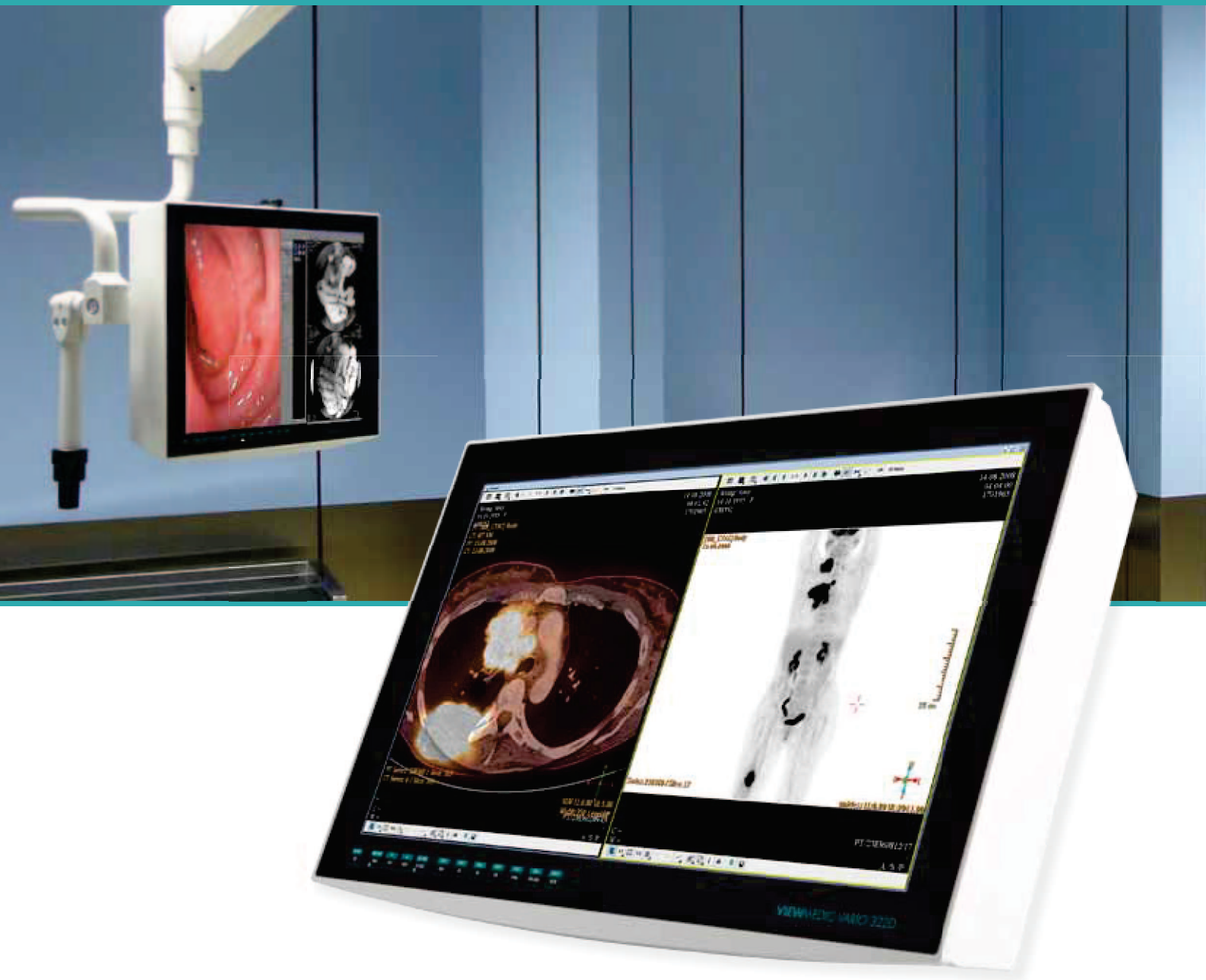


VIEWMEDIC VARIO

THIRD GENERATION



All-in-One Computer
Medical Display
Thin Client

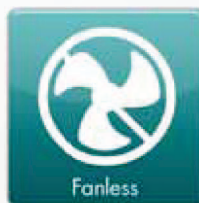
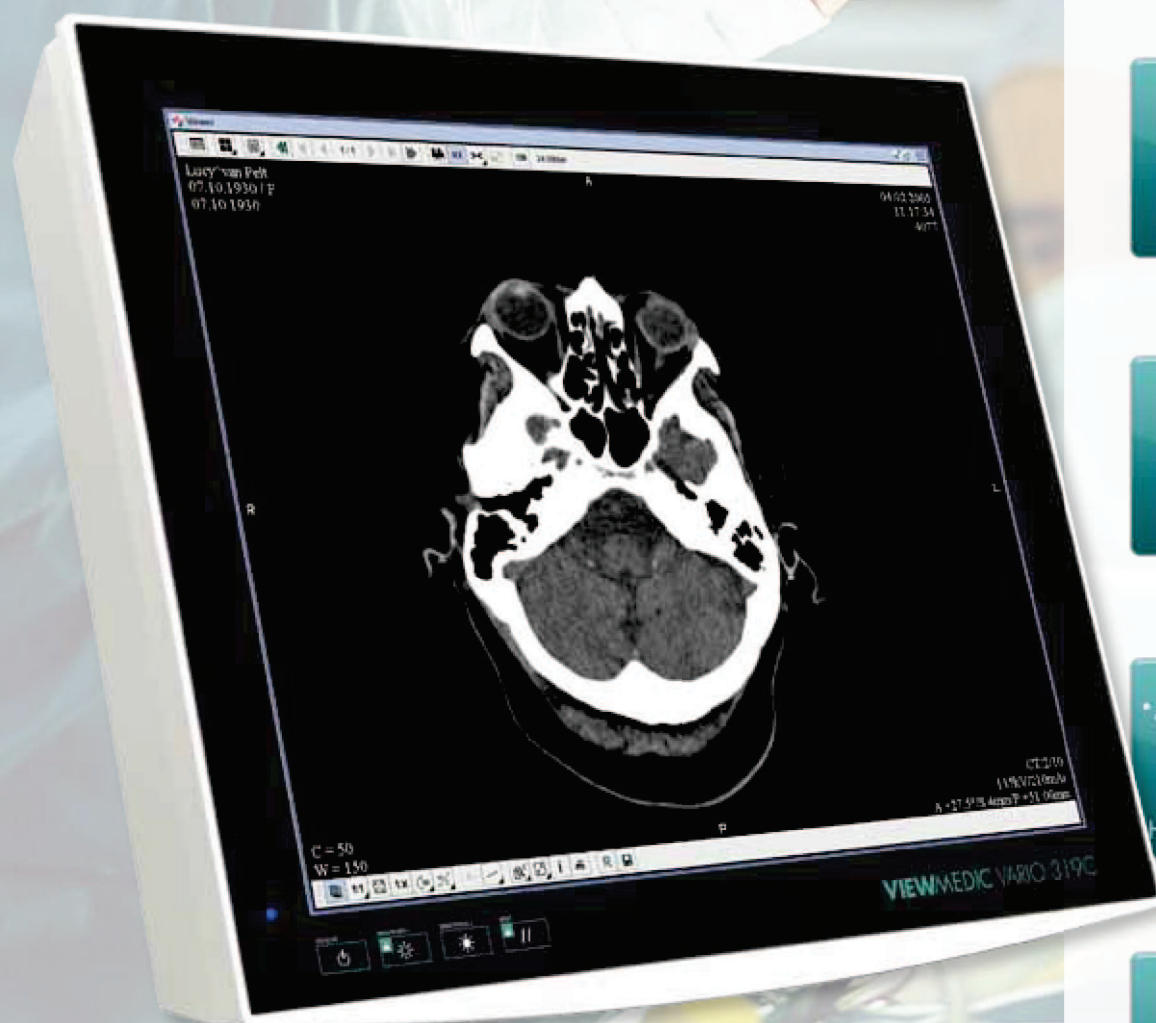
 **rein medical**

We make your eHealth come alive

The VARIO provides the utmost flexibility and reliability when fitting out your operating theatres and other hygienically sensitive areas.

Our product range includes especially hygienic All-In-One Computer, Thin Clients and Displays in a variety of sizes and performance categories.

You will find for every application the right product.



THE VARIO THIRD GENERATION

OPTIMIZED HOUSING

- » New housing design for hygienic and powerful medical computers and monitors.

VARIO third generation of products includes All-in-One Computer, Thin Clients and Displays for medically sensitive areas like operating theatres, intensive care units and emergency rooms.

The housing was redesigned for the new product line and now offers even better hygienic properties, optimal ease of installation and maintenance, as well as a high degree of usability.

HIGH AVAILABILITY

- » The inner workings are based on latest industry standards.

Thanks to the powerful yet economical Intel® Core™ i5 processor VARIO All-in-One Computer are capable of meeting all performance requirements and offer trendsetting efficiency.

The industrial components inside satisfy strict requirements like 24 hour operation, resulting in an especially high level of availability.

Industrial components are significantly more robust than those designed for use in office computers or notebooks.

The use of these professional components also ensures a long product lifecycle.

APPROVED SAFETY

- » Extensive testing ensures greater operator safety during on-site assembly.

We submit our products to independent laboratories for testing in accordance with all required safety tests and we would be happy to supply documentation of this at any time.

This is of particular importance when operators combine our products with other devices. In such cases the operator often becomes the manufacturer of a medical product.

Our stringent tests guarantee a high level of safety and fully comply with the international standards DIN EN 60601-1 and DIN EN 60601-1-2.

HYGIENIC CHARACTERISTICS

- » All-around device protection and hygienic finish.

VARIO housings are fully protected against dust and splash water and are therefore easily disinfected without the possibility of damaging the equipment. Dust cannot accumulate in the device and therefore neither can germs.

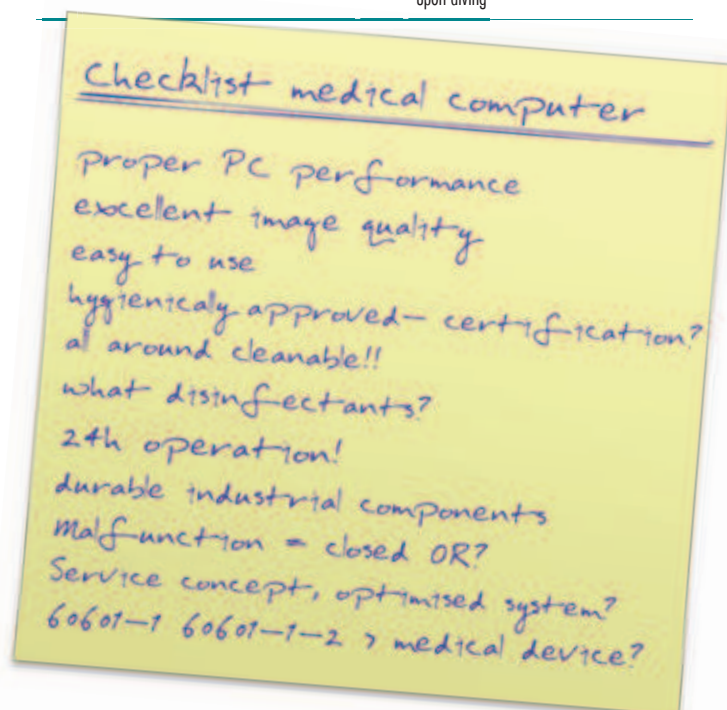
The germicidal and disinfectant-resistant coating is backed up by appropriate expert and test reports.

The protective glass which is precisely fitted into the front, provides maximum protection against damage to the display and enhances the contrast ratio thanks to its high-quality anti-reflective coating.

PROTECTION CLASSES

- » This means the protection classes.

IP	First digit indicates protection against solids	IP	Second digit indicates protection against liquids
4	Protection against foreign bodies with diameters >1 mm	4	Protected against splash water
5	Completely dust proof, protection against deposits of dust inside	5	Protected against water jets (from all directions)
6	Completely dust tight, protection against ingress of dust	6	Protected against the ingress of water upon temporary flooding
		7	Protected against the ingress of water upon diving



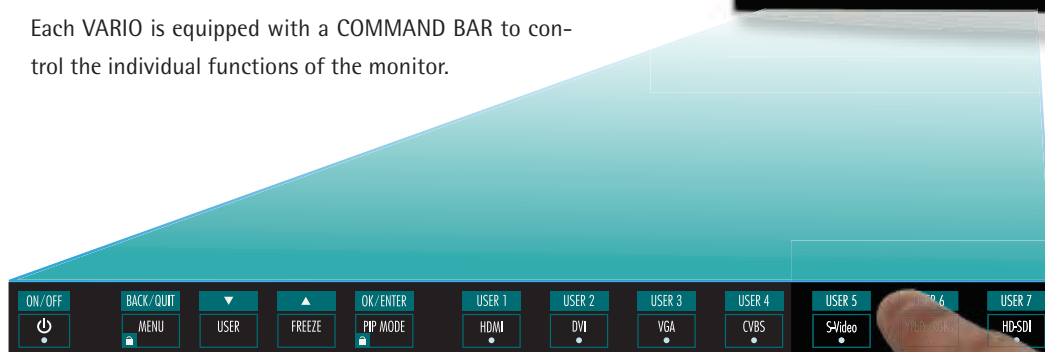
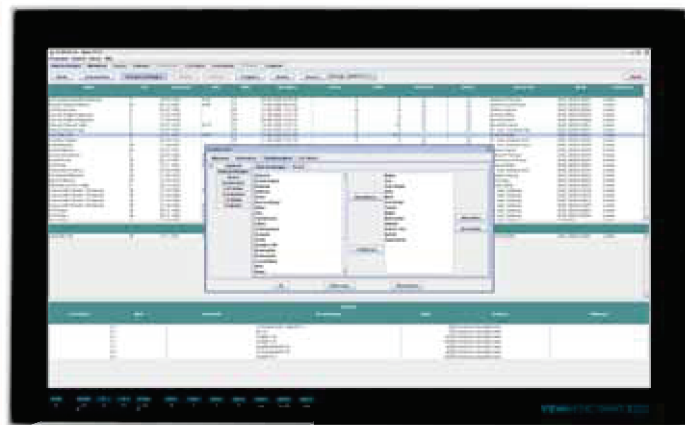
HYGIENIC USE

CONSISTENT USER CONCEPT

» COMMAND BAR is the interface between user and VARIO.

The touch sensitive control panel - named COMMAND BAR - is located behind a protective glass. The COMMAND BAR makes it simple to control the VARIO just with a touch. This method of device control is extremely practical, hygienic, completely without wear and also works with surgical gloves.

Each VARIO is equipped with a COMMAND BAR to control the individual functions of the monitor.



HYGIENIC TOUCHSCREEN

» Control modern applications directly via a resistive touchscreen panel.

In order to operate software with the touch of a finger, almost every VARIO is expandable with resistive touch technology. The sensors are directly laminated into the glass, which makes them very robust.

A special advantage of the VARIO touchscreen is the planar surface without any edges. Since the VARIO can be thoroughly disinfected, this edgeless touchscreen operation is a particularly hygienic feature.

The touchscreen is currently available for all 19" and 21.5" VARIO models. It has a permeability to light of over 80%.

SIMPLE INSTALLATION

INSTALL AS YOU WANT

- » The 180 degree rotating rear housing allows cables to be fed in from above or below.

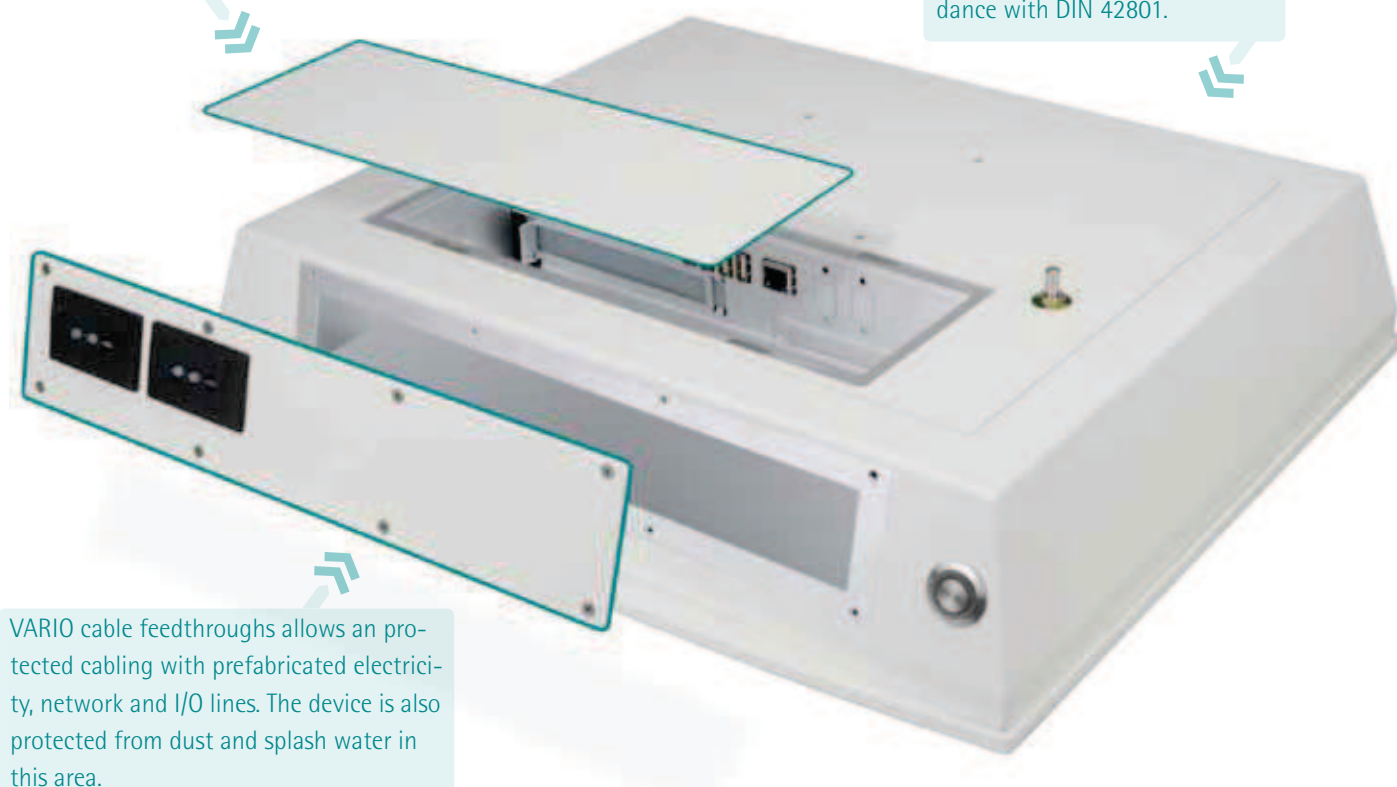
Thanks to the intelligent construction of the VARIO, you can decide whether the cable power supply should be connected to the top or bottom of the device. This provides you with greater flexibility when it comes to scheduling rooms.

Key benefits of VARIO housing:

- Inspection flap with magnet or screw top for easy access to the connectors,
- Protected cable feedthrough for connecting wall supply lines,
- Additional equipotential bonding in all devices guarantees patient safety.

The inspection flap is flush-integrated in the rear of the device and closes magnetically. This guarantees fast access to the protected connectors and easy cable management.

All VARIO devices have additional equipotential bonding in accordance with DIN 42801.



VARIABLE POWER SUPPLY

- » AC or DC power supply allows far more flexibility.

The standard version of every VARIO includes an integrated medical three-phase power supply for global use (110–240 V).

The VARIO can be provided with an optional external power supply for use with ceiling-mounted supply systems or mobile cart solutions.

The external power supply provides the VARIO through a DC connector socket. For cabling through support arms, we offer project-specific cabling material which enables a reliable power supply on site.

VARIO ALL-IN-ONE COMPUTER

MORE POWER

» Adequate performance for the VARIO – the right fit for your applications.

The new VARIO includes a mainboard that is flexibly configurable. Equipped with an Intel® Core™ i5 processor the VARIO always provides the necessary performance for your applications. The processor is hard soldered on the mainboard, which makes them more energy-saving and particularly heat resistant.



Overview of the system specifications:

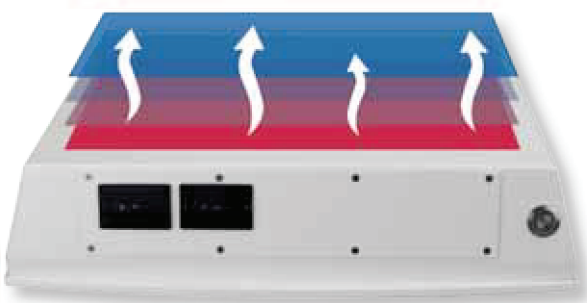
- *Embedded Intel® Core™ i5*
- *Intel QM57 Chipset*
- *DDR3-RAM 1066 MHz, 2 GB to 8 GB*
- *HDD of 320 GB, 2,5 inch, 8 MB Cache*
- *Gigabit-Ethernet*
- *2x USB 3.0 and 3x USB 2.0*
- *2x MiniPCIe onboard **
- *DVI-Out for second monitor*

* Configuration only from factory possible.

PASSIVE COOLING

» The housing design enables passive and therefore silent cooling.

The VARIO provides a performance with minimal heat generation and power consumption. The resulting heat is effectively emitted via the aluminium back plate. As a result, there is no need for ventilation slots and the housing is fully disinfectable.



CONFIGURE THE VARIO

» Set the VARIO according to your requirements.

- *DVD-RW slot-in-drive*
- *SDD (Solid State Drive)*
- *Second hard disk drive with RAID 0/1*
- *Resistive touchscreen*
- *Integrated barcode reader*
- *WLAN kit IEEE 802.11 b/g/n*
- *External protected rated USB plug*
- *Isolated RS-232 interfaces (4 kV)*
- *External 12 V/24 V power supply*

EXPANDABLE

» A free slot for PCIe x1 cards is available as an option.

The VARIO mainboard has two Mini-PCIe expansion slots. These may be used for a variety of upgrades. A slot can be adapted to allow the use of a PCI x1 card. Therefore, you can extend the system with a multitude of functions.

In order to ensure that the devices continually comply with IEC standards when using an additional card, we have already tested established PCI x1 cards during the certification process:



- *Fibre-optic fast Ethernet adapter (SC/LC)*
- *Several frame grabber cards*

The expansion and customization options of the VARIO are wide ranging. We would be happy to develop your customised device together with you and to carry out the relevant tests.

TECHNICAL SPECIFICATIONS

All-In-One Computer	VARIO 319C	VARIO 321C	VARIO 322C
Order Code	VWA319C5	VWA321C5	VWA322C5
Applications	Medical All-In-One Computer, suitable for hospital applications like RIS, CIS, PACS (not diagnostics), LIS and EPA in hygienically sensitive areas		
PC-System			
Chipset	Intel® QM57		
CPU	Intel® Core™ i5-520M (3M Cache, 2,40 GHz)		
RAM	2 GB Dual-Channel DDR3, 800/1066 MHz (up to 8 GB, two banks, for 32-bit operating systems max. 3 GB recommended)		
HDD	1 x 320 GB S-ATA HDD, 5400 rpm, 8 MB Cache, 2nd and/or larger HDD or SSD (Solid State Drive) optionally available		
Optical drives	DVD±RW Multi Drive (optionally available)		
LAN	1x Intel® 10BaseT/100BaseTX/1000BaseTX		
Interfaces	2 x RJ45 (LAN), 1 x RS-232 (optionally up to 4 x RS-232, selectable as electrical isolated version), 3 x USB 2.0, 2 x USB 3.0		
Extension slots	2 x Mini-PCIe, optionally 1 x convertible to a PCI-x1 cart		
Graphics (VGA)	Intel® Graphics Media Accelerator		
Monitor output for 2. monitor	1x DVI-I		
Display			
Diagonal	48 cm (19") Color-LCD-TFT	54 cm (21,3") Color-LCD-TFT	54,6 cm (21,5") Color-LCD-TFT
Brightness max.	300 cd/m ²	300 cd/m ²	250 cd/m ²
Contrast ratio	1300:1	1000:1	1000:1
Viewing angle	horizontal: 178° / vertical: 178°	horizontal: 178° / vertical: 178°	horizontal: 178° / vertical: 178°
Pixel resolution	1280 x 1024	1600 x 1200	1920 x 1080
Response time	16 ms	16 ms	8 ms
Miscellaneous			
Weight	ca. 10,5 kg (depends on configuration)	ca. 12,0 kg (depends on configuration)	ca. 9,5 kg (depends on configuration)
Physical dimensions (HxWxD)	385,5 x 445 x 99,5 mm	398,5 x 494 x 99,5 mm	350,5 x 546,5 x 94,5 mm
Power supply	Internal power supply AC 110 -240 V, 50/60 Hz single phase (optionally external power supply)		
Power consumption	approx. 50 W	approx. 60 W	approx. 70 W
VESA mounting	VESA 100 mm, M4 inserts		
Warranty (Bring-In)	24 months Bring-In-Service		
Safety			
IP rating	all around cleanable with common hospital disinfectants , IP 54 (optionally IP65)		
IP rated cable grommet	two protected cable grommets for two or three cables each = up to six cables		
Regulations	CE, DIN EN 60601-1, DIN EN 60601-1-2		

Options for VARIO All-In-One Computer

Stand	Solid metal stand for all VARIO, color RAL 9010 (pure white), fixed height, fixed tilt angle of 18°
Wall mounting solutions	Various wall mounting solutions with different functions are available on request
DVI-CAT-Exender	Integrated DVI-CAT-Exender to realise long distance DVI cabling with Cat5 cable up to 140 meters
RS-232 serial interface	Up to four electrically isolated (4 kV) RS-232 interfaces
Network isolation	RJ45 in/out (LAN 10/100/1000 MBit/s), IEEE 802.3, isolation voltage 5kV, DIN EN 60601-1, DIN EN 60601-1-2
WLAN	Integrated WLAN module IEEE802.11b/g/n, up to 150Mbps, two hygienically optimized antennas on top
RAM	Expandable up to 8 GB RAM - two memory banks
Hard disk (HDD) and RAID	Optionally two 24/7 HDD, 250 GB each, incl. RAID controller for RAID 0 (Stripeset) and 1 (Mirroring)
Optical drive	DVD-RW (+/-) slot in with IP rated slot shutter
External power supply	12/24 V DC input with medical power supply, internal power supply will not be build in
Touch screen	Resistive touch screen for all 19" and 21,5" VARIO, > 80% translucent, opacity 7-9%

VARIO DISPLAY

HIGH RESOLUTION

» The VARIO DISPLAY impresses in sizes up to 21,5" with resolutions up to 1920x1080 pixels.

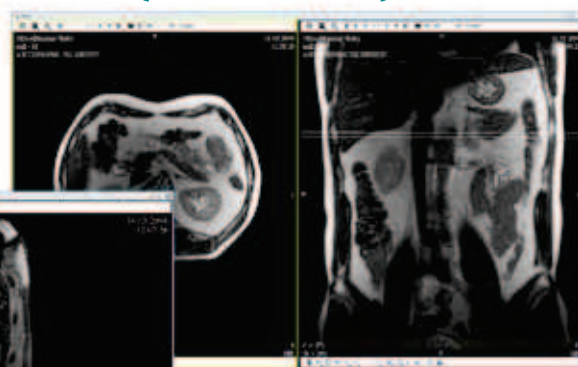
The VARIO DISPLAY is a monitor for hygienically sensitive areas. It has the same easy to disinfecting housing as the VARIO All-in-One Computer. The VARIO DISPLAY is available in three sizes, suitable for any application.

The 19" and 21,3" are perfectly for HIS and PACS for controlling and viewing applications.

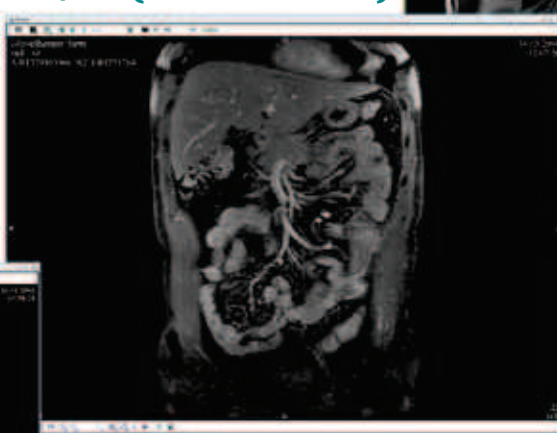
For FullHD signals choose the 21,5" VARIO DISPLAY with resolutions up to 1920x1080 pixels.



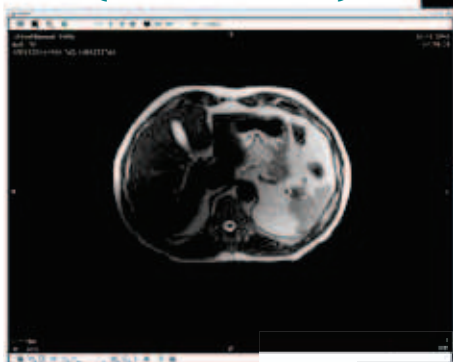
21,5" (1920x1080)



21,3" (1600x1200)



19" (1280x1024)



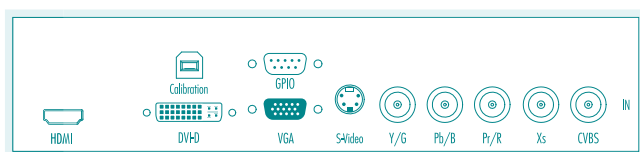
ADVANCED FEATURES

MAXIMUM CONNECTIVITY

- » Two display controllers provide suitable interfaces for every application.

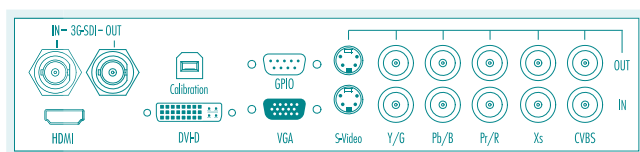
The many applications used in the hospital routine deliver images via a wide variety of signal paths. The VARIO DISPLAY provides with the **STANDARD MONITOR CONTROLLER** an digital (DVI-D) and analogue input (VGA) for PC image sources, as well as extensive video inputs (see illustration below).

STANDARD MONITOR CONTROLLER



The optional **ENDO MONITOR CONTROLLER** provides connections and loop options tailored to professional video applications, including a HD SDI interface (see illustration below).

ENDO MONITOR CONTROLLER with 3G and Loop Through



STABLE ILLUMINATION

- » An integrated luminance sensor warrants a precise and long-term backlight stabilisation.

The VARIO DISPLAY is equipped with backlight stabilisation. A sensor in the display continuously measures brightness and ensures long-term stable luminance.

For this reason the DICOM Preset as well as a precisely implemented calibration remain stable over a particularly long period of time.

CUSTOMIZABLE PROFILES

- » Seven profiles for every application area.

All device settings such as colour settings, video timings and brightness are storable in seven screen profiles. The profiles are easy retrievable with dedicated keys at any time.

EVERYTHING IN SIGHT

- » Keeping everything in sight with Picture in Picture.

With Picture and Picture (PIP) different signal sources are shown overlapping on a VARIO. Picture outside Picture (POP) displays on a VARIO different signal sources side by side.

PIP



POP



AUTHENTIC REPRODUCTION

- » DICOM Preset and hardware LUT calibration for an authentic image display.

The VARIO DISPLAY is equipped with an DICOM-Preset. This factory programmed feature provides reliable display and image characteristics in accordance with DICOM standards.

You can use the optionally available PerfectLum calibration software and a measuring device to carry out a flawless DICOM calibration that can be repeated at any time. Furthermore, several monitors can be synchronised.

For diagnostics we recommend diagnostic monitors from **TOTOKU**.

with DICOM Preset



without DICOM Preset



SIMPLE WIRING

- » Wiring with RG6 coaxial cable.



The video interfaces are available as BNC connectors. This allows the entire video cabling in the operating theatre to be carried out with RG6 coaxial cables (75 Ω). The wiring simplifies considerably.

TECHNICAL SPECIFICATIONS

VARIO DISPLAY	VARIO 319D	VARIO 321D	VARIO 322D
Order code	VVA319D	VVA321D	VVA322D
Application	Medical viewing monitor, suitable for hospital applications like RIS, CIS, PACS (not diagnostics), LIS and EPA in hygically sensitive areas		
Display			
Diagonal	48 cm (19") Color-LCD-TFT	54 cm (21,3") Color-LCD-TFT	54,6 cm (21,5") Color-LCD-TFT
Brightness	300 cd/m ²	300 cd/m ²	250 cd/m ²
Contrast ratio	1300:1	1000:1	1000:1
Viewing Angle	h: 178° / v: 178°	h: 178° / v: 178°	h: 178° / v: 178°
Resolution physical	1280 x 1024	1600 x 1200	1920 x 1080
Response time	16 ms	16 ms	8 ms
Colours / Grayscale	16,7 million / 256		
LUT (Look Up Table)	DICOM preset, LUT hardware calibration (optionally with PerfectLum calibration kit)		
Interfaces			
PC singnal inputs	1 x Analog , 1 x DVI-D		
Video inputs	1 x S-Video (Mini-DIN), 1 x Component Video (4 x BNC), 1 x CVBS (BNC), 1 x HDMI		
Miscellaneous			
Weight	approx. 10 kg	approx. 11,5 kg	approx. 9,5 kg
Physical dimensions (HxWxD)	385,5 x 445 x 99,5 mm	398,5 x 494 x 99,5 mm	350,5 x 546,5 x 94,5 mm
Power supply	Internal power supply AC 110 -240 V, 50/60 Hz single phase (external power supply DV 12 V is optional)		
Power consumption	approx. 50 W	approx. 60 W	approx. 55 W
VESA	VESA 100 mm, 4 mm inserts		
Warranty (Bring-In)	24 month		
Safety			
IP rating	IP54 (optional IP65)		
IP rated cable grommet	Protected cable grommets, each for 2 or 3 cables, overall up to 6 cables.		
Norms/Regulations	CE, DIN EN 60601-1, DIN EN 60601-1-2		

VARIO AS 3G VERSION

Application	Medical Viewing Monitor with advanced video interfaces		
PC Inputs	DVI-D (digital), DVI-I (supports analog out)		
Video Connections	Interface	Input	Output
	Composite 1Vp-p 75 Ohm, sync neagive	BNC (1x)	BNC (1x)
	S-Video (NTSC) Y: 1Vp-p 75 Ohm, positive. Sync: 0.3Vp-p, negative C: 0.286Vp-p 75 Ohm, positive	4pin Mini DIN	4pin Mini DIN
	S-Video (PAL) Y: 1Vp-p 75 Ohm, positive Sync: 0.3Vp-p, negative C: 0.3Vp-p, negative		
	RGB/Component 0.7Vp-p 75 Ohm, positive Sync On Green 0.3Vp-p sync negative External sync input: BNC (x1) 2.0 V min - 5.5 V max. +/- bipolarity	BNC (3x)	BNC (3x)
	SD/HD-SDI Signal Characteristics: Digital composite signal Operation at 2.970Gb/s, 2.970/1.001Gb/s, 485Gb/s, 1.485/1.001Gb/s and 270 Mb/s SMPTE 425M (Level A and Level B), SMPTE 424M, SMPTE 292M, SMPTE 259M-C & DVB-ASI	BNC (1x)	BNC (1x)
	Almost all other details like VARIO DISPLAY		

FLEXIBLE EXPANDABLE

COMBINE

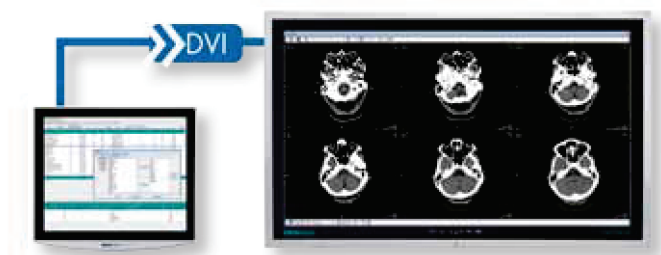
- » Combining VIEWMEDIC products makes almost any application possible.

The VIEWMEDIC products are combinable and offering for each application the ideal hardware combination. Thus, a VARIO 321C (All-in-One Computer) can be combined with a VARIO 319D (DISPLAY) as a second screen.

GREAT PRESENTATION

- » Use the DVI output to connect VARIO All-in-One Computer with VARIO DISPLAY.

All VARIO All-in-One Computer feature an additional digital monitor output (DVI-I), allowing the operation of VARIO DISPLAY and large-format devices like the VIEWMEDIC LV-C. Resolutions up to 1920 x 1200 have been tested and approved.



HYGIENIC INPUT DEVICES

- » Hygienic mouse and keyboard combination provides a very high level of usability.

The **Compliance** version has an alarm system which reminds the user at specified intervals when to disinfect the keyboard. Sensors recognize the disinfection and the alarm signal will be stopped. The backlight is ideal for intensive care units and ensures safe operation.

The **Essential** version does not include the alarm system or backlight. Both versions are available in many different languages. The appropriate mouse is also available.



VARIABLE MOUNTING

- » Different device mounts for secure wall and ceiling mounting.

Most VARIO are connected to ceiling-mounted supply systems or are mounted to the wall. To mount the VARIO you can use any VESA 100 compatible mount that supports the weight of a VARIO. We recommend using high-quality and reliable solutions.

Of course, you will find suitable VARIO and keyboard mounts in our product range.

MOBILE UNIT

- » The VARIO combined with a Flo™ Cart is the ideal system for mobile visits at the patient's bedside.

Equipped with a Flo™-Cart the VARIO turns to a flexible unit that can be used throughout the hospital. The system is wireless and will accompany you from station to station.

The Computer Cart from InterMetro Industries Corp. makes this possible. The Flo Carts are already used successfully in over 900 hospitals. The ideal addition to our VARIO is the Flo 1800 with an integrated battery system and intelligent BatteryPro software.



OPTIONS AND ACCESSORIES

» DVD multidrive

The VARIO All-in-One Computer can be equipped with a DVD multidrive. It allows CDs and DVDs of every kind to be read and written.

VARIO C ☒ VARIO TC ☐ VARIO D ☐

» WLAN with latest IEEE standard

With the VARIO WLAN kit you extend VARIO All-in-One Computer and Thin Clients to include a wireless network connection in accordance with the standard IEEE 802.11n/g/b.

VARIO C ☒ VARIO TC ☒ VARIO D ☐

» Serial interfaces – additional electrically isolated

VARIO All-in-One Computer can be equipped with up to four serial interfaces (RS-232), additional electrically isolated.

VARIO C ☒ VARIO TC ☐ VARIO D ☐

» Electrically isolated Fast Ethernet

The RJ45 connector of the VARIO All-in-One Computer and Thin Client is electrically isolated with this option.

VARIO C ☒ VARIO TC ☒ VARIO D ☐

» Ethernet via fibre optics

Two fibre optic adapters were considered during the tests in accordance with DIN EN 60601-1 and DIN EN 60601-1-2.

VARIO C ☒ VARIO TC ☐ VARIO D ☐

» Integrated DVI to CAT extender

The DVI to CAT extender provides the ideal solution to connect remote monitors, for example on support arms in the operating theatre and in control or conference rooms that are further afield. DVI image signals and mouse / keyboard communication can be transmitted via one Cat5 network cable up to a distance of 140 m.

VARIO C ☒ VARIO TC ☐ VARIO D ☒

» Integrated Barcode Scanner TC 1100

The integrated Barcode Scanner TC1100 is characterized by best read performance under all conditions. The TC1100 detects codes directly at the reading window, aided by his wide reading field and the improved depth of field.



VARIO C ☒ VARIO TC ☒ VARIO D ☐

NOTES



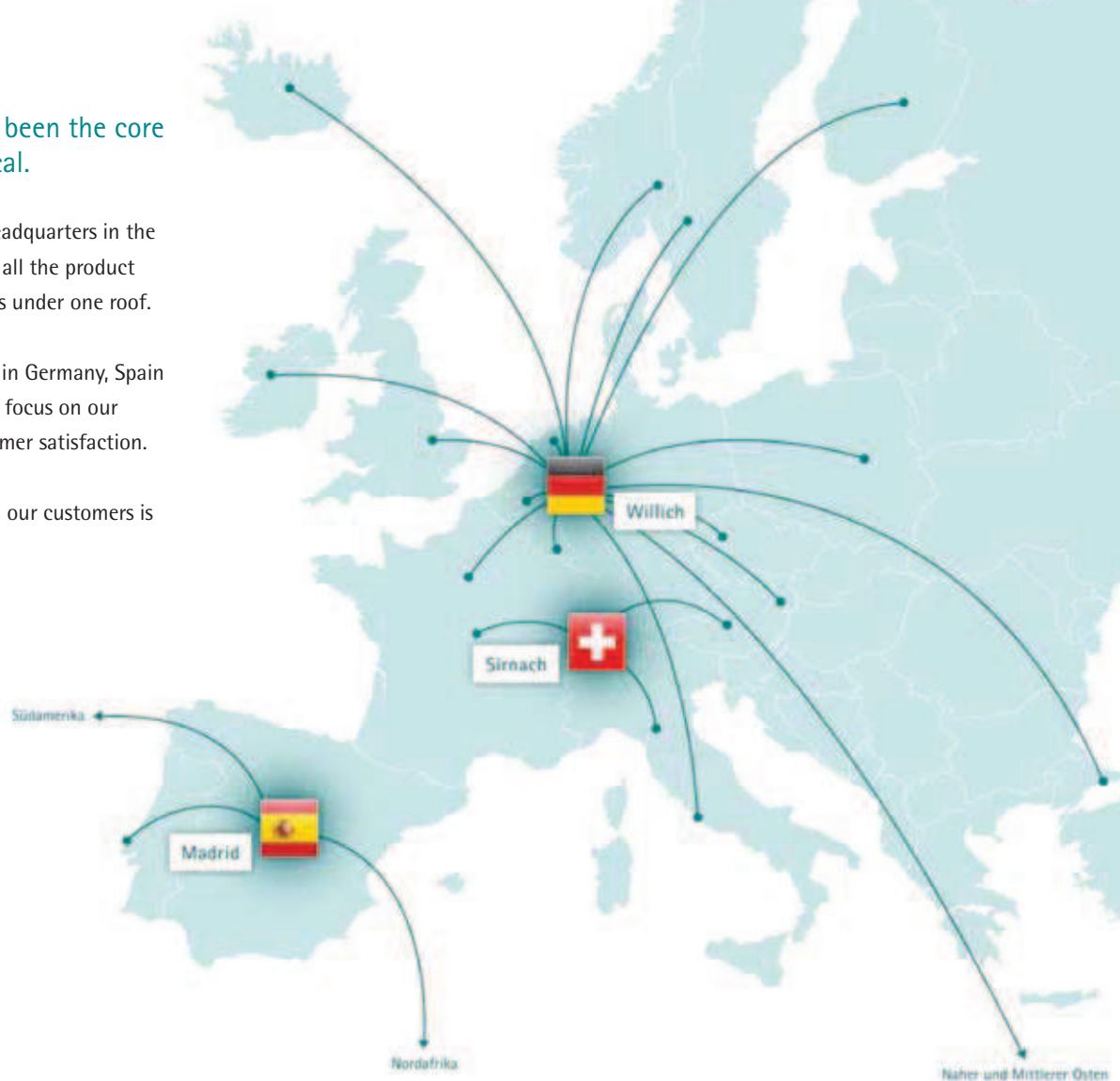
ALWAYS ON OUR MIND CUSTOMER AND MARKETS

» Europe has always been the core market of Rein Medical.

The family business, with headquarters in the west of Germany, combines all the product strategy organisational units under one roof.

Our sales and service teams in Germany, Spain and Switzerland allow us to focus on our customers and ensure customer satisfaction.

Long term cooperation with our customers is our top priority.



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