

# Medical Computing Platforms

Engaged with Smarter Hospitals

- ✓ Medical Computers
- ✓ Medical Grade Monitors
- ✓ Video Archiving & Streaming
- ✓ Computerized Medical Carts
- ✓ Intelligent Power Systems
- ✓ Medical Tablets
- ✓ Clinical Monitors
- ✓ Healthcare Infotainment Terminals
- ✓ RTLS SRP for Hospitals
- ✓ Intelligent Ward SRP



**ADVANTECH** **iHealthcare**



IoT Solutions  
Alliance  
Premier



[www.advantech.com/digital-healthcare/](http://www.advantech.com/digital-healthcare/)



# A Medical Platform to Count On

- Expertise and Knowledge
- Extensive Industry Experience
- Dedicated Research and Development
- Strict Revision Control
- Customization Capability

Advantech is a leading player in the digital healthcare market, with years of trusted experience. Advantech has worked with international medical equipment manufacturers and system integrators, building the core competencies of Advantech's Medical Computing Division, in order to assist hospitals with establishing patient-centered healthcare environments and universal digital healthcare platforms.

All our medical computing solutions feature comprehensive high-performance systems designed with the utmost care and quality to provide uninterrupted, mission-critical support for healthcare applications. Built to meet the strictest of industry standards, Advantech's medical computing systems satisfy UL60601-1 and EN60601-1 regulations for medical safety, feature IPX1 certification and drip-proof enclosures for dust and water protection, and are CCC certified for electronic safety. In addition to offering long-term product support, Advantech ensures that all its solutions are highly reliable, easy to install, and can be seamlessly integrated into existing hospital infrastructures.

# Table of Contents

<b>General Introduction</b>	<b>1</b>
<b>Solutions</b>	
Critical Care	3
AVAS Solution	5
Medical Grade Monitors	7
Intelligent Medical Carts	9
Medical Tablets	11
Bedside Infotainment	13
RTLS Solution	15
Intelligent Ward Solution	17
<b>Application Stories</b>	<b>19-22</b>
<b>Product Selection Guide</b>	<b>23-38</b>



## Intensive Care

Empowering Critical Care Environment



## Quality Nursing Care

Ensuring Real-Time Care Delivery



## Portable Clinical Assistant

Facilitating Data Collection



## Video Archiving & Streaming

Enhancing OR Workflows Efficiency







## POC Series Advantech Medical Computers



### Medical-Grade Design for Infection Control

- EN60601-1 and UL60601-1 certified
- IP54-rated enclosure
- Fanless design



### High-Performance Computing Systems

- Embedded with the latest CPUs
- Extra low power consumption



### RDT/HALT Tests for Reliability

- 3-year warranty guaranteed
- Strict RDT (Reliability Demonstration Tests) and HALT (Highly Accelerated Life Test) verifications



### Customization Service for Flexibility

- Supports diverse module configurations
- Equipped with PCAP technology for enhanced light transmission

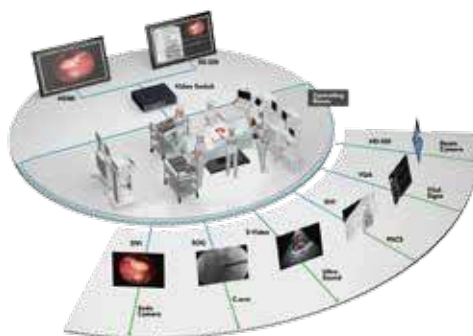


### Best Image Solution with IPS Technology

- IPS (In-Plane Switching) technology ensures clear, vivid display images, with no color wash
- Surface is 7H hard, with a responsive 10 pt. multi-touch interface that works well—even with a gloved hand.

## Clinical Information Systems for Intensive Care

Clinical information systems integrate patient care applications and data management tools to facilitate rapid, informed decision making at the point-of-care. These systems are employed in ICUs and at patient bedsides, can be accessed via the hospital network or online, and improve data access in the ICU and during patient consultations. By gathering, organizing,



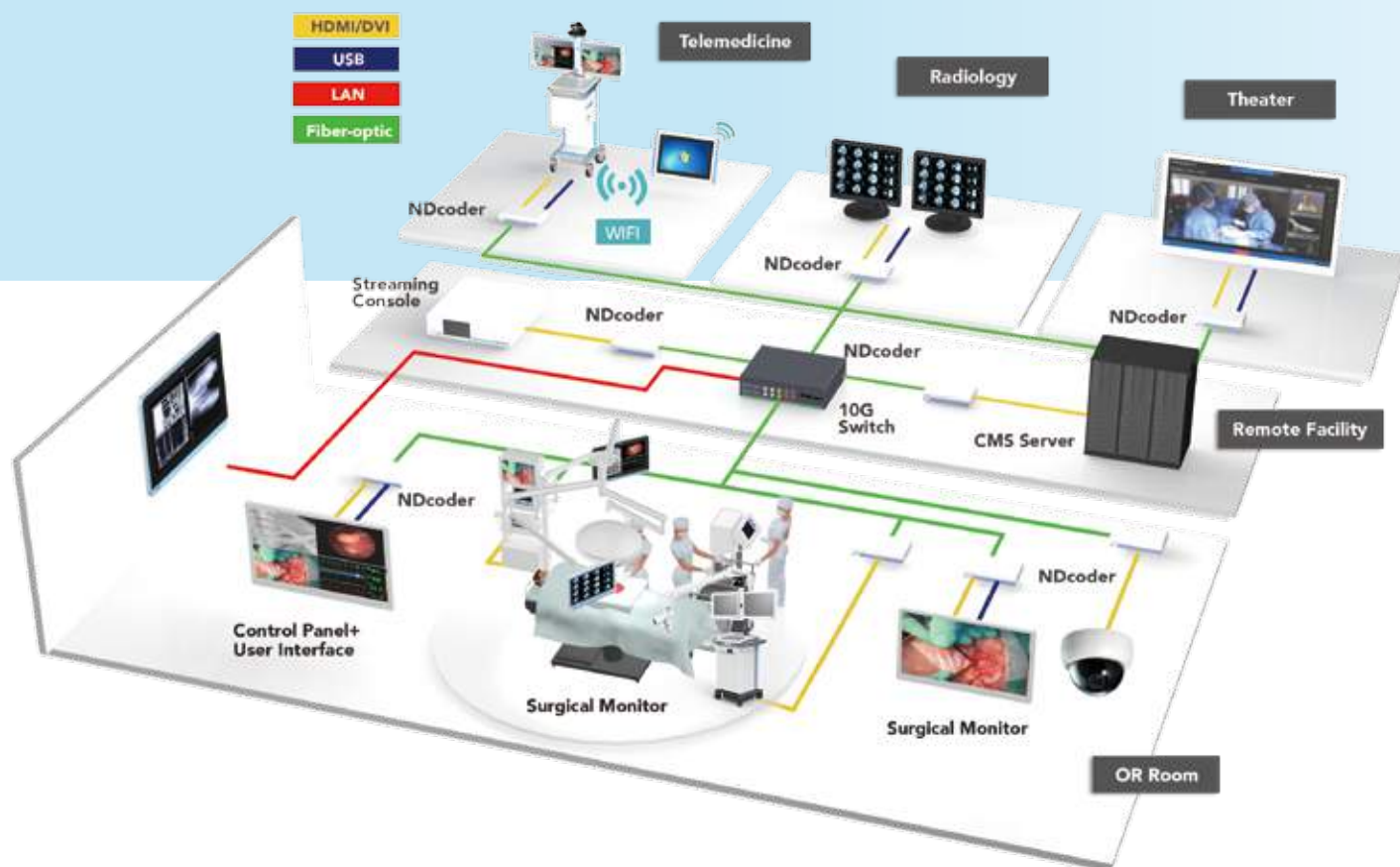
## Radiology Application Systems for Operating Rooms

Radiology application systems integrate various modalities of medical imaging data into one display unit, enabling surgeons to flexibly view 2D/3D patient data during surgery. Because improved imaging quality and comprehensive imaging methodologies have made medical imaging more informative for surgical assessments, medical imaging now plays an essential role in operating rooms worldwide.





# AVAS Solutions





## AVAS-OR Advantech Video Archiving and Streaming for Intelligent Operating Rooms

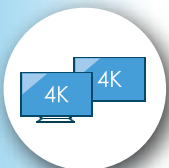
With the increased complexity of surgical procedures, several factors including the use of diverse image sources, lack of surgical technique storage systems, and external communication difficulties are reducing the efficiency of operating room workflows. Advantech's AVAS solutions support real-time image and video streaming, centralized control, remote teaching and consultation, and cloud-based management in order to streamline operating room workflows and improve overall efficiency.

### Zero Latency



Imaging data is transmitted at the same frame rate with zero latency, ensuring uninterrupted real-time communication between collaborating physicians located remotely.

### 4K End-to-End Resolution



Medical images can be displayed with greater accuracy, clarity, and detail to enable more precise diagnoses.

### Multi-View



Multi-view functionality supports the simultaneous display of four image streams on a single monitor.

### Seamless Switching



Integrated switching technology enables glitch-free transitions between input sources for seamless switching and consistent visual performance.

### Open API and SDK



The provision of open APIs and SDKs ensure easy integration with existing infrastructure and management systems.

### Medical-Grade Certification



All AVAS computers, displays, and tablets are certified to relevant medical standards for infection control and patient safety.



A photograph of an operating room. In the foreground, a surgeon in blue scrubs and a surgical cap is seen from the back, looking towards a large medical monitor. To the right, two other surgeons in masks and caps are looking at the same monitor. The monitor displays a surgical video feed and a brain scan. In the background, there are more monitors showing vital signs and a clock on the wall.

# Medical Grade Monitor

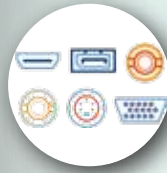
Established in 2003, Kostec joined the Advantech family in 2017 in a move that combines Kostec's medical display expertise and experiences with Advantech's medical computing know-how and global sales and service network. Advantech Kostec develops and manufactures various medical grade monitors for surgical, diagnostic and clinical review purpose. We deliver the state-of-the-art image quality and features which were designed specifically for the medical professionals.





## PAX Series Surgical Monitors for operating room precision

### Wide Connectivities



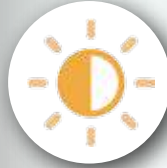
Equipped with various analog and digital interfaces, including DP 1.2, HDMI 2.0, DVI-D Dual-Link. These monitors offer high connectivity for displaying images from various sources.

### Full HD/Ultra HD (4K)



Available in a range of sizes and various performance levels. Including Full HD and 4K Ultra HD resolution.

### Brightness Levelling Technology



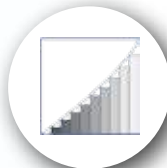
BLT is an auto-sensing luminance technology that maintains screen brightness at the pre-calibrated maximum luminance level (L'max) by consistently matching the just noticeable difference (JND) level for image quality.

### 12/14-bit LUT Grayscale



The 12/14-bit LUT grayscale is considered the color of light that the human eye is most sensitive to at the JND level. The use of 12/14-bit grayscale representation enables precise imaging for increased diagnostic accuracy.

### DICOM Compliant



Ensuring grayscale of each monitor is compliant with DICOM Part 14 standard to provide the most accurate and consistent image quality over time.

### Multiple Modalities



With widescreen high resolution format and multi input/output ports, KT-series of displays are excellent solutions for multi-tasking review in various medical applications.

### Sufficient Luminance



Too bright

Ideal

Too Dark

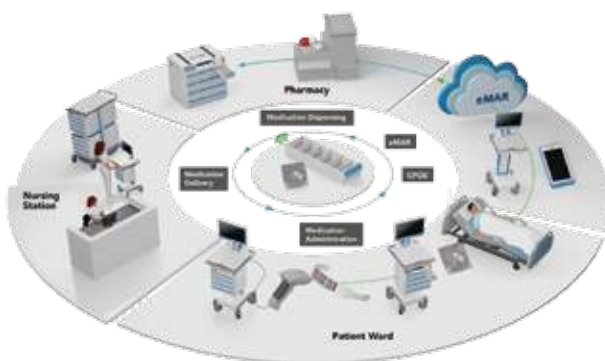
Ideal Luminance to see the detail of tissue structure



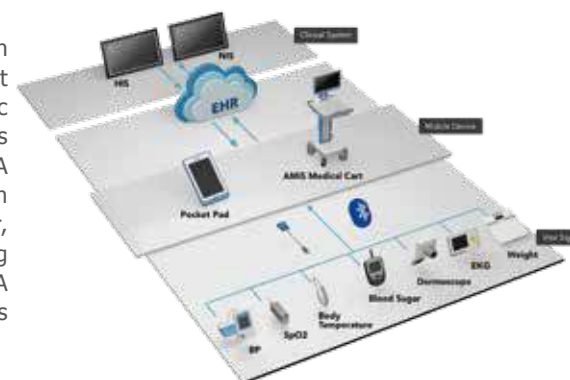
# Intelligent Medical Cart

Nurses and other healthcare professionals spend nearly 90% of their time moving from place to place as they provide care to patients, moving from nursing stations, to wards, to patient rooms. Currently most hospitals are struggling with makeshift carts, strapping desktop computers or laptops on board and rolling them from place to place. However, usually these carts with wires tie-wrapped or wound about legs, have issues with cleaning, power and working space. Mobile Point-of-Care systems are designed to move with busy healthcare professionals. They use wireless infrastructure, mobile devices and specialized applications to meet the needs of caregivers.

## Perioperative Information Systems in Operating Room Environments



Closed loop medication administration (CLMA) is a workflow improvement process that involves electronic medication management for seamless information integration. The CLMA process provides a traceable information flow from the prescribing doctor, through to the pharmacy, nursing station, and patient wards. CLMA minimizes inpatient medication errors and increases overall patient safety.





**AMiS**  
**Advantech Medical**  
**Intelligent Station**  
for Nursing Care and  
Medication

**Medical Computer Cart**



Touch Computer & Reliable  
Power Supply



Safety & Infection Control



Great Flexibility with  
Modular Design

**Intelligent Power System**



Medical Safety Certified



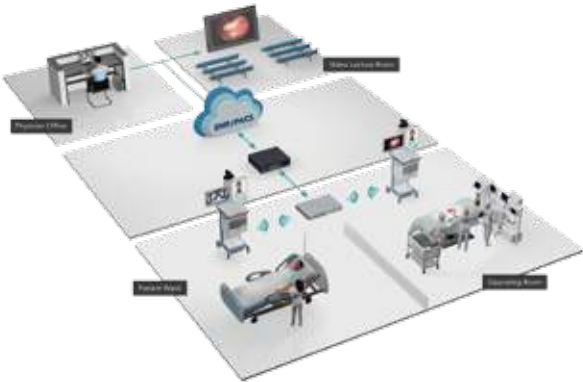
High-quality Battery



Remote Management Software

**Vital Signs Measurement and  
Monitoring**

Vital sign monitors can be integrated with mobile workstations, medical carts, and tablets for easy access and management. Patients' real-time vital sign data can then be automatically transmitted to the hospital information system (HIS) or nursing information system (NIS) via a cable or Bluetooth. This allows caregivers to monitor patients' status remotely. Nurses can also use a medical tablet to access and update patient data, and provide superior care and treatment.



**Telemedicine**

The evolution of telecommunication and information technologies has enabled clinicians to evaluate, diagnose, and even treat patients remotely. Telemedicine can be used to save the lives of people living in rural communities, under critical care, or in emergency situations. Using telemedicine carts and portable devices, healthcare professionals can also exchange diagnosis, treatment, research, and evaluation information to inform, educate, and improve public health.





# Medical Tablets

Advantech medical tablets are specifically designed for hospital applications. It combines the best in a lightweight and flexible package to ensure patient safety. Build your intelligent hospital throughout professional medical tablets.



Nursing Station



Ward



Emergency Room



X-Ray



Inspection



Operation Room



Pharmacy



Testing Laboratory



Equipment Room



Hemodialysis  
center



## AIM, MICA, MIT Series Portable Clinical Assistant



### Medical Quality & Reliability

- Medical tablets are protected from dust and water damage. It has an IP54/ IP65 rating and has been drop-tested from 90cm to ensure reliable operation.
- A long lasting battery is important to get through a shift. The Medical tablets' battery ensures at least 4 hours of uninterrupted operation.



### Patient & Medication Safety

- Capture images on the spot for diagnosis, history, or insurance need.
- Identify, track, and trace patients throughout the hospital. Medical tablets ensures the right patient receives the right treatment.



### Flexible & Programmable

- Flexible Windows-based software is easy for integration and offers users a familiar interface.
- Data can be exchanged with ease between a number of hospital information systems and offer smart devices.



### Slim & Light

- Making it easy to carry.
- It features HD resolution on an LCD screen for crystal clear images.

### The Ease of Cleaning & Daily Work Use



Drop Resistant



Dust Resistant



Water Resistant



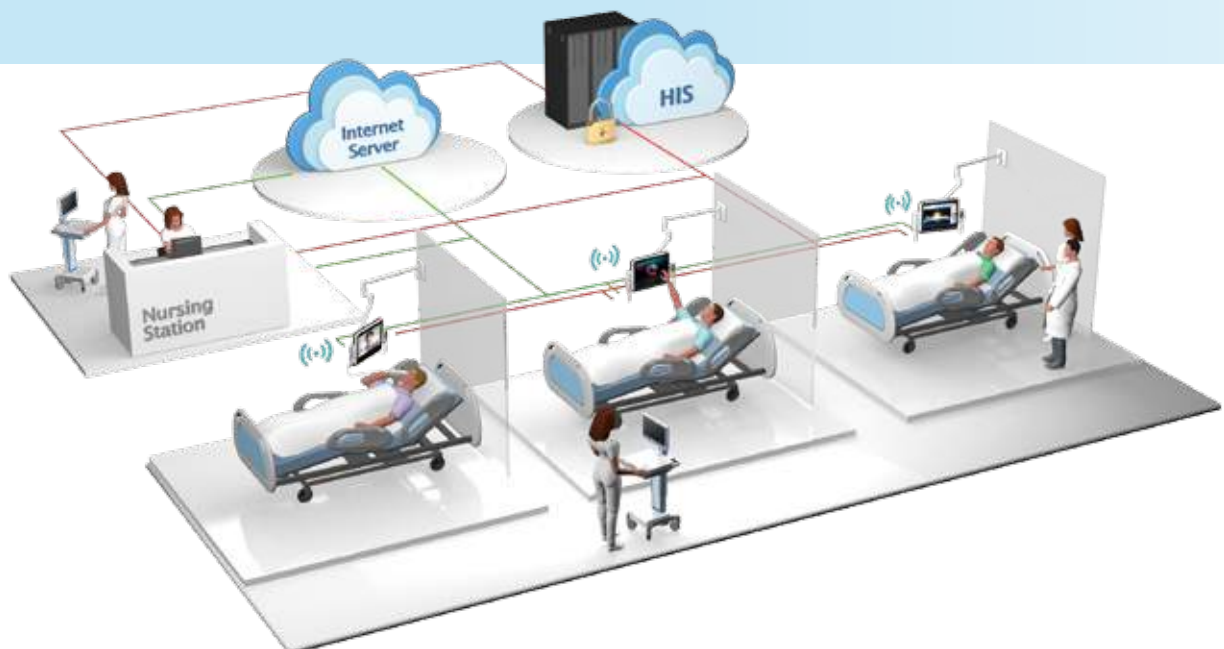
Wide Working Temp





# Bedside Infotainment

Beside infotainment involves the installation of patient bedside terminals that enable patients to watch movies and TV, make telephone calls, play games, browse the Internet, send emails, access hospital intranets, or even work if medically allowed. Patients can also use these terminals to alert hospital staff, adjust bed height, lighting, curtains, and other environmental controls. For medical staff and care providers, such terminals can be used to access electronic patient records, laboratory and test results, monitor patient vital signs, and document treatment observations and changes.



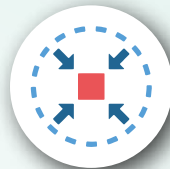


## HIT Series Healthcare Infotainment Terminals



### IP65-Certified Cover

- Liquid/dust proof
- Chemical resistant
- Easy to clean



### Compact Size

- Slim and lightweight stylish design
- Highly integrated peripherals
- Multi-connectivity



### Touch Select

- Glove-tolerant sensing
- Quick and intuitive response
- P-Cap and Resistive



### Fanless

- Noiseless operation
- No external debris
- Power-efficiency



### VESA Mount

- Varied mount options including table stand, wall mount, and floor stand

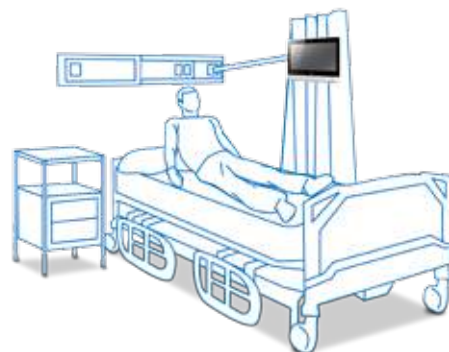


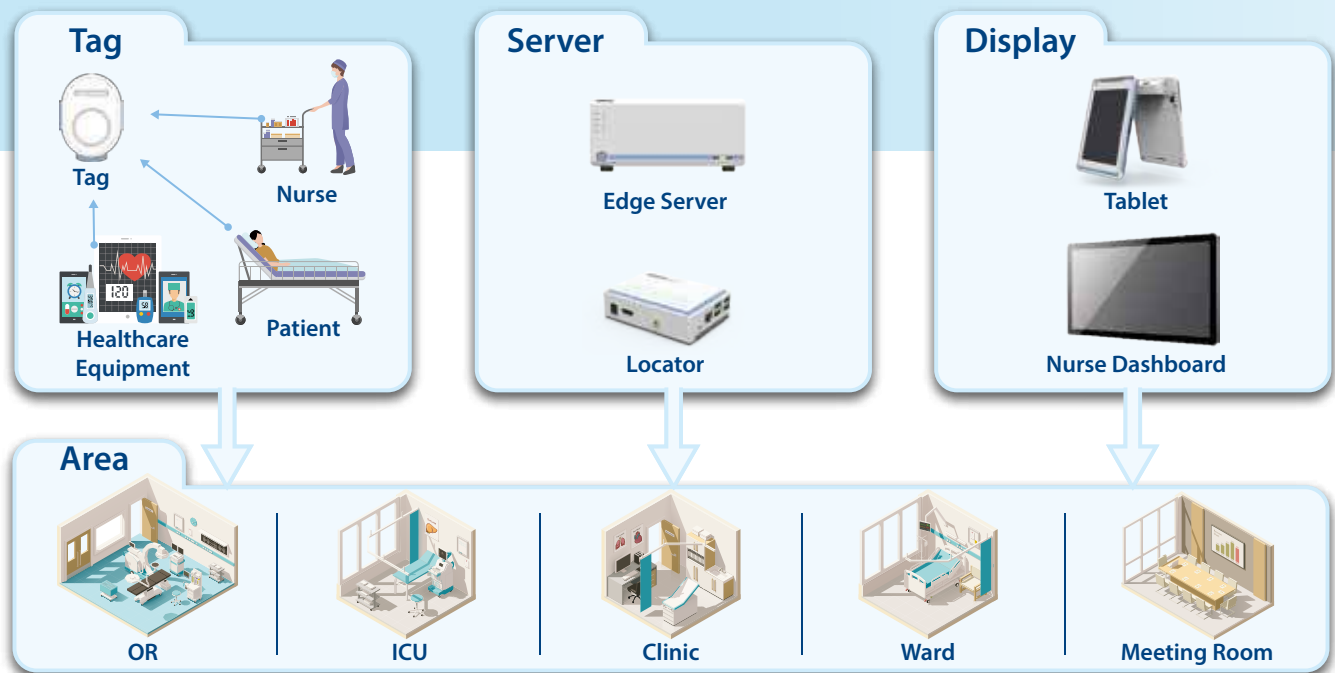
### Anti-microbial Cover Glass

- long-lasting antimicrobial efficacy
- 9H surface hardness (optional)
- Outstanding optical clarity

## Potential Applications

- Hospital services/directions
- Menus/special orders
- Promotional videos
- Internet access
- Digital phone services
- Intranet access
- Movies-on-demand
- Bedside care administration
- Accounts and billing
- HIS reporting/surveys
- Electronic medication records
- Educational programs
- Nursing observation assistant
- Electronic patient records (EPR)
- Computerized physician/provider order entry (CPOE)
- Video conferences







## RTLS Solution

### Next Gen. Hospital Management Solution



#### Easy to install

Quick installation based locator that easy for hospital to install



#### Easy to customize

Provide API to connect to WISE-PaaS or HIS for hospital management



#### Easy to maintain

Long-Time Support Battery, could be changed every half year



#### Easy to use

Tag can be wear easily by the RFID belt and monitor by www based link



#### Easy to upgrade

Edge server can be easily upgraded to support more devices



#### Easy to control

Device can be easily searched and controlled by Tablet or Dashboard

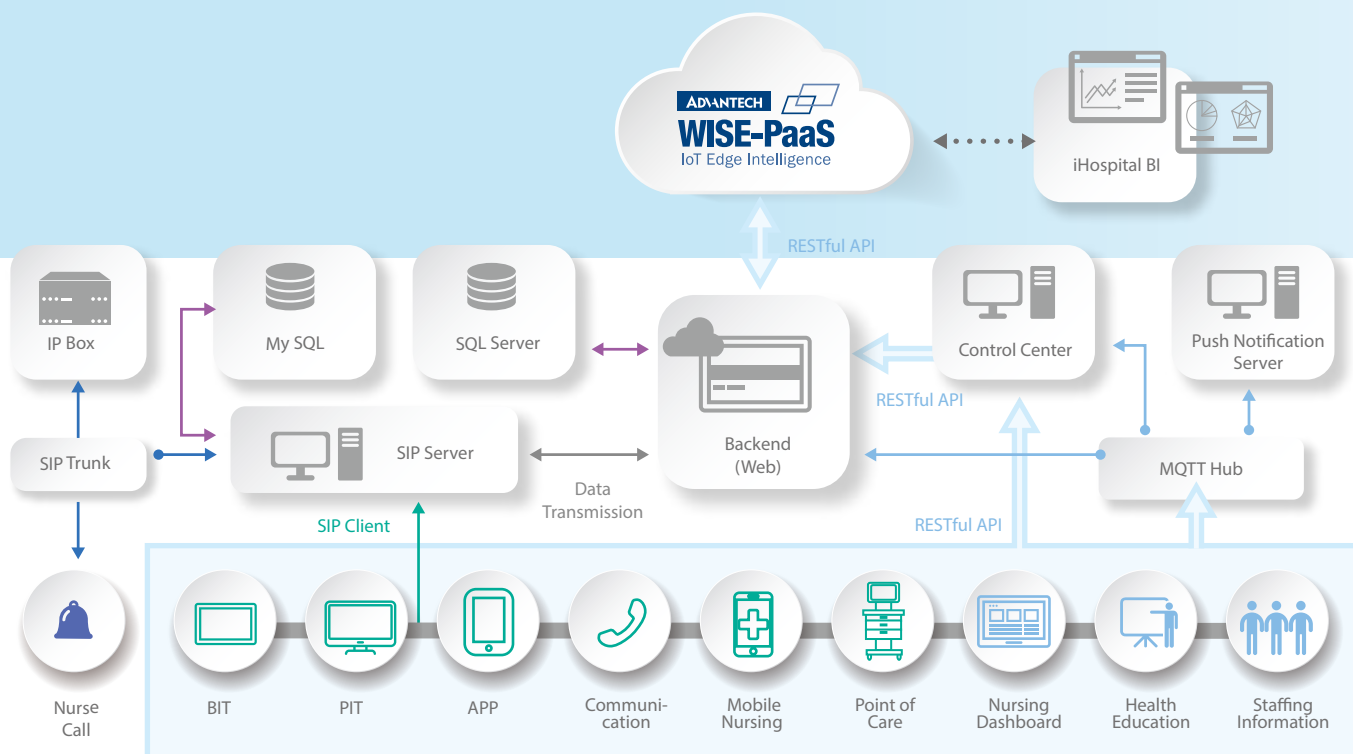
### RTLS Scenario in Hospital

Real-Time Location System(RTLS) is a Solution Ready Package(SRP) to understand the immediate tracking location and status of medical equipment, staff and patient. Advantech focus on hospital, elder care center, and physical examination center to adopt Multi-mode Sensing Dynamic Fusion(MSDF) technology to give the best software algorithm and hardware solution for complex indoor environment and good in partition with good C/P ratio. This innovative information technology(IT) solution gives the possibility to give guidance(In-door GPS) for outpatient, improve the satisfaction of patient, enhance the safety of staff and efficiency of the business operation as the best management tool in IoT Era.





# Intelligent Ward Solutions





Bedhead Information Terminal

Vital Sign  
Measurement  
Automation

## iWard Solution Innovating Nursing Care and Patient Experience



### Nursing Dashboard

- Decreasing the staffing workload
- Managing staffing schedule efficiently



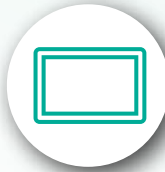
### Control Center & IP Nurse Call

- Monitoring real-time patient status
- Generating statistics for inpatient settings



### Point of care Medication Management

- Enhance CLMA distribution
- Safe in patient medication administration



### BIT (Bedhead Information Terminal)

- Real-time bedside information
- Optimizing care delivery workflow



### PIT (Patient Information System)

- Delivering patient-centered care
- Presenting treatment plans



### Vital Sign Measurement

- Collect and upload vital sign data wireless
- Check & confirm upon measurement

## Innovating Nursing Care & Patient Experience

Traditional wards have nurse call buttons or phones for patients to communicate with nurses, but they do not offer instant notification, which results in long wait times and patient mistrust toward nursing staff. Intelligent wards allow faster communication of patient's needs to the nursing staff and facilitates an innovative nursing care SOP that improves service quality as well as patient satisfaction through the system. Also, the bedside information system includes additional services traditional wards are not equipped with, and makes the real value.

# Application Story

## Advantech Collaborates with NRCERM to Develop Medical Workstation Solution that Streamlines Operating Room Workflows

Based on recommendations by Mobile Computer Systems (MCS), one of Advantech's corporate partners, NRCERM chose Advantech (which it has maintained a successful partnership with since 1994) to collaborate on the development of a medical workstation solution for OR installation. The resulting solution comprised Advantech's AMiS-60 medical cart and POC-W212 point-of-care terminal combined with a POC-W151 DICOM converter. Advantech's POC series terminals are high-performance medical-grade devices that can be equipped with Intel® Core™ i processors and support multiple displays for complex imaging-related healthcare applications. The lightweight and slim system design enables POC terminals to be flexibly mounted in diverse locations to serve as OR dashboards.



## Royal Perth Hospital Delivers Superior Care with Advantech POC

### A clear and cost-effective solution

For nearly two centuries, Royal Perth Hospital (RPH) has been providing healthcare to West Australians, especially those in the Perth metropolitan area. RPH is the largest and longest-serving hospital in Western Australia. In 2015, RPH initiated an upgrade project that identified a need for medical-grade all-in-one panel PCs for conducting bedside physiological monitoring. Advantech's POC-W212 is a medical-grade 21.5" ultrathin, widescreen, all-in-one point-of-care terminal featuring rich I/O. Powered by an Intel® Core™ i5 processor with up to 16 GB RAM, this fanless system design fulfilled all the hospital's requirements to become the product selected for purchase. By early 2016, 27 Advantech POC-W212 systems "had been installed in the RPH Intensive Care Unit on VESA mounts. Furthermore, another public hospital located in the south of" Perth plans to deploy 10 of Advantech's POC-W242 systems in the same manner.





## 4K UHD lossless Video over-IP solution

Erasmus University Hospital Rotterdam, The Netherlands

The Erasmus University Hospital in Rotterdam, The Netherlands is the largest hospital in the country and has adopted a new multimedia video solution along with video streaming in their new digital operating rooms. To optimize the OR-workflow and to support the operating team, all patient and operating data including images and videos are instantly available on one big central screen during each phase of the operating process. In the 26 operating rooms of the Erasmus Hospital, Advantech implemented together with their partners INTER and Technolution the new streaming solution. The hospital will be able to share video streams between operating rooms which can also be shared with the Video Control Center for broadcasting and for lecture rooms. The solution is based on SigmaXG video-over-IP technology of Technolution for extreme low latency and 4K UHD. The NDcoder is integrated in the back of the Advantech Kostec surgical monitors. Furthermore in all operating rooms, INTER installed ORflow. The perioperative information screen guides the team of doctors through the different stages of surgery and manages the video distribution from and to all operating rooms.



## Intelligent Power System for Better Mobile Care

Evelina London Children's Hospital

Advantech's iPS-M100 is a mobile power system equipped with two hot-swappable power modules that can support a range of mobile care devices. iPS-M100 were deployed at Evelina London Children's Hospital in the critical care department to enable around-the-clock care. iPS-M100 was selected for its IEC 60601-1 compliance, runtime capability, battery warranty, hot-swappable design (supports 24/7 mobile operations), and monitoring software, as well as the proven quality of Advantech products.



## Yuanlin Christian Hospital - A Benchmark for Intelligent Hospitals

Officially established in July 2015, the first intelligent hospital in Asia to integrate patient services, medical procedures, and energy management.

Yuanlin Christian Hospital (YCH) is a new medical institution that was officially opened in July 2015 after 8 years of planning and investments totaling NT\$3 billion. Despite only serving as a regional hospital affiliated with the Changhua Christian Hospital, YCH holds a significant place in the history of medicine in Taiwan. The hospital not only provides all the convenience and functionality of a modern healthcare facility, but also marks Taiwan's transition into an era of fully intelligent medicine. Including: Patient-friendly intelligent check-in counter, bedside information terminals, intelligent Wards equipped with variety of intelligent systems and devices.



## Digital Medication System Boosts Quality of Care at Antonious Hospital - New Medication Box Put to the Test

Digitization is considered one of the tools for quality improvement, and is especially useful in minimizing medication errors.

High-quality health care is a priority in Dutch hospitals. Digitization is considered one of the tools for quality improvement, and is especially useful in minimizing medication errors. Forty percent of these errors are related to administration, making this an obvious target for improvement. The Antonius Hospital in Sneek took on the challenge and is now one of the first hospitals in the Netherlands to use fully digitized prescription and administration with barcode verification. The AMiS Medication Box CL is a medication box with sixteen large compartments. The box comes with a touch display and a PIN code that will simultaneously open or close all medication compartments. This intelligent system features an electronic locking mechanism that restricts medication access to health care professionals only.





## Patient Infotainment Solutions for Better Care Quality

### Enable Networked Hospitals via Windows 8

ClinicAll is based on the Windows 8 operating system. The interface is designed so that only a maximum of three presses on the touchscreen are needed to access any function. However, in case users still experience issues, a digital manual is also provided and a help function is integrated. The ClinicAll system supports IP-based telephony, video calls, "and the seamless implementation of other Microsoft-based communication services, such as Microsoft Lync." "In addition to fixed terminals of HIT 12"', 15"', 18"' and 22"' touchscreens, the ClinicAll system is now available as a pocket- sized tablet computing pad."



## The Affiliated Hospital of Qingdao University

### Undergoes a Digital Transformation

Since 2010, the Affiliated Hospital of Qingdao University (AHQU) has launched a large-scale medical transformation in an effort to provide improved patient care. In its quest to accelerate the arrival of digital healthcare, the AHQU implemented mobile and paperless processes before mobile healthcare was even available. The hospital adopted three categories of mHealth devices: personal data assistants (PDAs), tablet PCs, and mobile medical carts. The AHQU's fleet of 450 mobile medical carts is unique in China. Of these 450 medical carts, 260 are allocated to nursing staff and 190 to doctors. The hospital manages these carts through a unified platform described as "the workstation of healthcare workers". PDAs are typically used to scan barcodes; "therefore, they must be highly responsive with a stable network connection. Unless specifically required, doctors no longer need " to print patient medical records, saving a considerable amount of paper.



# Product Selection Guide

## Medical Computers



Model		POC-W243	POC-W213
Computing Systems	Chipset	Intel QM87	Intel QM87
	CPU	Intel® Core TM i7 6600U Processor (4 M Smart Cache, 3.4 GHz) Intel® Core TM i5 6300U Processor (3 M Smart Cache, 3.0 GHz) Intel® Core TM i3 6100U Processor (3 M Smart Cache, 2.3 GHz) Intel® Celeron TM Processor 3955U (2 M Smart Cache, 2.0 GHz)	Intel® Core TM i7 6600U Processor (4 M Smart Cache, 3.4 GHz) Intel® Core TM i5 6300U Processor (3 M Smart Cache, 3.0 GHz) Intel® Core TM i3 6100U Processor (3 M Smart Cache, 2.3 GHz) Intel® Celeron TM Processor 3955U (2 M Smart Cache, 2.0 GHz)
	Memory	Up to 32GB DDR4 1666/2133MHz SDRAM (optional)	Up to 32GB DDR4 1666/2133MHz SDRAM (optional)
	Graphics	Intel HD Graphics 520/510	Intel HD Graphics 520/510
	Operating System	Win 7, Win 8.1 Industry Pro, Win 10 IoT	Win 7, Win 8.1 Industry Pro, Win 10 IoT
Display	Size/Display Type	23.8" wide TFT color LCD (16:9)	21.5" wide TFT color LCD (16:9)
	Max. Resolution	1920 x 1080 (H x V)	1920 x 1080 (H x V)
	Max. Colors	16.7M colors (6-bits+A-FRC)	16.7M colors (RGB 8-bits)
	Pixel Pitch (mm)	0.2745 x 0.2745	0.2745 x 0.2745
	Viewing Angle	178°/178°	178°/178°
	Luminance	250 cd/m²	250 cd/m²
	LCD MTBF	30,000 Hours	30,000 Hours
	Contrast Ratio	1000 : 1	1000 : 1
Expansion Slot	PCIe	1 x PCIe (x4)	1 x PCIe (x4)
	Mini PCIe	2 (1 x full-size, 1 half-size)	2 (1 x full-size, 1 half-size)
	M.2	-	-
Storage	Storage	128GB SSD (default) 1 x 2.5" SATA HDD or SSD (optional)	128GB SSD (default) 1 x 2.5" SATA HDD or SSD (optional)
I/O Port	Serial Port	2 x RS-232/422/485 (isolated)	2 x RS-232/422/485 (isolated)
	USB Port	2 x USB 3.0 ports (rear) 2 x USB 2.0 ports (front) 2 x USB 2.0 ports (rear)	2 x USB 3.0 ports (rear) 4 x USB 2.0 ports (rear & PCIe(x4)slot)
	VGA/DVI/HDMI Port	1 x HDMI-out 1 x Displayport-out	1 x HDMI-out 1 x Displayport-out
	Speakers (1W)	2 x speakers (2 W) 1 x MIC-in and speaker out	2 x speakers (2 W)
	LAN	2 x Gigabit Ethernet (isolated) interfaces (RJ-45)	2 x Gigabit Ethernet (isolated) interfaces (RJ-45)
Cooling Fan	Fan	Fanless	Fanless
Power Supply	AC / DC Model	AC/DC adapter (Sinpro Model no. HPU101-107)	AC/DC adapter (Sinpro Model no. HPU101-107)
	Input Voltage	90~260 VAC, 47~63 Hz, 1.35~0.5 A	90~260 VAC, 47~63 Hz, 1.35~0.5 A
	Output Voltage	+18 VDC, 5.55 A max. (100 watts)	+18 VDC, 5.55 A max. (100 watts)
Optional Functions	WLAN & Bluetooth	Qualcomm Atheros Dual-band (2.4/5GHz), 802.11 a/b/g/n 2Tx/2Rx WiFi & Bluetooth v4.1	Qualcomm Atheros Dual-band (2.4/5GHz), 802.11 a/b/g/n 2Tx/2Rx WiFi & Bluetooth v4.1
	Web Cam	5M Camera, AF (Optional)	-
	Barcode Scanner	1D/2D Barcode scanner	1D/2D Barcode scanner
	Smart Card Reader	Complies with ISO7816-1,2,3,T=1 and T=0 protocol	Complies with ISO7816-1,2,3,T=1 and T=0 protocol
	RFID	13.56MHz, ISO-15693, ISO-14443A, ISO-14443B	13.56MHz, ISO-15693, ISO-14443A, ISO-14443B
	Battery	3S1P 1750mAh Supports min. 0.5hr backup operation Projected Capacitive	3S1P 1750mAh Supports min. 0.5hr backup operation Projected Capacitive
Optional Touchscreen Features	Type	10-points (AR or AG)	10-points (AR or AG)
	Light Transmission	90%	90%
	Controller	USB interface	USB interface
	Durability	Over 100 million touches	Over 100 million touches
IP Rating	Entire System	IP54	IP54/IPX1
	Front Panel	IP65	IP65
Certifications	CE	Yes	Yes
	FCC	Yes	Yes
	IEC 60601-1	Yes	Yes
	EN60601-1	Yes	Yes
	UL 60601-1	Yes	Yes
Environment	CCC	Yes	Yes
	Temperature	Operating: 0° C ~ +40° C, Storage: -20° C ~ +60° C	Operating: 0° C ~ +40° C, Storage: -20° C ~ +60° C
	Humidity	10 ~ 95% @40°C (non-condensing)	10 ~ 95% @40°C (non-condensing)
Physical Characteristics	Shock Resistance	20G peak acceleration (11ms duration)	20G peak acceleration (11ms duration)
	Dimensions (W x H x D)	583 x 386 x 69 mm (22.95" x 15.19" x 2.71")	550 x 360 x 65 mm (21.65" x 14.17" x 2.56")
	Weight	7.95 kg	6.9 kg
	VESA Mounting	75 x 75 mm, 100 x 100 mm	75 x 75 mm, 100 x 100 mm

- Test results by Passmark BatteryMon V2.1 with a minimum of peripherals connected



POC-S199	POC-W152		POC-W102
Intel QM87	Intel QM87		Intel QM87
Intel® Core TM i7 6600U Processor (4 M Smart Cache, 3.4 GHz) Intel® Core TM i5 6300U Processor (3 M Smart Cache, 3.0 GHz) Intel® Core TM i3 6100U Processor (3 M Smart Cache, 2.3 GHz) Intel® Celeron TM Processor 3955U (2 M Smart Cache, 2.0 GHz)	Intel® Core TM i7 4650U Processor (4 M Smart Cache, 1.7 GHz) Intel® Core TM i5 4300U Processor (4 M Smart Cache, 1.9 GHz) Intel® Baytrail J1900 Processor (2 M Smart Cache, 2.0 GHz)		Intel® Celeron® J1900 Processor (2M Cache, up to 2.42 GHz)
Up to 32GB DDR4 1666/2133MHz SDRAM (optional)	Up to 16GB DDR3L 1600MHz (optional)		Up to 8GB DDR3L 1600MHz SDRAM
Intel HD Graphics 520/510 Win 7, Win 8.1 Industry Pro, Win 10 IoT	Intel HD Graphics 5000/4400 Win 7, Win 8 Embedded Standard, Win 8 Industry Pro, Win 10		Intel HD Graphics Win 10
19" LED PANEL (4:3)	15.6" TFT LCD (16:9)		10.1" wide TFT color LCD (16:10)
1280 x 1024 (H x V)	1920 x 1080 (H x V)	1366 x 768 (H x V)	1280 x 800 (H x V)
16.7M colors	16.7 M colors (6-bits+A-FRC)		262k colors (6-bits)
0.294x 0.294	0.179 x 0.179	0.252 x 0.252	0.1695 x 0.1695
170°/160°	160°/160°	160°/160°	170°/170°
350 cd/m²	400 cd/m²	300 cd/m²	300 cd/m²
70,000 Hours	30,000 Hours		25,000 Hours
1000:1	700:1	500:1	1300:1
-	1 x PCIe (x4)		-
2 (1 x full-size, 1 half-size)	2 (1 x full-size, 1 half-size)		-
-	-		1 x M.2 2230 (for Wi-Fi & others) 1 x M.2 2242 (dedicated for storage) 1 x M.2 2280 (dedicated for storage) (optional)
500GB HDD (default)	1 x 2.5" SATA HDD or SSD		1 x 2.5" SATA HDD or SSD
2 x RS-232/422/485 (isolated)	1 x RS-232/422/485 (isolated)		M.2 SSD 64GB MLC by default
2 x USB 3.0 ports (rear) 3 x USB 2.0 ports (rear)	2 x USB 3.0 ports (rear) 3 x USB 2.0 ports (rear)		2 x RS-232 Serial Port (Isolation) 2 x USB 3.0 ports
1 x HDMI-out 1 x Displayport-out 2 x speakers (2 W)	1 x HDMI & VGA 2 x speakers (2 W)		1 x HDMI-out 2 x speakers (2 W)
2 x Gigabit Ethernet (isolated) interfaces (RJ-45)	1 x Gigabit Ethernet RJ45 (Isolation)		2 x Gigabit Ethernet RJ45 (Isolation)
Fanless	Fanless		Fanless
AC/DC adapter (Sinpro Model no. HPU101-107)	AC/DC adapter (Sinpro Model no. HPU101-107)		AC/DC adapter (Sinpro Model no. HPU101-107)
90 ~ 260 V, 47 ~ 63 Hz, 1.35 ~ 0.5 A	90~260 VAC, 47~63 Hz, 1.35~0.5 A		90~260 VAC, 47~63 Hz, 1.35~0.5 A
+18 VDC, 5.55 A max. (100 watts)	+18 V, 5.55 A max. (100 watts) DC		+18 VDC, 5.55 A max. (100 watts)
Qualcomm Atheros Dual-band (2.4/5GHz), 802.11 a/b/g/n 2Tx/2Rx WiFi & Bluetooth v4.1	802.11 a/b/g/n/ac + Bluetooth 4.1		802.11 a/b/g/n/ac + Bluetooth 4.1
-	5M Camera, AF		5M Camera, AF
-	-		1D/2D Barcode scanner
-	Complies with ISO7816-1,2,3,T=1 and T=0 protocol		-
13.56MHz, ISO-15693, ISO-14443A, ISO-14443B	Supports NFCIP-1 & NFCIP-2, ISO18092, ISO21481, ISO14443A/B, ISO15693		Supports NFCIP-1 & NFCIP-2, ISO18092, ISO21481, ISO14443A/B, ISO15693
3S1P 1750mAH Supports min. 0.5hr backup operation	3S2P 5500mAH, Support at least 0.5 hr backup operation		-
Projected Capacitive 10-points (AR or AG)	P-cap Multi-touch (AR)	P-cap Multi-touch (AR) or Res TS (AG), True Flat Design	True Flat Design, Res
90%	P-cap 90%	P-cap 90%; Res. TS 75%	80%
USB interface	USB interface		5-wire
Over 100 million touches	50 million touches		over 10 million touches
IP54	IP43		IPX1
IP65	-		-
Yes	Yes		Yes
Yes	Yes		Yes
Yes	-		-
-	Yes		Yes
Yes	Yes		-
-	No		-
Operating: 0° C ~ +40° C, Storage: -20° C ~ +60° C	Operating: 0° C ~ +40° C, Storage: -20° C ~ +60° C		Operating: 0° C ~ +40° C, Storage: -20° C ~ +60° C
10 ~ 95% @40°C (non-condensing)	10 ~ 95% @40°C (non-condensing)		10 ~ 95% @40°C (non-condensing)
20G peak acceleration (11ms duration)	20G peak acceleration (11ms duration)		20G peak acceleration (11ms duration)
470.5 x 415.2 x 75.64 mm (18.52" x 16.35" x 2.98")	405.53 x 274 x 60.82 mm (15.96" x 10.78" x 2.39")		267 x 202 x 40 mm
7.4 kg (16.31 lb)	4.65 Kg		Net 1.85kg; Gross 2.5kg
75 x 75 mm, 100 x 100 mm	75 x 75 mm, 100 x 100 mm		75 x 75 mm

## Product Selection Guide

### AVAS-200 Series Video over IP streaming box



Model		AVAS-212	AVAS-233
Video	Input resolution	Up to FHD	Up to 4K UHD
	Output resolution	Up to 4K UHD	Up to 4K UHD
	Seamless switching	Uncompressed video, latency < 1 frame	
	MultiView	Single, Picture-in-Picture, Side-by-Side, Quad view	
Audio		Analog audio in/out	
10G Network	Module	10GbE SFP+	
I/O	Video interface	DVI-D 0 in/out	DVI-D in/out
		DVI-D 1 out/LB	HDMI in/out
		-	3 x 3G SDI, 1 x 12G SDI BNC in/out
		-	CVBS RCA in/out
	USB host	2 x USB 2.0 (type A connectors)	1 x USB 2.0 (type A connector)
	USB device	1 x USB 2.0 (type B connector)	-
	Ethernet	1 x RJ45 1GbE	
	COM	1 x RS232 (RJ10 type connector)	1 x RS232 (DB9 type connector)
DC input		External PSU, 100~240V AC in / 12V DC on	
Environmental		Operation temperature 0 °C to +40 °C	
		Storage temperature -10 °C to +50 °C	
Dimension		176.50 x 220 x 44 mm	220 x 157 x 44 mm

### AVAS-400 Series Video recorder and management server



Model		AVAS-401	AVAS-402	AVAS-433
Video	Input resolution	Up tp 4K UHD (Capture)		
	Output resolution	Up to 4K UHD (Graphic engine)		
	Compression format	MPEG2, H.264, H.265		
	Capture I/O*	HDMI 2.0	UHD: HDMI 2.0 FHD (max): Y/PbPr, CVBS, S-Video, SDI, DVI	HDMI 2.0, 3G/12G SDI, DVI-D, CVBS
Audio		2 (Mic-in/ Line-out)		
System	CPU*	Intel i7-7820EQ @ 3.7GHz	Intel i7-7700 @ 3.6GHz	Intel i7-6820EQ @ 3.7GHz
	Memory*	16G		
	HDD*	1T 2.5"		
	Other*	-	-	Built-in blue-ray Disk, Display panel, Hotkey
10G Network	Module	-	-	10GbE SFP+
Video	Display interface	Display Port	Display Port	1 x HDMI 2.0 in
		HDMI	HDMI	1 x HDMI 1.4 out
		-	DVI-D	1 x Display Port 1.2 out
		-	*Display Port out, HDMI, DVI-D (Graphic)	3 x 3G SDI, 1 x 12G SDI BNC in/ out
		-	-	1 x DVI-D in/out
		-	-	1 x CVBS BNC in/out
	USB host	4 x USB 3.0	10 (8 x USB 3.0, 2 x USB 2.0)	4 x USB 3.0
	Ethernet	2 x RJ45 GbE (4kV isolations)	2 x RJ45 GbE	
	COM	1 x RS232 (4kV isolation)	1 x RS232	
	AC input	1 for 100~240V AC power cord		
Environmental		Operation temperature 0 °C to +40 °C		
		Storage temperature -10 °C to +50 °C		
Dimension		320 x 310 x 98.7 mm	320 x 329 x 145 mm	320 x 315 x 98.7 mm
SDK Function		Streaming control, capture, recording, streaming, playback, editing, tools		

\* Changeable by requirement



## AVAS-60 Surgical video workstation cart



Model		AVAS-60
Base Cart		
Dimension	Footprint	525mm x 525mm
	Work surface height	1000mm
	Total height	1950mm
	Angle capacity	85°
	ARM extension	1800mm
Archiving & Streaming System		
Video	Input resolution	Up to 4K UHD (Capture)
	Output resolution	Up to 4K UHD (Graphic engine)
	Compression format	MPEG2, H.264, H.265 (record into HD & streaming out)
Streaming	Uncompress format	Up to 4 channels (2ch x cameras, 2ch x externals)
I/O	Video input-I & -II	HDMI 2.0, 3G/12G SDI, DVI-D, CVBS
	Audio input & output	2 (Mic-in/ Line-out)
	Network	10GbE SFP+, RJ45 GbE
Host system	CPU	Intel i7-6820EQ @ 3.7GHz
	Memory	16G
	HDD	1T 2.5"
Camera		
Panoramic view	Output resolution	FULL HD
	Image Sensor	Exmor CMOS
	Camera control	PTZ
	Zoom ratio	Optical 12X
Surgical field	Resolution	4K UHD
	Image Sensor	Exmor CMOS
	Zoom ratio	Optical 12X, digital 1.67X
Medical Monitor		
	Display size	2 x 24" FULL HD LCD
Dispatch System		
	Display size	1 x 10" LCD



## Clinical Monitors

Model Name		PDC-W240	PDC-W210
Display	Display Type	23.8" wide TFT color LCD (16:9)	21.5" wide TFT color LCD (16:9)
	Native Resolution	1920 x 1080	1920 x 1080
	Support Color	16.7 M colors (6-bits+A-FRC)	16.7 M colors (6-bits+A-FRC)
	Contrast Ratio	1000:1 (Typ.)	1000:1 (Typ.)
	Luminance	250 cd/m <sup>2</sup> (Typ.)	250 cd/m <sup>2</sup> (Typ.)
I/O Ports	DVI	1	1
	HDMI	1	1
	DP	1	1
	VGA	1	1
Functions	DICOM	Compatible to DICOM Part 14	
Physical Characteristics	Dimensions (W x H x D)	583 x 386 x 69 mm (22.95" x 15.19" x 2.71")	550 x 360 x 63.66 mm (22.95" x 15.19" x 2.51")
	Weight	7.2 kg	5 kg
	Mounting	VESA 100 x 100 mm/ 75 x 75 mm	VESA 100 x 100 mm/ 75 x 75 mm
Certifications	IP Rating	IP54	IP54
	Others	EN 60601-1, IEC 60601-1-2, EN 60601-1-2, IEC 60601-1-2, FCC Part15 Class B	EN 60601-1, IEC 60601-1, EN 60601-1-2, IEC 60601-1-2, FCC Part15 Class B

# Product Selection Guide

## PAX Surgical Display



	Model	PAX-324	PAX-327		PAX-332	
Display	Screen Size	24"	27"		32"	
	Aspect Ratio	16:10	16:9		16:9	
	Resolution	1920 x 1200	1920 x 1080	3840 x 2160	1920 x 1080	3840 x 2160
	Native Luminance (Typ.)	350 cd/m <sup>2</sup>   900 cd/m <sup>2</sup>	900 cd/m <sup>2</sup>	800 cd/m <sup>2</sup>	400 cd/m <sup>2</sup>   1300 cd/m <sup>2</sup>	700 cd/m <sup>2</sup>
	Color Depth	16.7M (8bit)   1.07B (10bit)	1.07B (10bit)	1.07B (10bit)	16.7M (8bit)	1.07B (10bit)
	Viewing Angle	178x178 IPS   178x178 AHVA	178x178 AHVA		178x178 IPS   178x178 AHVA	178x178 AHVA
	Response Time	14ms	14ms   16ms		25ms	12ms
	Contrast Ratio	1000:1	1000:1		1300:1	1000:1
	Touch Screen	optional PCAP	optional PCAP		optional PCAP	optional PCAP
	Grayscale	14-bit LUT processing	14-bit LUT processing		15-bit LUT processing	
	DICOM	DICOM Part 14 GSDF Compliant	DICOM Part 14 GSDF Compliant		DICOM Part 15 GSDF Compliant	
Power	Power Supply	DC 24 V, 4.16 A	DC 24 V, 4.16 A		AC 100-240 V, 47-63 Hz, 6-3 A	
Environment	Temperature	0 ~ 40 °C (Operational) -20 ~ 60 °C (Storage)"	0 ~ 40 °C (Operational) -20 ~ 60 °C (Storage)		1 ~ 40 °C (Operational) -20 ~ 60 °C (Storage)	
	Humidity	5 ~ 90%	5 ~ 90%		6 ~ 90%	
	Pressure	500 hPa to 1013 hPa	500 hPa to 1013 hPa		501 hPa to 1013 hPa	
	Dimension	578.13 x 68 x 402.78 mm	663.83 x 73.55 x 418.11 mm		768.67 x 70.50 x 477.71 mm	
	Weight	7.20 ~ 7.85 kg	10 kg		13.26 kg	
	IP Rating	Front IP65 / Top IPX1	Front IP65 / Top IPX1		Front IP65 / Top IPX1	
	VESA	100 x 100; 75 x 75 mm	100 x 100; 75 x 75 mm		101 x 100; 75 x 75 mm	
Signals	Input & Output	DVI-D x 2 each	DVI-D x 2 each	DVI-D x 1 each	DVI-D x 2 each	DVI-D x 1 each
		SDI x 1 each	SDI x 1 each	DP 1.2 x 1 each	SDI x 1 each	DP 1.2 x 1 each
		S-Video x 1 each	S-Video x 1 each	HDMI 2.0 x 1 each	S-Video x 1 each	HDMI 2.0 x 1 each
		Video x 1 each	Video x 1 each	SDI 3G x 4 each or 12G x 1 each	Video x 1 each	SDI 3G x 4 each or 12G x 1 each
	Input Only	DP 1.2 x 1	DP 1.2 x 1	-	DP 1.2 x 1	-
		HDMI 2.0 x 1	HDMI 2.0 x 1	-	HDMI 2.0 x 1	-
		RGB x 1	RGB x 1	-	RGB x 1	-
Certification	Medical Grade	CE MDD 93/42/EEC (EN60601-1; EN60601-1-2), RoHS II	CE MDD 93/42/EEC (EN60601-1; EN60601-1-2), RoHS II		CE MDD 93/42/EEC (EN60601-1; EN60601-1-2), RoHS II	

# Medical Tablets



Model		MIT-W101	MICA-053	AIM-55	AIM-58
Physical Characteristics	Dimensions (W x H x D)	292 x 196 x 20 mm (11.5 x 7.7 x 0.79 inch)	82 x 161 x 22 mm	142 x 240 x 14.5mm	280 x 18.3 x 180.1 mm
	Weight	1.1 kg (Base Configuration)/ 2.4 lb	253 g with battery	590g	980g
Display	Size	10.1"	5"	8"	10"
	Touch Panel	10-point Projected CapacitiveTouch	Capacitive touch	*EETI EXC3146, 10-fingers support	Corning Gorilla Glass 3 with 10-point P-CAP touch control
	Display Type	10.1" TFT LCD Panel, Enhanced Class	5" LCD	WUXGA, IPS, 400nits	WUXGA, FHD LCD
	Max. Resolution	1280 x 800	1280 x 720	1200x1920	
Computing System	CPU	Intel® Celeron® Processor N2930, Quad Core 1.83GHz	Cortex™-A53, Quad-core, 1.3 GHz	Intel Atom x5-Z8350 quad-core, 1.44GHz (up to 1.92 GHz)	Intel Atom x7-Z8750 quad-core, 1.6 Ghz (2M cache, up to 2.56 Ghz)
	Memory	DDR3L 1066MHz SODIMM ( Default 4GB, up to 8GB)	2 GB	2GB/4GB, DDR3L-RS 1600	4 GB LPDDR3 (up to 8 GB)
	Operating System	Microsoft Windows Embedded 8, Win10 LTSC	Android 5.1	Win10 IoT Enterprise / Android 6.0	
Storage	HDD	SSD:mSATA SSD x1 (Default 64GB, up to 128GB)	16 GB	32GB eMMC (Max: 64GB)	64 GB default (up to 128 GB)
Communications	WiFi	Wireless IEEE 802.11a/b/g/n	IEEE 802.11 a/b/g/n, 2.4GHz/5GHz	802.11 b/g/n	802.11a/b/g/n/ac
	Bluetooth	Bluetooth v4.0 CLASS II	Bluetooth V4.1 BLE	BT4.0	BT4.1
	GPS	-	GPS, GLONASS, Galileo, and BeiDou	Huawei ME936 + AGPS (GPS/ GLONASS)	Standalone GPS supports GLONASS, BeiDou
	NFC	Read/Write device compatible with ISO15693, ISO14443A, ISO14443B, Felica	13.56MHz RFID Compatible with ISO 15693, ISO 14443A/B,	NXP NPC100	NXP NPC100
Audio		Internal speaker x1, Internal mono microphone x1	Internal speaker x1, Internal mono microphone x1	x2 Built-In Digital MIC x1 80dB 1Watt SPK 0.5M	2 x internal speakers 1 x audio combo jack
Connectivity	I/O Ports	omboaudio x1, USB 3.0 x1, USB 2.0 x1, Micro HDMI x1, DC Jack x1, Expansion Port x1, Docking Port x1	1 x Micro USB 2.0 client (via charging cable)	x1 Audio combo Jack, x1 Micro HDMI CONN, x1 Micro-SIM + Micro-SD (Double tray)	1 x micro HDMI, 1 x USB 3.0, 1 x combo audio jack, 1 x 19 VDC-in jack, 1 x SIM card reader, 1 x micro SD card reader
	Camera	2.0M Fixed Focus camera at front, 5.0M Auto Focus camera with LED flash at rear	1 x 13 MP camera with LED flash and auto focus	Front: 2MP Rear: 5MP, Auto Focus	
	Barcode Scanner	2D Barcode scanner (Optional)	1D/2D	2D Barcode scanner (Optional)	
Control Buttons		Power button, Programmable button x2	3 x Function keys, 1 x Power button, 2 x Scanner trigger buttons	-	-
Power	AC Adapter In	100 – 240V ~ 1.5A 50/60 Hz	100-240V, 50~60Hz, 0.35A	100-240V, 47~63Hz, 0.8A	100-240 V ~ 1.5 A 50/60 Hz
	AC Adapter Out	18V, 3.5A, Max 63W	5V, 2A	5V, 3A, 15W 9V, 2A, 18W	19 V, Max.65 W
	Battery Type	Lithium-ion standard battery	Lithium-polymer battery (Non-swappable)	Lithium-ion battery	
	Battery Capacity	Main Battery: 31.7Whrs (11.1V 2860mAh), Extended Battery: 49Whrs (11.1V 4540mAh) (Optional)	3.8V 3600mAh	3.8V, 4900mAh, 18.62Wh.	26Wh
Ingress Protection	Dust/Water Resistance	IP-65	IP-54	IP65	
Environment	Temperature	Operating: -10°C/ +14°F ~ +50°C/ +122°F Storage: -30°C/ -22°F ~ +70°C/ +158°F	Operating: -20°C/ -4°F ~ +60°C/ +140°F (0 ~ 40 °C/32 ~ 104 °F when charging) Storage: -30°C/ -22°F ~ +70°C/ +158°F	-10°C ~ +50 °C	
	Humidity	Operating & Storage: 5% ~ 95% @40°C/104°F non-condensing	-	10% ~ 90% @ 30°C non-condensed	
	Shock Resistance	Operating: 20 G, 11 ms, Non-operating: 40 G, 11ms	-	Operating: Half sine wave shock: 30G, 11 ms duration Non-operating: Half sine wave shock: 100G, 6 ms duration	
	Handling Drop	4ft drop onto steel plate, 4ft drop onto 2inch plywood over concrete (MIL-STD 810G), 6ft drop with add-on bumper	1.2M	4 feet drop onto Plywood & concrete, MIL-STD-810G Method 516.6 procedure IV (W/O add-on module)	
Certifications		FCC Class B, CE, CB, IEC/ EN60601-1 uL/RED/TUV/SAR Expansion Module	CE/FCC/CCC	CE/FCC/CCC ClassB RCM/VCCI UL60950/CB/CCC/BSMI/EN60601-1/EN1789 (AIM55 Available)	
Optional Module & Accessories		(MSR+ Smart Card Reader), Docking Station, Rugged Bumper, 3-in-1 Multifunction Cover, X-type Strap, Shoulder Strap, Stylus Pen, Extended Battery	-	20 degree barcode, 70 degree barcode, VESA Dock & Stand Lan & Com, Multi Tablet charging station, Multi Battery charging station, Stylus, Hand strap / Shoulder strap	



## Product Selection Guide

### Healthcare Infotainment Terminals



Model Name		HIT-73	HIT-W101	HIT-W123
Size/Display Type		7" Healthcare Information Terminal	10.1" Healthcare Information Terminal	11.6" Healthcare Information Terminal
Hardware	CPU	Intel® Apollo Lake N3350/N4200	Intel® Apollo Lake N3350/N4200	Intel® Apollo Lake N4200 (2M Cache, up to 2.5 GHz)
	Memory	4GB DDR3L (up to 8GB)	4GB DDR3L (up to 8GB)	4GB DDR3L (up to 8GB)
	Storage	M.2 2242 64GB (Up to 128GB)	M.2 2242 64GB (Up to 128GB)	M.2 2242 64GB (Up to 128GB)
	Camera	5 Megapixel	5 Megapixel	5 Megapixel
	Bus Expansion	-	-	Mini PCIe x 1
Display	Size	7" TFT (16:9)	10.1 TFT (16:10)	11.6" (16:9)
	Max Resolution	1204 x 600	1280 x 800	1366 x 768
	Brightness	400 cd/m²	400 cd/m²	250 cd/m²
	Contrast Ratio	900 : 1	1300 : 1	500:1
	Type	PCAP Touch	PCAP Touch	PCAP Touch
Touchscreen	Light Transmission	88%	88%	88%
	Durability	30 million touches	30 million touches	30 million touches
I/O Ports	USB	USB 3.0 x 2	USB 3.0 x 2	USB 3.0 x 1 (Rear) USB 2.0 x 2
	COM Port	1	1	VGA
	HDMI Port	1	1	-
	Smart Card Reader	-	-	1
	RFID	Yes (Optional)	Yes (Optional)	1
	SD Card Reader	-	-	-
Audio	Speaker	2watt x 1	2watt x 2	2 watt x 2
	Internal Microphone	-	1	1
Network	LAN	10/100/1000 Mbps x1	10/100/1000 Mbps x1	10/100/1000 Mbps x1
	WLAN	802.11 a/b/g/ac & BT4.2	802.11 a/b/g/n/ac & BT4.2	802.11 a/b/g/ac & BT4.2
Software	OS	Win 10 IoT 64bit, Android 6.0.1; Linux by project based	Win 10 IoT 64bit, Android 8.1; Linux by project based	Win 10 IoT, Android 6, Ubuntu
Function key	Hotkey	Power button x1	Power button x1	Power button x1
Nurse Call Bottom	Hotkey	-	-	-
Emergency Alarm	LED Light Indicator	1	1	1
Mechanical	Mounting	VESA 75 x 75 mm	VESA 75 x 75 mm	VESA 75/100 mm
	Dimensions (WxHxD)	187 x 122 x 32mm (7.4 x 4.8 x 1.3 in)	247 x 189 x 22mm (9.7 x 7.4 x 0.9 in)	302.5 x 220.3 x 43mm (12 x 8.7 x 1.7 in)
	Weight	1kg (2.2ib)	1kg (2.2ib)	2.3kg (5.1ib)
IP Rating	Front Panel	IP65	IP65	IP65
Certifications	MC & Safety Cert.	CE/FCC, CB, UL ITE IEC 62368, CCC	CE/FCC, CB, UL ITE IEC 62368, CCC	CE/FCC, CB, UL ITE IEC 62368, CCC, MDD
Power Supply	Input Voltage	100 – 240VAC, 1.1 – 0.45A @ 47 – 63Hz	100 – 240VAC, 1.1 – 0.45A @ 47 – 63Hz	100 – 240VAC, 1.1 – 0.45A @ 47 – 63Hz
	Output Voltage	ITE or Medical 12 VDC, 3.42A	ITE or Medical 12 VDC, 3.42A	ITE or Medical 18-19 VDC, 3.42A
Accessories (Optional)	Handset	Yes (Add-on Module)	Yes (Add-on Module)	Yes (Add-on Module)
	Barcode Scanner	-	-	Yes
	TV Tuner	-	-	-
	POE	Yes (Optional)	Yes (Optional)	TBD
	ARM	-	-	-
	Table Stand	Yes (Optional)	Yes (Optional)	Yes



HIT-W153	HIT-W183
15.6" Healthcare Information Terminal	18.5" Healthcare Information Terminal
Intel® Apollo Lake N4200 (2M Cache, up to 2.5 GHz)	Intel® Apollo Lake N4200 (2M Cache, up to 2.5 GHz)
4GB DDR3L (up to 8GB)	4GB DDR3L (up to 8GB)
M.2 2242 64GB (Up to 128GB)	M.2 2242 64GB (Up to 128GB)
5 Megapixel	5 Megapixel
Mini PCIe x 1	Mini PCIe x 1
15.6"(16:9)	18.5"(16:9)
1920 x 1080	1920 x 1080
425 cd/m <sup>2</sup>	350 cd/m <sup>2</sup>
800:1	1000:1
PCAP Touch	PCAP Touch
88%	88%
30 million touches	30 million touches
USB 3.0 x 1 (Rear)	USB 3.0 x 1 (Rear)
USB 2.0 x2	USB 2.0 x2
Yes (Optional)	Yes (Optional)
-	-
1(Optional 2nd reader)	1(Optional 2nd reader)
1	1
-	-
3Watt x 2	3Watt x 2
1	1
10/100/1000 Mbps x1	10/100/1000 Mbps x1
802.11 a/b/g/ac & BT4.2	802.11 a/b/g/ac & BT4.2
Win 10 IoT, Android 6, Ubuntu	Win 10 IoT, Android 6, Ubuntu
6	6
1	1
1	1
VESA 75/100 mm	VESA 75/100 mm
400.1 x 273 x 43mm (15.8 x 10.7 x 1.7 in)	466.4 x 311.5 x 43mm (18.4 x 12.3 x 1.7 in)
3.2kg (7lb)	3.9kg (8.6lb)
IP65	IP65
CE/FCC, CB, UL ITE & Medical IEC 60601-1 & IEC 62368, CCC,	CE/FCC, CB, UL ITE & Medical IEC 60601-1 & IEC 62368, CCC,
100 – 240VAC, 1.1 – 0.45A @ 47 – 63Hz	100 – 240VAC, 1.1 – 0.45A @ 47 – 63Hz
ITE or Medical 18-19 VDC, 3.42A	ITE or Medical 18-19 VDC, 3.42A
Yes (Add-on Module)	Yes (Add-on Module)
Yes	Yes
Yes(Built-in Module)	Yes(Built-in Module)
Yes	-
Wall Mount / Ceiling Mount	Wall Mount / Ceiling Mount
Yes	Yes

## Product Selection Guide

### Computerized Medical Carts



Category	Attribute	AMIS-50E
Base Cart	Footprint	19.7" x 18.5" (500 x 470 mm)
	Casters	125mmx125mm (Anti-Static Medical casters, two locking, two non-locking)
	Height Adjustment Range	35.0" ~ 48" (887 ~ 1217 mm); Stroke 330mm
	Display Holder	Standard VESA Mount (VESA 75/75; VESA 100/100); Weight capacity: max. 18 kg
	I/O Ports	USB3.0 ports x 4, Gigabit Ethernet Interface (RJ-45) x 1
	Dashboard	Battery power button Computer power button LED for battery capacity indication
	Work surface	18.5" x 19.3" (469.9 x 489.9 mm) Loading Capacity: 66lb/30kg
	Keyboard & Mouse Area	Keyboard size: Up to 380 x 140 x 25mm Keyboard LED light Mouse tray
	Accessory extend Used	Neck: Dove Tail Work Surface: Din Rail (Right, Left and Rear)
Power Module	Battery Type	Lithium-ion
	Battery Capacity	420Wh
	Power Input Voltage	100-240Vac, 50-60Hz, Max 4.5A
	DC Output Voltage	System 1: 19 VDC, Max. 6 A System 2: 12 VDC, Max. 5 A
	Battery Life SPAN	Capacity 80%, 2000cycles or 2 years (Depends on which term come first)
	Battery Charge Time	< 3hr. DOD 100%
Battery Manager Software	Battery Runtime (Depends on system configuration)	8~10 Hours
	AMIS_Link	Battery capacity indicator Alerts (battery capacity, temperature, warning) Battery Life cycle statistics Report & log file Client Installation Server Installation (Optional) Multi-language support, including Chinese Traditional, Chinese Simple, English, German and Dutch CE, FCC, IEC60601-1 Compliance
Certificate		

Category	Attribute	Computer
All-in-One Computer	CPU	Intel Core i5-7300U 2.6GHz
	Memory	4 GB DDR4 SODIMM
	Storage	2.5" SATA SSD 128GB
	Display	21.5" 1920 x 1080 FHD P-Cap Touch Screen
	WiFi	Intel® Dual Band Wireless-AC 8265
	Speaker	1.5 Watt x 2
	IP Rating	Front Panel: IP65 Entire Computer: IPX1
	Operating System	Win10 IoT
Embedded Computing System	CPU	Intel® Core™ i7 6600U
	Chipset	6th Gen Intel® Core™ Mini-ITX
	Memory	4GB DDR4 SO-DIMM max16x2
	Storage	2.5" SATA HDD 500 GB
	Box PC I/O Ports	DP/HDMI x 1
		DP++ x 1
		Ethernet x 2
		COM x1
		USB 3.0 x 4
	WLAN	2 single audio jack for Line-Out (green), Mic-in (Red) DC Jack x 1
		802.11a/b/g/n
	Operating System (Optional)	Support Microsoft Window 10

Category	Attribute	AMIS-50M(W/O PC)
Base Cart	Footprint	19.7" x 18.5" (500 x 470 mm)
	Casters	125 x 125 mm (Medical casters, two locking, two non-locking)
	Height Adjustment Range	32.0" ~ 45.8" (813 ~ 1163 mm); stroke 350 mm
	Display Holder	Standard VESA Mount (VESA 75/75; VESA 100/100); Weight capacity: max. 12kg
	I/O Ports	USB 2.0 ports x 3
	Dashboard	Battery power button Computer power button LED for battery capacity indication
	Work surface	18.5" x 16.2" (471 x 413 mm) Extra loading capacity: Up to 66 lb/20 kg
	Keyboard & Mouse Area	Keyboard size: 431 x 143 x 24 mm
	Accessory Integration Interface	Work Surface: Din Rail (Right and Left )
Power Module	Battery Type	Lithium-ion
	Battery Capacity	420Wh
	Power Input Voltage	100-240Vac, 50-60Hz, Max 4.5A
	DC Output Voltage	System 1: 19 VDC, Max. 6 A System 2: 12 VDC, Max. 5 A
	Battery Life SPAN	Capacity 80%, 2000cycles or 2 years (Depends on which term come first)
	Battery Charge Time	< 3hr. DOD 100%
Battery Runtime (Depends on system configuration)	Battery Runtime	8~10 Hours
E-Medication box	level/ weight	4/ 13.2 kg
	Box dimensions	W 466 * D 295 * H 60 (mm)
	single bin	W 95 * D 295 * H 60 (mm)
	double bin	W 190 * D 295 * H 60 (mm)
	double high bin	W 190 * D 295 * H 140 (mm)
	power	12V DC, 7.2W max
	lock-mechanism	electrical (individual) lock on each bin controlled by pc.
	lock-override	manual open all the bins by key.
Demo AP	Basic system	
	patient medication administration system	a demo application of AMIS-50M, include basic system to build the basic information in the system, Patient medication administration system is to scan the patient barcode and open the bin. Medication management is for controlled drug management system.
simulator	HW simulator	An application to generate an E-Medication box on pc.
	Simulator test AP	An application to simulate and present all the system response and action.
SDK & API	E-Medication box control API	dll file to control& connect the E-Medication box.
	E-Medication box control sample code	the sample code to present how to control the E-Medication box.



## Medical Cart Accessories

				
4U Medication Box AMIS-M41111XX-00AE	4U Medication Box AMIS-M41120XX-00AE	4U Medication Box AMIS-M41300XX-00AE	4U Medication Box AMIS-M42200XX-00AE	4U Medication Box AMIS-M4A120XX-00AE
				
4U Medication Box AMIS-M4AA20XX-00AE	4U Medication Box AMIS-M4AAAAXX-00AE	6U Medication Box AMIS-M6111111-00AE	6U Medication Box AMIS-M6112200-00AE	6U Medication Box AMIS-M6123000-00AE
				
6U Medication Box AMIS-M6A12200-00AE	6U Medication Box AMIS-M6A23000-00AE	6U Medication Box AMIS-M6AAAAAA-00AE	Hand Disinfection Holder AMIS-60-HD-00-AE	Sharp Container and Hand Disinfection Holder AMIS-60-SH-00-AE
				
Sharp Container x 2 AMIS-60-SC-01-AE	Mouse Holder AMIS-50-MH-00-AE	Barcode Scanner AMIS-60-BS-00-AE	Glove Compartment AMIS-50-AACN-00-AE	Storage Baskets AMIS-60-BK-00-AE
				
Infusion Equipment AMIS-60-IF-00-AE	Monocular Trash Can AMIS-50-TC-10-AE	Binocular Nursing Trash Can AMIS-50-TC-30-AE	Expand Plate + Mount Kit AMIS-60-EP-00-AE	Storage Box AMIS-50-SB-MAIN-AE
				
Main Housing (for AMIS-60) AMIS-60-SB-MAIN-AE	Blue Bin AMIS-60-SB-BIN-AE	White Drawer AMIS-60-SB-DWR-AE	Bottle Holder AMIS-60-SB-HDR-AE	Storage Box Customizable

# Product Selection Guide

## Intelligent Power System



Category		IPS-M420S	IPS-M210S	IPS-M100	POC-IPSM90
Power Supply	BatteryType	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
	Battery Capacity	420Wh	210Wh	200Wh (single power module 100Wh x 2)	90Wh each, Total 270Wh
	Battery Lifespan	Capacity 80%, 2000cycles or 2 years (Depends on which term come first)	Capacity 80%, 1000cycles or 1 year (Depends on which term come first)	500 cycle capacity more than 70%	300 cycle time ≥ 70%
	ChargeTime	< =3hr.400Wh	< =1.5hr 200Wh	0% ~ 80%, 2.5hr 2 power module	Single battery Pack 0~80%: ~90 mins @ (5A Charge) 0~100%: ~ 150 mins Three battery Packs 0~80%: ~270 mins @ (5A Charge, share with three battery pack) 0~100%: ~ 330 mins
	InputVoltage	100 ~ 240 VAC, 50 ~ 60 Hz, Max 4.5 A	100 ~ 240 VAC, 50 ~ 60 Hz, Max 4.5 A	100 ~ 240VAC, 50 ~ 60Hz, Max. 2.5A	100~240V AC
	DC OutputVoltage	System 1:19VDC,Max.6A System 2:12VDC,Max.5A	System 1: 19 VDC, Max. 6 A System 2: 12 VDC, Max. 5 A	System Mode: 19 V±5% (Max.4.73 A)	12V, 19V, 24V (By DIP switch adjustable)
	Charging Status Indicators	LEDs with continuous readout; intelligent software	LEDs with continuous readout; intelligent software	Discharging LED: green Capacity LED: 30% < green 100% 10% < orange 30% 0% < red flashing 10%	Power button with LED indicator on battery pack; intelligent software
I/O Ports	DC Output Interface	DC jack (4-pin locking mini-din connector)	DC jack (4-pin locking mini-din connector)	DC Jack (4-pin mini lock DIN)	1 x DC-out (M12 5pin female, IP54)
	Communication Interface	RS-232	RS-232	RS-232 (RJ45 Type)	RS-232: COM+USB signal (M12 8pin female, IP54)
Environment	Vibration	5 ~ 500 Hz, 1 G	5 ~ 500 Hz, 1 G	5 ~ 500 Hz 1 G	5 ~ 500 Hz, 1 G
	Operating Temperature	30° C	30° C	30° C	0~35°C
	Cooling System	Fanless	Fanless	Fanless	Fanless
	Water Resistance	IP67 DC output connector	IP67 DC output connector	IPX1, IP67 DC output connector	IP54 DC output connector
Physical Characteristics	Dimensions	282 x 260 x 101 mm (11.1" x 10.2" x 3.9")	282 x 258 x 100 mm (11.1" x 10.2" x 3.9")	Battery: 126 x 50.4 x 266.5 mm (L x W x H ) System: 303 x 139 x 210 mm (L x W x H )	563.8x124.8x68.1(74.5)mm
	Weight	8 kg	7 kg	7kg (with 2 Battery Modules)	< 3.5 kg (with three Battery Packs)
Certifications		IEC 60601-1 Compliance, CE, FCC Class B Certified, CCC	IEC 60601-1 Compliance, CE, FCC Class B Certified, CCC	60601-1 compliance; 60601-1-2	Battery Pack: UN38.3, UL, CB, GB, CE IEC60601-1compliance: POC-W213/POC-W243 with POC-IPSM90
AMiS_Link	Capabilities	Battery capacity indicator Alerts (battery capacity, temperature, warning) Battery life cycle statistics Report & log file Client installation & server installation (Optional) Client installation & server installation (Optional)	Battery capacity indicator Alerts (battery capacity, temperature, warning) Battery life cycle statistics Report & log file Client installation & server installation (Optional) Client installation & server installation (Optional)	Battery capacity indicator Alerts (battery capacity, temperature, warning) Battery life cycle statistics Report & log file Client installation & server installation (Optional) Client installation & server installation (Optional)	<b>POC_Link</b> Battery capacity indicator Alerts (battery capacity, temperature, warning) Battery life cycle statistics Report & log file Client installation & server installation (Optional) Multi-language support, including Traditional Chinese, Simplified Chinese, English, German and Dutch

\* Test results by Passmark BatteryMon V2.1 with a minimum of peripherals connected

## USM Medical Computers



Model	USM-500	USM-300	USM-110W
Height	132mm(3U)	88mm(2U)	28mm
Dimension	320 x 132 x 310mm	320 x 88 x 310mm	156 x 112 x 28mm
Weight	10kg	4.7kg	0.43kg
Platform	Intel Coffee Lake	Intel Kabylake	ARM Cortex A-17 Quad Core
CPU	i5-8500T/Barebone	i7-7700T/Barebone	Mali-T764(1.6GHz)
Memory	8GBDDR4/Up to 64GB	4GBDDR4/up to 16GB	2G DDR3L
HDD	500GB(HDD) x 1/2.5" HDD(optional)	128GB(SSD)/M.2 HDD(optional)	eMMC 8G(110)/16G(120)
ODD	DVDRW(optional)	DVDRW(optional)	N/A
Expansion	*PCI-E*16, PCI-E*8, PCI-E*4, PCI-E*1, M.2 (M key, PCIe4), M.2(M Key)	2xPCI-E*8, M.2, MiniPCI-E	MicroSD, M.2, MiniPCIe(120 only)
Display	HDMI x 1, DP x 2, LVDS(optional)	VGA x 1, HDMI x 1, DP x 1/HDMI x 4	HDMI x 1/HDMI x 2
Ethernet	RJ45 x 4	RJ45 x 2	RJ45 x 1
Real I/O	USBx3.1 x 4, USB2.0 x 4, RS232 x 1	USB3.0 x 4, RS232 x 1	RS232 x 1
Front I/O	USB3.0 x 2	USB3.0 x 2	USB x 1(110)/USB x 4(120)
GPIO	16bit	8bit	N/A
Operation System	Win10/Linux CentOS	Win10	Andriod 6.0/Linux Debian 7
Power Supply	Medical grade 500W(100~240V)	Medical Grade 250W(100~240V)	12V/3A
Operation Temperture	0 °C to +40 °C	0 °C to +40 °C	0 °C to +40 °C
Storage Temperture	e -40 °C to +85 °C	e -40 °C to +85 °C	e -40 °C to +85 °C
Certification	CE/FCC/CCC/IEC-60601-1-2(4th)	BSMI/CE/FCC/CCC/UL/CB	BSMI/CE/FCC/CCC/UL/CB

## RTLS for Hospital



Locator

Locator

Tag

Model	USM-110W	USM-100	Model	LEO-T21
Size	156 x 112 x 28mm	110 x 79 x 29mm	Size	32x32x6mm
Range	50m(no partition)	30m(no partition)	Battery	CR2032 x 1
OS	Android 6.0/Linux	Android 6.0/Linux	OS	iOS7.0/Android 4.3
Density	50~80 m <sup>2</sup>	50~80 m <sup>2</sup>	Distance	10 meters
Power	100~240V to 12V 36W	100~240V to 12V 36W	Life Time	8-10 months



Edge Server

Edge Server

Media Player

Nursing Dashboard

Medical Tablet

Model	USM-500	USM-300	USM-110W	HIT-553	AIM-55(8'') / AIM-58(10'')
Size	320 x 132 x 310mm	320 x 88 x 310mm	156 x 112 x 28mm	55"	240x72x17.5mm
Spec	i5, 8G Memory	i5, 8G Memory	RK3288	450nits/10points touch/ FHD	-
OS	Window10	Window10	Android 6.0	Windows 10 (64bit)	Android 6.0/Win10
Density	Around 200 Tag	Around 100 Tag	Dual HDMI	Depends on user	Depends on user
Power	100V to 240V	100V to 240V	100~240V to 12V 36W	100~240V	100~240V to 12V 36W



## Regional Service & Customization Centers

### China

Kunshan  
86-512-5777-5666

### Taiwan

Taipei  
886-2-2692-6076

### Netherlands

Eindhoven  
31-40-267-7000

### Poland

Warsaw  
48-22-33-23-730

### USA

Milpitas, CA  
1-408-519-3800

## Worldwide Offices

### Greater China

#### China

Toll Free	800-810-0345
Beijing	86-10-6298-4346
Shanghai	86-21-3632-1616
Shenzhen	86-755-8212-4222
Chengdu	86-28-8545-0198
Hong Kong	852-2720-5118

#### Taiwan

Toll Free	0800-777-111
Neihu	886-2-2792-7818
Xindian	886-2-2218-4567
Taichung	886-4-2378-6250
Kaohsiung	886-7-229-3600

### Asia Pacific

#### Japan

Toll Free	0800-500-1055
Tokyo	81-3-6802-1021
Osaka	81-6-6267-1887

#### Korea

Toll Free	080-363-9494
Seoul	82-2-3663-9494

#### Singapore

Singapore	65-6442-1000
-----------	--------------

#### Malaysia

Toll Free	1800-88-1809
Kuala Lumpur	60-3-7725-4188
Penang	60-4-537-9188

#### Thailand

Bangkok	66-2-248-3140
---------	---------------

#### India

Toll Free	1800-425-5070
Bangalore	91-80-2545-0206

#### Indonesia

Jakarta	62-21-769-0525
---------	----------------

#### Australia

Toll Free	1300-308-531
Melbourne	61-3-9797-0100
Sydney	61-2-9476-9300

### Europe

#### Germany

Toll Free	00800-2426-8080
Munich	49-89-12599-0
Düsseldorf	49-2103-97-855-0

#### France

Paris	33-1-4119-4666
-------	----------------

#### Italy

Milano	39-02-9544-961
--------	----------------

#### Benelux & Nordics

Breda	31-76-5233100
-------	---------------

#### UK

Reading	44-0118-929-4540
---------	------------------

#### Poland

Warsaw	48-22-33-23-740 / 41
--------	----------------------

#### Russia

Toll Free	8-800-555-01-50
Moscow	7-495-232-1692

### Americas

#### North America

Toll Free	1-888-576-9668
Cincinnati	1-513-742-8895
Milpitas	1-408-519-3898
Irvine	1-949-420-2500

#### Brazil

Toll Free	0800-770-5355
Saude-São Paulo	55-11-5592-5355

#### Mexico

Toll Free	1-800-467-2415
Mexico City	52-55-6275-2777

# ADVANTECH

*Enabling an Intelligent Planet*

[www.advantech.com](http://www.advantech.com)

Please verify specifications before ordering. This guide is intended for reference purposes only.

All product specifications are subject to change without notice.

No part of this publication may be reproduced in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission of the publisher.

All brand and product names are trademarks or registered trademarks of their respective companies.

© Advantech Co., Ltd. 2019

8600000453