DR acquisition system with Flat Panel technology

Product Data

The *VDX 3543 VW CsI imaging system* is an image acquisition system that can be integrated with general-purpose radiology systems. Designed to improve the general X-ray diagnostic room workflow, it provides high quality images and long-term reliability. The acquisition system uses the Varex PaxScan 4336Wv4 Version 2 CsI flat panel detector, which provides outstanding image sharpness and detail.
The system includes:

- Amorphous Silicon PaxScan 4336Wv4 Version 2 with Cesium Iodide scintillator detector to convert X-ray photons into a digital image (one or two detectors according to the system configuration).
- Integrated Operator Console providing full control of exposure (only with G100C generators), image acquisition, processing and DICOM functions.

VDX 3543VW represents also a retrofit kit solution allowing the digitalization of existing general radiology systems in a very short time, following the check of the technical features of the equipment.

Digital Detector – Varex 4336Wv4 Version 2

Type	Wireless Flat Panel Detector
X-ray conversion layer	Cesium Iodide (CsI) with amorphous Silicon (a-Si) photodiode
Image matrix size	2436 (H) x 3042 (V) pixel
Limiting resolution	3.6 lp/mm typical
MTF, typical values	57% @ 1 lp/mm 28% @ 2 lp/mm 16% @ 3 lp/mm
DQE, typical values	78% @ 0 lp/mm 58% @ 1 lp/mm 24% @ 3 lp/mm
A/D converter	16 bit (65.536 grayscale)
Pixel size	139 µm
Energy range	Da 40 a 150 kVp
Acquisition window	1000 ms. Tomography and Dual Energy functions are not supported.
Active area	339 (H) x 424 (V) mm
Dimensions	383,5 x 459,5 x 15 mm (W x D x H)
Weight	3 kg

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Maximum load applicable on the detector	- Maximum load weight of 150 kg distributed around the overall surface of the detector - Maximum load weight of 100 kg distributed on an area of 40 mm in diameter of the detector surface
Wireless connection	IEEE 802.11 n, 5 GHz
Ingress protection rating	IP54

Rechargeable Li-ion battery

Nominal voltage	15,4 V
Nominal capacity	3430 mAh
Dimensions	212,25 x 152,25 x 6,65 (W x D x H)
Weight	350 g
Autonomy	5 h in normal mode, 12 h in sleep mode
Charging time	2,5 h in normal mode 3,5 h with totally discharged battery

Battery charger

Number of slot	1 slot for battery charging
Dimensions	945 x 710 x 98 mm (W x D x H)
Weight	300 g

AC adapter for battery charger

Input	100 – 240 V AC, 1,4 A, 50-60 Hz
Output	19 V DC, 3,4 A
Dimensions	55 x 130 x 35 mm (W x D x H)
Weight	300 g

Digital Radiography Operator Console

The operator console provides a fully integrated front-end for every step of the examination procedure, including network connectivity for patient selection, exam configuration, anatomical programming, setting of exposure parameters, image acquisition, QA and post processing of acquired images, downstream network DICOM store and print connectivity.
VDX 4343VW can support X-ray generator exposure factors communication and post exposure data read-out in configuration with Villa's equipment and generators.

CPU	Intel® Core™ i7-8700K (≥ 3.7 GHz)
RAM	8 GB DDR4
Graphic card	Dedicated NVIDIA board with 3 mDP output
Local storage	Hard disk capacity: 1 TB Image storage capacity: more than 22.000 images at full resolution
Operating system	Windows 10 Pro (64 bit)
Image size	Up to 18 MB depending on the exam type, without any compression
Patient data input	Keyboard, HIS/RIS connection
Image preview time	1.5 s
Final image time	≤ 6 s with at least 75% Wi-Fi signal

Cycle time	The system is ready to acquire after the display of the previous image
Connectable sensors	Up to 2 digital detectors with automatic selection according to the selected procedure
Exam preparation and image acquisition features	The console has been designed to maximize the examination workflow by providing an intuitive graphical user interface with fully integrated provisions for: - Automatic data input from RIS/HIS via DICOM Modality Worklist query* - Manual input of patient data, emergency patient registration - Automatic selection of exam procedure based on Worklist* - Programmable X-ray technique factors for each exam, including APR program** and AEC settings**with manual override capability - "Exam coach": step-by-step graphic exam setup with programmable automated workflow and thumbnail icons based on the atlas of radiographic positions - Pre-exposure display of patient and procedure information, X-ray generator exposure factors**, status and control functions integrated in a single display screen - Post-exposure display of actual exposure parameters** and acquired thumbnail images - Dose per area product reading is displayed on the workstation monitor and is automatically burned in the DICOM header (if the generator is connected to a DAP camera) ** * these functions are subject to availability and compatibility of exam data on the RIS/HIS network ** only with the compatible generators
Image processing features	The following post-processing features can be applied to the acquired images: - Insertion of markers and comments (predefined or free text) on the image - Pan and zoom - Full size image display - 90° image rotation clockwise or anti-clockwise - Horizontal and vertical flip of the image - Automatic image cropping to collimated area - Manual image cropping - Image rotation through a user-selected angle - Insertion of a mask to display only a part of the image - Image greyscale inversion - Restore to initial image - Acceptance or rejection of the image - Display of the grey level histogram, with manual adjustment of the curve, contrast and brightness values - Application of grid suppression algorithm

	- Choice between two different image processing algorithms: LUT or Symphony. LUT algorithm controls the minimum and maximum densities used in the printed or displayed image, with the possibility to customize the default settings for each procedure when the system is installed. Symphony applies an advanced image processing according to the examined anatomy, with customization of processing parameters (grey level amplification, grey level equalization, detail enhancement, noise reduction), enhancing the visualization of low contrast structures such as tissue and vessels, while maintaining and enhancing the visibility of high contrast structures such as bones. - Mosaic display up to 16 images - Measurement of distances, angles, rectangular and elliptical areas
Rejected images management	"Statistic" window dedicated to search and display of exams with rejected images
Image hardcopy	The Print Layout Editor allows to: - Select different printing formats - Print up to 16 images on one film, according to printer capability (multiple image printing) - Print zoomed images - Print patient and examination data within the acquired images (customizable during the installation phase)
Connectivity	System can be connected to DICOM-compatible devices through Ethernet port. Capable of sending images to multiple destinations at the same time.
Supported DICOM Classes	- Print (SCU) - Storage (SCU) - Storage Commitment (SCU) - Modality Worklist (SCU) - MPPS (SCU) - Dose SR (SCU) - Query/Retrieve (SCU) (to be enabled during the installation)
Media device	The workstation is equipped with a CD/DVD burner to export acquired images in DICOM format or in other formats (jpg, bmp, tiff).
DICOM output	12 bits (4096 grey levels)
Remote access	Remote access capability for troubleshooting
Data safety and privacy	The system is equipped with multiple-level password protected access to preserve the patient's data integrity and privacy

Note	*All the above mentioned features are subject to verification of hardware and software compatibility of the devices to be connected.*

DROC cabinet (holds computer, synchronizer, UPS and electrical material)

Height	500 mm
Depth	450 mm
Width	420 mm
Weight	21 kg

DROC cabinet electrical features

Standard voltage	220 -240 Vac, 50/60 Hz
UPS	900 VA (max absorbed power by VDX workstation)

(Armadietto DROC)

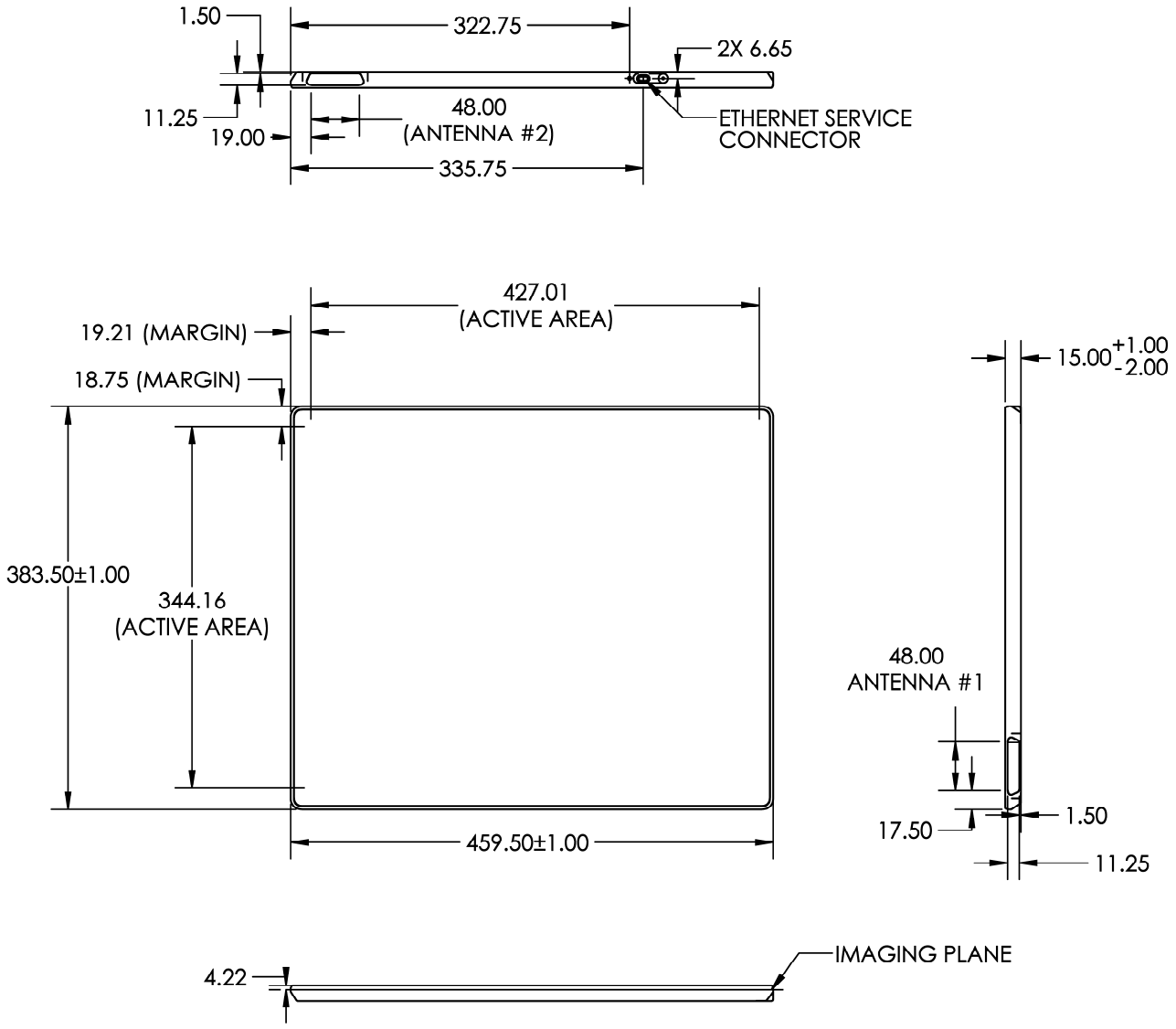
Environmental conditions

Operating conditions	Temperature: Relative humidity: Pressure:	from +10° to +35°C (from 50° to 95° F) from 10% to 80% non-condensing from 70 to 106 kPa
Conditions for transport and storage	Temperature: Relative humidity: Pressure:	from -10° to +70°C (from 14° to 131° F) from 10% to 90%, non-condensing from 70 to 106 kPa

Standards and regulations

CE	Il simbolo CE attesta la conformità del sistema alla direttiva Europea sui Dispositivi Medicali 93/42/CEE e s.m.i.

Dimensions (all quotes in mm)



Note: Products are continuously under review in the light of technical advancement. The actual specification may therefore be subject to improvement or modification without notice.

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ISO 9001:2015 ISO 13485:2016