# C-Bus®

# Wiser Home Control

## 5200PG

TWO YEAR WARRANTY 2

FC ✔ ⚡ C€

**Installation Instructions**

# Contents

# 1.0    Product Description

The **5200PG Wiser Home Controller** provides an easy-to-use graphical user interface (GUI) to access the home C-Bus network and other home applications. The Wiser Home Controller lets you monitor and control your home environment locally, or remotely over the Internet.

Using the Wiser Home Controller, you can locally or remotely

- Configure and commission certain aspects of lighting, security and environmental equipment using C-Bus Toolkit and PICED software products.
- Recognise and utilise C-Bus TAG descriptions, Locations and Function Groups.
- Back up and restore projects to and from a PC.
- Control and monitor C-Bus lighting scenes on C-Bus networks.
- Create, trigger and control scenes.
- Control and monitor HVAC equipment.
- Interface with security panels and cameras.

## 1.1    Hardware Components

| Component | Description or Characteristics |
|---|---|
| Wiser Home Controller router | The Wiser Home Controller router provides<br><br>• A wired connection to the customer's Internet.<br>• A wired connection to the CNI for C-Bus network access.<br>• A wireless 802.11 LAN set up for WPA encryption.<br>• Four wired LAN ports (one is reserved for the CNI). |
| C-Bus Network Interface (CNI) | The inline CNI connects to<br><br>• A Wiser Home Controller router LAN port.<br>• The C-Bus network using a Cat.5e cable, twisted pairs |
| 1 GB USB drive | Includes readme.htm, Installation Instructions and User's Guide |
| Power supply | The supply provides d.c. power for the router and CNI |
| Busbar | The busbar provides a simplified power and signal connection for the Wiser Home Controller router and CNI. |

| Cat.5e network cable | The blue or black network cable connects the customer's broadband device to the Wiser Home Controller's router. Do not use this cable for C-Bus connections. |
|---|---|
| Link | The link comes attached to the CNI and locks the Wiser Home Controller and CNI together to form a single unit. |
| Support stand | The optional stand is useful when placing the Wiser Home Controller on a table or desk. (Not shown in Figure 1.) |
| Setup Sheet | The Setup Sheet provides quick instructions for installation and configuration. |

Table 1.  Hardware components
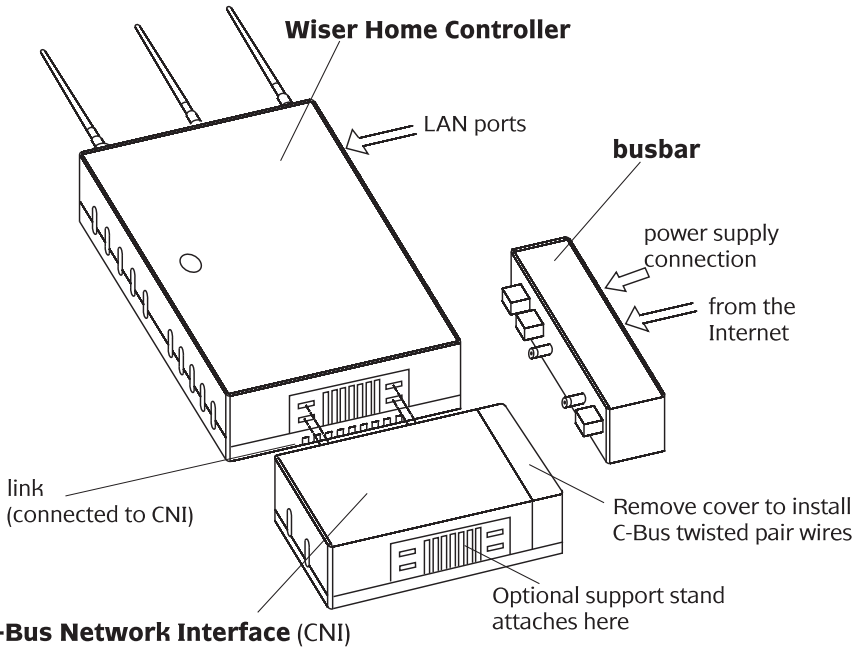


Figure 1.  Wiser Home Controller hardware components

⚠ **CAUTION** To avoid equipment damage, you must install the three supplied antennas before connecting the power supply to the Wiser Home Controller router.

## 1.2    Software

Normally, the installer loads PICED and C-Bus Toolkit on a PC and brings it to the customer site.

Software Applications

When installing the Wiser Home Controller, you must use the downloaded versions of the following Clipsal software applications:

- **PICED** setup software, version 4.5, or later. Access the PICED software using the link in the **readme.htm** file located on the provided Wiser USB drive.

- **C-Bus Toolkit** setup software, version 1.10.2, or later. The latest C-Bus Toolkit version is available at the Clipsal Integrated Systems technical downloads site:
  **http://www2.clipsal.com/cis/technical/**    select **Downloads**.

You must use the latest PICED software to obtain the latest firmware and the automatic firmware update feature. If you are unsure about the correct software versions to use, contact Technical Support.

The PICED setup software contains the latest Wiser Home Controller firmware .IMG file. The latest firmware is loaded automatically as part of transferring your PICED project to the Wiser Home Controller. The setup packages also include the latest CNI configuration software, C-Gate and transfer utilities. Refer to Section 4.3.

Graphical User Interface (GUI)

After configuring the Wiser Home Controller, your entry point to the Wiser Home Controller is the Wiser Graphical User Interface (GUI). Refer to Section 5.0 for more information about using the GUI. The factory installs the GUI and a sample project in the Wiser Home Controller router. The sample project is not intended to be used as is; you must create a new project with PICED.

To access the GUI, connect to the LAN and open a browser session. Clipsal recommends using Internet Explorer or Mozilla Firefox. Type the following IP address and press Enter:

## http://192.168.2.1

The username is **admin** and the password is **admin**

## 1.3    Product Information

The following documents and online files are available from the downloads site noted previously:

### C-Bus Wiser Home Controller 5200PG Setup Sheet

The Setup Sheet provides quick installation information for installers who are familiar with home LANs. The Setup Sheet is shipped with the product.

### C-Bus Wiser Home Controller 5200PG Installation Instructions

A copy of this document is shipped with the product on a USB drive. You can download the latest version of the document from the CIS technical download site as a PDF file.

### C-Bus Wiser Home Controller User's Manual

This document is provided on a USB drive with your equipment. The User's Manual is a handy reference when configuring the Wiser Home Controller and developing programs that control C-Bus equipment in the home. The latest version of the document can be downloaded from the Clipsal CIS downloads site as a PDF file.

### readme.htm file for the Wiser Home Controller

The *readme.htm* file provides a link to the download site for the latest PICED software setup package. The *readme.htm* file is provided on the Wiser 1GB USB drive that is provided with the unit.

### C-Bus Toolkit Help

C-Bus Toolkit Help is part of the software setup. The latest version has current GUI and device content. Help is available whenever C-Bus Toolkit is running.

### PICED Help

When using PICED, you should access Help as needed to create your projects. Help provides information about the toolbars and menus.

Other Help files

Clipsal software products such as C-Gate and the CNI Configuration Utility have help files that can be very useful during installation and troubleshooting.

## 2.0    Network Topology

You should carefully consider the existing network layout at the customer site before installing the Wiser Home Controller. Try to minimise the amount of reconfiguration required. There are a couple of important points to remember during the Wiser Home Controller installation.

- The Wiser Home Controller is not a modem. You must connect the router to an Internet connection, NOT a telephone line. A broadband modem is not provided as part of Wiser Home Controller.

- The Wiser Home Controller has wired and wireless LAN capabilities. The CNI uses one wired router LAN port. The three remaining wired ports are for IP connections to the local LAN.

### 2.1    Mapping Your Existing Network

There are many variations found in home networks. By mapping the existing network, you make it much easier to see what cabling and configuration tasks must be performed when installing the Wiser Home Controller.

**Example:**

The figure below shows a basic network configuration that is common in many homes. The network might use automatic IP addressing (DHCP), static IP addressing or a mix of the two.
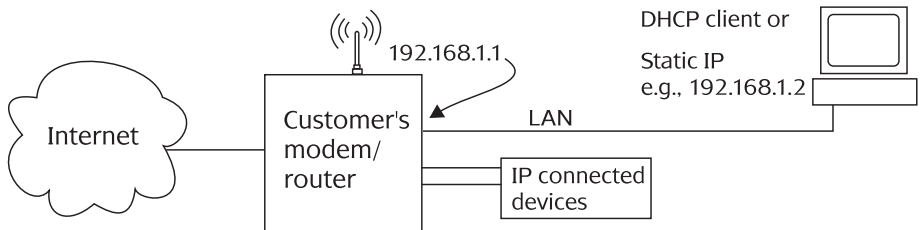


Figure 2. A basic home network example BEFORE installing a Wiser Home Controller

In the example above, the customer can easily access the static IP address of the modem/router to set wireless security parameters.

## 2.2 Adding the Wiser Home Controller and CNI

The installer has several choices when adding the Wiser Home Controller to the customer's network. The basic options are:

- Option A. Connect the Wiser Home Controller's WAN port to the output of the customer's modem/router as shown in Figure 3. In this configuration, all network traffic passes through the Wiser Home Controller's wired and wireless LANs.

- Option B. Place the Wiser Home Controller on the existing customer LAN as shown in Figure 4. This configuration allows you to make minimal changes to the customer's equipment setup.

- Option C. Connect the Wiser Home Controller to an ADSL modem in bridge mode. In this configuration, the Wiser Home Controller is the direct gateway to the customer's ISP.

### Option A
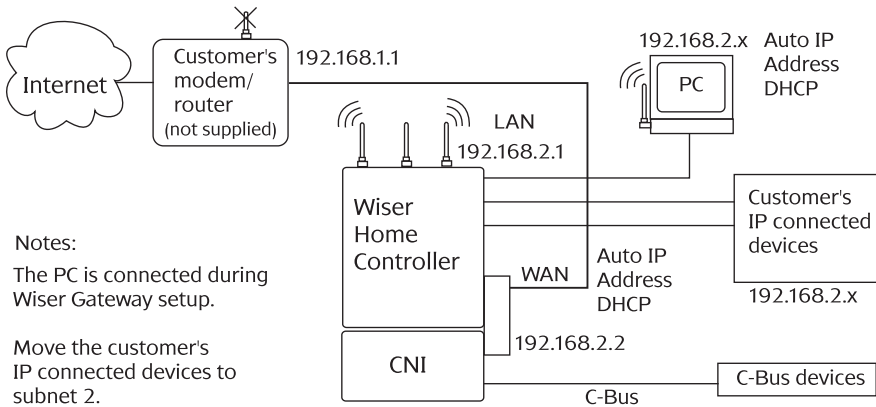


Figure 3. Option A, Wiser Home Controller as the connection point for the customer's LAN

When using Option A, you must re-establish the IP addresses of the customer's IP connected devices to subnet 2. You might have to configure static IP addresses. If you are using wireless devices, you must also configure the wireless LAN on the Wiser Home Controller.

If the Wiser Home Controller does not provide enough physical connections for IP connected devices, a hub must be added. Clipsal does not provide the hub.

## Option B
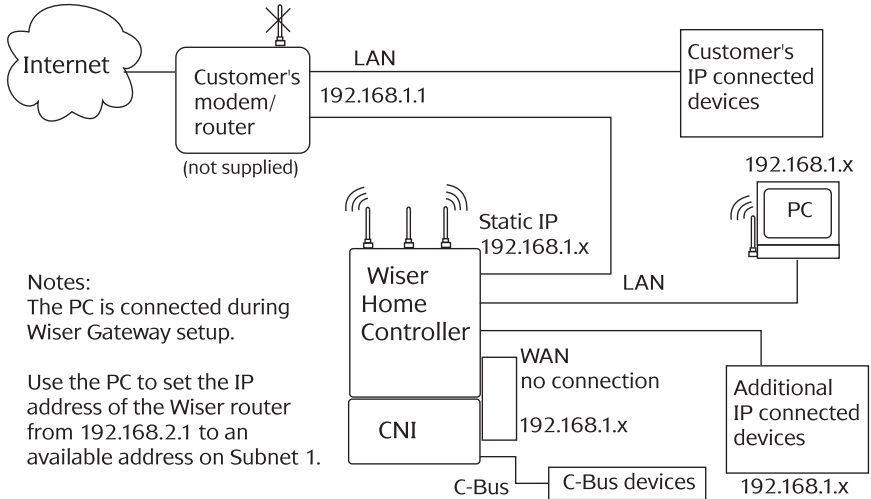


Figure 4.  Option B, Wiser Home Controller placed on the customer's LAN

Option B requires a minimum of changes to the existing customer configuration. After adding the Wiser Home Controller, move the customer's wireless equipment to the Wiser wireless LAN. Be sure to set up security on the new wireless LAN, if used.

## Option C
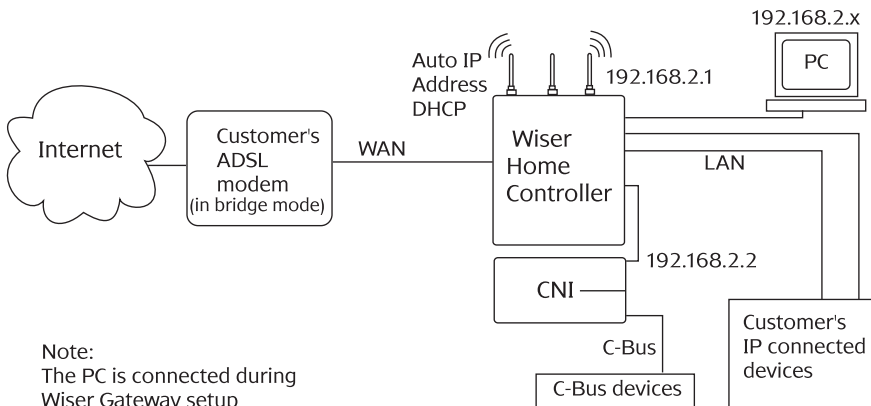


Figure 5.  Option C, Wiser Home Controller connected to a bridging modem.

Choosing a Network Setup Option

The following table can be helpful in deciding which of the three basic options is best suited to the customer's needs.

| Feature | Option A | Option B | Option C |
|---|---|---|---|
| WAN access for programming and configuration | Yes | Yes note 1 | Yes |
| All traffic is routed through the Wiser unit. See note 3 | Yes | No | Yes |
| Minimal disruption to customer's network | No | Yes | No |
| Can use all switch ports on the customer's router | No | Yes | No |
| Requires changing customer devices IP addresses | Yes note 2 | No | Yes note 2 |
| Migrate the customer's wireless devices to the Wiser's LAN | Yes | Yes | Yes |
| Requires changing the Wiser unit's IP address. | No | Yes | No |
| Requires port forwarding for remote access. | Yes | Yes | No |
| Need to disable one DHCP server | No | Yes | No |
| Single router in system | No | No | Yes |
| Dyn DNS | No | No | Yes |
| Requires the ability to put modem/router in bridge mode | No | No | Yes |
| Single IP network (subnet) | No | Yes | Yes |

Table 2.  Choosing a configuration based on option features

**Notes**
1.  Requires port forwarding.
2.  Unless Wiser is changed to use 192.168.1.x
3.  This might create problems if the customer is using VOIP or other settings, such as port mapping that are not supported by Wiser.

## 2.3    Setting up a Wireless LAN

Many homes use wireless devices connected to the wireless LAN on the customer's ADSL modem/router. The Wiser Home Controller provides a wireless LAN that should be used for wireless-connected devices. Install the unit as close as possible to the wireless devices on the LAN.

The IP address of the Wiser Home Controller wireless LAN is the same as the wired LAN, 192.168.2.1.

Wiser Home Controller is delivered with the wireless LAN enabled and WPA security is in place.

SSID: **WiserHomeController**
Security: **WPA-PSK**
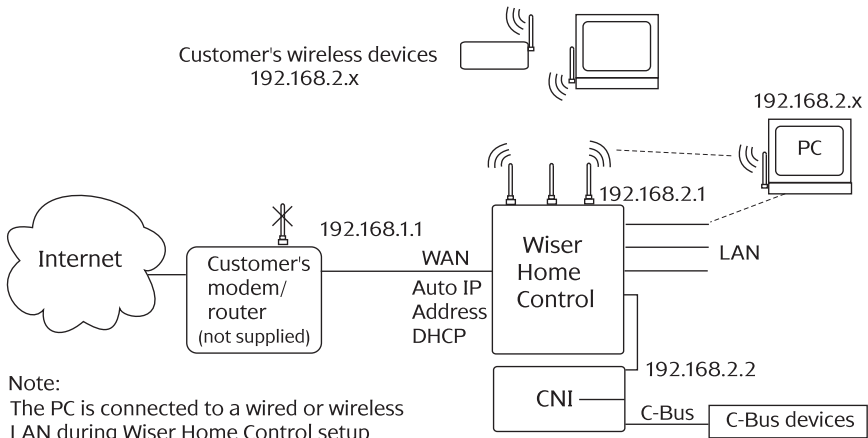


Figure 6.  Wiser Home Controller using the wireless LAN used with Option A

**Notes:**

- You can use the Wiser Home Controller's wireless LAN as the connection to the PC being used to setup the installation.

- The Wiser Home Controller's wireless LAN does not communicate directly with the customer's wireless C-Bus devices. The data path to these devices uses the inline CNI and a C-Bus Wireless Gateway unit.

# 3.0 Installation

Use the *C-Bus Wiser Home Controller 5200PG Setup Sheet,* provided with the equipment to do the hardware installation. Consult other Wiser Home Controller product information for details.

## 3.1 Installation Location

It is important to select the best location to install the Wiser Home Controller. Some considerations are listed below:

- The Wiser Home Controller is designed for indoor use only.
- The Wiser Home Controller can be mounted on a wall using the keyholes on the rear of the router. Refer to the Setup Sheet for details.
- Locate the equipment near associated wireless devices for best reception.
- Choose a location free of water, humidity, direct sunlight and heavy dust. Make sure the equipment will have adequate ventilation.
- Route network cables where they will not be disturbed by people walking about.
- Provide a building power point for the power supply.

## 3.2 Important Notes

- Keep the PC network (Ethernet) and C-Bus network isolated from each other. Do not connect the pink C-Bus network cable to an Ethernet LAN or telephone lines.

⚠️ **CAUTION** The C-Bus network uses polarised 15 - 36 V d.c. that can damage PC equipment. Connecting Ethernet network cables to a C-Bus network will cause the networks to fail. Use pink C-Bus network cable to avoid confusion.

- Using software not provided by Clipsal Integrated Systems (CIS) for C-Bus operation may cause unpredictable results.
- If you install the CNI unit in a different location from Home Controller, you must provide a 6-12 V d.c. power supply for the LAN side of the CNI. You will also use a network cable in place of the extender (busbar). Polarity for the power socket of the CNI is as follows:

$$- \!\!-\!\!-\!\!\odot\!\!-\!\!-\!\! +$$

## 3.3 Overview of Hardware Installation Steps

The steps listed in Table 3 are detailed in this document and in the *Wiser Home Controller 5200PG Setup Sheet*.

### Prerequisite

Install Clipsal C-Bus Toolkit and PICED software on a PC using the downloaded versions (refer to Section 1.2). Bring the PC to the customer site.

### Main Installation Steps

| Step | Tasks to Perform | Refer to Section |
|:---:|---|:---:|
| 1 | Connect the CNI to the customer's C-Bus network cable. The connection uses twisted pairs. | 3.4 |
| 2 | Assemble the router, CNI and busbar. | 3.5 |
| 3 | Install the hardware. Mount the Wiser Home Controller on the wall or place it on a flat surface, such as a desktop. | 3.6 |
| 4 | Connect the your configuration PC to one of the three available LAN ports on the Wiser Home Controller router. Connect the power supply to the router, and connect to the power outlet. Check indicator LEDs. | 3.7 |
| | Go to Section 4.0, Software Configuration. | |

Table 3. Overview of the main hardware installation steps

**Helpful Hint:** The installer can develop the PICED project for the customer's Wiser Home Controller before arriving at the customer's home. Update the customer's C-Bus project using a backup of the .cbz file and the latest C-Bus Toolkit. Any projects developed or updated with the latest C-Bus Toolkit version are not compatible with older versions of the program.

## 3.4  Step 1, Connect the CNI to the C-Bus Network Cable

The C-Bus network and the Ethernet LAN are electrically isolated inside the CNI unit. The C-Bus network provides power for the C-Bus side of the CNI circuit board.

⚠ **CAUTION**  Do not connect the C-Bus side of the CNI to an Ethernet LAN. Damage to the equipment will occur.

1.  Open the cable access door on the CNI unit.

2.  Crimp the wire pairs using bootlace connectors. Connect the twisted pairs for C-Bus positive (+) and C-Bus negative (-) to the screw terminals on the PCB connector. The C-Bus network cable wire colour assignments are defined in Figure 7.

    **Note:** You can install a second set of twisted pairs to daisy chain to another C-Bus device. For best results, use bootlace crimp connectors.

3.  Install the plastic strain relief piece. The strain relief is in the shape of the letter 'H.'

4.  Close the access door. The CNI is now ready for attachment to the router and busbar.



Blue
Orange  C-Bus +

Blue & White
Orange & White C-Bus -

Cat.5e cable
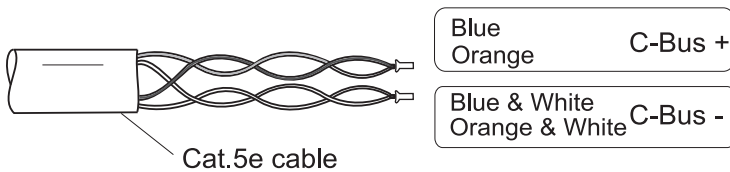
| C-Bus Connection | Colour |
| --- | --- |
| C-Bus Positive (+) | blue |
| C-Bus Negative (−) | blue & white |
| C-Bus Positive (+) | orange |
| C-Bus Negative (−) | orange & white |

Figure 7.  C-Bus cable details for the C-Bus network

**Note**: Wireless C-Bus devices require a C-Bus Wireless Gateway unit. They do not communicate directly with the Wiser Home Controller's wireless LAN.

## 3.5 Step 2, Assemble the Router, CNI and Busbar

Assemble the Wiser Home Controller's router, CNI and busbar to form a single unit. Use the instructions below:

1. Install the three antennas on the Wiser Home Controller's router box. The antennas must be installed to prevent internal damage to the wireless transceivers.

2. Using the link that is attached to the CNI, connect the CNI and the router together. If you have not already connected the pink C-Bus cable to the CNI terminals, do this now. See Section 3.4.

3. Carefully attach the busbar (power and network cable connector) to the sides of the Home Control's router and the CNI. Be sure that the RJ-45 plugs make good connections.

4. The assembled unit is ready for wall or desktop placement.
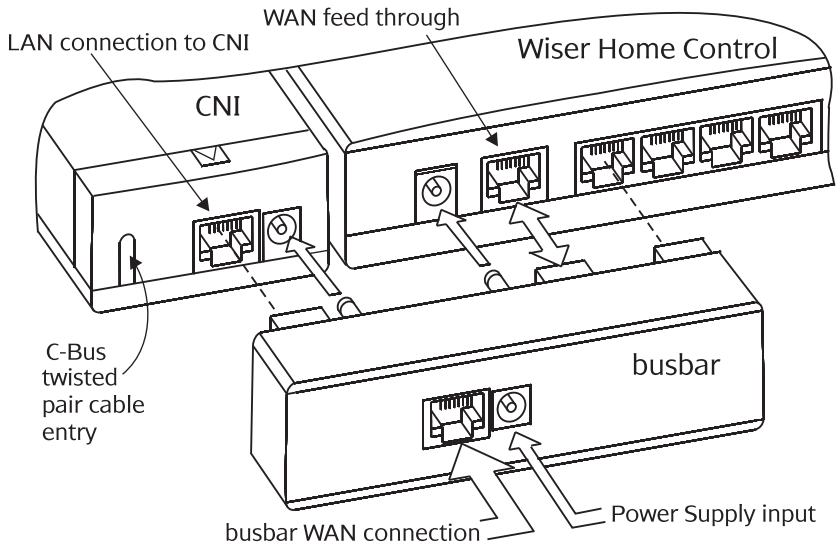


Figure 8.  Busbar Power and Signal Connections

## 3.6  Step 3, Install the Hardware

1.  Choose a suitable location for the Wiser Home Controller.

2.  Adjust the antennas. Normally, the higher you mount the equipment, the better the performance.

3.  Mount the equipment on a wall using the two keyhole screws on the back of the router, or place the unit on a desk or table.

⚠ **CAUTION**

If you are using the Wiser Home Controller's wireless LAN, do not place the router within 20 cm of the operator. This is a personal safety requirement.
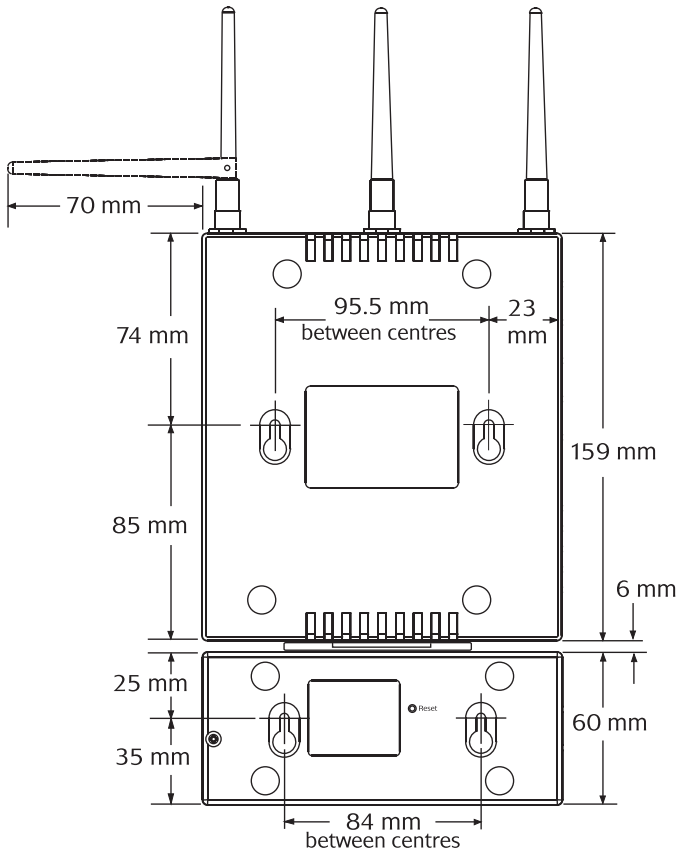


Figure 9.  Mounting Screw locations

## 3.7    Step 4, Connect your Configuration PC

You can now connect and test the connection to the customer's C-Bus network using the Wiser Home Controller and the inline CNI.

1. Connect the configuration PC to one of the open RJ-45 LAN connectors on the Wiser Home Controller. You may use the Wiser Home Controller's wireless LAN, if preferred.

2. Connect the power supply wire to the busbar power port. Plug the power supply unit into a wall power outlet.

⚠️ Use only the power supply provided with the Wiser Home Controller. Using a different supply unit might cause product damage or erratic performance.

After you have connected the configuration PC and C-Bus network, you can use the LEDs on the Wiser Home Controller's router and CNI to verify LAN and C-Bus network connections (See Section 4). If you have problems, check all signal and power connections.

**Monitor the Indicator Lights**

When the Wiser Home Controller unit is powered on, the router performs a self-test cycle. During the cycle, the Diag lamp is on. It might take a minute or two for the light to go out. The Diag lamp might flash intermittently, but after initialisation it should not be on continuously.

Other lights on the router indicate Internet, LAN and wireless activity. Refer to Figure 10 and Table 4 for more information.
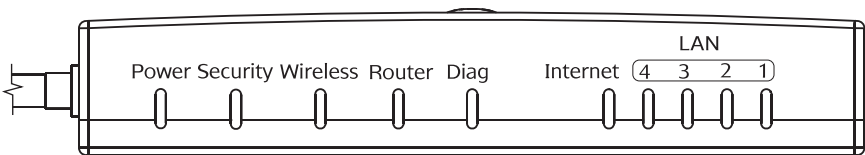


Figure 10.  Location of LEDs on the Wiser Home Controller

| Wiser Home Control indicators | Purpose or Meaning |
|---|---|
| Power | The Power LED lights when power is applied to the unit and stays lit, as long as power is present. |
| Security (orange) | Not used for Wiser Home Control functions. |
| Wireless | Lit when wireless is available. Blinks when transmitting or receiving data. |
| Router | When the unit is working as a 'router' the LED is lit. |
| Diag (red) | Lit during self-test and a few moments thereafter. If the light stays on it indicates a problem. |
| Internet | Flashes when data is transferred. |
| LAN | Lit when the Ethernet port is connected to a LAN. The numbered LEDs indicate which ports are active. |

Table 4.  Wiser Home Controller LEDs

The Inline CNI unit has two indicator lights. The 'LAN' indicator display is green, orange, or a combination of the two. Refer to Figure 11 and Table 5.

The 'C-Bus' indicator on the Inline CNI is only active when the unit is connected to a C-Bus network that is powered on. Refer to Table 5.



Note:  The C-Bus indicator LED is powered by the C-Bus network
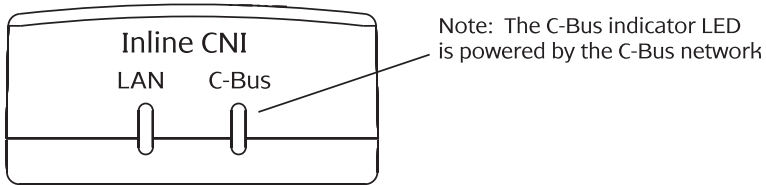
Figure 11.  Location of LEDs on the Inline CNI

The Wiser Home Controller's power supply provides power for the Ethernet indicator and the associated circuits in the CNI.

| LAN indicator | Meaning |
|---|---|
| Green | Communication link is good |
| Orange/Green flash | Link is good with active data transfer |
| Red | Non-existent or problematic link |
| Off | Power problem, for example no power connection |

Table 5.  The LAN indicator

The C-Bus network powers the C-Bus indicator and C-Bus circuits in the CNI. The C-Bus LED lights only when the network is powered on. For C-Bus LED meanings refer to Table 6.

| C-Bus Indicator | Meaning |
| --- | --- |
| Orange | C-Bus clock signal is present, voltage is good |
| Orange/Red flash | C-Bus good, active communication between C-Bus and Ethernet |
| Off | No C-Bus connection |

Table 6.  The C-Bus indicator

# 4.0 Software Configuration

You are now ready to configure the Wiser Home Controller and create a custom project for the customer. The installer can develop the PICED project for the customer's Wiser Home Controller before arriving at the customer's home.

## Prerequisites

Perform the hardware installation and basic checks found in Section 3.

If you have not already done so, install Clipsal C-Bus Toolkit and PICED software on a PC using the downloaded versions (refer to Section 1.2). Bring the PC to the customer site.

**Note:** During configuration tasks, the router must reboot several times. Allow at least 90 seconds after a reboot, and then access the router.

## Software Configuration Steps

| Step | Tasks to Perform | Refer to Section |
|------|------------------|------------------|
| 1 | Using a browser, configure the Wiser Home Controller's router. Access the GUI at **192.168.2.1**, username is **admin** and password is **admin**. | 4.1 |
| 2 | Use C-Bus Toolkit to verify the connection from the PC to the customer' C-Bus network and to update the project. The router is the path to the CNI. The IP address of the router unit is **192.168.2.1** and the inline CNI is at port **10001**, (as a point of information, the CNI has the IP address 192.168.2.2. | 4.2 |
| 3 | Use PICED to create and transfer a custom Wiser Home Controller project for the customer's home. | 4.3 |

Table 7.  Software configuration steps

## 4.1 Step 1, Configure the Wiser Home Controller's Router

Follow these steps to make changes to the router configuration:

1.  To access the user interface (GUI) and router configuration pages use an Internet browser such as Microsoft Internet Explorer or Firefox on the configuration PC and enter the following address:
    **http://192.168.2.1**
    The username is **admin** and the password is **admin**

    The user GUI is displayed. For details about the GUI refer to Section 5.

2.  Click the toolbox icon (screwdriver and spanner/wrench).

3.  Select Configure Router. The Wiser Home Controller's main Setup window is displayed.

If you have previously configured a broadband router, the Wiser Home Controller configuration procedure is very similar. During the configuration session, you will set up the following:

- Change password on Administration page (recommended)
- Host Name and Domain Name on Setup page (optional)
- Wireless Settings on Wireless page and Wireless Security page
- Remote access on Administration page or User UI

Changing the password is recommended for security reasons. You can change the password, but you cannot change the username. Passwords are limited to 30 characters. Do NOT use spaces or any of the following in your router password:   '  "  \  <  >  &

## Setup Page Window

Follow the steps below during your configuration session.

1. The first display you see is the Setup page window. Add a Host Name and Domain Name if needed and then move to other pages. After you make changes on a page and select Save Settings the router reboots and the new information is captured for future sessions. Allow about 90 seconds for a reboot.

   The following message appears to notify the system is rebooting (a reboot could take about 90 seconds):

   > Your changes have been saved.
   > System Rebooting…Please wait…

2. Go to the Administration tab and change the password. This is highly recommended for security reasons. Save settings.

3. Select the Wireless tab and set up the wireless parameters.


## Wireless Page Window

In the Setup window, click Wireless to view the options for the Wiser Home Controller's wireless LAN. Clipsal highly recommends setting up security at this time to stop intruders. Refer to Section 2.3 Setting up a Wireless LAN.
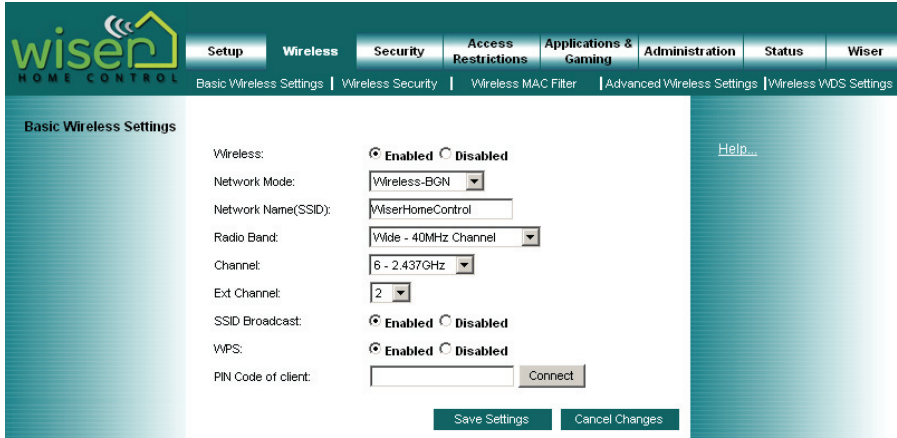
1. On the main Wireless section, enable or disable wireless. Select a network mode. If you enabled wireless, go to Step 2.

   **Network Mode:**
   B/G Mixed
   Wireless-B Only
   Wireless-G Only
   Wireless-BGN
   Wireless-N Only

2. Provide a Network Name. The default SSID is **WiserHomeControl**.

3. Select radio band (standard: 20 MHz or wide: 40 MHz).

4. Select a channel. Select a channel that does not conflict with other local wireless devices.

| Channel | |
|---|---|
| 1 - 2.412 GHz | 8 - 2.447 GHz |
| 2 - 2.417 GHz | 9 - 2.452 GHz |
| 3 - 2.422 GHz | 10 - 2.457 GHz |
| 4 - 2.427 GHz | 11 - 2.462 GHz |
| 5 - 2.432 GHz | 12 - 2.467 GHz |
| 6 - 2.437 GHz | 13 - 2.472 GHz |
| 7 - 2.442 GHz | |

**Note:** Check for compliance with local and country regulations.

5. Click the Wireless Security tab to view the wireless security page. Clipsal recommends using **WPA-PSK**.

## 4.2    Step 2, Use C-Bus Toolkit to Collect Project Information

You can access the C-Bus network with C-Bus Toolkit software using the Wiser Home Controller and the CNI. C-Bus Toolkit lets you update the Customer's project and gather information for the PICED project.



Do not run C-Bus Toolkit software and PICED at the same time on your computer. Both applications use the C-Gate program but in slightly different modes of operation.

To use C-Bus Toolkit with the Wiser Home Controller and CNI, do the following:

1.  Open the C-Bus Toolkit application. Verity that the current interface settings are:    **CNI/192/168/002/001:10001**

    If the IP address shown is the same as the Wiser Home Controller (not the CNI), then press the Scan Network button on the toolbar.

2.  If the information on the Welcome screen is not correct, go to the File menu and select Set Default Interface. Follow the steps to define the interface.

3.  Use the tools provided to scan the network, search for networks, or refresh the list of projects, as needed.

4.  If you have difficulty accessing the C-Bus network using C-Bus Toolkit, check all signal and power connections for the C-Bus network and CNI. Look for indicator lamp indications of a problem.

5.  After you have updated the Tag database using C-Bus Toolkit, shut the program down before opening PICED.  Refer to the help files for more information.

## 4.3  Step 3, Use PICED to Create and Transfer a Project

***Note:***  PICED software Help files contain new information specific to the Wiser Home Controller. Be sure to access PICED Help during installation, as needed.

### Setting up a New Project in PICED

1.    Start PICED.

2.    Select Create a New Blank Project. Click Next.
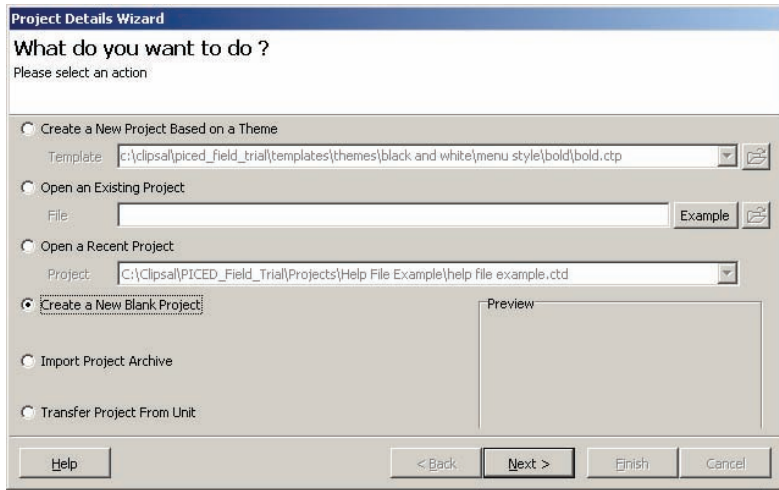


3.    Select Wiser Home Controller. Click Next.
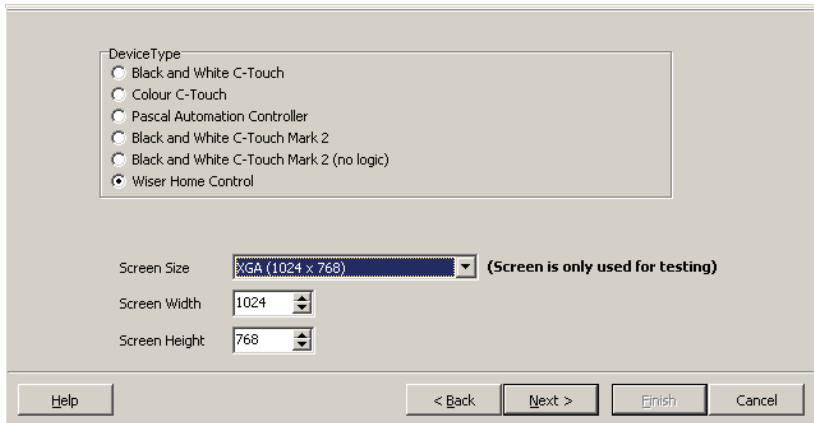
4. Enter details as for other C-Bus products.

5. When you get to the Options 2 tab, select a Skin (use the drop down to see the choices).
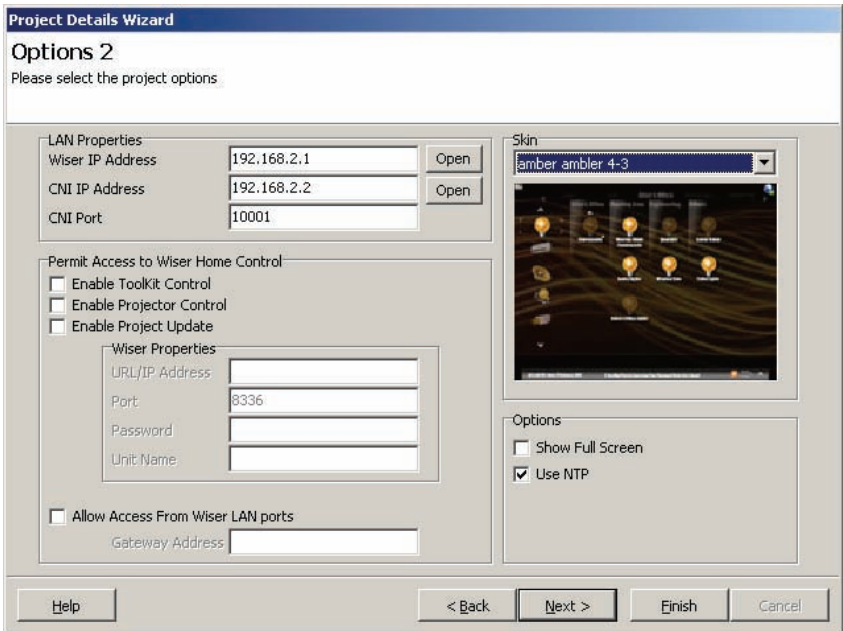


6. To verify that the Wiser Home Controller and CNI are connected correctly, or to configure them, click the respective Open buttons.

7. Click Next. Enter details as for other C-Bus products. When complete, click Finish.

8. The Widget Manager will be displayed. Add some Locations. Click the Help button to open the PICED help file for details. Click Next when complete.
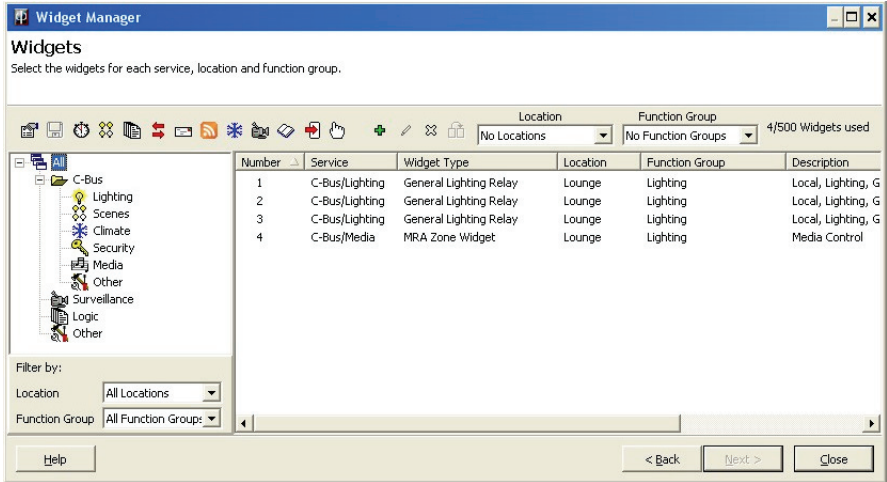
9.     Add some Function Groups. Refer to the PICED help file for details. Most projects will include Lighting, Security and Climate Control. Click Next when complete.
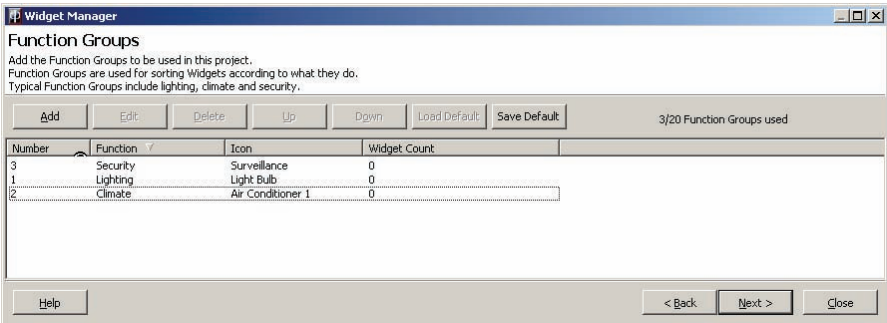


10.    Add some Widgets. Refer to the PICED help file for details

**Tip:**  at the top of the page are drop-down lists to change some of the properties of selected Widgets. This is much quicker to use than opening each Widget separately.
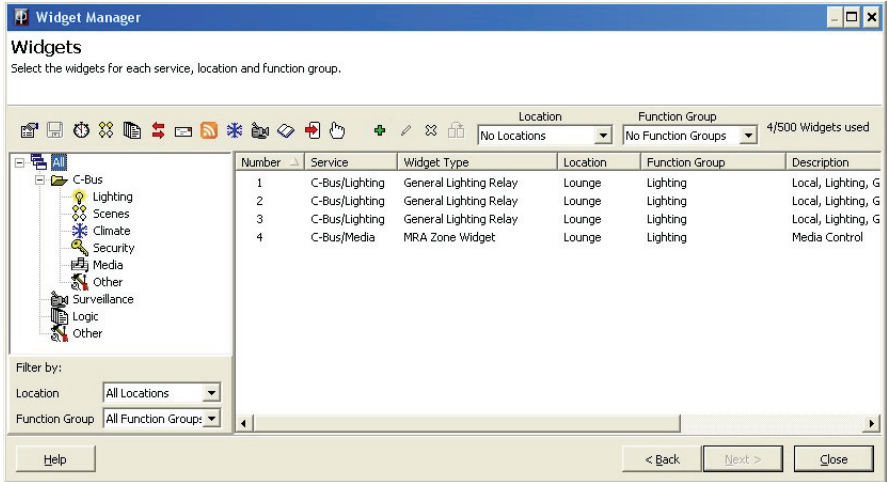
11.  If needed, add:

      - Scenes
      - Schedules
      - Logic
      - User System IO Variables
      - E-Mail Accounts

     Refer to PICED help files for details.

## **Transferring the Project to the Wiser Home Controller**

1.  When the project is complete, click on the Transfer button (box with a red arrow). The Transfer Project to Wiser Home Control form will be shown.
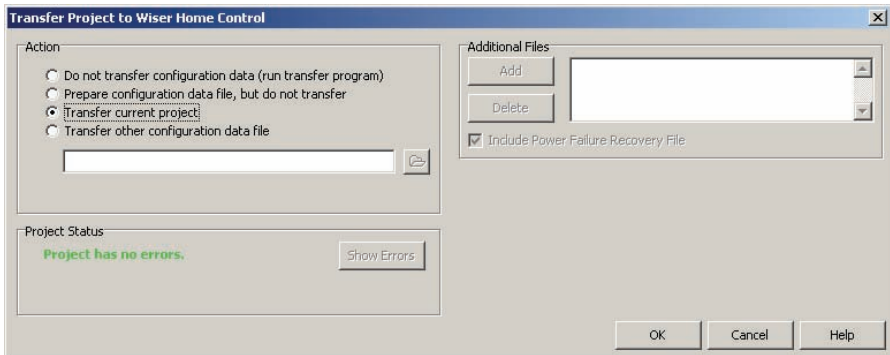
2.    Click OK. The Wiser Connection Wizard will be displayed.
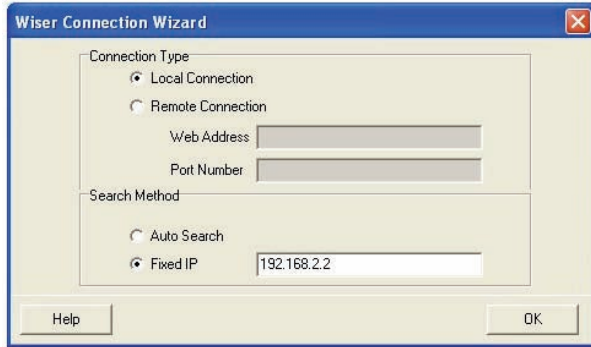


3.    Select Fixed IP and enter the IP Address of the Wiser Home Control
      (192.168.2.1 by default).
4.    Click OK.
5.    If the Wiser unit has out of date firmware, the Firmware tab will be
      displayed. Enter a password (admin by default) and click on Transfer
      Firmware. Wait for the Wiser unit to re-start, then repeat steps 1 to 4.
6.    If the Wiser firmware is up to date, the Transfer tab will be selected.
      Click on Start. Wait for the Wiser unit to re-start.
7.    Open a web browser and enter the IP Address of the Wiser unit
      (192.168.2.1 by default). You should be able to see your project and
      control it.
8.    Use simulation mode in PICED (the button with a picture of a hand on
      it) to test further changes to your project without the need to transfer
      the project each time. Some aspects of Simulation mode can only be
      used once a project transfer has been done.

Refer to the PICED and Transfer Utility help files for additional information.

## 5.0    Introduction to the User's Interface (UI)

Access the Wiser Home Controller's user interface with a web browser such as Internet Explorer or Mozilla Firefox. Type the following URL and press Enter on your keyboard.

**http://192.168.2.1/**

username is **admin**   password is **admin,** or your changed password

**Note:** if your Wiser Home Controller's IP Address is not 192.168.2.1, use the correct IP Address in the URL above.

You should now be able to see the Wiser Home Controller's graphical user interface (GUI). If you click one of the Location names, you will see the Widgets for that location. If you click a Function Group icon, you will see the Widgets for that Function Group. Click the Widgets to control them.

You can also control the Wiser Home Controller using a 'projector' application running on a device such as a mobile phone or PDA.

The Wiser Home Controller's web interface appearance depends on many factors, including the 'skin' used and the selected 'widgets.' A typical screen is shown below.
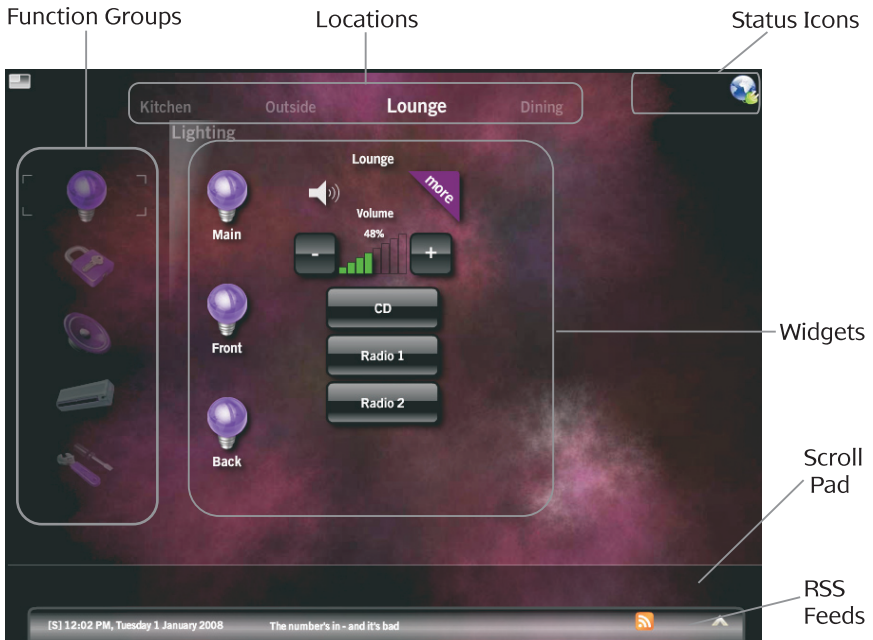
A **Widget** is a graphical component displayed on the Wiser Home Controller that is used to control and/or display the state of something. Typical functions for widgets include:

- Controlling lighting

- Controlling a home audio system

- Controlling and monitoring a security system

- Displaying a web camera

The Wiser Home Controller displays the widgets using the selected skin. The skin defines the appearance of the background and the Widgets, as well as the way the user interface operates.

The Wiser Home Controller automatically arranges the Widgets onto pages according to their 'Location' and/or 'Function Group.'

**Locations** are defined by the user and are used to arrange Widgets according to their physical location in a site. Typical Locations in a home might include:

- Lounge

- Dining

- Bedrooms

- Outside

**Function Groups** are defined by the user and are used to arrange Widgets according to their usage. Typical Function Groups in a Home might include:

- Lighting

- Security

- Climate Control

- Media (Audio/Video)

# 6.0    Additional Information

## 6.1    Using Static TCP/IP Settings on the PC (if necessary)

When possible, use the automatic IP setting feature (DHCP enabled). Use static IP addressing when a fixed IP address is needed. The following steps might be necessary for your installation.

Windows 2000 or Windows XP

1.  Connect the PC cable to an unused LAN port on the Wiser Home Controller. Apply power to the router and allow it to initialise.

2.  Click Start; click Settings and then click Control Panel.

3.  Double-click the Network Connection icon.

4.  Right-click the Local Area Connection icon and then click Properties. The Local Area Connection Properties window appears.
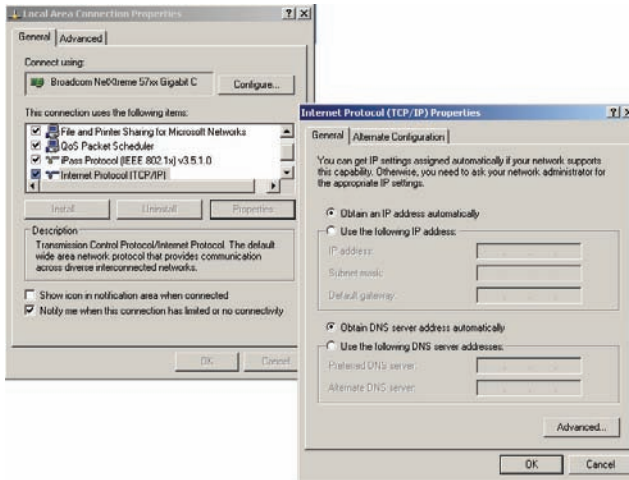


5.  Under the General configuration tab, locate and select TCP/IP with the corresponding network card, and then click Properties. The Internet Protocol (TCP/IP) Properties window appears.

6.  Click Use the following IP Address and enter:

>    IP Address:          192.168.2.10      (see Note )
>    Subnet Mask:       255.255.255.0
>    Default Gateway:  192.168.2.1

**Note:**  Provide a unique address that does not conflict with any other device on the LAN.

7. Now your PC is ready to access and configure the Wiser Home Controller's router.

Windows VISTA

1. Connect the PC cable to an unused LAN port on the Wiser Home Controller. Apply power to the router and allow it to initialise.

2. Click Start, Control Panel, and then Network and Internet: Manage network connections.

3. Right-click the Local Area Connection icon and then click Properties. The Local Area Connection Properties window appears.

4. Under the Networking configuration tab, locate and select Internet Protocol Version 4 (TCP/IPv4) with the corresponding network card and then click Properties. The Internet Protocol (TCP/IP) Properties window appears.

5. Click Use the following IP Address and enter:

> IP Address: 192.168.2.10
>
> Subnet Mask: 255.255.255.0
>
> Default Gateway: 192.168.2.1

Note 1: Provide a unique address that does not conflict with any other device on the LAN.
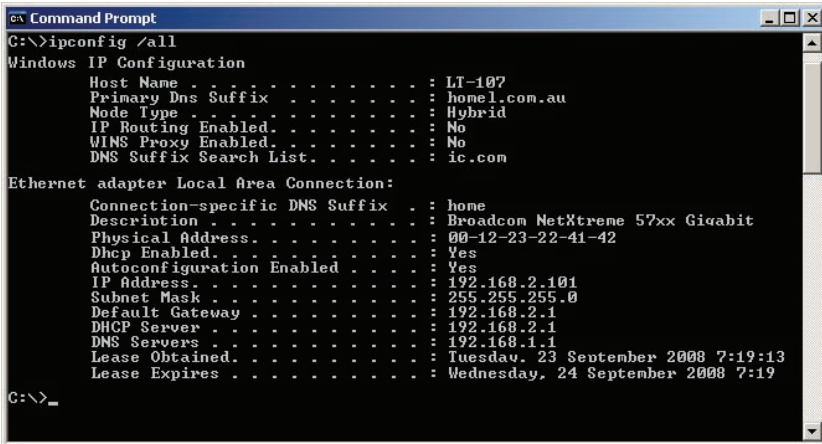
6. Now your PC is ready to access and configure the Wiser Home Controller.

## 6.2    Useful DOS Command Prompt Programs

The two DOS programs illustrated here use command lines. These programs can be useful to diagnose some connectivity problems and gather information about IP addresses. Go to Start/Run and then type:

cmd.exe   then click OK   then type:  ipconfig /all   and press Enter

ping *<ip address>*     and then press Enter

In the example below, the PC is using an automatically assigned address of 192.168.2.101. The default gateway is the customer's modem/router. Note that the wireless LAN is not shown in this example.
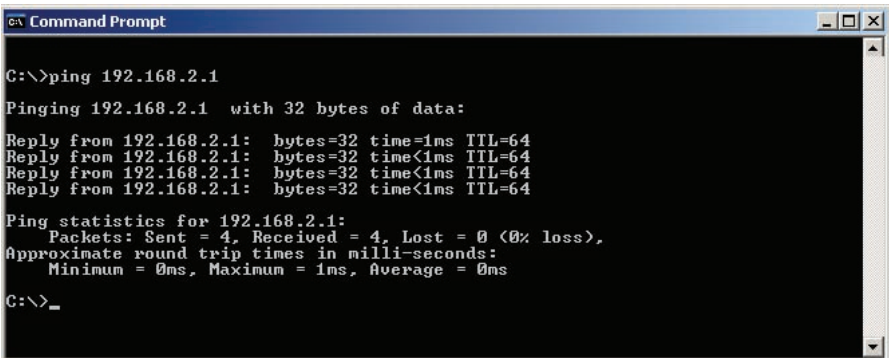
```
Command Prompt                                                        _ □ ×
C:\>ipconfig /all
Windows IP Configuration
        Host Name . . . . . . . . . . . . : LT-107
        Primary Dns Suffix . . . . . . . : home1.com.au
        Node Type . . . . . . . . . . . . : Hybrid
        IP Routing Enabled. . . . . . . . : No
        WINS Proxy Enabled. . . . . . . . : No
        DNS Suffix Search List. . . . . . : ic.com
Ethernet adapter Local Area Connection:
        Connection-specific DNS Suffix  . : home
        Description . . . . . . . . . . . : Broadcom NetXtreme 57xx Gigabit
        Physical Address. . . . . . . . . : 00-12-23-22-41-42
        Dhcp Enabled. . . . . . . . . . . : Yes
        Autoconfiguration Enabled . . . . : Yes
        IP Address. . . . . . . . . . . . : 192.168.2.101
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 192.168.2.1
        DHCP Server . . . . . . . . . . . : 192.168.2.1
        DNS Servers . . . . . . . . . . . : 192.168.1.1
        Lease Obtained. . . . . . . . . . : Tuesday, 23 September 2008 7:19:13
        Lease Expires . . . . . . . . . . : Wednesday, 24 September 2008 7:19
C:\>_
```

The example below shows a successful ping to the Wiser Home Controller unit. You could also ping the customer's modem/router or other units on the network.

```
Command Prompt                                                        _ □ ×
C:\>ping 192.168.2.1

Pinging 192.168.2.1  with 32 bytes of data:

Reply from 192.168.2.1:  bytes=32 time=1ms TTL=64
Reply from 192.168.2.1:  bytes=32 time<1ms TTL=64
Reply from 192.168.2.1:  bytes=32 time<1ms TTL=64
Reply from 192.168.2.1:  bytes=32 time<1ms TTL=64

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>_
```

## 6.3 Frequently Asked Questions (FAQs)

**Q1:** What do I do if I have forgotten my password?
**A1:** The default username is admin. The default password is admin. You cannot change the username on the router. You can only change the password. If you have changed the default password and have forgotten the new one, you must reset the router back to factory defaults.

**Q2:** How do I reset the router back to factory defaults?
**A2:** There are two ways to do this. The first is the physical method of inserting a thin paper clip end into the reset button (recessed in a hole) at the back of the unit. (1) Unplug the power connector, (2) insert the clip apply power and hold the button in for 10 seconds, and then (3) remove the clip and wait 30 seconds. The second method is to open the router Setup page (you must know the current user name and password) go to the Administration page and select Factory Defaults. Confirm the selection. Using either method, the router automatically reboots.

**Q3:** How do I apply the latest firmware release?
**A3:** Clipsal recommends using the Transfer Utility because it is less prone to disruption during the data transfer than other methods. Whenever you transfer a project in PICED using the transfer function, the software checks the firmware version with the version on your PC. The latest firmware is automatically updated in the Wiser Home Controller's router.

**Q4:** How can I report any problems?
**A4:** There are several methods:
Phone Technical Support:    See the last page of this instruction
E-mail Technical Support:    See the last page of this instruction
Use the C-Bus forum:         http://www.cbusforums.com/forums/

**Q5:** What details does Clipsal require to identify, isolate and solve a bug that I have found?
**A5:** A detailed bug report is always greatly appreciated and may possibly earn you eternal gratitude from the developers. We encourage users to use the "backup configurations" tool in the router's web user interface (under Administration->Management tab) to generate a config.bin file that will allow us to have exactly the same setup/configuration that you have used on your router. Further, you can also attach the PICED project archive that you used. These two items are valuable to us in diagnosing and working on solving a particular problem. Additional information pertinent to the issue or failure mode you have observed or identified is also essential. For example, if filing a bug about an unexpected mode of behaviour with the GUI affecting C-Bus, it is valuable to record the sequence of steps that you performed.

**Q6:** What are the meanings of the icons at the top right of the graphical user interface?
**A6:** See the following paragraphs.

This icon reflects the state and stability of the graphical user interface's connection to the router. For example, if you see it going red, this means that it is no longer connected to the router. This can happen for many reasons. Typically, this happens when using the web UI over Wi-Fi and the Wi-Fi is going out of range. It will automatically restore itself to green when it has successfully re-established the connection. Clicking on the icon will provide more detailed information such as "attempted reconnects, watchdog counter, keep-alive signals, and successful reconnections". These will be helpful to report if you encountered any unexpected behaviour.

The envelope icon reflects the status of a POP3 mailbox if one has been configured in the project. It will report how many emails are in the mailbox and the From/Subject lines of up to the first 5 messages.

The C-Bus logo with a red slash across it means that the web UI does not have C-Bus connectivity.

The wrench logo means that the web UI is currently in CNI mode meaning that the device is being used as a CNI and thus the web UI will not function until the CNI mode is disconnected. Once CNI mode is disconnected, the icon will disappear and the GUI can be used like normal.

The toolbox icon (screwdriver and wrench) shows a page with Toolkit Remote Enable, Projector Control Enable and Project Update Enable (see below).

**Q7:** What do Toolkit Remote Enable, Projector Control Enable and Project Update Enable mean?
**A7:** **Toolkit Remote Enable** allows the device to be used as a CNI over the Internet. This means that anyone on the Internet, if they knew the Internet address of your device, can connect on port 10001 and perform C-Bus tasks. Disabling closes this port. The port is closed by default. This feature is intended to allow installers to use C-Bus Toolkit to manage a C-Bus network remotely when they need to. IT IS IMPORTANT TO MAKE SURE TO CLOSE THE PORT AFTER USE. LEAVING IT OPEN ALLOWS ANYONE TO MANIPULATE YOUR C-BUS NETWORK.

**Projector Control Enable** allows the web user interface to function even when run remotely over the Internet. This feature is intended to allow an end-user or installer to interact with their C-Bus network even when outside of their home or premise.

**Project Update Enable** allows a PICED project to be uploaded to the device over the Internet. This means that anyone on the Internet, if they knew the Internet address of your device, can connect to the device and transfer a project to the unit and/or retrieve a project from the unit. It is important to make sure to close the port after usage as leaving it open will allow anyone to manipulate your C-Bus network.

**Q8:** Can I transfer a PICED project from the router to my PC using the project that I previously loaded on to a router?
**A8:** Yes, you can transfer a project from the PC to the Wiser Home Controller and transfer a loaded program back to the PC.

**Q9:** How do I set up Port Forwarding on my Wiser Home Controller?
**A9:** The screen below is a representation of how your modem /router (Not the Wiser unit) should be configured to support access to the Wiser Home Controller from the Internet.

**Virtual Server (Port Forwarding)**

| Add Virtual Server ▶ | | Edit DMZ Host ▶ | | | Edit One-to-one NAT ▶ | | |

**Virtual Server Table**

| Application | Time Schedule | Protocol | External Port | Redirect Port | IP Address | | |
|---|---|---|---|---|---|---|---|
| ECHO1 | Always On | tcp | 8080 - 8080 | 8080 - 8080 | 10.176.148.17 | Edit ▶ | Delete ▶ |
| ECHO2 | Always On | tcp | 8888 - 8889 | 8888 - 8889 | 10.176.148.17 | Edit ▶ | Delete ▶ |
| CBUS | Always On | tcp | 14000 - 14000 | 14000 - 14000 | 10.176.148.17 | Edit ▶ | Delete ▶ |
| CTCT | Always On | tcp | 8336 - 8337 | 8336 - 8337 | 10.176.148.17 | Edit ▶ | Delete ▶ |
| ECHOROUTE | Always On | tcp | 80 - 80 | 8080 - 8080 | 10.176.148.17 | Edit ▶ | Delete ▶ |

**Note**: This setup is only applicable if you are connecting the Wiser Home Controller behind your Modem/Router. It does not apply if you are using you're a bridged Modem or have configured your modem/router to work as a bridged modem.

**Q10:** How do I use the port definitions built into the Wiser Home Controller?
**A10:** To use the Port Definitions refer to the table and the notes that follow: See Note 1 Wiser Home Controller Wan IP

| Application ID | Protocol | Ext Port | Int Port | Port Function |
|---|---|---|---|---|
| ECHO1 | TCP | 8080 | 8080 | Port 8080 is the default port used for connecting to the web server of the Wiser Home Controller, When enabled the Wiser Home Controller UI can then be reached at http://<your URL or External IP>:8080/ You will be required to authenticate with a username and password to gain access. |
| ECHO2 | TCP | 8888 & 8889 | 8888 & 8889 | Ports 8888 to 8889 are used for the command interface between your web application or projector application and Wiser Home Controller. If these ports are not open or are being blocked by your internet service provider then control from the User interface will not be possible. |
| CBUS | TCP | 14000 | 14000 | Port 10001 is the default port for the CNI currently being used in the field trials. This port is only required if you wish to obtain programming access from toolkit to C-Bus, Refer to Note 2 for more details |
| CTCT | TCP | 8336 & 8337 | 8336 & 8337 | Ports 8336 and 8337 are used in the project transfer process to transfer a Project from PICED to the Wiser Home Controller remotely |
| ECHOROUTE | TCP | 80 | 8080 | Optional Feature. If your Modem/Router support port mapping and you are not using Port 80 for any other external services you may use this mapping so you are not required to enter the port address in your URL to remotely connect, at http://<your URL or External IP> |

**Note 1**. To maintain and ongoing connection to your Wiser Home Controller you should use either a Fixed IP address for the WAN interface of the Wiser Home Controller or Alternately setup your Modem/Router to always provide the same IP Address to the Wiser Home Controller Unit (refer to your modem/router manual for further details on how to do this)

**Note 2**. The CNI Port is configurable; the default port address is 10001 (to match toolkit defaults). If the Port address is change from the default it must also be changed in your Wiser Home Controller Project and downloaded to the Wiser Home Controller, the new port number will also need to be used in your port forwarding rules of your modem/router. (Refer to Figure 3 for details on enabling the remote access to your CNI from within the Wiser Home Controller.

## 6.4    Release Notes

Functional product issues listed here are sorted into two main categories. The first category is "Router Issues" and the second is "C-Bus/GUI Issues". Router issues refer to anything to do with the routing/network related functionality of the device. C-Bus/GUI issues refer to anything to do with the C-Bus related functionality of the device.

Router Issues

1. During setup, the web user interface requires save-and-reboot steps that make setting up somewhat time consuming.

2. The firmware upgrade screen sometimes does not return to the web user interface and appears to be stuck. However, returning to the main page shows that the router has upgraded itself.

3. Setting the date and time requires an Internet connection or an external device that provides the time and date.

4. If the unit is not connected to the Internet and has no time source, the router unit starts up with a date of 01-01-1970.

5. If the router hangs or locks-up during normal operation. You are no longer able to ping the router or access the GUI or access the router's web user interface. To fix this problem, remove and reconnect the power connector.

6. The router's port forwarding management page does not let you specify a destination port. The router only allows port forwarding but not port mapping. So an internal device such as a camera that you want to forward must be configured to have an identical destination port.

C-Bus and Graphical User Interface Issues

1. In simulation mode, if there is no connection to the Wiser unit, an error message will be displayed.

2. To transfer a project to a router remotely from Internet, use the 'search by IP' function of the transfer client and enter the external IP address of the router.

   If you are using a dynamic naming service such as dyndns.org, you can use 'nslookup name' or 'ping name' to get the IP address that can be entered in the 'search by IP' dialog box. Please note that connections over the Internet can be less stable and if disconnected

during a transfer, you will need to retry the process. Also the modem must be in bridge mode to use dyn DNS.

3. Search for Wiser Home Controller using the transfer client fails when running on Windows Vista. The workaround is to use the search by IP functionality.

4. Slow boot up depending on utilized functionality. If the router is configured to use DHCP to retrieve its IP address, boot up can sometimes take longer than expected.

5. Secured POP3 Mail POP3 mail servers that require Encryption such as TLS/SSL are not supported.

# 7.0    Terms

**Busbar**   A passive connector for Ethernet and power connections to the Wiser Home Controller and CNI.

**CNI**   C-Bus Network Interface. The CNI handles Ethernet to C-Bus communication and provides electrical isolation between the networks.

**Customer's modem**   The hardware component connecting the Wiser Home Controller to the Internet.

**Default gateway**   A network node, for example a router, that serves as an access point to another network.

**DHCP**   Dynamic Host Configuration Protocol. A protocol that assigns IP addresses to client stations on a network at startup.

**DNS**   A network server that resolves Internet Protocol (IP) numeric addresses from domain names and puts them in a readable form.

**Wiser Home Controller**   The router and CNI unit that provides the connection from the customer's equipment to C-Bus and IP devices.

**ipconfig.exe**   A program used to identify the IP connections on a computer. The program is normally run from a DOS command prompt.

**LAN**   Local Area Network is restricted to a small area such as a home.

**Ping**   A ping command sends packets of data to a defined IP address and then monitors and reports the returned data. This is useful for testing two-way communication between points on a network.

**RSS feed**   A web link that follows the RSS (Really Simple Syndication) specification to access a location that provides frequently updated information, such as news.

**TCP/IP**   Transaction Control Protocol/Internet Protocol. This protocol uses unique IP addresses to identify devices on the LAN.

**WAN**   Wide Area Network. The data communications network that links the customer to the Internet.

**WPA**   WiFi Protected Access, a modern form of encryption for wireless data. It lacks the vulnerabilities that WEP had,

**MAC**   Media Access Control is a unique address built into Ethernet hardware devices.

**WEP**   Wired Equivalent Privacy is a form of wireless data encryption using a 64-bit or 128-bit shared key algorithm.

# 8.0    Product Specifications

| Parameter | Description or value |
|---|---|
| Power Source | Wiser Home Controller's router: AC power pack |
| | Inline C-Bus Network Interface: AC power pack through busbar for Ethernet; C-Bus side is powered by the C-Bus network |
| Mounting location | Wall mounted with two keyhole openings |
| | Must be installed indoors |
| Minimum distance to operator | 20 cm from nearest antenna |
| Mounting screw spacing | 95.5 mm between centres |
| Operating ambient temperature | 0−45 degrees C (32−113 degrees F) |
| Operating relative humidity | 10% to 90%, non-condensing |
| Types of electrical connection<br><br><br>(Suitable for copper or aluminium conductors) | Disconnectable d.c. power supply jack on the busbar<br>1 x 3 mm centre positive |
| | Disconnectable WAN connector on busbar<br>1 x RJ-45 plug |
| | Disconnectable LAN connectors on router<br>3 x RJ-45 plug |
| | Fixed aux (C-Bus) terminal for<br>2 x 2.5 mm; for twisted pairs;<br>with strain relief post |
| Ethernet WAN protocol | TCP/IP |
| Recommended Internet browsers | Internet Explorer or Mozilla Firefox |

# 9.0 Standards Complied

## *Declarations of Conformity*

Changes or modifications not expressly approved by Clipsal could void the user's authority to operate the equipment.

### *Australian/New Zealand EMC & Electrical Safety Frameworks and Standards*

The Wiser Home Controller complies with the following:

| Regulation | Standard | Title |
|---|---|---|
| Radio Communications | AS/NZS 4268 | Radio Equipment and Systems -- Short Range Devices |
| EMC | AS/NZS CISPR22 | Information Technology Equipment -- RF emissions |

### *European Council Directives and Standards*

The Wiser Home Controller complies with the following:

CE

| Directive | Standard | Title |
|---|---|---|
| EMC Directive 2004/108/EC | CISPR 22, EN 55022 | Information Technology Equipment -- RF emissions |
| | CISPR 24, EN 55024 | Information Technology Equipment -- Immunity |
| R&TTE Directive 1995/5/EC | ETSI EN 300 328 | Electromagnetic compatibility and Radio Spectrum Matters--DTE 2.4 GHz band, wideband modulation |
| | ETSI EN 301 489-1 | Electromagnetic compatibility--electronic subassemblies |
| | ETSI EN 301 489-17 | Electromagnetic compatibility and Radio Spectrum Matters--wideband and HIPERLAN equipment |
| | EN 50385 | Radio base stations and fixed terminal stations for wireless telecommunications-- Human exposure to RF electromagnetic fields |
| Low Voltage Directive 73/23/EEC | EN 60950-1 EN 60950-1/A11 | Product safety--IT and TTE equipment |

| | | |
|---|---|---|
| RoHS Directive 2002/95/EC | | Restriction of Hazardous Substances |

**US FCC Regulations**

The Wiser Home Controller complies with the following:

| Regulation | Title |
|---|---|
| FCC Part 15, Subpart B | Radio Frequency Devices |

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this device that are not expressly approved by Clipsal Australia Pty Ltd, a member of Schneider Electric, could void the user's authority to operate the equipment.

***********

If you are using the Wiser Home Controller's wireless LAN, do not place the router within 20 cm of the operator. This is a personal health and safety requirement.

**CAUTION**

# 10.0  GNU General Public Licence

Some software components included in the Wiser Home Controller are provided under a general public license.

GNU GENERAL PUBLIC LICENSE Version 2, June 1991

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Preamble

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# 11.0  Two-Year Warranty

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