

# IRGAS XSA

“We sell Solutions, not Boxes”

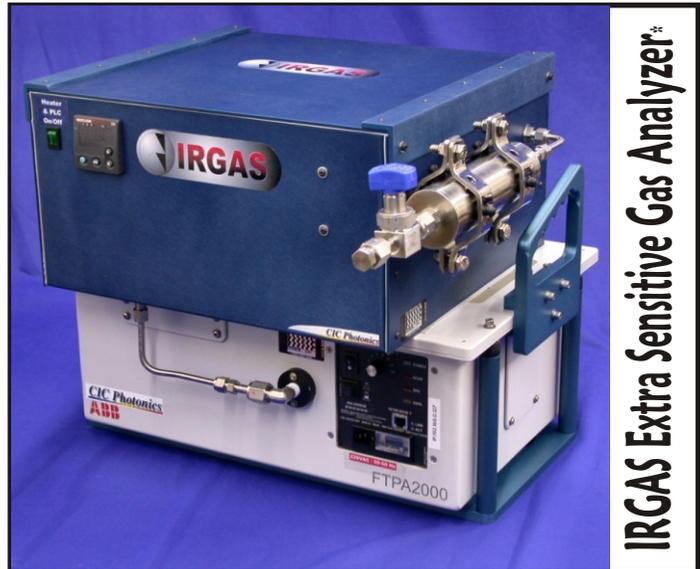
CIC Photonics, Inc. is dedicated to providing today's growing industries with the highest sensitivity and fastest time response instrumentation. Our analyzers are used worldwide in a variety of different arenas, and although CIC Photonics has a set of core systems, we pride ourselves on truly meeting the needs of our customers by adapting the core analyzers to their specifications.

Our IRGAS Extra Sensitive Gas Analyzer incorporates a rugged FTIR spectrometer with a stainless steel 4m to 6m, or a 9.6m gas cell. This combination produces an analyzer that can handle some of the most demanding applications, while still providing high energy thru puts of 36-48 %. The IRGAS Extra Sensitive Gas Analyzer is ideal for applications requiring limits of detection in the ppb level to >10 ppb, and has rapid gas exchange due to it's low internal volume.

Included with the IRGAS Extra Sensitive Gas Analyzer is CIC Photonics patented SPGAS analytical software package. This package does everything from concentration tracking and hardware managing to allowing the user to recalculate previously collected data within minutes.

Limits of Detection (ppm)			
Species	Formula	4m 4Runner	9.6m Ranger
Water	H2O	0.01	0.004
Hydrogen Fluoride	HF	0.013	0.005

\* 5 minutes initial reading, 30 seconds thereafter



Analyzer pictured above is in a permeation cover and has the added option of an N2 purifier

IRGAS Extra Sensitive Gas Analyzer\*

## Applications

- Combustion Gas Monitoring
  - EPA Protocol Testing
  - Emission Gas Analysis
  - Stack Gas Analysis
  - Gas Certification
  - Research Studies
- Semiconductor Monitoring
  - Air Monitoring
  - Leak Detection
  - Moisture Analysis
- Corrosive and Toxic Gases

## System Specifications

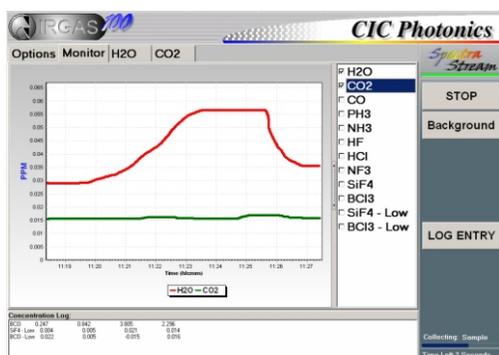
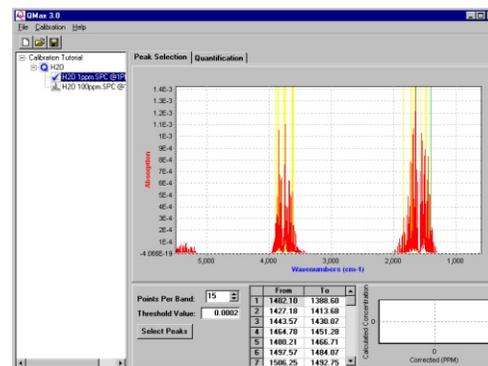
System Components  
 Bomen WorkIR Spectrometer with an InAs Detector  
 4m to 6m 4Runner or 9.6m Ranger  
Sensitivity Range  
 ppb level to >10ppb  
Pressure Range  
 Atmospheric to 200 psi  
Temperature Range  
 0°C to 300°C

**CIC Photonics**

# IRGAS XSA

Each IRGAS system is incorporated with CIC Photonics patented SPGAS analytical software package. This package includes the following patented softwares: IRGAS 100 or IRGAS 100 with SpectraStream, Qmax, Configuration Manager, and Reprocessing Tool. These programs provide a unique solution to analytical problems. All of the programs are extremely user friendly so that the programs can be operated by anyone regardless of skill level.

The IRGAS 100 software provides real-time monitoring of species concentration, while also having the capabilities to control various hardware components within the system. Some of the hardware components that can be managed by the software are valves, pressure transducers, temperature controllers, etc....



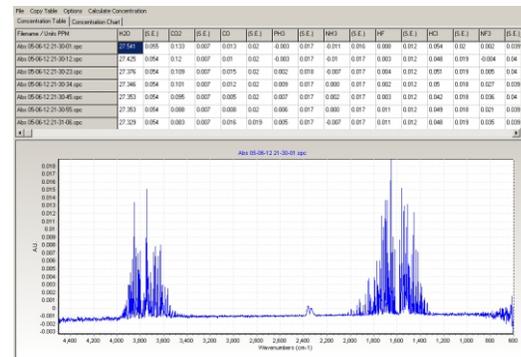
Working with the SPGAS software, SpectraStream allows the user to view changes in species concentrations within seconds of the changes happening through the program's Fast Concentration Tracker by decreasing the response time that is typically associated with FTIR.

The systems calibrations are generated in the Qmax program which permits the user to easily generate calibrations and/or add new species to

preexisting calibrations. In addition to creating new calibrations, Qmax can be used to apply correction factors to current calibrations.

The IRGAS Configuration Manager is a program that contains all of the information regarding the system in one central location. In the Configuration Manager the user can find various parameters for the system that can altered to their needs.

Our most recent program added to the software package is the Quantification Reprocessing Tool. This program allows the user to recalculate data that had been previously collected. Instead of having to recollect data for temperature and pressure changes, a user can enter the new parameters in the Quantification Reprocessing Tool and the program will recalculate the data with the new parameters. As well as recalculating new parameters it can reprocess new calibration files that have more or less species being quantified. The Quantification Reprocessing Tool can also be used to determine the accuracy of a calibration file and help to determine the correction factor needed for calibrations. Collected spectra can also be displayed and viewed sequentially in the Quantification Reprocessing Tool allowing the viewer to see slight changes in the spectra.



## Analyzer Options

- Digital Analog Output
- Valving Manifold
- Automated Manifold
- Script Editor Software (runs automated manifold)
- Moisture Reduction Stack
- Additional Analyzers (O2, H2, THC)
- SpectralID software (spectral identification program)
  - Cabinets/Rack Mount
  - Computer
  - Pump
- Multipoint Monitoring
- Heated/Unheated Sampling Systems

**CIC Photonics, Inc**  
 9000 Washington St. NE  
 Albuquerque, NM USA 87113

Corporate Headquarters: (505) 343-9500  
 Technical Support: (505) 343-1489  
 Fax: (509) 479-2980  
 Website: www.irgas.com

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