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On Demand Basic 2-Way Radio Technician Course

Cost: $895.00

Synopsis
This course is designed to touch on the most important aspects of what a modern 2 Way Radio Technician might be called upon to do. It is delivered as a streaming on demand class integrated with a printed training guide.

Over time the requirements for what a 2 Way Radio Technician does, have changed dramatically. 2 Way Radio is no longer defined as just working with antennas, transmitters and receivers. The level of IP Network integration and co-location with other various radio users has increased. The use of digital radios, multiple sites, trunking and encryption has changed how you interface with a base or repeater.

In the early '70s a 2 Way Technician would be taking care of a system that was "a base and 3 mobiles" or maybe a repeater. Today the same technician is faced with a multi-site trunked digital radio system that has an IP based dispatch console which uses both an IP connection and traditional 2175Hz Tone Signaling, via phone lines or microwave, to service their end users. The 2 Way Technician of today will likely have to deal with co-site, co-channel and shared RF system users. This often requires calculating intermodulation effects on existing users and taking extra steps to avoid interference.
The following is a high level look at what we will cover in this course.

Module 1 – Electronic Theory
Voltage
Current
Resistance
Measurements
Working with formulas or Laws
Wiring, Component connection and housing
Power Source
Schematics
DC Circuit Analysis
AC Circuit Analysis

Module 2 – 2-Way Radio Components
Batteries
Power Supplies
Amplifiers
Loads
Resonance
Transmission Theory
Types of Radios
Modes of Operation
Modulation
TX/RX
Feed Line
Antennas

Module 3 – Tools of the Trade
Tools
Basics
Crimp tools
RF tools
Test equip
Audio alignment tools
Power tools
Electrical tools
Network tools

Module 4 – System Operations
Filters
Isolators/Circulators
TX/RX Combiners
Modes of Operation
Conventional
Digital
Multi-Site
Microwave
RoIP
FCC

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Module 5 – Antennas, Towers and Sites
Location
Gain
Pattern
Cut/adjust
Propagation
Grounding
PIM
DAS

Module 6 – System Design
Documentation
Requirements
People Involved
Capacity
Propagation Models and Variability
Equipment
Budget

Module 7 – Safety
Personal Safety
Site Safety
Tools
RF Safety

Module 8 – R-56 Site Guidelines
Grounding and Lightning Protection
R-56 Grounding Standard

Phase 4 Design, Inc. is located in the Pacific Northwest, near Seattle, Washington. We have been providing solutions to complex technical problems since 1989. Over 50 years of combined experience in the areas of Two-way Radio / Public Safety / Paging, Telephony, LAN / WAN Network Design and Software System Design, makes Phase 4 Design, Inc. uniquely qualified to provide cross-discipline solutions and training.

For more information visit our website at www.phase4.org. or send email to training@phase4.org.