

Transmission Lines & Waveguides

Elearning Course

Course Length 1 hour

Prerequisites NONE

Course Objectives This module will start to tie all of the elements together as a network. In order to understand why radio waves propagate we need to understand what happens when they leave a transmitter and enter a transmission media. This module will focus on the media itself; later modules will discuss installation and testing.

COURSE OUTLINE

Introduction

- Voltage and current in Coax
- Frequency response & loss
- Impedance matching
- Testing – first pass

Coaxial Transmission lines

- Construction
- Impedance
- Damage
- Signal Loss

Connectors

- Overview of connectors
- Preparing cables
- Installing connectors
- Testing connectors

Waveguides

- What makes a waveguide
- Frequencies of operation
- Loss in cables
- Bending and kinks
- Water in cables

Connectors

- Connector types
- Preparing cables
- Installing connectors
- Windows, twists, adaptors

Grounding and Weatherization

- Principals of antenna grounding
- Where to connect grounds
- The grounding system
- Weather protection for connectors