The Analect Diamond 20 is an FTIR/FT-NIR system specifically designed for operation in laboratory and process development environments.

- Permanently aligned optics with patented Transept® Interferometer
- Vibration-tolerant wedges use thickness and refractive index, instead of vibration-sensitive mirror position, to alter the interferometer path length
- Hermetically sealed interferometer withstands moisture and protects against contamination
- Seamless calibration transfer between Diamond 20 and other Analect FTIR process analyzers
- Compact 18” footprint requires less bench space
- Multiple software options including FX90 featuring exceptional workstation graphics flexibility
- Two external beam ports
- Analect Optibus™ efficiently transports the IR beam to any type of sampling peripheral
- High-performance data collection computer for high signal-to-noise spectra
- The Diamond 20's versatility is demonstrated by its range of applications in the following industries:
  - Refinery and Petrochemical
  - Raw Materials QC
  - General Chemical
  - Pharmaceuticals
  - Paint and Coating
  - Film Extrusion/Fiber Webs
  - Agriculture Chemicals
  - Polymers

Wide Range of Sample Options
- Fiber Optic Devices
  - Diffuse Reflectance
  - Fiber Optic Probes
  - Fiber Optic Launchers and Multiplexers
- Probes
  - ATR for highly absorbing Liquids
  - Fiber Optic Probes for Remote Measurements
  - Diamond-Tipped Probes for Harsh Conditions
  - General Reaction Probes
- Sample Cells
  - Short Gas Cells
  - Laminar Flow Long Gas Cells
  - White Cells
  - Liquid Transmission Cells
  - Flow-Through ATR
  - Open Boat ATR
  - Disposable Vial

The TRANSEPT® Interferometer
The Heart of the System

- Process-proven FT optical bench featuring Transep t interferometer design and Optibus™ light conduit
- Superior analytical stability and accuracy
- Unique refractive scanning wedge design means no moving mirrors
- Permanently aligned optics using Corner-Cube technology
- Core optical technology shared in all Analect FTIR products

SPECIFICATIONS

- Interferometer: TranseptIV hermetically-sealed module with refractively scanned design. Precision cross-roller bearings and high accuracy Corner-Cube mirrors
- Spectral range: Extended Mid-IR 7,400 to 450 cm⁻¹; Near-IR 12,000 to 1,200 cm⁻¹
- Resolution: Keyboard-selectable to 1.5 cm⁻¹ (unapodized); 2 cm⁻¹ (apodized)
- Scanning Speed: Automatically optimized for detector type or software – selectable for specific applications. Adaptive digital servo drive uses laser quadrature for positive position reference. Optical speeds to 2.25 cm⁻¹
- Wave number repeatability: Better than ±0.01 cm⁻¹
- Apodization Functions: Choice of 14 keyboard-selectable standard functions
- Detector: Standard–internal DTGS pyroelectric. Optional–full line of external Optibus detectors, including DTGS, liquid nitrogen cooled MCT, thermo-electrically controlled DTGS, MCT, InAs, and InGaAs. Optical bench can accommodate two software-selectable detectors at one time. Optional signal multiplexers allow additional detectors
- Infrared Source: Internal, air-cooled, high efficiency Reflex Sphere
- Signal Conversion: Computer-selectable gain, high- and low-pass filters, and delay compensation. High-accuracy, true 18-bit ADC
- Sampling Optics: Internal focused beam, external collimated beams
- Communications Ports: Standard Ethernet LAN protocol capabilities. Parallel port (e.g., for printer), two RS-232 ports (e.g., for plotter and communications link)
- Cursor Readouts: Continuous, in cm⁻¹ or nanometers for abscissa, %T or absorbance units for ordinate

SOFTWARE

Robust FX90 advanced spectroscopy platform

- Provides a comprehensive spectral capture and analysis program.
- Simplifies many complex tasks associated with FTIR monitoring.
- Supports spectral addition, subtraction, multiplication and division and automated functions such as baseline correction
- Full chemometric tool package.
- Can be easily customized for reaction monitoring applications.
- Also compatible with Analect FX80, PC80, AnaGRAMS, CPSA. Third party software compatibility with Matlab®, Pirouette®, Lab Control Spectacle™ and GRAMS™ FTIR datastation included.

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