

# APPLICATION NOTE

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E-Mail: [cis.support@clipsal.com.au](mailto:cis.support@clipsal.com.au)[clipsal.com](http://clipsal.com)**Title : C-Bus Network Bridges - 'looping back'****Category : C-Bus Application**

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**Key Words : NetworkBridge,5500NB,MultiNetwork,LookUp**

## Purpose

This application note describes issues that can be caused by the C-Bus Network Bridges 'looped back' onto the same C-Bus network, and recommendations for the temporary joining of networks.

## Terms and Abbreviations

N/A

## Context/Design Description/Special Implementation

The Looped Back connection can cause the following physical and communication issue on a C-Bus Network

- Physical / Hardware
- Communication / Software

## Content

It is possible for a C-Bus system to be installed with Network Bridges 'looped back' onto the same C-Bus network, as shown in the diagram below. This could compromise or damage a C-Bus installation.

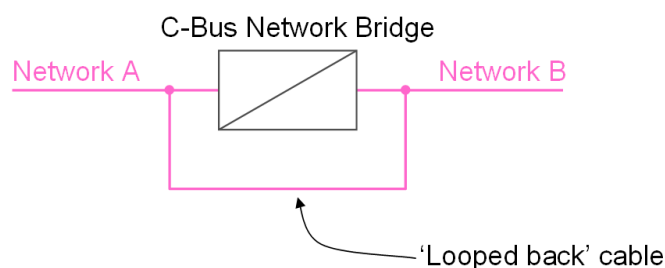


Diagram showing a C-Bus Network Bridge with the far side of the unit looped back onto the near side network.

Although it is physically possible for a C-Bus system to be installed in this manner, it performs no useful C-Bus application purpose. It is considered bad installation practice as it can cause the following physical and communication issues on a C-Bus Network.

#### Physical / Hardware

- The C-Bus network current may exceed the recommended 2A maximum
- The combined C-Bus network cable length may exceed the recommended 1km maximum length
- The network burden & capacitance will be affected.

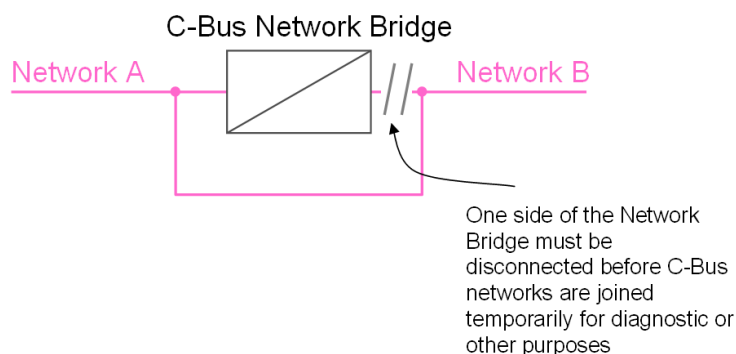
#### Communication / Software

- C-Bus Network Bridge routing will be compromised, possibly resulting in units being incorrectly programmed via C-Bus Toolkit software
- Duplicate C-Bus unit addresses may appear on the combined network resulting in incorrect C-Bus system behaviour
- Incorrect C-Bus operation may occur as a result of problems caused with C-Bus Trigger Control messages, Date and Time messages, Security Application messages and Media Transport Control messages.

### **Conclusion/Summary**

Clipsal Australia and Schneider Electric requires that C-Bus Network Bridges are not connected in this 'looped back' configuration.

If networks are temporarily joined in this manner for diagnostic (or any other) purposes, at least one side of the Network Bridge must first be disconnected, as shown in the diagram below.



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