Vi BLU Link Card User & Setup Guide

The Soundcraft® Vi BLU Link card is a 32 x 32 interface between a Vi series console and the Soundweb London digital audio bus, informally known as BLU Link. The card allows connection to a wide variety of Harman products equipped with a BLU Link interface, such as BSS London BLU 800, dbx® PMC or Crown® PIP-BLU interfaces amongst others.

BLU Link is a low latency, fault tolerant digital audio bus of 256 channels which gives a distance of 100m between compatible BLU Link enabled devices using standard CAT5e cabling. To increase the distance between devices the BSS Audio MC-1 fibre optic media converter can be used to span over 10km (6.2 miles) using single mode fibre.

Additional information about the Soundweb London BLU Link digital audio bus may be found on the BSS web site www.bssaudio.com

The Vi BLU Link card is available in two versions, which differ only in the size of the front panel:

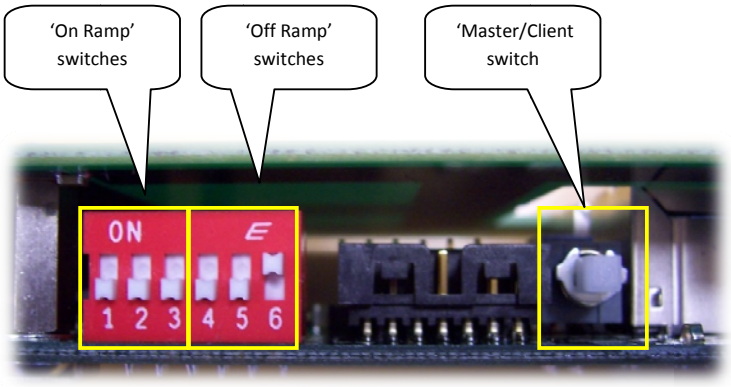
- Local Rack/Compact Stagebox expansion slot version
  (3U high, single-width D21m card)

- Vi Stagebox version
  (6U high, single-width stagebox slot)

Both versions of the card are shipped with a short Wordclock sync cable (9-pin D to BNC) for connection to the console's Wordclock input when the console has to sync to the BLU link network (In the case of a card installed in a stagebox, an extension BNC cable may be required, depending on relative location of local rack and stagebox).

Configuring The BLU Link Card

Before the BLU Link card may be used the switches that define master / client status and channel assignments must be configured. These are accessed by removing the card from the console and looking at the:



Master/Client Switch

The master/client switch determines the clock source for the BLU Link network.

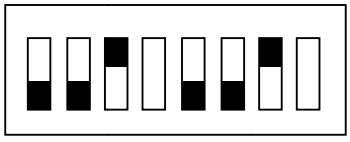
- When set as master (switch set IN) the BLU Link card clocks from the console word clock. There can only be one Master BLU Link card in the system.
- When any other device is set as the master, you will need to operate in client mode (switch set OUT).

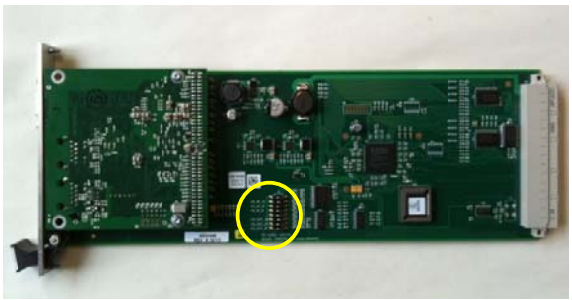
When operating in client mode, provision must be made to clock the console from the BLU link network by connecting an external cable (supplied with the card), from the 9-pin D-connector Wordclock Out socket on the BLU link card, to the BNC Wordclock In socket on the console. When this cable is connected, the green LOCK LED will illuminate next to the console's Wordclock In socket. Failure to connect the sync cable in client mode will result in occasional audio clicks.

Channel count Setup

The BLU link card uses 32 in and 32 out channels by default, but can be restricted to use less input or output channels if required. This may be necessary on Vi consoles in order to avoid exceeding the 192in/192out channel limit of the local rack (or the 64in/64out channel limit if fitted in a Vi or Compact Stagebox). For example, if only output channels are required on the BLU Link card, the input channels can be set to 0, to maximise the number of input channels available for other cards.

The DIP switch on the carrier card is used to set the input and output channel count, in steps of 8chs from 0-32 channels. The diagram shows the factory default setup of 32 in/32out.





Channel Assign Switches

The channel assign switches dictate which group of channels on the BLU Link network the card 'listens' to and 'speaks' to

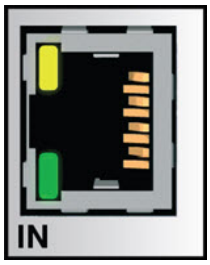
Looking directly at the dip-switch block are six switches numbered 1-6 (left to right). The leftmost three switches (switches 1-3) are used to select the on-ramp bank (card speaks to BLU Link). The rightmost three switches (switches 4-6) are used to select the off-ramp bank (card listens to BLU Link). Channels not used by the BLU Link card are simply passed 'thru'.

BLU Link On-Ramp (Outputs from console)			
SW1	**SW2**	**SW3**	**Selected Channels**
OFF	OFF	OFF	1-32
OFF	OFF	ON	33-64
OFF	ON	OFF	65-96
OFF	ON	ON	97-128
ON	OFF	OFF	129-160
ON	OFF	ON	161-192
ON	ON	OFF	193-224
ON	ON	ON	225-256

BLU Link Off-Ramp (Inputs to console)			
SW4	**SW5**	**SW6**	**Selected Channels**
OFF	OFF	OFF	1-32
OFF	OFF	ON	32-64
OFF	ON	OFF	65-96
OFF	ON	ON	97-128
ON	OFF	OFF	129-160
ON	OFF	ON	161-192
ON	ON	OFF	193-224
ON	ON	ON	225-256

NOTE: Whenever the On Ramp and Off Ramp selections match, no audio is extracted from BLU Link, but instead the audio being sent out of the card will be looped back and will appear on the BLU Link input channels.

BLU Link LED Indicators



Each BLU Link port features two LED's indicating status:

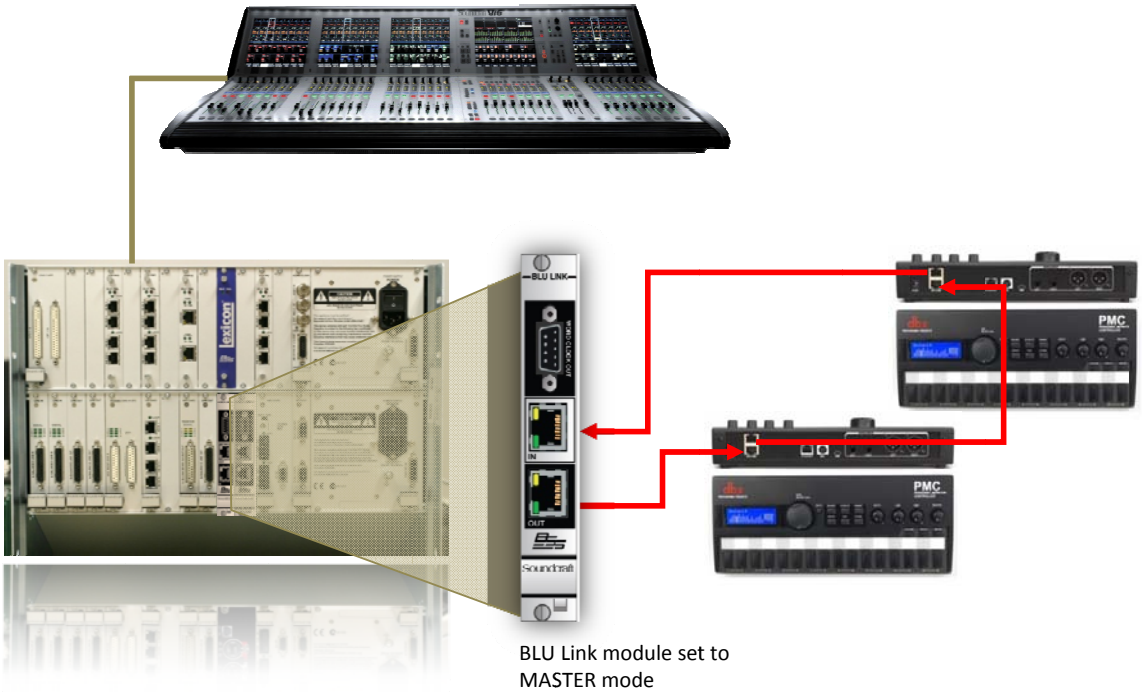
- Yellow LED - lights when the port is 'alive' indicating the card has booted and ready for use.
- Green LED - lights when it is connected correctly to another BLU Link device.

Connecting BLU Link Devices

BLU Link devices interconnect using standard CAT5e UTP Ethernet cable. Connections must be made from the OUT of one device to the IN of the next.

Redundancy is achieved by linking the OUT of the last device to the IN of the 1st device as shown in the following examples.

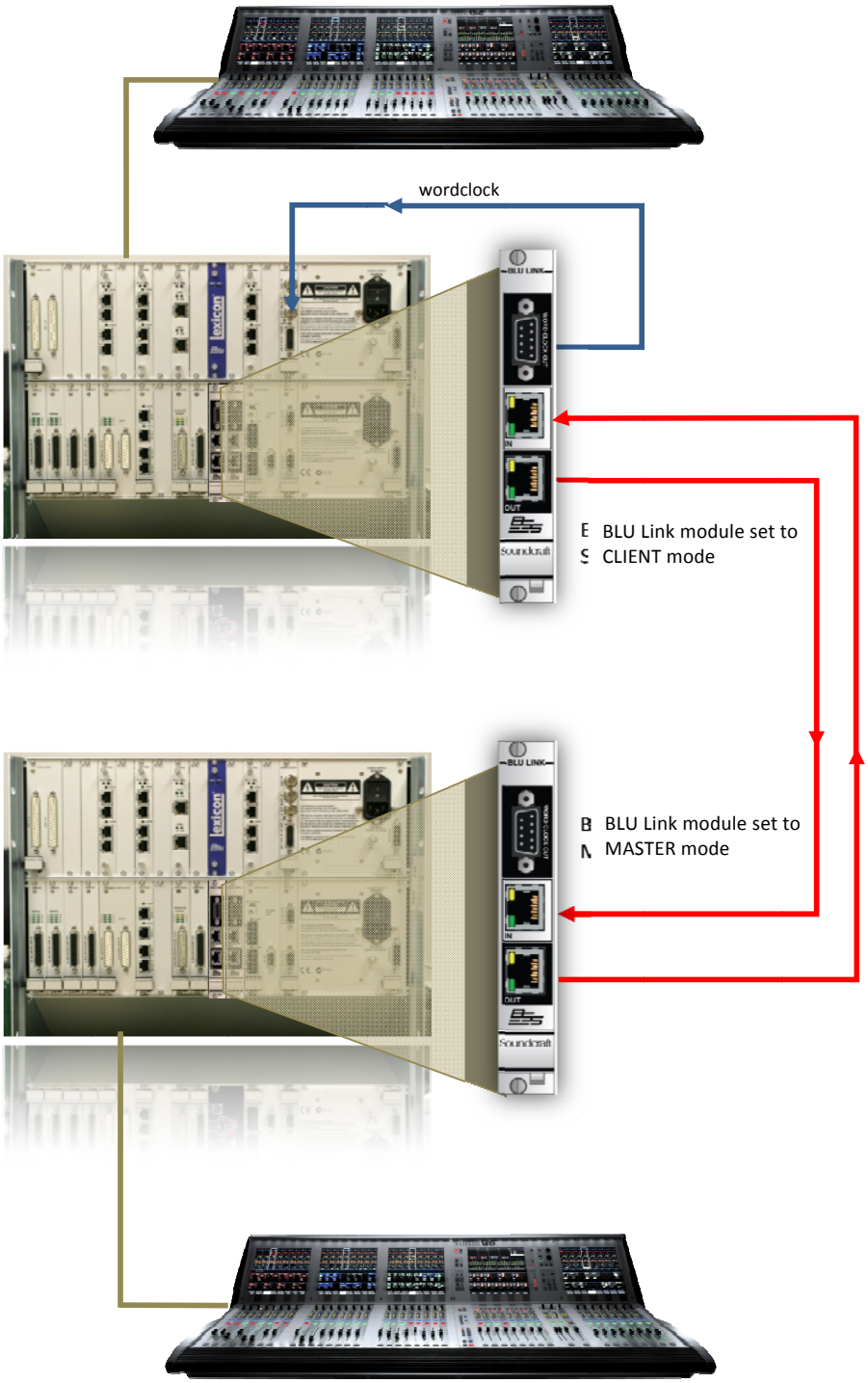
Example 1: Multiple dbx PMC Personal Monitor systems connected to a Vi6 Local Rack



BLU Link module set to MASTER mode

Example 2: Two Vi consoles connected together using BLU Link

Note that one of the consoles must be set up as a clock client, the Master/Client switches on the two BLU Link modules must be set appropriately and a Wordclock link cable connected from BLU Link card clock OUT to Vi Wordclock IN.



Appendix: Wordclock Out connector Pinouts

Note that a suitable cable is supplied with each BLU Link card that will interface from the DB9 Wordclock out connector on the BLU Link card, to the Wordclock input BNC on either the Local Rack (Vi6) or the rear of the console (Vi1).

If a longer cable is required or the cable needs to be replaced then the following pin-outs will apply:

DB9 connector 'P1'

Pin	Function
4	Wordclock Out (TTL)
9	Signal GND
5	Chassis GND
8	Chassis GND