

# WaveRunIR™-OP

## Real-Time Fenceline Monitoring for 500+ Compounds with Sub-ppb Detection

Spectrum's WaveRunIR™-OP is the next generation of Open Path (OP) Fourier Transform Infrared (FTIR) Monitoring Instruments. Compacted and rugged, the WaveRunIR™-OP is compliant with USEPA TO-16r and ASTM 1982.

Easy alignment and high signal throughput allows for single-digit part per billion detection limits to be realized for most of the 500+ compounds in Spectrum's library. Each WaveRunIR-OP instrument is capable of monitoring path lengths up to 1,500 meters (round trip) and when equipped with a pan/tilt positioner, can scan multiple paths.

If a source of collocated meteorological data is present, WaveRunIR-OP can easily be integrated into a larger, more complete fenceline monitoring solution providing near real-time leak and release emissions detection from the facility. Coupled with Spectrum's Tsunami™ data management system and SmartPath™, the WaveRunIR-OP is the backbone of the most advanced, secure, integrated, LAN or cloud-based Fenceline Monitoring Solution in the industry.

### About WaveRunIR™-OP

Spectrum's WaveRunIR-OP transmits a safe infrared beam through the air along a clear path. Gas-phase compounds are detected as they drift across the path. Systematic data validation, periodic onsite instrument challenges, and quality assurance audits ensure optimum performance and data quality. WaveRunIR-OP is a versatile and highly efficient means of air monitoring.



### Regulatory Uses

- SCAQMD Rule 1180
- BAAQMD Rule 12-15
- US EPA Hazardous Organic NESHAP (HON)

### Applications

- Fenceline Ambient Air Monitoring
- Industrial Worker Exposure Monitoring
- Community Monitoring
- Multi-Source Monitoring

# Key Features

## About WaveRunIR™-OP

- Thermo Scientific iG50 Interferometer
  - Quietest-In-Class
  - Rugged, Proven Reliability
  - Real-Time Dynamic Alignment
  - Variable Scan Velocities
  - 1/8 or Greater Wavenumber Resolution
  - State-of-the-Art Polaris IR Source
- 5-Year Warranty on Interferometer, Laser, and IR Source
- 1-Year Limited Warranty on Parts
- Custom Light Sources, Optical Coatings/Materials, Detector Configurations
- Optional In-Path Validation Cell
- Continuous Unmanned Operations
- Remote Accessibility
- NuWave™ Software
- Tsunami™ Integrated Services
- Motorized Pan and Tilt Options

## NuWave™ Software

NuWave™ is the Spectrum-developed state-of-the-art software package that powers WaveRunIR-OP's powerful, real-time, dynamic features include:

- Background generation algorithms
- Spectral shifting
- Convolution optimization
- Meteorological integration
- Simultaneous Multi-Temporal Spectral averaging
- SmartPath™ Machine Learning

Additionally, post-collection spectral utilities include:

- Straight-forward visual data validation
- Visual method optimization and data reprocessing

## Specifications

- FTIR Specification
  - Dynamic Range: part per billion to high percentage
  - Data Frequency: 5 seconds or greater
  - Output: 4-20 mA, RS-232, RS485, or cellular LAN link
  - Operating Temperature: 32° to 100°F
- Physical Specification: FTIR Module
  - Base unit: 36.5"L x 23"W x 22"H | Weight: 135lbs
  - Power: 3A at 120 VAC

## Ongoing Operation and Maintenance

As a company who not only builds FTIRs but also uses them for short and longer-term projects, we can provide exceptional operation and routine maintenance for your FTIR systems. Whether it be custom software applications, performing specialty projects, or the general upkeep of the equipment, the team at Spectrum Environmental Solutions will provide a full-service product. Additionally, we carry an extensive inventory of spare parts should there be instrument issues and can return the instruments to service with very little down time.



WaveRunIR™-OP

## How Can We Help You?

From FTIR, RAMAN, UV-DOAS, and optical remote sensing instrumentation, to real-time measurements, software integration and complete environmental consulting, Spectrum Environmental Solutions can help you with your full emissions program.