

WCU330

**Wall Control Unit
Installation Guide**

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This package should contain the following:

1 x Opus WCU330 (assembled), 1 x WCU330 faceplate, 2 x M3.5mm x 20 screws,
1 x installation guide.

Introduction

The WCU330 is an in-wall, A-BUS® compatible amplified keypad with buttons for control of speaker volume levels, Standby/On and source select (with compatible equipment), as well as having an IR window for receiving remote control signals. The WCU330 can connect to A-BUS® hubs (Opus MCU300), A-BUS® Ready receivers, or to the Opus 500 system as a sub-zone control. The WCU330 then connects to speakers using conventional speaker cable.

The WCU330 keypad fits into any wall and is available in white and stainless steel finishes, with the ability to change the surrounds on the WCU330-WH with any MK Euro/Modular surrounds, to complement various decorative schemes. The WCU330 is fitted to the wall by fixing it into a standard single UK 47mm back-box. All knock-outs in the back-box should be removed to provide maximum ventilation. Care should be taken in choosing a site for the WCU330, and always refer to the precautions in this guide. Bear in mind it is not always preferable to fit the WCU330 next to a light switch, particularly if the faceplates will differ.

Installation notes

The WCU330 is fitted to the wall by fixing it into a standard UK 47mm depth single-gang back-box (pattress). All knock-outs in the back-box should be removed to provide maximum ventilation.

Where it is desired to fit a mains lighting switch, etc. next to a keypad, a barrier-box or two single back-boxes must be used. Bear in mind it is not preferable to fit the keypad next to a light-switch, particularly if the faceplate styles will differ. Only a qualified electrician should attempt such installations.

Avoid fitting the WCU330 where there is line of sight to another WCU330 or Opus 500 system main-zone keypads. In such situations, both keypads may pick up the same commands from a remote control and it will be difficult to control each zone independently.

Avoid fitting the WCU330 where there is line of sight to the source equipment for the system. In such situations, the source equipment may directly pick up the same IR commands as are picked up by the keypad and sent to the source equipment. This can interfere with the remote operation of the source equipment.

Do not fit the keypad in areas directly lit by strong sunlight or where it will be strongly lit by fluorescent tubes. These can be sources of infra-red energy which may interfere with the remote control operation of the system. Some plasma televisions can radiate a great deal of infra-red energy and care should be taken if fitting a WCU330 near a plasma screen television. Avoid placing the WCU330 near to dimmer switches or other items which generate a substantial amount of electrical noise.

Safety precautions

Care should be taken when choosing the site for a WCU330. The keypad must never be installed in a back-box which also contains mains wiring or in areas of high humidity.

The WCU330 runs on 24V DC supplied through the connecting cable. As such there is no mains voltage present in the WCU330 and the unit is often safe to fit in areas where only extra low voltage (ELV) equipment is permitted. However, it is imperative that you always check the wiring regulations in force for your application and area.

Faceplates

The WCU330 faceplate system is based on the 50 x 50 'easy-clip' module standard and is interchangeable with the wide range of faceplates made by manufacturers such as MK Electric, RPP, etc. that conform to this standard. If it is desired to fit another faceplate, it can be replaced by gently prising apart the WCU330 faceplate and snapping on another in its place.

Fitting the keypad

Remove the supplied faceplate from the WCU330 by gently prising apart. It will 'pop' off. Connect each wire in the Cat-5 cable to its respective terminal in the punch-down connector on the back of the WCU330 (refer to the Cat-5 to WCU330 punch-down connectors diagram in the 'Rear panel connections' section of this guide). The recommended maximum length for use with standard Cat-5 cable is 30m in total from hub to keypad (screened Cat-5 cable can also be used). After making the wiring connections, fit the WCU330 to the back-box with the two supplied M3.5mm x 20 screws. Gently push the faceplate back on to the module.

System options

The WCU330 keypad can be used in two main configurations:

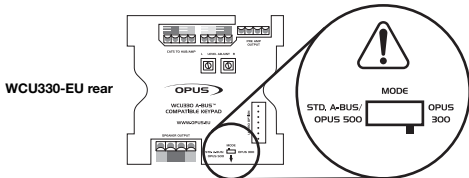
1. As part of a full Opus 300 system where it is plugged into an Opus hub (MCU300), perhaps with other Opus accessories such as a video switching unit (VSU300) or local input module (LIM300) fitted.
2. Where the keypad is plugged into the DZM amplifier as a sub-zone to the Opus 500 system or directly into an A-BUS® Ready/Opus Ready output of a compatible Opus (or other brand) AV receiver or amplifier, no other accessories are possible other than the required power supply and remote control/s.

The WCU330 has two modes of operation to support these configurations – Opus 300/ enhanced A-BUS® mode and Standard A-BUS®/Opus 500 mode. These modes are selected by setting the Mode switch, located on the rear of the WCU330.

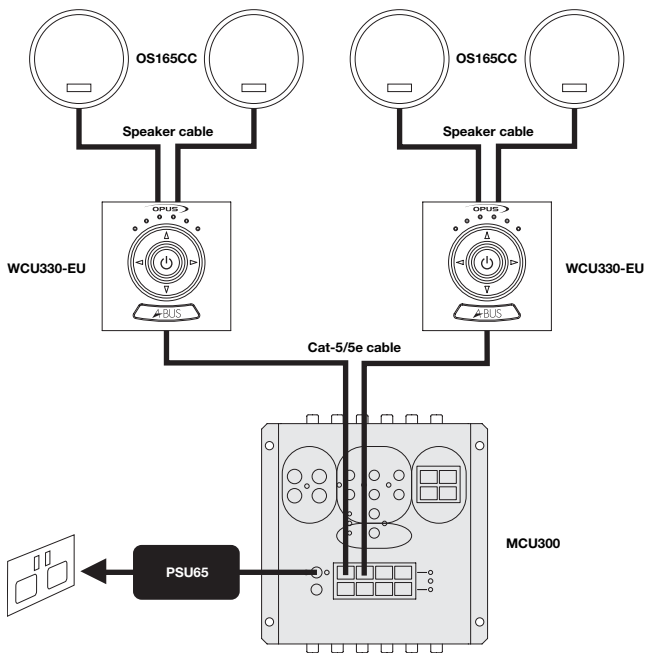
Note: Setting the Mode switch to the wrong setting can cause erroneous operation!

Full Opus 300 System

For use in a full Opus 300 System (see diagram opposite) the Mode Switch **must** be in the 'Opus 300' (enhanced A-BUS®) position as shown below:

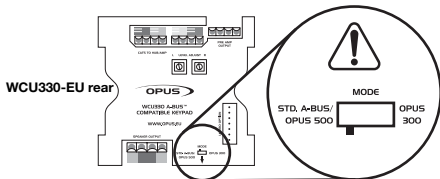


Please consult the MCU300 Opus Multi-Room Installation Guide for full details of the various options available for the full Opus system.



A-BUS® Ready/Opus 500 System

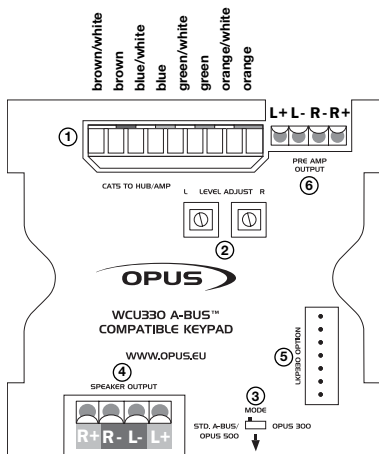
For use with an A-BUS® Ready/Opus 500 System (see diagram opposite) the Mode switch **must** be in the 'Standard A-BUS®/Opus 500' position as shown below:



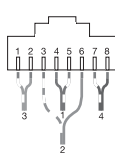
In this configuration the keypad is wired directly to the Opus DZM amplifier. It is not possible to switch sources using the hard buttons on the WCU330, but this can be achieved by using Opus remote controls.

Commands received by the keypads can now be sent back to the source equipment via the Opus 500 System. It is then possible to control the source equipment from the remote rooms by using the source equipment's own remote controls or through a learning remote. The Opus Learning Remote can fully control the keypads, 'learn' the source's remote controls and change source input on the amplifier, etc.

Rear panel connections



RJ45 plug	Cat-5 cable	Opus signal
1	green/white	Left speaker (-)
2	green	Left speaker (+)
3	orange/white	Right speaker (-)
4	blue	IR
5	blue/white	Status
6	orange	Right speaker (+)
7	brown/white	Power (GND)
8	brown	Power (+24V)



View from contact end



Gather pairs, trim and insert into RJ45 plug



Crimp wires securely in place

1. Cat-5 to WCU330 punch-down connectors

A Cat-5 cable (terminated with an RJ45 jack plug) is used to connect the WCU330 to an Opus MCU300 hub or A-BUS[®] Ready receiver. The WCU330 has punch-down connectors for the eight individual conductors of the Cat-5 cable. To terminate the cables, use a Krone punch-down tool.

2. Gain adjust

The maximum output of the WCU330 can be limited by turning these down. Alternatively, if the sound level is too quiet, the Gain can be turned up.

3. Mode switch

Selects between Opus 300 mode and Standard A-BUS® Ready/Opus 500 mode.

4. Speaker output

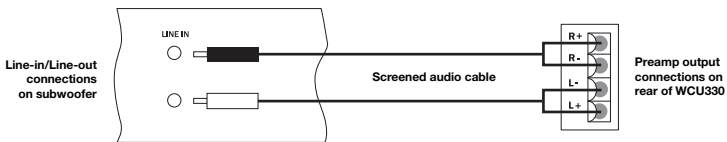
Connect to a pair of speakers with two runs of standard high-quality speaker cable. Speakers of at least 88dB SPL for 1W @ 1 metre efficiency should be used with the WCU330. Speakers from 4–8 ohms can be used. The Opus OS165CC speakers are an ideal match.

5. CKU330 option

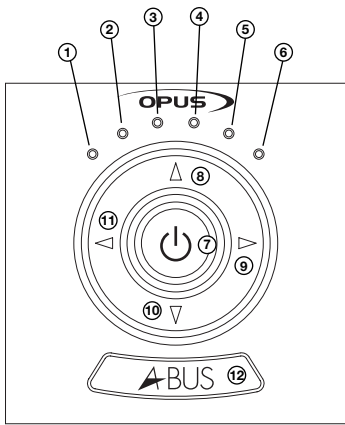
Allows control of source equipment via an Opus learning keypad as part of the CKU combined keypad unit.

6. Preamp output

A preamp output is provided for optional use driving a powered subwoofer or auxiliary amplifier. Connection from the preamp output to other equipment should be by screened audio cable.



Keypad controls



The six LEDs indicate the function status of the WCU330. Listed below are each of the functions of the corresponding LEDs:

1. **Minimum volume/Source select**
2. **Volume/Source select/Bass adjust/ Local Source Selection mode**
3. **Volume/Source select/Treble adjust/ Local Source Selection mode**
4. **Volume/Source select/Balance adjust/ Local Source Selection mode**
5. **Volume/Source select/Fader adjust/ Local Source Selection mode**
6. **Maximum volume/Source select**

For full instructions on volume adjustment, source selection, sound adjustment and local source selection modes, refer to the 'Operating instructions' section of this guide.

7. Standby/On

Press to switch the keypad between On and Standby mode. By pressing and holding the Standby button for about two seconds, all WCU330s connected to the MCU300 hub will be turned off. If the WCU330 is connected to an Opus DZM amplifier as part of an Opus 500 System, then the standby button only controls the keypad.

8. Volume up

Press to increase the volume or other sound adjustment.

9. Source select (right)

Use this key to select the current active source.

10. Volume down

Press to decrease the volume or other sound adjustment.

11. Source select (left)

Use this key to select the current active source.

12. IR window

Point the Opus Learning Remote towards this window. A small flashing LED behind this window indicates operation.

Operating instructions

Important!

As mentioned previously, the WCU330 can be switched between two modes of operation – a standard A-BUS® mode for compatibility with other manufacturers' A-BUS® Ready equipment (Standard A-BUS®/Opus 500 mode) or when used as a sub-zone keypad in the Opus 500 System, and an Opus MCU300 hub mode (Opus 300/enhanced A-BUS® mode). When used with other manufacturers' A-BUS® Ready equipment, the keypad **must** be switched to 'Standard A-BUS®/Opus 500' mode or the equipment will not work.

Volume adjustment

Volume is adjusted using the volume up and volume down buttons on the keypad or remote. This is indicated on the keypad by the intensity of the blue LED lights, of which there are four levels of intensity.

Source selection

The Source left and right buttons allow you to choose from multiple connected sources. The LED display will indicate which source is selected.

Sound adjustment modes

Pressing the Power/Standby button while holding the Volume down key activates the sound adjustment modes. The four central LEDs on the keypad will then light in sequence to indicate each of the four sound adjustment modes: Bass, Treble, Balance and Fader. These modes can also be activated using the Select button on the remote control.

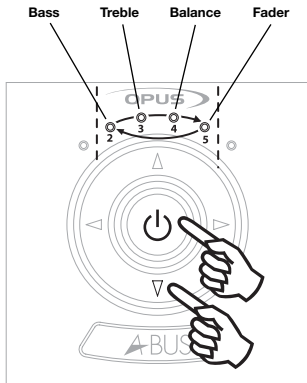
After holding down both buttons for a short period, the second LED on the keypad will light indicating that the **Bass adjust mode** has been activated. In this mode, pressing the Volume up or down keys will adjust the bass (low frequencies) level.

Continuing to hold down both keys will light the third LED indicating that the **Treble adjust mode** has been activated. In this mode, pressing the Volume up or down keys will adjust the treble (high frequencies) level.

Continuing to hold down both buttons will light the fourth LED indicating that the **Balance adjust mode** has been activated. In this mode, pressing the Volume up or down keys will adjust the sound level between the left and right speakers.

Continuing to hold down both buttons will light the fifth LED indicating that the **Fader adjust mode** has been activated. In this mode pressing the Volume up or down keys will adjust the balance between the main speakers and anything that is connected to the preamp output. This adjustment is relevant only if the preamp output is used. The Volume up and down buttons on the remote control can also be used to adjust the sound in each mode.

Note: If no adjustment is made, the system will automatically go back to volume adjustment after two seconds.

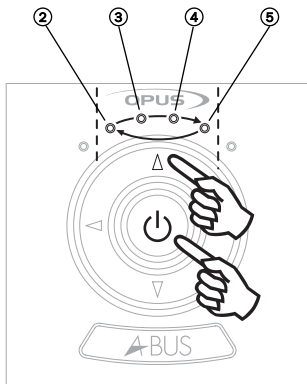


Local source selection

Note: This feature is only available if the WCU330 is part of a full Opus 300 multi-room system with one or two Local Input Modules (LIM300) fitted.

The local source selection mode will need to be activated to configure the WCU330 correctly. This mode is only available when the Mode Switch is set to 'Opus 300' (enhanced A-BUS®) mode. LIM300s can only be used in this mode. Please refer to your LIM300 Installation Guide for more information.

Pressing the Select left or right buttons on the keypad allows you to rotate through all six sources as default. However, it is possible to allow the addition of one or two local sources by accessing **Local source selection mode**. To enter this mode press the Volume up button simultaneously with the Power button for four seconds; the LED display will then scroll through the sequence shown in the illustration at right and described as follows:



After holding down both buttons for a short period, LED 2 will light indicating that **Sources 1–6** (default) are available for selection.

Continuing to hold down both keys will light LED 3 indicating that **Sources 1–6** and **Local Source 1 mode** are available for selection.

Continuing to hold down both buttons will light LED 4 indicating that **Sources 1–6**, **Local Source 1** and **Local Source 2 mode** are available for selection.

Continuing to hold down the Volume up and Power buttons will light LED 5, indicating that **Off mode** is available for selection and no source will be selected.

To select these modes, wait till the corresponding LED is lit and then release Power and Volume up buttons.

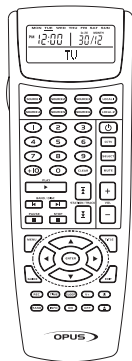
Note: If no adjustment is made, the system will automatically go back to volume adjustment after two seconds. If 'Standard A-BUS/Opus 500' mode is selected on the Mode switch, the WCU330 will only rotate around the main six sources.

Remote control

The WCU330 can be used with the Opus LRC300 remote control, a sophisticated learning remote which is able to learn the codes of all the source equipment remotes. Once programmed the user can thus use the LRC300 to perform all operations from one remote.

The LRC300 is also suitable where the WCU330 is connected to the A-BUS® Ready outputs of AV receivers and amplifiers other than an Opus hub. It can learn the relevant source change commands, etc. of the receiver or amplifier, as well as the source equipment.

Note: Please refer to the Opus LRC300 manual for further information.



Technical specifications

Input impedance	45kohms
Frequency response	20Hz - 20kHz +/- 1dB
THD	<0.2% @ 1W, 20Hz - 20 kHz
S/N ratio	>80dB 'A' weighted
Volume control range	-80dB, 36 steps
Bass control range	+/- 16dB, 2dB steps
Treble control range	+/- 16dB, 2dB steps
Balance control range	+/- 40dB, nine steps either way
Preamp output	Variable level, follows volume setting
IR pass-through	34-40 kHz and 54-58kHz modulation frequencies supported
Speaker impedance	4-8ohms
Power requirement	24V DC @ 1A max (supplied by hub)

Limited warranty

Opus warrants this product to be free from defects in materials and workmanship (subject to the terms set forth below). Opus will repair or replace (at Opus's option) this product or any defective parts in this product. Warranty periods may vary from country to country. If in doubt consult your dealer and ensure that you retain proof of purchase.

To obtain warranty service, please contact the Opus authorised dealer from which you purchased this product. If your dealer is not equipped to perform the repair of your Opus product, it can be returned by your dealer to Opus or an authorised Opus service agent. You will need to ship this product in either its original packaging or packaging affording an equal degree of protection.

Proof of purchase in the form of a bill of sale or receipted invoice, which is evidence that this product is within the warranty period, must be presented to obtain warranty service.

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