

# Edge Visualization Solutions

## Enabling Visual Experiences and Interactivity



- Overview
- Product Offerings
- Case Studies
- Product Selection



**Edge<sup>+</sup>**  
Visualization

**ADVANTECH**

Enabling an Intelligent Planet

Intel  
partner  
Titanium

www.advantech.com

# Visualize the World Using Digital Signage

Immersive cloud computing and AI technologies are making digital signage more connected, interactive, and personalized. Advantech develops comprehensive edge visualization solutions that deliver compelling visual experiences and interactivity from the edge to the cloud. Our solutions can be found in fast-food, retail, transportation, banking, and education applications; and comprise digital signage players, SignageCMS content management software, DeviceOn device management software, FaceView AI facial recognition, and edge servers. Advantech's edge-to-cloud visualization solutions reduce development expenditures and time-to-market.



## Edge Cloud

Advantech Edge Cloud solution provides a secure, reliable on-site server capable of local hosting and maintenance. It also supports important customer and operation information processing.



## Device Management

Advantech DeviceOn supports sensor/camera data collection, transmission, and storage. Users can also manage and control digital signage via remote KVM functions.



## Content Management

WISE-PaaS/SignageCMS enables easy content layout editing, scheduling, and dispatching. Its up-to-date scheduling function allows real-time information and advertising campaign management.



## AI Facial Recognition

FaceView provides a 99.7% accuracy rate in TAR@ 1E-4, real-time facial recognition; and mask and body temperature detection features.

## Edge Visualization Computers

### Entry Level



**DS-100**  
Rockchip RK3399



**DS-370**  
Intel® Celeron®  
J1900 quad-core

### Ultra Slim



**DS-066**  
Intel® Celeron®  
J1900 quad-core



**DS-082**  
AMD Ryzen™  
V1000/ R1000



**DS-085**  
11th Gen. Intel® Core™  
i3/ i5/ i7/ Celeron®

Departures			
Time	To	Gate	Remark
15:00	LONDON	A10	CANCELLED
15:02	TOKYO	A03	ON TIME
15:08	TAIPEI	A17	ON TIME
15:09	PARIS	B15	ON TIME



**WISE-DeviceOn**  
Device Management

**WISE-PaaS/SignageCMS**  
Content Management

**FaceView**  
AI Facial Recognition



**Multi-Display**



**DS-580**  
Intel® Atom® E3950  
with NVIDIA®  
GT1030 GPU



**DS-780**  
6th Gen. Intel® Core™  
i3/ i5/ i7/ Celeron®



**DS-980**  
6th/7th Gen. Intel® Core™  
i3/ i5/ i7/ Celeron®

**SDM/OPS Modular**



**DS-200**  
8th Gen. Intel® Core™  
i3/ i5/ Celeron®



**DS-211**  
Rockchip RK3399



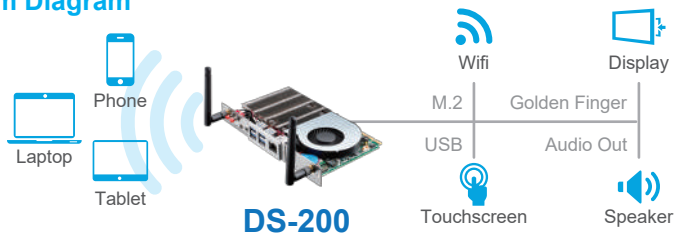
## Smart Whiteboard and Conference Signage

Companies seek to improve communication efficiency through skill and knowledge sharing while reducing operational costs. A leading total display solutions provider used Advantech's DS-200 smart display module to provide smart whiteboard and conference signage in limited space environments. DS-200 provides an audio, visual, and touch enabled system that facilitates communication, idea generation, and video conferencing. It also saves on installation and on-site maintenance.

### Benefits

- Slot-in design for easy installation
- Modular design adaptable to different needs
- Supports up to three independent displays

### System Diagram



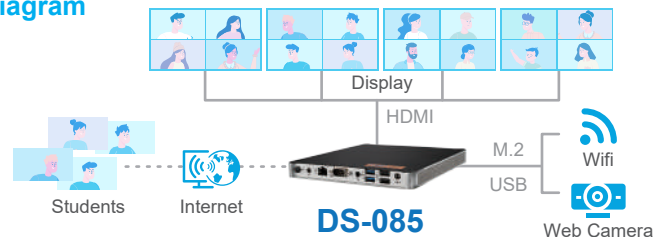
## Future-proof Remote Classroom

The pandemic has forced schools to embrace remote learning technology. DS-085 enables virtual classrooms by connecting to four video streams and delivering an easy-to-integrate slim design. DS-085 empowers new levels of engagement and participation in distanced learning.

### Benefits

- Supports up to 4 displays
- Slim design for easy installation
- Fanless thermal solution for reliability and quiet operation

### System Diagram





## Retail Signage for Smart Targeting and Analytics

The customer combines in-store digital signage with computer vision to improve business intelligence. Advantech's DS-066 delivers advertisements and analyzes audiences according to gender and age. It also calculates the length of time someone views an ad. The preloaded content management software, WISE-PaaS/SignageCMS, allows users to manage and arrange advertisements with a user-friendly interface.

### Benefits

- Powerful computing abilities
- Built-in content management software
- Industrial, fanless, and cable-free design for 24/7 operation

### System Diagram



## Flight Information Display Systems

FIDS utilizes multiple monitors to deliver current information and services to passengers. Advantech's DS-780 conveys flight information using up to three independent displays, and provides advertisement space with minimal downtime. It supports HEVC video decoding for better compression ratios that require less storage space. In addition, its industrial design supports 24/7 operation.

### Benefits

- Advanced graphics engine with Intel® HD 520
- Supports three HDMI displays
- Linux OS improves stability and security

### System Diagram



# Digital Signage Solutions

## Entry-Level Series

## Ultra-Slim Series



Model Name		DS-100	DS-100 Lite	DS-066	DS-082	DS-085S	DS-085L
Processor	CPU	Rockchip RK3399	Rockchip RK3399	Intel® Celeron® J1900	AMD Ryzen™ V1807B AMD Ryzen™ V1605B AMD Ryzen™ R1606G	Intel® Core™ i7-1165G7 Intel® Core™ i5-1135G7 Intel® Core™ i3-1115G4E Intel® Celeron® 6305E	"Intel® Core™ i7-1165G7 Intel® Core™ i5-1135G7 Intel® Core™ i3-1115G4E Intel® Celeron® 6305E"
	BIOS	-	-	AMI uEFI 64 Mbit	AMI uEFI 128Mbit	AMI uEFI 128 Mbit	AMI uEFI 128 Mbit
	Chipset	-	-	Integrated with CPU	Integrated with CPU	Integrated with CPU	Integrated with CPU
Memory	Technology	LPDDR3 1600MHz	LPDDR3 1600MHz	DDR3L 1333MHz	DDR4 2400MHz	DDR4 2666MHz	DDR4 2666MHz
	Max. Capacity	2 GB on board	2 GB on board	8 GB (4 GB per SODIMM)	32 GB (16 GB per SODIMM)	32 GB (16 GB per SODIMM)	32 GB (16 GB per SODIMM)
	Socket	-	-	2 x 204-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM
Display	Controller	-	-	Integrated with CPU	Integrated with CPU	Integrated with CPU	Integrated with CPU
	Graphics Engine	Mali-T860MP4	Mali-T860MP4	Intel HD Graphics	AMD Radeon HD graphics	Intel® Iris® Xe Graphics	Intel® Iris® Xe Graphics
	Graphics Memory	-	-	Shared system memory	Shared system memory	Shared system memory	Shared system memory
	Multiple Display	2	2	2	4 (V series) 3 (R series)	4	4
	Interface	1 x HDMI 2.0, 1 x HDMI 1.4	1 x HDMI 2.0, 1 x HDMI 1.4	2 x HDMI 1.4	4 x HDMI 2.0 (V series) 3 x HDMI 2.0 (R series)	4 x HDMI 2.0	4 x HDMI 2.0
Max. Resolution	3840 x 2160 @ 60Hz	3840 x 2160 @ 60Hz	1920 x 1080 @ 60Hz	4096 x 2304 @ 60Hz	4096 x 2304 @ 60Hz	4096 x 2304 @ 60Hz	
Expansion Interface	M.2	1 x 2230 E key	1 x 2230 E key	-	1 x 2242 M key for storage 1 x 2230 E key for Wi-Fi	1 x 2242 M key for storage 1 x 2230 E key for Wi-Fi	1 x 2242 M key for storage 1 x 2230 E key for Wi-Fi
	Mini PCIe	-	-	1	-	-	-
	PCIe x16	-	-	-	-	-	-
	Micro SD Card	1	1	-	-	-	-
Ethernet	Connector	2 x RJ-45	1 x RJ-45	1 x RJ-45	1 x RJ-45	2 x RJ-45	2 x RJ-45
Audio	Connector	1 x Line-out	1 x Line-out	2 x SPDIF/Line-out, Mic-in with jack sense support	1 x SPDIF/Line-out/Mic-in with jack sense support	1 x SPDIF/Line-out/Mic-in	1 x SPDIF/Line-out/Mic-in
WatchDog Timer		Yes	Yes	Yes	Yes	Yes	Yes
Storage	SATA	-	-	1 x 2.5" SATA II HDD/SSD	-	-	-
	mSATA	-	-	-	-	-	-
	eMMC	16 GB eMMC on board	16 GB eMMC on board	-	-	-	-
I/O	USB 3.0	1	1	1	2	2	2
	USB 2.0	1	1	3	2	2	6
	COM	1 x Console port	-	1 x RS-232	1 x RS-232	1	2
Power	Power Supply	DC 12V input	DC 12V input	DC 19V input	DC 19V input	DC 19V input	DC 19V input
Environment	Operating Temperature	0 ~ 45°C	0 ~ 45°C	HDD: 0 ~ 40 °C/32 ~ 104 °F SSD: 0 ~ 50 °C/32 ~ 122 °F (with 0.7m/s airflow)	HDD: 0 ~ 40 °C/32 ~ 104 °F (with 0.7m/s airflow)	0 ~ 40 °C (with 0.7m/s airflow)	0 ~ 55 °C (with 0.7m/s airflow)
Physical Characteristics	Dimensions (L x W x H)	135 x 130 x 29 mm/ 5.31 x 5.11 x 1.14 in	115 x 110 x 20 mm/ 4.52 x 4.33 x 0.78 in	180 x 190 x 19 mm/ 7.08 x 7.48 x 0.74 in	180 x 190 x 19 mm/ 7.08 x 7.48 x 0.74 in	180 x 190 x 19 mm/ 7.08 x 7.48 x 0.74 in	210 x 178 x 40 mm
Operating System		Android 7.1.2	Android 7.1.2	Microsoft Windows, Linux (optional)	Microsoft Windows, Linux (optional)	Microsoft Windows, Linux (optional)	Microsoft Windows, Linux (optional)
Certifications	EMC	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI
	Safety	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI

Note: "-" means not applicable.

## Integrated Software

### WISE-PaaS/SignageCMS

#### Multimedia Management Software

System Management	Web interface, multimedia management, user-friendly interface, remote management
Interactive Content Editing	Add/edit/delete content, display control management, subtitle support
Dispatch Management	Remote dispatch, player overview, group dispatch, schedule dispatch, history search
Account Management	Add/edit/delete user, user name/password/description/main, account permissions

### WISE-DeviceOn

#### Device Monitoring and Management

Device Management	Instant device monitoring and troubleshooting, regular inspections, predictive maintenance, data acquisition, device management
Monitoring & Control	Real-time monitoring, device list and status, SW/HW health monitoring, HDD predictive maintenance, device events
Update Management	OTA upgrade support, software remote patching and upgrade, update status report
Alert & Action	SMS notifications, email notifications, event log

## Multi-Display Series

## Modular Series

## Edge Cloud



Model Name		DS-580	DS-980	DS-200	DS-280	DS-211	EIS-S230-E1DS2A1
Processor	CPU	Intel® Atom™ x7-E3950	Intel® Core™ i7-6700TE Intel® Core™ i5-6500TE Intel® Core™ i3-6100TE	Intel® Core™ i5-8400H Intel® Core™ i3-8100H Intel® Celeron® G4930E	Intel® Core™ i7-6822EQ Intel® Core™ i5-6442EQ Intel® Core™ i3-6102EQ Intel® Celeron® G3902E	Rockchip RK3399	Intel® Core™ i7-7700
	BIOS	AMI uEFI 64 Mbit	AMI uEFI 128 Mbit	AMI uEFI 128 Mbit	AMI uEFI 128 Mbit	-	AMI uEFI 128 Mbit
	Chipset	Integrated in CPU	Intel Q170	Intel QM370	Intel QM170	-	Integrated with CPU
Memory	Technology	DDR3L 1866MHZ	DDR4 2133MHz	DDR4 2400MHz	DDR4 2133MHz	LPDDR4-3200	DDR4 2666MHz
	Max. Capacity	16 GB (8 GB per SODIMM)	32 GB (16 GB per SODIMM)	32 GB (16 GB per SODIMM)	32 GB (16 GB per SODIMM)	2GB/4GB on-board	16 GB (8 GB per SODIMM)
	Socket	2 x 204-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM	-	2 x 260-pin SODIMM
Display	Controller	NVIDIA GeForce GT1030	Integrated with CPU	Integrated with CPU	Integrated with CPU	-	Integrated with CPU
	Graphic Engine	-	Intel HD Graphics 530	Intel UHD Graphics 630	Intel HD Graphics 530/510	Mali-T860MP4	Intel® HD Graphics 630
	Graphics Memory	2G GDDR5 (on board memory)	Shared system memory	Shared system memory	Shared system memory	-	Shared system memory
	Multiple Display	4	3+ (Up to 9 with a graphics card)	3	3	2	2
	Interface	2 x HDMI 2.0, 2 x HDMI 1.4	1 x HDMI 2.0, 2 x HDMI 1.4	1 x PCIe x8 (98 pin), 1 x Mini DP**	1 x JAE TX25 (80 pin), 1 x HDMI 2.0, 1 x DP	1 x JAE TX25 (80 pin), 1 x HDMI 2.0	1 x HDMI 1.4, 1 x VGA
	Max. Resolution	3840 x 2160 @ 60Hz	4096 x 2160 @ 60Hz	4096 x 2304 @ 60Hz	4096 x 2304 @ 60Hz	3840 x 2160 @ 60Hz	3840x2160@30Hz
	M.2	1 x 2230 E key	1 x 2230 E key	1 x 2242 M key for storage 1 x 2230 E key for Wi-Fi	-	1	1 x 2230 E key for Wi-Fi
Expansion Interface	Mini PCIe	1	1	-	1	1	2
	PCIe x16	-	1	-	-	-	NA
	Micro SD Card	-	-	-	-	1	NA
Ethernet	Connector	2 x RJ-45	2 x RJ-45	1 x RJ-45	2 x RJ-45	2 x RJ-45	4 x RJ-45
Audio	Connector	2 x SPDIF/Line-out, Mic-in with jack sense support	2 x SPDIF/Line-out, Mic-in with jack sense support	1 x SPDIF/Line-out, Mic-in with jack sense support	1 x Line-out with jack sense support	-	1 x Line-out, 1 x Mic-in
WatchDog Timer		Yes	Yes	Yes	Yes	Yes	Yes
Storage	SATA	1 x 2.5" SATA III HDD/SSD	1 x 2.5" SATA III HDD/SSD (top); 1 x 2.5" SATA III SSD (bottom), supports RAID 0/1	-	1 x 2.5" SATA III HDD/SSD	-	2
	mSATA	Mini PCIe colay mSATA	Mini PCIe colay mSATA	-	Mini PCIe colay mSATA	16GB/64GB eMMC on board	2
I/O	USB 3.0	2	4	5 (4 x via bracket, 1 x SDM connector)	3	1	8
	USB 2.0	2	2	-	-	1	0
	COM	1 x RS-232	1 x RS-232/2 x RS-485/422 with extension cable	1 x RS-232 via SDM connector (Tx/Rx only)	-	1 x RS-232	4
Power	Power Supply	DC 19V input	DC 12V input	DC 12V input (via SDM Connection)	DC 12V-19V input (via OPS connector)	DC 12V input (via OPS connector)	DC 9-36V
Environment	Operating Temperature	HDD: 0 ~ 40 °C/32 ~ 104 °F SSD: 0 ~ 50 °C/32 ~ 122 °F (with 0.7m/s airflow)	0 ~ 40 °C/32 ~ 104 °F	0 ~ 55 °C/32 ~ 131 °F	HDD: 0 ~ 40 °C/32 ~ 104 °F SSD: 0 ~ 50 °C/32 ~ 122 °F	0 ~ 60°C	0 ~ 60 °C
Physical Characteristics	Dimensions (L x W x H)	220 x 150 x 40 mm/ 8.66 x 5.9 x 1.57 in	267.6 x 205 x 88 mm/ 10.53 x 8.07 x 3.46 in	175 x 100 x 20 mm/ 6.88 x 3.93 x 0.78 in (SDM-L compliant)	200 x 119 x 30 mm/ 7.87 x 4.68 x 1.18 in	200 x 119 x 30 mm (OPS compliant)	156.5 x 205 x 230 mm 6.16" x 8.07" x 9.06"
Operating System		Windows 10, Linux (optional)	Microsoft Windows, Linux (optional)	Microsoft Windows, Linux (optional)	Microsoft Windows, Linux (optional)	Android 7.1.2	Microsoft Windows, Linux (optional)
Certifications	EMC	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B	CE, FCC Class B, CCC, BSMI	CE, FCC Class B	CE, FCC Class B, CCC, BSMI
	Safety	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	N/A	UL, CB, CCC	CCC	UL, CB, CCC, BSMI

Note: "-" means not applicable.

## Digital Signage Displays

## FaceView

### AI Facial Recognition

Advanced Face Property	Age, gender, emotion, ID, head pose, facial mask
Customer/List Enrollment	Input by webcam, photos, and db files
VIP/Blacklist Notification	Live-view, e-mail, and mobile apps
Model Complexity*	Ultra High, Very High, and High
Accuracy**	99.50%~ 94.12%

\* Accuracy: Ultra high>Very high>High; Speed: Ultra high<Very high<High  
 \*\*Results depend on selected model complexity and false accept rate (1E-6~1E-4)



**DSD-7055**  
55" full HD display with Intel SDM compliance



**VUE-5000 Series**  
32"~86" full HD large format displays

# Comprehensive Edge Visualization Solutions



## Edge Cloud

Back-end data service and light private cloud

## Edge Computer

Entry level to multi-display, 4K playback

## DeviceOn

Remote device Operational efficiency

## SignageCMS

Content Management

## FaceView

AI Facial Recognition

## Regional Service and Customization Centers

**China** Kunshan  
86-512-5777-5666

**Taiwan** Taipei  
886-2-2792-7818

**Netherlands** Eindhoven  
31-40-267-7000

**Poland** Warsaw  
00800-2426-8080

**USA** Milpitas, CA  
1-408-519-3898

## Worldwide Offices

### Asia Pacific

**Taiwan**  
Toll Free 0800-777-111  
Taipei & IoT Campus 886-2-2792-7818  
Taichung 886-4-2372-5058  
Kaohsiung 886-7-392-3600

**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

### Asia Pacific

**Japan**  
Toll Free 0800-500-1055  
Tokyo 81-3-6802-1021  
Osaka 81-6-6267-1887  
Nagoya 81-0800-500-1055  
Nogata 81-949-22-2890

**Korea**  
Toll Free 080-363-9494/5  
Seoul 82-2-3660-9255

**Singapore**  
Singapore 65-6442-1000

**Malaysia**  
Kuala Lumpur 60-3-7725-4188  
Penang 60-4-537-9188

**Thailand**  
Bangkok 66-02-2488306-9

**Vietnam**  
Hanoi 84-24-3399-1155  
Hochiminh 84-28-3836-5856

**Indonesia**  
Jakarta 62-21-751-1939

**Australia**  
Toll Free 1300-308-531  
Melbourne 61-3-9797-0100

**India**  
Bangalore 91-94-4839-7300  
Pune 91-94-2260-2349

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Breda 31-76-523-3100

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Düsseldorf 49-2103-97-855-0

**France**  
Paris 33-1-4119-4666

**Italy**  
Milan 39-02-9544-961

**UK**  
Newcastle 44-0-191-262-4844  
London 44-0-870-493-1433

**Spain**  
Madrid 34-91-668-86-76

**Sweden**  
Stockholm 46-0-864-60-500

**Poland**  
Warsaw 48-22-31-51-100

**Russia**  
Moscow 8-800-555-01-50  
St. Petersburg 8-812-332-57-27  
8-921-575-13-59

**Czech Republic**  
Ústí nad Orlicí 420-465-524-421

**Ireland**  
Galway 353-91-792444

### Americas

**North America**  
Toll Free 1-888-576-9668  
Cincinnati 1-513-742-8895  
Milpitas 1-408-519-3898  
Irvine 1-949-420-2500  
Ottawa 1-815-433-5100  
Chicago 1-888-576-9668

**Brazil**  
Toll Free 0800-770-5355  
São Paulo 55-11-5592-5367

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

### Middle East and Africa

Israel 072-2410527  
Turkey 90-212-222-0422  
Turkey-Bursa 90-224-413-3134

# ADVANTECH

Enabling an Intelligent Planet

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