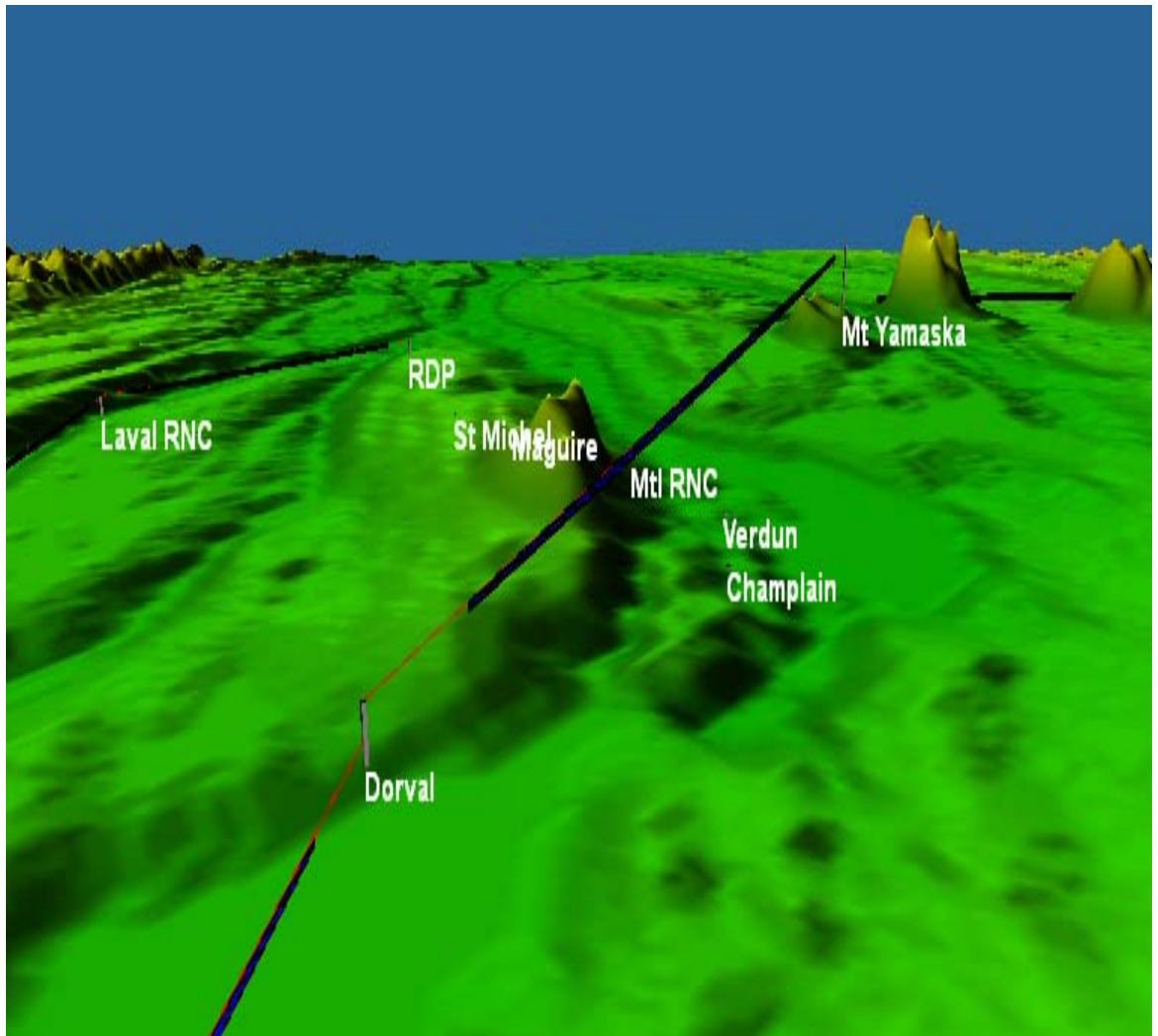


# Pathloss 5 Training



**ONLINE TRAINING**  
**PATHLOSS 5 - BASIC OPERATION**  
**4 training sessions**

**FOR MORE  
INFORMATION**

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## **PATHLOSS**

RF communication network design can be a complex and sometimes daunting task. Fortunately, engineers and technicians working on RF network planning can use software tools such as Pathloss to ensure a methodical and thorough approach to their task.

The Pathloss program is a state-of-the-art comprehensive path design tool for networks operating in the frequency range from 30 MHz to 100 GHz.

Designed for use throughout the world with diverse equipment and wide-ranging atmospheric conditions, Pathloss uses a variety of terrain and clutter databases, equipment files and local weather files.

The program is organized into modules, covering all aspects of microwave communication network design. These include five path design modules. The network module, which integrates the radio paths and several operations that can be performed on a given network including: interference analysis, automatic link generation and design, PTMP design, and local and area coverage studies.

## **OBJECTIVES**

The objective of this module is to cover the basic operation of Pathloss 5 software. The topics discussed are essential no matter how you use Pathloss, PTP, or PTMP & Coverage. This module will cover a variety of topics, ranging from software installation and the programs settings and options, to a module-by-module study of basic operations. Topics such as site data, terrain data, diffraction loss, and transmission analysis will be discussed in this 4 sessions training.

Below, you will find a daily description of the topics that would be covered during this training.

## **PRE-REQUISITES**

There are no pre-requisites to this training. This training is a pre-requisite for all other training modules including, PTP, PTMPO & Coverage, and Full Pathloss 5 Operation

## **ADDITIONAL ONLINE PATHLOSS 5 TRAINING PACKAGES**

- ☞ Microwave and Coverage Theory
- ☞ Point-to-Point (PTP) software operation; with or without Theory
- ☞ Point-to-Multipoint (PTMP) and Coverage software operation; with or without Theory
- ☞ Full Pathloss 5 operation including PTP, PTMP and Coverage applications; with or without Theory

## **SCHEDULE AND FEES**

Four live sessions via Zoom online platform. Each session will last approximately 4 hours. For more information about our Pathloss training program, please e-mail us at [telecom@YRH.com](mailto:telecom@YRH.com) or call at +1 514.934.3024.

## TOPICS COVERED

### SESSION 1

- **Software Installation and maintenance updates**
- **Overview of Software files**
- **Network Options and Settings**
  - + Site and Link data entry
  - + Group Manager
  - + GIS setup
  - + Network display options

Exercise:

- *Create a Network consisting of existing links and new sites*

### SESSION 2

- **Link Options and Settings**
  - + Default calculation methods and algorithms
  - + Program Options

Exercises:

- *Setting default calculation and diffraction loss methods and algorithms*
- *Setting default clearance criteria*

- **Equipment Files Formats and Setup**
  - + Setting equipment databases and Frequency Plans
  - + AntRad Program: Creating and editing radio and antenna files

Exercises:

- *How to configure equipment database and Frequency Plans*
- *How to create Adaptive Modulation, Land Mobile (VHF-UHF) Radio files and Land Mobile (VHF-UHF) antennas using the AntRad program*

## SESSION 3

### – Terrain data module

- + Generating terrain profile between two sites
- + Inserting and editing clutter and structures

Exercises:

- *How to generate a terrain profile*
- *How to input obstacles manually or using clutter files*

### – Diffraction Loss Module

- + Calculating diffraction loss
- + Analyzing the Automatic and Manual Diffraction Algorithms

Exercise:

- *Calculate and compare diffraction loss from manual and automatic methods*

### – Transmission Analysis Module

- + Parameters for applications: Microwave, Adaptive Modulation, Land Mobile
- + Selecting calculation methods and algorithms
- + Rain and Multipath calculations
- + Link budget and reliability calculations
- + XPIC and Space diversity calculations

Exercises:

- *Analyze a path using ITU & Vigants-Barnett Multipath fading algorithms*
- *Analyze a path using the Adaptive Modulation application*
- *Analyze a path using the Land Mobile application*

## SESSION 4

### – Transmission Analysis Module– cont'd

- + Parameters for applications: Microwave, Adaptive Modulation, Land Mobile
- + Selecting calculation methods and algorithms
- + Rain and Multipath calculations
- + Link budget and reliability calculations
- + XPIC and Space diversity calculations

Exercises:

- *Analyze a path using ITU & Vigants-Barnett Multipath fading algorithms*
- *Analyze a path using the Adaptive Modulation application*
- *Analyze a path using the Land Mobile application*