ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Newport / New Focus 1431-50* at our website: ***Click HERE***

25-GHz photodetectors

Responsivity
Frequency Response
Model 141X Impulse Response
Model 143X Impulse Response

Model 14XX-15XX
Model 14XX

Model 14XX

Model 1411
Model 1414
Model 1417_PT1
Model 1417_PT2
Model 1431
Model 1434
Model 1437_PT1
Model 1437_PT2

Model 1411M
Model 1414M
Model 1417M_PT1
Model 1417M_PT2
Model 1431M
Model 1434M
Model 1437M_PT1
Model 1437M_PT2

Comparison of Fast Photodetector Response Measurements by Optical Heterodyne and Pulse Response Techniques

Monolithic Integrated Circuits for Millimeter Wave Instrumentation

Selection and Application of High-Speed Photodetectors

High-Speed Detectors: Faster Measurements for Today's Laboratory

go to characteristics

See Model 148X for 850 nm optimized versions.

New Focus Model 14XX photodetectors were designed to offer the ideal combination of high-speed performance (up to 25 GHz) and optical-input flexibility. These high-speed photodetectors show flat response in both amplitude and phase up to 25 GHz and are optimized for frequency-domain applications. For time-domain applications, we recommend our 144X and 145X photodetectors.

An internal microwave housing suppresses noise, pick-up, and other artifacts. Moreover, to limit damage due to excessive voltage or mishandling, these photodiodes have damage-resistant bias circuits and are powered by an easily replaceable internal 9-V battery. All these detectors come equipped with a DC-bias monitor that has a transimpedance gain of 1 mV/µA and a 50-kHz bandwidth. By combining these detectors with our Model 1422 traveling-wave amplifier, you can detect microwatt optical signals with 20-GHz bandwidth and minimal distortion.

Choose from ST and FC single-mode or multimode fiber-optic connectors, or a free-space option. With optical-fiber input, the photodiode module can be connected directly to an electronic instrument, eliminating the need for an expensive high-frequency microwave cable. Multimode versions have fiber-optic input with 50-µm core fiber and an internal GRIN lens focusing onto the detector. (Just specify "-50" after the model number for the multimode option.) In these versions, chromatic dispersion of the GRIN lens decreases the usable wavelength range.

25-GHz Near-IR Photodetectors

141X

The high-sensitivity 141X Series near-IR photodetectors use 25-µm-diameter back-illuminated InGaAs Schottky photodiodes with peak responsivities of 0.6 A/W at 1300 nm. The active layer is twice as thick as in our ultrahigh-speed 101X module, producing a 50% greater responsivity between 950 nm and 1650

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Application Note 1: Insights Into High-Speed Detectors and High-Frequency Techniques

Demand for High-Speed Detectors Drives Research

Photodiode-Based Detector Operates at 60 GHz

aspheric lenses
20-GHz traveling-wave amplifiers
electrical accessories
Triple-Divide translation stages
pint-sized Triple-Divide translation stages
fixed pedestal system

nm. The conversion gain with a 50-W load is 15 V/W.

25-GHz Broadband Photodetectors

143X

The broadband 143X Series photodetectors use 25-µm-diameter photodiodes with greater than 0.1-A/W responsivity from 400 to 1650 nm. The front-illuminated semi-transparent InGaAs Schottky diodes are anti-reflection-coated for peak transmission near 530 nm. This design eliminates the short wavelength cutoff found in InGaAs PIN detectors. For multimode versions, the wavelength range is 550-1330 nm. NOTE: for 850 nm applications, see our new Models 148X.

25-GHz Near-IR Photodetectors

Model#	1411	1414	1417
Wavelength Range	950-1650 nm	950-1650 nm	950-1650 nm
Wavelength Range (multimode versions)	950-1650 nm	950-1650 nm	950-1650 nm
3-dB Bandwidth	25 GHz	25 GHz	25 GHz
Rise Time	17 ps	17 ps	17 ps
Maximum Conversion Gain	15 V/W	15 V/W	15 V/W
Typical Maximum Responsivity	0.6 A/W	0.6 A/W	0.6 A/W
Output Impedance	50 W	50 W	50 W
Minimum NEP	30 pW/	30 pW/	30 pW/
cw Saturation Power	2 mW	2 mW	2 mW
Maximum Pulse Power	100 mW	100 mW	100 mW
Detector Material/Type	InGaAs/Schottky	InGaAs/Schottky	InGaAs/Schottky
Detector Diameter	25 µm	25 µm	25 µm
Power Requirements	internal 9-V battery	internal 9-V battery	internal 9-V battery
Optical Input	ST	FC	FS
Electrical Output	Wiltron K	Wiltron K	Wiltron K
Price (Domestic)	US$4,300.00	US$4,300.00	US$3,800.00

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Price (International)	US$4,730.00	US$4,730.00	US$4,180.00
50 Micron Multimode Version	add -50 to Model # and US$250.00 ($275.00 International)	add -50 to Model # and US$250.00 ($275.00 International)	add -50 to Model # and US$250.00 ($275.00 International)
Metric Version	add M to Model #	add M to Model #	add M to Model #

25-GHz Broadband Photodetectors

Model#	**1431**	**1434**	**1437**
Wavelength Range	400-1650 nm	400-1650 nm	400-1650 nm
Wavelength Range (multimode versions)	550-1330 nm	550-1330 nm	550-1330 nm
3-dB Bandwidth	25 GHz	25 GHz	25 GHz
Rise Time	17 ps	17 ps	17 ps
Maximum Conversion Gain	5 V/W	5 V/W	5 V/W
Typical Maximum Responsivity	0.2 A/W	0.2 A/W	0.2 A/W
Output Impedance	50 W	50 W	50 W
Minimum NEP	90 pW/	90 pW/	90 pW/
cw Saturation Power	10 mW	10 mW	10 mW
Maximum Pulse Power	200 mW	200 mW	200 mW
Detector Material/Type	InGaAs/Schottky	InGaAs/Schottky	InGaAs/Schottky
Detector Diameter	25 µm	25 µm	25 µm
Power Requirements	internal 9-V battery	internal 9-V battery	internal 9-V battery
Optical Input	ST	FC	FS
Electrical Output	Wiltron K	Wiltron K	Wiltron K
Price (Domestic)	US$4,300.00	US$4,300.00	US$3,600.00
Price (International)	US$4,730.00	US$4,730.00	US$3,960.00
50 Micron Multimode Version	add -50 to Model # and US$250.00 ($275.00 International)	add -50 to Model # and US$250.00 ($275.00 International)	add -50 to Model # and US$250.00 ($275.00 International)
Metric Version	add M to Model #	add M to Model #	add M to Model #

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Copyright © 2000 New Focus, Inc. All rights reserved.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP