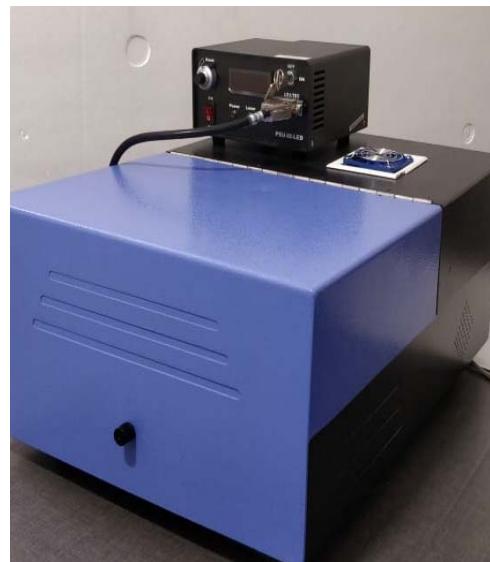




DIRECT COUPLED RAMAN SPECTROMETER



Standard Models:

| Model No. | Wavelength Range |
|-----------|-----------------------------|
| RI-D2R-S | 200 - 4500 cm ⁻¹ |
| RI-D2R-A | 120 – 4500 cm ⁻¹ |
| RI-D2R-C | Customized |
| -H | Horizontal Sample Holder |
| -G | Vertical Sample Holder |
| Optional | |
| -V | Continuous Variable Slit |
| -D | Dual Sample Holder |
| -T40 | Cooled Detector -40°C |

Our RI-D2R Series Raman Spectrometers are developed by Research India's Innovation group (RI Instruments & Innovation India) which applies in the field of Materials Science, Diamond Testing, Food Safety, Bioscience, Nanoscience, Forensic, Biotech, Environmental Sciences and more.

RI-D2R Series Raman Spectrometers allow the analysis of samples with a microscopic laser spot using a high-quality lens and filters. There are no fiber optic couplings used for the collection and excitation of signals, to minimize signal losses.

“ Our philosophy is a collection of signals through direct-coupled optics”

Advantage:

No sample Preparation needed
Non-destructive sampling
Non- invasive measurement

Application

Raman spectral analysis
Chemical or biological research
Environmental sciences
Diamond identification
Food safety testing
Pharmaceutical and medical diagnosis
Geological exploration
Hazard detection

Software Features:

Instrument Control & Data Collection parameters are user-definable, such as Exposure time, dark correction, signal averaging, spectral smoothing, Automatic Saved Spectra. Graphics saved in .txt format and be opened in any Third-Party Software E.g. Origin, Excel and other data processing software.

RIFRAMAN - Fiber Optic Based Raman System, available version 532 &

785 nm



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785 nm



SPECIFICATON:

| | | |
|-----------------------|---|--|
| Design | : | Czerny Turner |
| Detector | : | CCD linear array |
| Lens | : | Detector Collecting lens (Quartz)- Optional |
| Specral Range | : | 120/200 – 4500 cm ⁻¹ |
| Pixels | : | 3648 |
| Focal Length | : | 150 mm (Standard) and 200 mm Optional |
| TEC Cooled | : | - 35°C (Standard), - 40°C (Optional) |
| Filter | : | Order Sorting Filter |
| Slit | : | Variable 0- 200/400microns or Fixed |
| Optical Resolution | : | 5 cm ⁻¹ to 14 cm ⁻¹ * |
| Signal-to-noise ratio | : | 10000 : 1, (12000:1) # |
| A/D Resolution | : | 16 Bit |
| Integration Time | : | 10 µs – 60 secs (120 sec – Optional) |
| Stray light: | : | <0.05% at 600 nm; <0.10% at 435 nm |
| Power Consumption | : | 100mA @ 5V from USB interface |
| Trigger Modes | : | 3 modes – Optional |
| Operating System | : | Windows 10 /8 / 7 (32 & 64 Bit) |
| Software | : | RI Spectra, With Database Search Option & Manual Shift Calibration |
| Computer Interfaces: | : | USB 2.0 ** |
| Temperature: | : | -30 °C to +70 °C Storage & -10 °C to +50 °C Operation |
| Humidity | : | 0%-90% non-condensing |
| Wavelenght | : | 532nm |
| Stability | : | 1% |
| Power | : | 200 mW (Standard), 300mW – 500mW (Optional) |
| Power Tunabilty | : | Yes |
| Coupling | : | Optics |
| Edge Filter | : | Long Wave Pass Filter |
| Sample Stage | : | Horizontal for holding Liquid Sample Vertical for Holding Powder Sample |

*depends on slit size and spectral range

** Comaptible to USB3.0 Ports

avg



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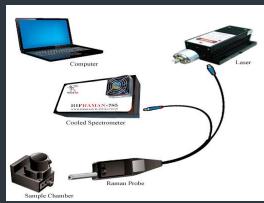
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785 nm



IMAGING RAMAN MICROSPECTROMETER



Standard Models:

| Model No. | Wavelength Range |
|--------------|--|
| RI-M2R-532-S | 200- 4500 cm ⁻¹ (R2L532, RMP532-S/DC532-S) |
| RI-M2R-532-A | 120 – 4500 cm ⁻¹ (R2L532, RMP532-A/DC532-A) |
| RI-M2R-532-C | Customized |
| RI-M2R-785-S | 200- 4500 cm ⁻¹ (R2L785, RMP785-S) |
| RI-M2R-785-A | 120 – 4500 cm ⁻¹ (R2L785, RMP785-A) |
| RI-M2R-785-C | Customized |

Our RI-M2R Series Imaging Raman Microspectrometer are developed by the Research India's Innovation group (RI Instruments & Innovation India) which applies in the field of Materials Science, Diamond Testing, Food Safety, Bioscience, Nanoscience, Forensic, Biotech, Environmental Sciences, and more.

RI-M2R Series Raman Microspectrometer allow highly magnified visualization and Raman analysis of samples with a microscopic laser spot using Optical Microscope coupled with Fiber Raman Spectrometer

- 1.Fiber-Coupled
2. Direct Coupled (No Fiber Components)

Advantage:

No sample Preparation needed
Non-destructive sampling
Non- invasive measurement

Application

Raman spectral analysis
Chemical or biological research
Environmental sciences
Diamond identification
Food safety testing
Pharmaceutical and medical diagnosis
Geological exploration
Hazard detection

Software Features:

Instrument Control & Data Collection parameters are user-definable, such as Exposure time, dark correction, signal averaging, spectral smoothing, Automatic Saved Spectra. Graphics saved in .txt format and be opened in any Third-Party Software E.g. Origin, Excel and other data processing software.



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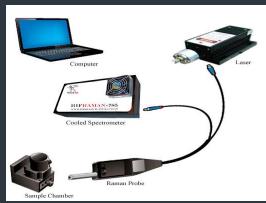
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RIFRAMAN - Fiber Optic
Based Raman System,
available version 532 &

785 nm



SPECIFICATON:

| Raman Spectrometer | | |
|-----------------------|---|--|
| Design | : | Czerny Turner |
| Detector | : | CCD linear array |
| Lens | : | Detector Collecting lens (Quartz)- Optional |
| Specral Range | : | 120/200 – 4500 cm ⁻¹ |
| Pixels | : | Linear Array CCD 3648 Pixel |
| Focal Length | : | 150 mm (Standard) and 200 mm Optional |
| TEC Cooled | : | - 35°C (Standard), - 40°C (Optional) |
| Filter | : | Order Sorting Filter |
| Coupling | : | 0.22 NA, 600 μm Core SMA Connectors Multimode |
| Slit | : | Variable 0- 200/400microns (-V) or Fixed (Standard) |
| Optical Resolution | : | 5 cm ⁻¹ to 14 cm ⁻¹ * |
| Signal-to-noise ratio | : | 10000 : 1, (12000:1) # |
| A/D Resolution | : | 16 Bit |
| Integration Time | : | 10 μs – 60 secs (120 sec – Optional) |
| Stray light: | : | <0.05% at 600 nm; <0.10% at 435 nm |
| Power Consumption | : | 100mA @ 5V from USB interface |
| Trigger Modes | : | 3 modes – Optional |
| Operating System | : | Windows 10 /8 / 7 (32 & 64 Bit) |
| Software | : | RI Spectra, With Database Search Option & Manual Shift Calibration |
| Computer Interfaces | : | USB 2.0** |
| Temperature: | : | -30 °C to +70 °C Storage & -10 °C to +50 °C Operation |
| Humidity | : | 0%-90% non-condensing |
| Raman Laser R2L785 | | |
| Wavelenght | : | 785nm |
| Stability | : | 1% |
| Power | : | 200 mW (Standard), 300mW – 500mW (Optional) |
| Power Tunability | : | Yes |
| Coupling Conector | : | SMA (Standard), FC (Optional) |





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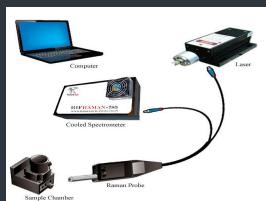
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available version 532 &
785 nm



Raman Laser R2L532

| | | |
|-------------------|---|--|
| Wavelenght | : | 532nm |
| Stability | : | 1% |
| Power | : | 200 mW (Standard), 300mW – 500mW (Optional) |
| Power Tunability | : | Yes |
| Coupling Conector | : | SMA (Standard), FC (Optional), without connector (Standrad - DC series only) |

Optical Microscope Raman Probe-532 (RMP-532-A/RMP-532-S)

| | | |
|------------------------------|---|---|
| Spectral Range | : | 120 /200 cm-1 to 4500 cm-1 |
| Excitation fiber | : | 100 um SMA Standard and FC (Optional) |
| Collection Fiber | : | 200 ums optical fiber (Standard) and 7 cores fiber :200 um with the 1 core of 600um Round to Linear optical fiber (Optional) |
| Laser line bocking | : | OD 6 |
| Objective Lens | : | 5x, 10x , 20x , 50 x |
| Digital camera | : | 2 MP Stanadard and 5 MP (Opional) |
| Focussing | : | Stage height movement by roller guide/focusing knobs |
| Illminatiation (Optional)- I | : | <ul style="list-style-type: none"> 1. Built-in transmitted illuminator with continuously variable intensity control 2. Top Illumination (Optional) |
| Stage (Optional) - T | : | XYZ Stage |

Optical Microscope Raman Probe-785 (RMP-785-A/RMP785-S)

| | | |
|-----------------------------|---|---|
| Spectral Range | : | 120/200 cm-1 to 4500 cm-1 |
| Excitation fiber | : | 100 um SMA Standard and FC (Optional) |
| Collection Fiber | : | 200 ums optical fiber (Standard) and 7 cores fiber :200 um with the 1 core of 600um Round to Linear optical fiber (Optional) |
| Laser line bocking | : | OD 6 |
| Objective Lens | : | 5x, 10x , 20x , 50 x |
| Digital camera | : | 2 MP Stanadard and 5 MP (Opional) |
| Focussing | : | Stage height movement by roller guide/focusing knobs |
| Illminatiation (Optional)-I | : | <ul style="list-style-type: none"> 1. Built-in transmitted illuminator with continuously variable intensity control 2. Top Illumination (Optional) |
| Stage (Optional) -T | : | XYZ Stage |



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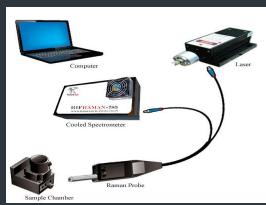
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785 nm



| Direct Coupled Imaging Attachment (DC532-A/DC532-S) | |
|--|---|
| Spectral Range | : 120 /200 cm ⁻¹ to 4500 cm ⁻¹ |
| Laser Line Blocking | : 532 nm RazorEdge® ultrasteep long-pass edge filter <ul style="list-style-type: none"> • Laser Wavelength = 532 nm • 90 cm⁻¹ transition • T_{avg} > 93% 535.4 – 1200 nm |
| | 532 nm RazorEdge® ultrasteep long-pass edge filter <ul style="list-style-type: none"> • Laser Wavelength = 532 nm • 186 cm⁻¹ transition • T_{avg} > 93% 538.9 – 1200 nm |
| Objective Lens | : 20x (Standard), 5x, 10x, 50 x, 100 X (Optional) |
| Digital camera | : 2 MP Standard and 5 MP (Optional) |
| Focussing | : Precise Stage height movement |
| Illminatiation (Optional)- I | : 1. Built-in transmitted illuminator with continuously variable intensity control 2. Top Illumination (Optional) |
| Stage (Optional) - T | : XYZ Stage |

*depends on slit size and spectral range

** Comaptible to USB3.0 Ports

avg



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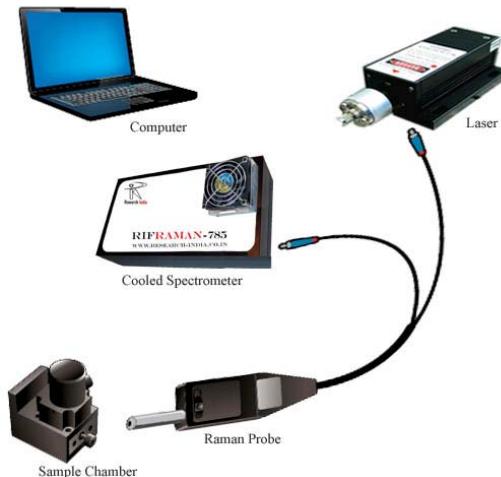
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785 nm



FIBER RAMAN SPECTROMETER



Our RI-F2R Series Fiber Spectrometers are developed by Research India's Innovation group (RI Instruments & Innovation India) which applies in the field of Materials Science, Diamond Testing, Food Safety, Bioscience, Nanoscience, Forensic, Biotech, Environmental Sciences and more

Advantage:

No sample Preparation needed
Non-destructive sampling
Non- invasive measurement

Standard Models:

| Model No. | Wavelenght Range |
|-------------|--|
| RI-F2R532-S | 200- 4500 cm ⁻¹ (RL532, RPA532S) |
| RI-F2R532-A | 120 – 4500 cm ⁻¹ (RL532, RPA532A) |
| RI-F2R532-C | Customized |
| RI-F2R785-S | 200- 4500 cm ⁻¹ (RL785, RPA785S) |
| RI-F2R785-A | 120 – 4500 cm ⁻¹ (RL785, RPA785A) |
| RI-F2R785-C | Customized |

Application

Raman spectral analysis
Chemical or biological research
Environmental sciences
Diamond identification
Food safety testing
Pharmaceutical and medical diagnosis
Geological exploration
Hazard detection

Software Features:

Instrument Control & Data Collection parameters are user-definable, such as Exposure time, dark correction, signal averaging, spectral smoothing, Automatic Saved Spectra. Graphics saved in .txt format and be opened in any Third-Party Software E.g. Origin, Excel and other data processing software.



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RIFRAMAN - Fiber Optic
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785 nm



SPECIFICATON:

| Raman Spectrometer | | |
|-----------------------|---|---|
| Design | : | Czerny Turner |
| Detector | : | CCD linear array |
| Lens | : | Detector Collecting lens (Quartz)- Optional |
| Specral Range | : | 120 – 4500 cm ⁻¹ |
| Pixels | : | Linear Array CCD 3648 Pixel |
| Focal Length | : | 150 mm (Standard) and 200 mm Optional |
| TEC Cooled | : | - 35°C (Standard), - 40°C (Optional) |
| Filter | : | Order Sorting Filter |
| Fiber optic connector | : | 0.22 NA, 600 µm Core SMA Connectors Multimode |
| Slit | : | Variable 0- 200/400microns or Fixed Slit |
| Optical Resolution | : | 5 cm ⁻¹ to 14 cm ⁻¹ * |
| Signal-to-noise ratio | : | 10000 : 1, (12000:1) # |
| A/D Resolution | : | 16 Bit |
| Integration Time | : | 1 ms – 60 secs |
| Stray light: | : | <0.05% at 600 nm; <0.10% at 435 nm |
| Power Consumption | : | 100mA @ 5V from USB interface |
| Trigger Modes | : | 3 modes – Optional |
| Operating System | : | Windows 10 / 8 / 7 (32 & 64 Bit) |
| Software | : | RI Spectra, With Database Search Option & Manual Shift Calibration |
| Computer Interfaces: | : | USB 2.0, USB3.0 |
| Temperature: | : | -30 °C to +70 °C Storage & -10 °C to +50 °C Operation |
| Humidity | : | 0%-90% non-condensing |
| Raman Laser RL785 | | |
| Wavelenght | : | 785nm |
| Stability | : | 1% |
| Power | : | 200 mW (Standard), 300mW – 500mW (Optional) |
| Power Tunabilty | : | Yes |
| Coupling Conector | : | SMA (Standard), FC (Optional) |

*depends on slit size and spectral range



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785 nm



Raman Laser RL532

| | | |
|-------------------|---|---|
| Wavelenght | : | 532nm |
| Stability | : | 1% |
| Power | : | 200 mW (Standard), 300mW – 500mW (Optional) |
| Power Tunabilty | : | Yes |
| Coupling Conektor | : | SMA (Standard), FC (Optional) |

Raman Probe (RPA-λ-A/RPA-λ-S) , λ- stands for wavelength -Optional

| | | |
|----------------------|---|---|
| Laser wavelength (λ) | : | 532 nm or 785 nm |
| Spectral Range | : | 120/200 cm-1 to 4500 cm-1 |
| Excitation fiber | : | 100 um optical fiber Standard |
| Collection Fiber | : | 200 um optical fiber (Standard) and 7 cores fiber :200 um with the 1 core of 600um Round to Linear optical fiber (Optional) |
| Coupling Connector | : | SMA (standard) and FC (Optional) |
| Laser line bocking | : | OD 6 |
| Objective Lens | : | 20x (Standard) and 5x, 10x , 50 x (Optioal) |

Solid Sample Holder (Optional)

| | | |
|-------|---|---|
| -SSH1 | : | Basic Raman Probe Holder for Powder and thinfilm samples |
| -SSH2 | : | Advance Raman Probe Holder for Powder and thinfilm samples with Focssing knobs and XYZ Stage ot hold the sample |

Liquid Sample Holder (Optional)

| | | |
|------|---|---|
| -LSH | : | Raman Probe Holder for Liquid Samples, Holder size 10 mm (Standard) and Customizable (Optional) |
|------|---|---|

Microscope Upgrade (Optional) - MU



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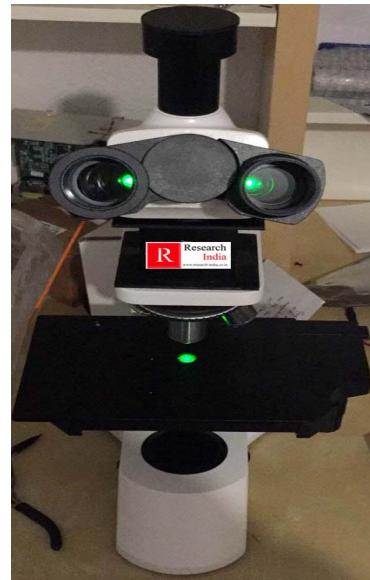
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Raman probe : RPA- λ



Raman Probe : RPI- λ



Microscope Upgrade : MU



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