User manual



AH12D 2A – AH12D 216A
AH15D 2HDA
AH17D 2HDA
AH19D 2HDA
AH22D X216GA

Retractable monitors for furniture integration

ARTHUR HOLM

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Welcome

Thank you for purchasing an ARTHUR HOLM product.

Our product range has been designed to create the perfect meeting room, where the screens are a part of the interior design as well as essential communication tools.

Please, read this installation and operating instructions carefully and keep them in a safe place for future reference.

We remain at your entire disposal if you have any suggestions that would help us improve our products.

Henrik Holm
General Manager

ARTHUR HOLM

EC Regulations and Security



ATTENTION: Do not disassemble or modify the device in any way.

This symbol warns of the presence of dangerous un-insulated voltages inside some of the components, of sufficient magnitude to expose people to risk of electronic shock.



This symbol draws attention to important use and maintenance instructions in the manual that accompanies the unit.



This symbol indicates that the equipment conforms to the norms established by the European Community.

Safety instructions

PLUGS

- Do not dismantle any part of the monitor power connector
- Disconnect the power plug from the AC outlet when the monitor is not going to be used for an indefinite period of time

POWER AND EXTENSIONS CORDS

- Use the appropriate power cord with the correct plug type
- Do not overload wall outlets or power cords
- Make sure the total ampere passed through a extension cord does not exceed the maximum allowed by the cable used
- Do not place anything on the power cord
- Do not locate this product where a person may walk or trip over the cord



Wiring connected to hazardous voltage requires installation by qualified personnel or the use of ready-made flexible cables.



For your security, your equipment must be connected to an electrical outlet with grounding connection protection.
The operating electrical outlet must be in an easily accessed place.

ENVIRONMENT

- Install the equipment on an elevated, flat surface
- Install the equipment in a ventilated area
- Avoid exposing the equipment to:
  - Rain or water
  - Excessive heat, cold or humidity
  - Areas exposed to direct sunlight
  - Dirty areas
  - Equipment generating strong magnetic fields
- Avoid placing open containers of liquid, near the equipment
- Keep a minimum distance of 30mm in order to have good ventilation
- Never place any sources of flames, such as lighted candles, etc. above the device
- If you are using the device in extreme weather conditions and/or tropical climates, the equipment should be installed in a room which ensures a reasonable level of temperature and humidity
- To prevent damage the equipment must be firmly anchored to the surface, as shown in the installation instructions

System Description

APPLICATIONS

The Dynamic2 system is a professional TFT display with an elegant housing and electrical lift system for installation into horizontal furniture surfaces.

On the starting position (retracted), the screen is placed inside the table leaving the desk free of any obtrusive elements. When in this position, the power will automatically be disconnected in order to save energy and preserve panel life. By pressing the rear button located on the table cover plate, the TFT panel raises up into the working position (raised and tilted). The TFT power is then restored.

This TFT-LCD product range is specially designed for desk integration at:

Conference rooms	*Meeting rooms*	*Board rooms*
Auditoriums	*Information desks*	*Training rooms*

FEATURES

- TFT Active Matrix display
  - AH12D 2A 12"
  - AH12D 216A 12" widescreen format
  - AH15D 2HDA FULL HD 15"
  - AH17D 2HDA FULL HD 17"
  - AH19D 2HDA FULL HD 19"
  - AH22D 216A FULL HD 22"

- Retractable monitor with electrical engine for furniture integration and tilting screen 20° (factory adjusted)
- Up/Down function operated by two buttons on the cover plate
- Up/Down external contact close (GPI) or RS-422 control
- Low power consumption
- Low radiation
- Quick response time
- Data inputs DVI-I & DVI-D. HDCP compliant
- Upper cover plate in brushed stainless steel. Monitor housing made of solid mechanized aluminium in anodised finish
- Electrical powered lift system with variable speed
- Addressable RS422 monitor control by AHnet protocol, RJ45 connector CAT5

System Description

BOX CONTENTS

Before the installation of your motorised monitor, please check the contents of the shipping box, it must contain the following items:

- *Monitor*
- *Power cord*
- *Power supply 100-240Vac, 50-60Hz. Output 12V*
- *Remote control (1 per 5 monitors)*
- *User Manual*

CONNECTIONS

Before connecting the power

1. Open the hatch and remove the two foam protection pieces before connecting the monitor
2. Install the unit on a table or desk, in vertical position

Power connection

1. Plug the power cable from the power supply into an AC socket of 100-240 Vac, 50-60Hz.
2. Plug the 12Vdc cable into the socket on the unit

Power connection

1. Use the DVI-I input to connect a DVI-D signal or an analog RGB signal (VGA)
2. Plug the DVI-D connector to a DVI-D signal

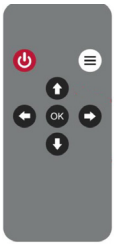


Caution! Never use this monitor in horizontal position.
Always use high quality DVI cables with 2m maximum length

Controls

REMOTE CONTROL

POWER	Switch ON/OFF the monitor
MENU	Activates the OSD menu on screen
UP	Cursor control up on the OSD menu
DOWN	Cursor control down on the OSD menu
LEFT	Cursor control left on the OSD menu
RIGHT	Cursor control right on the OSD menu
OK	Selects the function on the OSD menu. When the OSD menu is not active on screen, selects the input source



MONITOR ADDRESS

Below the monitor, there is a screen to configure the monitor. Press the UP or DOWN buttons to change the function. Press the OK button to select the function. Change the parameter using the UP or DOWN buttons and press OK again to save the changes.



AHnet ID	Selects the number AHnet ID to RS422 to externally control the monitor
Input select	Selects the input source signal (DVIA, DVI1 or DVI2)
Brightness	Configuration of the monitor brightness level
Contrast	Configuration of the monitor contrast level
Backlight	Configuration of the monitor backlight level
Status information	List of the monitor status to service

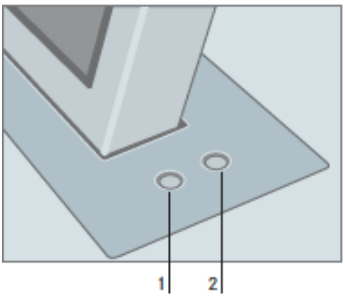
Controls

IR SENSOR

The IR sensor is located on the lower right side of the screen

MONITOR MOVEMENT CONTROLS

On the upper cover plate, there are two buttons to control the UP and DOWN monitor movements.



1. DOWN button control

2. UP button control

1. Retracting the monitor

It is recommended that no objects or parts of the body that could obstruct the retracting movement of the display, are not on the top of the cover plate.

To retract the monitor display, press the front button (1) on the right hand side of the cover plate.

2. Raising the monitor

It is recommended that no objects or parts of the body that could obstruct the rising of the display, are not on the top of the cover plate.

To rise up the monitor display, press the rear button (2) on the right hand side of the cover plate. Pressing this button when the monitor is raised, activates the auto config function for the ARGB input signal.

OSD menu

ACCESSING THE MENU SYSTEM

- With the OSD off, push the MENU button to activate the main OSD menu
- Press the UP and DOWN button to move from one function to another. Please refer to the following sections below to view a complete list of all the functions available for the monitor
- Press the OK button to enable the item
- When a function is selected, press the LEFT and RIGHT buttons in order to change the parameter of the function

Press the Menu button to access to the main menu

PICTURE

CSM	Adjusts the colour of the image Cool Medium Warm User (manually adjustment of red, green and blue colours)
PSM	Adjusts the mode of the image Dynamic Standard Mild User (manually adjustment of brightness and contrast): Contrast - Brightness - Colour - Sharpness - Tint

OSD menu

SCREEN

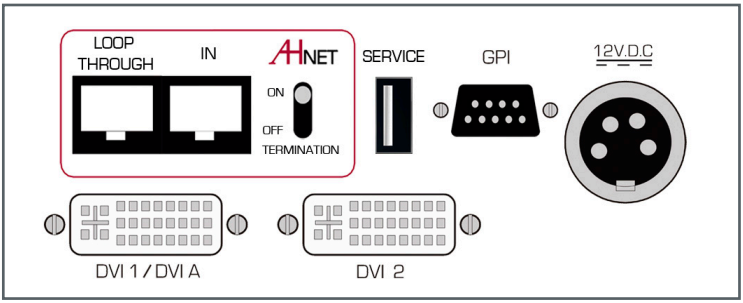
ARC	Adjusts the image aspect on screen	
	16:9	Shows the image on screen with 16:9 aspect
	4:3	Shows the image on screen with 4:3 aspect
	Just scan	
Noise Reduction	Adjusts the image noise filter	
	Off	
	Low	
	Medium	
	High	
	Default	
Screen	(Only for analogue signals)	
	Auto Adjust	
	Horizontal Position	
	Vertical Position	
	Size	
	Phase	
Backlight	Adjusts the backlight screen level	
Colour Range	Adjusts the colour range	
	0 - 255	
	16 - 235	

OSD menu

SETUP

Language	OSD language selection
Restore Factory Default	Adjusts the parameters to the initial factory parameters
Blending	OSD window transparency Low Medium High Off
OSD Duration	Adjusts the time that the OSD menu window remains on screen
Software Update	Used for firmware upgrade mirror 0: Image with no flip 1: Vertical flip 2: Horizontal flip 3: Rotate

Input connectors



DVI 1/ DVI A	DVI-I input signal. Connect a DVI (digital) input signal and select DVI 1 on the OSD monitor menu. Use a DVI to VGA adapter to connect an ARGB (analogue) input signal and select DVI-A on the OSD monitor menu
DVI 2	DVI-D input signal. Connect a DVI (digital) input signal and select DVI 2 on the OSD monitor menu Use high quality DVI cables with 2m maximum length
12V D.C.	Power supply input connector. XLR-4 connector: 1,2: Ground 3,4: 12Vdc
GPI	Monitor external contact close control. SubD9 female 1. GPI1 + 2. GPI1 – 3. GPI2 + 4. GPI2 – 5. GPI3 – 6. GPI3 + 7. N.C. 8. +12Vdc (600mA max.) 9. Ground - Use GPI1 (1:12Vdc, 2:Ground) to open the monitor - Use GPI3 (6:12Vdc, 5:Ground) to close he monitor
Termination	Activate (ON) the termination, ONLY on the last unit of the RS422 bus
AHnet	RJ45 CAT5 connector for addressable RS422 control. There is a loop through connector to use as signal RS422 output. Up to 30 monitors can be connected on the same RS422 bus
Service	Used for firmware upgrade

Warning



Do not use the unit in horizontal position. It could damage the mechanical parts of the monitor.

Do not use force to open or close the monitor. It could damage the mechanical parts of the monitor.

Use this device only with the supplied accessories. The use of unapproved accessories, as a power supply unit, will invalid the warranty.

Never open the monitor. Only authorized qualified personnel should open the monitor.

Do not scratch or rub the TFT panel surface with any kind of abrasive substances or materials.



Do not spill any liquid into the cabinet or use the monitor near water. If any liquid is accidentally spilled on the surface, cut the power supply and dry it with a cloth. Don't restore the power supply until it's completely dry.

Do not insert objects of any kind into the cabinet slots, as they may touch dangerous voltage points, which can be harmful or fatal or may cause electric shock, fire or equipment failure.

If the monitor or glass is broken, do not come in contact with the liquid crystal and handle with care.

Do not cover for prolonged periods of time. Excessive temperatures can reduce service life.

Before cleaning, always remove the power supply. Do not use any abrasive detergent, solvents, bleaching or chlorine agents.

Do not stick any labels on the TFT panel surface.

Do not apply too much pressure to the TFT panel surface.

Handle with care when transporting. Save packaging for transporting.

AHnet protocol

COMMUNICATIONS PROTOCOL

Communication	RS422
Connection	RJ45
Wiring	CAT-5

SPEED & CONFIGURATION

Baud Rate	38400
Data Bits	8
Parity	None
Stop Bits	1

WIRING DIAGRAM

1	Data TX +
2	Data TX –
3	Data RX +
4	NC
5	NC
6	Data RX –
7	NC
8	NC



RJ-45

CONNECTION

Pins 1 & 2	The units respond
Pins 3 & 6	The units receive instructions

Protocol to control the monitor by addressable RS422 bus.
You can connect up to 30 monitors on the same RS422 bus.
You can use a AH Interface Ethernet, to control the RS422 bus.
The units should have a set address and the address must start by 1.
Maximum cable length between ends, 500m/1640 ft.

AHnet protocol

AHnet PROTOCOL

Using 5 bytes communication:

BYTE 0	START BYTE
BYTE 1	ADDRESS BYTE
BYTE 2	COMMAND BYTE
BYTE 3	VALUE 1
BYTE 4	VALUE2

COMMANDS

COMMAND	DESCRIPTION	RESPONSE
FA XX 01 01 00	GO UP	FB XX 01 01 00
FA XX 01 00 00	GO DOWN	FB XX 01 00 00
FA XX 02 01 00	SCREEN ON	FB XX 02 01 00
FA XX 02 00 00	SCREEN OFF	FB XX 02 00 00
FA XX 03 01 00	DVI-A SELECTION	FB XX 03 01 00
FA XX 03 00 00	DVI-1 SELECTION	FB XX 03 00 00
FA XX 03 03 00	DVI-2 SELECTION	FB XX 03 03 00
FA XX 04 01 00	BUTTON LOCK	FB XX 04 01 00
FA XX 04 00 00	BUTTON UNLOCK	FB XX 04 00 00
FA XX 05 00 00	AUTO CONFIG LCD	FB XX 05 00 00
FA XX 14 00 00	INQUIRY CONTROL BYTE	FB XX 14 CB1 CB2

XX — Number of the monitor address.
Up to 30 monitors for each RS422 BUS

CB1 — Response in 8 bits of the monitor status

CB2 — Response in 8 bits of the monitor status

AHnet protocol

CB1

BITE	7	6	5	4	3	2	1	0
CLOSED			1	1	0	1		
OPENED			0	1	0	1		
SCREEN ON							1	
SCREEN OFF							0	
DVI-A	0	0						
DVI1-D	1	1						
DVI2-D	1	0						
PROTECTION STOP								1
MONITOR OK								0

CB2

BITE	7	6	5	4	3	2	1	0
BUTTON LOCK								1
BUTTON UNLOCK								0

To send an order to all the monitors, you must use the address
249 Dec. (Byte1)
F9 Hex. (Byte1)

In this case, the units do not send a reply

PICTURE COMMANDS

COMMAND	DESCRIPTION	RESPONSE
FA XX 15 00 00	ASK FOR BACKLIGHT LEVEL	FB XX 15 00 ZZ
FA XX 16 00 00	ASK FOR CONTRAST LEVEL	FB XX 16 00 ZZ
FA XX 17 00 00	ASK FOR BRIGHTNESS LEVEL	FB XX 17 00 ZZ

XX Number of the monitor address.
Up to 30 monitors for each RS422 BUS

ZZ Level of the function selected (00 – 99 Dec)

COMMAND	DESCRIPTION	RESPONSE
FA XX 15 01 ZZ	SET BACKLIGHT LEVEL	FB XX 15 01 ZZ
FA XX 16 01 ZZ	SET CONTRAST LEVEL	FB XX 16 01 ZZ
FA XX 17 01 ZZ	SET BRIGHTNESS LEVEL	FB XX 17 01 ZZ

XX Number of the monitor address.
Up to 30 monitors for each RS422 BUS

ZZ Level of the function selected (00 – 99 Dec)

To send an order to all the monitors, you must use the address
249 Dec. (Byte1)
F9 Hex. (Byte1)

In this case, the units do not send a reply

Input Signals

AH12D 2A

RESOLUTION	Horizontal freq (KHz)	Vertical freq (Hz)	Scanning type
800x600@60Hz	37.879	60.317	Progressive
800x600@72Hz	48.077	72.188	Progressive
800x600@75Hz	46.875	75.000	Progressive
1024x768@60Hz	48.363	60.005	Progressive
1024x768@70Hz	56.476	70.070	Progressive
1024x768@75Hz	60.023	75.030	Progressive

AH12D 216A

RESOLUTION	Horizontal freq (KHz)	Vertical freq (Hz)	Scanning type
800x600@60Hz	37.879	60.317	Progressive
800x600@72Hz	48.077	72.188	Progressive
800x600@75Hz	46.875	75.000	Progressive
1024x768@60Hz	48.363	60.005	Progressive
1024x768@70Hz	56.476	70.070	Progressive
1024x768@75Hz	60.023	75.030	Progressive
1280x720@60Hz	44.697	59.915	Progressive
1280x768@60Hz	47.396	59.995	Progressive
1360x768@60Hz	47.72	59.799	Progressive

Input Signals

AH15D 2HDA / AH17D 2HDA / AH19D 2HDA / AH22D 216A

RESOLUTION	Horizontal freq (KHz)	Vertical freq (Hz)	Scanning type
800x600@60Hz	37.879	60.317	Progressive
800x600@72Hz	48.077	72.188	Progressive
800x600@75Hz	46.875	75.000	Progressive
1024x768@60Hz	48.363	60.005	Progressive
1024x768@70Hz	56.476	70.070	Progressive
1024x768@75Hz	60.023	75.030	Progressive
1280x720@60Hz	44.697	59.915	Progressive
1280x768@60Hz	47.396	59.995	Progressive
1360x768@60Hz	47.72	59.799	Progressive
1280x1024@60Hz	63.981	60.020	Progressive
1680x1050@60Hz	65.160	59.944	Progressive
1600x1200@60Hz	74.479	59.967	Progressive
1920x1080@60Hz	66.647	59.98	Progressive

Information on Disposal for users of waste Electrical & Electronic equipment



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.
For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.
Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on disposal in countries outside the European Union

This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Product Warranty

Albiral Display Solutions S.L. WARRANTY - Valid from January 2016

ARTHUR HOLM / ALBIRAL VERTICAL RETRACABLE MONITORS WARRANTY TERMS:

LIMITED 5-YEAR WARRANTY ENGINE AND MECHANICAL LIFTING PARTS
The engine and mechanical lifting parts and any of their parts other than those covered by either the separate warranties below or those subject to normal wear and tear are warranted to be free from manufacturing defects for a period of 5 years from the date of purchase. If any manufacturing defect appears in the engine and mechanical lifting parts or in their parts other than those parts covered below or those subject to normal wear and tear within 5 years of purchase.

LIMITED 2-YEAR WARRANTY
LCD PANEL, LCD PANEL INVERTER, LCD CONTROLLER & POWER SUPPLY
The electric parts of the Arthur Holm are warranted to be free from manufacturing defects for a period of two 2 years from the date of purchase.

GENERAL WARRANTY TERMS
A) Parts. During the above mentioned warranty period, **(LIMITED 5-YEAR WARRANTY ENGINE and MECHANICAL LIFTING PARTS & LIMITED 2-YEAR WARRANTY LCD PANEL, LCD PANEL INVERTER, LCD CONTROLLER & POWER SUPPLY)**, the replacement of any electronic and mechanical parts against any defects in manufacturing. Panels that have more than 3 defective pixels (15-18"), more than 4 defective pixels (20-23") and more than 5 defective pixels (30-40"), will be replaced under warranty. The warranty does not cover any faulty electronic and/or mechanical components arising from incorrect installation, unauthorized modification, and inadequate transport or as a result of atmospheric phenomenon.

B) Labour. Albiral Display Solutions S.L. covers labour costs for replacement of any defective parts (in accordance to paragraph A) during the period of this warranty.
.
C) Transport costs.

I) In the case that a manufacturing defect occurs within 30 days after the purchase date, both freight and insurance will be paid by Albiral Display Solutions, S.L. Albiral Display Solutions S.L. will not be responsible for the damages caused by transportation if the customer does not inform in writing when receiving the goods.

II) After 180 days of the purchase date, both freight and insurance costs will be paid by the customer.

D) Albiral Display Solutions S.L. will not be responsible for the damages caused by transportation, when this one is paid by the customer.

E) The warranty is not valid if personnel other than the Authorised Service Centre have handled the product, if the product has been manipulated or warranty seals have been removed or manipulated.

F) The beneficiary of the warranty will have to return the product in its original packaging or in an appropriate package that will warrant no damages during transportation.

G) The warranty is not valid if the customer does not include a RMA form and a copy of the purchasing invoice.

Albiral Display Solutions S.L. recognizes all guaranteed user rights by all legal rules from its region, and in the absence of them, all established consumer rights by general law 26/84.

Albiral Display Solutions S.L.

ARTHUR HOLM

Albiral Display Solutions

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Patents

ES 1051718UU
ES 1061088UU
EP 1574150A1
ES 1068395 U
WO 2009141744
MU 170180 ES00
EP 2289367 A1
MU 17301 ES00
MU 17322 ES00
MU 17376 ES00
MU 17403 ES00

This manual can be modified without previous notice. ENG - October 2016