



RF Communications Technology Training

Learn the Essentials of Improved RF Communications Performance

- *New Locations!*
- *New Courses!*
- *New Ways to Register!*
- *New Schedules!*

Convenient Training Locations Around The World

Andrew Institute Training programs are held worldwide. Primary training locations are: Orland Park, IL USA; Whitby, Ontario, Canada; Lochgelly, Scotland; Sorocaba, Brazil; Sandton, South Africa; and Suzhou, China.

Who Should Attend

- *Installers*
- *Project managers*
- *Field engineers*
- *Anyone who works directly or indirectly with a communications system*

Benefits

Depending on which curriculum you choose, you will:

- *Learn to obtain the highest possible performance with every Andrew product installed.*
- *Gain an understanding of system fundamentals and how components work together.*
- *Through hands-on practice, learn to properly install cable and waveguide connectors and accessories.*
- *Learn the correct techniques of installing HELIAX® coaxial cables, waveguides, TMW antennas, and base station antennas.*
- *Learn theory of operation and installation techniques for pressurization systems.*
- *Learn proper path alignment techniques.*
- *Learn site testing techniques, including VSWR sweep testing, insertion loss, and TDR/FDR plots.*

Meeting the Demand for RF Communications Expertise Around the World

Years of experience have demonstrated how superior installation is critical to long term system performance. As the demand for wireless RF communications continues to grow, so too does the need for product knowledge and expertise to ensure quality installation, reliable coverage and peak perfor-



mance. Recognizing this need, Andrew offers cutting-edge training on a continual basis to address new technologies, products, tools and improved installation methods.

The Andrew Institute has grown dramatically. Since its beginning in 1993, more than 23,000 participants have attended. Recognized around the world as the industry leader, Andrew Institute content provides quality, specialized training to customers worldwide.

Installer Registration-Documenting Technical Competence

More and more, system owners and operators are mandating that installation technicians complete technical training. Andrew Institute attendees become registered with Andrew as having completed Institute coursework and having been instructed in the proper manner of handling Andrew products.

Superior Training, Superior Performance – Anywhere Around the World

Andrew Institute training is constantly evolving to meet any level of technical support required by terrestrial microwave, broadcast, and wireless operators. Select training may be available at customer locations. Program materials include comprehensive workbooks, tools and detailed installation support documentation. A certificate of completion is presented to each participant.

Institute Instructors

The Andrew Institute is staffed by experienced, certified instructors who possess over 100 years of experience in the installation and operation of RF transmission line. Institute instructors have been selected from a variety of disciplines within Andrew, ranging from Manufacturing, Field Services, and Supervisory.

Connector Attachment Training

Connector Attachment Training is ideal for those who could gain from training on fitting cables and connectors, or those who would benefit from expanded technical training covering all aspects of HELIAX® transmission line installation and testing.

Course Outline

Overview of Cable Concepts. Basic RF theory, product overview, tour of manufacturing facilities.

HELIAX® Connector Attachment. Cable Types FSJ4, LDF4, LDF5, VXL5, LDF7, HJ5, HJ7, and waveguide Type EW52. Soldering practice. Waveguide flare tool demonstration.

Accessory Demonstration. Grounding Kit Tools, Sureground™ Kit, Sureground™ Plus Kit, Cable Preparation Tools, Hoisting/Support Grip, Weatherproofing Kit, Hangers.



Terrestrial Microwave (TMW) Systems Installation Training

Covering topics that range from microwave as a communication medium to assembly and installation, to site cleanup. Our new TMW communications technology training is certain to raise the expertise and effectiveness of those who attend.

Course Outline

Overview of RF Theory and TMW Fundamentals.

Basic Installation Practices. Rigging, knot tying, communication on the site, using the Andrew Catalog, and Installation Instructions.

Site Survey. Site documentation and planning.

Hands-On Antenna Assembly, including uncrating and material inventory.

Hands-On Antenna Installation, including overview of techniques.

Transmission Line Assembly and Installation, includes forming and hoisting elliptical waveguide and attaching connectors.

Path Alignment and calculation of path loss.

Pressurization. Theory, installation, and locating air leaks.

Completing the Installation. Fundamentals of VSWR and ensuring a quality installation

Base Station Training

Base Station Training covers topics that range from base station antenna fundamentals, antenna and mount assembly, to weatherproofing and final inspection.

Course Outline

Base Station Antenna Fundamentals

Mounting Configurations

Weatherproofing

Inspection and Maintenance

VSWR Training

In this course you will determine if connectors have been properly attached, and check to make sure target return loss/VSWR and insertion loss specifications have been met. The tests determine if the line was damaged during installation.

Course Outline

Overview of a Typical Site Configuration, including feeders, jumpers, antennas, and surge arrestors.

Learn Definitions, such as return loss, insertion loss, and attenuation.

Testing Guidelines. Test equipment, calculating insertion loss, order of testing.

Things to Consider. Cable diameters and lengths, calibration of test equipment.

Plot/Sweep Interpretation. Insertion loss, return loss, TDR/FDR.

Troubleshooting. Connectors, surge arrestors, grounding, hangers.

Register on the Andrew Web site: www.andrew.com or call:

United States and Central America	708-873-2644
Canada	905-668-3348
South America	+(55) 15-238-4158
Europe	+44 (0) 1592-786-005
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