schneider
d i g i t a l

Professional 3D-Hardware

3D PluraView
The Reference of 3D-Stereo Monitors

- Flicker free for professional continuous use
- Highest brightness – Daylight suitable
- Two housing designs: 22"/24" or 27"/28"

- Wide visual angle – Multi-user capability
- Certified for photogrammetry and GIS
- Resolution FullHD, 2,5K or 4K

3D PluraView | Passive 3D-Stereo Monitor

The innovative stereo photogrammetry monitor

Flicker free and high-resolution visualization for a perfect 3D-Stereo experience

The 3D PluraView from Schneider Digital is the further developed successor of the canceled PLANAR Beamsplitter-Series. Innovative, reliable technology is the foundation for precise, pixel accurate, stereoscopic image evaluation in highest quality, even in daylight. The 3D PluraView Beamsplitter-Technology delivers the full monitor resolution up to 4K in brilliant brightness, thanks to one display per eye.

That allows users to work comfortable and effortless in all 3D-Stereo-Applications. The new BlackTuner-Technology of the 3D PluraView supports the user even in dark picture areas to detect objects easily. A response time of only 1 ms reduces "Ghosting" and fuzziness. That's the key to a perfect 3D-Stereovisualisation in all professional areas of Photogrammetry and GIS applications.

3D PluraView - The Reference of 3D-Stereo Displays

- Flicker free for relaxed 3D-operation professional continuous use

- Highest Brightness – Suitable for working near windows,
  one monitor being available for each eye

- Wide Visual Angle – suitable for meetings of groups of up to 5 people

- Highest resolution - up to 4K/UHD (8,3 MP per Eye) @ 10-Bit

- Certified for Photogrammetry and GIS (AGISOFT, ESRI, HEXAGON, TRIMBLE, etc.)

- Elegant design & highest quality – made in Germany

- Plug & Play Technology established for 14 years

Designed for GIS-Professionals
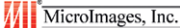
Unique 3D-Stereo experience – Daily continuous operation experience

The new Schneider Digital 3D PluraView monitor provides an innovative Beamsplitter-Technology for highest quality in stereoscopic illustration at desktop monitors. The 3D PluraView is ideally suited for all Stereo-Software-Applications in highly diverse branches:

- 3D City model visualization
- Photogrammetry
- GIS / Mapping
- Industrial Measuring / Laser Scanning
- Oil & Gas prospecting
- Archeology

- Crystallography / biochemistry
- Computed tomography & surgical planning
- Biochemistry / Microscopy
- CGI / 3D Video editing
- Mechanical Design / CAD
- Simulation & VR training

Any software that supports Nvidia 3D Vision Pro works Plug & Play with the 3D PluraView.

3D PluraView supported applications:

3DFLOW 3D Zephyr	**DAT/EM** Summit Evolution	**erdas** Stereo Analyst	**ESPA SYSTEMS** ESPA 3D	**esri** ArcGIS
ArcGIS Pro ArcGIS Pro	**MENCISOFTWARE** StereoCAD	**RACURS** Photomod	**Agisoft** PhotoScan	**BAE SYSTEMS** Socet Set / Socet GXP
sci SCi-X	**HEXAGON GEOSPATIAL** Geomedia	**KLT** WinATLAS	**MicroImages, Inc.** TNTgis	**orbit** 3DM Content Manager
SmartTech uSMART	**Trimble** Match-AT / DTMaster / UASMaster	**Bentley** ContextCapture	**cardinal systems** Vr Two	**DEPHOS GROUP** LiMON Viewer PRO
FARO Scene	**CloudCompare Stereo**	**Terra solid** TerraStereo	**Zoller+Fröhlich** LaserControl	**RhinoTerrain** RhinoTerrain
BOEING Softplotter / KDSP	**erdas** IMAGINE Photogrammetry (LPS)	**INTERGRAPH** Z / I ImageStation	**SUPRESOFT** VirtouZo	**Leica Geosystems** Leica Geosystems
digi Digi3D	**PurVIEW** PurVIEW	**Geosoft** Gcarto	**Schlumberger** Petrel	**EMERSON** VoxelGeo
EMERSON GoCAD	**HALLIBURTON** GeoProbe	**IHS Markit** Kingdom	**BAKER HUGHES a GE company** JewelSuite	

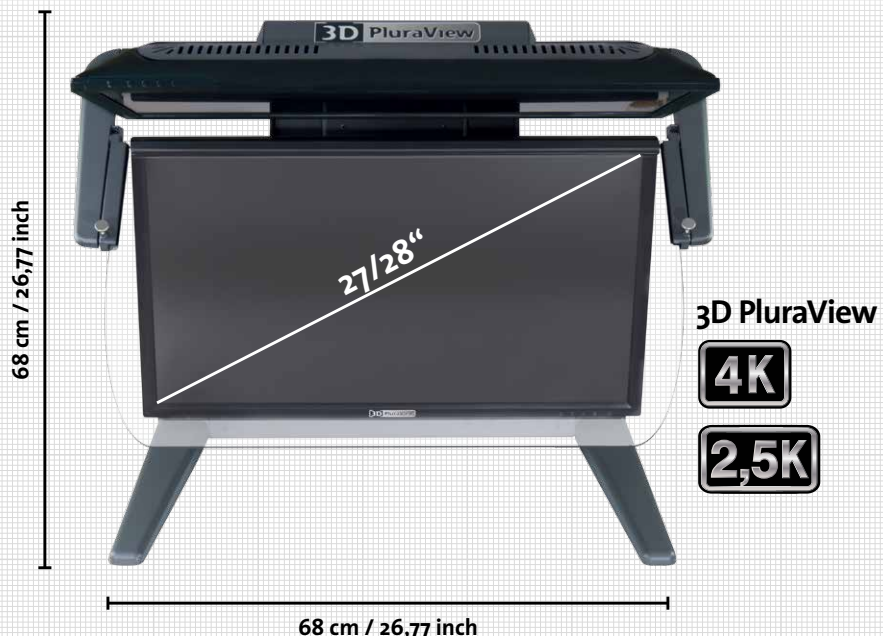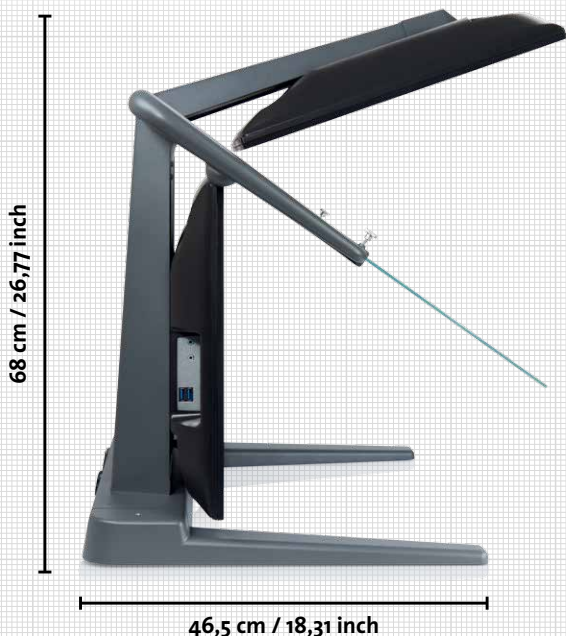| 3D PLURAVIEW MONITOR SPECIFICATIONS		
	22" FHD	**24" FHD**
Display	21,5" (546 mm) Screen Size 2x 1.920 x 1.080 Resolution (2.1 MP) 16,7 Million Colours (8-Bit) 250 cd/m² Brightness	24" (610 mm) Screen Size 2x 1.920 x 1.080 Resolution (2.76 MP) 16,7 Billion Colours (10-Bit*) 350 cd/m² Brightness
	LED BackLight-Technology 2 ms Response Time 170 °/160 ° Viewing Angle (H/V)	LED BackLight-Technology 1 ms Response Time 170 °/160 ° Viewing Angle (H/V) BlackTuner for lightening of the shades
	Contrast Ratio: 200.000: 1 ACR	Contrast Ratio: 1.000 : 1 static
Frame rate	60 Hz	144 Hz
3D-Characteristics	160 cd/m² Brightness Frame rate glasses 1.920 x 1.080 per Eye Resolution	180 cd/m² Brightness with glasses 1.920 x 1.080 per Eye Resolution
	Linear Polarization 45°/135° Beamsplitter: half transparency mirror	
3D-Formats	Quad Buffered OpenGL, Side-by-Side, Top-Bottom, Quad Buffered DirectX	
Operating Systems	Windows / Linux / macOS-Compatibility, Windows-10 Certification	
Power Consumption	Power Consumption 53W typical, max. 1W in Power Management Mode Annual Power Consumption 94 kWh / year	Power Consumption 46W typical; max. 1W in Power Management Mode Annual Power Consumption 135 kWh / year
	Power Management VESA DPMS™, Energy Star 6.0 Efficiency Class B	
Weight	23 kg, set weight with stand	26kg, set weight with stand
Measurements	54 x 59 x 46 cm (WxHxD)	61 x 60 x 47 cm (WxHxD)
Interfaces	2x DisplayPort 1.1 cable 2,5m (integrated)	2x DisplayPort 1.2 cable 3m (integrated) 2x integrated USB ports
	1 x main plug AC 100 - 240 V, 50 / 60 Hz	1 x main plug AC 100 - 240 V, 50 / 60 Hz
Audio	Integrated Speaker 2 x 2 W	Integrated Speaker 2 x 2 W
Design	Diamond Dark Alu/Steel Construction Integrated Electronics Adjustable Stand Made in Germany	
Technical Notes	2x DisplayPort 1.1 output to the graphics card is required, optionally available as dual DVI version	2x DisplayPort 1.2 output on the graphics card is required for 60Hz, with DP 1.1 is 30Hz operation possible. FreeSync support with AMD
Graphics Card Requirements	Any QuadBuffer capable NVIDIA Quadro and AMD FirePRO / RadeonPRO cards, which have at least 2 x DisplayPort 1.1 monitor outputs. The use of an additional, It is recommended to use the side view monitor for the 3D PluraView, which is adapted to the polarization of the stereo system.	
Warranty	1 Year Warranty without exclusion, with carepack extended up to 5 Years	

3D PluraView supporting QuadBuffer Graphics Cards

60 cm / 23,62 inch

33 cm / 12,99 inch

60 cm / 23,62 inch

22/24"

54 cm / 21,25 inch

3D PluraView

FHD

3D PluraView | Passive 3D-Stereo Monitor

3D PLURAVIEW MONITOR SPECIFICATIONS		
	27" 2,5K	**28" 4K/UHD**
Display	27" (686 mm) Screen Size 2x 2.560 x 1.440 Resolution (3.7 MP) 16,7 Million Colours (8-Bit) 350 cd/m² Brightness	28" (711 mm) Screen Size 2x 3.840 x 2.160 Resolution (8.3 MP) 1,073 Billion Colours (10-Bit*) 300 cd/m² Brightness
	LED BackLight-Technology 1 ms Response Time 170 °/160 ° Viewing Angle (H/V) BlackTuner for lightening of the shades	
	Contrast Ratio: 80 000 000 : 1 ACR	Contrast Ratio: 12 000 000 : 1 ACR
Frame rate	60 Hz	144 Hz
3D-Characteristics	210 cd/m² Brightness with glasses 2.560 x 1.440 per Eye Resolution	180 cd/m² Brightness with glasses 3.840 x 2.160 per Eye Resolution
	Linear Polarization 45°/135° Beamsplitter: half transparency mirror	
3D-Formats	Quad Buffered OpenGL, Side-by-Side, Top-Bottom, Quad Buffered DirectX	
Operating Systems	Windows / Linux / macOS-Compatibility, Windows-10 Certification	
Power Consumption	Power Consumption 75W typical; max. 1W in Power Management Mode Annual Power Consumption 131 kWh / year	Power Consumption 98W typical; max. 1W in Power Management Mode Annual Power Consumption 173 kWh / year
	Power Management VESA DPMS™, Energy Star 6.0 Efficiency Class B	
Weight	25 kg, set weight with stand	26kg, set weight with stand
Measurements	80 x 68 x 54 cm (WxHxD)	80 x 68 x 54 cm (WxHxD)
Interfaces	2x DisplayPort 1.2 cable 3m 2x USB 2.0	2x DisplayPort 1.2 cable 3m 2x USB 3.0
	1 x main plug AC 100 - 240 V, 50 / 60 Hz with power switch and fuse 3.15 A	
Audio	Integrated Speaker 2 x 2,5 W	Integrated Speaker 2 x 3 W
Design	Diamond Dark Aluminum Construction Integrated Electronics Adjustable Stand Made in Germany	
Technical Notes	2x DisplayPort 1.1 output to the graphics card is required AMD FreeSync support	2x DisplayPort 1.2 output on the graphics card is required for 60Hz, with DP 1.1 is 30Hz operation possible. AMD FreeSync support
Graphics Card Requirements	Any QuadBuffer capable NVIDIA Quadro and AMD FirePRO / RadeonPRO cards that have at least 2 x DisplayPort 1.1 monitor outputs. It is recommended to use an additional side view monitor for the 3D PluraView, which is adapted to the polarization of the stereo system. * The feature 10Bit color depth with QuadBuffer 3D stereo only works with AMD graphics cards.	
Warranty	1 Year Warranty without exclusion, with carepack extended up to 5 Years	

68 cm / 26,77 inch

46,5 cm / 18,31 inch

68 cm / 26,77 inch

27/28"

68 cm / 26,77 inch

3D PluraView

4K

2,5K

The reference of passive 3D stereo monitors

3D PluraView Family - For the highest requirements in GIS and Mapping

Especially for GIS applications, users are faced with the challenge of quickly loading large amounts of data and visualizing them in a stereoscopic display on a suitable 3D monitor. Those who have been working daily in their professional environment, e.g. in the GEO computer science or in laser point cloud applications on high-resolution 3D-Stereo-visualization relies, wishes a flicker-free, daylight-suitable 3D-Display, which allows him an almost fatigue-free stereoscopic work over the whole day.

These are precisely the requirements of Schneider Digital's 3D PluraView family of passive stereo displays based on the long-established beam splitter technology. The 3D PluraView monitors are specifically designed for the stereoscopic display of 3D software applications in industries such as photogrammetry, point cloud visualization of laser scans, and 3D data visualization. Only with the linear passive stereo filters are homogeneous, closed surfaces and textures reproducible down to the smallest detail.

3D PluraView - Advantages & Benefits

- Passive Stereo Monitors have the highest user acceptance of any 3D display technology available on the market

- Long-term experience of highly-qualified, satisfied users who have been working with it for 14 years proves the user-friendliness

- Thanks to their high brightness, 3D PluraView users can work relaxed even in window seats

- The flicker-free 3D stereo display with the highest resolution measurably increases the motivation of the users

- The 3D PluraView models with 4K resolution per eye provide new application possibilities in the display of point clouds and 3D city models.

- NEW! Professional supplement to the HMD: PluraView PluraView with head & object tracking

3D PluraView | Passive 3D-Stereo Monitor

Certified for leading GIS software

3D PluraView application and practice examples
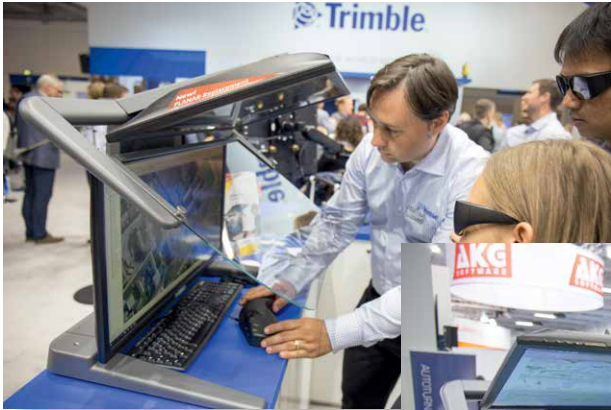
Trimble DTMaster

Terrasolid TerraStereo

esri ArcGIS

esri ArcGIS

DATEM Summit Evolution

Hexagon Geomedia

RhinoTerrain

3D PluraView functions and advantages

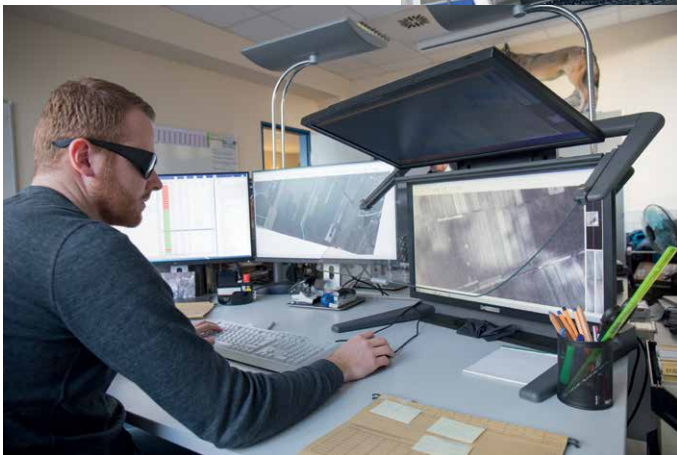With the involvement of experienced users, we have with our engineers the beam splitter technology of PLANAR further developed:

- State-of-the-art DisplayPort mirror card with Free-Sync / G-Sync / ULMB support guarantees a synchronous, latency-free image signal with up to 4K / 10bit color depth.

- The mirror card integrated in the 3D PluraVIEW eliminates any build-in in the workstation and even allows operation on a mobile workstation, provided that certified graphics cards have been installed.

- Greatly reduced ghosting, thanks to the polarization goggles, which have been optimized precisely for the monitors and mirror glasses used

- Innovative BlackTuner technology for secure object detection in dark areas of the 27/28 "model

- Central power supply with integrated power switch for complete network separation, thereby 0 Watt power consumption when switched off (27/28 "model)

- Mirror fine adjustment for exact image overlay

- Highest product quality - Made in Germany

Limitations of alternative 3D-Displays

- The active shutter technology for LED-Monitors produces a very dark stereo image.

- High-frequency shuttering puts strain on the eyes and leads to rapid fatigue.

- Daylight or neon light amplifies the flicker.

- "Nvidia 3D Vision" is no longer supported by the manufacturer

- Anaglyph or red-green stereo is very dark due to the color filters, the distorted colors make working uncomfortable.

- For line-by-line circularly polarized displays, the filters on the monitor and 3D glasses also result in a dark stereo image.

- The resolution is reduced by 50%, pixel accurate work is impossible. Fonts and menus are hard to read at half resolution.

Choose the reference in stereo visualization!

3D PluraView | Passive 3D-Stereo Monitor

GIS Performance-Workstations

Schneider Digital has been specializing in tailor-made hardware solutions for professional 3D graphics since 1995. The company's expertise is focused on the conception, build and configuration of performance workstations, which are exceled by flexible upgrade options and long-term upgrade ability.

By the collaboration with many hardware manufacturers, software companies and independent research institutes we're informed at first-hand about the most recent developments. Our close contacts to various users are equally valuable for us. The result is a workstation solution from practical experience for practical application.

The challenge for GIS-applications is the combination of loading quickly large data quantities and visualizing them in a stereoscopic image on a suitable 3D monitor. Only if all hardware components display the required capacities and specialization, a fast motion within orthophotos is possible.

We not only know your applications in the main area of application for photogrammetry or geodesics, but also right up to the creation of 3D city models, digital GIS landscape models or even special tasks like architecture and accident photogrammetry.
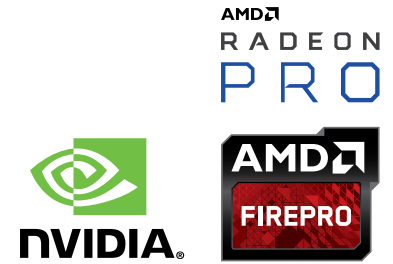
High-End workstation solutions for complex GIS requirements

- Newest Intel Xenon, AMD EPYC or AMD Ryzen Threadripper processor technology

- Up to four High-End graphic cards for CUDA or OpenCL applications in one workstation

- High speed processors (up to 2x 28 Cores on Intel platform, up to 2x 64 cores with AMD EPYC)

- Up to 2 TB fast DDR-4 ECC memory

- Latest U.2 NVMe SSDs with 32Gbit / s. Interface and allow up to 15TB per drive, super fast internal High performance RAID systems with more than 120 Terabytes To form data volume. Of course you can also configure M.2 NVMe as well as SAS 3.0 drives.

- Optional ultra-fast 10Gb LAN for connection to the file server

- Highest quality of used components

- 19" Rackmount compatible

- Also server and cluster solutions possible

By additional sound isolation and customized cooling solutions our workstations are furthermore very pleasant "employees".

Most powerful graphic cards for GIS

AMD RadeonPRO WX9100 and NVIDIA Quadro RTX 5000

The right choice of graphic cards is a big part when determining quality and performance. With 16GB high speed HBM2 ECC RAM, Open GL 4.6 support and 4.09 OpenCL capable parallel processing units, the AMD RadeonPRO WX9100 offers an up to now not achieved performance and scalability, for analyzing and visualizing large databases. From driver 18.Q1 AMD enables the long awaited feature that 10bit color depth is also available with QuadBuffer Stereo.

The six monitor outputs of the AMD RadeonPRO WX9100 allow you to simultaneously control two monoscopic monitors and a 3D PluraView evaluation screen with just one professional graphics card. Even two 3D PluraView stereo monitors can be operated with just one graphics card.

NVIDIA Quadro RTX 5000 delivers outstanding performance and quality With up to 3.072 CUDA/OpenCL programmable, parallel processing units and a graphic memory of 16GB GDDR6 ECC, the Quadro P5000 is the perfect solution for complex applications such as biomedical sciences and seismic research, oil and gas prospection or photogrammetry.

The use of the correct driver is just as important, because only the ideal interaction between graphic card driver and application ensures full graphic card performance. It takes constant adapting of hardware drivers to guarantee a smooth operation with perfect results thus explaining the immense development effort from AMD and NVIDIA.

If the OpenGL core is up to date the graphic memory bandwidth measured by GB/sec and main memory size of the graphic card is more significant. Modern OpenGL commands are loading the complete model into the graphic card RAM. All further changes are triggered by short OpenGL commands to the GPU and being utilized directly at the graphic memory. The finished result is transferred to the monitor outputs immediately.

All GIS graphics cards are suitable for multi-monitor operation.

3D PluraView | Passive 3D-Stereo Monitor

3D-Mice

The perfect mesurement device for GIS, photogrammetry and mapping

3D mice are ergonomic high performance 3D controllers to increase productivity and comfort in demanding 3D applications. With 10 freely programmable buttons The user has up to 32 functions and macros „at hand". This allows 3D mice a Efficient operation in GIS and photogrammetry applications, helping to reduce fatigue to reduce symptoms.

Functions & advantages

- USB: plug and play compatibility. (COM versions still available)

- Supported by ALL photogrammetry software applications

- Made in USA with patented design

- Warranty and hardware & software support through our STEALTH Sales & Service Center Europe

- Comfortable ambidextrous usability for GIS, photogrammetry and surveying applications

- The optical mouse with its high-resolution laser works excellently on all non-reflective ones surfaces and requires no maintenance

- The Z-wheel with a resolution of 1024 steps per rotation allows fast and accurate measuring function

- Accurate X-Y laser navigation for exact attitude control.

- Programmable buttons with tested 10 million clicks ensure a long service life

Stealth 3D Mouse

softmouse 3D

Support for ALL Windows, Linux & macOS including 32 & 64 bits.