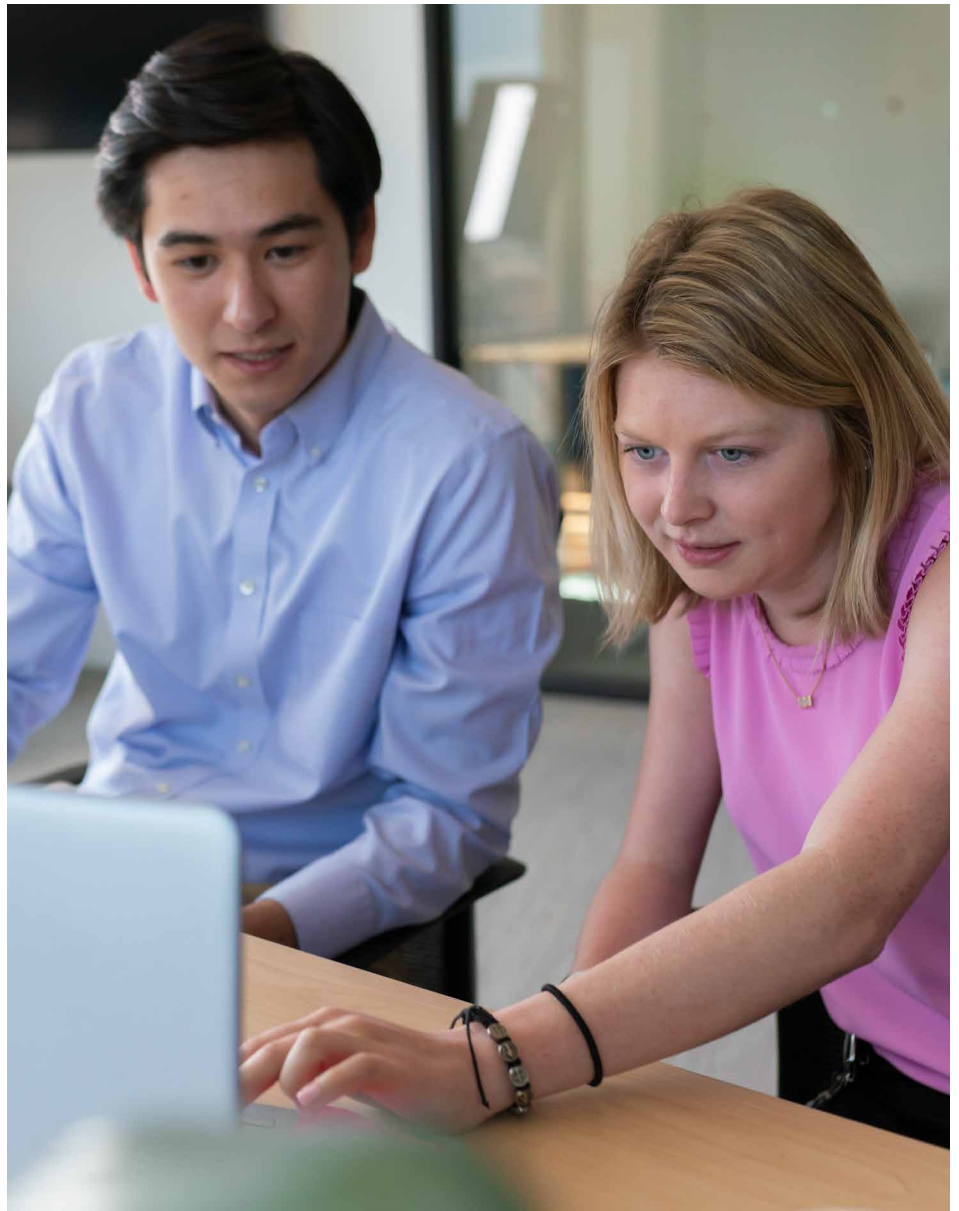
# INTRODUCTION TO MOTOROLA SOLUTIONS EDUCATION SERVICES

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

Our range of services is designed to ensure you find the right learning support your organization's unique characteristics demand. From standard training paths to the most personalised service: a Training Need Analysis service followed by a tailored training plan, specifically designed to meet the results you want to achieve.

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

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



# TAILORED TRAINING: ANALYSIS AND CONSULTATION SERVICES

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

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

The outcome of that analysis will be a tailored learning proposal, designed just for

you and your particular circumstances and preferences. It will also be the route map for our instructors, and the point of reference for evaluations of learning, results, or expectations.

## TRAINING OPTIONS

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

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



### LIVE TRAINING

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

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

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

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



### SELF-PACED TRAINING

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

- **Online courses:** a single piece of training, with defined objectives and estimated duration.
- **Microlearning:** a collection of brief components grouped into related topics.

We also have a wide offer of training you can take at your own pace. Click [here](#) to see the list of training resources that will allow you to gain foundational knowledge on a variety of topics and get ready for your instructor-led training session.

[Open registration schedule](#)

Click [here](#) to find the upcoming training sessions, open to all our customers. Learn more about each class and book a seat using the link to the Learning eXperience Portal sign-up page provided.

# QUALITY ASSURANCE: THE TPMA FRAMEWORK

## MOTOROLA SOLUTIONS GLOBAL EDUCATION COMMITS TO EXCELLENCE IN INSTRUCTOR-LED TRAINING

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

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

For over 10 years, we have built and implemented the Training Performance Monitoring & Assessment (TPMA) framework in our organization. Our

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

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

## WHY DO TPMA CERTIFICATIONS MATTER?

Adopting TPMA standards is essential to meet industry trends and leading industry best practices to meet user needs, enhance instructor development and ultimately leads to a happy customer experience.

LPI ensures the quality of the

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

Visit us at  
[learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)  
to register for our training courses.

## ACHIEVING OPTIMAL PERFORMANCE MATTERS TO US

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

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

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

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

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

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

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

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

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



# 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 your qualified instructors so that they, in turn, can train each individual user in your organisation. These classes are usually delivered on site using your equipment and our end-user training materials, that can be tailored if needed.

### AUDIENCE

This course is geared for customers who have an experienced, dedicated training staff in their organisation.

### COURSE OVERVIEW

This course provides your training personnel knowledge and practice that will enable them to successfully train their students. It concentrates on specific product features and how it relates to the training process; students will become proficient in discussing common tasks associated with the operation of their radios and consoles, as identified in the training needs analysis.

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

### RECOMMENDED PRE-REQUISITE

Previous training experience and radio system knowledge is a must.

## 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 and our end-user training materials, that can be tailored if needed.

### 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 and a review of their radio's basic functionality. Through facilitation and hands-on practice, users learn to perform common tasks associated with their radio configuration.

- Overview of radio configuration
- General radio operations

TO REQUEST FIELD TRAINING, PLEASE CONTACT YOUR ACCOUNT MANAGER.

Note: End-user training materials are not sold as standalone products, they are part of our Train-the-Trainer or Operator training programmes.

### COURSES FOR CONSOLE PRODUCTS

- MCC 7000 Series Dispatch Console Administrator Training
- MCC 7000 Series Dispatch Console Operator Training
- MCD 5000 Operator Training
- DCX9000 Workshop

### COURSES FOR MOBILES & PORTABLES

- DIMETRA™ Series
- APX™ Series
- MOTOTRBO™ Series
- Customer Programming Software



# LEARNING CENTER

THE MOTOROLA SOLUTIONS LEARNING CENTER OFFERS A FAST, ENGAGING, AND INTUITIVE EXPERIENCE DESIGNED TO HELP YOU MAXIMIZE YOUR EXPERTISE WITH OUR SOLUTIONS.

## GETTING STARTED

Access the Learning Center at <https://learningcenter.motorolasolutions.com/> to create an account or retrieve your username/password (users from the previous Learning Management System have been migrated to the Learning Center).

Once logged in, use the **Search bar** for quick lookups by keywords, or apply advanced search filters to narrow your options. For a more guided approach, click **Browse content** and explore by category, drilling down into subcategories to refine your results.

When you find a course you like, click **Launch** for direct access; if a cost is associated, accept it to proceed. For live sessions, click See classes to **enroll** to find available dates and times based on your region, and expand details to view location, instructors, or deadlines. **Buy** your selection and proceed to checkout. After completing your purchase, your new training will appear in your plan.

### KEY FEATURES

- Modern, intuitive user interface: enjoy a clean and accessible experience.
- Streamlined navigation: Access training with fewer clicks.
- Enhanced search capabilities: Benefit from greater predictability and ease of use.
- One-click course launching: Get started quickly with your learning.
- Curated Playlists: Discover informal, role-based, or skill-focused learning paths.
- Multi-language availability: Support for our global users ensures an inclusive learning experience.

## GENERAL INFORMATION

For information on prerequisites and to register for courses visit the Learning Center at: [learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)

For general information contact the Asia Pacific Education Services Help Desk at: [training.apac@motorolasolutions.com](mailto:training.apac@motorolasolutions.com)

The screenshot shows the 'My Plan' dashboard in the Motorola Solutions Learning Center. The top navigation bar includes 'HOME' and 'ME'. The left sidebar lists various features: Plan, Profile, Completed Learning, Learning Requests, Order History, Followed Playlists, and Analytics. The main content area is titled 'My Plan' and includes a 'Learning & Certifications' section with a donut chart showing 'In Progress' (13) and 'Completed' (10) items. Below this is a table of learning events. The first row shows 'Networking Essentials in Motorola Communications Equipment' with a progress bar at 'REGISTERED', a due date of '08-AUG-2025' (24 days remaining), and a 'VIEW SUMMARY' button.

NAME	PROGRESS	DUE	ACTIONS
<b>Networking Essentials in Motorola Communications Equipment</b> Course Instructor-Led Location: Schaumburg, IL, USA - Motorola Solutions Start date: 04-AUG-2025	REGISTERED	08-AUG-2025 24 days remaining	<a href="#">VIEW SUMMARY</a>

## YOUR PERSONNAL DATA DASHBOARD

Access your personal space by clicking Me on the top navigation bar. Here you'll find:

There are several benefits to Training Banks including:

- **Plan:** View your enrollments and completions.
- **Profile:** Update your personal data.
- **Completed learning:** See a list of all content you've finished.
- **Learning requests:** Track your requested training and their statuses.
- **Order history:** Keep tabs on your purchases.
- **Followed playlists:** Quickly access your saved playlists.
- **Analytics:** Run reports on your learning activity.

## HOW TO ENROL IN A COURSE

The screenshot shows the course enrollment page for 'ASTRO® 25 IV&D DBR RF Site Technical Workshop'. The course is marked as 'Not Registered'. A 'SEE CLASSES TO ENROLL' button is visible. Below the course details, there is an 'Overview' section with an 'Asset Description' and a 'Show More' link. The 'Other Classes' section shows a list of available classes, including one for '16-SEP-2025 - 18-SEP-2025' with a 'BUY NOW' button.

## ADDITIONAL FEATURES

The system includes a dedicated **Calendar feature**, accessible via the Calendar button at the top of the **ME** page or through the profile menu on the top right corner. This allows you to easily view scheduled learning events, with options to view your personal events or the catalog calendar. Learning events are displayed on the calendar grid, and clicking on an event will show a pop-up with more details.

The **Message Center** serves as your central hub for communications within the system. Receive important messages, notifications, requests, and alerts related to your learning and system activity here.

Motorola Solutions Learning Center:  
Learn, grow, and thrive.

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# HELPFUL INFORMATION

## HOW TO MAKE PAYMENTS WHEN ENROLLING IN A COURSE

### HOW TO MAKE PAYMENTS WHEN REGISTERING

For your convenience we accept the following methods of payment:

- Credit Card
- Purchase Order

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

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

## FOR QUESTIONS AND ASSISTANCE

Call the Education Help Desk

Monday – Friday,

9:00 a.m. – 6:00 p.m. Kuala Lumpur/

Singapore Time

or email us at:

[training.APAC@motorolasolutions.com](mailto:training.APAC@motorolasolutions.com)

**Note:** Invoices are available only when using Purchase Orders.

## CONTACT MOTOROLA SOLUTIONS ASIA PACIFIC

<b>AUSTRALIA</b>	1-800-931855	<b>JAPAN</b>	0066-33-813730	<b>SOUTH KOREA</b>	00798-14-800-9674
<b>CHINA (MAINLAND)</b>	4001-202101	<b>MALAYSIA</b>	1-800-8-18590	<b>TAIWAN</b>	00801-13-6901
<b>HONG KONG SAR</b>	800-903-237	<b>NEW ZEALAND</b>	0800-445227	<b>THAILAND</b>	1800-011691
<b>INDIA</b>	000-800-9190337	<b>PHILIPPINES</b>	1-800-1-114-2853		
<b>INDONESIA</b>	007-803-011-4936	<b>SINGAPORE</b>	800-1206952		

## POLICIES AND REQUIREMENTS

### CANCELLATION AND

### RESCHEDULING BY THE STUDENT

Registrants may cancel or reschedule a class no less than 30 days prior to the class start date. Cancellations received after the stated deadline will not be eligible for a refund.

### CANCELLATION AND

### RESCHEDULING BY MOTOROLA SOLUTIONS

Motorola Solutions Training Services reserves the right to cancel any course due to low enrollment or other circumstances which would make the event non-viable up to 10 business days prior to the start of class.

If Motorola Solutions cancels a class, the

registrants will be offered a full refund.

Registrants will be notified at the time of change or cancellation with regards to the cancellation and refund process.

### 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 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.



# MOTOROLA SOLUTIONS TECHNICAL TRAINING COURSES

The following pages contain a selection of the courses that form our extensive portfolio, and also roadmaps to let you know the starting point and milestones of your development.

## GENERAL INFORMATION

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# COURSE INDEX

Use this matrix to quickly identify the targeted role and system life cycle phase of each course.

Portfolio	Course Code & Type	Course Title	Foundations	Product/System Intro	Stage & Deploy	Operate	Maintain	Administrator	Technician	End User
Radio Foundations	RDS0002	Basic RF	•					•	•	•
	RDS0003	Basic Networking	•					•	•	•
	RDS0004	Basic Radio	•					•	•	•
	RDS2012	Advanced RF: Introduction	•					•	•	•
	RDS2013	Advanced RF: Performance	•					•	•	
	RDS2014	Advanced RF: Troubleshooting	•					•	•	•
	ACT100E	Bridging the Knowledge Gap - Technicians	•						•	
	ACT101E	Bridging the Knowledge Gap - System Administrator	•					•		•
	NST021	Communication System Concepts	•					•	•	
	NST762	Networking Essentials in Motorola Communications Equipment	•					•	•	•
	AST4104	ASTRO® 25 Systems Applied Networking			•	•	•	•	•	
	TGTC08	RF Fundamentals	•					•	•	•
	DMT0057	Introduction to Trunked Radio Concepts	•					•	•	
DIMETRA™ Systems	17421	DIMETRA™ X Core D10 System Overview			•			•	•	•
	17423	DIMETRA™ X Core D10 Configuration and Administration			•	•	•	•	•	
	17425	DIMETRA™ X Core D10 Fault Management				•	•	•	•	•
	17427	DIMETRA™ X Core D10 Performance Management				•	•	•	•	
	17429	DIMETRA™ X Core D10 Troubleshooting and Maintenance					•	•	•	•
	17431	DIMETRA™ X Core D10 Air- Interface Encryption, Authentication & Provisioning				•	•	•	•	
	17433	DIMETRA X Core D10 Network Security				•	•	•	•	•
	DMT0084	DIMETRA X Core Secure Communications Workshop			•	•	•	•	•	
	DMT0036	DIMETRA™ Express Installation, Configuration and Maintenance Workshop			•	•	•	•	•	•
	17439	DIMETRA X Core D10 MCC 7500C Workshop			•	•	•	•	•	
Consoles	DMT0072	DCX9000 for DIMETRA™ Express Workshop		•	•	•	•	•	•	•
	RDS1022	MCD 5000 Technical Workshop			•	•	•	•	•	
	AST2011	MCC 7000 Series Consoles for K-Core			•	•	•	•	•	•
	AST2037	MCC 7000 Series Dispatch Consoles Overview				•	•		•	•
	CON012	MCC 7000 Series Dispatch Consoles Workshop			•	•	•	•	•	•
	TBTS01	MTS 2/MTS 4 Install, Config, Troubleshooting and Maintenance Workshop			•	•	•	•	•	
Base Stations	TBTS04	MTS 1 Installation, Config, Troubleshooting and Maintenance Workshop			•	•	•	•	•	•

■ Live training  
■ Self-paced training

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Portfolio	Course Code & Type	Course Title	Foundations	Product/System Intro	Stage & Deploy	Operate	Maintain	Administrator	Technician	End User
Subscribers	20140	MOTOTRBO XIR P8600/XPR7000 Series End User Training				•	•	•	•	•
	20420	MOTOTRBO R2 End User Training				•	•	•	•	•
	19381	MOTOTRBO XIR M8600 Series End User Training				•	•	•	•	•
	16604	MOTOTRBO R7 End User Training				•	•	•	•	•
	DMT1054	MXP600 End User Operator				•	•	•	•	•
	DMT1070	MTM5000 Series End User Operator				•	•	•	•	•
	DMT1083	ST7000 End User Operator				•	•	•	•	•
	DMT6003	MTP8000Ex Series End User Operator				•	•	•	•	•
	DMT0600	MXM600 End User Operator				•			•	•
	TTER01PLUS	TETRA Terminal Programming Course (CPS Plus)				•	•	•	•	•
	DMT1107	TETRA Subscriber Operator, Programming and Maintenance				•	•	•	•	•
	TBO300	MOTOTRBO Subscriber & Repeater Technical Service Academy				•	•	•	•	•
	PCT2022	MOTOTRBO Radio Management 2.0 Workshop			•	•		•	•	•
	RDS 2017	APX™ Radio Management Workshop			•	•	•	•	•	•
	APX7001	APX™CPS Programming and Template Building		•	•	•		•	•	•
	APX010	APX™ Technical Subscriber Academy		•	•	•	•	•	•	•
MOTOTRBO™	PCT1047	MOTOTRBO Capacity Max Technical Overview		•	•	•		•	•	•
	PCT1046	MOTOTRBO Capacity Max Theory of Operation			•	•	•	•	•	•
	PCT1066	MOTOTRBO IP Site Connect and Capacity Plus Technical Overview		•	•			•	•	•
	PCT0147	Capacity Max System Server Upgrade			•	•	•	•	•	•
	CEDMEL2000	MOTOTRBO System Introduction for Technicians			•			•	•	•
	PCT2023	MOTOTRBO IP Site Connect and Capacity Plus Theory of Operations & Design			•	•	•	•	•	•
	PCT3014	MOTOTRBO IP Site Connect and Capacity Plus System Workshop			•	•	•	•	•	•
	PCT3030	MOTOTRBO Capacity Max Technical Overview			•	•	•	•	•	•
	PCT2010	MOTOTRBO™ Capacity Max Design and Deploy		•	•	•	•	•	•	•
	PCT2005	SmartPTT Plus			•	•	•	•	•	•
	PCT2006	TRBONet Plus Essentials and Deployment			•	•	•	•	•	•
	PCT3031	TRBONet Plus for Capacity Max			•	•	•	•	•	•

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Portfolio	Course Code & Type	Course Title	Foundations	Product/System Intro	Stage & Deploy	Operate	Maintain	Administrator	Technician	End User
ASTRO® Systems	AST1038	ASTRO®25 IV&D System Overview		•				•	•	
	AST3038	ASTRO® 25 IV&D System Overview - K Core		•				•	•	
	AST4102	ASTRO®25 IV&D Radio System Administrator Workshop			•	•	•	•	•	
	AST4103	ASTRO®25 IV&D System Core Workshop			•	•	•	•	•	
	AST4207	ASTRO®25 IV&D Secure Communications Workshop			•	•	•	•	•	
	AST4208	ASTRO®25 IV&D GTR 8000 Repeater Site Workshop			•	•	•	•	•	
	AST4410	ASTRO®25 IV&D Conventional Core with Configuration Manager Workshop			•	•	•	•	•	
	AST4440	ASTRO®25 IV&D Conventional RF Site Workshop			•	•	•	•	•	
	AST2038	ASTRO®25 IV&D Radio Authentication			•	•	•	•	•	
	AST4217	ASTRO® 25 IV&D IP Based Digital Simulcast Workshop			•	•	•	•	•	
WAVE PTX	PTT0001A	WAVE PTX Overview				•	•		•	
	PTT0004A	WAVE PTX Admin Portal: End-User Training				•	•			•
	PTT0006A	WAVE PTX R11.2 Mobile Application: End-User Training (APAC)				•	•			•
	PTT0054	Central Admin Tool (CAT) R10.0 & R11.2: End-User Training				•	•	•		
	PSA0077	WAVE PTX User Provisioning Portal			•	•	•	•	•	
	PSA0078	WAVE PTX Enterprise Contacts and Group Management Portal			•	•	•	•	•	
	PSA0079	WAVE PTX Handset Standard Mode			•	•	•	•	•	
	PSA0080	WAVE PTX Handset PTT Radio Mode			•	•	•	•	•	
	PSA0081	WAVE PTX Dispatch Console and Features			•	•	•	•	•	
	PTT0071	WAVE PTX System Overview & Architecture			•	•	•	•	•	
	PTT0072	WAVE Gateway Overview & Architecture			•	•	•	•	•	
	PTT0075	Critical Connect (Gateway) Portal for Interoperability with WAVE System			•	•	•	•	•	
	PTT0013	Motorola Solutions Unified Recorder for end users				•	•	•		•
	PTT0014	Motorola Solutions Unified Recorder for administrators			•	•	•	•	•	

■ Live training  
■ Self-paced training

# FOUNDATIONAL COURSES

<b>RF FUNDAMENTALS (TGTC08)</b>	<b>19</b>
<b>BASIC RF (RDS0002)</b>	<b>19</b>
<b>BASIC RADIO (RDS0004)</b>	<b>19</b>
<b>ADVANCED RF: INTRODUCTION (RDS2012)</b>	<b>20</b>
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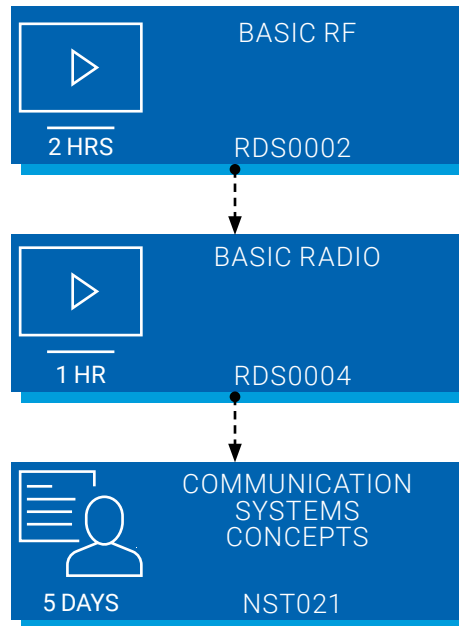
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## RF FUNDAMENTALS

### RF BASICS / RADIO SYSTEM BASICS



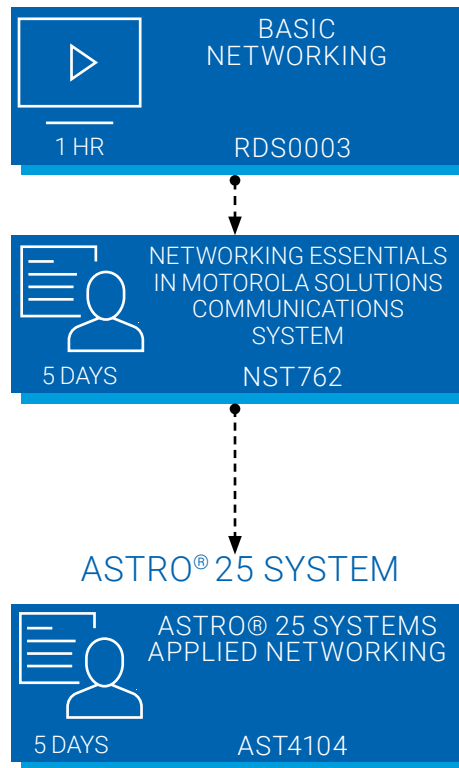
CURRICULUM COMPLETE



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DETAILS ON DIMETRA](#)

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## IP/NETWORKING FUNDAMENTALS



CURRICULUM COMPLETE



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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, the student 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

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None

**BASIC RF**

**2 HRS****RDS0002**

### COURSE OVERVIEW

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

### TARGET AUDIENCE

Technical staff who need to understand communication systems concepts.

### COURSE OBJECTIVES

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


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

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None

**BASIC RADIO**

**1 HR****RDS0004**

### COURSE OVERVIEW

The purpose of this course is to provide the student with the basic, foundational land mobile two-way radio knowledge required when working with Motorola Solutions. This course is ideal for all people who sell or service land mobile two-way radios.

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

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

### RECOMMENDED PRE-REQUISITE

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

- RDS0002 - Basic RF

### REQUIRED PREREQUISITES

None

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**ADVANCED RF:  
INTRODUCTION**

**1 HR**

**RDS2012**

### COURSE OVERVIEW

This course provides an introduction to advanced concepts of radio frequency. Topics include circuit elements, modulation, frequency spectrum, the decibel scale, and filters. This is part one of a three-part training course on RF for Radio Professionals.

After completing this course, please proceed to the RDS2013 Advanced RF: Performance training course.

### 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, the student will be able to:

- Describe the basic circuit elements and phenomena.
- Define and compare different types of digital modulation.
- List common frequency spectrum bands and describe their common uses.
- Describe the filtering process and types of RF filters.
- Describe the process of building a link budget

### RECOMMENDED PRE-REQUISITE

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

- RDS0002 - Basic RF

### REQUIRED PREREQUISITES

None



**ADVANCED RF:  
PERFORMANCE**

**1 HR**

**RDS2013**

### COURSE OVERVIEW

This course provides an overview of RF performance elements. Topics include transmission lines, antennas, hardware filters, performance parameters, and testing equipment. This is part two of a three-part training course on RF for Radio Professionals.

After completing this course, please proceed to the RDS2014 Advanced RF: Troubleshooting training course

### 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

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

- Describe the transmission line theory.
- Provide the guidelines for cable selection, routing and installation.
- Provide an overview of different antenna types and their uses.
- List advanced RF hardware filters and provide their functions.
- Discuss RF performance issues.
- List and describe transmitter performance parameters.
- List and describe receiver performance parameters.
- List and describe common test equipment

### RECOMMENDED PRE-REQUISITE

Completion of the following course or equivalent experience:

- RDS0002 - Basic RF
- RDS2012 - Advanced RF: Introduction

### REQUIRED PREREQUISITES

None



**ADVANCED RF:  
TROUBLESHOOTING**

**0.5 HRS**

**RDS2014**

### COURSE OVERVIEW

This course provides an overview of troubleshooting an RF system. During this course, you will learn how to locate and address issues in transmitting and receiving in an RF system. This is part three of a three-part training course on RF for Radio Professionals.

### 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 a simple transmit and receive system.
- Locate transmit and receive problems in an RF system.
- Describe the RF troubleshooting process.
- List the equipment used during a troubleshooting process

### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience:

- RDS0002 - Basic RF
- RDS2012 - Advanced RF: Introduction
- RDS2013 - Advanced RF: Performance

### REQUIRED 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 and a basic walkthrough of building a communication system
- Trunking Operation
- Types of modulation used in RF System operation
- Radio frequency path
- Decibels and their uses on the job
- RF Propagation/RF Interference
- Basic Troubleshooting practices

### TARGET AUDIENCE

Individuals who are interested in the operational concepts of 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

### RECOMMENDED PRE-REQUISITE

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



**BASIC  
NETWORKING**

1 HR      RDS0003

### COURSE OVERVIEW

This course provides a detailed overview of the fundamentals of computer networking.

Topics include the TCP/IP five layer model, interconnecting devices, transmission media, user-facing applications and network 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.
- Compare the OSI and TCP/IP reference models.
- Identify standards organizations.
- Define the physical and logical topologies in system networking.
- Define the various transmission media.
- Define commonly used network protocols.
- Describe the levels of network security and types of network protection

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**NETWORKING ESSENTIALS  
IN MOTOROLA SOLUTIONS  
COMM 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

### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience is highly recommended:

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

### REQUIRED PREREQUISITES

None

## RADIO SOLUTIONS FOUNDATIONAL

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**ASTRO® 25  
SYSTEMS APPLIED  
NETWORKING**

**5 DAYS**  
**AST4104**

### 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:

- Describe ASTRO® 25 topologies.
- Describe ASTRO® 25 traffic flows.
- Describe TCP/IP addressing in an ASTRO® 25 network.
- Configure switches and verify switch operation.
- Configure routers and verify router operation.
- Compare Motorola GGM 8000 routers and Juniper routers.
- Perform common maintenance tasks for switches and routers.
- Describe IP Multicast addresses and talkgroup operation.
- Describe network management functions and applications.
- Describe Information Assurance in ASTRO® 25.
- Describe extended topologies such as the Data Subsystem and ISSI..

### RECOMMENDED PRE-REQUISITE

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

- NST762 - Networking Essentials in Motorola Communications Systems

### REQUIRED 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 is targeted for System Administrators and other ASTRO 25 system users who are new to trunked radio systems. Also those with experience in non-IP-based radio systems like SmartNet and SmartZone.

### COURSE OBJECTIVES

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


- Explain the different radio system concepts as applied to conventional and trunked systems.
- Compare analog radio communication signaling to ASTRO 25 radio communications signaling.
- Identify different communication concepts using representative block diagrams of the respective systems.
- Compare radio system communication concepts using representative block diagrams of the respective systems.
- Compare how voice and data, information flow through different radio communication system types and how the signaling information controls that flow of information.
- Describe the features of each radio communication system in terms of advantages and disadvantages.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**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 five modules from the basic concepts of radio communication systems and computer networking features, through the evolution that led to the ASTRO 25 trunking system's architecture.

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

By the end of the 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 flow through different radio communication system types and how the signaling information controls that flow of information.
- Describe the features of each radio communication system in terms of advantages and disadvantages.
- Explain the Trunked Radio System Concepts.

### RECOMMENDED PRE-REQUISITE

None

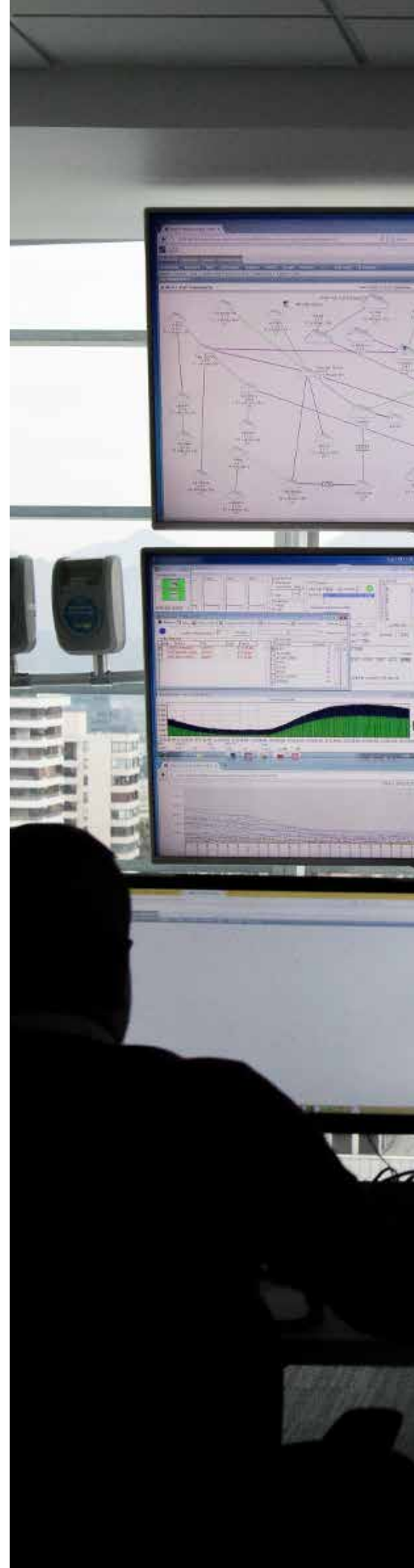
### REQUIRED PREREQUISITES

None

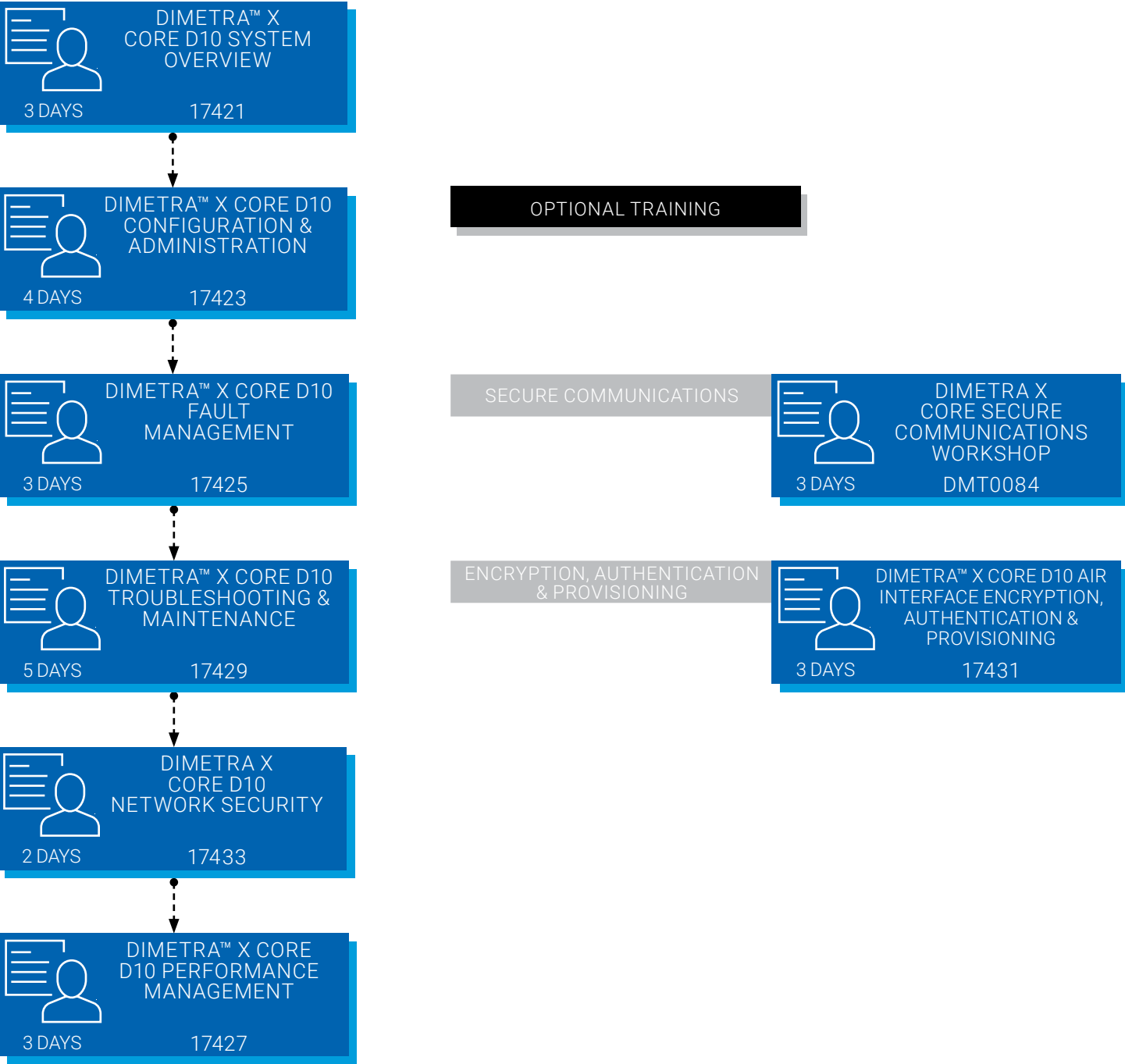
# DIMETRA™ SYSTEMS COURSES

DIMETRA™ SYSTEM TRAINING IS AVAILABLE IN PREVIOUS RELEASES;  
WE ALSO DELIVER DIMETRA DELTA TRAINING FOR EVERY NEW RELEASE.  
PLEASE CONTACT MOTOROLA SOLUTIONS FOR MORE INFORMATION.

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DIMETRA™ MSO SYSTEM ENGINEER

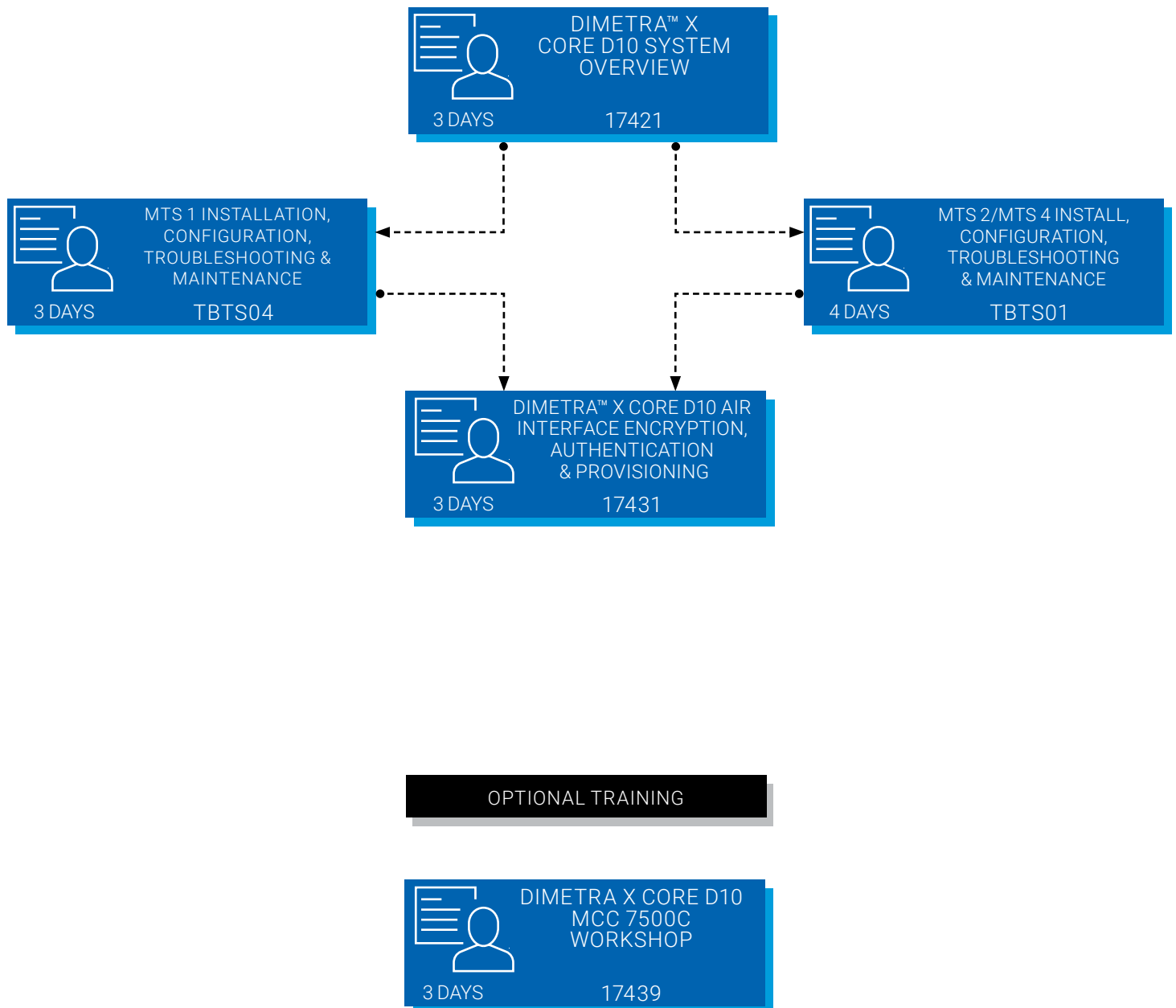


## RADIO SOLUTIONS DIMETRA SYSTEMS

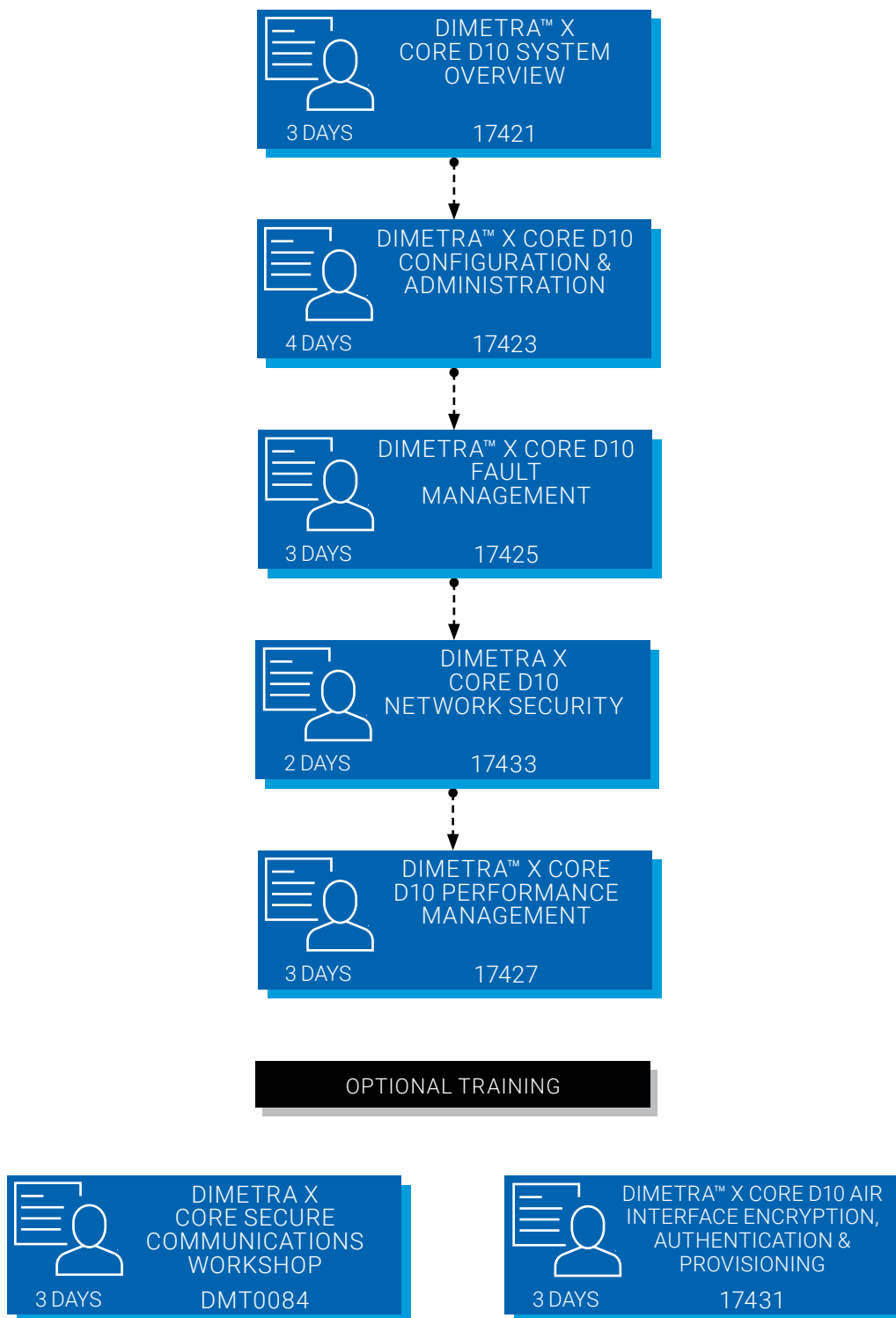
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### DIMETRA™ FIELD ENGINEER



## DIMETRA™ SYSTEM ADMINISTRATOR



## RADIO SOLUTIONS DIMETRA SYSTEMS

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**DIMETRA X  
CORE D10  
SYSTEM OVERVIEW**

3 DAYS17421

### COURSE OVERVIEW

This course provides an overview of the features and functions of a DIMETRA™ X Core D10 system. The course includes descriptions of the various call types and system hardware functionality. The applications overview describes the purpose of the software used to manage and administer the system.

### TARGET AUDIENCE

Individuals who need an overview of the DIMETRA X Core system functionality and features..

### COURSE OBJECTIVES

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

- Describe DIMETRA X Core features and their benefits.
- Describe DIMETRA X Core single zone system components and their functionality.
- Describe the purpose and function of the DIMETRA X Core Network Management applications.
- Describe DIMETRA X Core multi-zone system components and their functionality.
- Describe how different types of calls are processed through a DIMETRA X Core system.
- Describe Inter-System Interface architecture and functionality.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

- DMT0057 - Introduction to Trunked Radio Concepts.



**INTRODUCTION TO  
TRUNKED RADIO  
CONCEPTS**

0.5 HRSDMT0057

### COURSE OVERVIEW

This course provides an overview of basic radio concepts and the main technical characteristics of a TETRA Radio system. The course describes the principles of trunked and conventional radio systems.

### TARGET AUDIENCE

All staff who require an overview of basic radio concepts and the main technical characteristics of a TETRA Radio system.

### COURSE OBJECTIVES

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


- Describe the operation of a Basic Conventional Radio system.
- Describe the advantages of a Trunked Radio system over a Conventional Radio system.
- Describe the main technical characteristics of a TETRA Radio system.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**DIMETRA X CORE D10  
CONFIGURATION &  
ADMINISTRATION**

4 DAYS17423

### COURSE OVERVIEW

During this workshop, delegates will use configuration and administration applications to manage a DIMETRA™ X Core system as they would on a daily basis. The delegates will perform configuration setup 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 the configuration and administration of a DIMETRA X Core system.

### COURSE OBJECTIVES

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

- Describe the purpose of configuration management and server administration within your DIMETRA X Core system.
- Describe fleetmapping and home zone map functions.
- Perform configuration procedures using User Configuration Manager (UCM).
- Perform configuration procedures using Zone Configuration Manager (ZCM).
- Perform configuration procedures using Radio Control Manager (RCM).
- Perform server database administration tasks.

### RECOMMENDED PRE-REQUISITE

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

- 17421 - DIMETRA X Core D10 System Overview

### REQUIRED PREREQUISITES

None

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**DIMETRA X  
CORE D10 FAULT  
MANAGEMENT**

**3 DAYS**

**17425**

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

- Define the role of Fault Management within Network Management.
- Define the role of each of the applications used within Fault Management.
- Use the following applications to facilitate Fault Management:
  - Unified Event Manager (UEM)
  - Transport Network Device Manager (TNDM)
  - Zone Configuration Manager (ZCM)
  - System Health Application Suite (SHAS)
- Perform backup and restore tasks using the Enhanced Software Update (ESU)

### RECOMMENDED PRE-REQUISITE

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

- 17421 - DIMETRA X Core D10 System Overview

### REQUIRED PREREQUISITES

None



**DIMETRA X CORE  
D10 PERFORMANCE  
MANAGEMENT**

**3 DAYS**

**17427**

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

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

### RECOMMENDED PRE-REQUISITE

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

- 17421 - DIMETRA X Core D10 System Overview

### REQUIRED PREREQUISITES

None



**DIMETRA X CORE D10  
TROUBLESHOOTING &  
MAINTENANCE**

**5 DAYS**

**17429**

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

- Describe the troubleshooting process and fault management approach to maintain the DIMETRA X Core system.
- Describe the architecture and hardware components of the following subsystems:
  - Common Server Platform
  - Call Processing Subsystem
  - Network Management Subsystem
  - Telephone Interconnect Subsystem
  - Data Subsystem
  - Network Transport Subsystem
- Perform maintenance and troubleshooting procedures on the DIMETRA X Core system.
- Perform backup and restoration procedures on the related application server.
- Replace and reconfigure faulty Field Replaceable Units (FRUs) and Field Replaceable Equipment/Entities (FREs) within a DIMETRA X Core system.

### RECOMMENDED PRE-REQUISITE

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

- 17421 - DIMETRA X Core D10 System Overview

### REQUIRED PREREQUISITES

- 17423 - DIMETRA X Core D10 Configuration & Administration
- 17425 - DIMETRA X Core D10 Fault Management

# RADIO SOLUTIONS DIMETRA SYSTEMS

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**DIMETRA X CORE D10 AIR  
INTERFACE ENCRYPTION,  
AUTHENTICATION &  
PROVISIONING**

**3 DAYS****17431**

## COURSE OVERVIEW

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

## TARGET AUDIENCE

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

## COURSE OBJECTIVES

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

- Describe how Air Interface Encryption and Authentication work within the DIMETRA X Core system.
- Describe the TETRA security classes and DIMETRA X Core encryption keys.
- Describe Authentication and Encryption keys distribution, storage, updates, and management.
- Describe operational principles of the Group Cipher Key (GCK) feature.
- Perform Encryption Key management procedures using the Enhanced Authentication Centre (EAuC) system components.
- Perform key provisioning of the TETRA radios for Authentication and Encryption operations.
- Perform EAuC administration and management tasks.

## RECOMMENDED PRE-REQUISITE

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

- 17421 - DIMETRA X Core D10 System Overview

## REQUIRED PREREQUISITES

None



**DIMETRA™ X  
CORE D10  
NETWORK SECURITY**

**2 DAYS****17433**

## COURSE OVERVIEW

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

## TARGET AUDIENCE

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

## COURSE OBJECTIVES

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

- Describe the network security frameworks discussed in this course.
- Describe the DIMETRA X Core Network Security subsystem and its components and functions.
- Describe the network security threats and vulnerabilities in a DIMETRA system and the methods to combat them.
- Describe the antivirus subsystem within a DIMETRA system.
- Perform antivirus management tasks using the client software.
- Describe the features and functions of Active Directory.
- Describe the implementation of Active Directory in a DIMETRA system.
- Perform Active Directory operations in a DIMETRA system.
- List the firewalls used in a DIMETRA system.
- Perform firewall configurations for a DIMETRA system.

## RECOMMENDED PRE-REQUISITE

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

- 17421 - DIMETRA X Core D10 System Overview

## REQUIRED PREREQUISITES

None



**DIMETRA X  
CORE SECURE  
COMMUNICATIONS  
WORKSHOP**

**3 DAYS****DMT0084**

## COURSE OVERVIEW

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

## TARGET AUDIENCE

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

## COURSE OBJECTIVES

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

- Describe the theory of DIMETRA secure communications operation.
- Carry out KMF administration.
- Utilize the E2E KVL.
- Perform KMF OTAK/OTek management activities and procedures.
- Administer the KMF server.
- Set up an MCC 7500S secure console.

## RECOMMENDED PRE-REQUISITE

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

- 17421 - DIMETRA X Core D10 System Overview

## REQUIRED PREREQUISITES

None

## RADIO SOLUTIONS DIMETRA SYSTEMS

For information on prerequisites and to register for courses visit the Learning Center at: [learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)

For general information contact the Asia Pacific Education Services Help Desk at: [training.apac@motorolasolutions.com](mailto:training.apac@motorolasolutions.com)



### 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

Individuals who need to set up or manage a 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.
- Set up a DIMETRA Express system.
- Set up 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 administration and management tasks.

### RECOMMENDED PRE-REQUISITE

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

### REQUIRED PREREQUISITES

None

# CONSOLE COURSES

DIMETRA X CORE D10 MCC 7500C WORKSHOP (17439)	33
DCX9000 FOR DIMETRA EXPRESS WORKSHOP (DMT0072)	32
MCD 5000 TECHNICAL WORKSHOP (RDS1022)	32
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MCC 7000 SERIES DISPATCH  
CONSOLES WORKSHOP (CON012)  
FOCUSES ON THE CONSOLES  
APPLICATION IN AN M- OR L-CORE  
SYSTEM.



## RADIO SOLUTIONS CONSOLES

For information on prerequisites and to register for courses visit the Learning Center at: [learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)

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**DIMETRA X  
CORE D10 MCC 7500C  
WORKSHOP**

**2 DAYS** **17439**

### COURSE OVERVIEW

This course gives students an in-depth explanation of the MCC7500C Dispatch Console solution. During this workshop, students will perform hands-on activities associated to the MCC 7500C Dispatch Console on a live DIMETRA™ X Core system.

### TARGET AUDIENCE

Control Room Managers, System Engineers, and Network Administrators responsible for the deployment, maintenance, and operations of the MCC 7500C Dispatch Consoles in a DIMETRA X Core system.

### COURSE OBJECTIVES

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

- Describe the MCC 7500C Dispatch Console subsystem.
- Install the hardware and software components of the MCC 7500C Dispatch Console.
- Configure the MCC 7500C Dispatch Console using UCM and ZCM.
- Perform administrative tasks using the MCC 7500 Elite Admin software.
- Operate the MCC 7500 Elite Dispatch application to manage and communicate with radio resources.
- Troubleshoot installation and configuration problems from the MCC 7500C Dispatch Console.

### RECOMMENDED PRE-REQUISITE

Completion of the following course or equivalent experience:

- 17421 - DIMETRA X Core D10 System Overview

### REQUIRED PREREQUISITES

None



**DCX9000 FOR  
DIMETRA EXPRESS  
WORKSHOP**

**2 DAYS** **DMT0072**

### COURSE OVERVIEW

In this workshop, you will learn about the features and functions of the DCX9000 Dispatch Console and Voice Logger. You will perform installation, configuration, and other end-user procedures to familiarize yourself with DCX9000.

### TARGET AUDIENCE

Individuals who need to learn how to install, configure, and operate the DCX9000 system.

### COURSE OBJECTIVES

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

- Describe the DCX9000 system and its features and functions.
- Install and integrate DCX9000 with your DIMETRA™ system.
- Configure the DCX9000 and DIMETRA systems for the implementation of DCX9000.
- Use DCX9000 to communicate and manage your radio fleet.

### RECOMMENDED PRE-REQUISITE

Basic knowledge of the installation and configuration of the DIMETRA Express system:

### REQUIRED 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, the student will be able to:

- Identify the MCD 5000 System components and functions.
- Install MCD 5000 Deskset.
- Install Radio Gateway Units.
- Configure MCD 5000 subcomponents.
- Troubleshoot the MCD 5000 System to Motorola Solutions recommended service levels.

### RECOMMENDED PRE-REQUISITE

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

- NST021 - Communication Systems Concepts

### REQUIRED PREREQUISITES

None

## RADIO SOLUTIONS CONSOLES

For information on prerequisites and to register for courses visit the Learning Center at: [learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)

For general information contact the Asia Pacific Education Services Help Desk at: [training.apac@motorolasolutions.com](mailto:training.apac@motorolasolutions.com)



**MCC 7000 SERIES  
CONSOLES  
FOR K-CORE**

4 DAYS      AST2011

### COURSE OVERVIEW

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

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

### TARGET AUDIENCE

System Operators, Administrators, and Technicians

### COURSE OBJECTIVES

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

- Install and configure the hardware and software components of the MCC 7000 Series Dispatch Console Subsystem.
- Perform MCC 7000 series site connectivity and bandwidth management.
- Perform System Administrator functions using the Elite Administrator software.
- Troubleshoot installation and configuration problems for the MCC 7000 series Dispatch Console.

### RECOMMENDED PRE-REQUISITE

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

- NST762 - Networking Essentials in Motorola Communication Systems
- ACT100E or ACT101E - Bridging the Knowledge Gap
- AST1038 - ASTRO® 25 IV&D System Overview
- AST4410 - ASTRO® 25 IV&D Conventional Core with Configuration Manager Workshop

### REQUIRED PREREQUISITES

None



**MCC 7000 SERIES  
DISPATCH CONSOLES  
OVERVIEW**

1 DAY      AST2037

### COURSE OVERVIEW

This course provides an overview of the MCC 7000 series of Dispatch Consoles. It includes a description of the features, illustrations of subsystem architecture options, descriptions of subsystem components, and illustrations of signal flow and call processing.

### TARGET AUDIENCE

System Administrators, Console Technicians.

### COURSE OBJECTIVES

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

- Describe the features of MCC 7000 series of Dispatch Consoles.
- Explain the various system architectures for Dispatch Console subsystems.
- Describe system components in a Dispatch Console subsystem.
- Describe the steps in the signal flow of call processing from a Dispatch Console

### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience:

- ACT100E or ACT101E - Bridging the Knowledge Gap
- NST762 - Networking Essentials in Motorola Communications Equipment

### REQUIRED PREREQUISITES

None



**MCC 7000 SERIES  
DISPATCH CONSOLES  
WORKSHOP**

4 DAYS      CON012

### COURSE OVERVIEW

This course familiarizes participants in installation, configuration, management and repair of MCC 7500(e) Dispatch Consoles AUX I/O servers, Conventional Channel Gateways, and other optional features.

### TARGET AUDIENCE

System Administrators, Console Technicians.

### COURSE OBJECTIVES

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

- Understand key physical and functional characteristics of MCC 7500(e) Dispatch Consoles.
- Understand physical installation requirements of MCC 7500(e) Dispatch Consoles.
- Perform tasks necessary to install MCC 7500(e) Dispatch Consoles components.
- Perform configuration steps for MCC 7500(e) Dispatch Consoles components.
- Understand available maintenance tools and indicators in MCC 7500(e) Dispatch Consoles.
- Troubleshoot MCC 7500(e) Dispatch Consoles components to the Motorola Solutions recommended service level.
- Perform tasks necessary to provision users for MCC 7500(e) Dispatch Consoles.
- Configure the MCC 7500(e) Dispatch Consoles interface.
- Perform required administrative activities for MCC 7500(e) Dispatch Consoles.
- Perform tasks necessary to install and configure MCC 7500(e) console AuxI/O servers (SDM 3000 and MC-EDGE).

### RECOMMENDED PRE-REQUISITE

- ACT100E or ACT101E - Bridging the Knowledge Gap
- NST762 - Networking Essentials in Motorola Communications Equipment
- AST4104 - ASTRO® 25 Systems Applied Networking

### REQUIRED PREREQUISITES

- AST1038 - ASTRO® 25 IV&D System Overview
- AST3038 - ASTRO® 25 IV&D System Overview - K Core

# BASE STATIONS COURSES

MTS 2/MTS 4 INSTALLATION, CONFIGURATION, TROUBLESHOOTING & MAINTENANCE WORKSHOP (TBTS01)	35
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MTS 1 INSTALLATION, CONFIGURATION, TROUBLESHOOTING AND MAINTENANCE (TBTS04)	35
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## RADIO SOLUTIONS BASE STATIONS

For information on prerequisites and to register for courses visit the Learning Center at: [learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)

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MTS 2/MTS 4 INSTALL,  
CONFIG, TROUBLESHOOTING  
& MAINTENANCE  
WORKSHOP

4 DAYS

TBTS01

### COURSE OVERVIEW

This course includes the theoretical and practical aspects of configuring, maintaining and troubleshooting the MTS base station in a DIMETRA™ system. The course includes the practical use of service software and the human-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, the student will be able to:

- Describe the function of the MTS within a DIMETRA™ system.
- Identify and describe functions of MTS components.
- Perform MTS installation procedures.
- Perform MTS status verification commands.
- Perform configuration and maintenance tasks using Motorola TETRA BTS Service Software.
- Verify minimum MTS configuration requirement for Wide Area Trunking mode.
- Download a configuration file to the MTS using the Software Download Manager applications.
- Carry out removal and replacement procedures for MTS FRUs.
- Perform Ki loading procedures to the MTS.
- Describe MTS expansion option.
- Troubleshoot MTS to FRU level.

### RECOMMENDED PRE-REQUISITE

RF and Field or Bench service background, plus completion of one of the DIMETRA X Core System Overview courses or equivalent experience.

### REQUIRED PREREQUISITES

None



MTS 1 INSTALL,  
CONFIG,  
TROUBLESHOOTING  
& MAINTENANCE

3 DAYS

TBTS04

### COURSE OVERVIEW

This course includes the theoretical and practical aspects of configuring, maintaining and troubleshooting the MTS 1 base station in a DIMETRA™ system. The course includes the practical use of service software and the human-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™ system.
- Identify and describe the function of MTS 1 components.
- Describe MTS 1 installation procedures.
- Execute HMI 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.

### RECOMMENDED PRE-REQUISITE

RF and Field or Bench service background is recommended

### REQUIRED PREREQUISITES

None

# SUBSCRIBER COURSES

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MOTOTRBO SUBSCRIBER END-USER OPERATOR COURSES	38
TETRA TERMINAL PROGRAMMING COURSE (CPS PLUS) (TTER01PLUS)	39
TETRA SUBSCRIBER OPERATOR, PROGRAMMING AND MAINTENANCE (DMT1107)	39
MOTOTRBO™ CUSTOMER PROGRAMMING SOFTWARE 2.0 (PCT0185)	39
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## RADIO SOLUTIONS SUBSCRIBERS

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## TETRA SUBSCRIBER END-USER OPERATOR COURSES



MTP3000  
SERIES  
END-USER  
OPERATOR  
1 DAY  
DMT1054



MTM5000  
SERIES  
END-USER  
OPERATOR  
1 DAY  
DMT1070




MXP600  
SERIES  
END-USER  
OPERATOR  
1 DAY  
DMT6003



ST7000  
END-USER  
OPERATOR  
1 DAY  
DMT1083



MXM600  
END-USER  
OPERATOR  
1 DAY  
DMT0600



MXP660  
END-USER  
OPERATOR  
1 DAY  
16840

### COURSE OVERVIEW

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

### TARGET AUDIENCE

Radio end-user operators

### COURSE OBJECTIVES

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

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

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

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None

## RADIO SOLUTIONS SUBSCRIBERS

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## MOTOTRBO SUBSCRIBER END-USER OPERATOR COURSES

### OVERVIEW

During this course, you will learn how to operate the MOTOTRBO radio. You will perform group and private calls, adjust the radio settings, and use features such as Emergency Operation, Security, and Text Messaging.

### TARGET AUDIENCE

This course is intended for the end users of a MOTOTRBO radio who would like to familiarize themselves with the features and operation principles of their device

### COURSE OBJECTIVES.

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

- Prepare the radio for operation.
- Operate the radio and adjust the main settings.
- Identify the types of radio calls that can be made.
- Make and receive radio calls.
- Identify and use the main features of the radio.


### REQUISITES

None



**MOTOTRBO  
DM4000 SERIES  
END-USER TRAINING**

**1 DAY****19381**




**MOTOTRBO R7  
END-USER  
TRAINING**

**1 DAY****16604**



**MOTOTRBO R2  
END-USER  
TRAINING**


**1 DAY****20420**



**MOTOTRBO XIR P8600/  
XPR 7000 SERIES  
END USER TRAINING**


**1 DAY****20140**

## OTHER MOTOTRBO SUBSCRIBER COURSES



**MOTOTRBO RADIO  
MANAGEMENT 2.0  
CONFIGURATION  
MODE**

**1 HR****PCT1032**



**MOTOTRBO  
CPS 2.0 PROGRAMMING**

**1 HR****PCT0115**

## RADIO SOLUTIONS SUBSCRIBERS

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**TETRA TERMINAL  
PROGRAMMING  
(CPS PLUS)**

2 DAYS      TTER01PLUS

### COURSE OVERVIEW

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

### TARGET AUDIENCE

Technical staff required to program Motorola Solutions TETRA radios..

### COURSE OBJECTIVES

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

- Identify and locate all program features.
- Describe the function of all major CPS Plus features and tools.
- Installation of the CPS and adding RPK files.
- Carry out radio programming using CPS Plus.
- Carry out CPS Plus troubleshooting procedures

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**TETRA SUBSCRIBER  
OPERATOR,  
PROGRAMMING &  
MAINTENANCE**

1 DAY      DMT1107

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

- Locate and use all MTP6650 and MTM5400 controls.
- Execute trunked and direct mode calls using the MTP6650 and MTM5400 radios.
- Carry out radio troubleshooting using built-in diagnostics.
- Describe the function of Motorola CPS Plus software.
- Create a user codeplug and program the codeplug into an MTP6650 and MTM5400 radio.
- Carry out software troubleshooting using CPS Plus.
- Carry out configuration for collaborative devices.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**MOTOTRBO™ CUSTOMER  
PROGRAMMING  
SOFTWARE 2.0**

1.5 DAYS      PCT0185

### COURSE OVERVIEW

This course is an introduction to MOTOTRBO Customer Programming Software (CPS) 2.0. You will learn how to install and use CPS 2.0 to program your equipment..

### TARGET AUDIENCE

Communication System Technicians, Technical Support Personnel, Service Technicians, Radio Programmers.

### COURSE OBJECTIVES

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

- Explain the purpose of MOTOTRBO CPS 2.0.
- Successfully complete a read job.
- Update the settings for a codeplug.
- Successfully complete a write job.
- Demonstrate a general awareness for the common processes managed using MOTOTRBO CPS 2.0..

### RECOMMENDED PREREQUISITE

None

## RADIO SOLUTIONS SUBSCRIBERS

For information on prerequisites and to register for courses visit the Learning Center at: [learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)

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**MOTOTRBO™ RADIO  
MANAGEMENT 2.0  
WORKSHOP**

**2 DAYS****PCT2022**

### COURSE OVERVIEW

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

### TARGET AUDIENCE

System Managers and Technicians

### COURSE OBJECTIVES

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


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

### RECOMMENDED PRE-REQUISITE

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

### REQUIRED PREREQUISITES

PCT1032 - MOTOTRBO™ Radio Management 2.0 Configuration Mode



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

**4 DAYS****TBO300**

### COURSE OVERVIEW

During this course you will learn about 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, as well as plenty of hands on, scenario-based lab work to reinforce knowledge transfer.

### TARGET AUDIENCE

Radio Technicians

### COURSE OBJECTIVES

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

- Distinguish between the features and specifications of the MOTOTRBO portable and mobile radios and repeaters
- Verify the correct operations of the MOTOTRBO radios and repeaters by completing Performance Checks and Alignment procedures
- Maintain and troubleshoot MOTOTRBO radios and repeaters
- Disassemble and reassemble the radios using the documented procedures.

### RECOMMENDED PRE-REQUISITE

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

- CEDMEL2000 - Introduction to MOTOTRBO™ Systems for Technicians

### REQUIRED PREREQUISITES

None



**APX™ RADIO  
MANAGEMENT  
WORKSHOP**

**3 DAYS****RDS2017**

### COURSE OVERVIEW

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

### TARGET AUDIENCE

Radio Technicians, System Managers, Radio Programmers

### COURSE OBJECTIVES

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

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

### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience:

- APX7001 - APX™ CPS Programming and Template Building Overview

### REQUIRED PREREQUISITES

None

## RADIO SOLUTIONS SUBSCRIBERS

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**APX™ TECHNICAL  
SUBSCRIBER  
ACADEMY**

5 DAYS      APX010

### COURSE OVERVIEW

Participants will learn the capabilities, features, and functions of the APX™ family of radios as well as how to correctly complete performance checks, radio alignments, maintenance, and troubleshooting. This Academy will also focus on a Level 2 (block-level) theory of operation for the APX™ family of radios and provide a review of APX™ CPS and Radio Management programming. In addition to the lecture, large amounts of hands-on with scenario-based lab work will be used to reinforce knowledge transfer.

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

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

### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience in radio communications:

- NST021 - Communication Systems Concepts
- APX7001 - APX CPS Programming and Template Building Overview.

### REQUIRED PREREQUISITES

None



**APX™ CPS RADIO  
PROGRAMMING &  
TEMPLATE BUILDING**

2 DAYS      APX7001

### COURSE OVERVIEW

The APX™ CPS Radio 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.

### TARGET AUDIENCE

You should attend this training course if you are a radio technician or system manager who needs to:

- Perform APX radios programming.
- Gain knowledge of the APX CPS navigation, tools, options and features.
- Have a better understanding of APX subscriber operating in Conventional, Single Site trunking, Simulcast, SmartZone or ASTRO 25 IV&D TDMA and ASTRO 25 IV&D x2.

### COURSE OBJECTIVES

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

- Navigate through the user interface of the APX™ Customer Programming Software (CPS).
- Build the APX family of programming templates using the APX™ CPS programming software.
- Program the specific conventional and trunking parameters related to the various system types in which the radios will operate.
- Program the radios using typical APX™ CPS features and functions, such as cloning and drag and drop operations.
- Use additional APX™ CPS related functions such as codeplug comparison, radio flashing, Advance System Key Administrator, and codeplug merging.

### RECOMMENDED PRE-REQUISITE

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

### REQUIRED PREREQUISITES

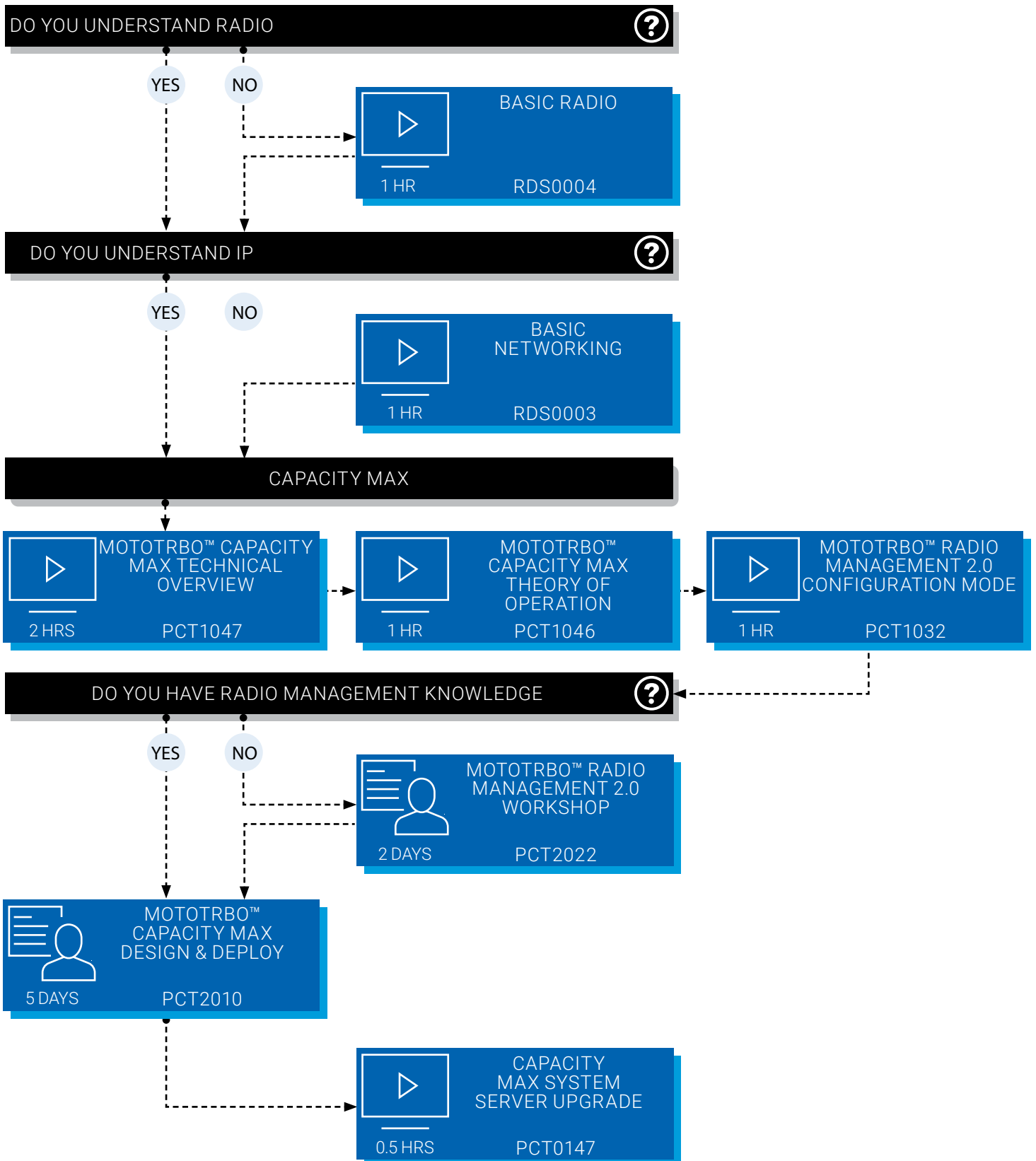
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# MOTOTRBO™ SYSTEMS COURSES

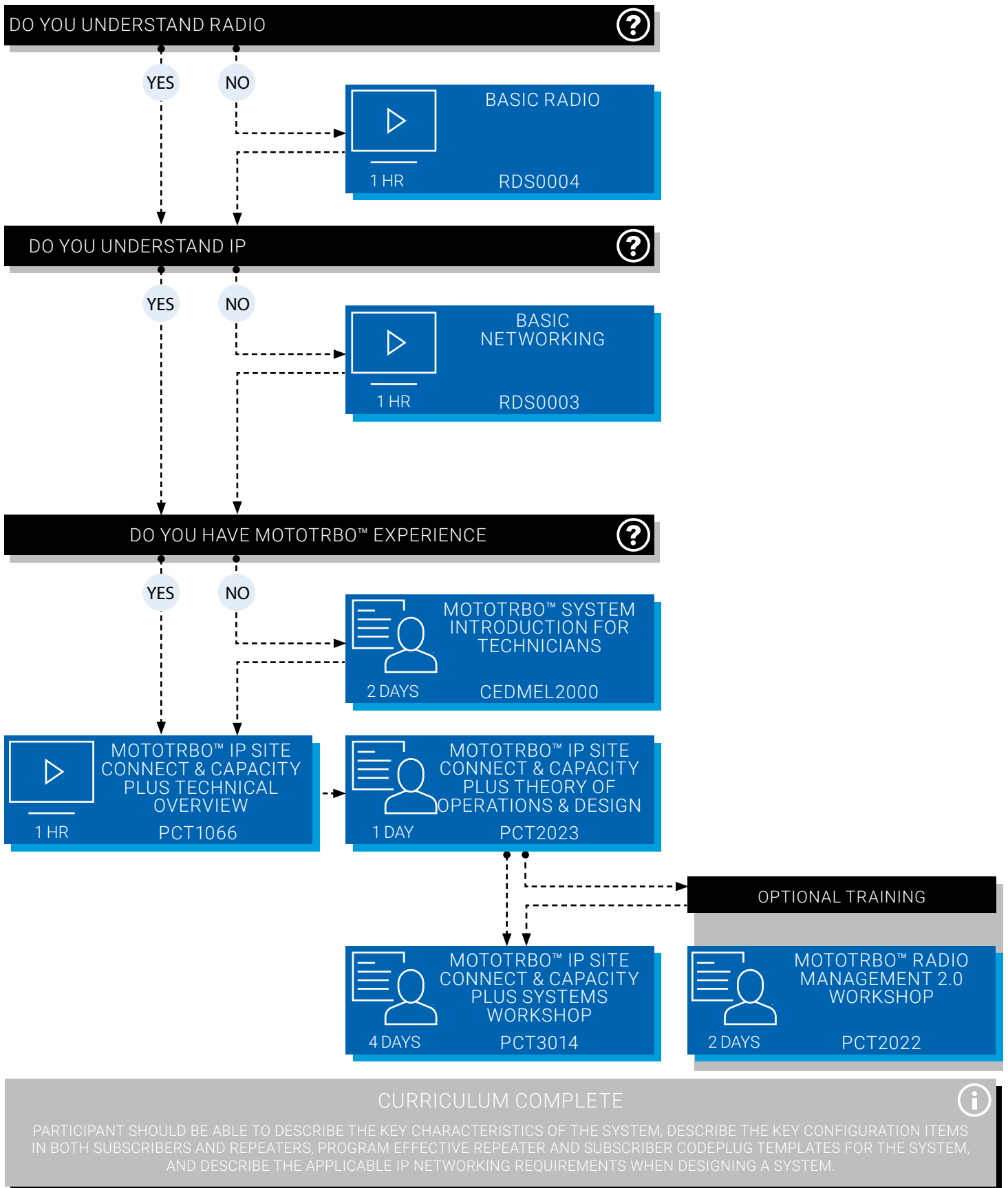
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## MOTOTRBO™ TECHNICAL CAPACITY MAX TRAINING CURRICULUM



## MOTOTRBO™ TECHNICAL IP SITE CONNECT, CAPACITY PLUS (SINGLE AND MULTI-SITE) TRAINING CURRICULUM



## RADIO SOLUTIONS MOTOTRBO™ SYSTEMS

For information on prerequisites and to register for courses visit the Learning Center at: [learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)

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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. During this course you will learn about common MOTOTRBO features, capabilities, and system design and deploy principles. After completing this course, you will be ready to take the more advanced Design & Deploy courses for IP Site Connect and Capacity Plus systems.

### 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:

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


### RECOMMENDED PRE-REQUISITE

Completion of the following optional courses or equivalent knowledge:

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

### REQUIRED PREREQUISITES

None



MOTOTRBO™  
CAPACITY MAX  
TECHNICAL  
OVERVIEW

2 HRS      PCT1047

### COURSE OVERVIEW

This self-study course is designed to help you learn the fundamentals of 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 covered in this course.

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

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


### RECOMMENDED PRE-REQUISITE

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

- RDS0004 - Basic Radio

### REQUIRED PREREQUISITES

None



MOTOTRBO™  
CAPACITY MAX  
THEORY OF  
OPERATION

1 HR      PCT1046

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

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

### RECOMMENDED PRE-REQUISITE

Basic Radio knowledge

### REQUIRED PREREQUISITES

- PCT1047 - MOTOTRBO™ Capacity Max Technical Overview

## RADIO SOLUTIONS MOTOTRBO™ SYSTEMS

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**MOTOTRBO™ CAPACITY  
MAX TECHNICAL  
OVERVIEW**

2 DAYS      PCT3030

### COURSE OVERVIEW

This course provides an overview of the features and functions of the MOTOTRBO™ Capacity Max system. The course includes descriptions of the various call types and system hardware functionality. The applications overview describes the purpose of the software used to manage and operate the system.

### TARGET AUDIENCE

Individuals who need an overview of the MOTOTRBO™ Capacity Max system functionality and features.

### COURSE OBJECTIVES

Upon completion of this course, the student will be able to:


- Describe the call processing in MOTOTRBO Technology.
- Describe Capacity Max System Components and their functions.
- Identify the hardware and software requirements for a Capacity Max system.
- Explain Capacity Max RF Site operation and functions.
- Review the key call types for a Capacity Max system.
- Describe Radio Management components and functions.
- Explain the mode of operation of dispatcher solutions.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**MOTOTRBO™  
CAPACITY MAX  
DESIGN & DEPLOY**

5 DAYS      PCT2010

### COURSE OVERVIEW

During this course, you will learn about the design process for a Capacity Max Radio system. You will also practice designing and deploying a small scale Capacity Max system, and configuring Capacity Max using Radio Management 2.0 Configuration Mode. In order to get the most of the hands-on activities, participants MUST bring their own laptop to class with the latest RM 2.0 Configuration Mode software installed.

### 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 optimize a Capacity Max system.

### RECOMMENDED PRE-REQUISITE

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

### REQUIRED PREREQUISITES

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



**CAPACITY  
MAX SYSTEM  
SERVER UPGRADE**

0.5 HRS      PCT0147

### COURSE OVERVIEW

Capacity Max System Server Upgrade will conduct a CMSS upgrade by preparing the ESU Launchpad software, set up virtual machines, and server components. This course will also cover a complete run of the CMSS upgrade process successfully from start to finish.

### TARGET AUDIENCE

This training is intended for professionals responsible for configuring the Capacity Max System Server upgrades. This would include but is not limited to: communication system technicians, technical system managers, technical support personnel, and service technicians.

### COURSE OBJECTIVES

Upon completion of this course, the student will be able to:

- Conduct a Capacity Max System Server Upgrade by preparing the ESU Launchpad software.
- Execute using the ESU Launchpad software in the virtual machine, server, and components.
- Complete a run of the Capacity Max System Server Upgrade process successfully from start to finish.

### RECOMMENDED PRE-REQUISITE

- Knowledge IP Network Addressing.
- Knowledge of virtual machines

### REQUIRED PREREQUISITES

None

## RADIO SOLUTIONS MOTOTRBO™ SYSTEMS

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MOTOTRBO™ IP SITE  
CONNECT & CAPACITY  
PLUS TECHNICAL  
OVERVIEW

1 HR PCT1066

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

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

### RECOMMENDED PRE-REQUISITE

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

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

### REQUIRED PREREQUISITES

None



MOTOTRBO™ IP SITE  
CONNECT & CAPACITY  
PLUS THEORY OF  
OPERATIONS & DESIGN

1 DAY PCT2023

### COURSE OVERVIEW

During this course, you will learn about how IPSC and Capacity Plus systems function, as well as system design and deployment topologies, fleetmapping, and the MOTOTRBO System Design Tool. You will also learn about different types of data and site roaming options in both systems, as well as programming configurations in CPS 2.0.

### TARGET AUDIENCE

Professionals responsible for designing and deploying MOTOTRBO radio systems.

### COURSE OBJECTIVES

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

- Explain the call processing methods.
- Define repeater arbitration, Enhanced Channel Access (ECA) and All Start.
- List the considerations that must be taken into account when designing a MOTOTRBO IP Site Connect, Capacity Plus Single-Site or Capacity Plus Multi-Site system.
- Use the MOTOTRBO System Design Tool to size the system.
- Explain the purpose of Fleetmapping, how to conduct a fleetmap and its importance in system design.
- Illustrate possible system deployment topologies based on options selected.
- Configure the systems with the use of MOTOTRBO Customer Programming Software 2.0 (CPS 2.0).

### RECOMMENDED PRE-REQUISITE

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

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

### REQUIRED PREREQUISITES

- PCT1066 - MOTOTRBO™ IP Site Connect and Capacity Plus Technical Overview



MOTOTRBO™ IP SITE  
CONNECT & CAPACITY  
PLUS SYSTEMS  
WORKSHOP

4 DAYS PCT3014

### COURSE OVERVIEW

During this course you will 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. You will have the opportunity to practice designing and deploying each system type, while taking into account the fleetmapping considerations for each system.

### TARGET AUDIENCE

Professionals responsible for deploying MOTOTRBO radio systems.

### COURSE OBJECTIVES

Upon completion of this course, the participant 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.

### RECOMMENDED PRE-REQUISITE

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

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


### REQUIRED PREREQUISITES

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

## RADIO SOLUTIONS MOTOTRBO™ SYSTEMS

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**TRBONET PLUS  
ESSENTIALS &  
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 and solution architecture
- List the system requirements for deploying a TRBOnet PLUS solution
- Describe the system design for all MOTOTRBO systems
- 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

### RECOMMENDED PRE-REQUISITE

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

### REQUIRED PREREQUISITES

None



**TRBONET PLUS  
FOR  
CAPACITY MAX**

2 DAYS      PCT3031

### COURSE OVERVIEW

This course covers all aspects of the TRBOnet Plus system. Participants will carry out configuration procedures for the system's main features and perform the main troubleshooting actions.

### 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 a TRBOnet Plus Dispatch system.
- Explain the TRBOnet Plus theory of operation.
- Understand and configure:
  - the TRBOnet Plus Radio server
  - the TRBOnet Plus Dispatch system
  - the TRBOnet Plus Interconnect system
  - the TRBOnet GPS/AVL operation
  - the TRBOnet Plus Redundancy operation
- Understand the TRBOnet Plus user operation.
- Troubleshoot a complete TRBOnet Plus system

### RECOMMENDED PRE-REQUISITE

An understanding of IP Networking Addressing and VoIP protocols  
Completion of the following courses or equivalent knowledge:

- PCT1047 - MOTOTRBO Capacity Max Technical Overview
- PCT1032 - Radio Management 2.0 Configuration Mode
- RDS0002 - Basic RF

### REQUIRED PREREQUISITES

None



**SMARTPTT  
PLUS**

2 DAYS      PCT2005

### COURSE OVERVIEW

This course provides detailed information on the system's benefits, architecture and features, including the requirements for deploying a SmartPTT system. It also covers 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:

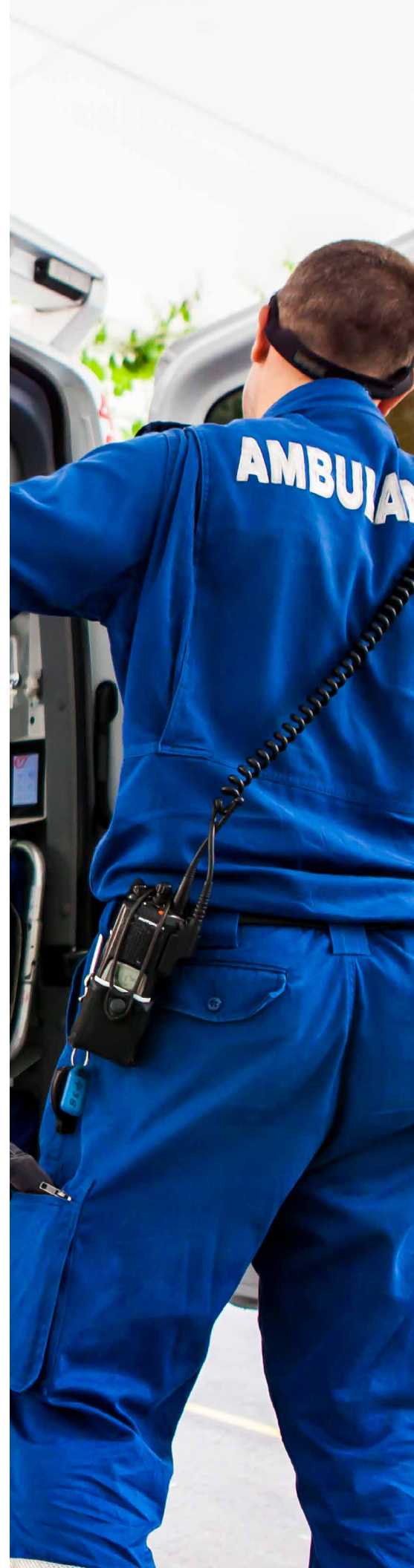
- Describe the functions and architecture of SmartPTT PLUS.
- List the system requirements for deploying a SmartPTT PLUS solution
- Describe the process of system design for IP Site Connect, Capacity Plus Single-Site systems.
- Describe the system design processes for Capacity Max.
- Define the set-up,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

### RECOMMENDED PRE-REQUISITE

- An understanding of IP Networking Addressing and VoIP protocols
- Completion of the following courses or equivalent knowledge:
  - CEDMEL2000 - MOTOTRBO™ System Introduction for Technicians
  - PCT1047 - MOTOTRBO™ Capacity Max technical Overview
  - PCT1032 - Radio Management 2.0 Configuration Mode

# ASTRO® 25 IV&D SYSTEM COURSES

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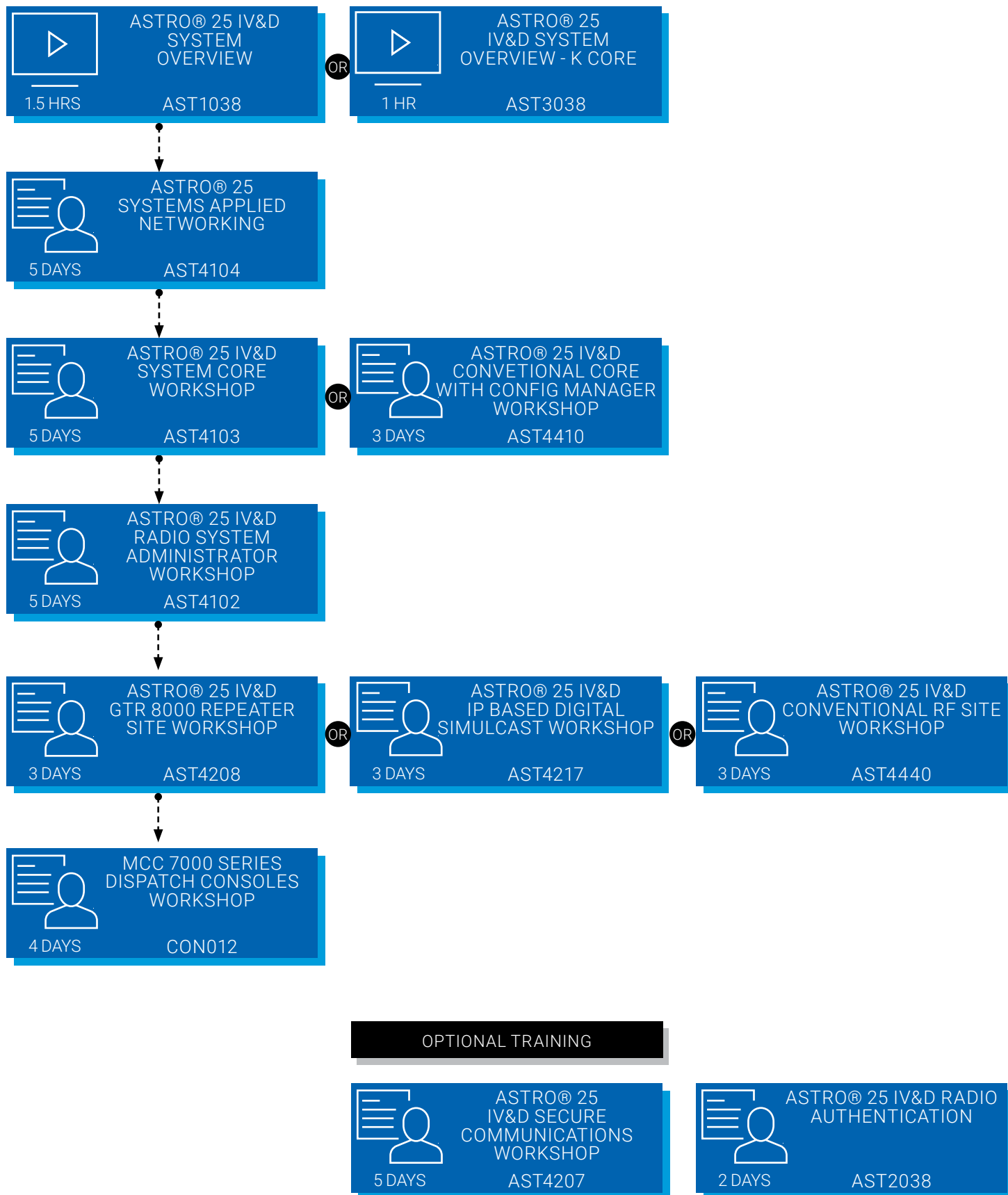


## RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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### ASTRO® SYSTEM ENGINEER

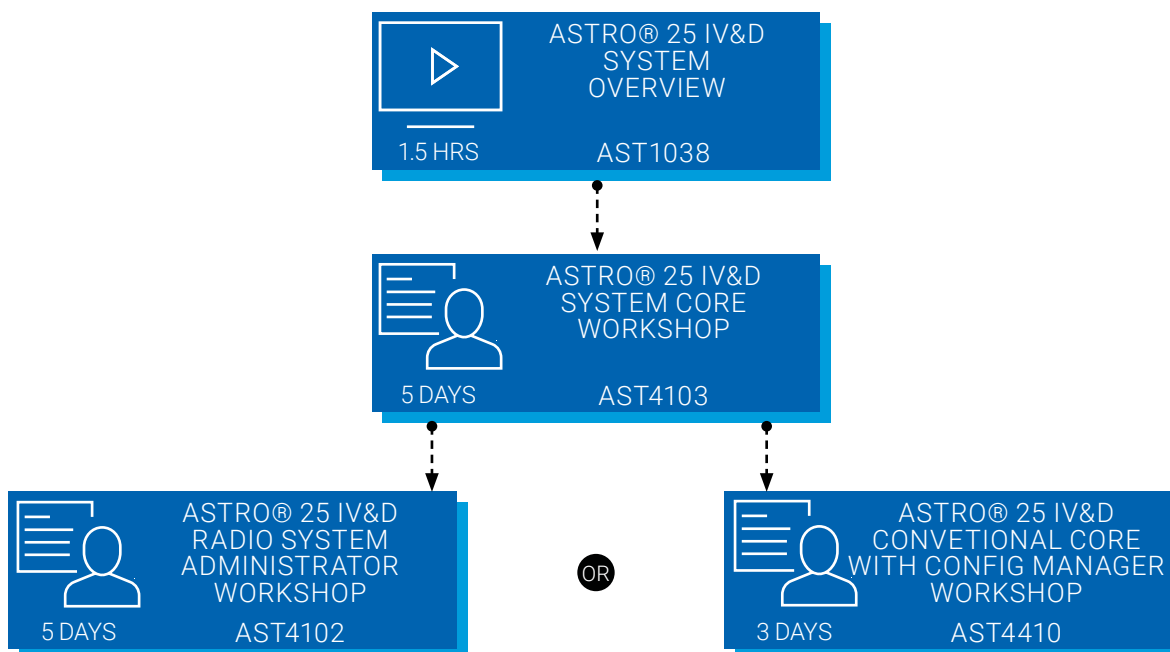


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### ASTRO® SYSTEM ADMINISTRATOR



#### OPTIONAL TRAINING

**ASTRO® 25 IV&D SECURE COMMUNICATIONS WORKSHOP**  
5 DAYS  
AST4207

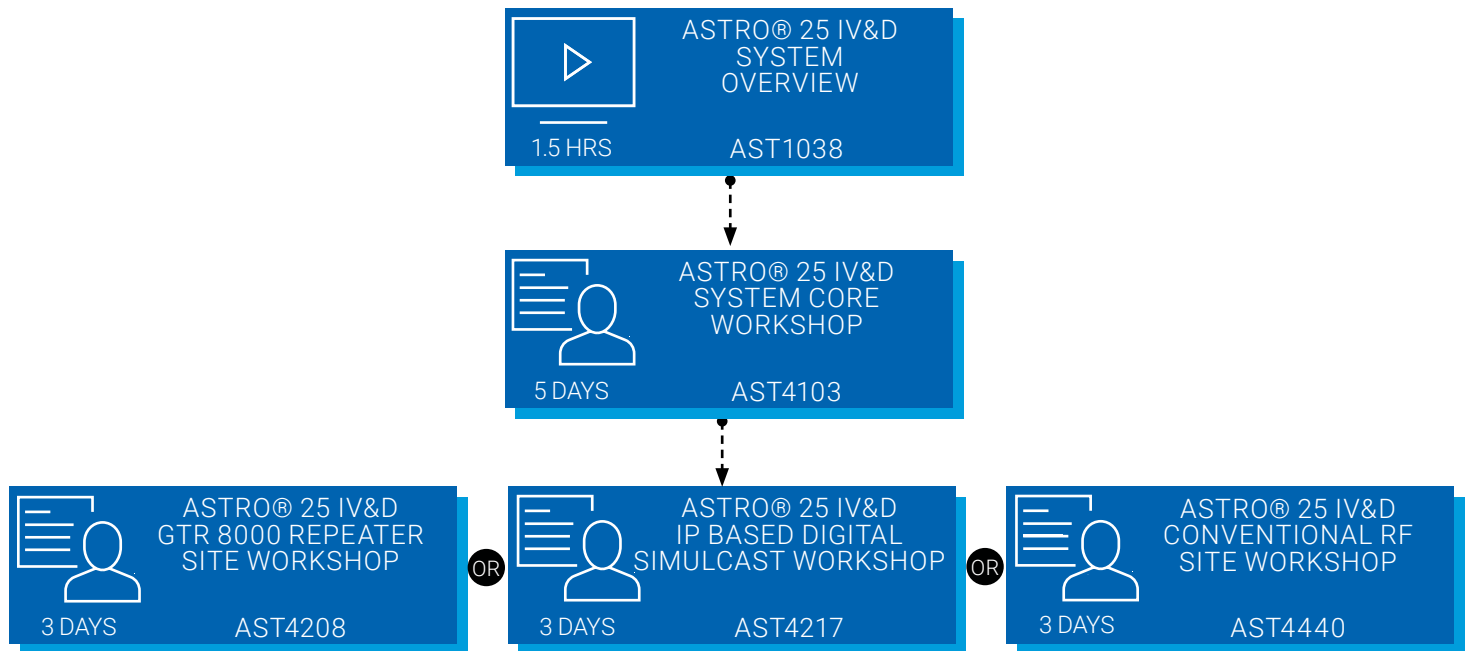
**ASTRO® 25 IV&D RADIO AUTHENTICATION**  
2 DAYS  
AST2038

## RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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### ASTRO® SITE TECHNICIAN

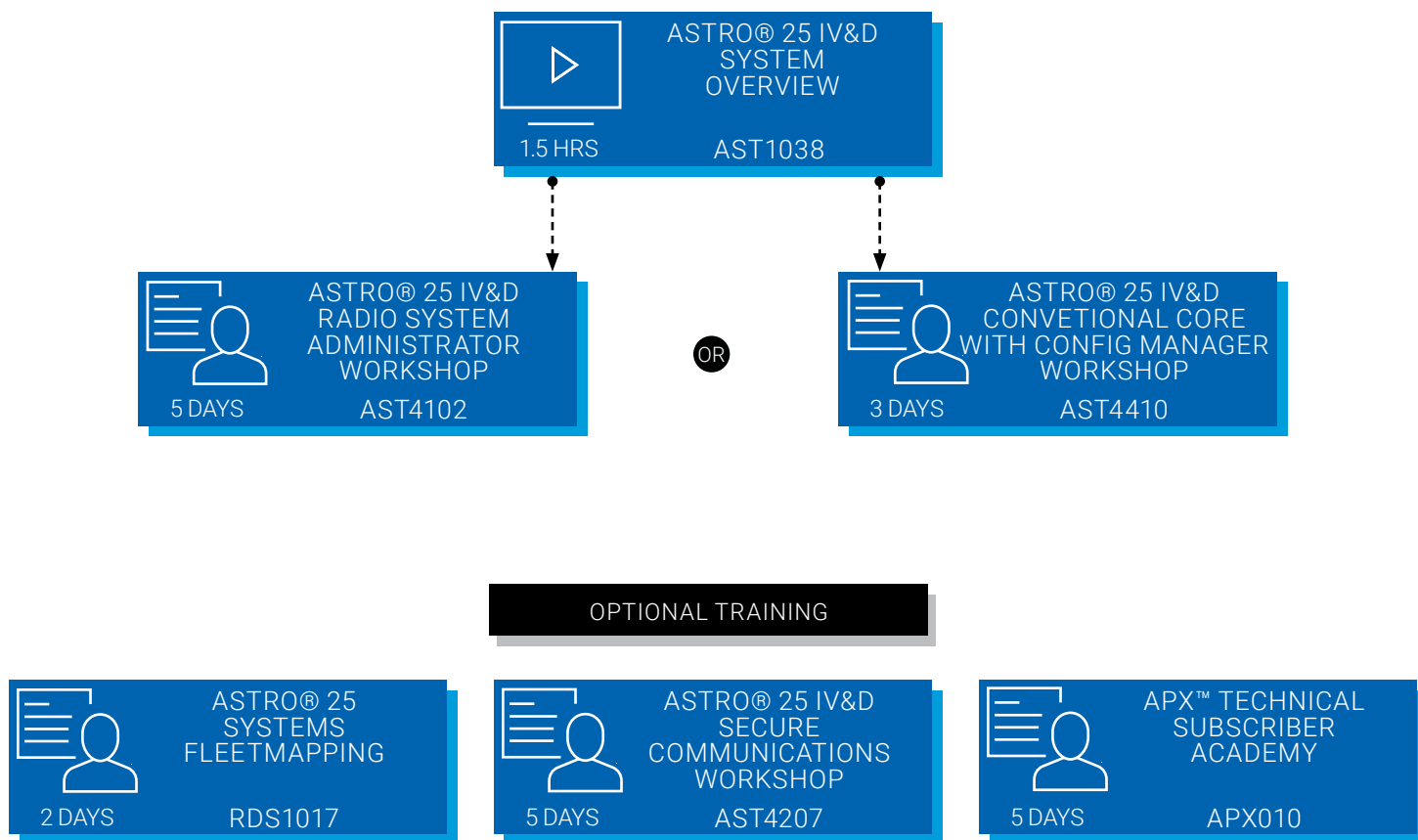


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### ASTRO® SUBSCRIBERS TECHNICIAN



## RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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### ASTRO® 25 IV&D SYSTEM OVERVIEW

1.5 HRS

AST1038

#### COURSE OVERVIEW

The ASTRO®25 IV&D System Overview course will provide participants with knowledge and understanding of the ASTRO 25 system. The system architecture, components, and features will be explained. This course does not cover K Core material. For more information on K Core, please refer to AST3038.

#### TARGET AUDIENCE

This course is intended for Professionals who need to get an understanding of the architecture, components, and features of the ASTRO®25 IV&D System.

#### COURSE OBJECTIVES

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

- Describe the general architecture of an ASTRO 25 Radio System.
- List key features available in the ASTRO 25 Zone Core.
- Define components of the ASTRO 25 system.
- Summarize site components in the ASTRO 25 system.
- Explain the features, capabilities and components of dispatch consoles in the ASTRO 25 system.
- Recognize Mobility and Call Processing in the ASTRO 25.
- Identify applications and features for managing the ASTRO 25 system.

#### RECOMMENDED PRE-REQUISITE

None

#### REQUIRED PREREQUISITES

None



### ASTRO® 25 IV&D SYSTEM OVERVIEW - K CORE

1HR

AST3038

#### COURSE OVERVIEW

In this course, you will learn about the K Core System architecture, components, and features. In addition, RF and console sites and their architecture, features and components will also be discussed. Finally, we will cover call processing for voice and mobile data applications, and take a look at applications available in ASTRO® 25 system.

This course does not cover ASTRO core material. For more information on ASTRO core, please refer to AST1038.

#### TARGET AUDIENCE

This course is intended for Professionals who need to get an understanding of the architecture, components, and features of the K Core System.

#### COURSE OBJECTIVES

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

- Describe the general architecture of an ASTRO K Core IV&D Radio System.
- List key features available in the ASTRO 25 IV&D Radio System.
- Summarize site components in the conventional ASTRO 25 system.
- Identify the features, capabilities, and components of the MCC7500 series dispatch consoles.
- Explain concepts of Mobility and Call Processing in the conventional ASTRO 25.
- Describe the applications for managing the conventional ASTRO25 system.

#### RECOMMENDED PRE-REQUISITE

None

#### REQUIRED PREREQUISITES

None



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

5 DAYS

AST4102

#### COURSE OVERVIEW

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

#### TARGET AUDIENCE

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

#### COURSE OBJECTIVES

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

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

#### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience:

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

#### REQUIRED PREREQUISITES

None

## RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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**ASTRO® 25 IV&D  
SYSTEM CORE  
WORKSHOP**

5 DAYS      AST4103

### COURSE OVERVIEW

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

### TARGET AUDIENCE

ASTRO® 25 System Core Master Site Technicians

### COURSE OBJECTIVES

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

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

### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience:

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

### REQUIRED PREREQUISITES

None



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

5 DAYS      AST4207

### COURSE OVERVIEW

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

### TARGET AUDIENCE

System Technicians, System Administrators, Technical System Managers

### COURSE OBJECTIVES

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

- Plan, organise, and implement Secure Communications in an ASTRO® 25 IV&D system.
- Install and configure a Key Management Facility (KMF) system and related components.
- Demonstrate centralised key management using Over-the-Air-Rekeying (OTAR).
- Perform System Administrator functions using the KMF server and KMF client.
- Troubleshoot installation and configuration problems for the KMF server, KMF client, and KMF database.

### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience:

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

### REQUIRED PREREQUISITES

None



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

3 DAYS      AST4208

### COURSE OVERVIEW

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

### TARGET AUDIENCE

GTR 8000 Site Technicians

### COURSE OBJECTIVES

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

- Describe the ASTRO® 25 IV&D Repeater Site with GTR 8000 Expandable Site Subsystem configurations and components.
- Identify the GCP 8000 Site Controller functions and configuration requirements.
- Describe the connections and interfaces to the GCP 8000.
- Diagnose and troubleshoot the GCP 8000.
- Describe the functionality of the GTR 8000 Expandable Site Subsystem.
- Configure and troubleshoot the ASTRO® 25 Repeater Site with GTR 8000 Expandable Site Subsystem.
- Configure and troubleshoot the Network Transport subsystem.

### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience:

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

### REQUIRED PREREQUISITES

None

## RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

For information on prerequisites and to register for courses visit the Learning Center at: [learningcenter.motorolasolutions.com](http://learningcenter.motorolasolutions.com)

For general information contact the Asia Pacific Education Services Help Desk at: [training.apac@motorolasolutions.com](mailto:training.apac@motorolasolutions.com)



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

**3 DAYS****AST4410**

### COURSE OVERVIEW

This course teaches advanced troubleshooting skills and best practices for the ASTRO® 25 IV&D Conventional Core with Configuration Manager. It also focuses on administrator functions and how to use the ASTRO® 25 IV&D Configuration Manager applications.

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

- Understand the key physical and functional characteristics of the ASTRO® 25 Conventional Core with Configuration Manager system.
- Perform tasks necessary to install the ASTRO® 25 Conventional Core with Configuration Manager system components.
- Perform configuration steps for the ASTRO® 25 Conventional Core with Configuration Manager system components.
- Understand the available maintenance tools and indicators in the ASTRO® 25 Conventional Core with Configuration Manager system.

### RECOMMENDED PRE-REQUISITE

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

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

### REQUIRED PREREQUISITES

- AST3038 - ASTRO® 25 IV&D System Overview - K Core



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

**3 DAYS****AST4440**

### COURSE OVERVIEW

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

### TARGET AUDIENCE

Site Technicians

### COURSE OBJECTIVES

After completing the course the participant will be able to:

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

### RECOMMENDED PRE-REQUISITE

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

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

### REQUIRED PREREQUISITES

None



**ASTRO® 25  
SYSTEMS  
FLEETMAPPING**

**2 DAYS****RDS1017**

### 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

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

### COURSE OBJECTIVES

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.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None

## RADIO SOLUTIONS ASTRO® 25 IV&D SYSTEMS

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

2 DAYS      AST2038

### COURSE OVERVIEW

This course provides an understanding of the Radio Authentication process, its features and components. Students will learn about keys used in Radio Authentication and how to provision and distribute them using the AuC Client GUI; they will also learn how to enable Radio Authentication in the System 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 the Radio Authentication process, its features and components.
- 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 5000 for Radio Authentication.
- Manage Subscribers from the AuC Client.
- Discuss Radio Authentication functionality in a DSR system.

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

### REQUIRED PREREQUISITES

None



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

3 DAYS      AST4217

### COURSE OVERVIEW

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

### TARGET AUDIENCE

Simulcast Site Technicians.

### COURSE OBJECTIVES

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

- Recognize the flow of message and control data within an ASTRO® 25 IV&D IP Simulcast subsystem.
- Identify the major components and connections within an ASTRO® 25 IV&D IP Simulcast subsystem and remote sites.
- Recognize how calls are processed within an ASTRO® 25 IV&D IP Simulcast subsystem.
- Perform maintenance and troubleshooting of select components in an ASTRO® 25 IV&D IP Simulcast subsystem.

### RECOMMENDED PRE-REQUISITE

Completion of the following courses or equivalent experience:

- ACT100E - Bridging the Knowledge Gap – Technicians
- NST762 - Networking Essentials in Motorola Communications Equipment
- AST1038 - ASTRO® 25 IV&D System Overview
- AST4104 - ASTRO® 25 Systems Applied Networking

### REQUIRED PREREQUISITES

None

# PRIVATE BROADBAND


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## PRIVATE BROADBAND

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**WAVE PTX  
OVERVIEW**

**0.5 HRS**

**PTT0001A**

### COURSE OVERVIEW

In this course, you will get acquainted with the WAVE PTX solution, learn how it connects teams across devices, networks, and locations, and see how its components enable organizations to stay connected.

### TARGET AUDIENCE

This course is intended to those who would like to learn about the WAVE PTX solution, its benefits, and components.

### COURSE OBJECTIVES

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


- Explain the benefits of Push-to-Talk communication.
- Match various roles within an organization to the right WAVE PTX solution.
- Recall WAVE PTX features and optional packages.
- Illustrate the WAVE PTX Architecture and LMR Interoperability.
- Recognize the components of WAVE PTX and know their features.
- Access additional training materials, brochures, and data sheets.
- Get the support your need for your solution.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**WAVE PTX ADMIN  
PORTAL: END-USER  
TRAINING**

**1 HR**

**PTT0004A**

### COURSE OVERVIEW

This course provides an overview of the WAVE PTX Admin Portal for commercial markets, its key features, and roles within the portal. It includes clickable software simulations showing basic operations that can be performed at the Distributor-, Partner- and Customer-level.

### TARGET AUDIENCE

Distributors who use the Admin Portal to add and manage Partners in the commercial market; Partners who use the Admin Portal to add and manage customers in the commercial market; commercial customers who use the Admin Portal to manage subscriptions, and add or manage users and devices.

### COURSE OBJECTIVES

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

- Navigate the WAVE PTX Admin Portal.
- Add and manage partners from the distributor level.
- Add and manage customers from the partner level.
- Add and manage partner employees from the partner level.
- Manage subscriptions and licenses.
- Add and manage customer employees.
- Register and manage TLK and Evolve devices.
- Create and manage mobile, tablet, and dispatch users.
- Create and manage standard, dispatch, and broadband talkgroups.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**WAVE PTX R11.2  
MOBILE APPLICATION:  
END-USER TRAINING**

**2.5 HRS**

**PTT0006A**

### COURSE OVERVIEW

During this course, you will perform key tasks in the WAVE PTX Mobile Application in order to communicate with contacts and talkgroups.

### TARGET AUDIENCE

WAVE PTX users who want to get hands-on practice with the features and operation principles of the WAVE PTX Mobile Application.

### COURSE OBJECTIVES

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

- Navigate and use the WAVE PTX Mobile Application in Standard and PTT Radio modes.
- Initiate and receive PTT calls to and from contacts and talkgroups.
- Initiate and receive video streaming sessions to and from contacts and talkgroups.
- Use multimedia messaging to exchange text messages and files.
- Take advantage of emergency features.
- Perform user check and monitoring

### RECOMMENDED PRE-REQUISITE

None


### REQUIRED PREREQUISITES

None

## PRIVATE BROADBAND

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**CENTRAL ADMIN TOOL  
(CAT) R10.0 & R11.2:  
END-USER TRAINING**

**1 HR**

**PTT0054**

### COURSE OVERVIEW

This course provides end-user training on the Central Admin Tool for Public Safety, its key features, and roles within the portal. It includes clickable software simulations showing the operations that can be performed by administrators.

### TARGET AUDIENCE

Public Safety Administrators who use the Central Admin Tool to manage internal, external, and integrated users, user sets, talkgroups, interop connections, user and group profiles, and operational status messaging.

### COURSE OBJECTIVES

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

- Navigate and configure the Central Admin Tool.
- Add, activate, and manage PTT, external, and integrated users.
- Create and utilize user sets.
- Configure Operational Status Messaging.
- Create and utilize group profiles.
- Create and manage talkgroups.
- Create and utilize user profiles.
- Manage interop connections

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**WAVE PTX  
USER PROVISIONING  
PORTAL**

**0.5 DAYS**

**PSA0077**

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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


- Understand the concepts of Push-to-Talk
- Provision individual subscribers on WAVE platform
- Modify individual subscribers data
- Delete subscription
- View the features enabled for individual subscribers
- Select the feature packages as required by individual subscribers

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



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

**0.5 DAYS**

**PSA0078**

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

- Manage contacts at an enterprise level for individual subscribers
- Create Talkgroups at an enterprise level
- Create User Profiles and add them to users
- Create Group Profiles and assign permissions
- Manage and assign features for individual subscribers
- Manage external subscribers

### RECOMMENDED PRE-REQUISITE

None


### REQUIRED PREREQUISITES

None

## PRIVATE BROADBAND

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**WAVE PTX  
HANDSET STANDARD  
MODE**

0.5 DAYS      PSA0079

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

- Understand the Handset Standard client.
- Activate the handset standard client.
- Understand and work on the handset standard client features
- Make/receive different call types
- Send/receive multimedia messages
- Use the Handset Standard client for Enterprise or Corporate use cases

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**WAVE PTX  
HANDSET PTT RADIO  
MODE**

0.5 DAYS      PSA0080

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

- Differentiate between Handset Standard and Handset PTT Radio client types.
- Activate the Handset PTT Radio client type.
- Understand and work on the Handset PTT Radio client features.
- Make/receive different call types.
- Send/receive multimedia messages.
- Use the Emergency feature options
- Use and apply the unique features available in Handset PTT Radio client.
- Use the Handset PTT Radio client for Public Safety and Emergency Response use cases.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None



**WAVE PTX  
DISPATCH CONSOLE  
& FEATURES**

1 DAY      PSA0081

### COURSE OVERVIEW

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

### TARGET AUDIENCE

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

### COURSE OBJECTIVES

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

- Differentiate between Handset clients and Dispatch client types.
- Activate the Dispatch console
- Understand and work on the Dispatch console and its features
- Locate and Manage fleet members
- Make and receive different call types on the Dispatch console
- Send and receive multimedia messages on the Dispatch console
- Use the Emergency feature options
- Use and apply the unique features available in the Dispatch console.
- Use the Dispatch console for Public Safety and Emergency Response use cases.

### RECOMMENDED PRE-REQUISITE

None

### REQUIRED PREREQUISITES

None

## PRIVATE BROADBAND

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**WAVE PTX  
SYSTEM OVERVIEW  
& ARCHITECTURE**

0.5 DAYS      PTT0071

### COURSE OVERVIEW

This course provides a detailed insight into the customized architecture, components, interfaces, protocols used, port numbers, and virtual elements involved in forming the WAVE PTX platform for Broadband PTT applications and features.

### TARGET AUDIENCE

This is a foundation course aimed at all engineering, operations, and technical support groups being trained to support the WAVE PTX network, platform, and services.

### COURSE OBJECTIVES

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

- Recognize the WAVE PTX product supplied by Motorola Solutions.
- Identify the major components of the WAVE PTX platform.
- Identify different subsystems and discuss the generic WAVE PTX architecture.

### RECOMMENDED PRE-REQUISITE

- Key Organization Network and IT Systems
- Networking Knowledge, Components And Functions

### REQUIRED PREREQUISITES

None



**WAVE GATEWAY  
SYSTEM OVERVIEW  
& ARCHITECTURE**

0.5 DAYS      PTT0072

### COURSE OVERVIEW

The course is designed to provide a detailed insight into the architecture, components, and virtual elements involved in forming the WAVE Gateway platform for Broadband to LMR interoperability and its features.

### TARGET AUDIENCE

This is a foundation course aimed at all engineering, operations, and technical support groups being trained to support the WAVE Gateway network, platform, and services.

### COURSE OBJECTIVES

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


- Recognize the WAVE Gateway product.
- Identify and understand the functionalities of major components available in the WAVE Gateway platform.
- Identify and understand different subsystems.
- Discuss the generic WAVE Gateway architecture.
- Locate technical reference documentation providing further detail.

### RECOMMENDED PRE-REQUISITE

- Key Organization Network and IT Systems
- Networking Knowledge, Components And Functions
- Basic knowledge on respective radio networks such as ASTRO®, DIMETRA™, and MOTOTRBO™

### REQUIRED PREREQUISITES

None



**CRITICAL CONNECT  
(GATEWAY) PORTAL FOR  
INTEROPERABILITY  
WITH WAVE SYSTEM**

0.5 DAYS      PTT0075

### COURSE OVERVIEW

The course is designed to explain the onboarding process of an LMR network, devices, users, and application as suited for Gateway platform. This course also explains the patch process between different talkgroups from LMR to LMR and LMR to Broadband networks.

### TARGET AUDIENCE

Personnel responsible for configuring, managing, and integrating the LMR network with the broadband network. Personnel responsible for creating and managing talkgroup patches from an Agency/ customer's end.

### COURSE OBJECTIVES

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

- Configure and integrate the existing LMR network with the Broadband network.
- Add new LMR devices, talkgroups, and applications as suitable.
- Configure logins for customer/agency, create new data access controls.
- Monitor the LMR interfaces and networks.
- Create/delete new patches by customer/ agency.

### RECOMMENDED PRE-REQUISITE

Knowledge on basic functionalities and features on WAVE and WAVE Gateway Platform.

### REQUIRED PREREQUISITES

None

## PRIVATE BROADBAND

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**MOTOROLA  
SOLUTIONS UNIFIED  
RECORDER FOR  
END USERS**

1 DAY PTT0013

### COURSE OVERVIEW

This course provides a detailed insight about the Unified Recorder Solution usage and its features (as applicable and enabled by the UCR administrator for different customers/agencies) on the WAVE PTX platform. Topics include: accessing voice and video recordings, editing the voice and video recordings, creating and managing incidents, creating and managing reports for incidents and downloading the recordings and metadata.

### TARGET AUDIENCE

End users and Tier-1 engineers responsible for managing the Unified Recorder solutions.

### COURSE OBJECTIVES

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

- Filter and sort different types of recordings
- View the private, group calls and video recordings
- Share/edit the recordings
- Create and manage incidents
- Export and download the incidents
- Track and report the incidents.

### RECOMMENDED PRE-REQUISITE

Basic knowledge about the WAVE PTX solution.

### REQUIRED PREREQUISITES

None



**MOTOROLA  
SOLUTIONS UNIFIED  
RECORDER FOR  
ADMINISTRATORS**

0.5 DAYS PTT0014

### COURSE OVERVIEW

This course provides a detailed insight to the UCR administrators about the configuration of the Unified Recorder Solution from the Universal Gateway portal on the WAVE PTX platform. Topics include: creating agencies, enabling the voice and video recordings for agencies, enabling two factor authentication and creating and editing incident groups.

### TARGET AUDIENCE

Tier-1 engineers responsible for configuring and managing the Unified Recorder solutions.

### COURSE OBJECTIVES

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

- Configuring the Unified recorder solution from the UGW
- Enable/disable the recording for agencies
- Enable/disable the call recording formats
- Login to Asset Manager
- Create users and roles accessing the recorder
- Create incident groups
- Enable/disable the two factor authentication.

### RECOMMENDED PRE-REQUISITE

Basic knowledge about the WAVE PTX solution.

### REQUIRED PREREQUISITES

None



# MOTOROLA VIDEO SECURITY AND ACCESS CONTROL

Motorola Solutions offers a fixed video security ecosystem to meet both mission-critical and business-critical applications. We build on this strong foundation to bring new and improved surveillance and security solutions to life with products and systems that security professionals need —driven by meaningful innovation. And we're moving ahead with best-in-class technologies designed from the ground up, specifically for professional applications that provide superior performance, reliability, and value.

The MSI Video Security and Access Control Training is dedicated to security professionals who want to keep up with ever-changing technology, want to learn about new products and systems, and want to stay current with industry best practices. With courses designed by subject matter experts, our instructor-led training combined with online courses

deliver unparalleled education for today's video security professionals. Whether you are responsible for installing, designing, or selling, you'll find the right course for you.

## **Accessing and enrolling in training**

Access Video Security & Access Control Training through the [VS&A Tool Hub](#). For questions or to register for an account, email [trainingvideoandaccess@motorolasolutions.com](mailto:trainingvideoandaccess@motorolasolutions.com).

Visit the Learning Center to browse our curriculum that covers video security and access control products and services.

# MOBILE VIDEO



## VIDEOMANAGER SYSTEM ADMINISTRATOR

0.5 DAYS

PSA0036

### COURSE OVERVIEW

During this course, you will gain the knowledge required to perform day-to-day administration duties within VideoManager user, device and media management software.

### TARGET AUDIENCE

This course is intended for System administrators, support staff, IT support and anyone who needs to support the smooth operation of the mobile video system.

### COURSE OBJECTIVES

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

- Manage system users.
- Manage mobile video cameras (body-worn or in-car) and their associated hardware.
- Monitor, analyse and control system performance.

### RECOMMENDED PREREQUISITE

The person attending understands their organisational policies in relation to mobile video and working within VideoManager.



## VIDEOMANAGER USER TRAINING

0.5 DAYS

PSA0030

### COURSE OVERVIEW

During this course, you will learn how to use the VideoManager software suite to identify videos of interest that should be preserved as evidence, create incidents, and share evidence with the appropriate parties.

### TARGET AUDIENCE

This course is for anyone tasked with the responsibility of responding to requests to create body-worn video evidence, including those who need to convert videos into evidential incidents and those who need to share incidents with officers or other third parties, such as within the judicial system.

### COURSE OBJECTIVES

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

- Navigate VideoManager menus fluently and follow efficient workflows for evidence management
- Locate and review body-worn video and preserve videos of evidential interest
- Import additional evidential material (option)
- Prepare video evidence within an incident
- Share videos and incidents as per your organisational policy.

### RECOMMENDED PREREQUISITE

The person attending understands their organisational policies in relation to handling video evidence.





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Motorola Solutions Malaysia Sdn. Bhd.  
No. 2A, Medan Bayan Lepas,  
Bayan Lepas Technoplex Industrial  
Park Mukim 12, S.W.D.,  
11900 Penang, Malaysia



**Learning &  
Performance Institute**  
Authorised Qualification &  
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