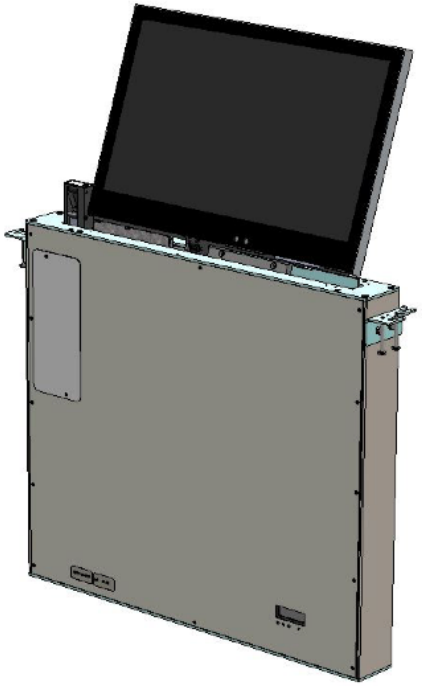
User Guide



DB2Share

HDCP compliant retractable motorised monitors with DynamicShare

Technology Serving Design

Danish craftmanship
Mediterranean soul

ARTHUR HOLM

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WELCOME

Thank you very much for purchasing an Arthur Holm product.

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

We remain at your entire disposal if you have any suggestions.

Henrik Holm
General Manager
hholm@albiral.com

ABOUT US

The Company

Arthur Holm has its origins in the Danish furniture designer Jorgen Alex Jensen, who was active during the sixties and the seventies. His design inspiration and his concept of ergonomics have been continued by his family, who is the design force behind Arthur Holm product range. The result of combining Scandinavian design tradition with Mediterranean creativity, flexibility and emotion is a wide product range built on more than 25 years of craftsmanship.

Arthur Holm offers a professional product range where tomorrow's technology is shaped into valued materials with design flexibility and customisation, specially created to enhance communication in reception, collaboration, conference and meeting areas.

The art of customisation

Arthur Holm offers a range of ingenious products whose designs are based on quality materials and the latest technology. Products which endow meeting and conference rooms with silent, ergonomic, innovative and aesthetic solutions that integrate into the furniture, hang from the walls as works of art or are used as interactive points of information.

The world of Arthur Holm

Arthur Holm offers a selection of unique, elegant, versatile, flexible and ergonomic products that are being used in meeting and conference rooms, reception areas, huddle rooms, control rooms, auditoriums and public zones of leading companies throughout the world.

The numbers speak for themselves! We currently own 33 product patents, have presence in over 45 countries with products and solutions inmore than 25,000 installations.

It will be our pleasure to work with you, designing your unique and personalised environment. Our broadcast electronic engineers will provide the latest technology while our design team will offer you the most exclusive appearance.

Our team puts its heart, passion and pride in all our designs.

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.

This symbol indicates D.C. current.

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 an 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.

SAFETY INSTRUCTIONS

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.

Since the plug is used to disconnect the device, the operating electrical outlet must be in an easily accessible 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
  - Area 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 30 mm in order to have good ventilation.
- Never place above the device any sources of flames such as lighted candles, etc.
- 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 on the installation instructions.

SYSTEM DESCRIPTION

General

Arthur Holm's DB2Share is a motorised retractable communication solution that creates minimum impact on the furniture's design. It is easy to integrate, intuitive to use (one simple operation sensor located on the top of the monitor) and almost invisible (no cover plate, neatly streamlined into the furniture) when not in operation. This solution provides full control to view and share documents and videos with a motorised retractable HDMI cable that raises as an extension of the slick design of the monitor.

By touching directly on the monitor, users can select the HDMI input and share it. Monitors are equipped with 2 HDMI-HDCP compliant inputs and 1 output, allowing the daisy chain of a maximum of 20 devices. An Interactive Setup Display allowing the control, setup and diagnose of the monitors. Monitors provide RS-422 I/O allowing the remote control of movements, speeds, safety settings, brightness, contrast and backlight. The monitors are equipped with AH-AMMC: an auto mechanical calibration movement system.

The use of the Arthur Holm's ERT will enable the address configuration of all the monitors installed in a table by simply pressing a button. The AHlink Android and iOS app allows getting the monitor's serial number without removing the unit from the table and allows access to the setup and control menus.

Highlights

- The smallest impact on the table surface
- Includes a retractable HDMI cable and on glass touch buttons
- Front double sided anti-reflective 2 sides coating 2 mm glass
- Energy saving, low consumption video controller
- AH-AMMC Auto mechanical movement calibration
- Wireless connectivity for setup and control
- No cover plate required
- 20 mm max thickness

SYSTEM DESCRIPTION

Available Models

MODEL	DESCRIPTION
AH17DB2Share	HDCP compliant vertically retractable aluminium 17,3" Full HD monitor with 20 degrees of adjustable inclination. The monitor allows its installation flush with the desk when the monitor is in recessed position and a motorised retractable HDMI cable rises as an extension of the monitor. Monitors are equipped with 2 HDMI-HDCP compliant inputs and 1 output, allowing the daisy chain of a maximum of 20 devices. It provides full control to view and share HDMI signals by pushing the touch buttons integrated on the glass of the screen, below the viewing area.
AH22DB2Share	HDCP compliant vertically retractable aluminium 21,5" Full HD monitor with 20 degrees of adjustable inclination. The monitor allows its installation flush with the desk when the monitor is in recessed position and a motorised retractable HDMI cable rises as an extension of the monitor. Monitors are equipped with 2 HDMI-HDCP compliant inputs and 1 output, allowing the daisy chain of a maximum of 20 devices. It provides full control to view and share HDMI signals by pushing the touch buttons integrated on the glass of the screen, below the viewing area.

SYSTEM DESCRIPTION

Options

AH17DB2Share	AH22DB2Share
TS17DB2 Projected capacitive multitouch screen	**TS22DB2** Projected capacitive multitouch screen
CABDB2 (Min.10 units) Black anodised	**CABDB2 (Min.10 units)** Black anodised
GFDB2 (Min.10 units) Gold finish	**GFDB2 (Min.10 units)** Gold finish
BFDB2 (Min.10 units) Bronze finish	**BFDB2 (Min.10 units)** Bronze finish
CPDB2 (Min.10 units) Painted	**CPDB2 (Min.10 units)** Painted
ACP (Min.10 units) Aluminium cover plate	**ACP (Min.10 units)** Aluminium cover plate

SYSTEM DESCRIPTION

Box Contents

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

- Monitor
- Power cord
- Remote control (1 per 5 monitors)
- Power supply 100-2 40Vac, 50-60Hz. Output 12V
- User guide

Important note: This device can only work with the power supply included in the shipping box. This power supply can not be replaced by any other rather than the original one.

Connections

Before connecting the power:

1. Install the unit on a table or desk, in vertical position.
2. Remove the foam protecting piece before connecting the monitor.

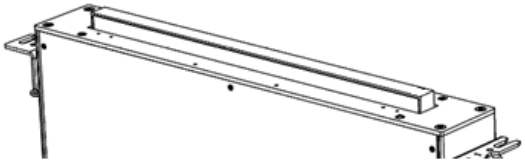
Power connection:

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

Caution! Never place this monitor in horizontal position.

INSTALLATION INSTRUCTIONS

The DB2 monitor is designed to be mounted from below the table. Included in this version are all necessary brackets.



Pattern Hole

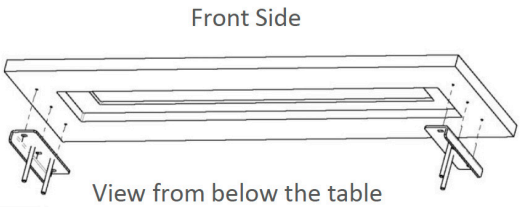
Pattern hole dimensions for milling are specified in the corresponding drawing. The milling of the furniture has to be done from bellow.

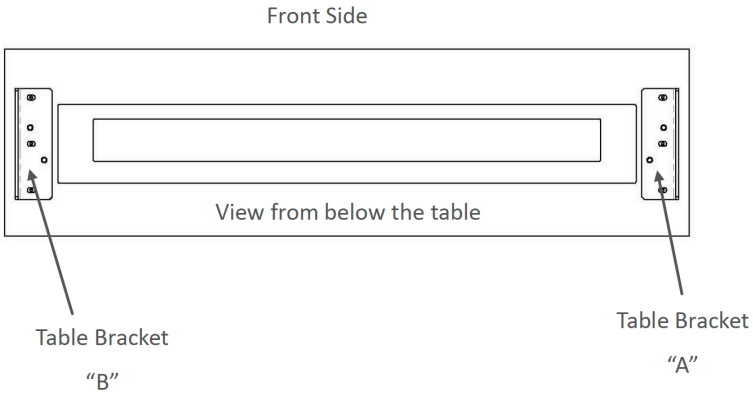
Attention

Manipulation of the product should be avoided, no stress should be applied to the product except from the instructions given in this document. Cutting, drilling, soldering, adding electrical and mechanical components can cause danger and should be avoided by all means. Not complying with these directions will result in a loss of the Arthur Holm warranty. Albiral Display Solutions S.L. shall not be held liable for any loss or injury incurred as a result of modifications made to goods by anyone other than the supplier or the supplier's authorised representative with the supplier's written permission. Such modifications shall be deemed to terminate any further guarantee obligations.

INSTALLATION INSTRUCTIONS

Mounting table brackets



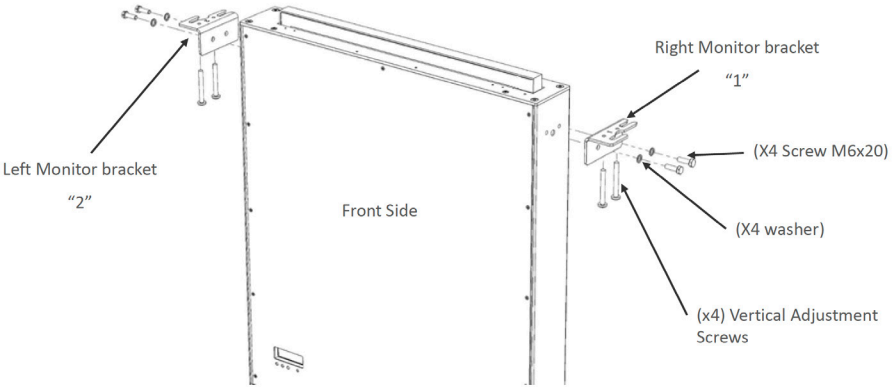


Mount the table brackets below the table using the holes indicated IN the corresponding Pattern Hole drawing. The screws (x6) are not supplied. The weight of the monitor is up to 25Kg / 55.16 Lbs.

PAY ATTENTION THAT THE BRACKETS ARE MOUNTED IN THEIR CORRESPONING SIDE.

INSTALLATION INSTRUCTIONS

Mounting the monitor brackets



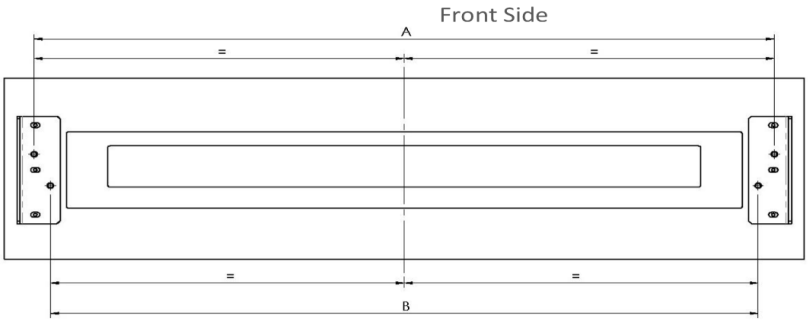
Mount the monitor brackets in their corresponding side using the supplied screws.

Mount the vertical adjustment screws (2+2) on to the monitor bracket so that the tip of the screw is flushed with the upper side of the monitor bracket.

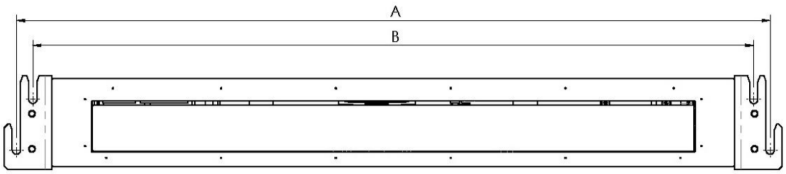
INSTALLATION INSTRUCTIONS

Checking assembly

View from below the table:



View from above the monitor:



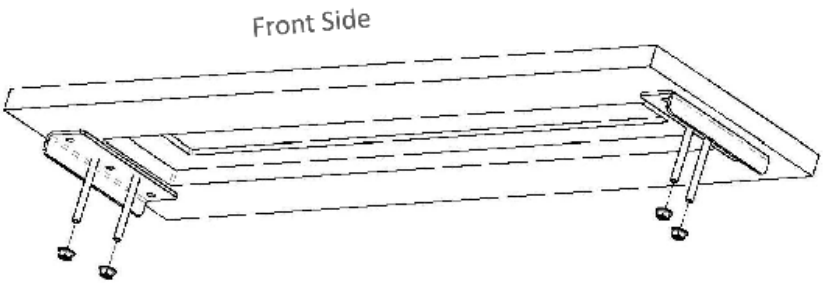
Front Side

Dimensions A and B in table brackets and in monitor brackets must be the same (+-1mm).

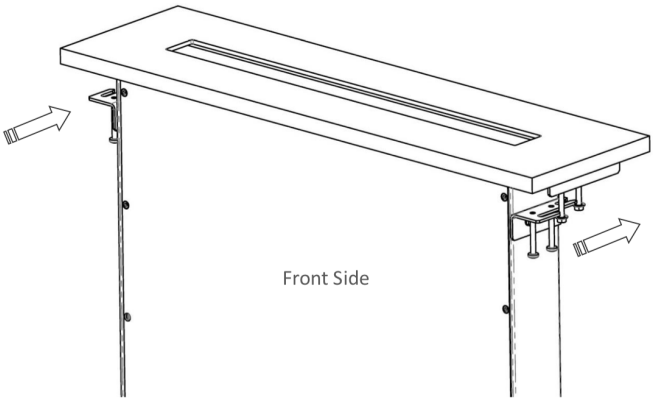
If adjustment is necessary loosen 3+3 Table bracket screws, keeping always symmetry regarding to the monitor hole in the table. Subsequently, tighten the table bracket screws.

INSTALLATION INSTRUCTIONS

Hanging the monitor



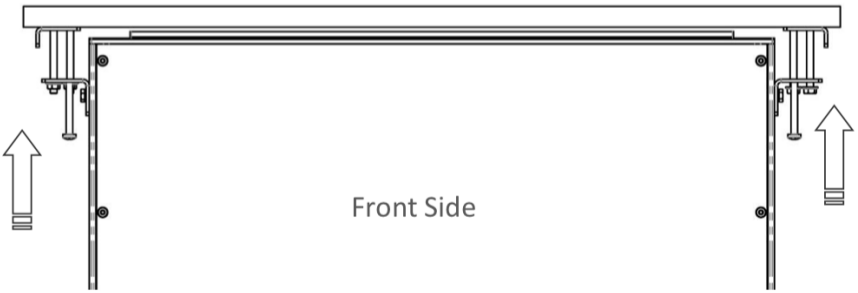
Mount 2+2 nuts on to both table brackets as indicated in the drawing.



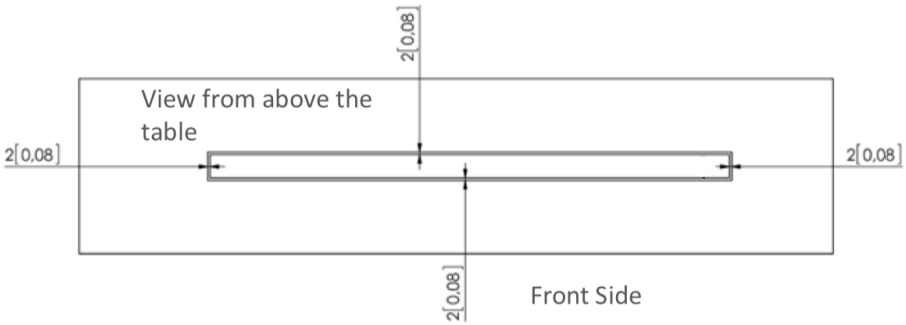
Hang the monitor above nuts.

INSTALLATION INSTRUCTIONS

Centring the monitor



Tighten each nut gradually until the monitor surface is levelled with the table surface.

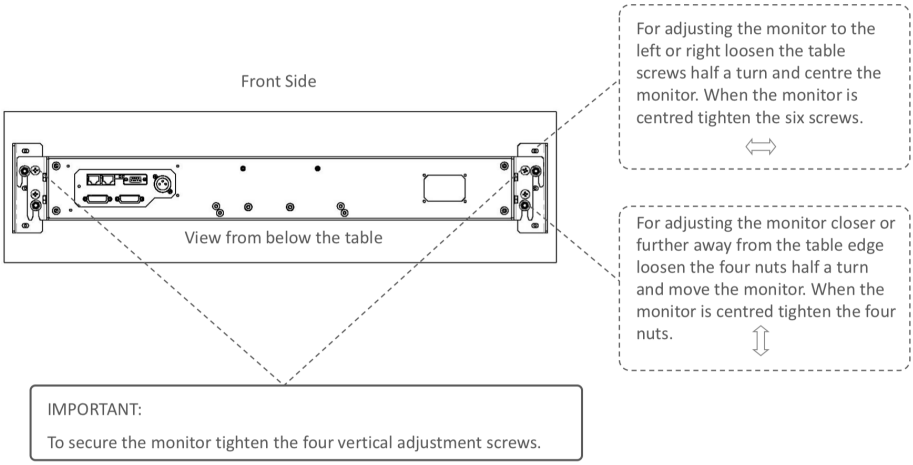


Air gap around the monitor have to be 2mm [0,08]. Otherwise the monitor could come in contact with the table while opening and be damaged.

INSTALLATION INSTRUCTIONS

Fine centring of the monitor

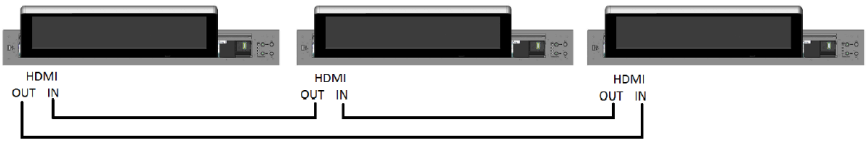
In case fine centring of the monitor is necessary:



GENERAL DYNAMICSHARE INFORMATION

DynamicShare is an equivalent to multiple HDMI selectors connected to multiple cascade HDMI distribution amplifiers in a daisy chain topology, allowing the user to display local sources privately, without affecting the other users in the loop and allowing to share a local signal to the rest of the monitors.

DynamicShare HDMI connection:



The HDMI loop daisy chain connection allows to share a local signal with all monitors on a particular loop. The image that is displayed on the screen is controlled by two buttons on the upper cover plate of the monitors. On the DB2 monitors, two capacitive buttons are placed on the screen's glass.

Each monitor has different HDMI input signals. Depending on the model, the monitor could have up to 3 HDMI local inputs. HDMI1 is located below the monitor. Depending on the model, the monitor has 2 more HDMI inputs located below the monitor on located on the monitor's cove plate. There is the option to add a fixed HDMI connector or a retractable HDMI cable on the cover plate. A loop HDMI input signal is used to receive the active share signal connecting the monitors in a daisy-chain loop topology. The loop HDMI output signal is used to send the active share signal to the next monitor or to send the local signal to the rest of the monitors by using the share HDMI loop.

VIEW push button: This button selects the input signal to be shown on the screen (local HDMI input or loop shared input). Note that by pressing the view button, the system will only select one local active input. To activate the PRIVATE mode, press the button for 5 seconds (the green LED will be on). In private mode, the monitor will always display the local input, even if another monitor activates the share function.

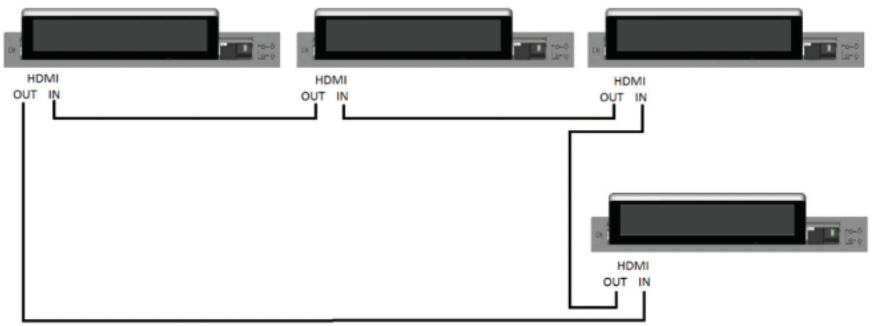
SHARE push button: Press this button to share the local signal. The red LED indicates that the monitor is sending the local image to the HDMI loop and all the monitors will display this input. By pressing this button again, the share will be interrupted, and the red LED will turn off.

GENERAL DYNAMICSHARE INFORMATION

Installation

Connect a HDMI cable from HDMI LOOP out connector to HDMI LOOP in of the next unit.

Create a HDMI loop connecting HDMI cables from the LOOP out and the LOOP in of the next unit.



Maximum length of the HDMI cable: 2 meters.
Up to 20 video nodes in one DynamicShare loop.

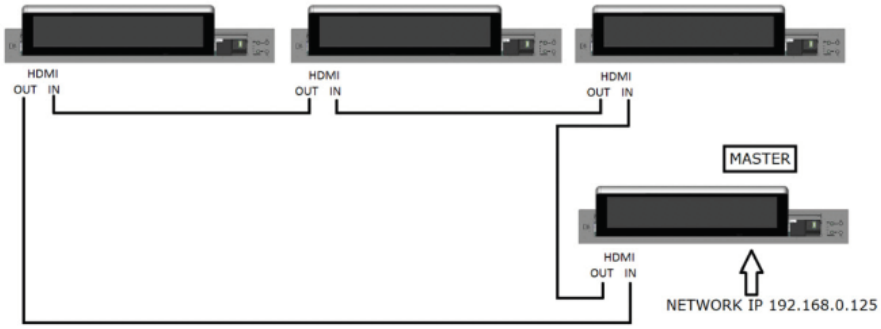
Be sure to use high quality HDMI cables. It is strongly recommended to use HDMI 4K high quality cables in order to avoid any noise, interference or transmission bandwidth problem.

The DynamicShare has a MASTER unit that controls the DynamicShare system. The MASTER unit uses the HDMI loop installation cables to transmit the Share control signal.

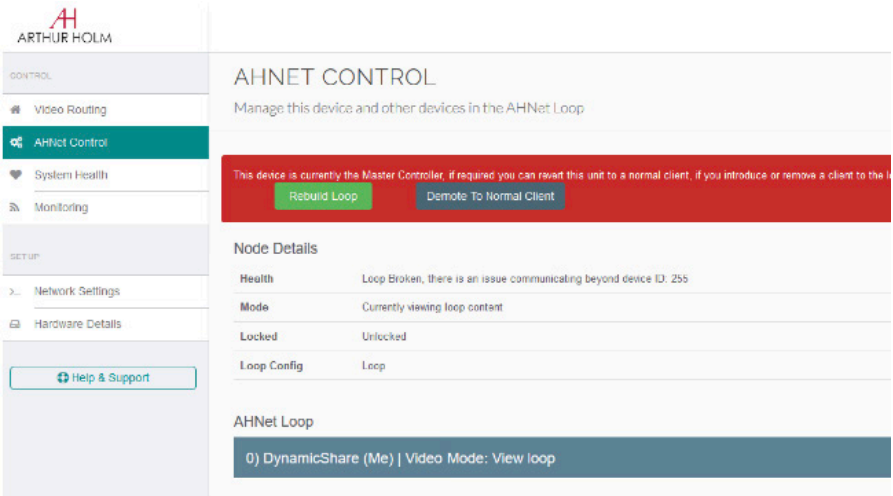
GENERAL DYNAMICSHARE INFORMATION

When installing the system for the first time, it is necessary to identify the MASTER unit. The MASTER unit is identified with a label.

Connect the MASTER unit to your network to access to the DynamicShare configuration. MASTER factory IP is 192.168.0.125.

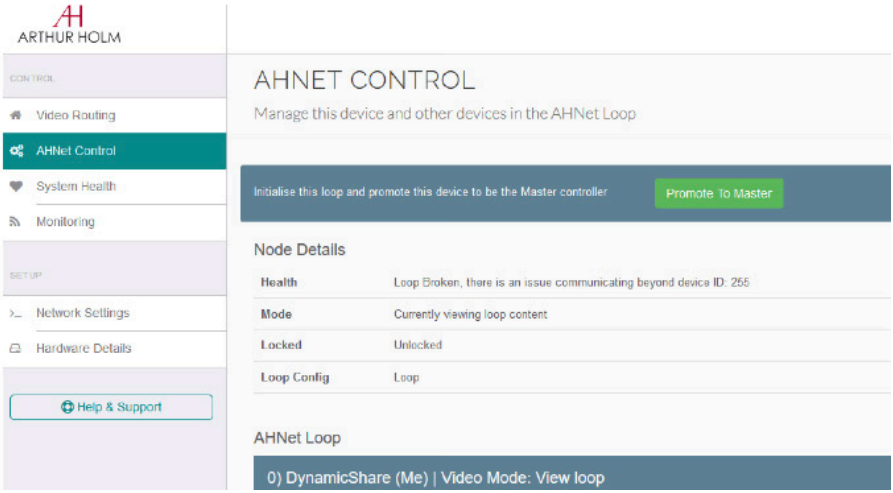


Using a PC in the same IP network that the MASTER unit (192.168.0.125), type the IP address on a web browser, such as Explorer, Firefox, etc. If the unit is configured as MASTER, the next figure should appear on the web browser:



GENERAL DYNAMICSHARE INFORMATION

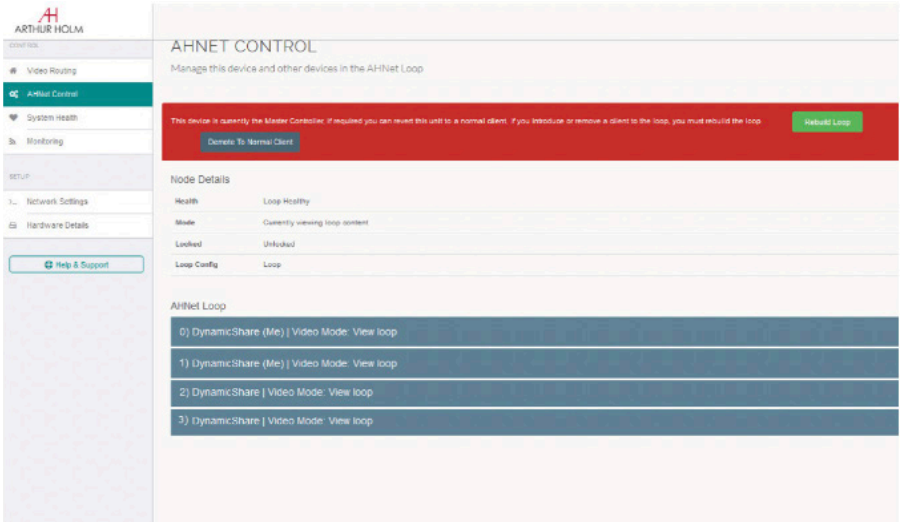
If you access to a CLIENT unit, this window will appear:



You can "Demote To Normal client" or "Promote To Master" one unit through the web configuration page. Make sure that just only one MASTER is connected in one loop. If there are more than one MASTER connected in the same HDMI loop, the system will not work properly.

Once you have all the units connected in the HDMI loop, and you have access to the MASTER using a web browser, you need to "Rebuild loop". Click on "Rebuild loop" in the web browser configuration MASTER unit and the MASTER will recognise all the units connected to the Share system. The MASTER will identify all the units with an AHnet address number to control the entire system. During the Rebuild Loop process, all the LEDs Share buttons indicators will be flashing. It shouldn't take more than 10 minutes for the MASTER to rebuild the loop. By reloading the MASTER web page, all the devices connected into the HDMI Share loop system will appear.

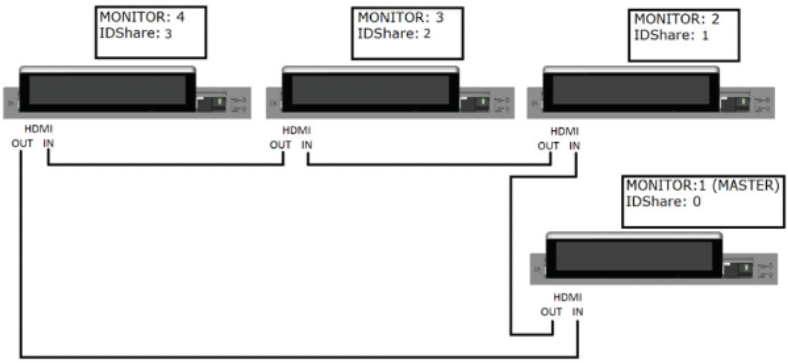
GENERAL DYNAMICSHARE INFORMATION



To rebuild the Loop is only necessary during the first installation, or if you remove or introduce a client in to the loop Share system in the future.

When the MASTER unit detects all the units installed in the Share system, the Share system is ready to work.

The next figure explains the units detected by the MASTER, and the AHnet address number assigned by the MASTER to control the system.

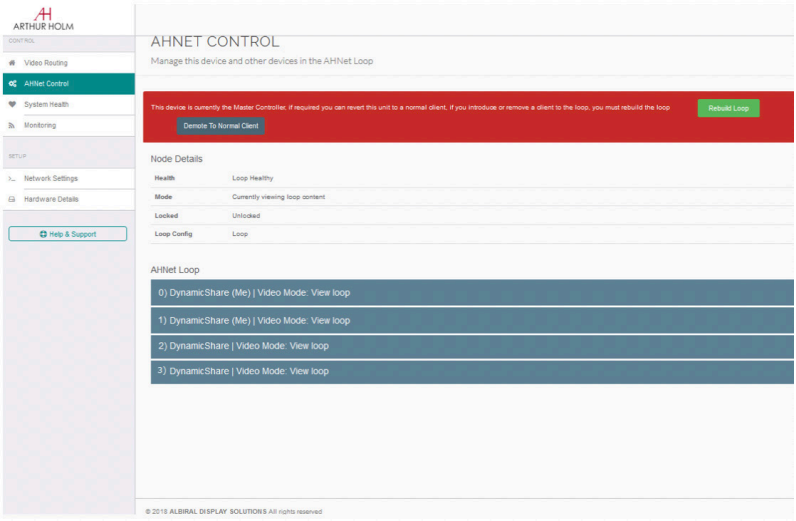


Start up

Every time that the share system starts up, the MASTER unit will check the health of the HDMI loop. It should take around 3 minutes to finish this operation. During this operation, the MASTER unit checks the loop and the units installed in the Share system.

While the MASTER unit is checking the loop, the LEDs indicators of all units will flash.

If after 3 minutes the LED indicators on the MASTER unit are still flashing, then there is a faulty connection on the HDMI loop. Check the HDMI connections on the monitor units, especially on those monitors where the LED indicators are not flashing.



You can verify the start up Share system accessing to the MASTER Web page control.

GENERAL DYNAMICSHARE INFORMATION

Using DynamicShare

To activate the PRIVATE mode, press the button for 5 seconds (the green LED will be on). In private mode, the monitor will always display the local input, even if another monitor activates the share function.

VIEW push button: This button selects the input signal to be shown on the screen (local HDMI input or loop share input). By pressing the VIEW button, the Share system selects between the loop or share signal and an active HDMI local input signal.

On the cover plate there are 4 LEDs indicators:

LED1: HDMI1 local input selected
LED2: HDMI2 local input selected
LED3: HDMI3 local input selected
LED4: Share signal selected

If the buttons are on the screen´s glass (e.g. DB2) , the buttons light indicating the signal showed on the screen:

VIEW green: local input signal selected
SHARE green: Share signal selected
SHARE red: Local signal sent to the Share HDMI loop

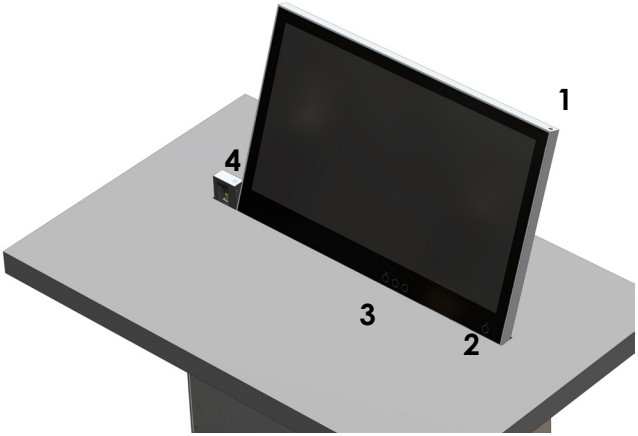
SHARE push button: Press this button to share the local signal. The red LED indicates that the monitor is sending the local image to the HDMI loop, and all monitors will display this signal. By pressing this button again, the sharing signal will be interrupted, and the red LED will turn off.

CONTROLS

IR sensor

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

Monitor movement controls



1. Open / Close / Tilt button: Up and Down control movements button. When the monitor is up, hold down this button to make the monitor tilt up and down in a cycle. Release the button when the monitor is at the desired angle.

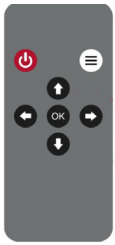
2. Close / Tilt button: Located on the screen's glass. Down control movement button. When the monitor is up, hold down this button to make the monitor tilt up and down in a cycle. Release the button when the monitor is at the desired angle.

3. DynamicShare control buttons: Located on the lower screen's glass.
VIEW button: Selects on a cycle the input source to be shown on the screen. The user is able to select between the HDMI retractable cable signal, the HDMI input signal located at the bottom of the monitor or the HDMI looped signal. Note that the user will only be able to select the input when a valid HDMI signal source is present on the input connector.
SHARE button: Press this button to send and share the local signal showed on the screen to the rest of the monitors.

4. Open / Close HDMI retractable cable: Controls the HDMI retractable cable movements.

CONTROLS

Remote control



POWER	Switch ON/OFF the monitor
MENU	Activates the OSD menu on screen
UP	Control up on the OSD menu
DOWN	Control down on the OSD menu
LEFT	Control left on the OSD menu
RIGHT	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

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 buttons 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 confirm.
- 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

Picture Mode: Adjusts the mode of the image

- Dynamic
- Standard
- Mild
- User: Contrast - Brightness - Colour - Sharpness - Tint

Colour Temperature: Adjusts the colour of the image

- Cool
- Medium
- Warm
- Use: Red - Green - Blue

Aspect Ratio: Adjusts the image aspect on screen

- 4:3
- 16:9
- Just scan

OSD MENU

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's level

Colour Range: Adjusts the colour range
- 0 - 255
- 16 - 235

OSD MENU

Option

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 the screen

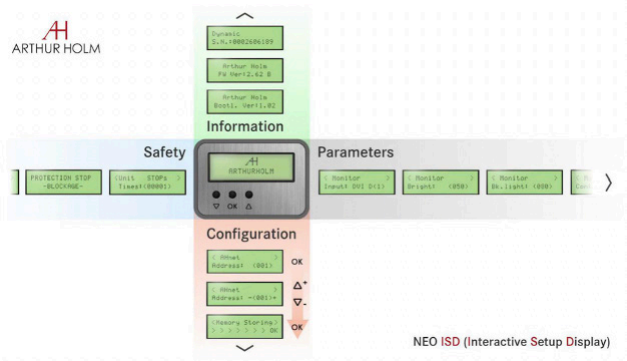
Software Update (USB): Port to use for firmware's upgrade.

Mirror:

0. Image with no flip
1. Vertical flip
2. Horizontal flip
3. Rotate

ISD MENU

The Interactive Setup Display is an LCD screen located at the monitor casing inside the desk that allows the setup and provides useful diagnose and historical data of the device.

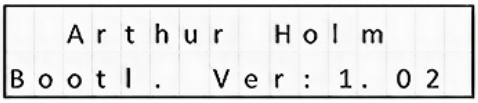


- To start using it -

· **WELCOME DISPLAY & DATA :**

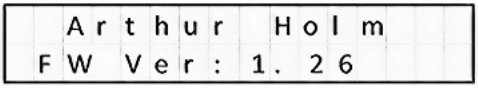
1) Bootloader Version

The display will show a Bootloader Version message (example: Bootl. Ver: 1.01). Bootloader is a program which allows the system to be able to update itself. The ISD has a Bootloader and therefore is capable of updating to new versions in order to constantly improve the user experience.



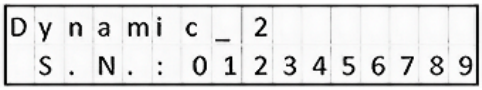
2) FirmWare

Data that refers to the firmware version (FW) of the equipment (example: FW Ver = 1.32). If you wish to update the FW version, please contact us.



3) Serial Number

Serial number of the device (example: serial number of the device = 02658748). The serial number is stored inside each device.



The serial number can also be obtained via AHnet and AHlink.

- OSD MENU -

· **AHNET (GENERAL PROTOCOL)**

CONTROLS

· The ISD will show the AHnet address which will be accompanied by an acoustic signal "BEEP" (example: Address: (001)). Once the signal has been heard, the "UP & DOWN" buttons will allow the user to scroll through all the variety of menus that the device contains. To enter into any specific menu, simply press the "OK" button.

· How to modify the values within each menu? The values can be selected through the "UP & DOWN" buttons. To save the selected value, press the "OK" button or wait 3 seconds for it to be automatically saved.

The connection through RS422 allows the control of up to 30 devices per line. The last device (an only the last one) needs to have the termination activated.

ISD MENU

- **MENUS GENERAL INFORMATION**

1) AHnet - Adress

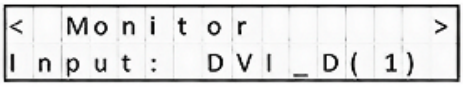
The address must be set from 1 to 60.

2) VIDEO INPUT SELECTION

The device provides the following inputs:

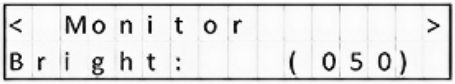
DVI1 = DVI-I (DVI-A and DVI1-D)
DVI2= DVI-D (DVI-2D)

This menu allows the selection of 1 of these 3 inputs.



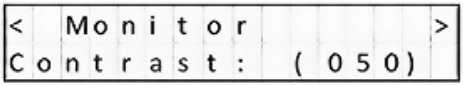
3) MONITOR BRIGHTNESS

Brightness level (0 – 100).



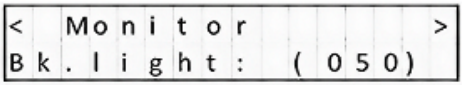
4) MONITOR CONTRAST

Contrast level (0 – 100).



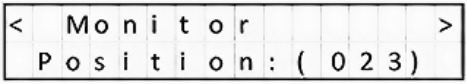
5) MONITOR BACKLIGHT

Backlight level (0 – 100).



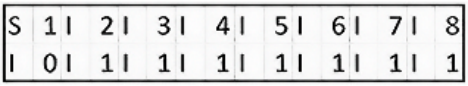
6) POSITION

It is a diagnostic option that informs about the position of the device.



7) SENSORS INFORMATION

It is a diagnostic option that informs about the internal state of the sensors.

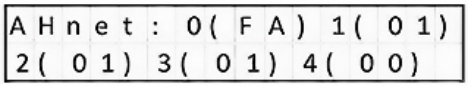


8) AHnet - INFORMATION

This menu is useful for programing and diagnose.

It provides information about the AHnet command that has been received by the device.

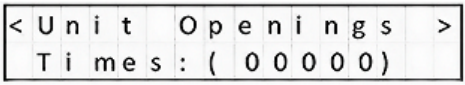
Example: AHnet = 0 (FA) 1 (01) 2 (01) 3 (01) 4 (00)



9) UNIT OPENS

It is a diagnostic option that provides historical data.

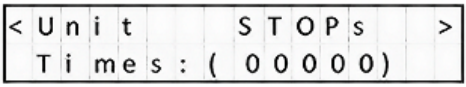
It is very useful to analyze how the device has been used during its lifecycle and it provides information about how many movements the device has done.



10) UNIT STOPS

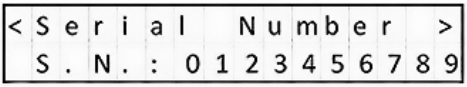
It is a diagnostic option that provides historical data. It is very useful to analyze how the device has been used during its lifecycle.

It provides information about the number of times that the device has been protected and made emergency stops.



11) SERIAL NUMBER

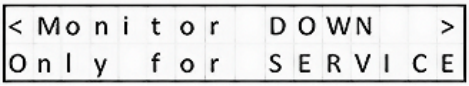
Provides the device's serial number.



The serial number can also be obtained via AHnet and AHlink.

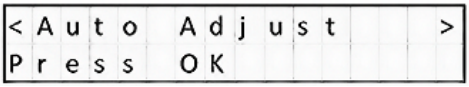
12) MONITOR DOWN

Only use this function as per manufacturer advice.



13) AUTO ADJUST

Auto Mechanical Movement Calibration (AH-AMMC).



Protocol activation: the device will make a consecutive movements series that must not be interrupted. The system will calibrate the speed and protection thresholds.

14) AHLink

Activates AHlink.

FIRMWARE UPDATE

To update the FW version.

To start the update, connect a PC with the APP AH_FW (Device Setting Tool) to the device through the USB port.

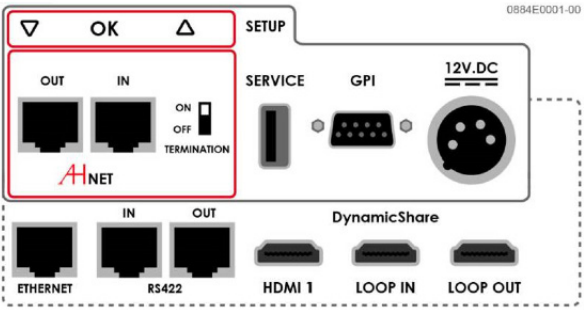
Proceed with the following steps:

-Unplug the PSU
-Wait for 1 minute
-Press and hold the "OK" button
-Plug in the PSU
- A message will appear on the LCD screen when the connection is ready
-Start updating the AH_FW

How are you doing? Easy, right?

Now you just have to start enjoying your device ☺

INPUT CONNECTORS



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 CAT6 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's upgrade.

INPUT CONNECTORS

HDMI LOOP OUT:
Connect a HDMI cable to the next HDMI LOOP IN monitor in order to create a daisy chain loop installation.

HDMI LOOP IN:
Connect a HDMI cable from the previous HDMI LOOP OUT monitor, in order create a daisy chain loop installation.

RS422 RJ45 IN connector:
Only used on the MASTER unit to externally control the SHARE system using AHnet commands.

RS422 RJ45 OUT CONNECTOR:
Not used.

Ethernet RJ45 connector:
Only used in the MASTER unit to externally control the Share system.

On RS422 connectors, connect only RS422 signals. Be careful to not connect Network cables or PoE signals. It will seriously damage the monitor.

Note that if the monitor has a retractable HDMI cable on the cover plate or a fixed HDMI connector on the cover plate, this HDMI input signal is connected to HDMI2 share local input signal.

AHnet PROTOCOL

Communications protocol

COMMUNICATION	RS422
CONNECTION	RJ45
WIRING	CAT-6

Speed and 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 an AH ERT interface, to control the RS422 bus.
The units should have a set address and the address must start by 1.
Maximum cable length between ends: 500 m/1640 ft.

AHnet PROTOCOL

AHnet protocol

Uses 5 bytes communication:

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

Commands

COMMAND	DESCRIPTION	RESPONSE
FA XX 01 01 00	SCREEN UP	FB XX 01 01 00
FA XX 01 00 00	SCREEN 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 04 01 00	BUTTON LOCK	FB XX 04 01 00
FA XX 04 00 00	BUTTON UNLOCK	FB XX 04 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 bites of the monitor status

CB2 Response in 8 bites of the monitor status

AHnet PROTOCOL

CB1

BITE	7	6	5	4	3	2	1	0
SCREEN DOWN			1	1	0	1		
SCREEN UP			0	1	0	1		
SCREEN ON							1	
SCREEN OFF							0	
PROTECTION STOP								1
MONITOR OK								0

CB2

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

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.

AHnet PROTOCOL

Communications protocol

COMMUNICATION	RS422
CONNECTION	RJ45
WIRING	CAT-6

Speed and configuration

BAUD RATE	38400
DATA BITS	8
PARITY	NONE
STOP BITS	1

Wiring Diagram

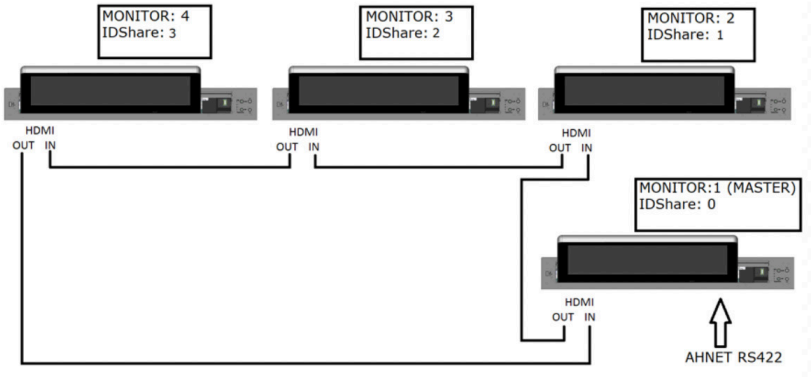
1. Data TX +
2. Data TX –
3. Data RX +
4. NC
5. NC
6 .Data RX –
7. NC
8. NC

RJ-45

Connection

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

The MASTER unit assigns RS422 identification addr ess for the DynamicShare node. Please, consult the next figure to identify the RS422 address:



AHnet PROTOCOL

AHnet protocol

Uses 5 bytes communication:

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

AHnet commands

COMMAND	DESCRIPTION	RESPONSE
FA XX 05 00 00	VIEW LOOP	FB XX 05 00 00
FA XX 05 01 00	VIEW HDMI1	FB XX 05 01 00
FA XX 05 0B 00	SHARE HDMI1	FB XX 05 0B 00
FA XX 05 02 00	VIEW HDMI2	FB XX 05 02 00
FA XX 05 0C 00	SHARE HDMI2	FB XX 05 0C 00

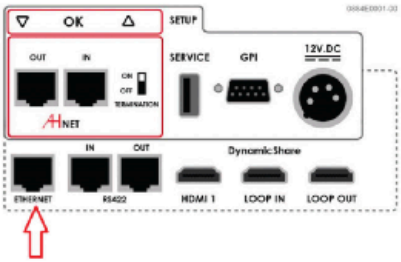
EXAMPLES

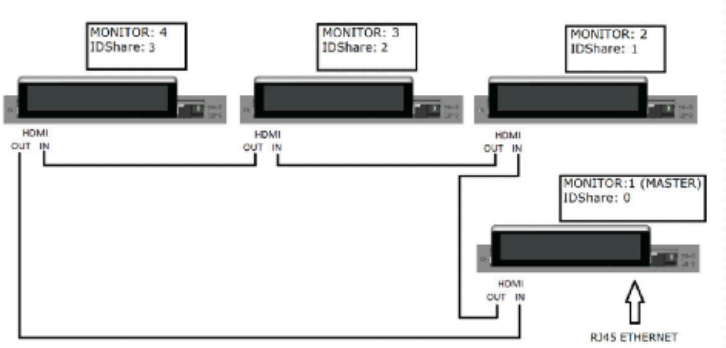
Instruction Share local signal HDMI1 of monitor 2
FA 01 05 0B 00

NOTE that the instructions are on HEX

Web API commands

Another way to externally control the SHARE system is to use WEB API commands. Use the MASTER RJ45 Ethernet connector to send WEB API commands by network to the SHARE system.





Use the following structure to send WEB API commands to the system:
IP factory MASTER device
192.168.0.125

Command structure:
http://<MasterIP>/ahnet/cmd/<AHNet command>

For example, to SHARE HDMI1 signal from the MASTER monitor:
http://192.168.0.125/ahnet/cmd/FA/00/05/0B/00

VIDEO SIGNALS

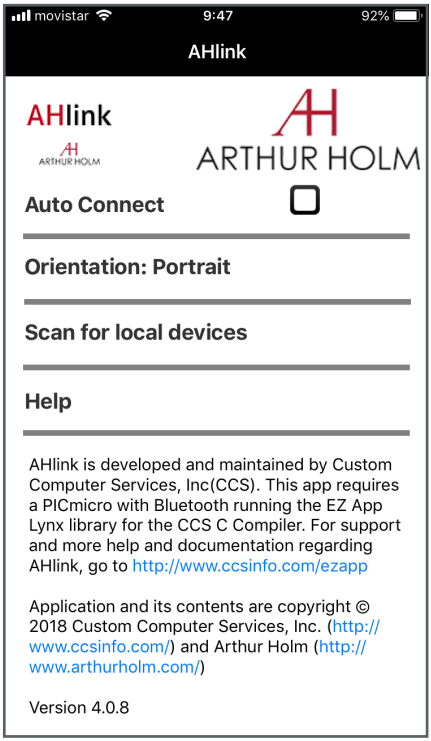
RESOLUTION	Horizontal freq (KHz)	Vertical freq (Hz)	Scanning type
800x600@60Hz	37.879	60.317	Progressive
800x600@72Hz	48.077	72.188	Progressive
800x600@75Hz	46.875	75.000	Progressive
1024x768@60Hz	48.363	60.005	Progressive
1024x768@70Hz	56.476	70.070	Progressive
1024x768@75Hz	60.023	75.030	Progressive
1280x720@60Hz	44.772	59.855	Progressive
1360x768@60Hz	47.720	59.799	Progressive
1280x1024@60Hz	63.981	60.020	Progressive
1600x1200@60Hz	75.000	60.000	Progressive
1680x1050@60Hz	64.742	59.946	Progressive
1920x1080@60Hz	67.500	60.000	Progressive

AHLink

AHlink is used to control and set-up the unit.

By default, the AHlink wireless signal is deactivated. To activate it, please press and hold simultaneously the Open (1) (located on monitor top) and Close (2) (located on glass) for 5 seconds. You can also activate the AHlink wireless signal by suing the Interactive Setup Display (ISD) located below the monitor. Press successively the Down arrow until the AHlink appears on the LCD screen. Then, press the OK button and you will hear a 5 Beep sound. This means that the AHlink is active.

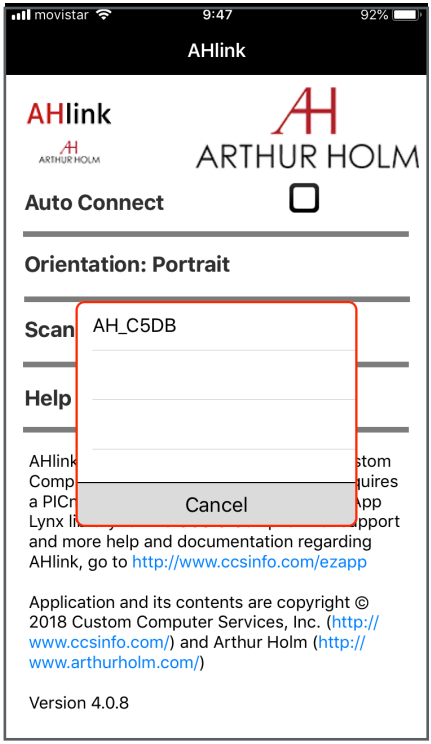
The wireless AHlink signal automatically deactivates when there is no device connected during more than 2 minutes. When the AHlink deactivates, you will hear a long Beep sound.



To control and set up your AH product with AHlink, please download it from the App Store (IOS system) or from Google Play (Android system) and execute it in your handled device.

It is recommended on to select *Auto Connect* and select *Portrait* on *Orientation*. To connect it, select *Scan for local devices*.

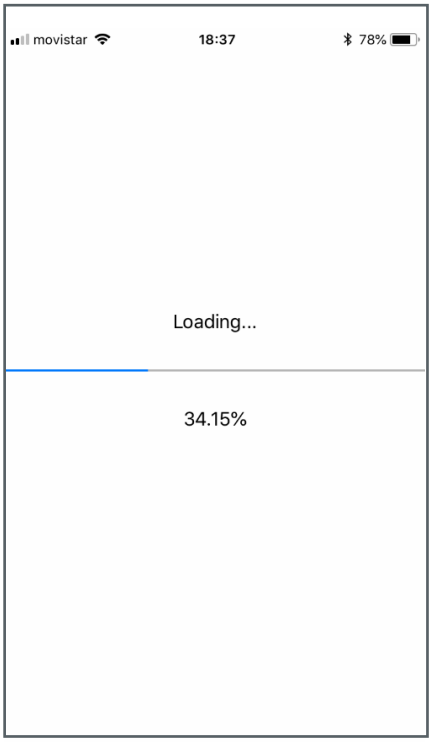
AHLink



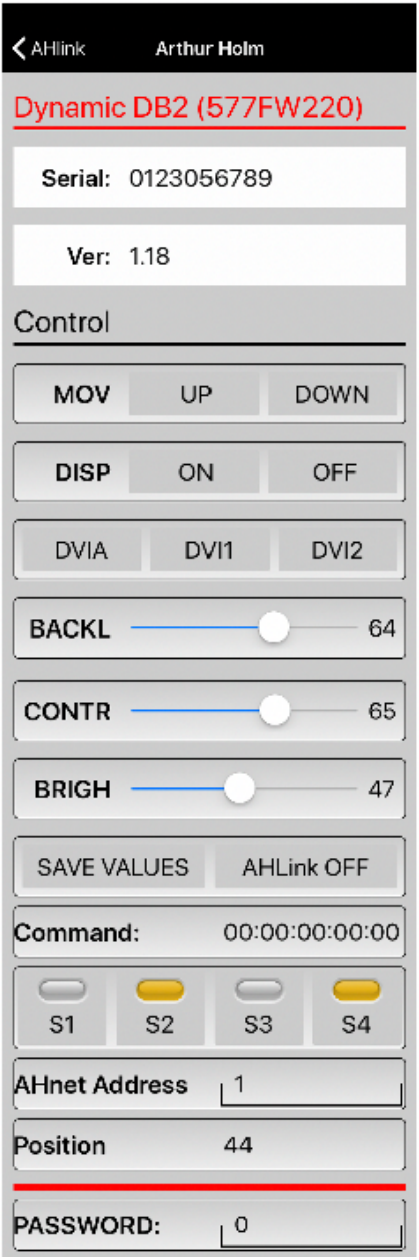
If your AH device does not appear on the screen, the AHlink signal might no longer be active.

The AHlink name always begins with the characters "AH" followed by the four last MAC AHlink address. You must select the AH device.

After selecting the AH device, the first page will upload on your screen. This page is used for the basic installation setup.



AHLink



SERIAL
Serial number of the unit

VER
Firmware version

MOV
Controls the Up and Down monitor movements

DISP: Turns the display ON or OFF

DVIA, DVI1, DVI2: Input source selection

BACKL: Backlight adjustments

CONTR: Contrast adjustments

BRIGHT: Brightness adjustments

SAVE VALUES: Memorises the backlight, contrast and brightness values

AHLINK OFF: Turns off the AHlink signal

COMMAND: Information of the last AHnet command received from RS422 port

SENSORS: Indicates sensor status.
S1 indicates the screen up position
S2 Indicates the 110° tilt screen position
S3 Indicates the 90° tilt screen position

AHNET ADDRESS: AH address settings

POSITION: Screen position

PASSWORD: Access to the factory's settings

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 the 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 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.

WARRANTY TERMS AND CONDITIONS

Albiral Display Solutions warrants this product against manufacturing defects and workmanship for a period of five (5) years from the date of purchase, subject to the conditions below.

1. Mechanical parts: The engine and the product's mechanical parts are warranted against manufacturing defects and workmanship for a period of five (5) years from the date of purchase.

2. LCD panel, inverter, controller, electrical, electronic boards, accessories and power supply are warranted against manufacturing defects and workmanship for a period of two (2) years from the date of purchase.

3. LCD panels that present more than 3 defective pixels (15-19") and more than 4 defective pixels (20-24") will be replaced under warranty.

4. Labour costs: Albiral Display Solutions covers the labour costs to replace any defective parts during the validity of this warranty.

5. Transport costs:

   5.1. In the case that a manufacturing defect occurs within 90 days after the purchase date, both freight and insurance costs will be paid by Albiral Display Solutions.

   Although Albiral Display Solutions S.L. pays for freight and insurance costs, Albiral Displays Solutions will not be responsible for any damages caused by the transportation of the goods if the customer does not inform in writing when receiving the goods.

   5.2. After 90 days of the purchase date, the beneficiary of the warranty will pay both freight and insurance costs.

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

6. This warranty does not cover the labour costs of handling, diagnose, removal, replacement, reinstall and/or program any product.

WARRANTY TERMS AND CONDITIONS

7. This warranty does not apply if the fault has been caused by misuse, improper handling, electrical or mechanical abuse, abnormal operation conditions, non-authorised modifications, and inadequate transportation or as a result of atmospheric phenomenons.

8. The warranty is not valid if people other than authorised Service Centre have handled the product and if the product has been manipulated or warranty seals are removed or manipulated.

9. The beneficiary of the warranty will have to return the product with the original packaging to warranty there are no damages during transportation.

10. The warranty is not valid if the beneficiary of the warranty does not include an RMA form and a copy of the purchasing invoice.

Please note that laws vary from country to country, and the same provisions of this warranty may not apply to you.

If you have any doubts concerning the terms of this warranty, please contact:
business@albiral.com
+34 938 502 376

ARTHUR HOLM

Patents

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MU17413ES00
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P24821USPC
P27178DEEP
P27178EPDV01
P27178EPPC
P27178ESEP
P27178ITEP
P27178RUPC
P27178USPC
P27284DEEP
P27284EPPC
P27284ESEP
P27284GBEP
P27284RUPC
P27284USPC
P27715ESEP
P28089DEEP
P28089ESEP
P28089ITEP
P28089USPC
P28090EP00
P31160ESES
P31160PCES

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