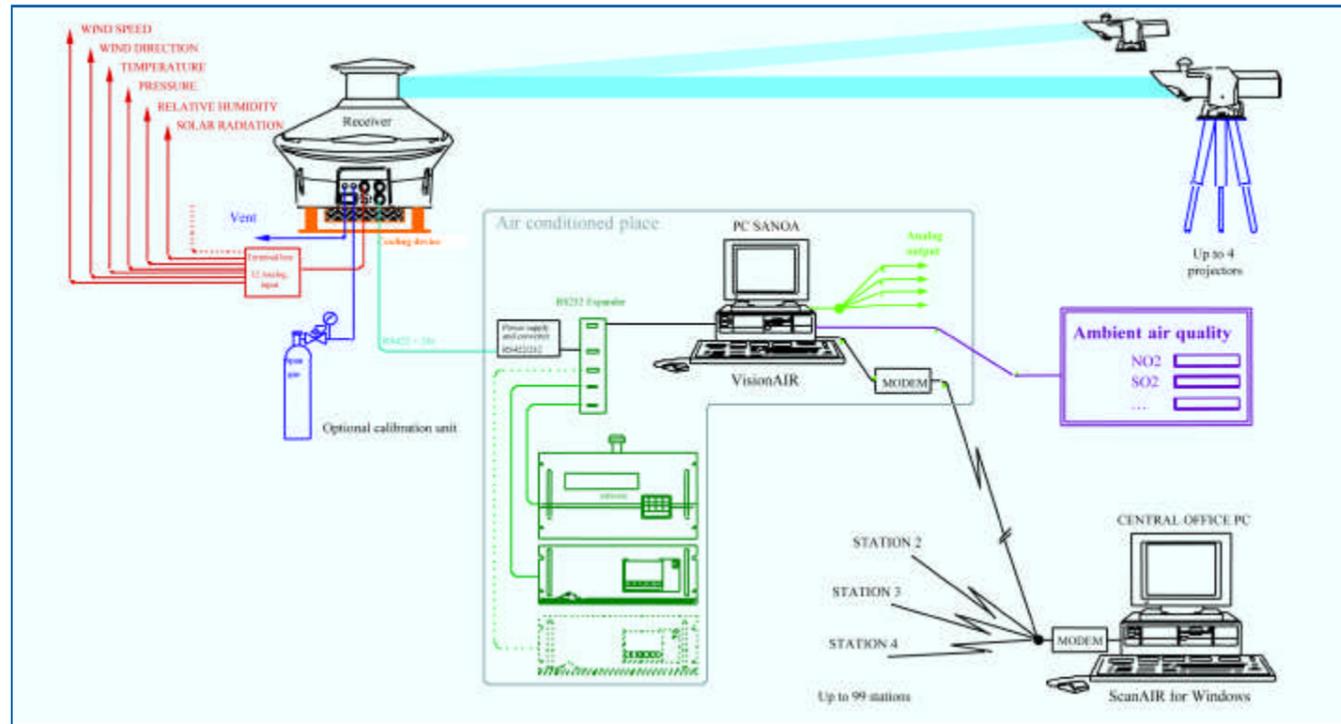




Multi-Gas Long Path Air Quality Monitoring System



Options and network configuration

SPECIFICATIONS

General features

Monitoring path length	100 to 500 meters
Lower detectable limit	ppb level
Linearity	less than 1%
Measurement cycle	minimum 3 minutes for simultaneous measurement of all gases
Receiver optical path	direct, without optical fiber.
Operating temperature	-20°C (-4°F) to +40°C (104°F) optional : -20°C (-4°F) to +55°C (131°F)

Projector

Optics	focal distance: 500 mm - aperture F/5 150 watt high pressure Xenon lamp average life time of the lamp : 6 months
Power supply	100-240V / 50-60Hz electrical power : 300 watt
Size & Weight	L 820 mm - H 310 mm weight : 15 kg protection : IP33

Receiver

Spectrometer	solid state with holographic grating ultraviolet spectral range : 200 to 375 nm resolution : 0.34 nm over the entire spectrum
Detector	low processor NMOS diode array detector - 512 pixels

Electronics	processor 386 SX 25 and math coprocessor 14 bits analog to digital converter RS422 and RS232 input / output
Power supply	24v, 1A
Size & Weight	diameter 800 mm, height 575 mm Weight : 35 kg Protection : IP65

Operating unit Compatible PC (not supplied)

Software	
On board software	real time SANOA software for spectra acquisition and data logging
PC operating software	VisionAIR® windows based software for controlling the instrument, analysing the spectra and processing the results

Approved by the French national environmental institute (Ineris) and tested by ERLAP (European Reference Laboratory of Air Pollution)

Distributed by :

Air quality measurement



Multiple applications



- Urban air quality monitoring



- Fence line monitoring in industrial areas
- Plume dispersion studies



- Airport pollution monitoring
- Background pollution measurement

A REAL BREAKTHROUGH IN AMBIENT AIR POLLUTION MONITORING

SANOA is a state-of-the-art multi-gas open-path remote analyzer based on **UV/Visible Differential Optical Absorption Spectrometry (D.O.A.S)**. It measures continuously and simultaneously a number of major pollutants including **SO₂, NO₂, O₃** and **VOC** (Volatile Organic Compounds) such as **BTX**.

EXCLUSIVE ADVANTAGES

- Simultaneous measurement of the components.
- Average measurement over the optical path length.
- Clear elimination of cross interference of measured components, including stray light.
- Extension to new compounds without any hardware modification.
- Storage of the spectra for possible re-analysis.
- Compact design avoiding the use of an optical fiber.
- All weather integrated projector and receiver.

Realisation: APT-CHANNEL - Phone : +33 01 34 76 00 00 ref : 09 86 54 1004 Ang. 1





SANOA



MEASURED COMPOUNDS

		Detection Limits ppb (*)
Sulfur dioxide	SO ₂	0,2
Nitrogen dioxide	NO ₂	0,6
Ozone	O ₃	0,6
Benzene	C ₆ H ₆	0,9
m-xylene	C ₈ H ₁₀	0,6
p-xylene	C ₈ H ₁₀	0,8
o-xylene	C ₈ H ₁₀	0,8
Toluene	C ₇ H ₈	0,8
Formaldehyde	CH ₂ O	1,1
Phenol	C ₆ H ₅ -OH	0,3
Styrene	C ₈ H ₈	0,8
Nitrous acid	HNO ₂	0,9
Nitrogen oxide (**)	NO	1,5
Ammonia (**)	NH ₃	3,5
numerous other available gases		

* Detection limits measured over 500 m. optical path length.
** Over 250 m.

A STAND-ALONE AMBIENT AIR MONITORING STATION

Composed of three units easy to set up on site.

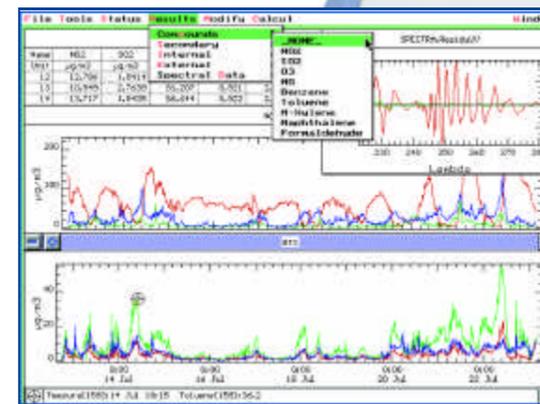
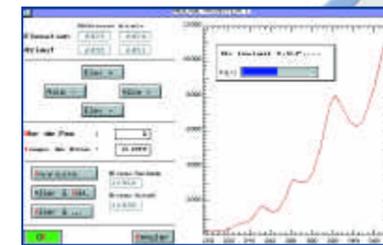
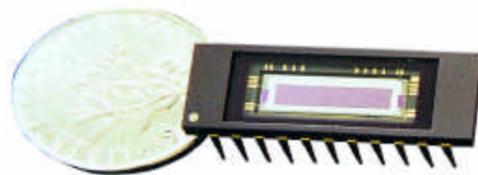
- a self contained "all weather" receiver which incorporates the optical parts, the spectrometer, the detector and electronics for spectra acquisition.
- a light projector made as a telescope yielding minimal beam spread, with integrated power supply.
- a remote PC compatible computer for spectra analysis and real time or post-process data visualization and investigation.



AN INNOVATIVE AND EFFECTIVE TECHNOLOGY

The SANOA presents the exclusive characteristic of using a spectrometer with a flat field holographic grating combined with one of the latest developments in the area, a low noise diode array detector. This enhanced configuration permits the simultaneous acquisition of the entire spectrum (175 nm) at a high resolution, without any movable parts. This detection device is totally reliable and is maintenance-free. It also provides the great advantage of facilitating the calibration by allowing the use of absorption references published and recognized by the international scientific community. Hence, no routine calibration is needed.

Moreover, this technology allows for an excellent separation of the components with similar absorption characteristics - such as BTX - as well as the saving of the spectra for possible further analysis. The system can be extended with the software upgrade for the analysis of additional components in the same spectral range, at low cost without any changes to the hardware.



VISION AIR™ COMPREHENSIVE AND MODULAR SOFTWARE

In addition to the powerful multi-components spectra analysis module, the VisionAIR™ software integrates a number of features including :

- a driver for the tracker allowing automatic adjustment of the optical tuning as well as a multi-path use of the system.
- a built-in data logger for external analog parameters such as meteorological sensors.
- a data acquisition module for conventional analyzers networked with SANOA .
- a powerful data management module permitting real time multi-parameters graphics and tables editions as well as statistics or even exporting the data toward your usual software.

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