CCU3/C-4100

Part #: CCU3-C4-4100

Installation and Configuration Manual

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1. General

1.1. Introduction

The CCU3/C-4100 provides an interface from a network of Simplex 4100, 4100A, 4100U and 4020 Fire Indicator Panels via a CCUNet to XLG Client/Server.

The CCU3/C-4100 connects to one of the Simplex panels via the Simplex 4100 interface port. It connects to the Simplex 4100 Interface via RS232.

1.2. Ordering Configurations:

Part Number: CCU3-C4-4100. This configuration is within an aluminium box.
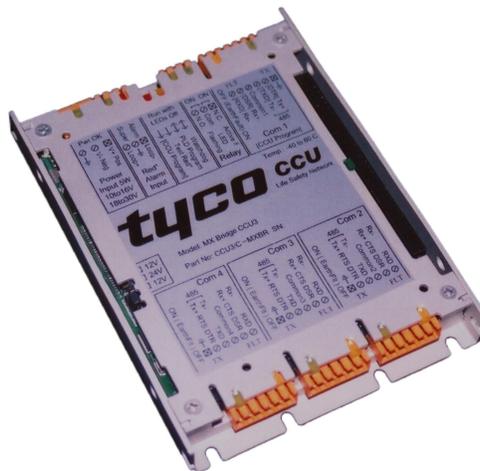
Figure 1:   Model: CCU3/C-4100

2. Before the Installation

This section describes how to physically install the CCU3/C-4100. Please see XL Graphics document Site Configuration for further configuration details.

This equipment is designed for installation and servicing by fully qualified field engineers. There are no user serviceable or installation parts inside.

2.1. Parts Supplied:

1 x   CCU3/C board with firmware for Simplex Interface
1 x   Mounting bracket (part#: CCUBRKT)
4 x   M4 x 6 Screws for fixing CCU3 to bracket
4 x   6-32 UNC x 3/8" Screws for mounting bracket to panel
8 x   Shake proof, external star washers suitable for above UNC
1 x   Power connector (BL5.08 3 way) for CCU3/C
1 x   Supervision relay connector (BL3.5 3 way) for CCU3/C
1 x   Alarm Input connector (BL3.5 3 way) for CCU3/C
4 x   Comport connector (BL3.5 6 way) for CCU3/C
1 x   Complimentary Screwdriver
1 x   Installation and configuration Manual

2.2. You will need:

1 x   24V DC plug pack or Power Source
1 x   Interface cable for Simplex 4100 Interface communication

2.3. Power Requirements:

Typical: 200mA at 24VDC   Voltage Input: 11.5V-16 VDC or 18V to 30V

2.4. Board Layout:

3. Installation

3.1. Mounting
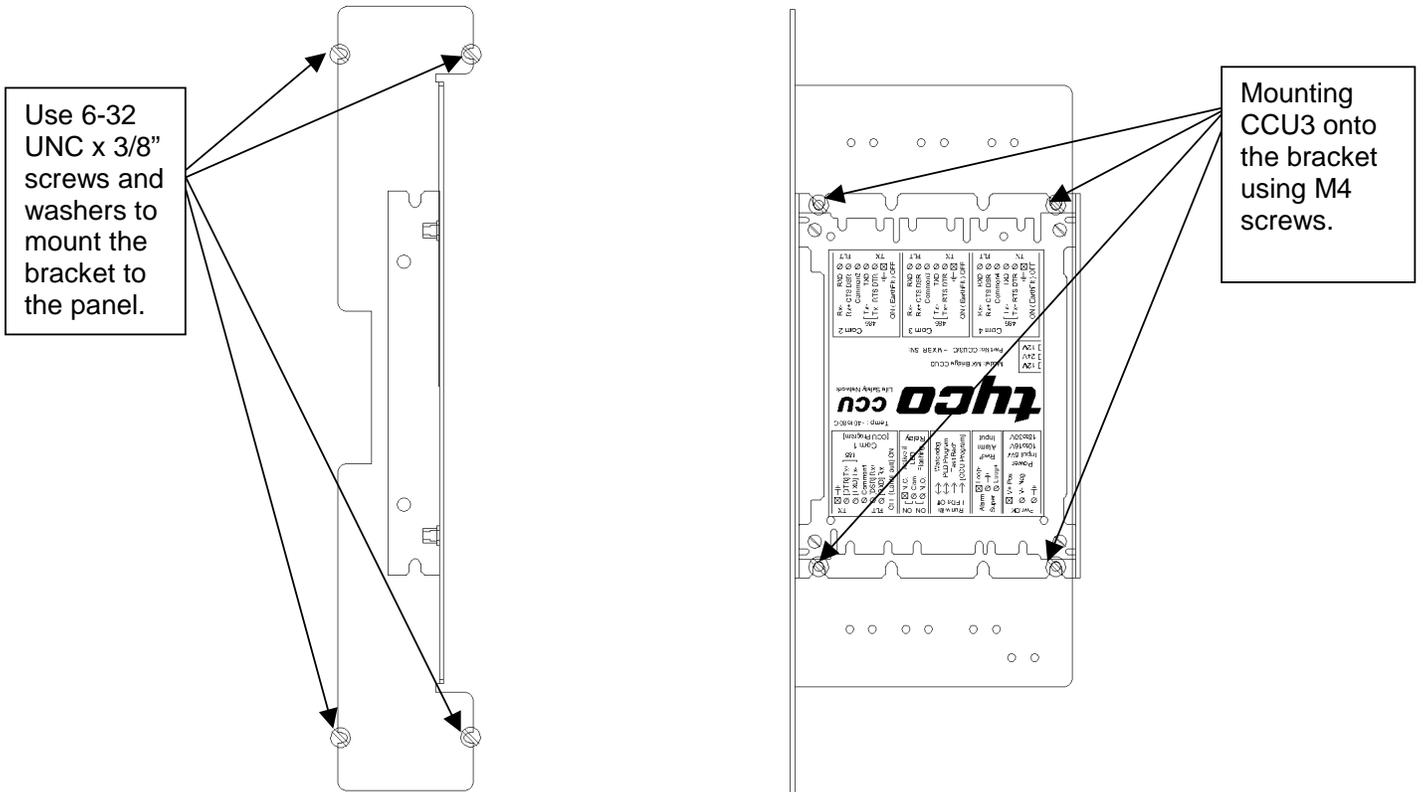
Figure 3: Mounting Bracket

To mount the CCU3/C to the bracket, use M4 screws provided. The power plug side should point downwards. The small holes on the brackets are for cable management.

To mount the bracket to the panel, use 6-32 UNC x 3/8" screws and the shake proof external star washers provided.

3.2. SIMPLEX 2120/RS-232 Hardware Installation

XL Graphics connects to a Simplex fire panel via the 2120/RS-232 Interface Card (EPROM part # 740-684 version 2.06).

3.1.1 Installing the 2120/RS-232 Interface Card

The Simplex fire panel to which XL Graphics will connect requires a 2120/RS-232 Interface Card installed. For installation of the 2120/RS-232 interface card please refer to the installation manual for your particular panel type. Figure 4 below is an example diagram of where the card would be located when installed on an American 4100U motherboard type 566-227C.
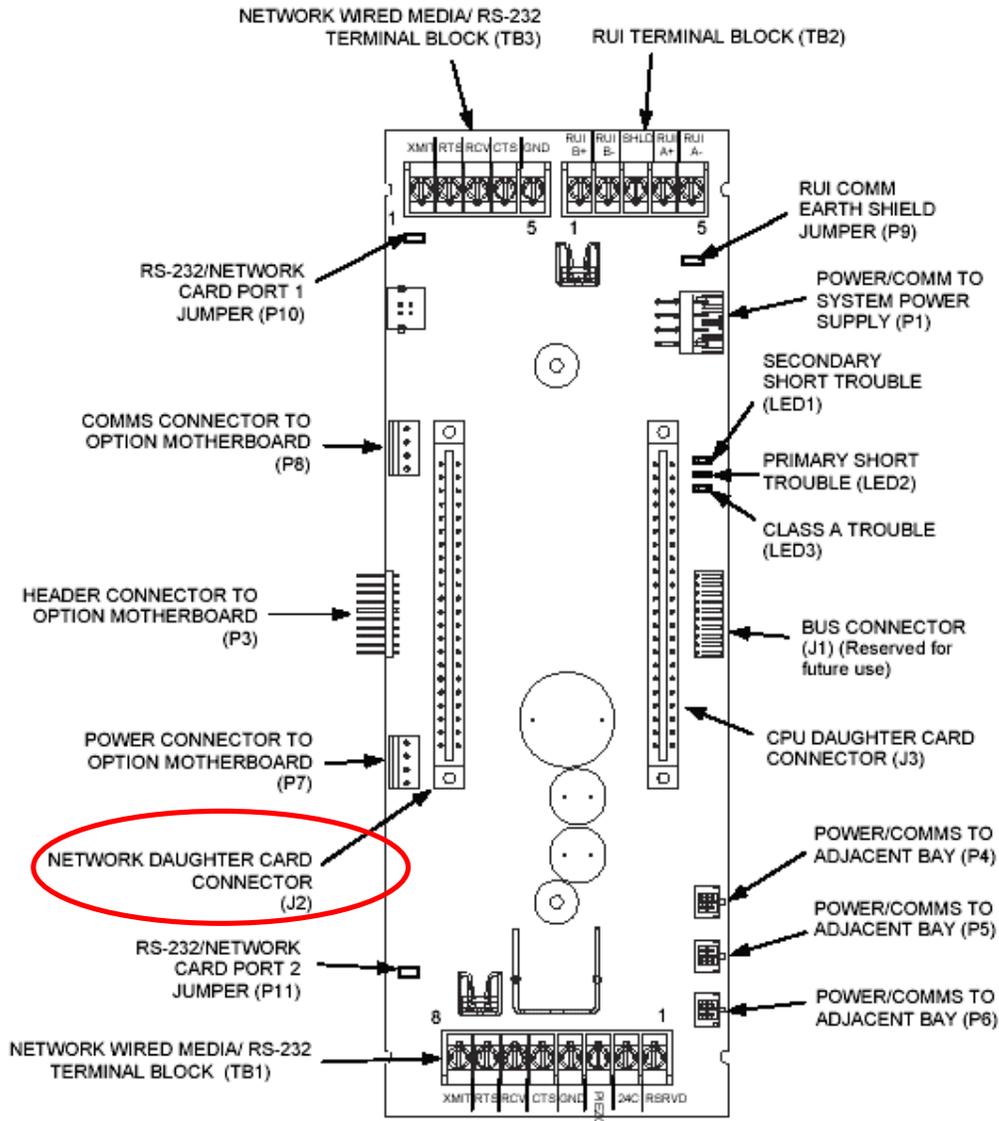
Figure 4. 4100U CPU Motherboard type 566-227C(Network/RS-232 to be installed on left)

Different panels have different motherboards and hence different configurations. For example an Australian CPU motherboard, type 565-274, for a 4100A has a number of identical slots that may house the 2120/RS-232 Interface card. Both TB1 and TB2 (bottom and top) are 8 terminal headers therefore care must be taken when using table 1 to ensure correct connection.

NOTE 1: Ensure the RS-232 card EPROM is part # 740-684 and is version 2.06.

NOTE 2: Either Port A or Port B can be configured for COMPUTER port use. It is recommended that Port B be used as Port A is normally configured for modem use.

NOTE 3: Ensure you have connected the RS-232 cable wires to the correct Terminal Block.

NOTE 4: Ensure that the SUPV jumper on the RS-232 card is set to disabled.

3.2.1. 4100 Programming PC – Windows Configuration

XLG C/S has an inbuilt configuration utility that can import a report file generated by the 4100 programming software. If you are using the DOS based programming software then you may generate a simple text file report that can be used by XLG C/S. If you are using a 4100U Programmer you must install a **Generic - Text Only** printer in windows that **Prints to File**.
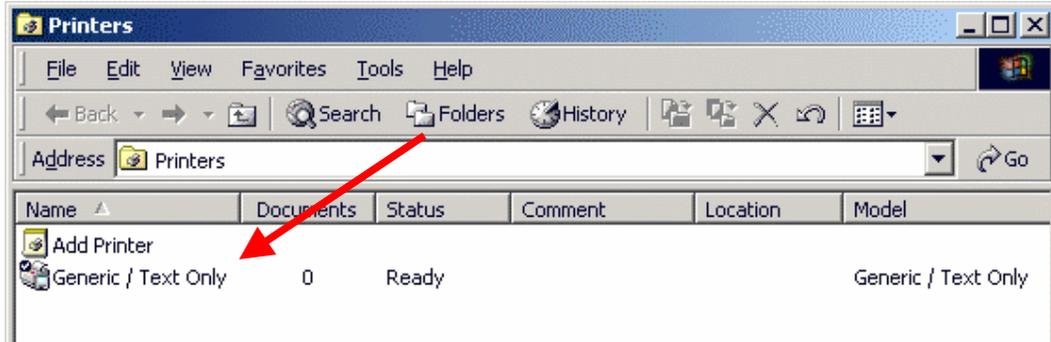
Figure 5. Windows Generic / Text Only Printer installed.

3.2.2. 4100 Programming PC – Software Configuration

In order for the 2120/RS232 Interface to work with XLG C/S there are a number of configuration options that need to be set. You may choose Port A or Port B on the card to connect to XLG C/S. Port A being the terminal block on the top and Port B on the bottom. Figure 6 below shows a project where a panel has the 2120/RS232 Interface card in Box1 - Bay1- Slot1 - Address3.
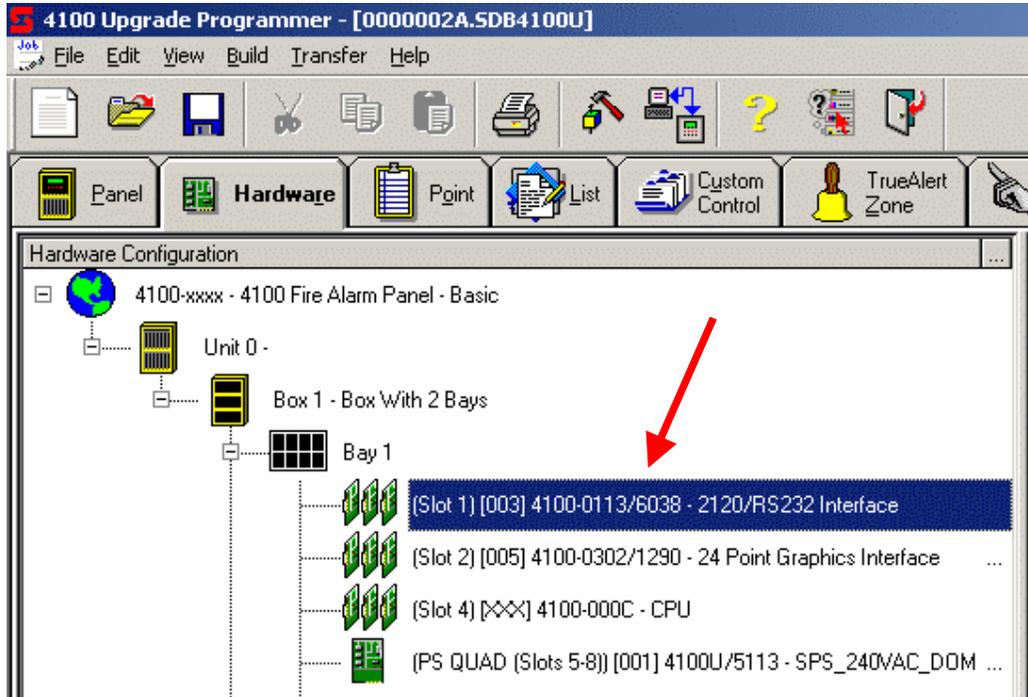
Figure 6. 2120/RS232 Interface Card.

Select the properties for the 2120/RS232 Interface card by right clicking on it and left clicking 'Properties'. Go to the port tab you wish to configure to connect to XLG C/S (PortA or PortB). Use Figure 7 below to set the Communication settings that XLG C/S requires in order to communicate with the panel.
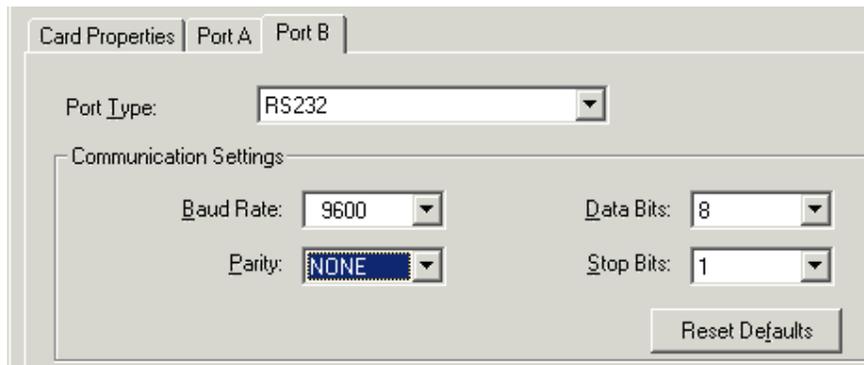
Figure 7. Port Communication parameters.

Once you have done this click on the 'Port Data' button to edit the Ports data configuration.
Ensure that the 'Device Type' in the 'Gen. Info' tab is set to COMPUTER. See Figure 8.
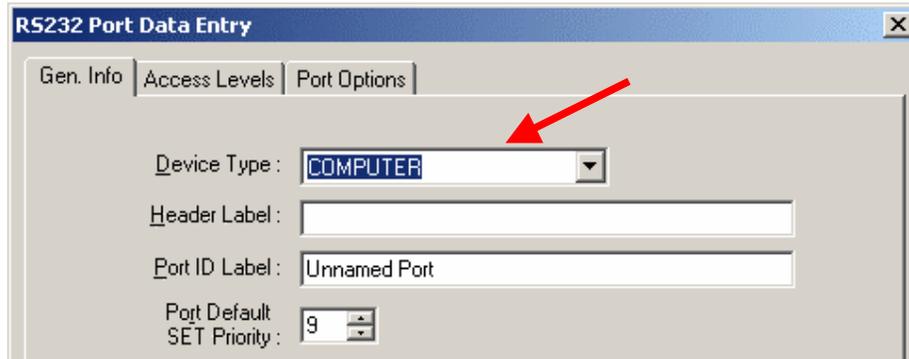
Figure 8. Port Data configuration parameters, Gen.Info.

Also ensure that the 'Address' setting is 'Off' in the 'Port Options' tab. See Figure 9.
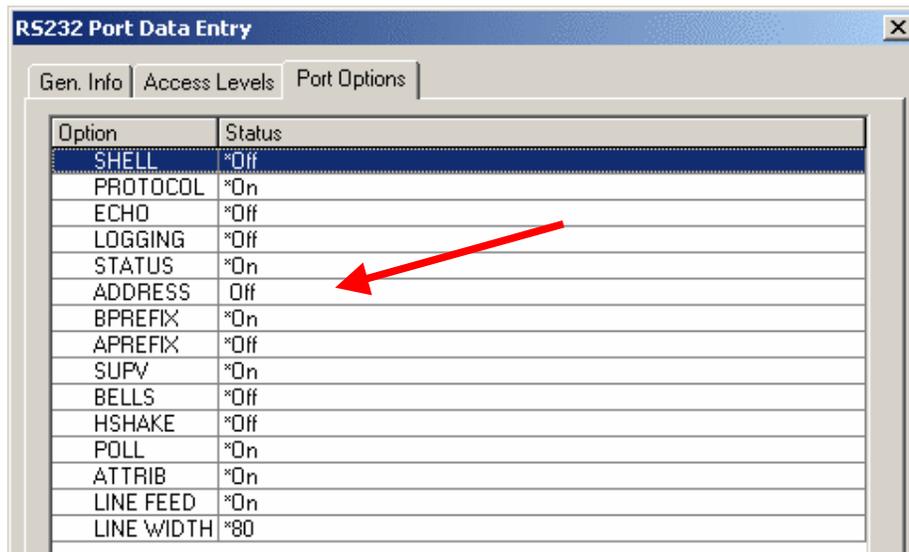
Figure 9. Port Data configuration parameters, Port Options.

This should complete the 2120/RS232 Interface Card configuration.

The next step is to program your panels and verify the configuration is satisfactory. On completion use the report utility in the programmer to generate a 'Card Detail' report.

This report can then be imported into XL Maintenance to automatically add all of the panel's devices to XLG C/S.

3.2.2.1. DOS based Programmer

For a DOS programmer simply generate a text file report.

3.2.2.2. Windows based Programmer

For a windows programmer generate a 'Standard' report using 'Job Configuration' -
> 'Card Detail' and tick all of the cards shown in the window. Select the Generic –
Text Only printer you have installed and enter the file name you wish to save the
report as. For example you could use 'A:\simplex jobs\Job Installation\xlg.txt' if the
PC that has XLG C/S is not the same PC that has the 4100 programming software
(Hence you will need a floppy disk to transfer the file to the XLG C/S PC).
Use the figures below to guide you through the report generation procedure.

Choose the 'Job Configuration' Report Type
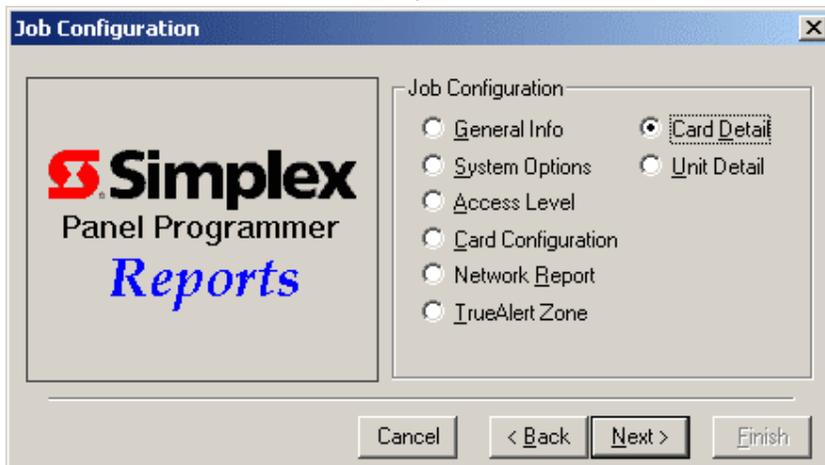
Choose the 'Card Details' option from the Job Configuration report.
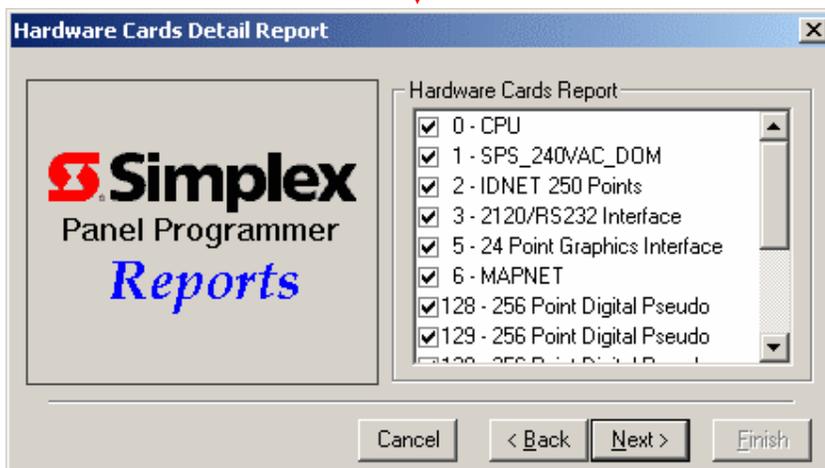
Tick all cards that are in the list
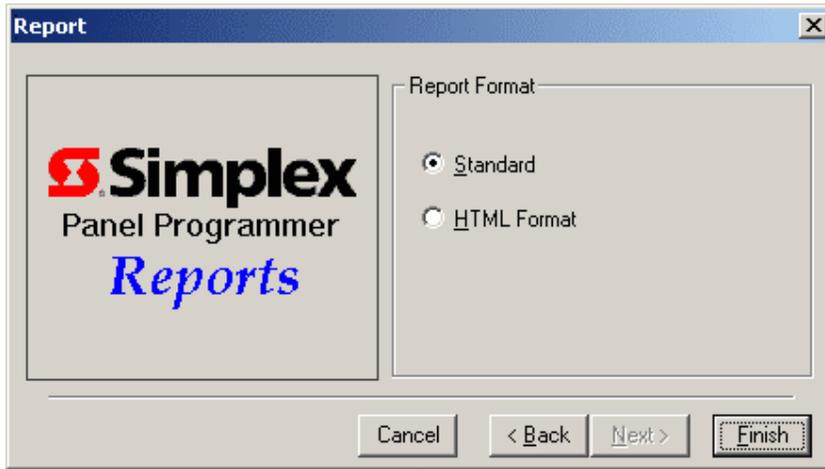
Choose the 'Standard' Report format. This will generate a print document for preview.

Report ⊠

Report Format

- ⦿ Standard
- ○ HTML Format

[Cancel] [< Back] [Next >] [Finish]
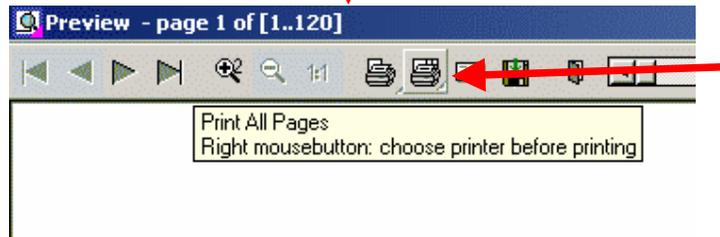
Right click the 'Print All Pages' button on the toolbar. This will allow you to select the Generic – Text Only printer to print to file.

Preview - page 1 of [1..120]

Print All Pages
Right mousebutton: choose printer before printing

If you have correctly installed the Generic – Text Only printer to print to file then you should see this window. Enter the full path that you wish to save the file to. For example 'a:\ simplex jobs\Job Installation\xlg.txt'.

Print to File ? ⊠

Output File Name:

[ ] [OK] [Cancel]

3.3. Connecting the CCU3/C-4100

Com 1 on the CCU3/C-4100 connects to the 4100 Control/Display Panel on the Simplex Panel.

Com 2 and Com 3 are CCUNet ports (RS422). They may be used together or separately to connect to the CCUNet.
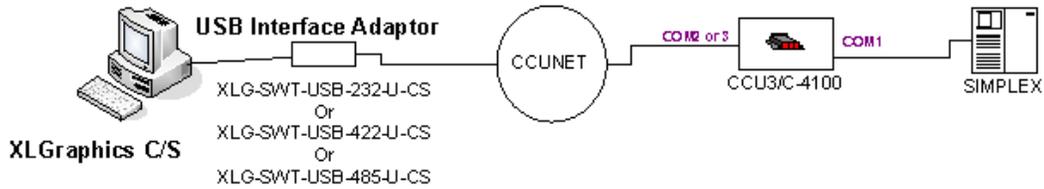
Figure 10: CCUNET Configuration
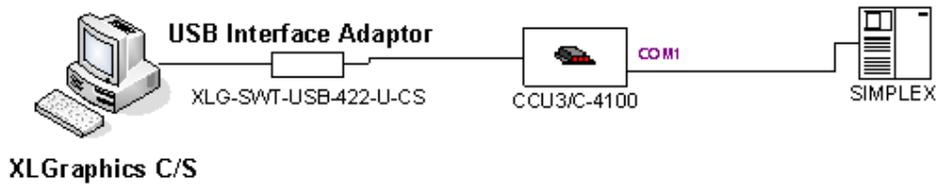
Figure 11: Direct to PC Configuration

3.4. Cable Pinouts

3.4.1. CCU3/C-4100 to the Simplex Panel:

To connect a CCU3/C-4100 to a Simplex Panel use the following table.

4020/4100 Host						Cable	CCU3/C-4100 Com 1	
4020		4100			Signal		Signal	Pin
Port A TB1	Port B TB1	Port A TB1	Port B TB2	DB25 Pin				
1	6	8	1	2	TXD	⟶	RXD	6
3	8	6	3	3	RXD	⟵	TXD	3
2	7	7	2	4	RTS	⟶	CTS	5
4	9	5	4	5	CTS	⟵*⟵	RTS	2
5	10	4	5	7	GND	⟶	GND	4

Table1.
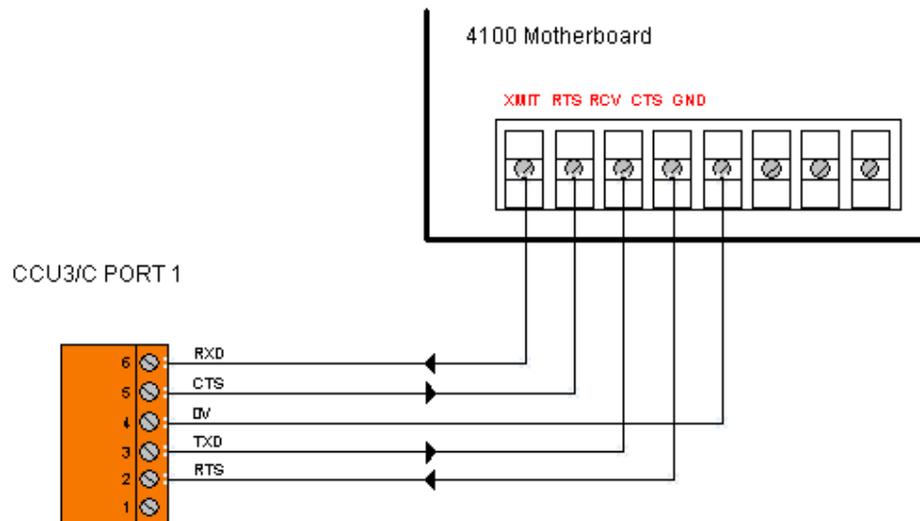
Figure 12: Connection of CCU3/C-4100 to Terminals on the 4100 Motherboard.

3.4.2. CCU3/C-4100 to the CCUNet:

There are 2 ports that communicate using the CCUNet protocol (Com 2 and Com 3). These ports are configured for RS422 operation. Pin 1, the Earth pin, may be used to connect the shield on a shielded cable. Pin 4, the 0V pin may be required in very (electrically) noisy environments to shield cable pairs, especially if the cable is run over long distances. For long runs a 100 Ohm terminating resistor should be connected between RX+ and RX-. Refer to Appendix B for the detailed cabling information.

CCU3/C 6PIN	CCU3/C 6PIN
6	3
5	2
4 (optional)	4 (optional)
3	5
2	6
1 (optional)	1 (optional)

Table2.   RS422 Cable Pinouts.
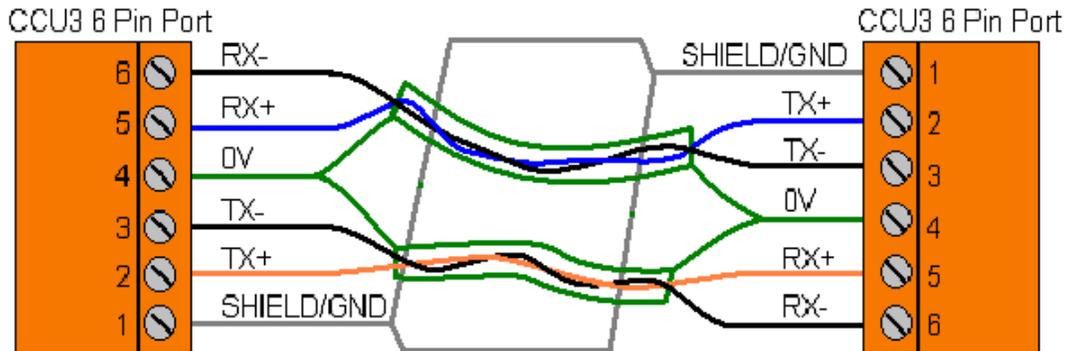
Figure 13. RS422 Cables

3.4.3. CCU3/C-4100 to 422 USB Interface Adaptor

To connect the CCU3/C-4100 to the PC, you will require an XLGraphics 422 USB interface adaptor. (Part number: XLG-SWT-USB-422-U-CS)

The pinout is shown below.

CCU3/C 6PIN	USB Interface Adaptor 6PIN
1 Earth (Optional)	1 Earth (Optional)
5 Rx+	2 Tx+
6 Rx-	3 Tx-
4 Common (Optional)	4 0V (Optional)
2 Tx+	5 Rx+
3 Tx-	6 Rx-

Table 3

3.4.4. Connecting the CCU3/C-4100 to Power

Connect the 24V DC power source to the supplied connector. The power connector is easily identified as the largest 3-way plug.

These connections are written on the top of the unit.

Pin number	Function
V+	24V
V-	COM
⏚	Earth

Table 4

3.4.5. Earth Connection

For correct installation and protection of the CCU3/C device the CCU3 must be mounted on an earthed metal plate. This is important for correctly dissipating any static discharge on the communication lines (as caused by an electrical storm) and thereby preventing damage to this unit.

The Earth Flt Switch must be in the ON position for COM1, COM2 and COM3 for earth fault to be reported to XLGraphics.
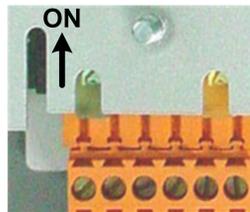
4. Operation

4.1. Operation of LEDs

Each port has a Green and a Yellow LED. The green led flashes when data is transmitted on the corresponding port. The yellow LED glows when there has been supervision failure on the port or it is unable to make a connection. If a port has been disabled in the software then neither LED will glow.

Port 1 (Simplex 4100 Interface RS232 port):
- Green LED Flashes to indicate Data Transmission.
- Yellow LED indicates Supervision failure.
  - o Supervision failure if the corresponding device (001) on the local module (017) is not disabled.
  - o Ground Fault if the corresponding device (005) on the local module (017) is not disabled.

Port 2 (connected to CCUNet):
- Green LED Flashes to indicate Data Transmission.
- Yellow LED indicates
  - o Supervision failure if the corresponding device (002) on the local module (017) is not disabled.
  - o Ground Fault if the corresponding device (006) on the local module (017) is not disabled.

Port 3 (connected to CCUNet):
- Green LED Flashes to indicate Data Transmission.
- Yellow LED indicates
  - o Supervision failure if the corresponding device (003) on the local module (017) is not disabled.
  - o Ground Fault if the corresponding device (007) on the local module (017) is not disabled.

Port 4 (Unused port):
- Green LED off.
- Yellow LED off.

4.2. Supervision Relay

The CCU3/C-4100 will supervise the Simplex 4100 Interface connection. In the event of supervision failure of the Simplex 4100 Interface or any CCUNet port that doesn't have it's corresponding device disabled (017-002, 017-003), the relay on the CCU3/C-4100 will operate. This can optionally be connected to an input on the Simplex for annunciation of Simplex 4100 Interface fault.

5. Configuring the CCU3/C-4100

Once the installation is done, you need to run CCUNET program to set up the address. Note that CCUNET program should not be run simultaneously with XLG C/S. Please refer to XLG CS Software Installation manual for installing the CCUNET program (V4.45 or later).

First, you need to set up the comport. Go to Setup, select Coms. Ccu-Net Enabled and High Speed Mode should be ticked. Choose the correct comport from the Port section on the right.

Our CCUNET Address is for the CCUNET program itself. It should be set to an address that is NOT the same as any of the CCUs in the CCUNET.

Press Apply to store the changes.
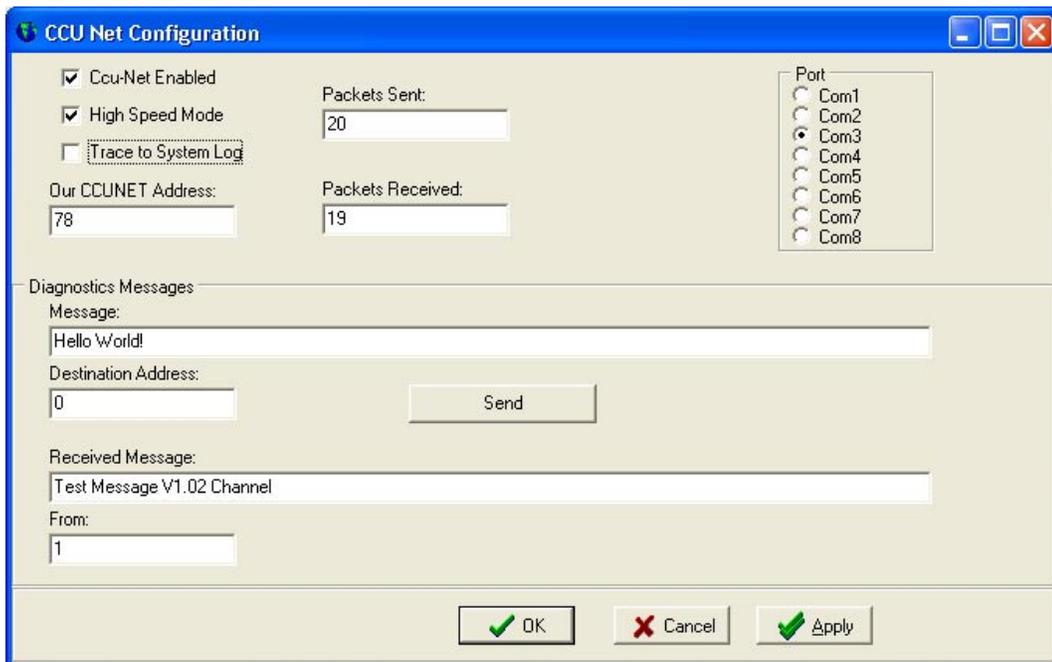
Figure 14.   Setup page

Packets Sent and Packets Received indicate there are valid messages going out and coming in, which means the communication between the CCUNET and CCUs are operating correctly.

You can send messages to one or more CCUs by pressing Send button. If the destination address is 0, it broadcasts the test message to all the CCUs on the net. You can type a certain CCU address in the destination address in order to check the communication to that CCU. If the communication is ok, you should see received messages.

The Received Message area shows the latest received packet only and the address from which that message is received.

5.1. Changing the Address
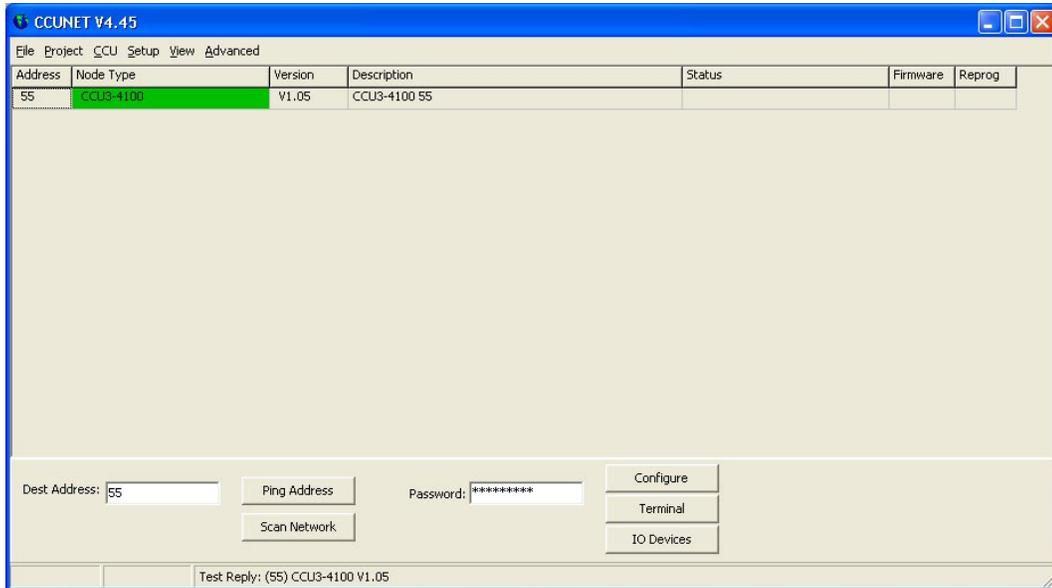
Figure 15.   CCUNET

The first time you press the Ping Address button, you will see a CCU3-4100 with the address 99. Address 99 is the default factory address. To change the address of the CCU, click on the CCU and press the "Configure" button.
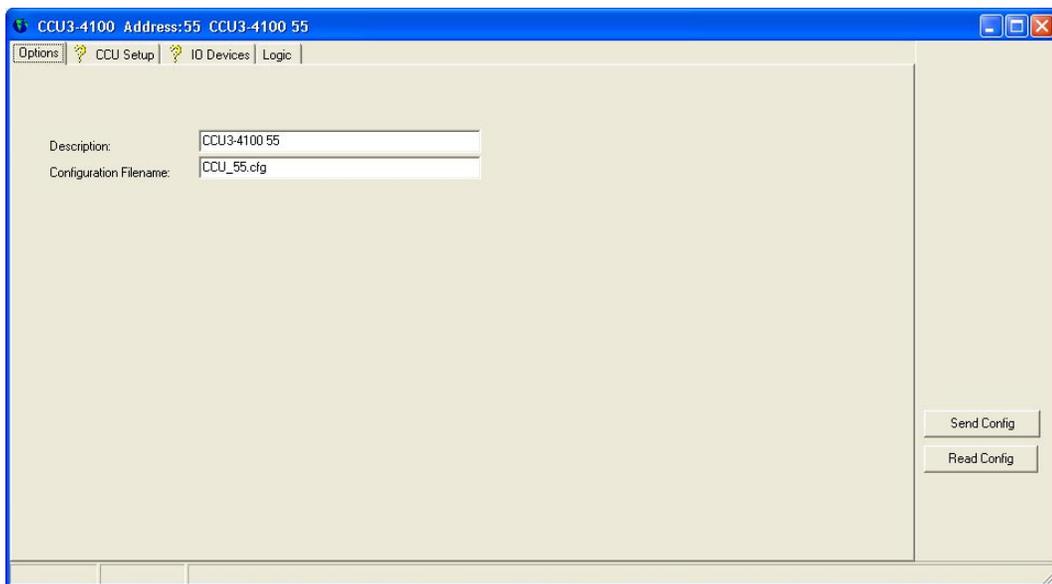
Figure 16.   Configure

Go to the CCU Setup tab.
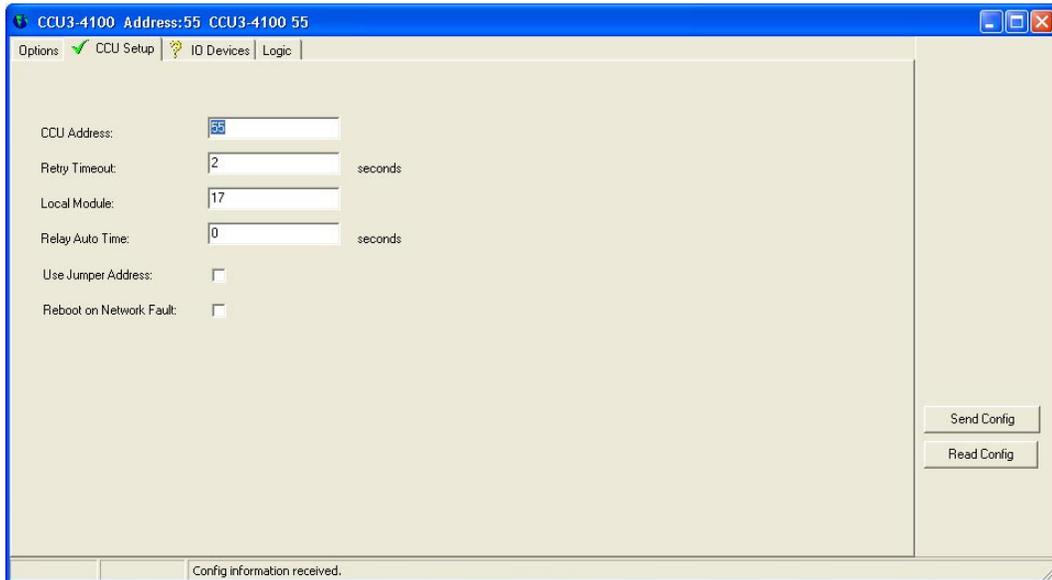
Figure 17.   CCU Setup

Change the CCU Address. Then press the "Send Config" button. Please remember that the Local Module is set to "17". It is a factory setting. Do not change this value, unless a fire panel you are connecting to is address 17. After changing the address, you will need to close the configuration page and re-scan the network as the CCU will no longer respond to configuration commands sent to the old address.

⁎⁎ Use Jumper Address and Reboot on Network Fault are options for CCU1s, not for CCU3s.

5.2.   IO Devices
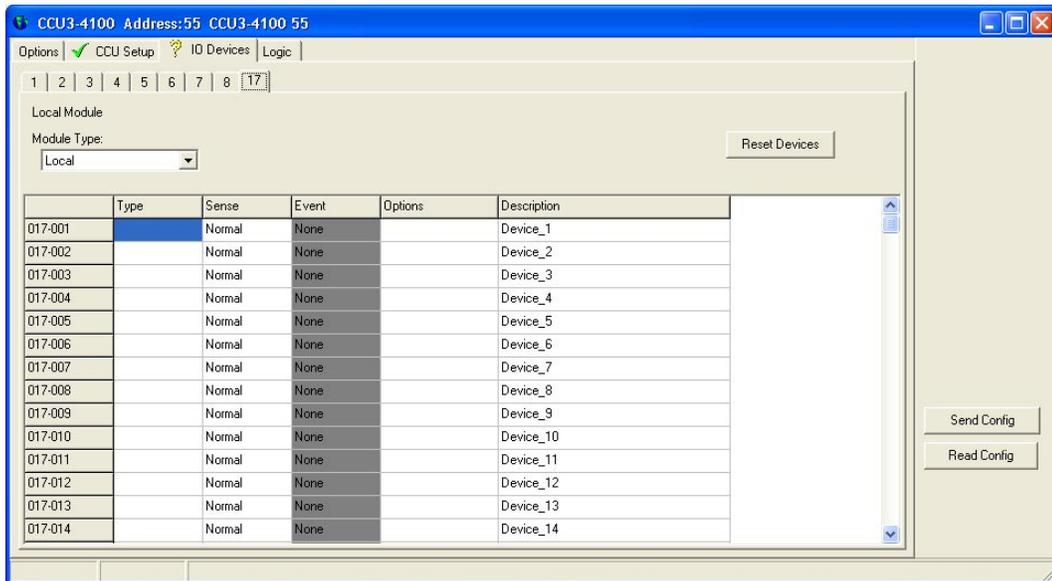
Figure 18. IO Devices

The CCU3 not only passes messages through the CCUNet it also is capable of generating some events itself. The devices, which raise events, are arranged into modules. Each module represents a board that the CCU3 controls, such as a CCU3/IO expansion board, which may be plugged in. The local module (usually 17) contains the devices for the CCU3 board itself. Devices in the local module

correspond to different inputs, for instance 001 to 004 correspond to the status of the 4 comports. Each comport may be in supervision (Normal) or Supervision Fault (Off-Normal).

You need to set up IO Devices if you want a fault to come through XLG when one or more comports is in fault. In CCU3/C-4100, only 3 comports are in use, Com 1, 2, and 3. So you can disable Com 4.

Click on "17" tab for the local module.
Press Read Config to get the configuration for the currently displayed module.
Module Type should be Local.

	Type	Sense	Event	Options
017-001	Digita	Normal	Trouble	
017-002	Digita	Disabled	Trouble	
017-003	Digita	Digital	Trouble	
017-004	Disab	Supervised		
017-005	Digita	Relay	Trouble	Ltch
017-006	Digita	Analogue	Trouble	Ltch
017-007	Digital	Normal	Trouble	Ltch
017-008	Disabled			
017-009	Relay	Normal	Status	

Figure 19. Type

When you right click on Type, you will see 4 options. Digital means there are 2 states, Normal or Off Normal. Supervised means 3 states, Normal, Off Normal or Supervision fault. Supervised is only used for CCU-IO modules. So here, you need to set up 017-001 (COM1), 017-002 (COM2), and 017-003 (COM3) as Digital. 017-009 is for the relay on the CCU3. For Ground fault indication set 017-005 (COM1), 017-006 (COM2), and 017-007 (COM3) to *Trouble* and set Options to *Latching*. If you are not using the relay, you can leave 017-009 disabled.

The next thing to do is set Event. Whatever event you set here will come through to XLG when that comport is in the Off Normal state. Right click on Event column, and choose one of 7 events. If you set it to Trouble, you will see a Trouble event in XLG when the comport is in the Off Normal state. (Figure 20)

	Type	Sense	Event	Options
017-001	Digital	Normal	Trouble	
017-002	Digital	Normal	Trouble	Alarm
017-003	Digital	Normal	Trouble	Trouble
017-004	Disabled			Security
017-005	Digital	Normal	Trouble	Supervisory
017-006	Digital	Normal	Trouble	Audible
017-007	Digital	Normal	Trouble	Arm / Disarm
017-008	Disabled			Status
017-009	Relay	Normal	Status	

Figure 20. Event

Press the Send Config button after you have made all the changes.

6. Configuring XL Graphics C/S.

6.1. Address Format

XL Graphics supports a wide number of Fire Indicator Panels on the SAME SYSTEM. This means that a wide number of device address formats are supported. You need to enter the Address Formats required for a 4100 Panel.

For connection to a 4100 interface for a standalone or networked fire panel add the Address Formats as follows:

1. Run XL Graphics Maintenance
2. Click on **Project**
3. Click on **Default Properties**
4. Click the Device Address Formats '…' button and enter in the following lines if they are not already included in the Address Formats List.

For Logical address formats use:

> **nnn**
> **nnn-nn**
> **nnn-nn-nnn**
> **nnn-nn-nnn-nnn**
> **nnn-nn-nnn-nnn-nnn**

For Symbolic address formats use:

> **nnn**
> **nnn-nn**
> **nnn-nn-nnn**
> **nnn-nn-nnn-nnn**
> **nnn-nn-nnn-nnn-nnn**
> **nnn-nn-ZNnnn**
> **nnn-nn-SIGnnn**
> **nnn-nn-AUXnnn**
> **nnn-nn-FBnnn**
> **nnn-nn-IOnnn**
> **nnn-nn-Mnnn-nnn**
> **nnn-nn-Pnnn**
> **nnn-nn-Annn**
> **nnn-nn-Lnnn**

nnn: CCU address

nnn-**nn**: Panel address (This can be 3 digit depending on what you set Panel Number property in CCU3-4100 icon in XLMaintenance.)

nnn-nn-**nnn**: Card address

nnn-nn-nnn-**nnn**: Point address

nnn-nn-nnn-nnn-**nnn**: Sub-point address

6.2. Commands

Commands that are used in XL Graphics for the Simplex 4100 panel are:

Commands	Description
ACK	CTRL - A Acknowledge highest priority abnormal point. For example, if there are both alarms and troubles in the system, CTRL-A will first acknowledge alarms and subsequent CTRL-A input will ack the troubles.
ACK,<point>,[<qual>]	ACK,<point>,[<qual>] Acknowledge a single point. Example: ACK,SIG3,T <Enter> Acknowledge trouble at point SIG3
BYPASS,<point>,[<state>]	BYPASS,<point>,[<state>] Disarm/arm security monitor points in the system Example: BYPASS,ZN2 <Enter> Disarm point ZN2
CLEAR,<qual>	CLEAR,<qual> Clear history logs and TrueAlarm device history Example: CLEAR,ALOG <Enter> Clear the Alarm Historical Log
CLIST,[<point>],[<qual>]	CLIST,[<point>],[<qual>] Returns the current point status for either one point, or all abnormal/on points in condensed (computer) format Example: CLIST,2:ZN1 <Enter> Get the current status for point 2:ZN1
CT,[<time><date>]	CT,[<time><date>] Set and display the system time and date in computer format Example: CT,0800xxxxxxxxxx <Enter> Set time to 8:00 and display it
DAB,<point>,[<state>]	DAB,<point>,[<state>] Disable/enable points in the system. NOTE: Replaces DISABLE command Example: DAB,SIG3 <Enter> Disable point SIG3
DIAG,[node][keyword]	DIAG,[node][keyword] Perform network diagnostic functions and view diagnostic information Example: DIAG,3 <Enter> Performs a data dump of the diagnostics data kept locally for the node 3
DISARM,<point>,[<state>]	DISARM,<point>,[<state>] Disarm/arm security monitor points in the system Example: DISARM,IO4,OFF <Enter> Arm point IO4
HELP,[<command>]	HELP,[<command>]

	Provide help on the computer port's keyword commands Example: HELP,CTIME <Enter> Provide help for the CTIME command
LIST,[<point>],[<qual>]	LIST,[<point>],[<qual>] Returns the current logical point status for the point requested Example: LIST,P260 <Enter> Return point status for point P260
LOGIN,[<password>]	LOGIN,[<password>] Log on of Log off Example: LOGIN,XXXX <Enter> Log on with password XXXX
PRINT,<arg>	PRINT,<arg> Print report to the system's report printer Example: PRINT,ALOG <Example> Send alarm log to currently selected printer
REV	REV Return a software revision string Example: REV <Enter>
RST,[<qual>]	RST,[<qual>] Force the host panel to perform either a WARM or COLD restart NOTE: Replaces RESTART command Example: RST,COLD <Enter> Perform a COLD start
SELECT,[1-5]	SELECT,[1-5] Select system report printer Example: SEL,1 <Enter> Select port 2 as the report printer
SET,<point>,<value>	SET,<point>,<value> Set point status Example: SET,P5,ON <Enter> Turn point P5 on
SHOW,[point>][<keyword>]	SHOW,[point>][<keyword>] Show point or system properties Example: SHOW,ZN1 <Enter> Show properties for point ZN1
SIL	CTRL-S - Alarm Silence
SRS	System reset.

TERMINAL,[<opt>],[<opt>], [<opt>]	TERMINAL,[<opt>],[<opt>],[<opt>]
	Set and display terminal flags
	
	Example: TERMINAL,DEFAULT,ECHO <Enter>
	    Set DEFAUL and ECHO flags
	    TERMINAL <Enter>
	    Display set flags

TIME,[<time>]	TIME,[<time>] Set and display the time and date.

	Example: TIME,8:00 <Enter> Set the time to 8:00
TYPE,<arg>	TYPE,<arg> Type(print) a report to the computer port. Example: TYPE,ALOG <Enter> Send alarm log to computer port
WALK	WALK,<arg1>,[<qual>],[<qual>],[<qual>],[<qual>] Set and display system walktest status Example: WALK,1,ON <Enter> Initiates Walktest on group 1

The following commands are used to log in and out of the fire panel.

LON,<username>, <password>	LON,<username>,<password> Log On. Example: LON,FRED,12345
LOF	Log off.

6.3.   Configuring the CCU/3-4100

Refer to XLG C/S Site Configuration manual for setting up XLClient, XLServer and CCUNET.
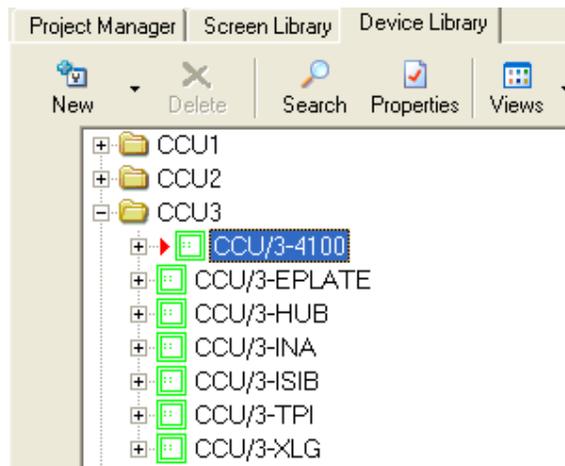
Figure 21: XL Maintenance Device Library

Place a CCU/3-4100 device (icon) from the Device Library (XLMaint.exe) at the XLG site. After placing the icon, right click on the icon, and select Property. Property Editor window will come up.
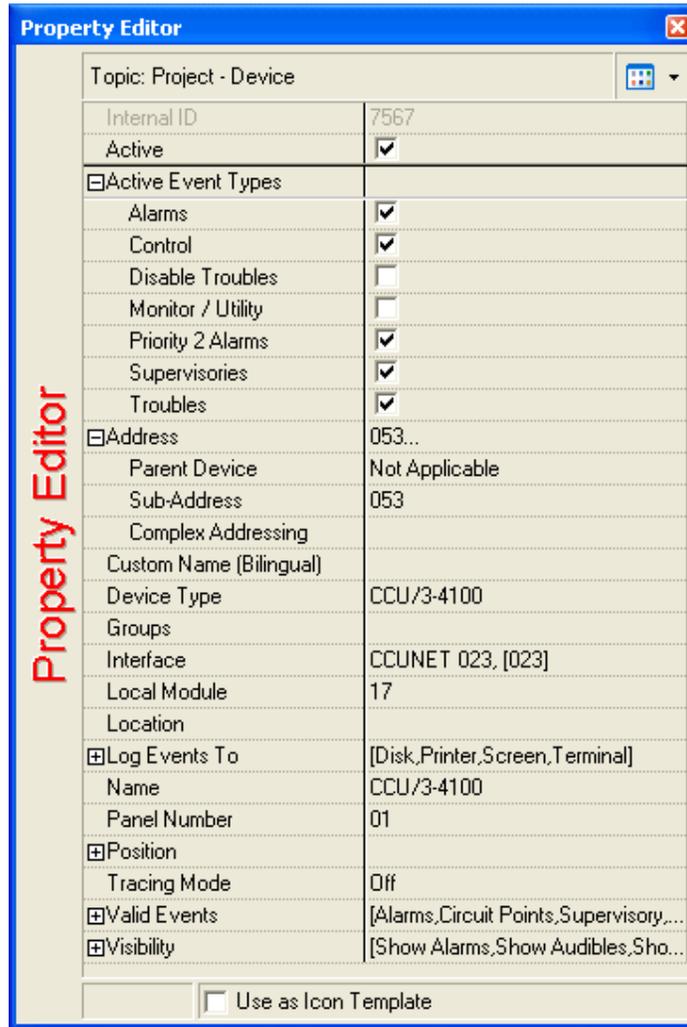
Figure 22: CCU/3-4100 Icon Property.

Edit its' properties in the Properties Editor window.

Property	Description
Active	Should be ticked to make the CCU active.
Active Event Types	Tick the events you want to monitor.
Sub-Address	Address of the CCU3/C-4100, as set in CCUNET. The default setting is 3 digit. (i.e. 001) If you require any other length, you will need to change the address format, explained in Address Format section.)
Custom Name (Bilingual)	If your XLG is bilingual, type in the non English description here.
Interface	Select which CCUNET you are interfacing to. If you have only one CCUNET icon, the drop down list will show one option.
Location	Type in the location of the CCU3/C-4100. Optional.
Name	You can use this as a description. e.g. Type in Engineering Building CCU3/C-4100, this name will appear in Text mode and the History page in XLClient if it has an event.
Panel Number	The address of the 4100 panel to which the CCU3/C-4100 is connected.

Valid Events	If you want to ignore any event types from the device un-tick them here.
Visibility	When you don't want to see the event displayed on the icon, un-tick that event. Note: It will still come through in the Status bar but the icon will not change.
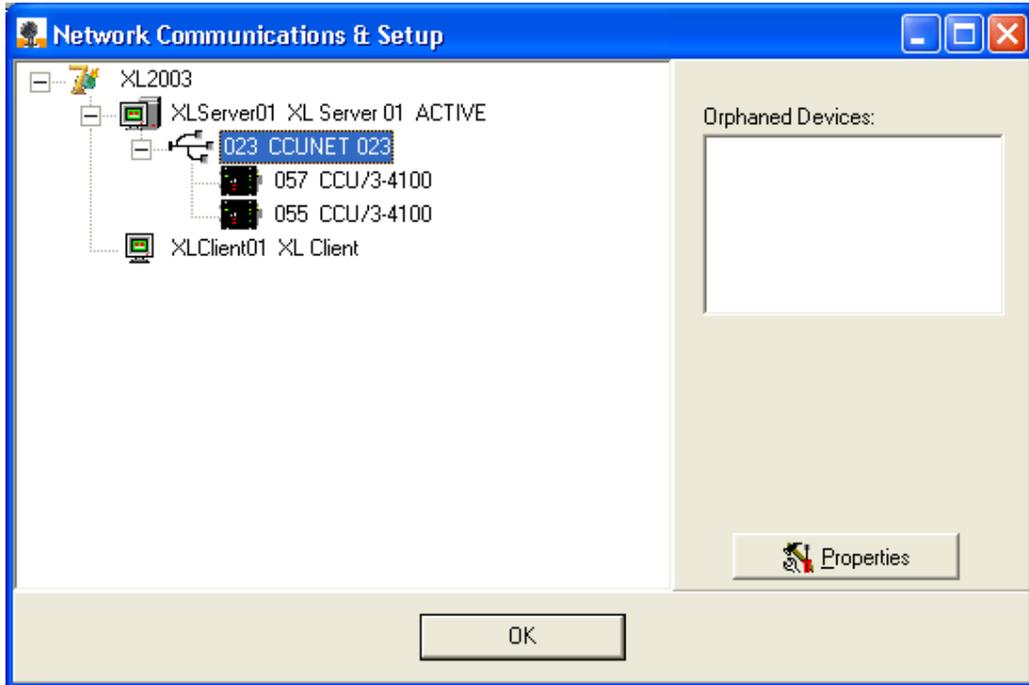
Figure 23: XLServer Communication Tree.

If you set up XLServers, CCUNETs and CCUs correctly, you will see the communications tree in XLServer which should appear similar to this. Nothing should appear in the Orphaned Devices window. If you see any device in this window, it indicates that device is incorrectly associated with XLServer or the CCUNET. If you click on CCUNET 023 and then select Properties, you will see the window below.
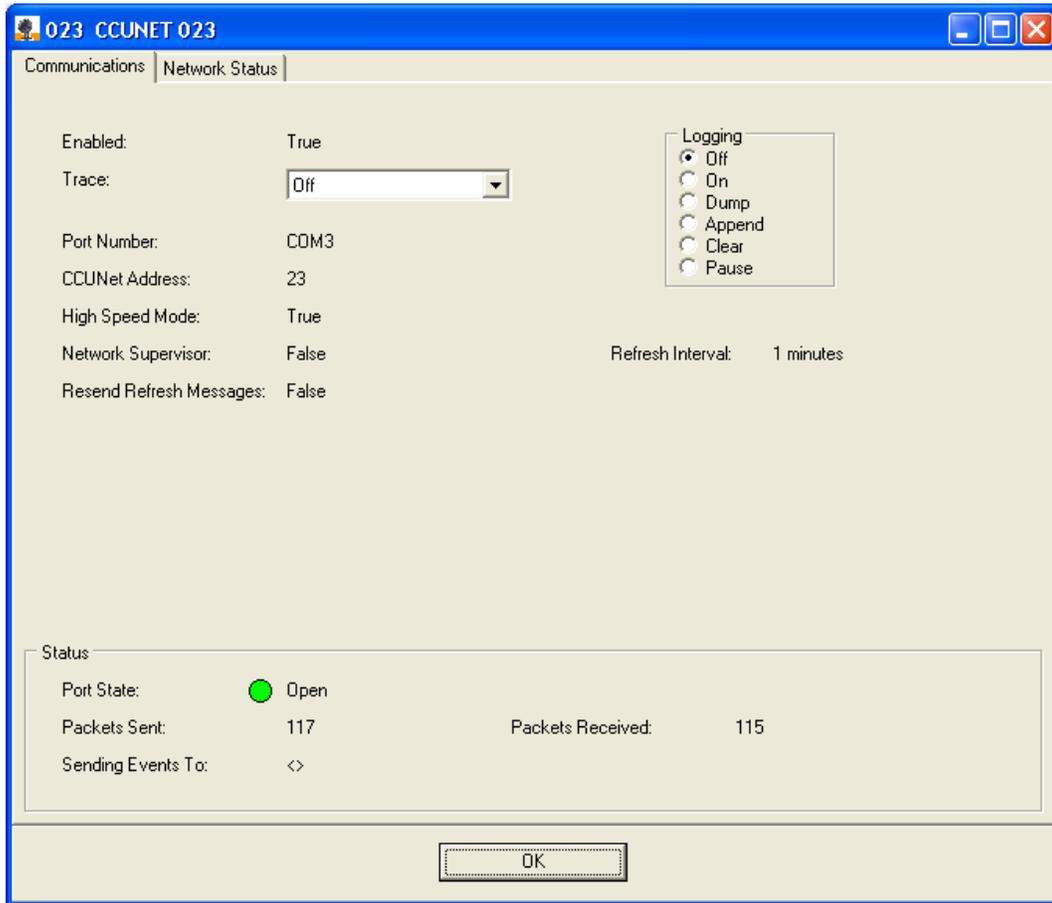
Figure 24: CCUNet Communications Property.

The tracing level determines how much information is logged from the CCUNet communications. It should generally be turned off, as it will dramatically increase the size of the log file if left on. It is mainly used for troubleshooting communications problems on the CCUNet.

Port State shows "Open", which means that XLServer is communicating.

If the configuration options have been set correctly then in the 'Network Status' tab a complete list of CCUNet boards will be described (as seen below). As displayed there is one device on the CCUNet which is a CCU3/C-4100 with a CCUNet address 55.
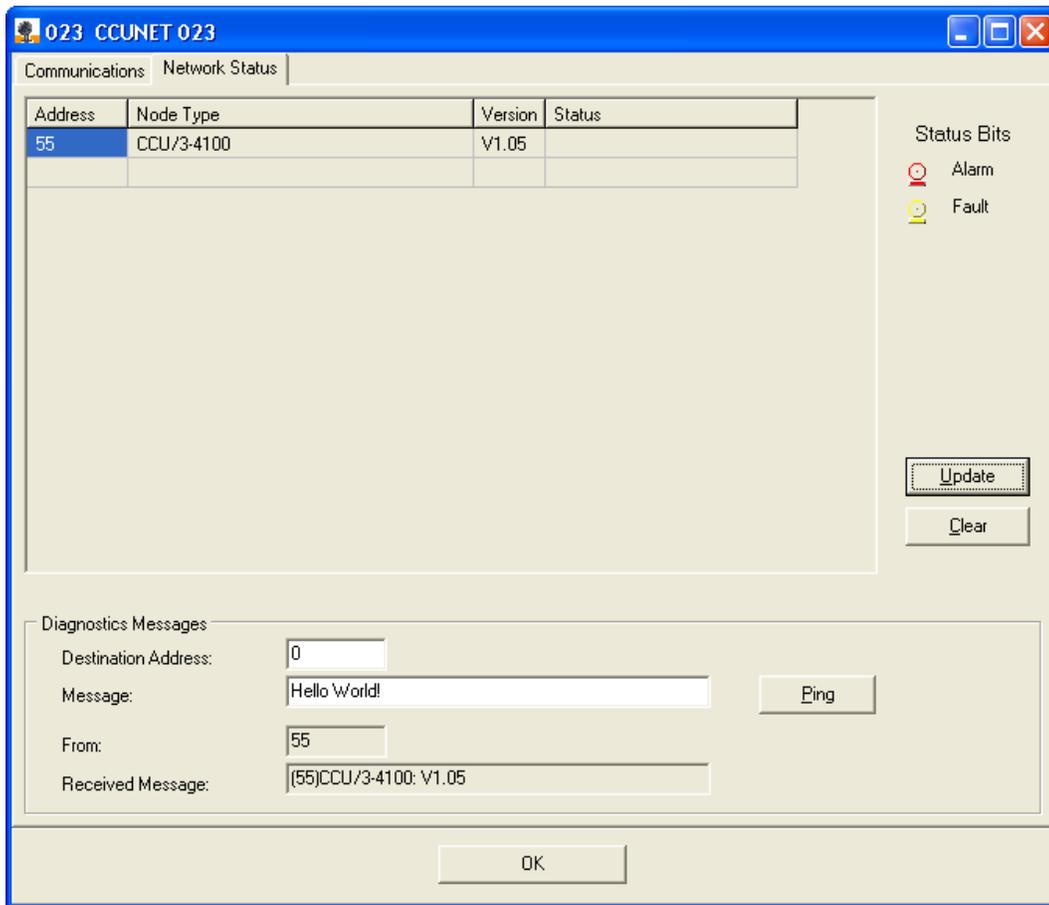
Figure 25: CCUNet device list
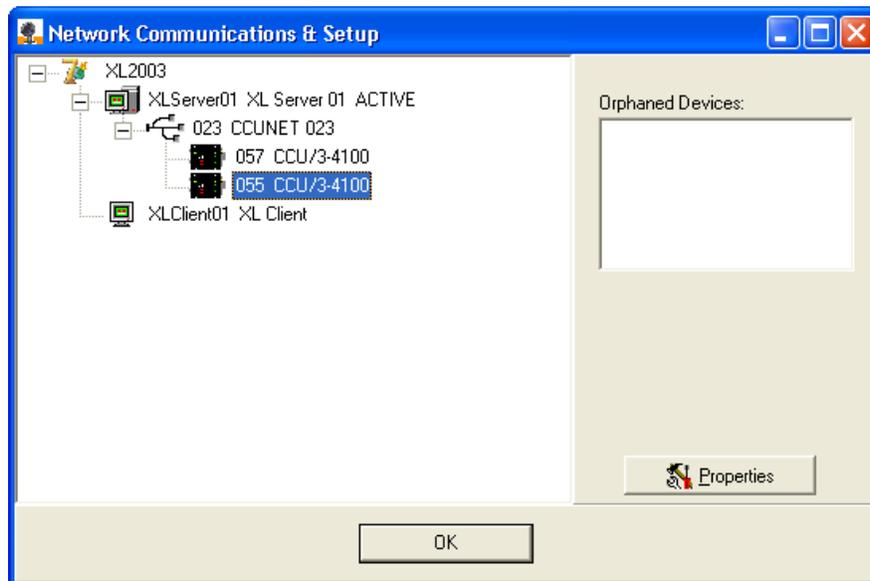
Figure 26: CCUNet device list

When you click on CCU/3-4100 and then the Properties button, the CCU3/C-4100 configuration options window will be shown.
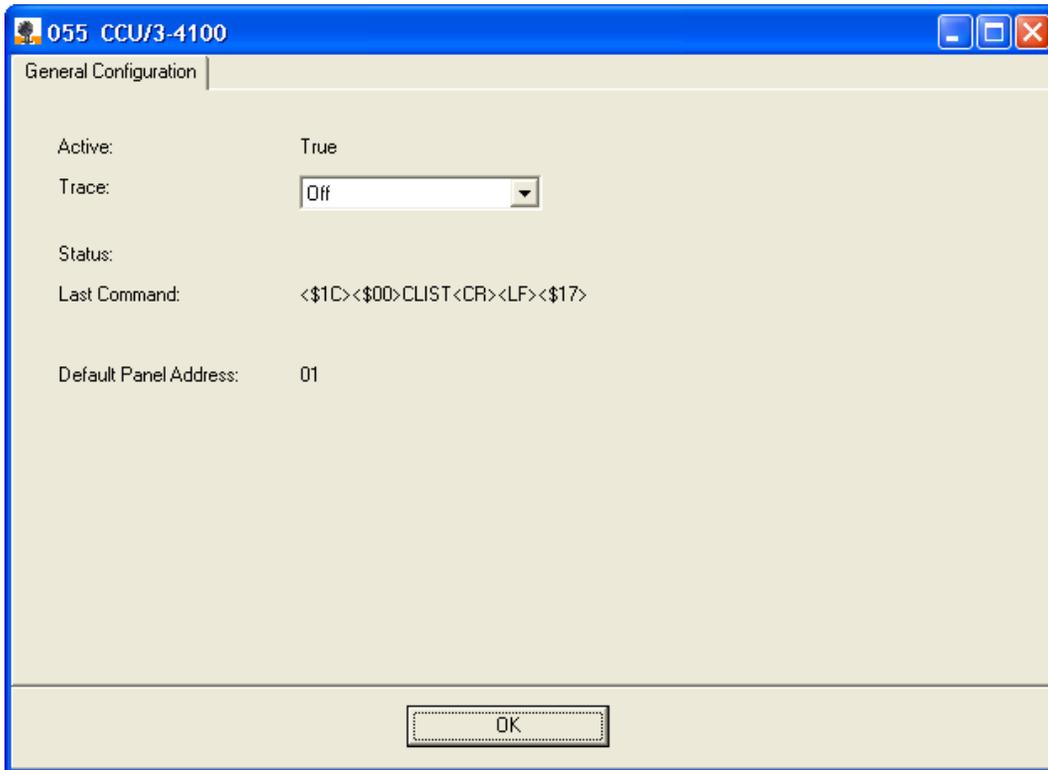
Figure 27: CCU3/C-4100 Configuration window

The tracing level determines how much information is logged from the CCU3 board. It should generally be turned off, as it will dramatically increase the size of the log file if left on. It is mainly used for troubleshooting communications problems to the CCU3 or attached panel.

6.4. Configuring the Simplex Fire Indicator Panel

The CCU3/C-4100 supports the Simplex 4020, Simplex 4100, Simplex 4100A and Simplex 4100U fire indicator panels. The configuration for all of these is almost identical in XLG C/S. In the example below the Simplex 4100U is used.

Run XL Maintenance. Place a Simplex 4100U Fire Indicator Panel at the appropriate place on one of the screens.
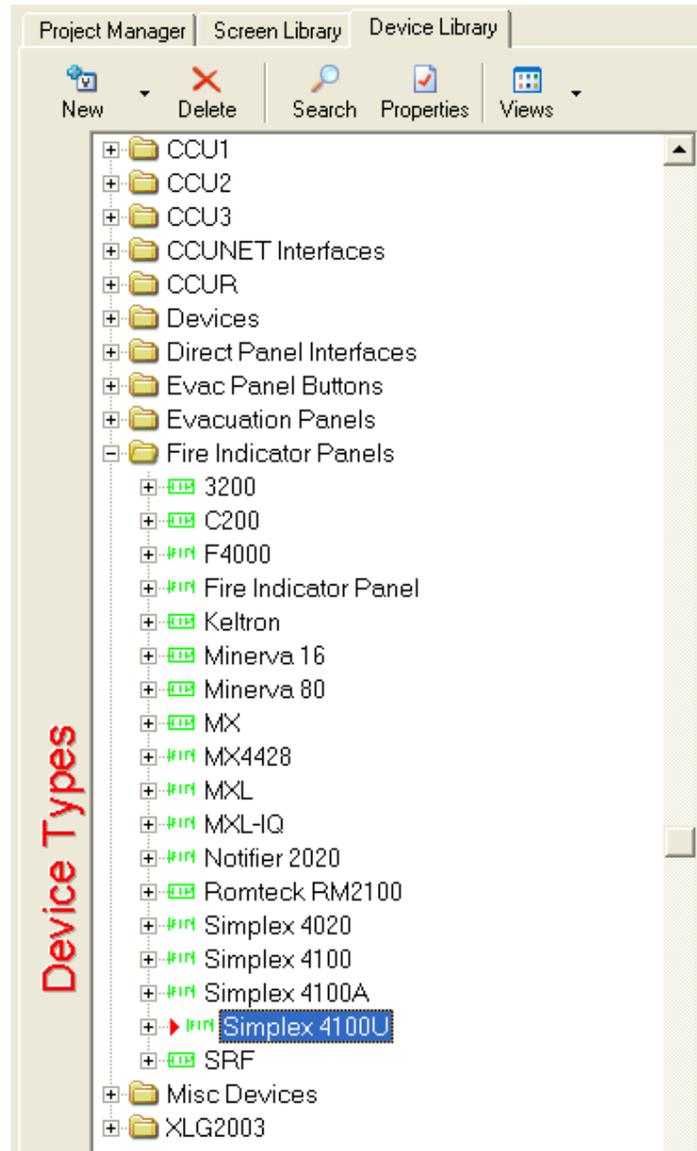
Figure 28: XL Maintenance Device Library

Select the Fire Indicator Panel icon which you have just placed in the screen. Press Properties to edit its' configuration in the Property Editor.
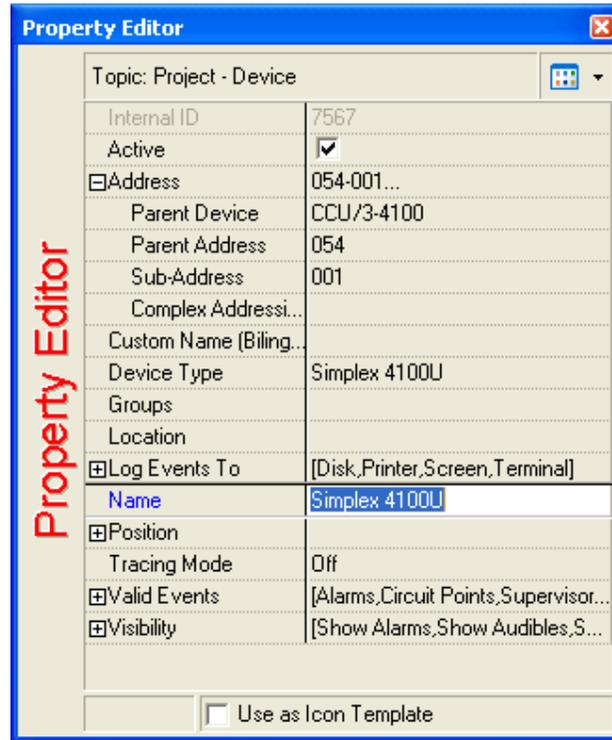
Figure 29: CCU/3-4100 Icon Property.

Edit its' properties in the Properties Editor window.

Property	Description
Active	Should be ticked to make the CCU active.
Parent Device	Select the CCU3/C-4100 from the drop down list.
Sub-Address	Panel Address of the 4100U.
Location	Type in the location of the CCU3/C-4100. Optional.
Name	You can use this as a description. e.g. Type in Engineering Building Simplex 4100U, this name will appear in Text mode and the History page in XLClient if it has an event.
Custom Name (Bilingual)	If your XLG is bilingual, type in the non English description here.
Valid Events	If you want to ignore any event types from the Fire Indicator Panel, un-tick them here.
Visibility	When you don't want to see the event displayed on the icon, un-tick that event. Note: It will still come through in the Status bar but the icon will not change.

The fire panel will have many devices on it, which will need to be added to XLG C/S. To assist in this task, it is possible to import the report file generated by the 4100 Programmer, to automatically add all of the devices to XL Maintenance.

Right-click the placed FIP icon and select Import Panel Report. Load the report file generated from the 4100 Programmer (e.g. xlg.txt). This should add all of the devices, their addresses and descriptions as they appear on the panel. XLG C/S however, cannot determine the device type for all of the devices; this still has to be done manually.
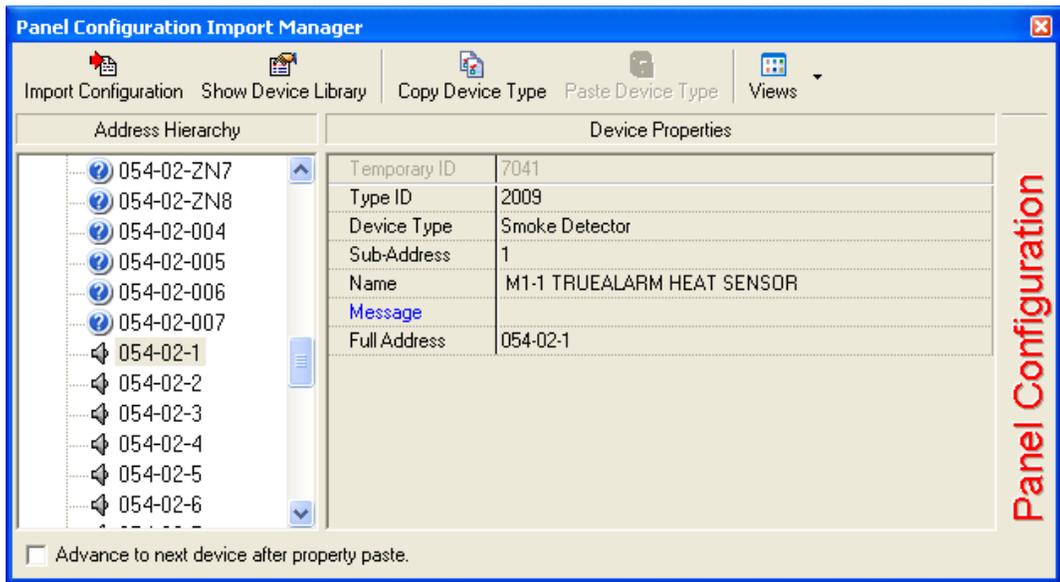
Figure 30: Panel Configuration Import Manager.

You will notice that all of the devices have the "?" icon as the device type is unknown. To set the correct device types:

- Select the device in the Address Hierarchy which you wish to update.
- Drag the correct device type from the Device Library onto the Address Hierarchy panel.

When the type is set correctly the icon will no longer be "?". To place the icon, simply drag its' icon from the Panel Configuration Import Manager onto the appropriate screen. The icon in the Panel Configuration Import Manager will change to a tick to indicate that the device icon has been placed.
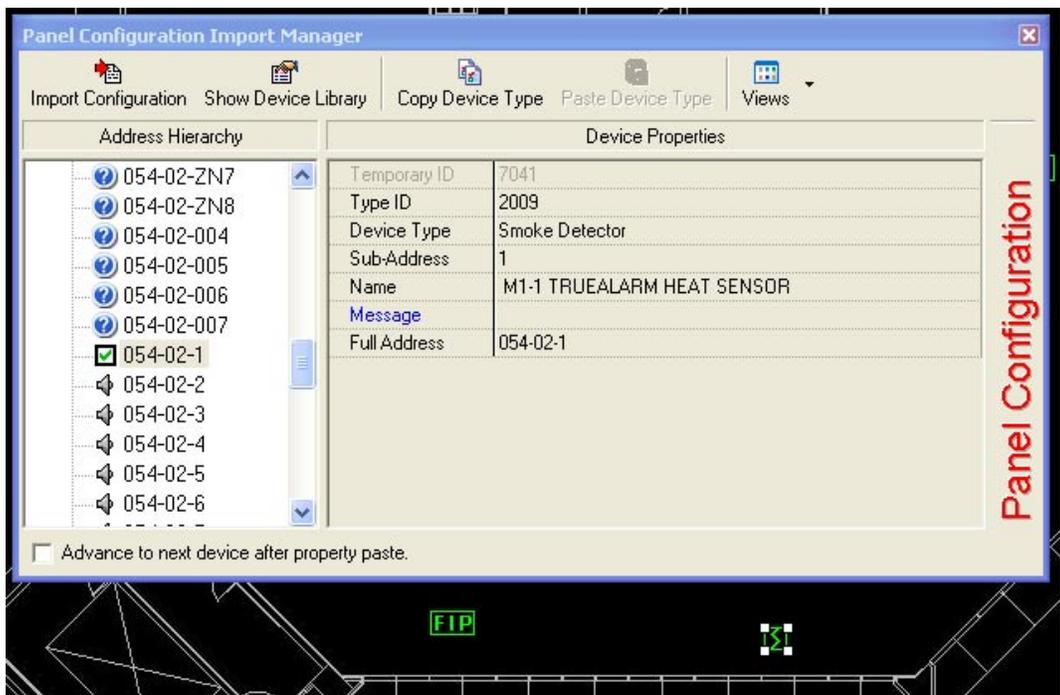
Figure 31: Placing an icon.

Appendix A.   Upgrading the firmware

Occasionally new versions of firmware are released and it may be necessary to upgrade the firmware on the CCU3. Follow the instructions below to upgrade the firmware.
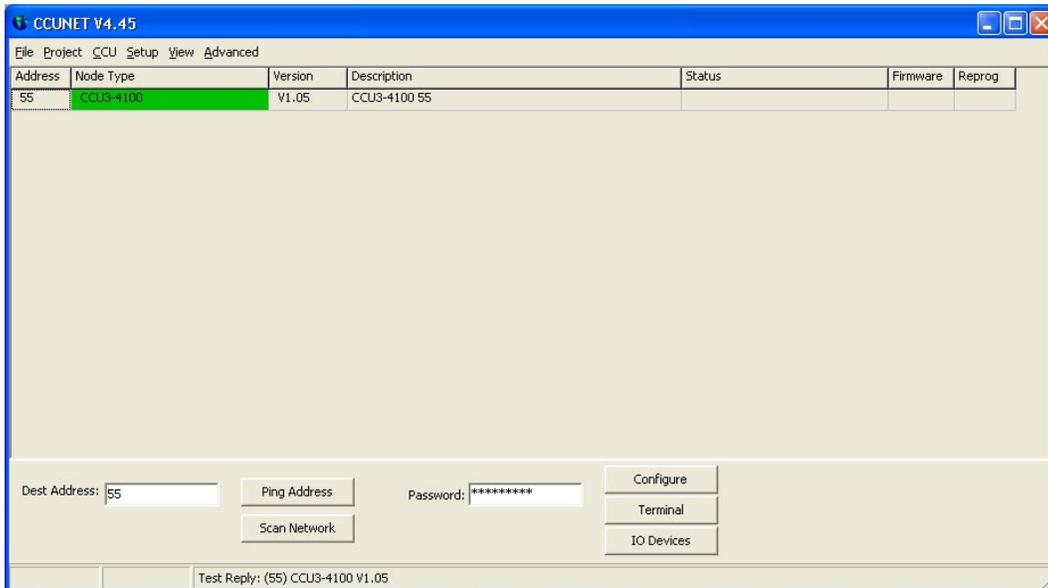
Figure 32: CCUNET program

When you press the Ping button, you should see all the CCU modules in the network. (Figure 31) You will notice the current firmware version is displayed. To reprogram the CCU3, right-click on the Reprog column of the appropriate CCU3.
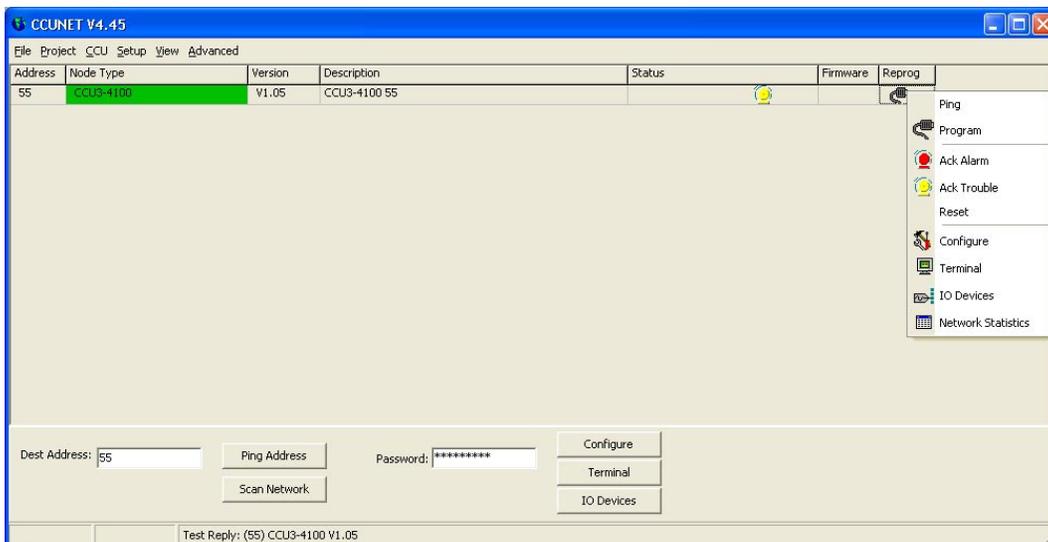
Figure 33: Reprogram option

Click on 'Program'. The confirmation window will pop up.

When you click on Yes, reprogramming will start.

Wait until the programming successful message appears.
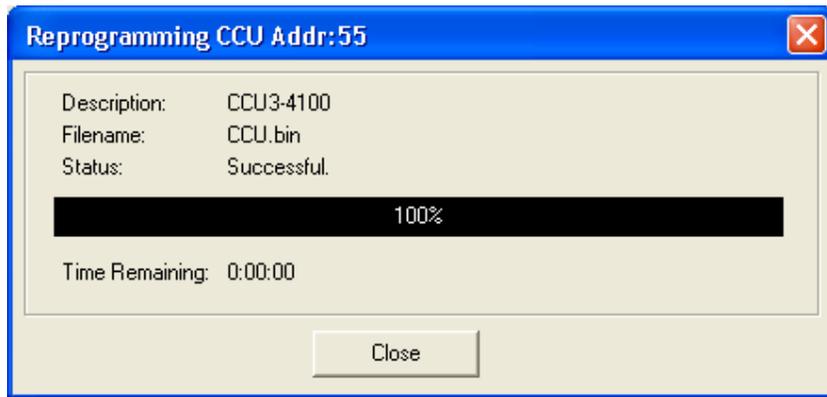
Figure 34: Confirmation window

Close the reprogramming window. Make sure the Version number is changed in the main CCUNet window.

Appendix B.   Cabling

Recommendation

All cables should be copper or tinned copper twisted pair.
All conductors must be 18AWG to 24AWG.
The maximum resistance for each conductor must be less than 140 Ohms over the entire length.
The maximum capacitance between 2 conductors in a twisted pair must be less than 70nF over the entire length.
TX+ and TX- must be connected as a pair through the cable to RX+ and RX- at the other end.
RX+ and RX- should have a terminating resistor of 100 Ohms connected between them especially for long hauls.

Cable lengths of up to 1km may be reached by using appropriate, good quality cable. Cables run through noisy environments (such as power stations, near heavy machinery or close to high power cables) may require shielding, to ensure communication with a low error rate. If shielded cable is used, the shield should be connected to the Earth pin at both ends.

The CCU3 has surge protection on all serial communications ports and has been tested to IEC 61000-4-5, however, this protection is not intended to protect from a direct lightning strike or from contact with high power lines. All cables run outdoors or in other environments susceptible to lightning strikes or exposure to high powered lines should have external low capacitance primary protection installed. Using earthed shielding is suggested in these applications for safety reason.

Generally the 0V pin connection is not connected. In very noisy environments, it may be necessary to use cable that has individually shielded pairs as well as an isolated outer cable shield. In these circumstances connect the 0V pins at either end through the individual pair shields and connect Earth to the outer cable shield. This will provide the maximum signal to noise ratio.

Some Suggested Cables

The following suggested cables are examples of some cables that can be used, although not all are suitable in all applications (e.g. Unshielded telephone cable would not be useful in noisy environments, but could be suitable for a short run indoors). It is useful to keep in mind the environment in which the cable will be run and whether it will be subjected to large amounts of electrical noise.

As with all of the recommendations in this document, cable selection is subject to the laws and regulations of the local authorities and must be acceptable for the intended application.

- CAT 5e LAN cable, STP (Shielded Twisted Pair) or UTP (Unshielded Twisted Pair)
- Belden- 3107A Paired RS-485
- Belden- 9562 Paired Telephone cable (unshielded)
- Belden- 7838A Paired - T1/DS1 Central Office Interconnect/Cross Connect Cable
- Belden- 88723 Paired - Audio, Control and Instrumentation Cable
- Belden- 9729 Paired - Low Capacitance Computer Cable for EIA RS-422 Applications
- Alpha Wire Company- 6072C Alpha-Byte Low Capacitance Data Cables

Pin Connections
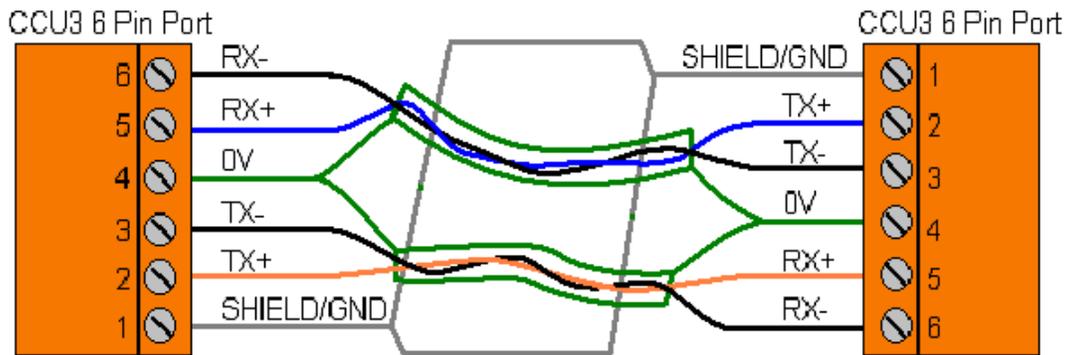
Pin number	Pin Name	CCU3 #1	CCU3 #2
1	Earth	Shield (optional)	Shield (optional)
2	Tx+	Pair #1a	Pair #2a
3	Tx-	Pair #1b	Pair #2b
4	Common	0V shield (optional)	0V shield (optional)
5	Rx+	Pair #2a	Pair #1a
6	Rx-	Pair #2b	Pair #1b