User Guide

ERT

IP to RS422/RS485 Full Duplex interface control

Technology Serving Design

Danish craftmanship
Mediterranean soul

ARTHUR HOLM

TABLE OF CONTENTS

WELCOME

Thank you for purchasing an ARTHUR HOLM product.

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

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

Henrik Holm
General Manager

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, 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 and collaboration in reception, 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, 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.

REGULATIONS AND SECURITY

ATTENTION: Do not disassemble or modify the device in any way. This symbol warns of the presence of dangerous uninsulated voltages inside some of the components, of sufficient magnitude to expose people to the 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 device power connector.
• Disconnect the power plug from the AC outlet when the device 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.

SAFETY INSTRUCTIONS

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced AV technician for help.

SYSTEM DESCRIPTION

General

ERT interfaces provide an easy and convenient system to control and diagnose motorized monitors, microphone lifts and other automated solutions by Arthur Holm helping to reduce the installation costs in terms of both equipment and time.

Easy to install and set up, they facilitate a quicker installation and eliminate the need for external relay boxes and extra power outlets. It is also possible to have Arthur Holm's virtual support on site, as long as there is an Internet connection available.

AHlink wireless control is also integrated into ERT interfaces, providing an easy and direct access to the most common settings through an app and making start-up and future interventions hassle-free. This means there is no need to physically access the unit to set up or diagnose its installation.

Highlights

- OTAS (One Touch Addressing System)
- IP to RS422/RS485 Full Duplex interface
- ERT-60 2 AHnet outputs/ ERT-30 1 AHnet output
- Controls up to 60 units (ERT-60)
- RDM system (Remote Diagnostic and Maintenance)
- Remote/local control and management
- Wireless control through the AHlink app

Box Contents

Before the installation of your device, please check the contents of the shipping box. It must contain the following items:

- ERT unit
- Power cord
- Power supply: 100-240Vac, 50-60Hz. Output 12V
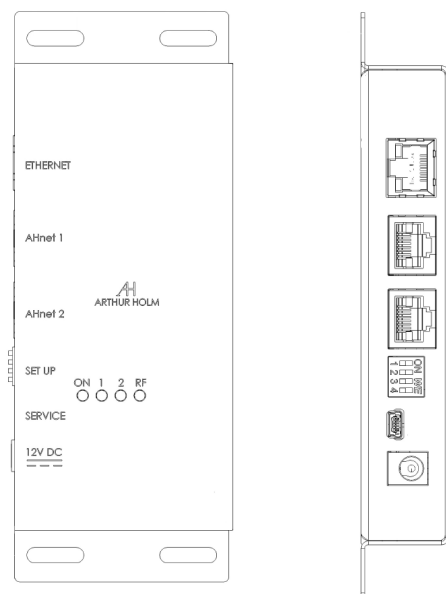- User guide

SYSTEM DESCRIPTION

Available Models

MODEL	DESCRIPTION
ERT-30	IP to RS-422/RS485 Full Duplex interface to control, configure and diagnose ARTHUR HOLM motorized products. 1 AHnet port (RS422/RS485 Full Duplex) to control up to 30 units. Ethernet RJ45. OTAS (One Touch Addressing System). Remote/local control and management. RDM system (Remote Diagnostic and Maintenance). Wireless control through the AHlink app.
ERT-60	IP to RS-422/RS485 Full Duplex ERT-60_new_Retallada.jpg interface to control, configure and diagnose ARTHUR HOLM motorized products. 2 AHnet ports (RS422/RS485 Full Duplex) to control up to 60 units. Ethernet RJ45. OTAS (One Touch Addressing System). Remote/local control and management. RDM system (Remote Diagnostic and Maintenance). Wireless control through the AHlink app.

CONTROL AND CONNECTORS

___ **12V D.C.:** Power input connector. Plug in the power supply supplied.

SETUP: Four deep switches to control and set up the unit.

DIP1: Activates the radio signal to control the unit using AHlink APP
DIP2: Activates the automatic AHnet ID configuration on the RS422/RS485 Full Duplex bus
DIP3: Not used
DIP4: Not used

LED ON: Indicates the unit is working

LED 1:
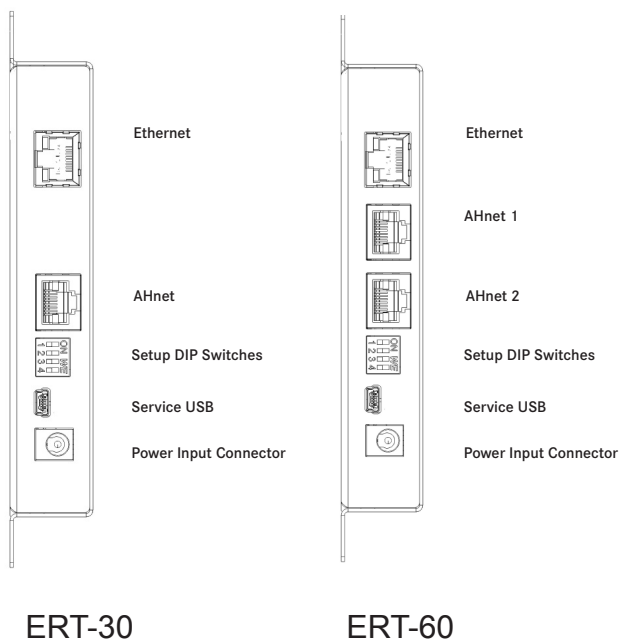   <u>Toggle:</u> Indicates activity in the AHnet bus

LED 2:
      <u>Static:</u> Indicates configuration of the WTHERNET module
      <u>Toggle:</u> Indicates the automatic AHnet ID configuration is acive

LED RF: Indicates a device is connected via AHlink

CONTROL AND CONNECTORS

Ethernet	Ethernet
	AHnet 1
AHnet	AHnet 2
Setup DIP Switches	Setup DIP Switches
Service USB	Service USB
Power Input Connector	Power Input Connector

ERT-30   ERT-60

ETHERNET: RJ45 network connector. Connect the ERT to your local network, to open the 2002 port and send AHnet commands to the units connected to the RS422/RS485 Full Duplex ports (AHnet1 and AHnet2).

SERVICE: USB Mini connector used only to firmware upgrade.

AHnet1: RJ45 RS422/RS485 Full Duplex port. Connect the Arthur Holm or Albiral units to
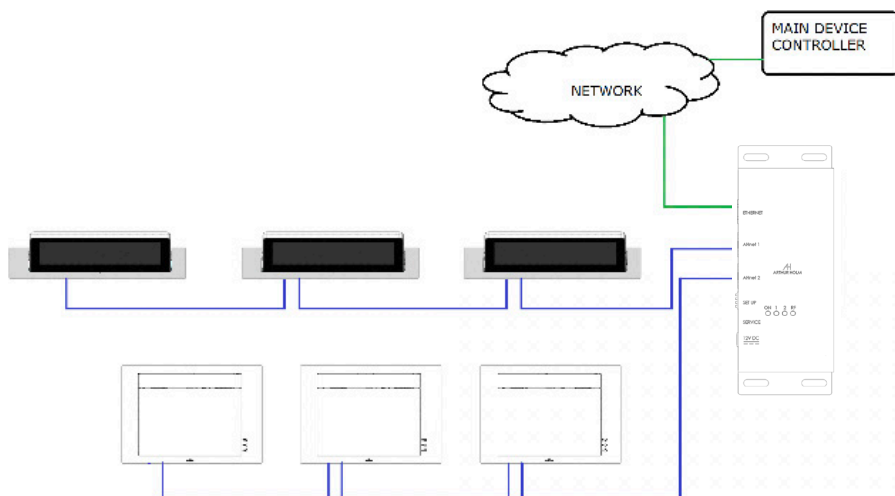control using AHnet commands.

AHnet2: RJ45 RS422/RS485 Full Duplex port. Connect the Arthur Holm or Albiral units to control using AHnet commands.

Note: The ERT-30 has only one AHNet RS422/RS485 Full Duplex port connector. With an ERT-30 you can control up to 30 devices, and with an ERT-60, you can control up to 60 devices using the two AHNet port connectors (30 devices connected on each port).

SYSTEM CONFIGURATION

Use the ETHERNET unit port to connect the ERT to your local network area. Using this port, opens the 2002 ERT IP port, and send AHnet commands to control the devices connected to RS422/RS485 Full Duplex ERT ports (AHnet1 and AHnet2). The Arthur Holm or Albiral units, has an AHnet IN and AHnet OUT port to easily install a RS422/RS485 Full Duplex BUS. The next figure shows a schematic connection diagram:

The main device controller connects to the ERT interface using the local network area. Just opening the 2002 ERT port, the main device controller can send AHnet commands to the ERT interface, and the ERT sends the AHnet commands to the units by the RS422/RS485 Full Duplex ports. You can connect up to 60 units to the ERT using the two RS422/RS485 Full Duplex RJ45 buses (30 units on each bus). Please, follow the respective user manual to configure the AHnet address on each unit and to connect the unit to the RS422/RS485 Full Duplex bus.
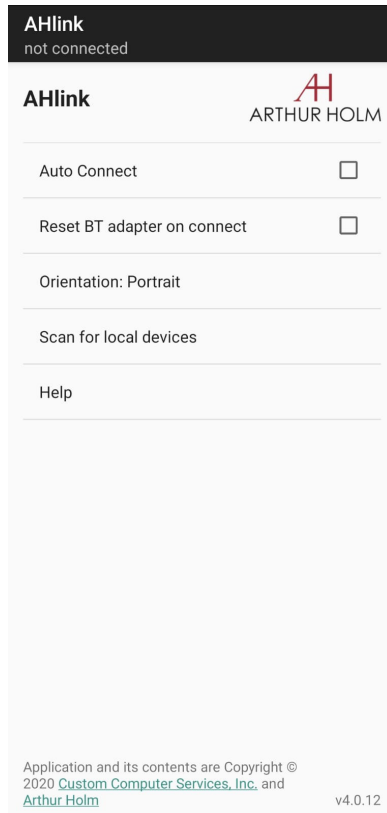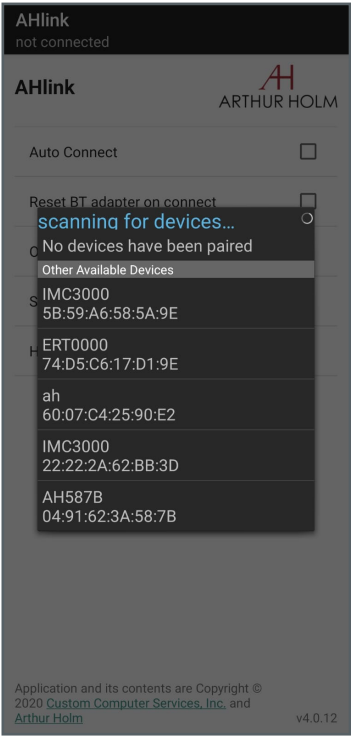
SYSTEM CONFIGURATION

To control and configure the unit, use the AHlink APP. To download it, search for "AHLink" from App Store (IOS system) or from Google Play Store (Android system). The App is free.

To configure the ERT IP address, you will need to download the AHlink APP. Then you need to activate the AHlink signal. To do so, activate DIP1 on and power on the ERT unit. Execute the "AHLink" on your mobile phone.
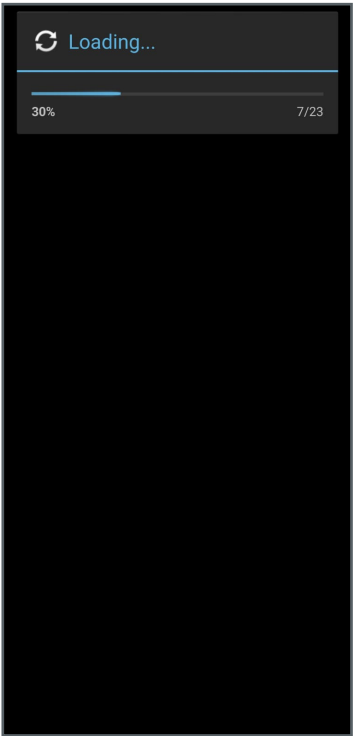
On App options, it is recommended not to select "Auto Connect". You can also select the orientation you desire. To connect to the device, selects "Scan for local devices" option.

AHlink
not connected

AHlink

AH
ARTHUR HOLM

Auto Connect ☐

Reset BT adapter on connect ☐

Orientation: Portrait

Scan for local devices

Help

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Arthur Holm   v4.0.12

SYSTEM CONFIGURATION

The name always begins by "ERT" characters followed by the fourth last digits of the serial number. Select the device to control and configure the unit.

Selecting the device, the first page will load on the mobile phone. This page is used to check the device. When the mobile APP is connected to the unit, the RF LED will be on.

SYSTEM CONFIGURATION

MODEL
Selector to chose what family of monitors you want to control. You can see the options on the image below.

Address
Configure the AHnet Address to send the command. Use address 0 to bradcast the command instruction to all the units of the selected model.

MOV
The different action buttons to contol the units.

BUT
These buttons enable and disable the physical buttons to move the units.

Other buttons
There are various buttons that let you turn on and off the screen, mute and turn on the microphones, also mute or turn on the speakers, and change the video source on the monitors.

SERVER
Is the network port.

STATIC IP
Shows the actual ERT IP address.

MASK
Shows the current ERT mask address.

GATEWAY
Shows the current ERT gateway address.

PASSWORD
Enter 4006 to configure the network addresses.

SERIAL
Shows the serial number of the unit.

FW
Shows the firware version.

SYSTEM CONFIGURATION

Network configuration

By entering 4006 on the PASSWORD option on the first page and pressing enter, you will get to this page. On this page, you can set the network mode, IP address, mask address and gateway address. Until you press the SAVE button, the parameters are not stored. You will know that the values were successfully saved if, after pressing the SAVE button, you get to the first page menu.

Arthur Holm
connected to ERT3210

ERT

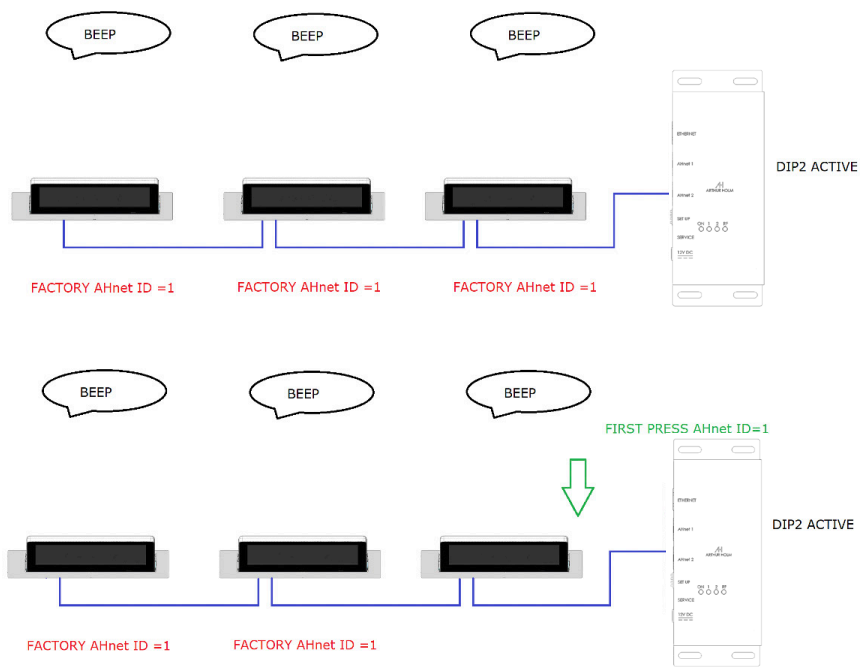|	
SERVER:	2002
MODE	DHCP
IP:	192.168.0.100
MASK:	255.255.255.0
GATEWAY:	192.168.0.3

SAVE
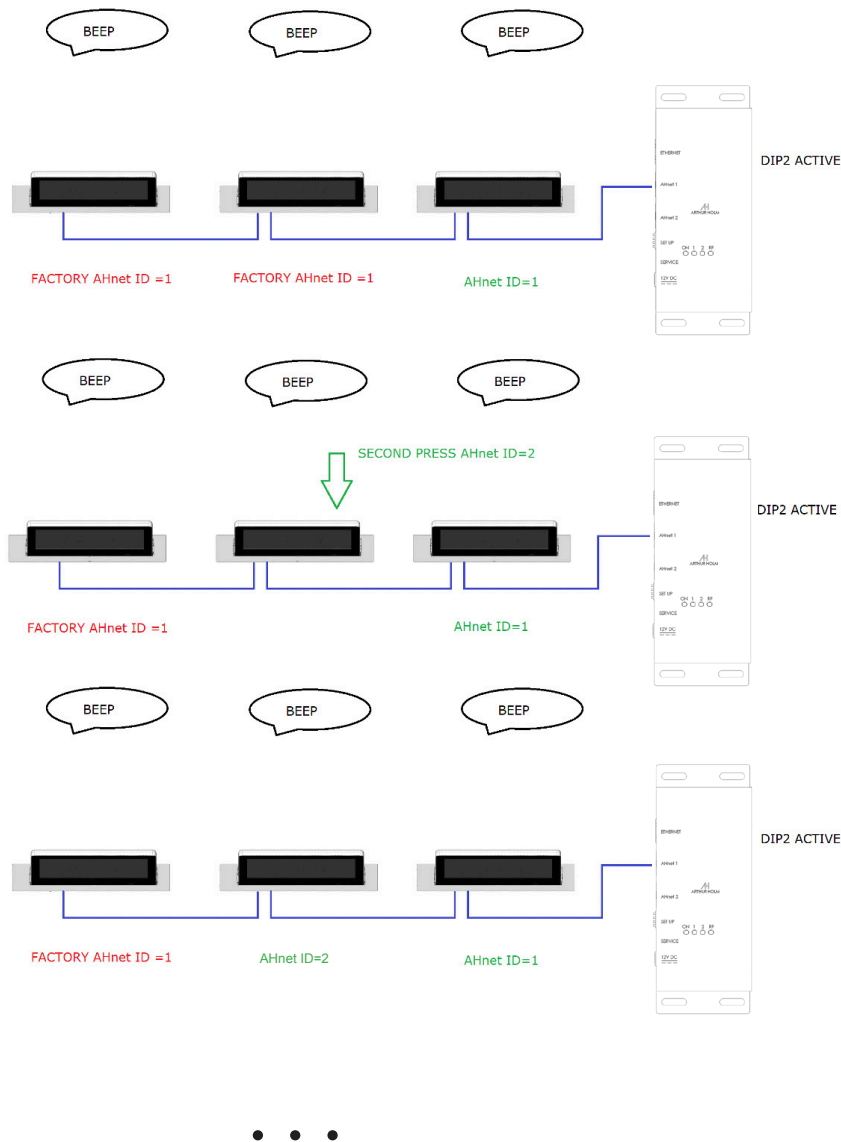
BACK

AHnet ADDRESS CONFIGURATION

There is an ERT functionality that helps the users to configure the AHnet address. To send AHnet commands to a unit, first you need to configure the AHnet address to individually send commands. When installing the unit (monitor, microphone or other device), you need to configure a different AHnet address on each unit. The ERT has a utility that helps the assignation of the AHnet address task.

Firs, note that this utility is only available on devices that have LCD screen configuration. The devices that have AHnet address rotary switches don't have this functionality.

To activate this function, activate DIP2 on the SETTINGS ERT switches and power the unit. The ERT will periodically send a special AHnet command to configure the AHnet address on each unit. When the units receive the special AHnet address configuration command, you hear a BEEP sound. By pressing the UP button on the unit cover plate, the unit configures itself with the new AHnet address. The configuration is incremental. The first unit that the user presses the UP button gets AHnet address 1. Second, AHnet address 2...

AHnet ADDRESS CONFIGURATION

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

BYTE 0   is the header and should always FA in HEX mode

BYTE 1   is the unit AHnet address to send the command. To send the command to all the devices, there are special AHnet address used as broadcast. Please, refer to the user manual unit as there are different family broadcast addresses

BYTE 2   is the function to execute on the unit

BYTE 3   first value of the function

BYTE 4   second value of the function. In some functions this value is not used and should be "00"

Below, there are some AHnet commands used to control the different family devices. You will find more AHnet commands on the particular user manual.

AHnet PROTOCOL

Dynamic2 family

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 UN LOCK	FB XX 04 00 00
FA XX 15 00 00	ASK BACKLIGHT LEVEL	FB XX 15 00 ZZ
FA XX 15 01 ZZ	SET BACKLIGHT LEVEL	FB XX 15 01 ZZ
FA XX 16 00 00	ASK CONTRAST LEVEL	FB XX 16 00 ZZ
FA XX 16 01 ZZ	SET CONTRAST LEVEL	FB XX 16 01 ZZ
FA XX 17 00 00	ASK BRIGHTNESS LEVEL	FB XX 17 00 ZZ
FA XX 17 01 ZZ	SET BRIGHTNESS LEVEL	FB XX 17 01 ZZ

ZZ   Value (0-99Dec)

XX   AHnet address

BROADCAST   XX=F9

AHnet PROTOCOL

Dynamic3 family

COMMAND	DESCRIPTION	RESPONSE
FA XX 01 01 00	GO UP	FB XX 01 01 00
FA XX 01 00 00	GO DOWN CLOSED	FB XX 01 00 00
FA XX 01 02 00	GO DOWN SCREEN UP	FB XX 01 02 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 UN LOCK	FB XX 04 00 00
FA XX 15 00 00	ASK BACKLIGHT LEVEL	FB XX 15 00 ZZ
FA XX 15 01 ZZ	SET BACKLIGHT LEVEL	FB XX 15 01 ZZ
FA XX 16 00 00	ASK CONTRAST LEVEL	FB XX 16 00 ZZ
FA XX 16 01 ZZ	SET CONTRAST LEVEL	FB XX 16 01 ZZ
FA XX 17 00 00	ASK BRIGHTNESS LEVEL	FB XX 17 00 ZZ
FA XX 17 01 ZZ	SET BRIGHTNESS LEVEL	FB XX 17 01 ZZ

ZZ   Value (0-99Dec)

XX   AHnet address

BROADCAST   XX=F8

AHnet PROTOCOL

DynamicTalk

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	MUTE (PA)	FB XX 02 01 00
FA XX 02 00 00	TALK (PA)	FB XX 02 00 00
FA XX 04 01 00	BUTTONS LOCK	FB XX 04 01 00
FA XX 04 00 00	BUTTONS UNLOCK	FB XX 04 00 00

ZZ   Value (0-99Dec)

XX   AHnet address

BROADCAST   XX=F8

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 two (2) years from the date of purchase, subject to the conditions below.

1. 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

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

3. 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.

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

5. 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 transportion or as a result of atmospheric phenomenons.

WARRANTY TERMS AND CONDITIONS

6. 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.

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

8. The warranty is not valid if the beneficiary of the warranty does not include a 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:
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ARTHUR HOLM

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