

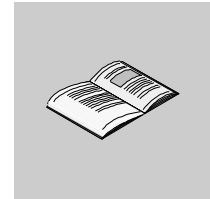
Remote VGA User's Manual

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November 2004

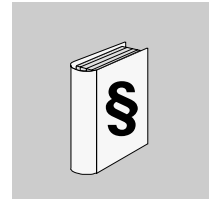


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Safety Information



General safety information for users

General

The present documentation is aimed at qualified technical personnel responsible for the implementation, operation and maintenance of the products described. It contains the information necessary for compliance with the proper use of the products. However, those who wish to make more "advanced" use of our products may find it necessary to consult our nearest distributor in order to obtain additional information.

The contents of this documentation are not contractual, and in no way constitutes an extension to, or restriction of, the contractual warranty clauses.

Personnel qualifications

Only **qualified personnel** are authorized to implement, operate or maintain the products. The interference of non-qualified persons or failure to observe the security instructions contained in this manual, or attached to the devices, can endanger the personnel and/or do irreparable damage to the equipment. The following persons can be designated as "**qualified personnel**":

- at application design level, engineering department personnel who are familiar with automation safety concepts (for example, a design engineer),
- at equipment implementation level, personnel who are familiar with the installation, connection and commissioning of automation equipment (for example, an installation assembly or cabling engineer, or a commissioning technician),
- at operation level, personnel who are experienced in the use and control of automation equipment (for example, an operator),
- as far as preventive or corrective maintenance is concerned, persons trained and qualified in regulating or repairing automatic devices (for example an operating technician, or an after-sales service technician, etc.).

Compliance of use


The products described in the present documentation **comply with the European Directives*** to which they are subject (EC marking). However, these can only be used correctly if in applications for which they are specifically intended, as specified in the relevant documentation, and in connection with approved third-party products. As a general rule, correct usage of the products, with no danger to personnel or hardware, consists of complying with all handling, transport and storage recommendations, and all installation, operation and maintenance instructions.

* EMCD and LVD directives concerning Electromagnetic Compatibility and Low Voltage.


Federal Communications Commission Radio Frequency Interference Statement - For U.S.A.


This equipment has been tested and found to comply with the limits for a Class A 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 receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the Support Service Center or an experienced radio/TV technician for help.

	<p>WARNING</p> <p>To assure continued compliance, use only shielded interface cables when connecting to a computer or peripheral. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:</p> <ul style="list-style-type: none"> ● This device may not cause harmful interference received, including interference that may cause undesired operation. ● This device must accept any interference received, including interference that may cause undesired operation. <p>Failure to follow this precaution can result in death, serious injury, or equipment damage.</p>
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Safety Warnings**- For U.K.**

	WARNING
	<p>This apparatus must be earthed for your safety.</p> <p>To ensure safe operation the three-pin plug must be inserted only into a standard three-pin power point, which is effectively earthed through the normal household wiring. Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities. The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe.</p> <p>For your safety, if you have any doubt about the effective earthing of the power point, consult a qualified electrician.</p> <p>Failure to follow this precaution can result in death, serious injury, or equipment damage.</p>

	WARNING
	<p>THIS APPLIANCE MUST BE EARTHED</p> <p>Important</p> <p>The wires in this mains lead are coloured in accordance with the following code:</p> <ul style="list-style-type: none"> ● Green-and-yellow: Earth ● Blue: Neutral ● Brown: Live <p>As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:</p> <p>The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbols coloured GREEN or GREEN-and-YELLOW.</p> <p>The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured BLACK.</p> <p>The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.</p> <p>The mains plug on this equipment must be used to disconnect the mains power. Please ensure that a socket outlet is available near the equipment and is easily accessible.</p> <p>Failure to follow this precaution can result in death, serious injury, or equipment damage.</p>

	WARNING
	<ul style="list-style-type: none">• This equipment is not designed for connection to an IT power system: An IT system is a system having no direct connections between live parts and Earth; the exposed conductive parts of the electrical installation are earthed. An IT system is not permitted where the computer is directly connected to public supply systems in the UK.• Disconnect the mains plug from the supply socket when the computer is not in use. <p>Failure to follow this precaution can result in death, serious injury, or equipment damage.</p>

**Warnung Für
Deutschland**

Warnung bezüglich der Lithiumbatterie (Sicherungsbatterie)

Lithiumbatterie

Dieser Computer enthält eine Lithiumbatterie zur Sicherung von Datum und Uhrzeit der eingebauten Uhr sowie anderer Systemdaten im Speicher bei einer Unterbrechung der Hauptstromversorgung. Diese Sicherungsbatterie darf nur von Kundendienstpersonal ausgewechselt werden.

Warnung! Bei falschem Gebrauch besteht Explosionsgefahr!

Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

Hazardous Location Installations - for USA and Canada

General

Schneider Automation designed the systems with the intention of meeting the requirements of Class I, Division 2 hazardous location applications. Division 2 locations are those locations that are normally non-hazardous, but potentially hazardous should an accident expose the area to flammable vapors, gases or combustible dusts.

These systems are non-incendiary devices. They are not intrinsically safe and should never be operated within a Division 1 (normally hazardous) location when installed as described here. Nor should any peripheral interface device attached to these systems be located within Division 1 locations unless approved and/or certified diode barriers are placed in series with each individual signal and DC power line. Any such installations are beyond the bounds of Schneider Automation design intent. Schneider Automation accepts no responsibility for installations of this equipment or any devices attached to this equipment in Division 1 locations. Only technically qualified service personnel should perform installation and service. These workstations are designed to require no service in the course of normal operation by an operator.

Warning

It is the user's responsibility in case of maintenance or repair of any subassembly to verify that the exchanged or repaired module is labelled as a Class I Division 2 hazardous location.

It is the responsibility of the customer to ensure that the product is properly rated for the location. If the intended location does not presently have a Class, Division and Group rating, then users should consult the appropriate authorities having jurisdiction in order to determine the correct rating for that hazardous location. In accordance with Federal, State/Provincial, and Local regulations, all hazardous location installations should be inspected prior to use by the appropriate authority having jurisdiction. Only technically qualified personnel should install, service, and inspect these systems.

Warning

Suitable for use in Class I, Division 2 Groups A, B, C, and D, hazardous locations or non-hazardous locations only.

Warning - Explosion Hazard

Substitution of components may impair suitability for Class I, Division 2.

Warning

For a use in hazardous locations, the PCI or ISA controller cards shall be found in category NWHP2, provided that they are suitable for Class I, Division 2, Groups A, B, C, and D; T-code: T4A, and suitable for an ambient temperature range of +0°C to +50°C.

Warning - Explosion Hazard

Do not connect or disconnect equipment unless the power has been switched off or the area is known to be non-hazardous.

Warning

Power wiring must be in accordance with the National Electrical Code article 501.4(B) for Class I, Division 2.

Warning - Explosion Hazard

When in hazardous locations, turn off power before replacing or wiring modules.

Warning - Explosion Hazard

Do not connect or disconnect the output ports such as PS2/USB/Communication cable/Video connectors, when the unit is in a Hazardous Location area

Definition

The following Class and Division explanations are derived from Article 500 (Sections 5 and 6) of the United States National Fire Protection Agency National Electric Code (NFPA 70, 1990). They are not complete and are included here only for a general description for those not familiar with generic hazardous locations requirements. Persons responsible for the installation of this equipment in hazardous locations are responsible for ensuring that all relevant codes and regulations related to location rating, enclosure, and wiring are met.

Class I Locations

Class I locations are those in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.

Class II Locations

Class II locations are those that are, or may become, hazardous because of the presence of combustible dust.

Division 1 Locations

A Division 1 location is one in which flammable or ignitable gases, vapors or combustible dusts and particles can exist due the following conditions:

- Normal operating conditions.
- Due to repair, maintenance conditions, leakage, or where mechanical failure or abnormal operation of machinery or equipment might release or cause explosive or ignitable mixtures to be released or produced.
- Combustible dusts of an electrically conductive nature may be present in hazardous quantities.

Note

Schneider Automation MPC••• systems are not suitable for installation within Class II Division 2 and Class 1 Division 1 locations.

Note

Electrical equipment cannot be installed in Division 1 locations unless they are intrinsically safe, installed inside approved explosion-proof enclosures, or installed inside approved purged and pressurized enclosures.

Division 2 Locations

- Class I volatile flammable liquids or flammable gases are handled, processed or used, but confined within closed containers or closed systems from which they can escape only in cases of accidental rupture or breakdown of such enclosures or systems, or in case of abnormal operation of equipment.
- Ignitable concentrations of Class I vapors or gases are normally prevented by positive mechanical ventilation, but may become hazardous due to mechanical failure of those ventilation systems.
- Location is adjacent to a Division 1 location.
- Class II combustible dust is not normally in the air in quantities sufficient to produce explosive or ignitable mixtures. Dust accumulations are normally insufficient to interfere with normal operation of electrical equipment or other apparatus. Combustible dust may be in suspension in the air as a result of the following: infrequent malfunctioning of handling or processing equipment; combustible dust accumulations on, or in the vicinity of, electrical equipment; may be ignitable by abnormal operation or failure of electrical equipment.

Groups

All electrical equipment that is approved for use in hazardous locations must include a group rating. Various flammable and combustible substances are divided into these groups as a function of their individual maximum experimental safe gap (MESG), explosion pressure, and ignition temperature. Component temperatures and the potential for spark based upon voltage, current and circuit characteristics of electrical equipment will determine what the equipment group rating will be. A device approved for installation within Class I, Group A locations may also be used in Groups B, C, or D.

Note

Approved Class I equipment may not be suitable for Class II installations. Class I includes Groups A, B, C, and D. Class II includes Groups F, and G.

Power Switch

The amount of input power required by these systems classifies a power switch as an incendiary device because the voltage and current across the make/break device are capable of creating a spark.

Hazardous location regulations require that a power switch rated for ordinary locations may be used if it is located in an area specified as non-hazardous. However, limits in cable length between the workstation and the power switch may apply. Otherwise the switch must be compliant with Class I, Division 1 requirements (intrinsically safe). These switches are built in a manner that prevents the possibility of a spark when contacts are made or broken.

Use suitable UL listed and/or CSA Certified Class I, Division 1 switches in hazardous locations. These switches are available from a wide number of sources. It is the responsibility of the customer to ensure that the power switch selected for the installation has the correct hazardous locations rating for the location in which it is installed.

Cable connections

Division 2 hazardous location regulations require that all cable connections be provided with adequate strain relief and positive interlock. USB connections can never be used in hazardous location installations, because USB connectors do not provide adequate strain relief. Never connect or disconnect a cable while power is applied at either end of the cable. All communication cables should include a chassis ground shield. This shield should include both copper braid and aluminum foil. The D-sub style connector housing should be a metal conductive type (e.g., molded zinc) and the ground shield braid should be well terminated directly to the connector housing. Do not use a shield drain wire.

The outer diameter of the cable must be suited to the inner diameter of the cable connector strain relief in order to ensure that a reliable degree of strain relief is maintained. Always secure the D-Sub connectors to the workstation-mating connectors via the two screws located on both sides.

Warning

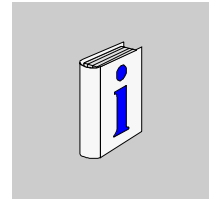
Never connect or disconnect the communication cables while power is applied at either end of the cable. This may result in an incendiary spark. Permanent damage to the workstation communication components may occur.

Safety Agency Approval

The Schneider Automation systems are designed to meet the following standards:

- Underwriters Laboratories Inc., UL 1604 Standard for Safety Electrical equipment for use in Class I Division 2 locations
 - Underwriters Laboratories Inc., UL 60950, Information Technology Equipment
 - Canadian Standard Association, Specification C22.2 No. 213-M1987 Non-incendiary electrical equipment for use in Class I, Division 2 hazardous locations.
 - Canadian Standards Association, Specification C22.2 No. 950 Information Technology Equipment
 - EN 60950, Information Technology Equipment
-

About the Book



At a Glance

Document Scope User manual for the Remote VGA option for the Magelis iPC range.

Related Documents

Title of Documentation	Reference Number
Magelis iPC installation guide	35005232

User Comments We welcome your comments about this document. You can reach us by e-mail at techpub@schneider-electric.com

General overview



At a glance

Subject of this part

This part provides an overview of Remote VGA option.

What's in this Chapter?

This chapter contains the following sections:

Section	Topic	Page
1.1	Introduction	18
1.2	Physical overview	19
1.3	Environment characteristics	24
1.4	Specific functions	25

1.1 Introduction

Introduction

At a glance

Remote VGA Option is intended for use with Magelis iPC range. There are 3 versions of the Remote VGA kit following the length of the cable.

Reference cable	Cable length
MPC YN 00 R05	5m
MPC YN 00 R10	10m
MPC YN 00 R20	20m

1.2 Physical overview

At a glance

Purpose of this section

This section provides physical overviews of the products.

What's in this Section?

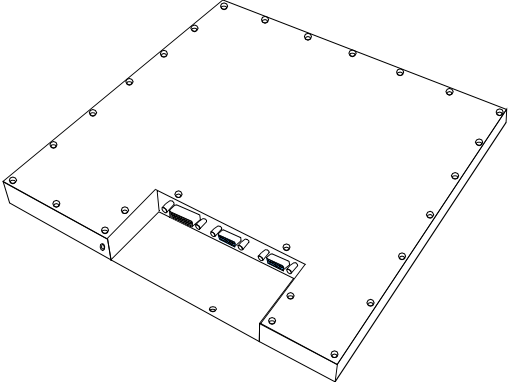
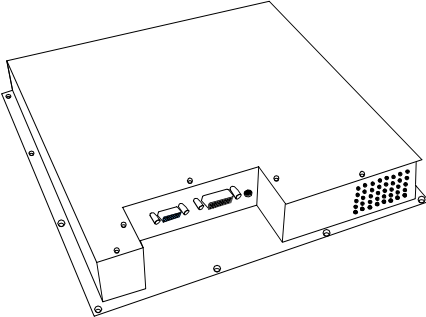
This section contains the following topics:

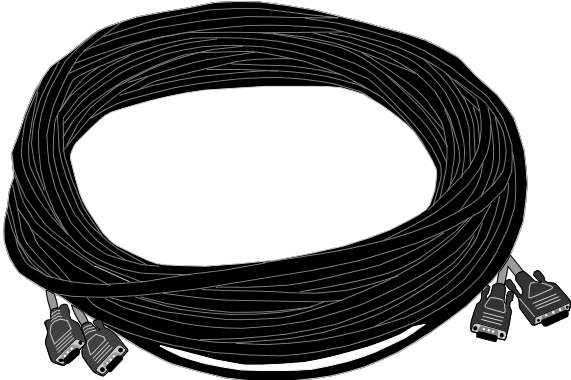
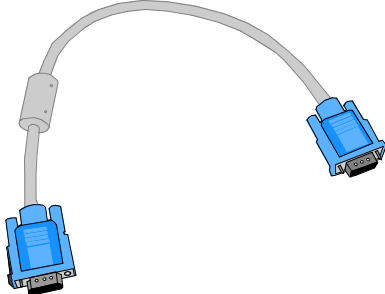
Topic	Page
Package Contents	20
Remote VGA Kit description	22

Package Contents

Items

The following items are included in the Remote VGA kit package. Before using the option, please confirm that all items listed here are present.

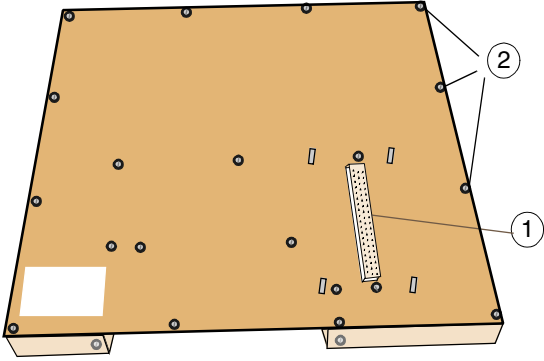
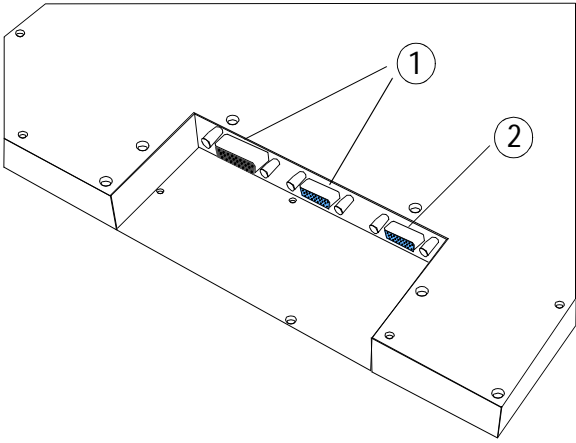
Designation	Figure
Control box interface Ref: 35008585	
Front panel interface Ref: 35008584	

Designation	Figure
Extension cable Ref: MPCYN00R05CBL length 5m MPCYN00R10CBL length 10m MPCYN00R20CBL length 20m	
VGA cable	
Spare parts screw	-
Installation Guide (french/english)	-

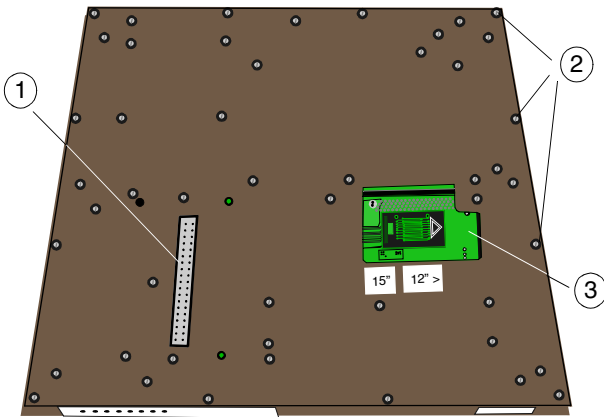
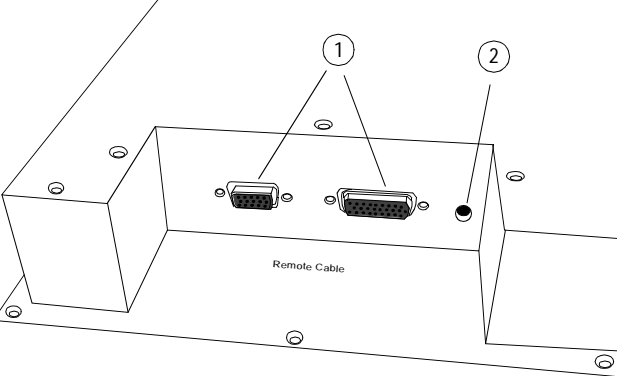
This unit has been carefully packed, with special attention to quality. However, should you find anything damaged or missing, please contact your local distributor immediatly.

Remote VGA Kit description

Control Box interface

View	Figure	Legend
Front	 <p>The diagram shows the front view of a brown printed circuit board (PCB). It features a central vertical component labeled '1', which is the control box connector. There are several small rectangular components and numerous circular holes scattered across the board. Two callouts labeled '2' point to specific circular holes on the right side of the board, which are the fixation holes.</p>	<p>(1) Control box connector (2) Fixation holes</p>
Side	 <p>The diagram shows the side view of the control box interface. It is a white rectangular enclosure. On the top edge, there are two connectors labeled '1' and '2'. Connector '1' is the extension cable connector, and connector '2' is the input VGA connector. The enclosure has several screws along its edges.</p>	<p>(1) Extension cable connector (2) Input VGA connector</p>

Front panel interface

View	Figure	Legend
Front	 <p>The figure shows a top-down view of a brown trapezoidal panel. A white multi-pin connector is labeled with a circled '1'. Numerous small circular holes are distributed across the panel, with a group of four labeled with a circled '2'. A green printed circuit board (PCB) is mounted on the panel, featuring a white jumper labeled with a circled '3'. Below the jumper, two labels indicate LCD size configurations: '15"' and '12" >'. The PCB also has a small green arrow pointing right.</p>	<p>(1)Front panel connector' (2) Fixation holes (3) LCD size configuration jumper Right: LCD 12" Left: LCD 15"</p>
Side	 <p>The figure shows a perspective side view of the panel. Two multi-pin connectors are visible on the front edge, with the left one labeled with a circled '1'. A small circular pushbutton is located on the right side of the front edge, labeled with a circled '2'. A label 'Remote Cable' is positioned below the connectors. The panel is shown with its mounting holes and a slight shadow underneath.</p>	<p>(1) Extension cable connector (2) Autotune pushbutton</p>

1.3 Environment characteristics

Environment characteristics

General The environment characteristics given below are applicable to both the Control Boxes Interface and the Front Panels interface.

Characteristics

Specification	Value	Standards
Degree of protection	IP 20 for the interface	
Operating temperature	0°C to 50°C	In accordance with EN 61131-2, UL508 for standard location, UL1604 for Class I, Division 2 hazardous location.
Storage temperature	-25°C to 60°C	IEC 68-2-2 Bb and Ab tests, IEC 68-2-14 Na test and EN 61131-2 compliant.
Usage altitude	0 to 3000m max	-
Storage altitude	0 to 12000m max	-
Vibration (in operation)	75-micron amplitude from 10 to 57 Hz, 1g amplitude from 57 to 150 Hz	IEC 68-2-6 Fc test and EN 61131-2 compliant
Shock Resistance (in operation)	15 g over 11 ms	IEC 68-2-27 Ea test and EN 61131-2 compliant
Hygrometry	20% ... 80%	-
Interference immunity	<ul style="list-style-type: none"> ● High frequency interface ● Electromagnetic Emissions ● Human and material safety 	<ul style="list-style-type: none"> ● EN 61131, IEC 1000-4-3/6 level3 ● Class A/EN 55022/55011 ● EN 61131-2, UL/CSA and IEC 529/EN 60950

Certification The products have been developed to comply with the following standards:

- UL 508,
- IEC/EN 60950,
- CUL,
- EN 55022,
- IEC/EN 61131-2,
- Classification in hazardous areas: Class 1 - Division 2 - UL 1604.

1.4 Specific functions

At a glance

Purpose of this section

This section concerns the Specific functions of the products.

What's in this Section?

This section contains the following topics:

Topic	Page
Front panel configuration	26
Auto-detection function	28

Front panel configuration

At a glance

Before the installation of your system you must configure the Front Panel Interface according to the Front panel which will be connected.

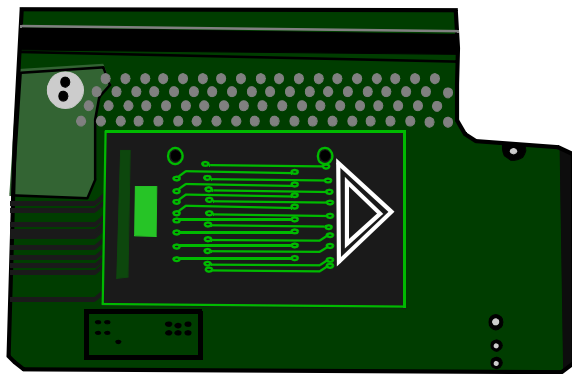
Procedure

At first, you must determine the type of Front Panel which will be connected.

- On the 12" Front panel model, you should have a sticker with the reference number: MPC N*2****.
- On the 15" Front panel model, you should have a sticker with the reference number: MPC N*5****.

Configure the Front Panel Interface jumper in agreement with the result previously found.

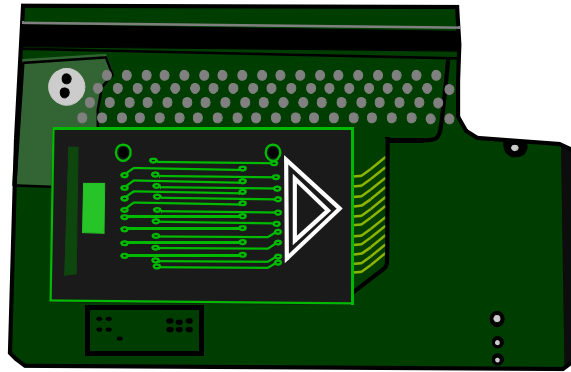
For 12" Front panel:



15"

12" >

For 15" Front panel:



15"

12" >

Auto-detection function

At a glance

After a significant change of ambient conditions (temperature, moisture...), it is possible that the automatic adjustments is not perfect.

Procedure

During a change of video mode, the interface analyses VGA signals automatically and determine optimum parameter management of the LCD screen.

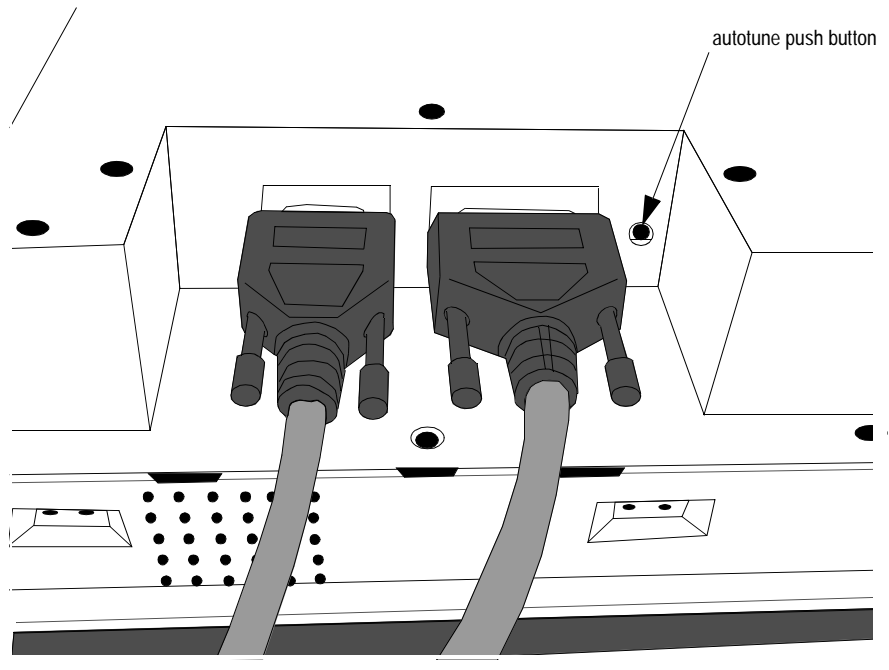
After a significant change of ambient conditions (temperature, moisture...), it is possible that the automatic adjustments is not perfect.

In this case, you can force an automatic analysis of the video parameters.

In order to obtain correct parameters, it is recommended that this analysis be triggered on a fixed video image.

If necessary, this setting must be made on all video modes used such as MS-DOS or windows.

The autotune push button is located behind the Front panel interface near the connectors



Implementation



2

At a glance

Subject of this part

This part describes implementation of products

What's in this Chapter?

This chapter contains the following sections:

Section	Topic	Page
2.1	Assembly and connections	30
2.2	Dimensions	36

2.1 Assembly and connections

At a glance

Purpose of this section This section concerns the assembly and connections of the products..

What's in this Section? This section contains the following topics:

Topic	Page
Assembly of the Control Box Interface onto the Control Box	31
Assembly of the Front Panel Interface onto the front panel	32
Connections on the Control Box Interface	33
Connections on the Front Panel Interface	35

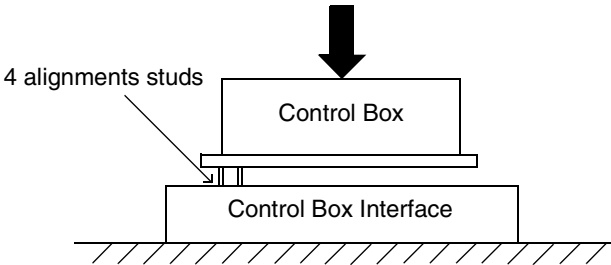
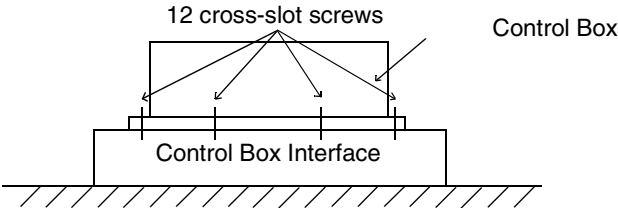
Assembly of the Control Box Interface onto the Control Box

At a glance

These operations must be performed with the power switched off.

Procedure

In order to assemble the two sections, use a Pozidriv cross-slot screwdriver and follow the instructions below:

Step	Action
1	<p>Assemble the Control Box on the Control Box Interface using the 4 alignments studs located at the rear of the interface.</p> 
2	<p>Fasten the assembly at all points around the Control Box, using the 12 cross-slot screws supplied.</p> 

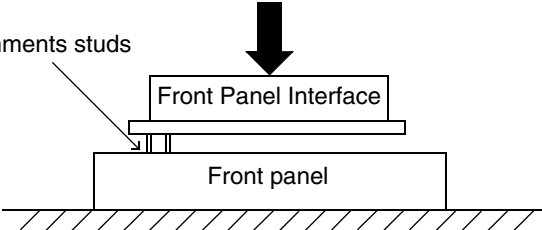
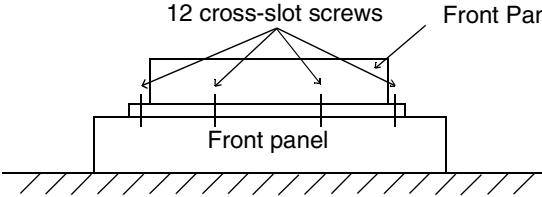
Assembly of the Front Panel Interface onto the front panel

At a glance

These operations must be performed with the power switched off.

Procedure

In order to assemble the two sections, use a Pozidriv cross-slot screwdriver and follow the instructions below:

Step	Action
1	<p>Assemble the Front Panel Interface on the front panel using the 4 alignments studs.</p> 
2	<p>Fasten the assembly at all points around the Front Panel Interface, using the 12 cross-slot screws supplied.</p> 

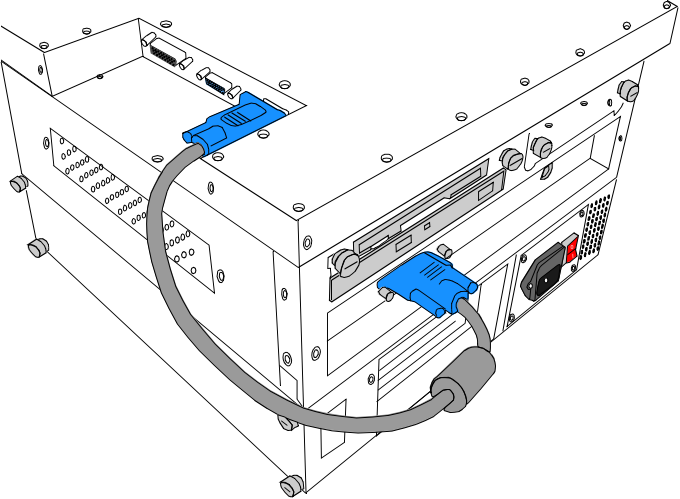
Warning

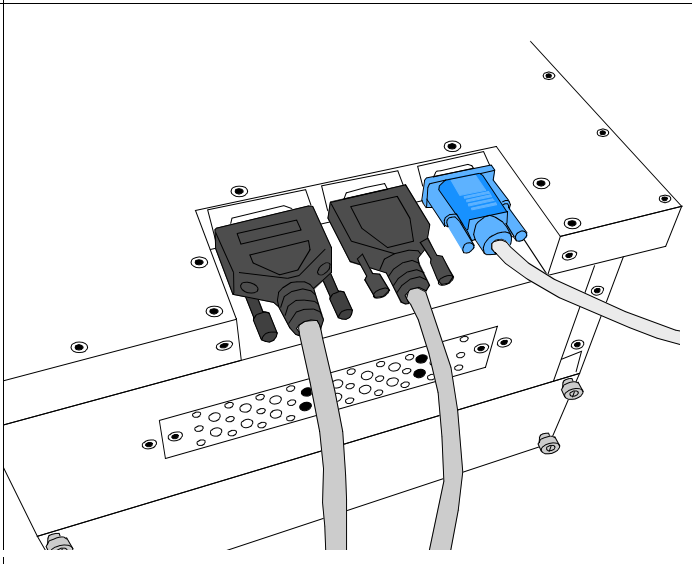
Before connecting the Front Panel Interface be sure configuration of the jumper.

Connections on the Control Box Interface

At a glance

These operations must be performed with the power switched off.

Cable type	Illustration
VGA cable connection	 A technical illustration of a control box, likely a power supply or interface unit, shown from a three-quarter perspective. The front panel features a VGA port with a blue connector. A grey VGA cable is plugged into this port. To the right of the VGA port, there is a power input socket with a red and black plug. The top of the box has a small rectangular panel with several pins or connectors. The box is mounted on four feet.

Cable type	Illustration
Extension cable connection	 An illustration showing a close-up of a device's rear panel. Three cables are plugged into ports: a black cable into the leftmost port, another black cable into the middle port, and a blue cable into the rightmost port. The blue cable is an extension cable. Below the ports is a metal plate with several circular holes. The device is mounted on a metal chassis with visible screws.

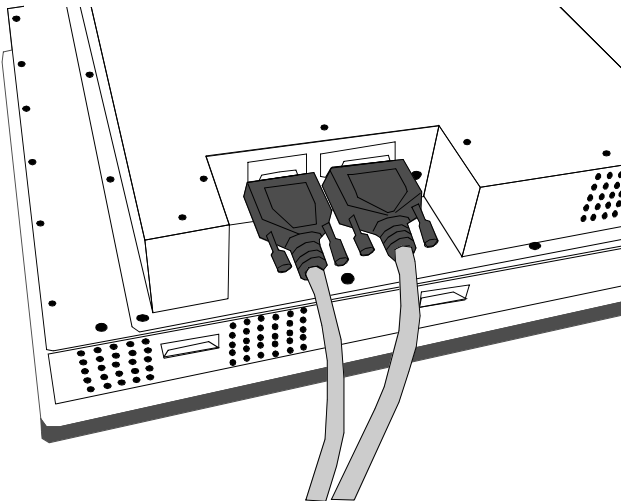
Warning

Screw the locking screws on the cables. Excessive torque may damage the interface.

Connections on the Front Panel Interface

At a glance

These operations must be performed with the power switched off.

Cable type	Illustration
Extension cable connection	 A technical illustration showing a front panel interface with two RJ45 ports. Two extension cables are plugged into the ports. The cables have a locking mechanism on the connector. The interface panel has several screws and ventilation holes. The cables are shown in a perspective view, extending downwards from the ports.

Warning

Screw the locking screws on the cables. Excessive torque may damage the interface.

2.2 Dimensions

At a glance

purpose of this section

This section concerns the dimensions of products.

What's in this Section?

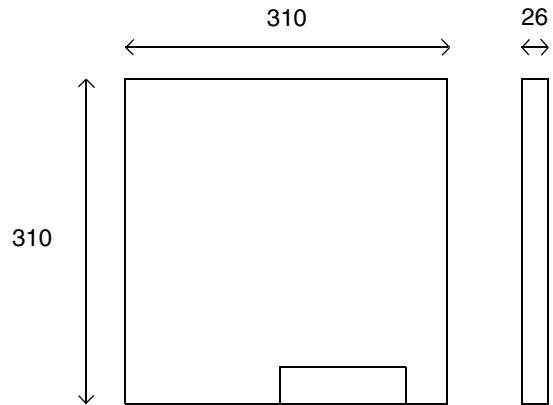
This section contains the following topics:

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Dimension of the Control Box Interface	37
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Dimension of the Control Box Interface

At glance

The dimensions below are given in mm.
Back and side view



Dimension of the Front panel interface

At glance

The dimensions below are given in mm.
Back and side view

