

PaX-i3D Product Data

(Model named PHT-6500)
(Detector: AnyPano / AnyCeph, R-Troy / TOK CT)

Version : v1.0.1

1. General Description

1.1. Key Function

The brand PaX-i3D (model named PHT-6500) is an advanced digital dental diagnostic system that provides 3D CT imaging, Panoramic, and Cephalometric imaging capabilities into one equipment securing the space efficiency and cost saving. Also, the revolutionary platform of PaX-i3D provides a wide range of imaging option based on the customer's diagnostic needs. Its advanced digital imaging process allows for a considerably more efficient diagnosis, well-rounded management of information, and a real-time sharing of image information over a network.



- 3 in 1 – CBCT, Panoramic, Cephalometric
- Auto-Switching between PANO and CBCT sensors, without the mounting and removal of sensor.
- Superior Image Processing Algorithm
 - MAR (Metal Artifact Reduction): the effects of metal artifact reduction, in order to acquire a much clearer image
 - Auto-Focusing: Acquire accurate images, regardless of the arch shape and positioning of the patient (optional)
 - UHD: Generates High-definition quality panoramic images (optional)
 - Magic PAN: a feature with an AF to acquire the sharper image, based on the principle of reconstruction through the optimal focal points to correct the improper patient positioning and rotating unit's trajectory (Optional)
- Multiple modes supported, based on the Cephalometric sensors
 - Multi-FOV (FOV 12 x 10, 9 x 10, 8 x 8) (One shot type)
 - Full lateral mode (Scan type)
- Supports DICOM format based on the governing international standards.

1.2. Product options

Option	Description	Remark
PaX-i3D	Panoramic & CT	
PaX-i3D SC	Panoramic, Cephalometric & CT	CEPH: Scan type
PaX-i3D OS	Panoramic, Cephalometric & CT	CEPH: One shot type (TOK Troy)
PaX-i3D OP	Panoramic, Cephalometric & CT	CEPH: One shot type (R-Troy)

2. Functional Specification

2.1. PANORAMIC

2.1.1. Summary

PaX-i3D conditionally offers 3 levels of panoramic imaging system.

Type	Level	Detail Examination	Imaging Option	Market	
				Global	Korea
Normal	Basic	Pano examination / Special examination		Default	
	Intelligent	Pano examination / Special examination	*Auto-Focusing	N/A	Default
	Ultra HD	Pano examination / Special examination	Auto-Focusing + **UHD	N/A	Default
Magic PAN	-	Pano examination / Special examination	***Magic PAN	Optional	Default

* Auto-Focusing function is applied in only Standard Examination.

** UHD is applied in all of the Pano Examination except of Special Examination.

*** Magic PAN function is applied in only Standard Examination.

2.1.2. Examination Programs & Scan Time

EXAMINATION	ARCH SELECTION	EXAMINATION PROGRAM	SCAN TIME (s)		
			UHD (Optional)	HD	Normal
PANO EXAMINATION	Narrow	Standard	20.2	13.5	10.1
		Right	10.1	6.7	5.1
		Front	16.7	11.1	8.4
		Left	10.1	6.7	5.1
	Normal	Standard	20.2	13.5	10.1
		Right	10.1	6.7	5.1
		Front	16.7	11.1	8.4
		Left	10.1	6.7	5.1
	Wide	Standard	20.2	13.5	10.1
		Right	10.1	6.7	5.1
		Front	16.7	11.1	8.4
		Left	10.1	6.7	5.1
	Child	Standard	17.2	11.5	8.6
		Right	8.6	5.7	4.3
		Front	13.7	9.2	6.9
		Left	8.6	5.7	4.3

EXAMINATION	ARCH SELECTION	EXAMINATION PROGRAM	SCAN TIME (s)		
			UHD (Optional)	HD	Normal
	Orthogonal	Standard	20.2	13.5	10.1
		Right	10.1	6.7	5.1
		Front	16.7	11.1	8.4
		Left	10.1	6.7	5.1
		Bitewing	14.4	9.6	7.2
		Bitewing Incisor	3.7	2.5	1.9
		Bitewing Right	7.2	4.8	3.6
		Bitewing Left	7.2	4.8	3.6
SPECIAL EXAMINATION	-	TMJ LAT Open		6.1	4.6
		TMJ LAT Close			
		TMJ PA Open		7.0	5.3
		TMJ PA Close			
		Sinus LAT		6.0	4.5
		Sinus PA			

Panoramic Sample Image



[Pano_Normal_Standard_HD]

2.2. CEPHALOMETRIC

2.2.1. Examination Programs & Scan Time

<Scan type>

EXAMINATION PROGRAM	SCAN TIME (s)
Lateral	12.9
PA	12.9
SMV	12.9
Waters View	12.9
Carpus	12.9
Full Lateral	16.9

Cephalometric sample image



[Lateral]



[PA]

<One shot type>

EXAMINATION PROGRAM	SCAN TIME (s)
Lateral	0.9
PA	1.2
SMV	1.2
Waters View	1.2
Carpus	1.2

Cephalometric sample image



[Lateral]



[PA]

2.3. CBCT

2.3.1. FOV & Examination Position

FOV Size	VERTICAL POSITION		HORIZONTAL POSITION			Remark
			Right	Center	Left	
50 x 50	Mx.	O	a specific tooth selectable			<i>For Global market only (Outside Korea)</i>
	Occl.	X				
	Mn.	O				
	TMJ	X				
80 x 50	Mx.		O	O	O	
	Occl.		O	O	O	
	Mn.		O	O	O	
	TMJ		O	X	O	
80 x 80	Mx.		O	O	O	
	Occl.		O	O	O	
	Mn.		O	O	O	
	TMJ		O	X	O	

2.3.2. Scan Time

	Standard	High
Scan time	15 s	24 s

2.3.3. Reconstruction Time & File Size

FOV(mm)	Voxel Size	Reconstruction Time (s)				File Size (MB)	Remark
		STANDARD (SCAN TIME: 15 s)		HIGH (SCAN TIME: 24 s)			
		*MAR SKIP	*MAR APPLY	MAR SKIP	MAR APPLY		
50 x 50	0.12	31	76	47	117	138	<i>For Global market only (Outside Korea)</i>
	0.2	23	58	37	89	30	
80 x 50	0.2	25	75	41	117	76.5	
	0.3	23	65	37	103	21.8	
80 x 80	0.2	37	104	56	158	123	
	0.3	30	88	47	137	36	

* MAR: Metal Artifact Reduction

* Image reconstruction time varies depending on computer specification and/or working condition.

The above data is obtained from a computer system which is based on the HP Workstation Z400:

Intel Xeon W3550 3.07Ghz CPU, 3GB RAM, NVIDIA Quadro 600 VGA Card.

Computed Tomography(CT) sample image



[High: FOV 80 X 80_0.2 Voxel Image, MAR Skip]

3. Recommended PC Specification

Item	HP	LENOVO
CPU	Intel Xeon E5-1607 3GHz 1600 4C or Faster	Intel Xeon E3-1230 3.3GHz or Faster
RAM	4GB DDR3-1333 ECC RAM	4GB DDR3 1333MHz UDIMM
Hard disk drive	500GB SATA 7200 1st HDD	500GB SATA 7200 1st HDD
Graphic board	NVIDIA Quadro 600 1.0GB Graphics	NVIDIA Quadro 600 1.0GB Graphics
Ethernet interface	Broadcom 5761 Gigabit Ethernet	Intel 82579 Gigabit Ethernet
Serial Port (RS232)	1	1
Power supply	≥ 600 Watts (90% efficient)	≥ 320 Watts (85% efficient)
Slots	1 PCI Express Gen3 x8 Slot 2 PCI Express Gen3 x16 slot 1 PCI Express Gen2 x8 Slot 1 PCI Express Gen2 x4 Slot	1 PCI Express Gen2 x16 Slot, 1 PCI Express Gen1 x1 Slot
	1 PCI Slots	2 PCI Slots
CD/DVD drive	DVD-ROM, DVD+/-RW, Blu-Ray	DVD-ROM DVD R/W, Blu-Ray R/W Multi-card reader
Monitor	19" 1280 x 1024 screen resolution	19" 1280 x 1024 screen resolution
Operating system	Windows 7 Professional 64-Bit OS	Windows 7 Professional 64-Bit OS
Recommended system	Z420	E31

4. Mechanical Specification

4.1. Image Magnification

Mode	FDD	FOD	ODD	magnification
CT	642.3 mm	409.7 mm	232.6 mm	1.56 constant (virtual 1.00 constant)
Panoramic	585.9 mm	439.7 mm	146.2 mm	1.33 constant
Cephalometric	1745 mm	1524 mm	221 mm	1.14 constant

* FDD : Focal Spot to Detector Distance

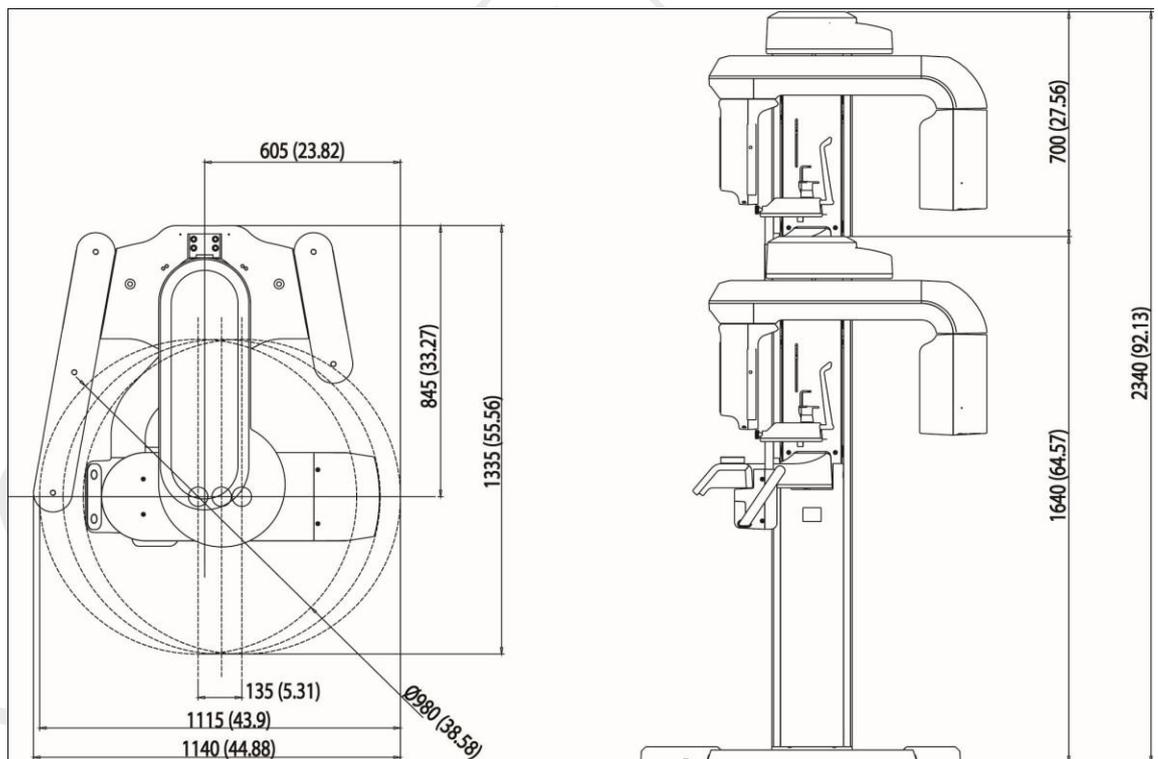
* FOD : Focal Spot to object Distance

* ODD : Object to Detector Distance (ODD = FDD – FOD)

* Magnification = FDD / FOD

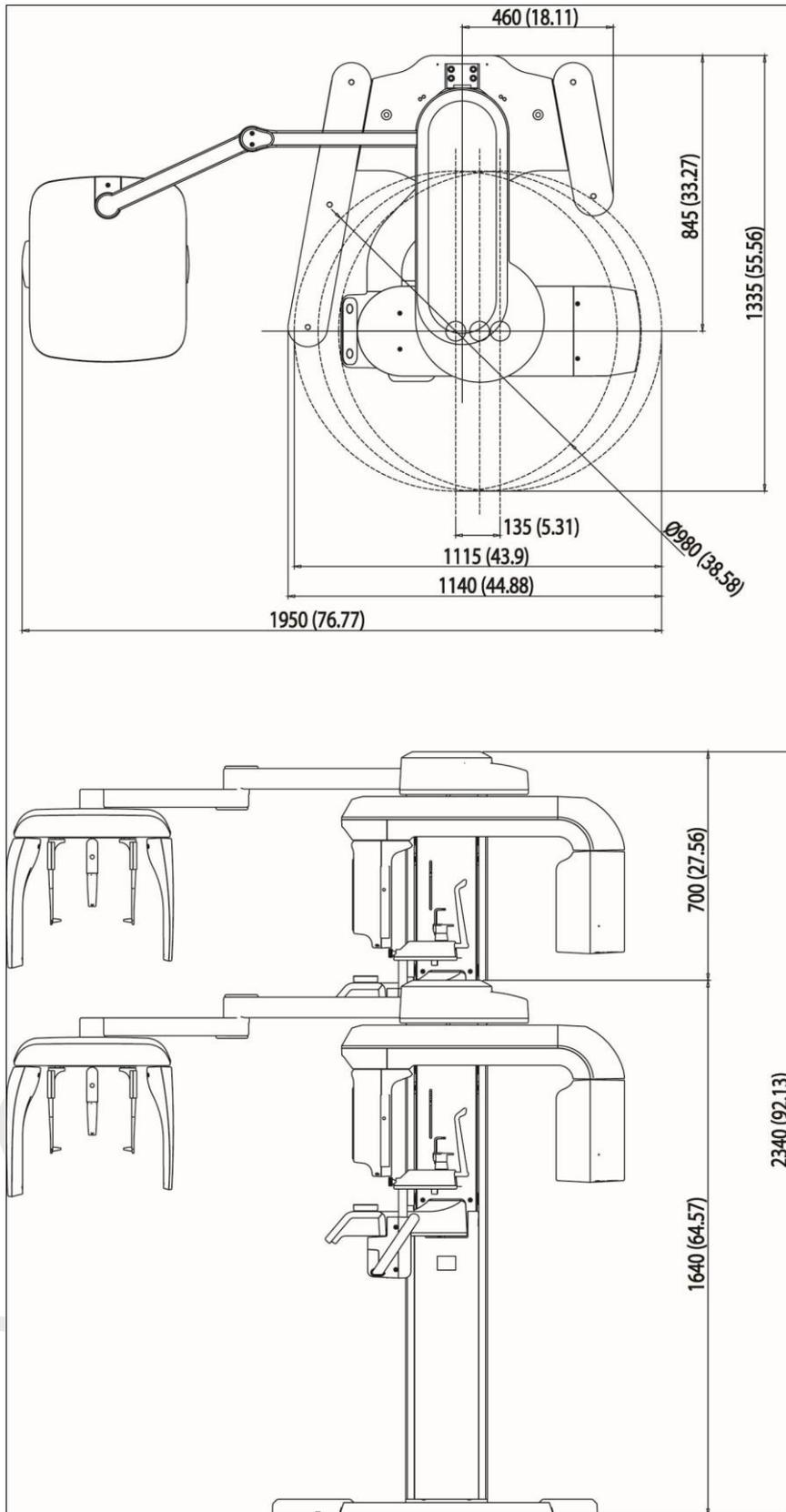
4.2. Dimensions of Unit

Without cephalometric unit



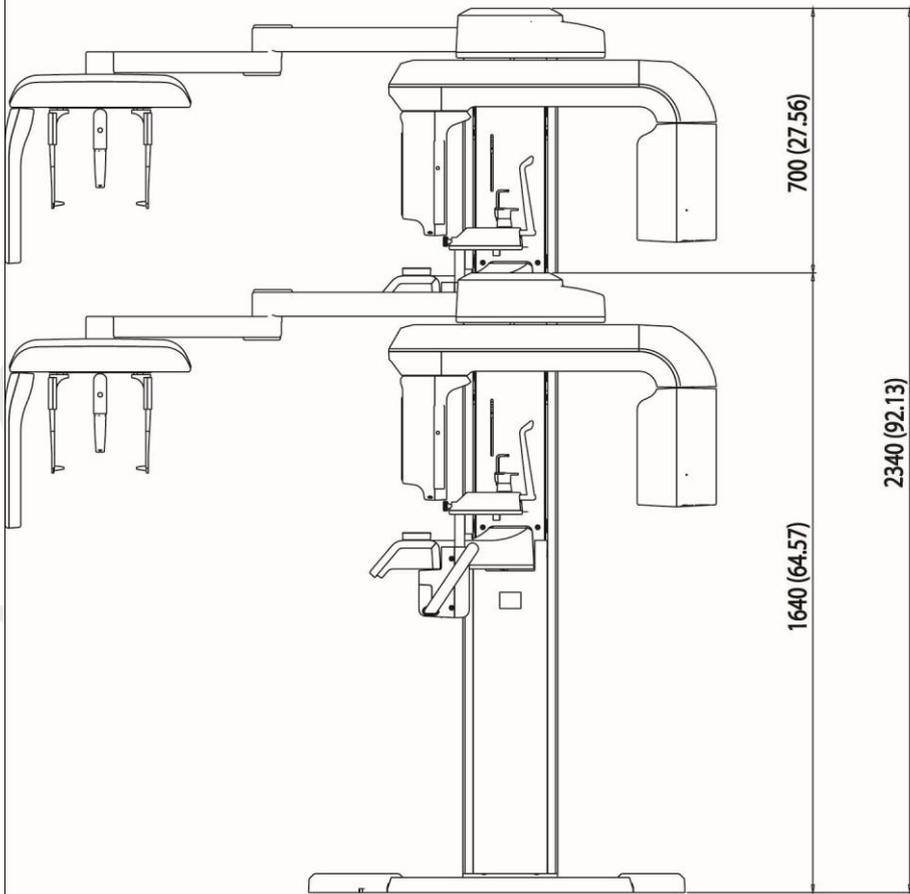
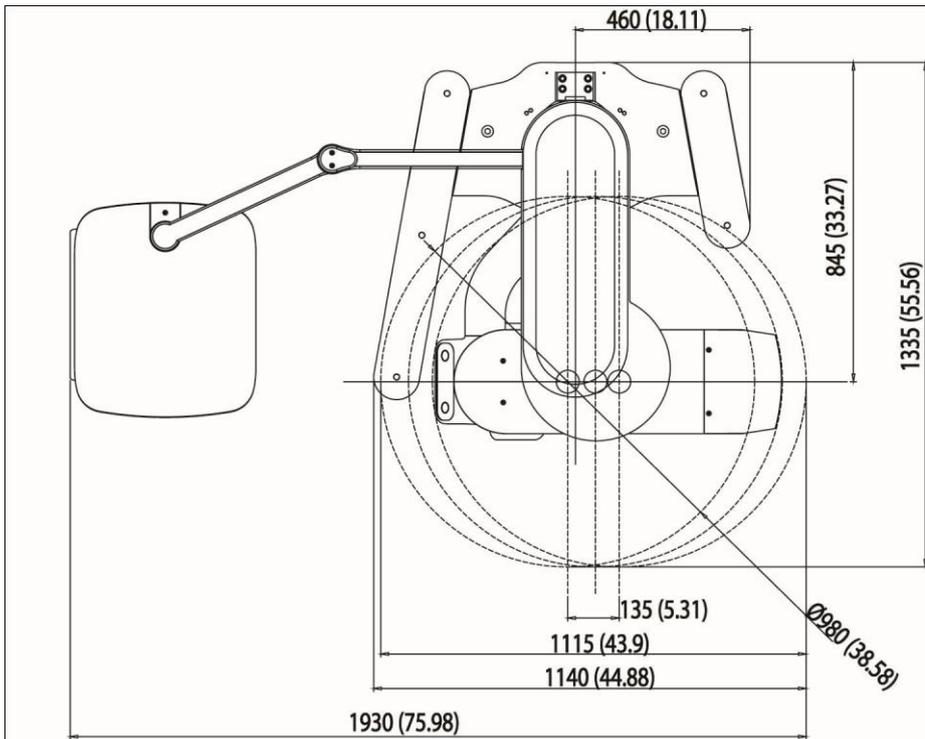
[Unit : mm [Inches]]

With cephalometric unit (Scan type)



[Unit : mm (inches)]

With cephalometric unit (One shot type)



[Unit : mm (inches)]

Item		Description
Weight	without cephalometric unit	175 kg (385.8 lbs)
	with cephalometric unit	205 kg (451.9 lbs)
Total height		Max. 2340 mm (92.13 in.)
Vertical column movement		Max. 700 mm (Max. 27.56 in.)
Length x Width x Height	without cephalometric unit	1140(L) x 1335(W) x 2340(H) mm (44.88(L) x 55.56(W) x 92.13(H) in.)
	with cephalometric unit (Scan type)	1950(L) x 1335(W) x 2340(H) mm (76.77(L) x 55.56(W) x 92.13(H) in.)
	with cephalometric unit (One shot type)	1930(L) x 1335(W) x 2340(H) mm (75.98(L) x 55.56(W) x 92.13(H) in.)
Type of installation		Base Stand / Wall Mount

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5. Technical specification

5.1. X-ray Generator

Item		Description	
Model		HDG-07B10T2	
Rated output power		0.9 KW	
High voltage Generator	Type	40KHz Inverter Type	
	Normal/	kV	50 ~ 90 kV
	Pulse	mA	4 ~ 10 mA
	Cooling		Automatically controlled / Protect $\geq 60^{\circ}\text{C}$ Option: Air Cooling
	Total filtration		2.8 mm Al eq.
X-ray Tube	Manufacturer		Toshiba
	Model		D-052SB (Stationary Anode type)
	Focal spot size		0.5 mm (IEC60336)
	Target Angle		5 degree
	Inherent Filtration		At least 0.8mm Al equivalent at 50kV
	X- ray Coverage		95 x 380mm at SID 550mm
	Anode Heat Content		35 kJ
	Duty Cycle		1:60 or more (Exposure time : interval time)

5.2. Detector Specification

Item	Description				
	Panoramic	Cephalometric			CT
Model	Xmaru1501CF	Xmaru2301CF	910SGA	1210SGA	Xmaru0712CF
Detector Type	CMOS photodiode array	CMOS photodiode array	Amorphous silicon TFT with scintillator	Amorphous silicon TFT with scintillator	CMOS photodiode array
Pixel size	100 μm	100 μm	128 μm	127 μm	140 μm
Active area	6 x 150.4 mm	5.9 x 230.4 mm	260 x 227 mm	264 x 325 mm	71.68 x 117.46 mm
Frame Rate	300 fps	200 fps	240 fph	240 fph	30 fps
A/D	14 bits	14 bits	14 bits	14 bits	14 bits

6. Electrical Characteristics

Item	Description
Power supply voltage	AC 100-120/ 200-240 V
Frequency	50/60 Hz
Power rating	2.2 kVA

* The input line voltage depends on the local electrical distribution system.

* Allowable input voltage fluctuation requirement: $\pm 10\%$

7. Environmental Characteristics

Item	Description
Operating temperature	10 ~ 35°C
Operating relative humidity	30 ~75%
Operating atmospheric pressure	860 ~ 1060 hPa
Transport and storage temperature	-10 ~ 50°C
Transport and storage relative humidity	10 ~75%
Transport and storage atmospheric pressure	860 ~ 1060 hPa

8. Standards and Regulations

This product is designed and produced to meet the following standards:

IEC/EN/UL 60601-1, IEC/EN 60601-1-1, IEC/EN 60601-1-2, IEC/EN 60601-1-3,
IEC/EN 60601-2-7, IEC/EN 60601-2-28, IEC/EN 60601-2-32, IEC/EN 60601-2-44,
ISO 9001, ISO 13485

CE
0120

CE symbol grants the product compliance to the European Directive for Medical Devices 93/42/EEC as amended by 2007/47/EC as a class IIb device.

9. Additional Information

For additional information regarding any other products, please contact us by one of the following methods:

VATECH Company Limited

**23-4, Seogu-dong, Hwaseoung-si,
Gyeonggi-do, Korea (Postal Code: 445-170)**

Tel: +82-1588-9510

Fax: +82-(0)31-286-3787

E-mail: gcs@vatech.co.kr

URL: <http://www.vatech.co.kr>

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