



C-Bus DMX Gateway (5500DMX)

The C-Bus DMX Gateway is a DIN rail mounted unit that maps C-Bus Group Addresses and levels to a DMX-512-A interface.

The C-Bus DMX Gateway is a one way device. It permits C-Bus input devices such as wall switches, DLT's and PIR's to control lighting devices with DMX interface capability. These include many manufacturers LED lights and theatrical equipment.

About DMX-512-A

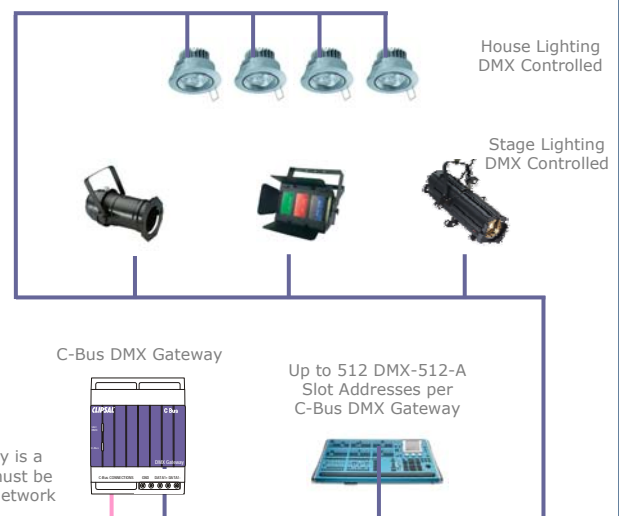
DMX-512-A describes a method of data transmission between controllers and lighting equipment and accessories. This standard provides interoperability at both communication and mechanical levels with devices made by different manufacturers.

The DMX-512-A protocol was developed to provide standardised control of theatrical lighting and effects such as smoke machines and spot lights.

It is increasingly used today on standard lighting products such as LED down lights and effects lights.

Application 1 (theatrical lighting)

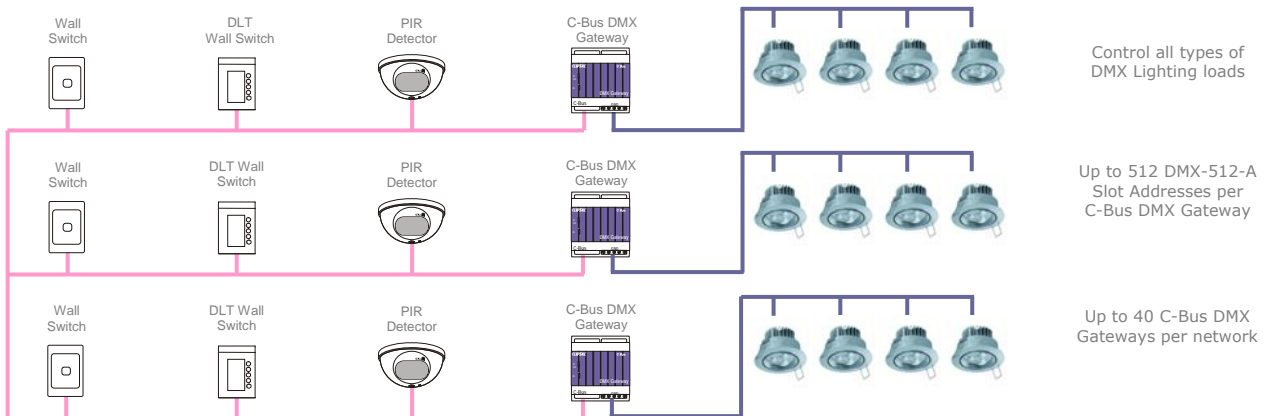
In this application the theatrical lighting equipment and the associated house lights are controlled from a DMX-512-A control desk. With the addition of a C-Bus DMX Gateway the lights may now also be controlled from C-Bus switches, DLT's and a PIR's. Through use of the C-Bus DMX Gateway, C-Bus is able to interact with DMX devices as if they are a outputs connected directly to the C-Bus network.



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Application 2 (third party lighting)

In this application third party lighting utilises DMX-512-A protocols within a standard lighting control system to control some contemporary LED down lights.



C-Bus DMX Gateway configuration

The C-Bus DMX Gateway allows the user to map twelve C-Bus Group Addresses to multiple combinations of DMX Slot Addresses.

In the example below the user has mapped three individual wall wash feature lights (Red, Green and Blue) to three separate C-Bus Group Addresses.

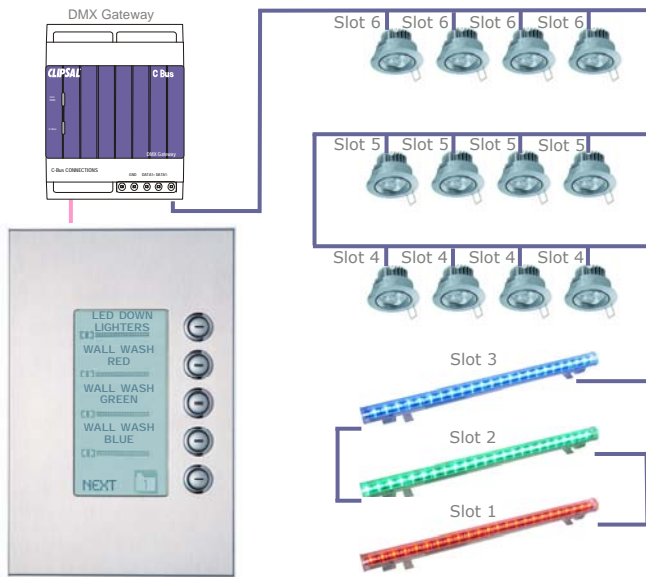
They have also mapped three separate groups of down lights to one C-Bus Group Address.

Channel Index	C-Bus Group	DMX Slot
1	Wall Wash Red	1
2	Wall Wash Green	2
3	Wall Wash Blue	3
4	LED Down lighters Dim	4, 5, 6
5	<Unused>	<None>
6	<Unused>	<None>
7	<Unused>	<None>
8	<Unused>	<None>
9	<Unused>	<None>
10	<Unused>	<None>
11	<Unused>	<None>
12	<Unused>	<None>

Twelve C-Bus Group Addresses map to up to 512 DMX Slots

Multiple DMX Slots per C-Bus Group Address

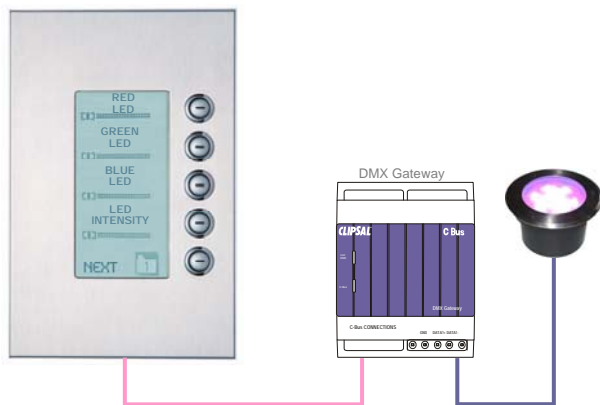
Third party lighting, example 1



In a DMX-512-A network, multiple devices can be configured onto the same Slot Address. Therefore loads that follow the same control pattern can be controlled from a single C-Bus Group Address.

Load type	DMX	Function	C-Bus
Red LED strip light	Slot 1	Red	Group 1
Green LED strip light	Slot 2	Green	Group 2
Blue LED strip light	Slot 3	Blue	Group 3
White LED down lights Bank A	Slot 4	Intensity	Group 4
White LED down lights Bank B	Slot 5	Intensity	Group 4
White LED down lights Bank C	Slot 6	Intensity	Group 4

Third party lighting, example 2



Some DMX-512-A devices may use multiple DMX-512-A Slots for colour and intensity control. For instance some LED devices use one DMX Slot Address each for Red, Green, Blue and intensity.

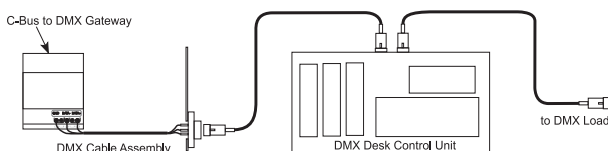
Load Type	DMX	Function	C-Bus
LED up light (Red)	Slot 1	Red	Group 1
LED up light (Green)	Slot 2	Green	Group 2
LED up light (Blue)	Slot 3	Blue	Group 3
LED up light (Intensity)	Slot 4	Intensity	Group 4

Connecting C-Bus to DMX-512-A

The Gateway has two C-Bus connections and one wired terminal block for the DMX-512-A interface connection.

A DMX interface cable is included with the C-Bus DMX Gateway. The cable is 300 mm long. It has bootlace connectors on one end and a female XLR panel fitting connector on the other.

The C-Bus DMX Gateway is a master device for transmission only. Therefore, it must be at Position 1 on the DMX network. DMX topology only supports daisy chain connection. DO NOT use a star or parallel configuration.



DMX-512-A termination

If you use a DMX-512-A control desk, it should be installed after the C-Bus DMX Gateway and before the controlled devices.

Be sure to provide proper termination.

DMX-512-A networks use a 120 Ohm terminating resistor which is typically fixed at the final device on the network. The termination resistor is placed across the two control data wires; these are pins 2 and 3 in a standard XLR connector.

DMX-512-A states "DMX-512 systems should make use of earth ground referenced transmitting devices and isolated receiving devices. This approach provides for a single point solid ground/chassis connection at the source, and allows for variations in building ground potentials between transmitting and receiving devices."

Unit Properties.

Parameter	Value
DMX protocol	DMX-512-A
Maximum length of DMX cable in network	455 metres
Maximum units on C-Bus network	40
Power	50 mA, powered from C-Bus network, does not provide power to the C-Bus network
C-Bus input voltage	15-36 V d.c.
C-Bus AC input impedance	40 kΩ
Electrical isolation	2500 V C-Bus to DMX
Mounting type	DIN rail, 4M wide
Connectors	2 x RJ-45 for C-Bus network 1 x Terminal block for DMX 1 x XLR 5-pin female panel mount connector flying lead
Dimensions	Unit: 93 x 72 x 65 mm DMX cable length: 300 mm
Weight	121 grams
Operating temp	0° to 45° C
Humidity	10 to 95%, non condensing

C-Bus connection details.

RJ45 pin	Signal name	Wire Colour
1	Remote ON	green & white
2	Remote ON	green
3	C-Bus negative	orange & white
4	C-Bus positive	blue
5	C-Bus negative	blue & white
6	C-Bus positive	orange
7	Remote OFF	brown & white
8	Remote OFF	brown

DMX-512-A connection details.

XLR pin	Signal name	Wire Colour
1	Ground (GND)	Shield
2	Control Data Minus 1-	White/Blue stripe
3	Control Data Plus 1+	Blue/White stripe
4	Not used	---
5	Not used	---

Part number.

Model No.	Description
5500DMX	C-Bus DMX Gateway, DIN rail mounted, DMX-512-A protocol, DMX interface cable, 300 mm length

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