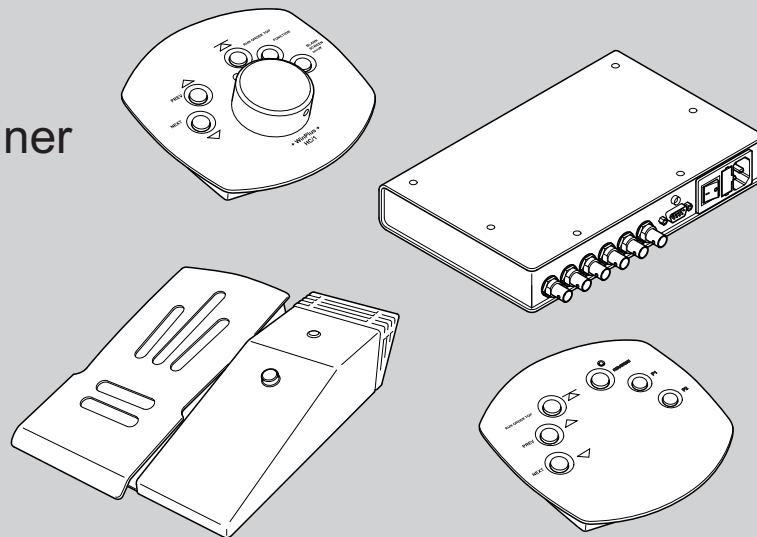


Control Net Controllers and Smart Combiner



Part Nos. HC-1
MFC
MFC-D
SCB

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Original Instructions: English

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We are making every effort to ensure that our manuals are updated on a regular basis to reflect changes to product specifications and features. Should this manual not contain information on the core functionality of your product, please let us know. You may be able to access the latest revision of this manual from our website.

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Safety

Important information on the safe installation and operation of this product. Read this information before operating the product. For your personal safety, read these instructions. Do not operate the product if you do not understand how to use it safely. Save these instructions for future reference.

Warning Symbols Used in these Instructions

Safety cautions are included in these instructions. These safety instructions must be followed to avoid possible personal injury and avoid possible damage to the product.



WARNING!

Where there is a risk of personal injury or injury to others, comments appear supported by the warning triangle symbol. Where there is a risk of damage to the product, associated equipment, process or surroundings, comments appear supported by the word 'Caution'.



ELECTRIC SHOCK

Where there is a risk of electric shock, comments appear supported by the hazardous voltage warning triangle.

Intended Use

The Control Net controllers and Smart Combiner Box have been designed to provide prompter text control as part of a high quality teleprompting facility for television broadcasting.

They are intended for use by television presenters and camera operators, installed within a TV studio environment, or on outside broadcasts (OB) when protected from weather by a suitable waterproof cover.

Electrical Connection



WARNING! Risk of electric shock. Always check cables for signs of damage. Damaged cables can cause personal injury and/or damage the equipment.



CAUTION! The products must be connected to a power supply of the same voltage (V) and current (A) as indicated on the products. Refer to the technical specifications for the products.



CAUTION! Only use the power cable specified for the products and certified for the country of use.



CAUTION! Using alternative power sources will invalidate the system EMC liability.

Basic Electrical Insulation (Class 1 equipment)



WARNING! This product is Class 1 equipment. For safe operation this equipment must be connected to a power supply that has a protective earth connection (US: ground).

Mounting and Installation



WARNING! Always ensure that all power and auxiliary communications cables are routed so that they do not present any danger to personnel. Take care when routing cables in areas where robotic equipment is in use.

Water, Moisture and Dust



WARNING! Protect the product from water, moisture and dust. The presence of electricity near water can be dangerous.



WARNING! When using this product outside, protect from rain using a suitable waterproof cover.

Ventilation



WARNING! Slots and openings are intended for ventilation purposes to ensure reliable operation of the product, and protect it from overheating. Do not block or cover any slots and openings.

Operating Environment



CAUTION! The product should not be used outside the operating temperature limits. Refer to the product technical specifications for the operating limits for the product.

Cleaning



WARNING! Risk of electric shock. Always disconnect and isolate the product from the power supply before cleaning.



CAUTION! Do not use solvent or oil-based cleaners, abrasives or wire brushes.

Maintenance



WARNING! Servicing or repair of this product must only be performed by qualified and trained electrical engineers.



WARNING! The fitting of non-approved parts and accessories, or the carrying out of non-approved alterations or servicing can be dangerous and could affect the safety of the product. It may also invalidate the terms and conditions of the product warranty.

About this Guide

This guide describes the installation and operation of the Control Net controllers and Smart Combiner Box, as part of a full prompting system, using the range of compatible equipment and connecting cables available for various configurations.

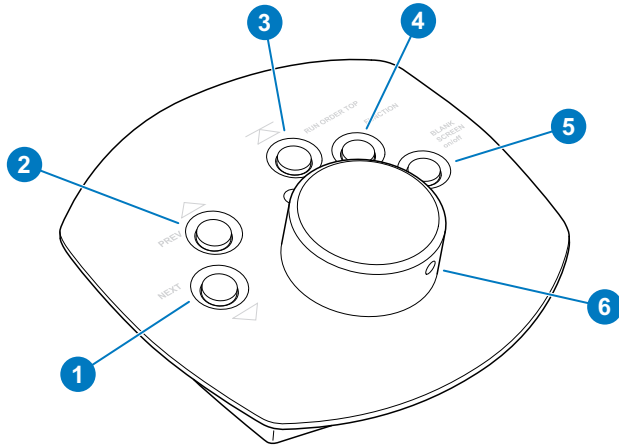
The range of products covered in this guide consists of the following:

Part No.	Description
HC-1	Optical five button hand control
MFC	Magnetic foot control
MFC-D	Remote six button desk pad
SCB	Smart combiner box

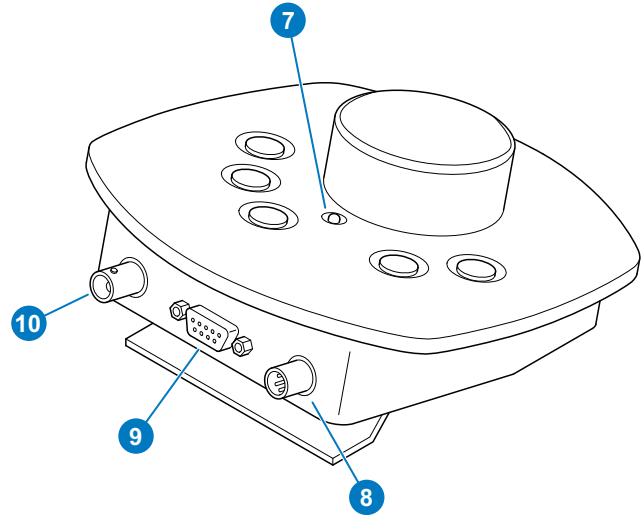
Components and Connections

Key Components

Hand Controller - Front View



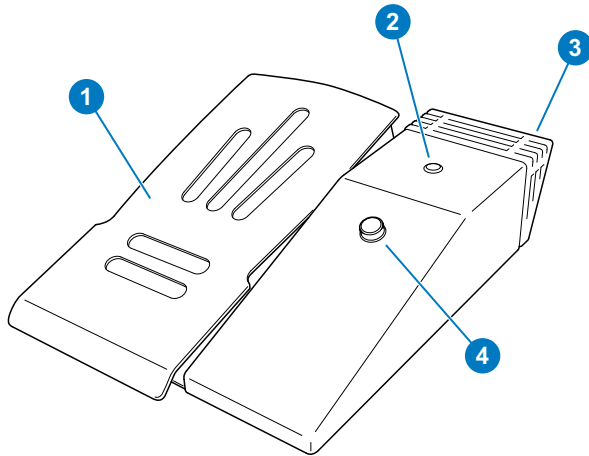
Hand Controller - Rear View



1	'Next story' button
2	'Previous story' button
3	'Back to top of script' button
4	Programmable function button 1
5	'Blank screen' / programmable function button 2
6	Scroll control dial

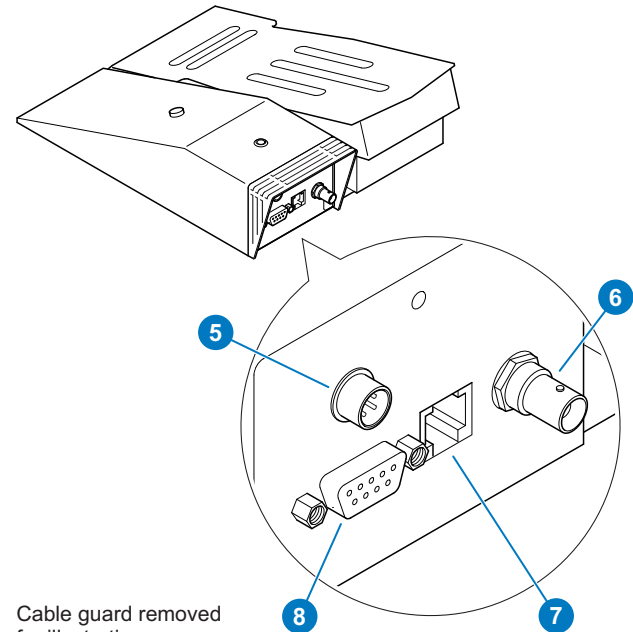
7	Scroll control indication LED
8	DC power socket
9	Serial control socket
10	Control Net socket

Foot Controller- Front View



- | | |
|---|-----------------------------------|
| 1 | Forward scroll control foot pedal |
| 2 | Direction indicator LED |
| 3 | Cable guard |
| 4 | Reverse scroll control button |

Foot Controller - Rear View

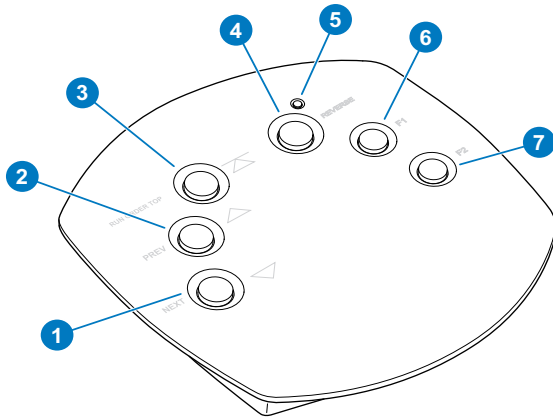


Cable guard removed
for illustrative purposes

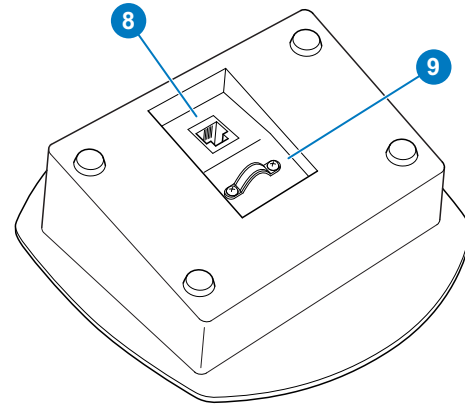
- | | |
|---|-----------------------------------|
| 5 | DC power socket |
| 6 | Control Net connector |
| 7 | Serial connector for MFC-D (RJ11) |
| 8 | Serial connector (9 way D type) |

Components and Connections

Desk Controller- Front View



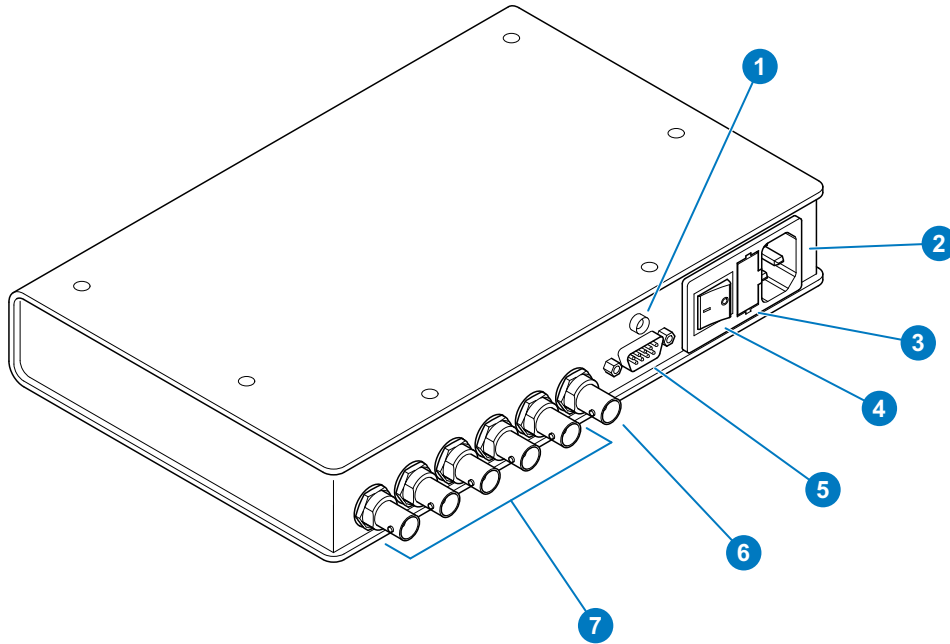
Desk Controller - Bottom View



- | | |
|---|--------------------------------|
| 1 | 'Next story' button |
| 2 | 'Previous story' button |
| 3 | 'Back to top of script' button |
| 4 | Toggle reverse button |
| 5 | Scroll direction indicator LED |
| 6 | Function button 1 |
| 7 | Function button 2 |

- | | |
|---|---------------------------|
| 8 | Serial connector (RJ11) |
| 9 | Cable strain relief clamp |

Smart Combiner Box



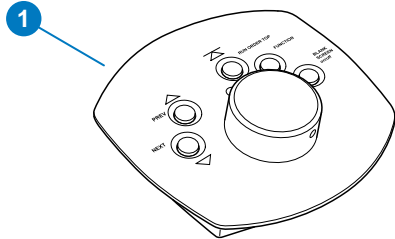
- | | |
|---|-----------------------|
| 1 | Power indicator LED |
| 2 | AC power inlet socket |
| 3 | Fuse holder |
| 4 | Power switch |

- | | |
|---|--|
| 5 | Serial connector (9 way D type) |
| 6 | Control Net input or expansion loop output |
| 7 | Control Net inputs |

Components and Connections

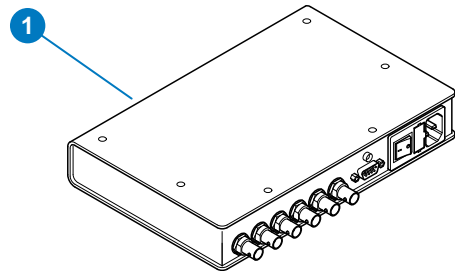
Box Contents

Hand Controller



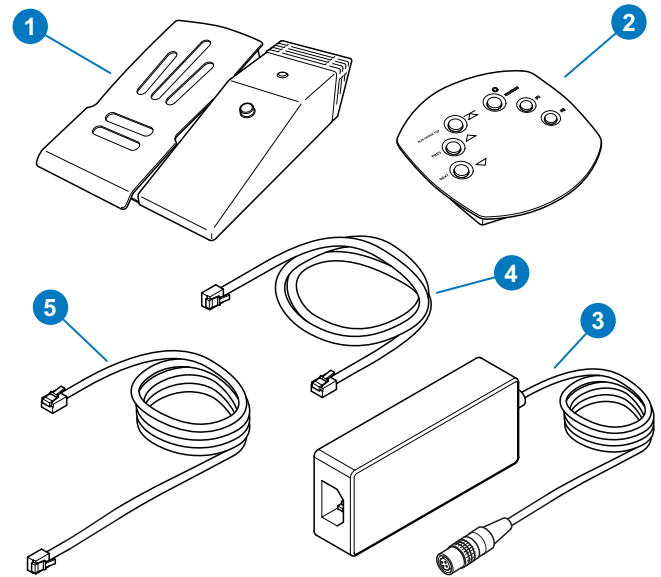
No.	Part	Description
1	HC-1	Five button optical hand control

Smart Combiner



No.	Part	Description
1	SCB	Smart combiner box

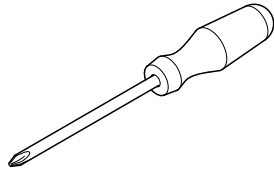
Foot Controller Package - MFC-PKG1



No.	Part	Description
1	MFC	Magnetic foot control
2	MFC-D	Desk controller
3	PSU-HR	Hirose power supply
4	RJ11-2	RJ11 connecting cable, 2 metres
5	RJ11-5	RJ11 connecting cable, 5 metres

Tools Required

Pozidriv® PZ-1 screwdriver.

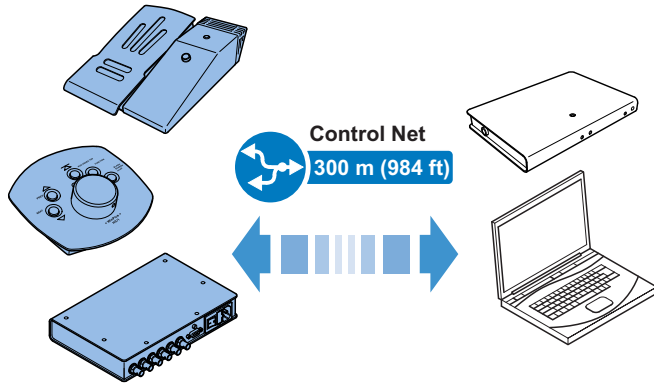


Installation

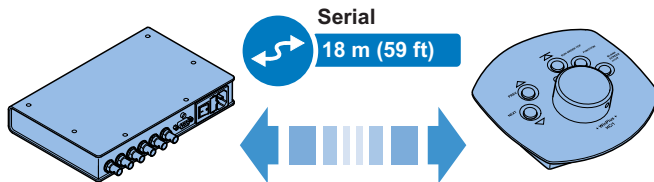
Controller Connection Options

Special consideration should be given when choosing locations and connection methods to install and use the controllers and smart combiner box.

- Using Control Net connections, the cables can be up to 300 metres in length.



- Serial connections are used for short connection distances, with a maximum cable length of 18 metres.

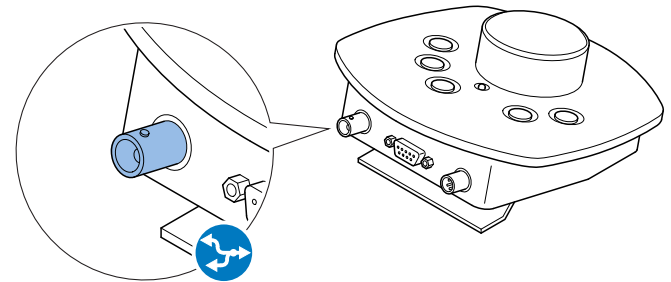


Control Net Connections

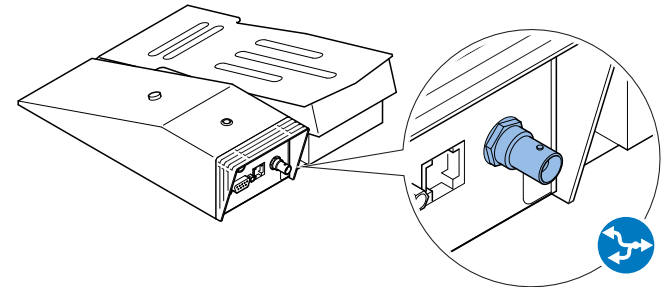


Control Net connections should always be made with screened 75Ω coaxial cable. The cable screen must be connected to earth (ground) at both ends.

Hand Controller

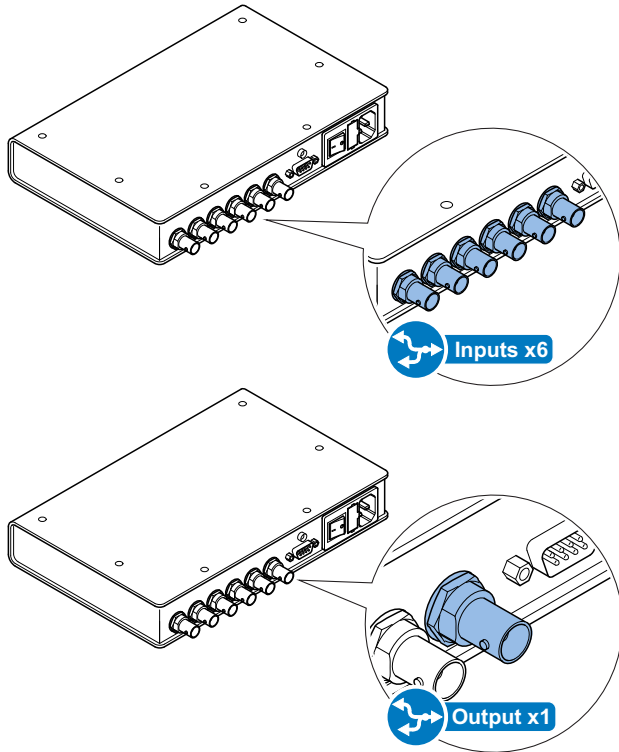


Foot Controller



Smart Combiner Box

The smart combiner box has six Control Net inputs available. One of the inputs can also be used as an output to either link back to the control system, or loop through to another combiner.

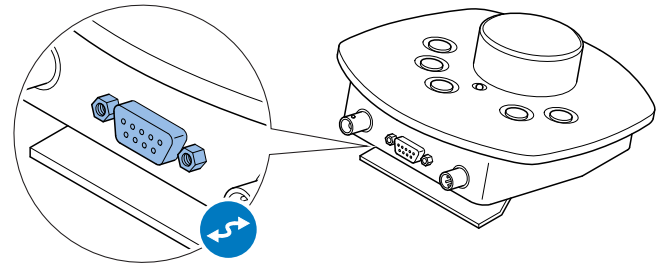


Serial Connections

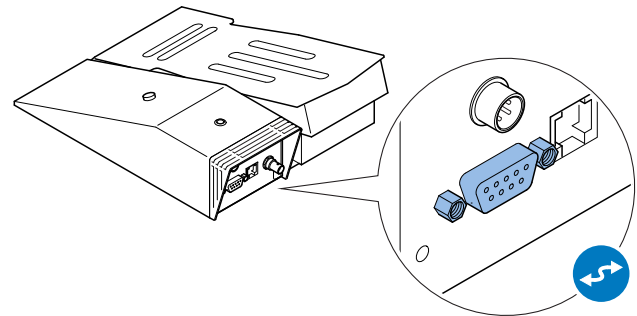
Single controllers can also be connected using a serial connection. The serial connection can also provide power to the connected controller.

Serial connections are restricted to a maximum length of 18 metres (59 feet).

Hand Controller



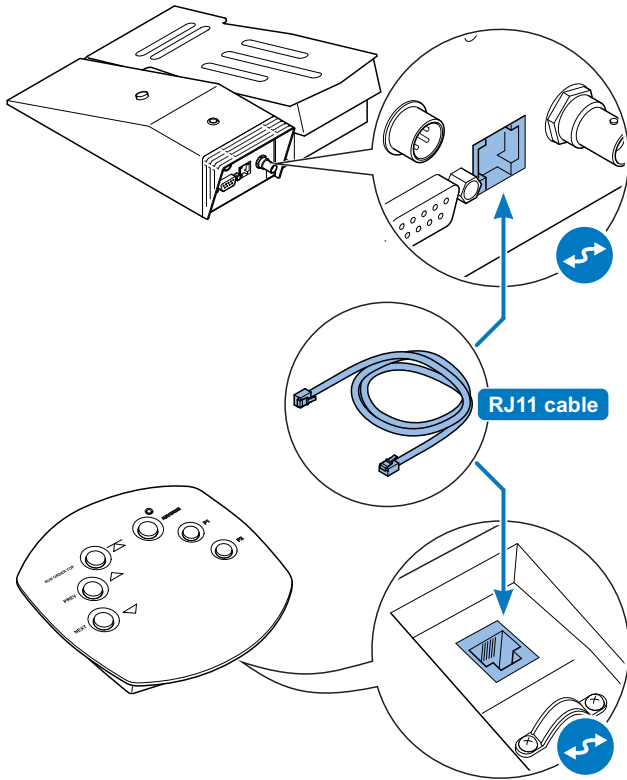
Foot Controller



Installation

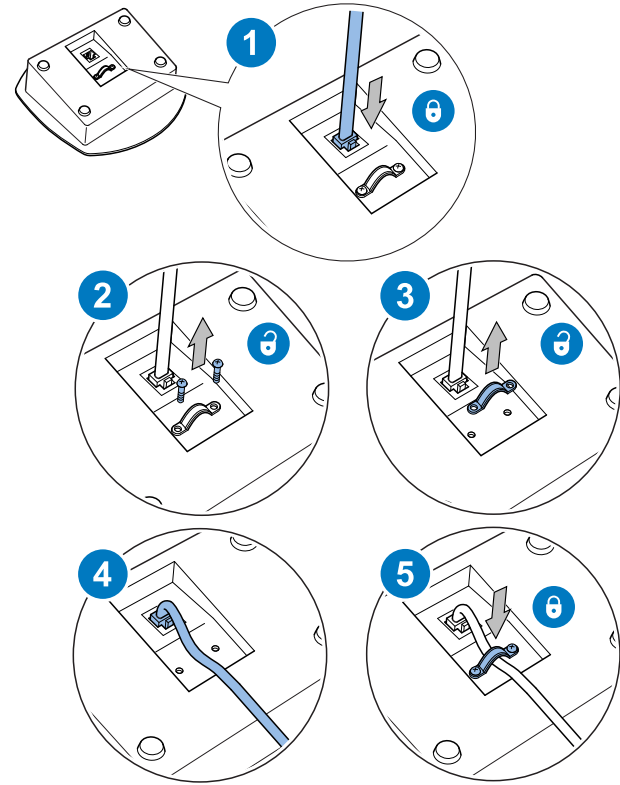
Desk Controller

The desk controller is connected with a short local serial link to the foot controller using an RJ11 connecting cable.



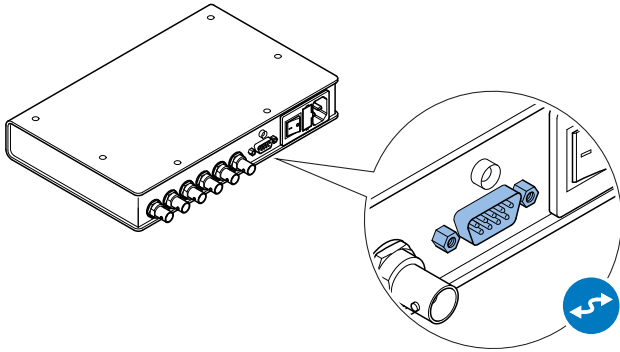
Strain Relief Clamp

The desk controller is fitted with a strain relief clamp which must be used to prevent the cable from becoming disconnected during use.



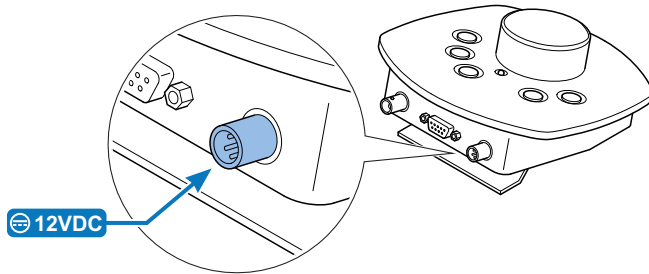
Smart Combiner Box

The smart combiner box has a serial out connector. This can be used to connect it directly to the control system.

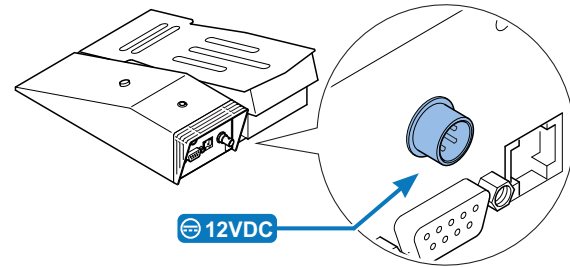


Power Connections

Hand Controller

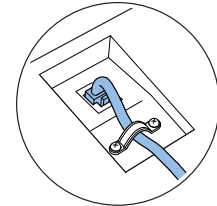


Foot Controller

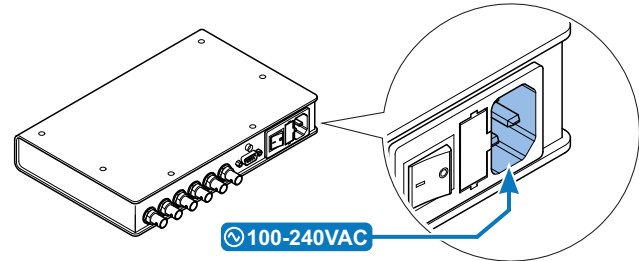


Desk Controller

The desk controller receives DC power via the RJ11 serial connection, and does not require a separate connection.

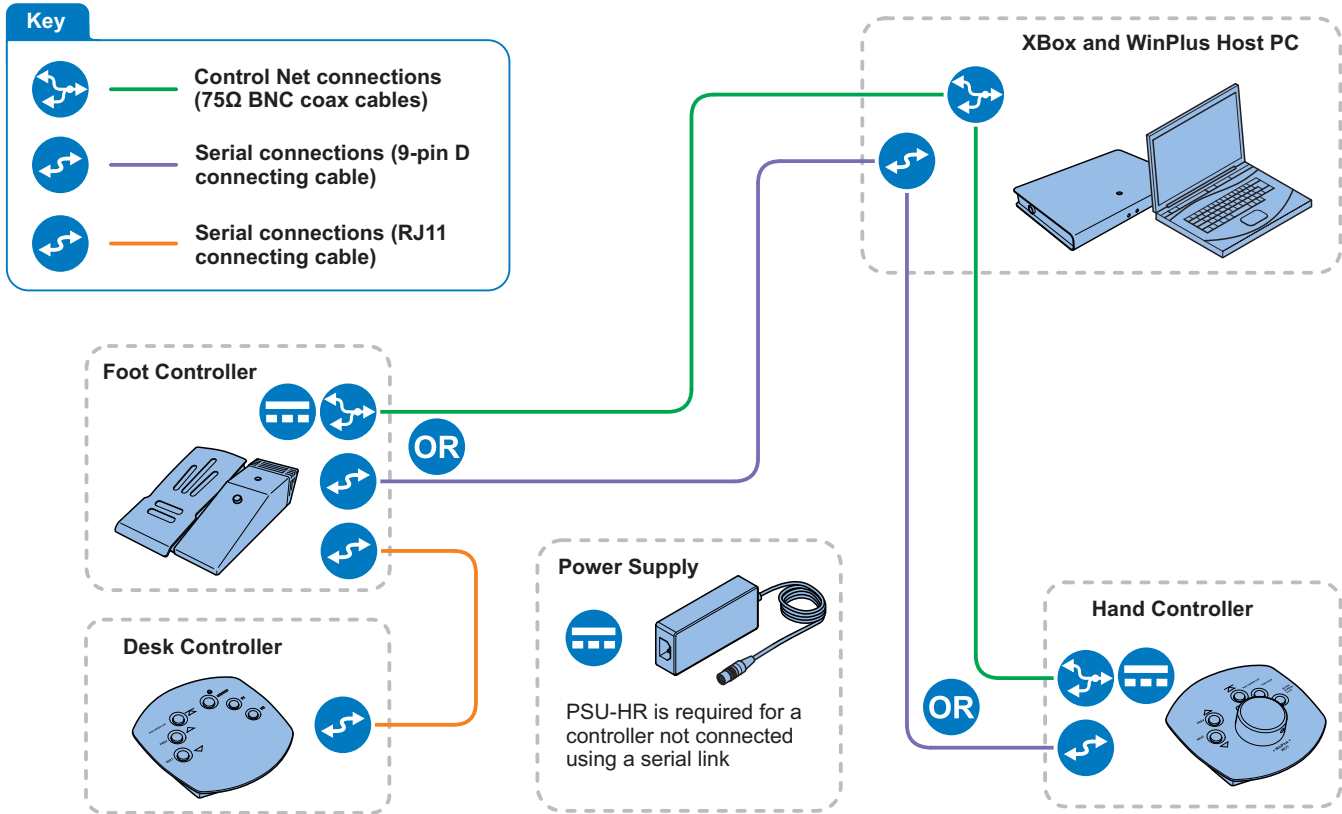


Smart Combiner Box



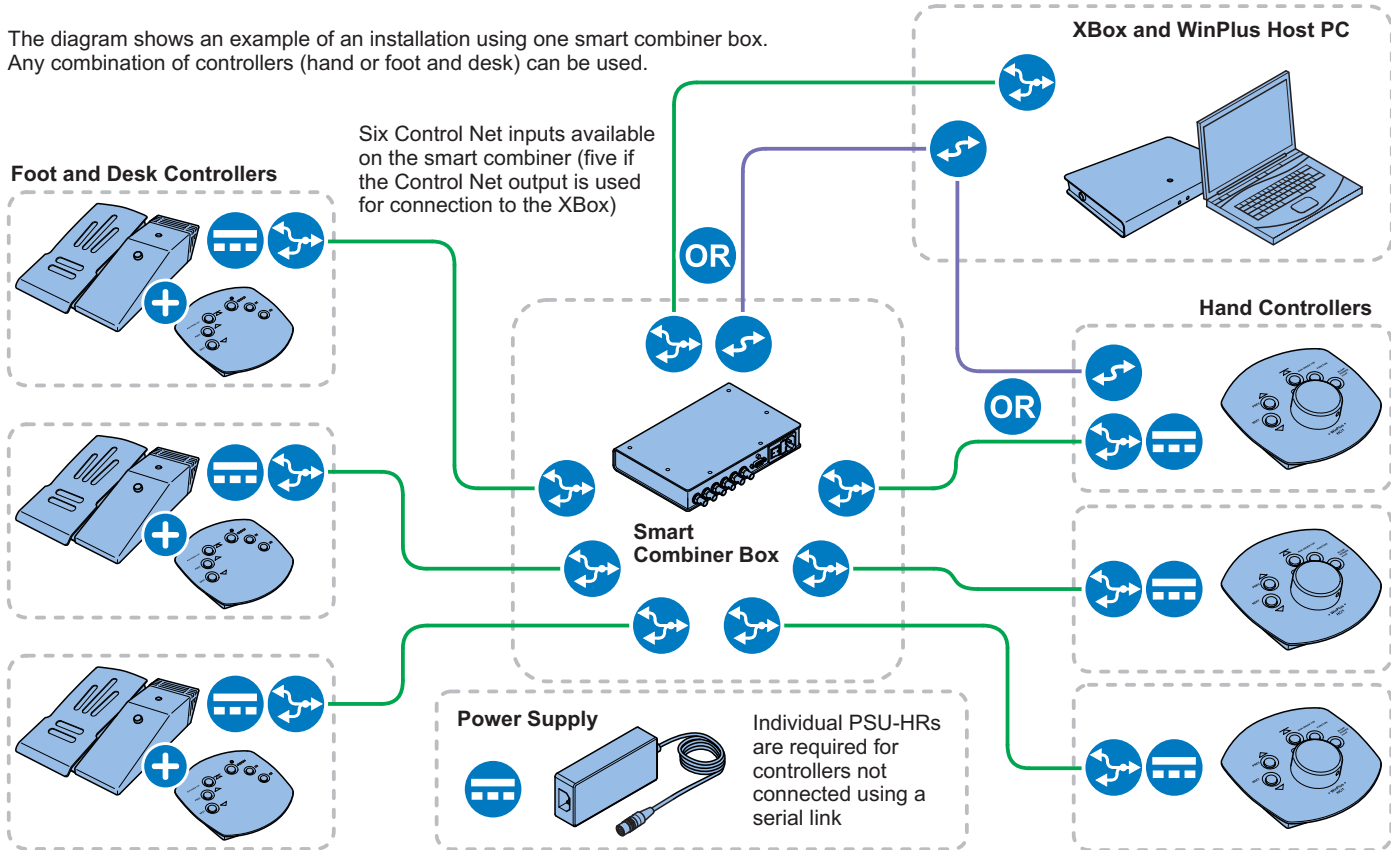
Installation

System Connections - Single Controllers



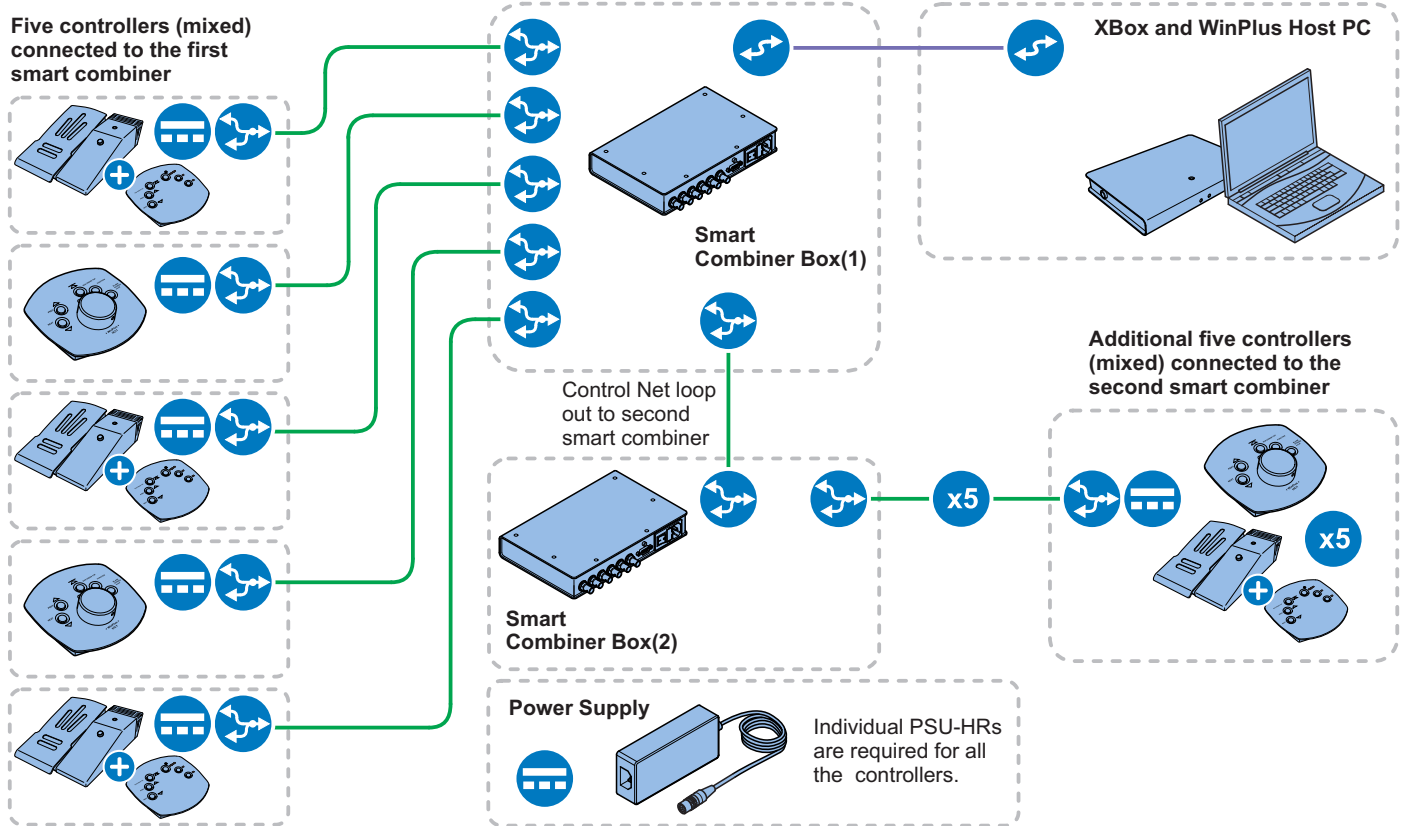
System Connections - One Smart Combiner Box

The diagram shows an example of an installation using one smart combiner box. Any combination of controllers (hand or foot and desk) can be used.



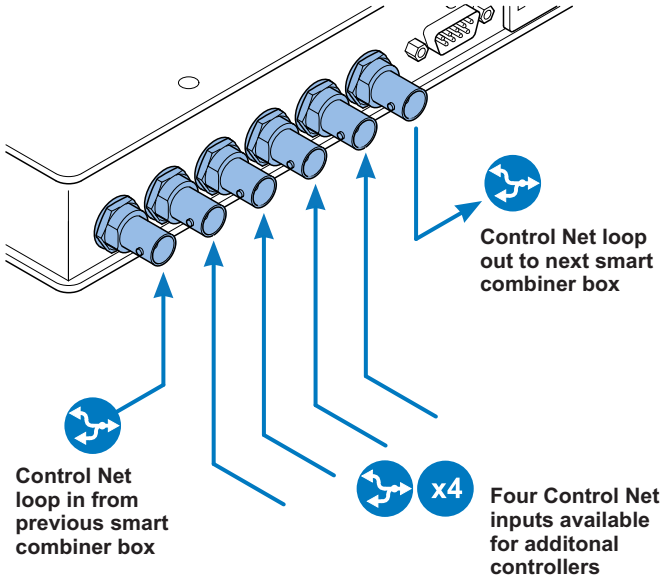
Installation

System Connections - Two Smart Combiner Boxes



Adding Additional Smart Combiner Boxes

Additional hand, foot and desk controllers can be added into a system by looping more smart combiner boxes onto the Control Net.



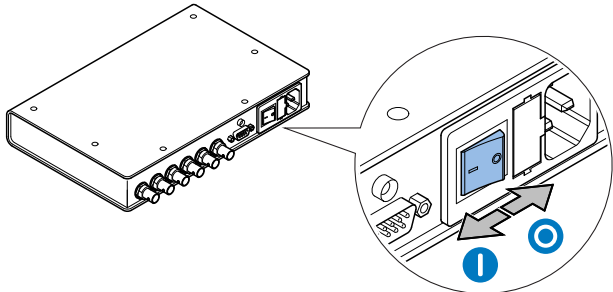
When three or more smart combiners are connected in one installation, response time delays may be incurred when operating the controllers.

Powering Up

The hand, foot and desk controllers are automatically powered up when DC power is connected.

Smart combiner box

To power up the smart combiner box, operate the power switch on the rear of the product.

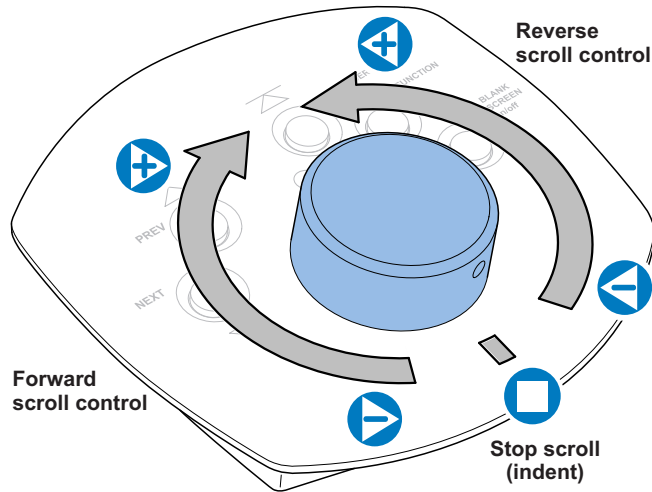


Operation

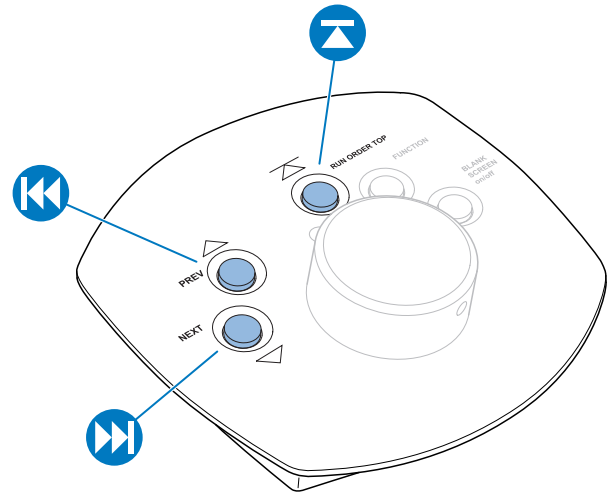
Using the Hand Controller

The hand controller is typically located in the control room and operated in close conjunction with the WinPlus software. The scroll speed and direction of the prompted text is controlled using a rotary dial. Push buttons are provided for next and previous pages/stories selection and other functions described in this section.

Scroll Control



Story Control Buttons



Advances the prompter text forward by one page/ story for each press.



First press - Back to top of the current page/story
Subsequent presses - Back by page/story.

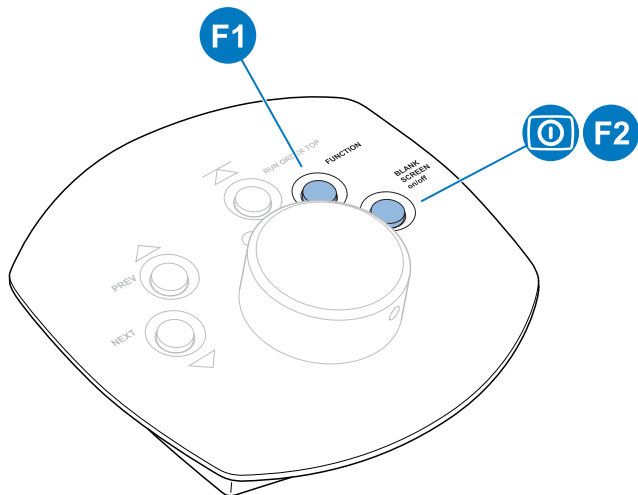


Pressed together - Returns the prompter text to the overall top of the script.



Returns the prompter text to the beginning of the script.

Function Control Buttons



F1

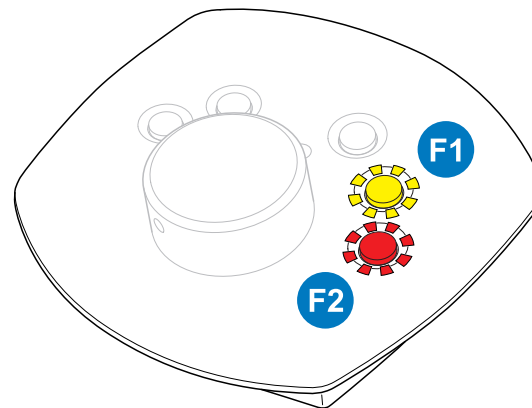
Function button - This can be programmed through WinPlus for various functions, or controls devices through a general purpose interface.

F2

- Blank screen function to switch prompted text on or off
- Can also be used as a second configurable function button

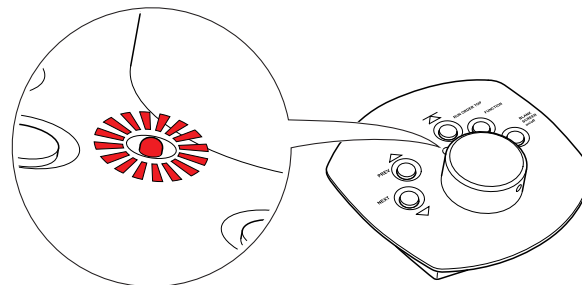
Button Illumination

When selected, the function buttons illuminate (F1 yellow, F2 red).



Scroll Control Indicator

When the scroll control dial is being operated (i.e. not in the indented stop position), an indicator LED alerts the operator.

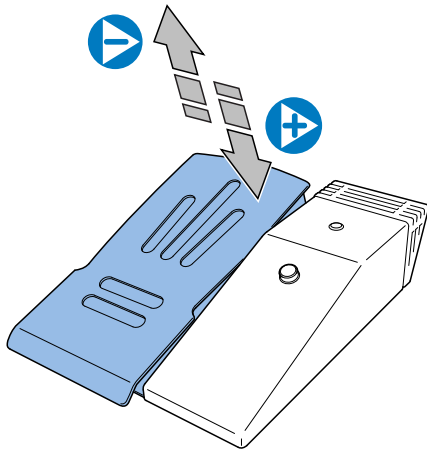


Operation

Using the Foot Controller

The foot controller can be placed in a convenient location on the floor to allow the operator to control the speed of the prompted text discreetly and completely hands free. The prompted text is controlled using a frictionless magnetic foot pad. A push button provides a reversing control function.

Prompter Text Speed Control

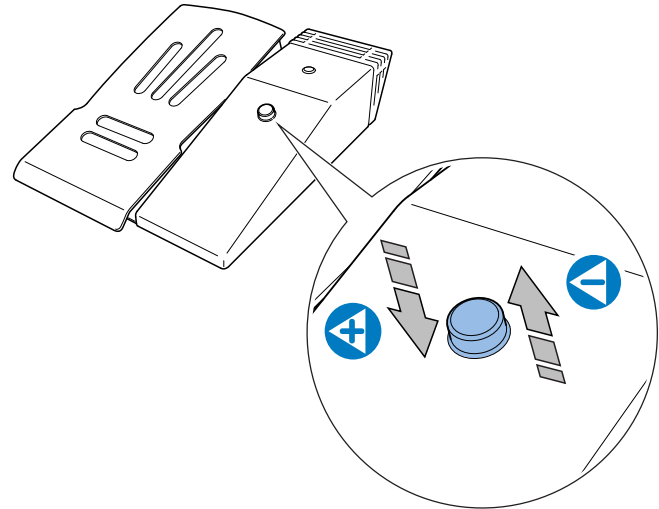


Increase scroll speed (depress further).



Decrease scroll speed (reduce foot pressure).

Prompter Text Reverse Control



Reverse scroll direction, and increase reverse scroll speed (depress further).



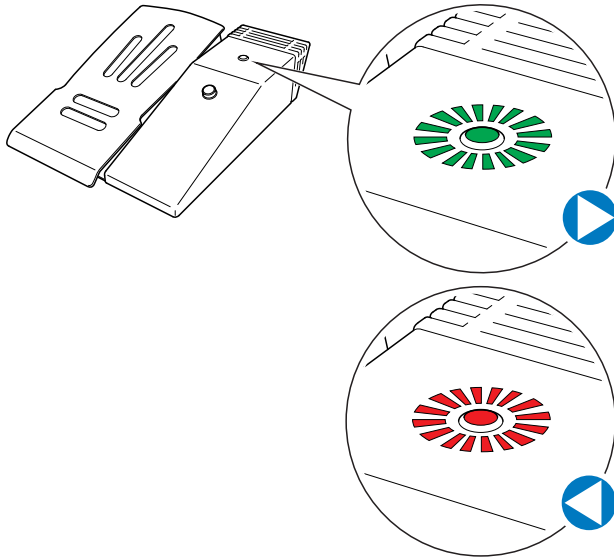
Decrease reverse scroll speed (reduce foot pressure).



When foot pressure is released from the button the script stops scrolling in reverse and remains static.

Direction Indicator LED

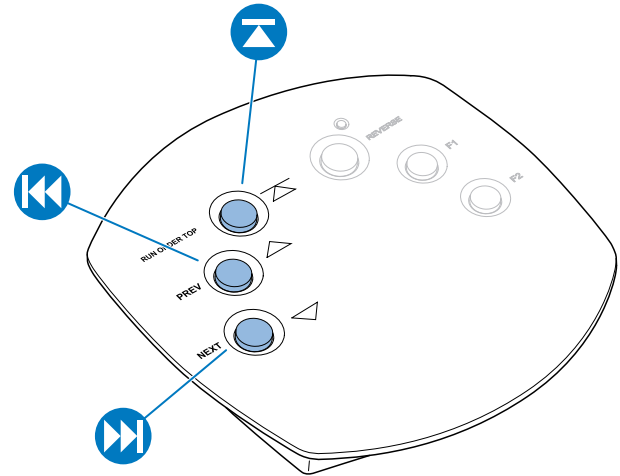
When the foot controller is being operated, the LED indicates the direction of the scrolling text. The indicator LED illuminates green when scrolling is in forwards direction and red when in reverse.



Using the Desk Controller

The desk controller is typically located on the presenters desk and operated in close conjunction with the foot controller. Push buttons are provided for next and previous pages/stories selection and other functions described in this section.

Story Control Buttons



Advances the prompter text forward by one page/story for each press.



First press - Back to top of the current page/story
Subsequent presses - Back by page/story.



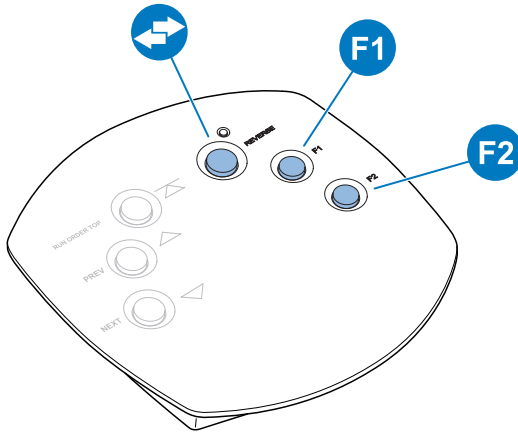
Pressed together - Returns the prompter text to the overall top of the script.



Returns the prompter text to the beginning of the script.

Operation

Reverse and Function Control Buttons



Reverse button - Toggles reverse scroll of prompter text. Press again to return to forwards scroll.

F1

Function button - This can be programmed through WinPlus for various functions, or controls devices through a general purpose interface.

F2

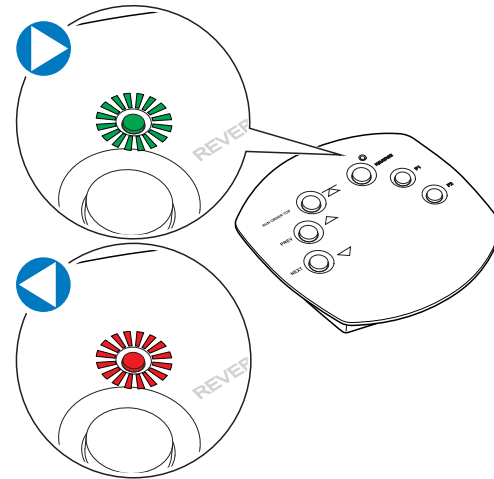
Second function button - Same programmable capability as F1.



When the foot control is idle and reverse is selected via the desk pad, the prompter text will creep backwards slowly. This is to make the operator aware of the direction the text will scroll when the foot pad is depressed.

Direction Indicator LED

An indicator LED alerts the operator to the current direction of the scrolling prompter text. The indicator LED illuminates green when scrolling is in forwards direction and red when in reverse. Reverse indication is active when either the reverse foot switch or the reverse button on the MFC-D are being operated.



Priority Control

During operation, the control system has built-in intelligence to work on the principle of 'last in takes control'. This means that whichever controller (hand, foot or desk) is currently being operated will take control of the prompted text and override the previous controller.

Routine Maintenance

The Control Net controllers and smart combiner box require minimal routine maintenance, apart from checking the connections and overall operation periodically.

Routine checks

During use, check the following:

- Check cables for signs of wear or damage. Replace as necessary.
- Check that all cables are connected properly.

Cleaning



WARNING! Risk of electric shock. Disconnect and isolate the product from the power supply before cleaning.

During normal use the only cleaning required should be a regular wipe over with a dry, lint-free cloth. Dirt accumulated during storage or periods of disuse may be removed with a vacuum cleaner. Particular attention should be paid to all connection ports on the products.

Changing the Fuse (Smart Combiner Box)

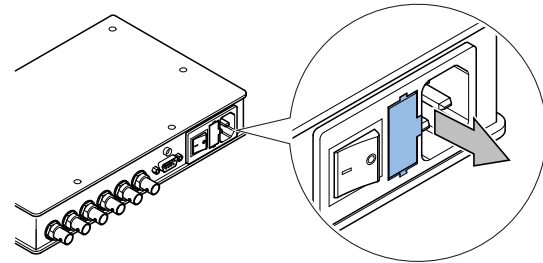


WARNING! Risk of electric shock. Disconnect the power cable. Fuses must only be changed by a trained and competent person.



CAUTION! The replacement fuse must be the correct rating: Type 20mm ceramic tube fuse rated at 0.5A 250V AC

1. Switch OFF and disconnect the power cable.
2. Using a flat-blade screwdriver, remove the fuse holder and discard the blown fuse.



3. Replace the fuse, then reinstall the fuse holder.

Troubleshooting

Fault	Check	Comments
The controllers or smart combiner box are not powering up.	Check that the AC or DC power sources are connected and secured.	See the section Power Connections on page 13.
The smart combiner is not powering up.	Check and if necessary replace the fuse.	See the section Changing the Fuse (Smart Combiner Box) on page 23.
The hand, foot or desk controller is powered up, but not controlling the prompted text.	Check that the system connections are correct and secured.	See the sections Control Net Connections on page 10 or Serial Connections on page 11.
	Another controller is being constantly used by another operator.	See the section Priority Control on page 22.

Physical Data

	Hand Controller	Foot Controller	Desk Controller	Smart Combiner
Width*	133 mm (5.2 in)	206 mm (8.1 in)	133 mm (5.2 in)	180 mm (7.1 in)
Length*	127 mm (5 in)	256 mm (10.1 in)	124 mm (4.9 in)	260 mm (10.2 in)
Height*	42 mm (1.7 in)	73 mm (2.9 in)	53 mm (2.1 in)	31 mm (1.2 in)
Weight	1 kg (2.2 lb)	2.35 kg (5.18 lb)	0.6 kg (1.32 lb)	1 kg (2.2 lb)

*Excluding controls and connectors.

Environmental Data (All Products)

Operating temperature range -10°C to +50°C (14°F to +122°F)

Storage temperature range -20°C to +60°C (-4°F to +140°F)

Electrical Data

	Hand Controller	Foot Controller	Desk Controller	Smart Combiner
Supply Voltage	12 VDC	12 VDC	12 VDC	100-240 VAC
Current (max)	10 mA, (3 mA in standby)	40 mA	30 mA	0.1 A

Connections Data

DC Power Socket (Hand and foot controller)

Connector type: Hirose DC socket.

Pin	Signal
1	GROUND
4	+12 VDC

Serial Connection (Hand controller, foot controller and Smart Combiner)

Connector type: 9-way D socket.

Pin	Signal
1	TX
5	GROUND
8	RX
9	+12 VDC

Data format is standard RS232 voltage levels, 8 data, 1 stop, no parity, 2400 baud.

Control Net Connection (Receiver Unit and Smart Combiner)

Connector type: BNC Connector.

Pin	Signal
Tip	Data
Sleeve	Ground

Technical specifications are subject to change without notice.

General Notices

FCC Certification



FCC Notice

This product complies 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 commercial environment. 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 with radio communications. Operation of this product in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

FCC Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Declaration of Conformity

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This product may not cause harmful interference.
2. This product must accept any interference received, including interference that may cause undesired operations.

Declaration of Conformity



Vitec Videocom Limited declares that this product has been manufactured in accordance with BS EN ISO 9001:2008.

This product complies with the following EU Directives:

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC

Compliance with these directives implies conformity to applicable harmonized European standards (European Norms) which are listed on the EU Declaration of Conformity for this product or product family. A copy of the Declaration of Conformity is available upon request.

Environmental considerations

ROHS Compliance Statement

Vitec Videocom Limited is compliant with the European Union Directive 2002/95/EC Restrictions of Hazardous Substances (RoHS) that restricts the use of hazardous substances in Electrical and Electronic Equipment.

European Union Waste of Electrical and Electronic Equipment (WEEE) Directive (2002/96/EC)



This symbol marked on the product or its packaging indicates that this product must not be disposed of with general household waste. In some countries or European Community regions separate collection systems have been set up to handle the recycling of electrical and electronic waste products. By ensuring this product is disposed of correctly, you will help prevent potentially negative consequences for the environment and human health. The recycling of materials helps conserve natural resources.

Visit our website for information on how to safely dispose of this product and its packaging.

In countries outside the EU:

Dispose of this product at a collection point for the recycling of electrical and electronic equipment according to your local government regulations.

Pollution statement

This equipment is designed for operation in Pollution Degree 2 environments.



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