



User manual



ALB 12MR
ALB 12WMR
ALB 15MR
ALB 15HDMR

ALB 17MR
ALB 17HDMR
ALB 19HDMR
ALB 22HDMR

Retractable monitors for furniture integration

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Welcome

Thank you for purchasing an ALBIRAL product.

Our product range has been designed for an easy installation and maximum reliability.

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



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 Smart Retractable monitor is a professional TFT display with an electrical lift system for installation into a horizontal furniture surface.

In the starting position (retracted) the screen is placed inside the table leaving the desk free of any obtrusive element. 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 in:

<i>Conference rooms</i>	<i>Meeting rooms</i>	<i>Board rooms</i>
<i>Auditoriums</i>	<i>Information desks</i>	<i>Training rooms</i>

FEATURES

- TFT Active Matrix display
 - ALB 12MR 12"
 - ALB 12WMR 12" widescreen format
 - ALB 15MR 15"
 - ALB 15HDMR 15" FULL HD
 - ALB 17MR 17"
 - ALB 17HDMR 17" FULL HD
 - ALB 19HDMR 19" FULL HD
 - ALB 22HDMR 22" FULL HD
- Retractable monitor with electrical engine for furniture integration
- Up/Down function operated by two buttons on the cover plate
- Low power consumption
- Low radiation
- Quick response time
- Data inputs DVI-I & DVI-D. HDCP compliant
- Electrical powered lift system with variable speed
- Addressable RS422 monitor control by AHnet protocol, RJ45 connector CAT5
- Powder coated steel housing and upper table cover plate in brushed stainless steel

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

CONNECTIONS

Before connecting the power

1. Install the unit on a table or desk, in vertical position
2. Open the hatch and remove the two foam protection pieces 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 12Vdc cable into the socket on the unit

Signal 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

Controls

REMOTE CONTROL

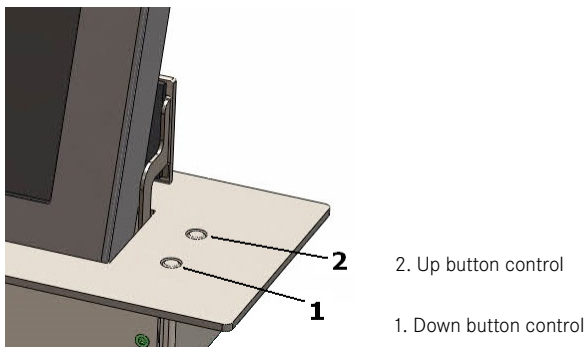
POWER	Switch ON/OFF the monitor
MENU	Activates the OSD menu on screen
DOWN	Cursor control down on the OSD menu. Selects the input source when the OSD menu is not active on screen,
UP	Cursor control up on OSD menu
LEFT	Cursor control left on OSD menu
RIGHT	Cursor control right on OSD menu
OK	Selects the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



Controls

UP & DOWN MOVEMENT

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



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. The monitor has two different speeds.

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. The monitor has two different speeds. Permanent 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. As you move from one icon to another, the function name changes to reflect the function or group of functions represented by that icon. 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	Configuration of the image colour
	Cool
	Normal
	Warm
	User (manually adjustment of red, green and blue colours)
PSM	Configuration of the bright image
	Dynamic
	Standard
	Mild
	Game
	User (manually adjustment of brightness and contrast)
	Contrast Image contrast adjustment
	Brightness Image brightness adjustment

OSD menu

SCREEN

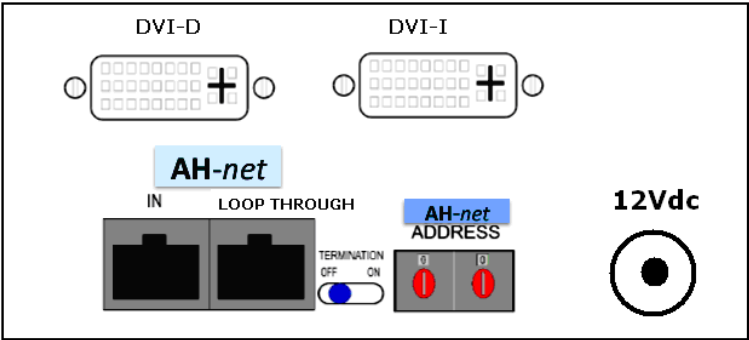
Input	Input signal selection	
	DVI-A	
	DVI 1	
	DVI 2	
ARC	Aspect image on screen	
	Full	The image is showed on full screen
	16:9	Shows the image on screen with 16:9 aspect
	Aspect	Shows the image on full screen but keeps the original aspect ratio of the input image
	4:3	Shows the image on screen with 4:3 aspect
	1:1	Shows the image on screen with the original resolution
Backlight	Adjust the backlight of the screen	
Flip	Flip the image on screen	
	Off:	Image with no flip
	1	Vertical flip
	2	Horizontal flip
	3	Rotate
OSD-Flip	Flip the menu on screen (OSD)	
	Off	Image with no flip
	1	Vertical flip
	2	Horizontal flip
	3	Rotate

OSD menu

SETUP

Language	OSD language selection
PC Control	Adjust the image on screen. Only on ARGB (analogue) input
	H-Pos Adjust the image on screen horizontally
	V-Pos Adjust the image on the screen vertically
	Phase Adjust the phase
	Clock Adjust the clock
	Auto Adjust Auto adjust the image on screen
	Reset PC image control reset
1050	Selection of the exact input resolution. Only for ARGB (analogue) input
	1400 x 1050
	1680 x 1050
WXGA	Selection of the exact input resolution. Only for ARGB (analogue) input
	1024 x 768
	1280 x 768
	1360 x 768
BG Colour	Background colour of the screen when there is no input signal. The monitor only goes to stand by mode when black colour is selected
	BLACK
	RED
	GREEN
	BLUE

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
- AHnet RJ45 CAT5 connector for addressable RS422 control. There is a loop through connector to use as signal RS422 output. You can connect up to 30 monitors on the same RS422 bus
- Termination Activate (ON) the termination ONLY on the last monitor of the RS422 bus
- 12V D.C. Power supply input connector

Warning



Before connecting the monitor, open the hatch and remove the 2 foam protection pieces.

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	VALUE 2

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 can be connected 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						
DVI 1-D	1	1						
DVI 2-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:
F9 Hex. (Byte1)

In this case, the units do not send a reply

Input Signals

ALB12MR

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

ALB12WMR

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
1360x768@60Hz	47.72	59.799	Progressive

ALB15MR

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

Input Signals

ALB17MR

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	47.72	59.799	Progressive
1280x1024@60Hz	63.981	60.020	Progressive

ALB15HDMR/ ALB17HDMR/ ALB19HDMR/ ALB22HDMR

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	47.72	59.799	Progressive
1280x1024@60Hz	63.981	60.020	Progressive
1600x1200@60Hz	75.000	60.00	Progressive
1680 x1050@60Hz	64.742	59.946	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.



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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