Statesman 4

PC Control System

USER MANUAL

Crystal Vision

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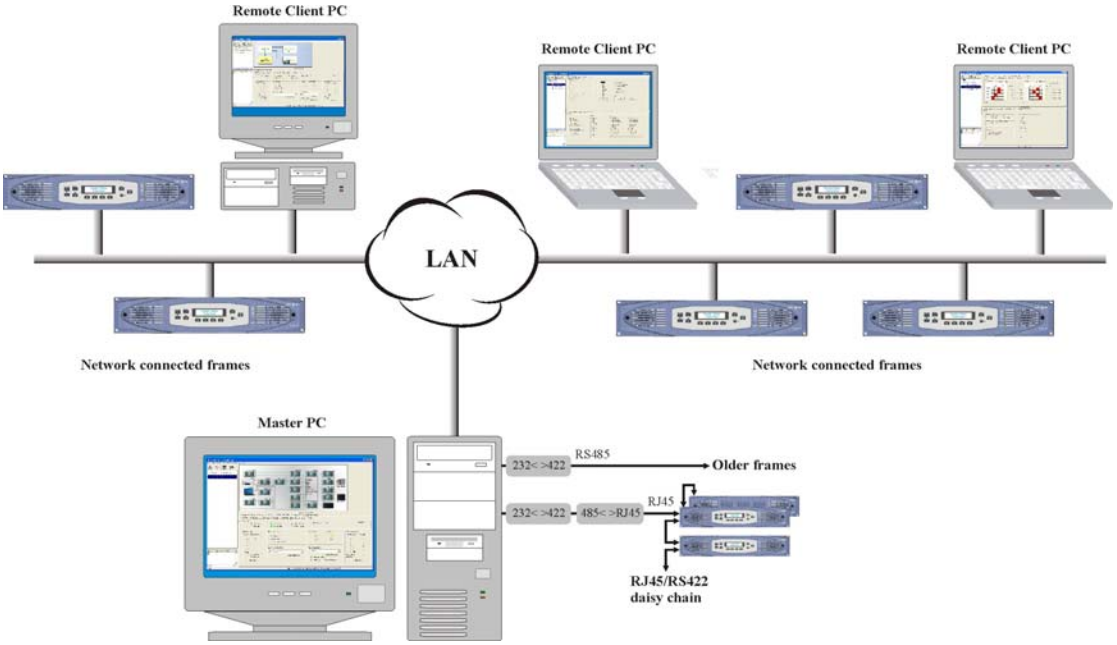
1.Introduction

Statesman 4 provides control and status monitoring for remote-enabled Crystal Vision products. TCP/IP or serial connected devices are easily installed and the Signal Path option gives operators the advantage of an intuitive graphical interface.

Statesman 4 is scalable all the way from a Single PC workstation to large multiple PC systems with Crystal Vision racks and panels distributed anywhere in transmission suites, edit suites or other broadcast facilities.



System design

The network architecture is based around a TCP/IP network for Ethernet enabled Crystal Vision products and a multi-port RS422 network when only serial ports are available.

Statesman allows very large systems to be constructed. The maximum number of devices an Ethernet network can support is determined only by network bandwidth and latency. Each Master Statesman PC serial port is limited to 32 racks and Statesman supports a maximum of eight serial ports. Since PCs are not usually fitted with RS422 ports, RS232 to RS422 adaptors are required for serial networks.

Tip: It is recommended to use TCP/IP connections to develop Statesman networks as system costs are lower and expansion capability higher than using RS422 connections.

Although Ethernet networks are easier to set up and maintain, some Crystal Vision products such as Indigo racks are fitted with RJ45 serial ports in addition to RJ45 Ethernet ports. This simplifies building an RS422 network since the same CAT5 patch cables used for Ethernet can also be used for serial connections.

Crystal Vision boards must also be Statesman compliant and recognised by Statesman's database. In most cases upgrade firmware for both racks and boards are or will be made available for use with Statesman and database updates can be downloaded from the Crystal Vision website.

Note: Statesman communicates with each board in a rack through an active control panel or a special Statesman enabled panel. Statesman control is not possible if a rack has only a passive panel connected.

For non Crystal Vision products, the GPI36 is available to control and monitor any product with General Purpose Interface (GPI) inputs and/or outputs. It has 36 bi-directional GPI channels, each of which can be assigned to control or alarm/status functions.

Building single and multiple PC systems

Statesman 4 is available as either a Single PC version or a Multi PC version.

Single PC

The Single PC version is designed to connect just one PC to one or more racks via Ethernet or serial ports. The Single PC installation uses an SQLite database.

Multi PC

The Multi PC version is designed to provide control from multiple PCs with the security and scalability of the powerful MySQL database. As with the Single PC system, racks and other devices can be connected via Ethernet or serially using the COMM port(s) of the Master Statesman PC in the system.

The basic components of a Multi PC Statesman system are as follows:

- MySQL Database Server – holds data about system configuration, users, boards, racks and the settings of individual boards
- Licence Server – manages device access for all users and Statesman applications running on the network
- Ethernet Network – TCP/IP network for PCs, servers and Crystal Vision devices
- RS422 Network – RS422 serial network connected to the COMM port(s) of the Master Statesman PC
- Master PC – a designated PC running MySQL/Licence servers and Statesman
- USB dongle - fitted to a USB port on the Master PC
- Client PC – a PC running Statesman connected to the network

Although the Multiple PC Statesman system has been designed to be as flexible as possible, there are a few simple rules designed to ensure successful long-term operation.

For ease of operational stability and system support, it is recommended that one PC in a Multi PC install is designated as a Master Statesman PC. This should be the PC where the database and licence server are installed and if a system has serially connected racks, it is the PC that they should be connected to.

Tip: It is strongly recommended to avoid running software on the Master PC other than that required to support the Statesman system.

Please refer to the FAQ or customer support if alternative installation schemes are required.

Main features

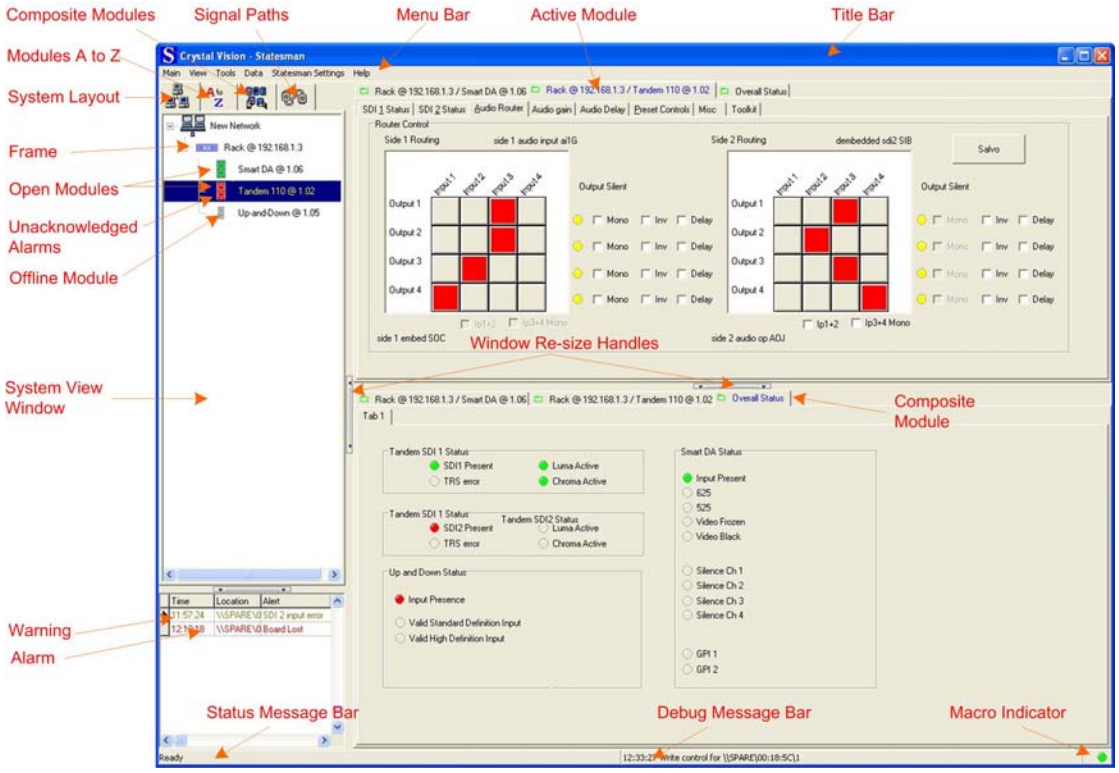
The main features are as follows:

- Full support for both TCP/IP and RS422 networks
- Near real-time Crystal Vision board control
- Save board settings and system configuration to file and restore from file
- Alarm action includes on screen indication, user-definable sounds, and e-mail
- Macros to allow sequences of controls to be set at timed intervals
- Only one security dongle needed, no matter how many Statesman workstations and racks
- Flexible licensing
- Create composite boards from selected board controls to simplify or limit operator interaction
- Single and multiple Statesman PC installations
- Copy settings from one board to another
- Gang related controls together and change as one
- User management tools to selectively control operator access
- Alarm and system fault logging for later analysis
- Alarms may be masked (ignored), set latched (active until acknowledged), and momentary (active until alarm trigger removed)
- Alarm log viewer
- Signal Path option with user supplied system graphics for fast interaction and quick fault diagnosis

Note: Although Statesman has been designed to configure and operate a wide range of Crystal Vision boards remotely, in some cases typical network latency can prevent real time control. A hardware interface or a GPI controller such as a Crystal Vision GPI36 board should always be used for real-time or rack accurate control.

The Statesman application window

Statesman provides a specially designed GUI for each board with dual control windows that may be used for two different boards or two sub-menus for the same board and for composite boards.



There are four main ways of displaying boards in the System View window:

- System Layout – 'explorer tree' style view of networks, racks and boards
- A to Z – available boards are listed in A to Z order
- Composite Boards – lists available composite boards
- Signal Paths – lists available signal paths (option)

Select the required view, by clicking on one of the four System View tabs.

See-at-a-glance monitoring is provided by status indicators in the form of virtual LEDs in board tabs and in the form of customisable alarms for a variety of hardware and signal conditions.

Alarms are shown as they occur in the alarm window in the main application window. Board icons in the System View will also turn red upon alarm until acknowledged by an operator.

The classes of alarm actions available include:

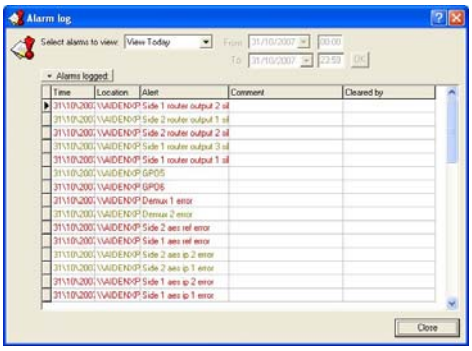
- None: Mask alarm/ignore
- Momentary alarm: warning disappears if the alarm event is removed
- Latched alarm: warning stays active until acknowledged
- Momentary warning: warning disappears if the alarm event is removed
- Latched warning: warning stays active until acknowledged

There are also a range of alarm notifications to ensure that the appropriate personnel are alerted when an alarm event occurs:

- A flashing Statesman title bar
- An unlimited choice of user definable sounds through PC speakers
- An e-mail message to a selected address - requires Internet connection for outgoing message
- A macro can be triggered - see Managing Alarms in the Operation chapter for details

The alarm log viewer

Current alarms in the Alarms window can be sorted by time, location and type. In addition an Alarm log viewer can be accessed from the View menu.



It allows all alarms to be viewed by date and time, comments added and exported to an external file.

Rack status

The status web page of the rack can be viewed by double-clicking on its icon in the System Layout view or typing the rack's IP address in a web browser. Information shown includes rack serial number, installed power supplies, the internal rack temperature and fan operation status.

Control

Although Statesman is designed for 'live' control of boards, network latency can prevent controls being updated in real time. However, Statesman is ideal where the configuration of boards needs to be automated and/or performed from one or more specific locations.

Examples include set up of transmission or recording facilities on a per client or per show basis or the configuration of production and transmission equipment in OB vans on an event basis.

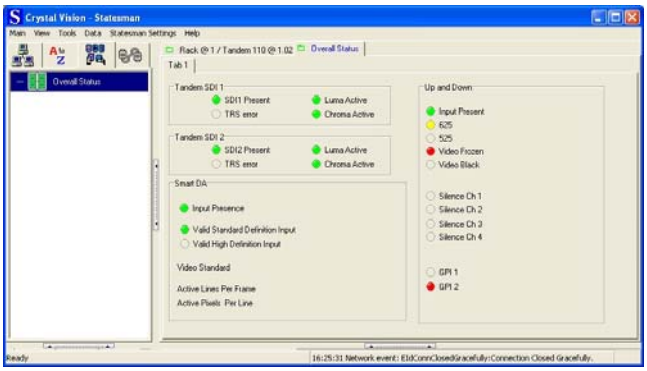
Statesman's on-screen controls includes sliders, dials, trackerballs, buttons, checkboxes, radio buttons and routing grids. These intuitive controls are faster to operate than board-edge controls and Statesman adds many additional advantages such as on-screen yellow 'sticky notes', ganged controls and macros.

Ganged controls are ideal to link sliders together so that several pictures or audio signals can be faded up or down at the same time. Macros enable sequences of commands or menu operations to be recorded and played back at a later time and can be used to perform the set up for commonly used effects such as chroma key or logo insertion.

Macros can also automate handling alarm conditions, for example displaying a caption in response to a failed video feed.

Composite boards

Composite boards are custom boards created from control or status components taken from different boards. They can be used to limit operator access or assemble features for specific operational tasks.

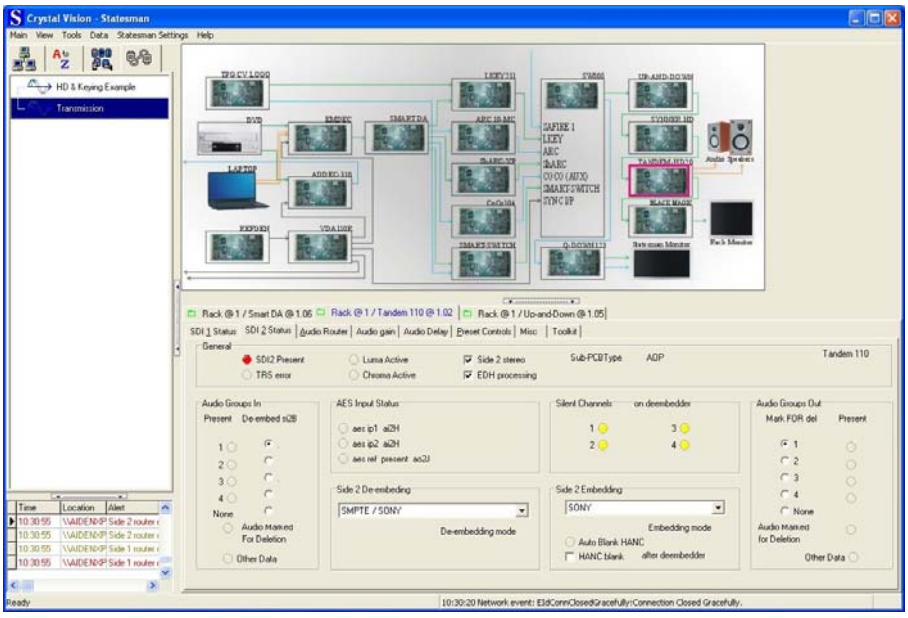


Composite boards are built using the Composite Boards Designer by drag-and-drop of each control, control group, virtual LED or virtual LED group into custom named groups and tabs. The resulting custom board can be named as desired and selected for use from the Composite Board view in the main application.

Signal Path

The optional Signal Path add-on is used to overlay rack, board, composite board and sub-system icons over a user supplied background graphic of actual system signal flow.

Each active icon will be surrounded by a red outline whenever a fault occurs in the equipment or sub-system represented. Clicking on an icon will click-through or ‘drill down’ to lower level schematics and/or board control panels.



There is no limit to the number of signal paths that can be created and stored and signal paths may contain more detailed or lower-level signal paths.

Database backup

Backup facilities are provided for both installation settings and board settings. Not only does this allow settings to be recalled in the event of system failure or operational error but it also allows similar facilities to be set up in a consistent manner.

Backup and restore is provided for the entire Statesman system, including users, alarms, board names, composite boards and signal paths. Presets can also be saved along with current board settings to completely restore a board as it was last used.

This means that in the event of a Master PC failure, an identical Statesman system can be configured without having to re-enter any details.

Licensing

In a Single PC system, a USB security device or 'dongle' must be fitted. In addition the copy of Statesman installed should be licensed for the total number of Crystal Vision boards that will be controlled (at any one time) in the connected racks.

In a multiple PC system, a USB dongle is fitted in the same PC as the licence server (normally the Master PC). The licence server controls user access to devices according to licence codes entered in the database.

In Multi PC systems, client copies of Statesman do not require a security device to run, nor is there any charge for client software. However, the client PC must be able to access the licence server on the network to run. Clients must also be able to access the MySQL server and the Master PC running Statesman to access racks and their installed cards.

The purchased licence can be applied to installed boards to make a selection available from the *Select Boards to Control* menu. User management controls can then be used to assign access to nominated users on a rack by rack and board by board basis.

2. Hardware installation

The installation package will depend on the items ordered. A typical installation includes the following components:

- a CD containing the Statesman Installer and activating license
- a USB security device or 'dongle'
- for serial networks - at least one RS232 to RS422 converter and at least one serial connection cable
- for TCP/IP networks - at least one Ethernet cable

Please check the actual contents against the delivery note and if any of the items are missing contact Crystal Vision support immediately.

2.1 Connecting racks

Cabling requirements vary depending on system design. The easiest option with current Indigo racks is to build a TCP/IP network to which racks and workstation PCs are connected. If older racks are used with only RS422 serial connections, they can be connected as one or more RS422 networks attached to a Master Statesman PC. Statesman supports the simultaneous use of TCP/IP and RS422 networks.

In a Multi PC network, the Master PC is a designated PC running the MySQL database, the Apache server and the Crystal Vision Licence Server. In both Single and Multi PC installations the Master PC has the USB dongle fitted and runs a copy of Statesman.

2.1.1 Connecting network racks

Where racks are co-located it is recommended that they are connected to an Ethernet hub using standard CAT 5 RJ45 patch cable. The hub can then be connected to either the Master PC or another hub if there are other clusters of racks in the network.

Note: At the present time, Statesman doesn't support connecting a rack directly to a PC using a cross-over cable. Only standard straight-through cables and a hub should be used; even for a Single PC system.

Each device on a network MUST have a unique IP address assigned from a limited range of addresses. The factory default is for Indigo racks to *request* an address from a DHCP server. Because the DHCP server manages addresses automatically, multiple devices can never have the same IP address. This is good, since duplicate addresses can cause a network to crash.

However, it also means that as devices leave the network or are added, IP addresses can change. This can make it difficult for devices to be found quickly using IP addresses when fault-finding or during system configuration. For these reasons fixed or static IP addresses are sometimes preferred to DHCP.

Fortunately, it is a simple matter to configure Indigo racks to use fixed addresses in the same range as all the Statesman PCs.

Tip: It is strongly recommended that the address space chosen for a Statesman network is taken from a private 'non-internet' range.

WARNING: A standard Statesman installation on a PC using a fixed private address may remove connections to company intranets and the Internet. Always consult a System Administrator before allocating IP addresses manually.

Dedicating PCs to Statesman is not normally a problem, since it ensures a high level of security and protects the Statesman network from virus attacks or inadvertent misuse.

Assigning static rack and PC IP addresses

Each Indigo rack has a mini-web server that provides status information and an IP configuration utility. To view a rack's web pages and reconfigure its IP address, type its current IP address into a web browser.

If the IP address of a rack is not known, it can be forced to 10.0.0.201 with subnet mask 255.255.255.0 by using a dip switch lever behind the control panel. This allows a PC to connect to the rack and an appropriate IP address chosen.

The procedure is as follows:

1) Forcing the rack IP address to 10.0.0.201

1) Power the rack with dip switch lever 4 at the rear of the front panel in the down position (on a 4U rack use dip switch lever 4 on the lower front panel PCB).

This will force the rack to an IP address of 10.0.0.201 with a subnet mask of 255.255.255.0. A PC can then be used to locate the rack's web page using a browser. From there, the rack's IP address and subnet mask can be changed to any desired value. But the PC ***must*** be set to a fixed IP address in the same range or the browser won't be able to find the rack.

2) Using a PC to configure the rack's desired IP address

The PC IP address is managed from the TCP/IP entry in *Network Connections* which can be accessed via the *Control Panel*. How to get there differs between XP and 2000. It also differs slightly between an XP Control Panel set for *category view* and *classic view*.

Win 2000: Go to *Start >>Settings>>Control Panel >>Network Connections*

XP: Go to *Start>>Control Panel >>*(Classic View: *Network Connections*) or (Category View: *Network Internet Connections >>Network Connections*)

Then for **either XP/2000** right click on *Local Area Connection* and select *Properties* in the pop-up menu. Highlight *Internet Protocol (TCP/IP)* and click *Properties*.

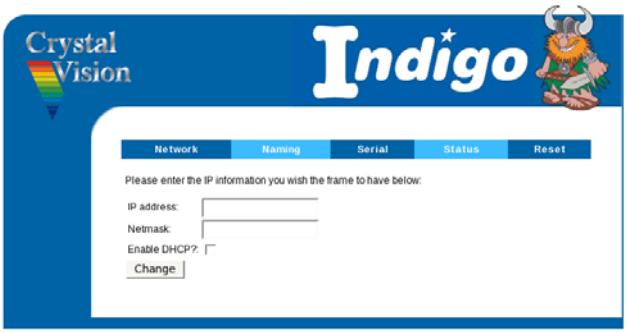
Select *Use the following IP address* and type in the address and subnet mask; *try 10.0.0.200 & 255.255.255.0*. Leave the default gateway as it is.

Tip: If the PC has a *Local Area Network* icon in the lower right hand corner of the bottom status bar, highlight it and right click to get to *Network Connections* .

3) Selecting the desired IP address for the rack

Open a web browser and type in the IP address of the rack: *10.0.0.201*. This will display the rack's web page.

Click on the *Network* tab type in the new *desired* IP address and subnet mask.



Make sure DHCP is not ticked before confirming selection with the *Change* button.

IMPORTANT: Put dip switch lever 4 back to the UP position and re-boot the panel using the rack web page *Reset* tab to enable the new settings.

4) Set the PC to use the new IP settings

Ensure that the Statesman PC is reset to use a unique IP address in the same range and with the same subnet mask as that assigned to the rack.

Checking basic communication with network attached racks

If difficulty is experienced with displaying the rack's web site, check the following:

- Is the PC connected to the same network as the rack?
- Does the PC have an IP address in the same range as the rack
- Is there a firewall blocking either Statesman or the IP address range used?
- Can the rack be reached using the Ping command?

Pinging a rack

To use the built-in ping command from a PC on the same network as the rack and with an IP address in the same range as the rack, run a CMD prompt in Windows 2000/XP:

Go to *Start* > *Run* and then type *cmd.*

Type *ping* followed by the *IP address* of the rack, leaving a space between ping and the IP address e.g. *C:\>ping 10.0.0.201*.

There should be a reply from the IP address without packet loss. If the ping command times out, then check the settings again.

2.1.2 Connecting RS422 racks

Indigo racks support the use of RJ45 connectors for serial networks. There is no need to wire RS422 cables and so long as different coloured cables are used for each type of patch cable, Statesman systems will be no harder to install than standard TCP/IP systems (although RS232 to RS422 and 9 pin to RJ45 adaptors are needed).

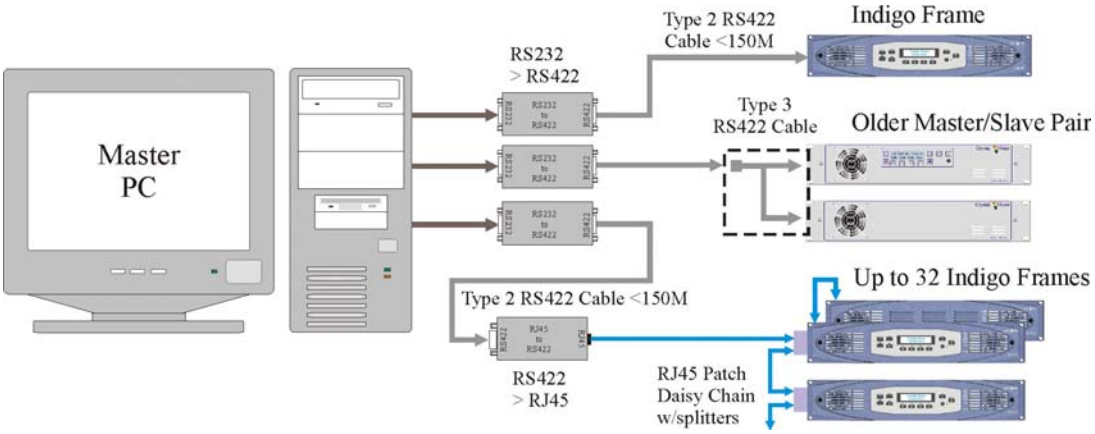
Up to 32 racks can be daisy chained from each serial port using RJ45 patch cables.

For older racks a different serial port can be used for each rack or co-located group of racks. The supplied RS232 to RS422 converter is capable of driving cable runs of up to 150 metres of properly screened high quality RS422 cable.

The following 'rules' apply to serial Statesman control of Crystal Vision racks:

- A single serial port can control up to 16 racks or 16 Master/slave rack pairs
- A rack or Master rack in a Master/slave rack pair MUST be fitted with an active control panel with version 1.57 or above firmware
- Each active control panel must have an address unique amongst the racks connected to a specific serial port

The total number of Crystal Vision boards that can be controlled from one serial port is 384 (32 Master/slave racks x 12 boards in 2U rack = 384). If RS422 serial port cards are used the RS232 to RS422 converters will not be required.



Multiple rack serial cabling options for Indigo and older racks

In the above example, a PC with RS232 serial ports is licensed for multiple racks and cards.

Tip: Although, various methods of cabling racks are illustrated, the RJ45 daisy chain approach is recommended as it is neater and simpler than D-types and wiring RS422 cables.

Tip: If RJ45 splitters are used, racks can be disconnected individually (for debugging or maintenance) without affecting other racks by pulling the splitter out of the back.

Note: In any chain the termination switch on the last rack should be set to 'on'. All upstream racks should be unterminated. If a serial port supports a single Master/slave pair, the slave rack is terminated.

The following table summarises the rack arrangements to be encountered:

Scenario	Notes
Single Rack	A single rack is the easiest application. The RS422 converter can support up to 150 metres of screened twisted pair cable. A 150 metre Crystal Vision Type 2 cable is illustrated.
Master/Slave Rack	A single active/Statesman control panel supports two racks. A special Crystal Vision supplied adapter cable, (Type 3 cable) is required for each Master/Slave pair using older style racks. Indigo racks can be interconnected using an RJ45 patch cable.
Multiple racks	If Indigo racks are used, 'daisy-chain' CAT5 wiring could be used with RJ45 patch cables and RJ45 splitters.

Note: A Type 1, 26 way High Density 'D' type plug to 26 way High Density 'D' type socket extension cable is available from Crystal Vision. Useful when a Slave rack is further than 1 metre away from a Master rack.

Cable pinout data is given in Appendix A: Cable Data.

WARNING: Permanent damage may result if an RS422 connection is made to an RS232 port without using an RS232-RS422 converter.

Terminating RS422 cabling

Only one 150-Ohm termination should be present on any RS422 serial link, normally fitted only to the last device in the chain. The RS422 communication link on a rack used for Statesman should be terminated when it is the last device in a chain or when it is the only device.

Changing the Master rack termination

Indigo racks

The RS422 term/unterm switch at the bottom of the front control panel may be accessed by opening the panel and lifting it upwards.

To terminate the RS422 link move the switch to the left, to unterminate it move it to the right. Refer to the Indigo control panel manual for further detail.

Older racks

The active FR2AV rack has only one jumper link relevant to Statesman operation. This is J4, which is visible through the slot in the middle of the panel electronics cover.

Normally the jumper link is to the left (closer to the fan), which is the unterminated position. Moving the jumper link to the right will terminate the RS422 link at that front panel.

The other jumpers relate to the internal operation of the panel and should not be moved.

Refer to the appropriate rack manual for more details of rack configuration and use.

Setting the serial rack address

Unique serial rack addresses are required in Statesman systems where multiple racks communicate with a Single PC port.

Indigo racks

The address of a rack or rack pair is set by a Hex switch on the upper edge of an active or Statesman panel PCB. Passive panels do not have a Rack Address switch. Refer to the Indigo control panel manual for further details.

Older racks

The address of a rack or rack pair is set by rotating the hexadecimal switch accessed through a small hole in the metal housing protecting the electronics at the rear of the active panel.

Note: Statesman will display the Hex switch settings 0 to E as rack addresses 1 to F, switch setting F will be displayed as rack address 10.

The rack will need to be power cycled for the address change to take effect.

2.1.3 Master/slave rack pairs

A rack pair consists of two interconnected racks with one rack set to its upper slot address range and the other to its lower address range. One rack has an active or Statesman enabled panel and is the Master rack and the other rack has a passive panel and is the slave. The Master rack acts as a communications centre for all the Crystal Vision boards in the rack pair.

Note: If a rack pair has been established solely for Statesman control, the Master rack needs only a Statesman panel and the slave a passive panel. Please refer to the Indigo control panel manual for further details.

One Statesman enabled panel can communicate with a maximum of 24 boards. It is therefore not possible to configure two Indigo 4U frames as a rack pair, as 24 slot positions are already assigned within this one rack.

Setting the board address range

Indigo racks

The position of the two-position slide switch labelled Upper/Lower on the top edge of the front panel PCB must be placed in the Lower position for one rack and in the Upper position for the other. For example it could be set to Lower position for the Indigo 2A rack and Upper for an Indigo 2 or Indigo 1 rack. Refer to the Indigo rack manual for further detail.

Older racks

The following section describes the procedure for the FR2AV rack:

- Remove the lid from the rack by unscrewing all the fixings with a cross-head screwdriver
- Links J1 and J2 that select the node address are on the board that runs past the fan at the rear of the rack
- The links are normally set in position 1, closer to the fan. This selects the lower address range
- To select the higher address range move both links to position 3, further away from the fan, this will produce the node address range 16 to 27

- Replace the rack lid, making sure all the fixings are fully tightened to ensure continued EMC compliance - cards inserted into the rack will now have node addresses in the higher range.

Warning: On no account should rack covers be removed or internal jumpers accessed without removing the rack power. Internal adjustments should be left for trained personnel only.

Note: Early editions of the FR2AV rack manual may refer to moving only one jumper to activate the higher address range. BOTH J1 and J2 MUST be moved as a pair to change the address range.

Linking racks

The two racks in a rack pair should be connected so that control can pass from one rack to the other using an RS422 serial link.

On Indigo racks, pairs can be linked by simply using a CAT 5 patch cable linking the '422 Bus Output' connectors or by using a Type 3 cable linking the Remote 2 connectors.

Linking Indigo rack pairs - using a CAT 5 patch cable

A CAT5 cable (TIA/EIA 568A CAT 5 PATCH) is plugged in the connectors labelled ‘422 Bus Output’ on each rack.

Linking Indigo and older rack pairs - using Remote 2 connectors

Older racks do not have RJ45 connectors and should be linked using the Type 3 adapter, which allows the racks to be 1 metre apart. A Type 1 extension cable can be used to allow them to be up to 100 metres apart depending on the type of cable used and the ambient electrical noise.

A Type 3 adapter is fitted with a 26 way High Density plug, PL1 and two 26 way High Density sockets, labelled SK1 and SK2. The plug, PL1 receives the 26 way High Density ‘D’ socket from the end of a Type 2 cable from an RS232-RS422 converter. SK1 fits into the Remote 2 male connector of a Master Rack and SK2 fits into the Remote 2 male connector of a Slave Rack.

Note: Cable pinout data is given in the RS422 Cable Data section of the Appendix.

3. Software installation

The software required to run Statesman should be installed on a PC running Windows 2000 SP4 or Windows XP SP2.

3.1 Hardware requirements

The Master PC chosen for a Statesman system should have the following:

- One or more RS422 serial ports (or RS232 ports with RS232 to RS422 converters) for any RS422 rack networks
- An Ethernet port – preferably running at 100MHz
- A CPU running at 1.5 GHz or higher
- A colour monitor with at least 1024 x 768 pixel resolution, a keyboard and a mouse

Tip: it is recommended to only install software that is required to run Statesman on PCs designated to function as Statesman workstations.

3.2 Getting ready

The software installation differs between Single PC and Multi PC systems.

To prepare for a standard **Multi PC Statesman** installation proceed as follows:

- Nominate a PC as a Master PC to accept the XAMMP Apache web/MySQL servers, a **full Statesman*** installation and USB dongle
- Connect any RS422 rack networks to the Master PC
- Connect the Master/client PCs and any network attached racks to a dedicated TCP/IP network using CAT 5 cable and one or more hubs
- Install the required software as described in the *Multi PC install guide* on the Master and client PCs

A **full Statesman*** installation includes the Statesman PC Control System, Crystal Vision Database, Licence Server, MySQL Setup and (optional) board manuals.

To prepare for a **Single PC Statesman** installation proceed as follows:

- Nominate a PC to accept a **compact Statesman**** installation and USB dongle
- Connect any RS422 rack networks to the PC
- Connect the PC and any network attached racks to a dedicated TCP/IP network using CAT 5 cable and one or more hubs
- Install the required software as described in the *Single PC install guide*

A **compact Statesman**** installation includes the Statesman PC Control System, Crystal Vision Database, SQLite database and (optional) board manuals.

Note: A Single PC installation will only succeed if no other Statesman PCs are found on the network. If other copies of Statesman PCs are detected the only possible installation is a remote client in a Multi PC installation.

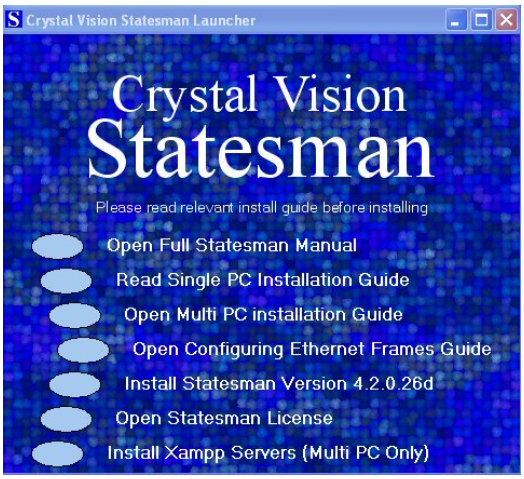
3.3 Single PC install guide

To complete the Statesman 4 installation, proceed as follows:

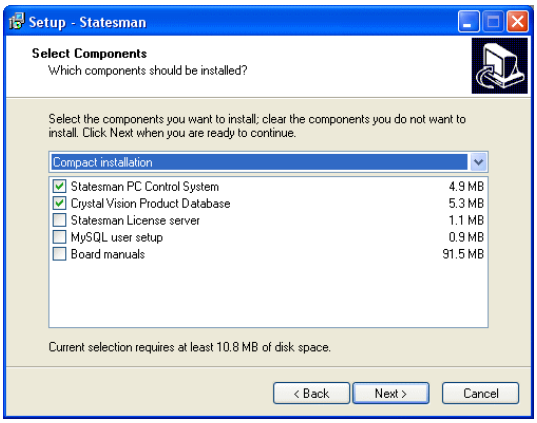
- Remove any previous version of Statesman including installation folder and old settings; default directory C:/Program Files/CrystalVision

Tip: Backup the old Statesman installation folder before removal.

- Ensure that the USB dongle has been connected to the correct port on the PC
- Insert the Statesman 4 CD and the launcher menu should appear:



- Click on 'Install Statesman Version x.x.x.xxx'. Alternatively explore the CD and double-click the file 'cvsetup_vx.x.x.xxx'.
- Obey prompts and at *Select Components*, choose *compact* installation from the drop down list



- Include Board manuals to install pdf versions of Crystal Vision manuals
- Do **NOT** include Statesman Licence Server' and 'MySQL user setup' which are not required for Single PC installations
- Click *Next* to proceed with the installation
- Unless already present on the PC, the Sentinel Protection Installer will start; this is required for the USB dongle to operate
- Click *Next* to proceed with the Sentinel install; choose a *Complete* setup and reply *Yes* to accept firewall modifications

- When the *Setup – Statesman - Ready to Install* screen appears click *Install*
- Obey any further installation program prompts and allow Statesman to start

3.3.1 Running Statesman for the first time

The first time Statesman runs, it will need to be configured with a licence key that matches the dongle fitted in the PC. Any racks attached to the PC and/or the network will also need to be selected for control.

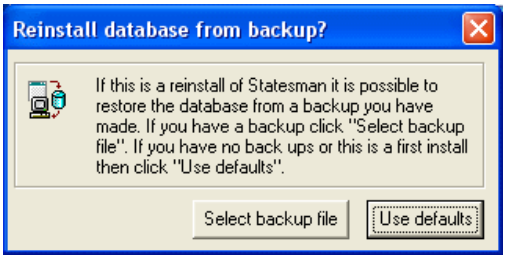
Entering licence information

To continue the Single PC installation proceed as follows:

- The license can be found by clicking on “Open Statesman License” on the launcher screen or by opening the license.txt file inside the License folder on the CD.
- Paste the licence key number supplied for Statesman version 4 into the box provided and click *OK*

Note: The licence number previously supplied for version 3 will not work with version 4.

Use database defaults or backup file



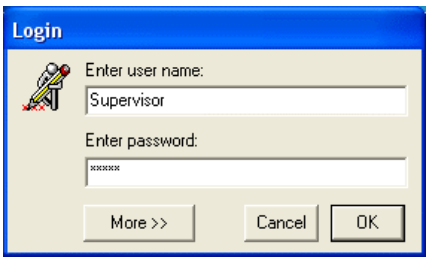
Statesman will offer a choice of selecting a database backup file or continuing by using defaults. An existing database backup contains user and alarm settings, composite board designs, control sets and connection information that have been previously saved.

- Select *Use defaults* for a first time installation

Create a supervisor user

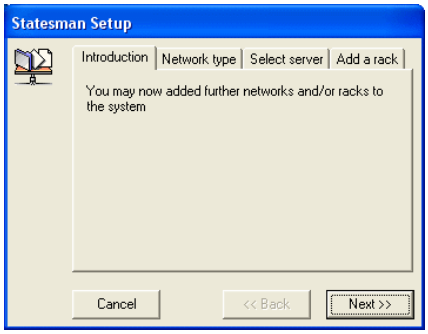
A 'Supervisor' user will now be created with the power to perform set-up tasks such as setting alarms, designing composite boards and signal paths, creating users and granting access to boards. The privileges of this default 'Supervisor' can be removed once another 'Supervisor' user is created after Statesman runs.

- Enter a memorable password in the boxes provided and click *OK*. This is the password the 'supervisor' will use when logging on



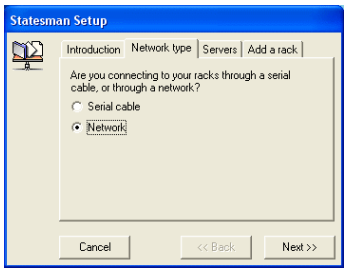
- Log in as the 'Supervisor', using the password previously created and click *OK*

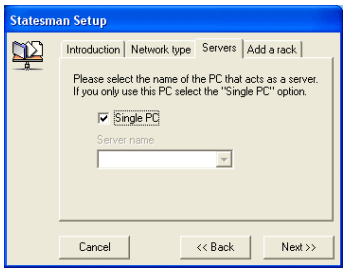
Statesman setup

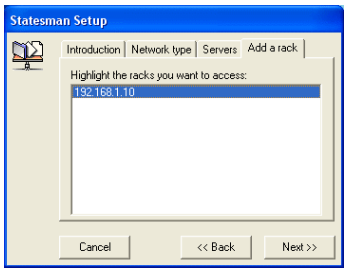


This stage allows the following to be selected, TCP/IP or RS422 connection for initial rack network, Single or Multi PC install, additional rack networks

Initial network connection

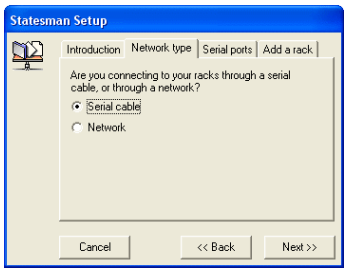


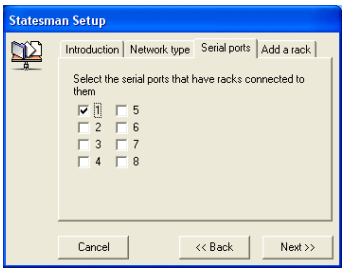




- *Select Network >>*
- *Select Single PC >>*
- *Highlight a rack >>*
- Click *Next* to proceed to the next stage.

Initial serial cable connection

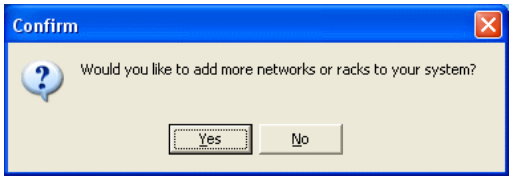




- *Select Serial cable >>*
- *Select a port >>*
- Click *Next* to proceed to the next stage.

For either network or serial cable connection:

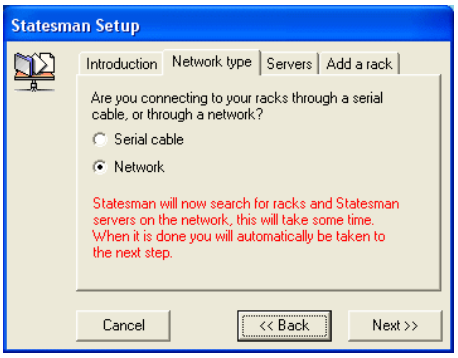
- When asked to add more networks, select *NO*.



Statesman should now be ready to use. Further racks can be connected from within Statesman as explained in the Operation chapter.

Trouble shooting

Statesman will search for racks and Statesman servers automatically. The process does take some time, which is normal. However, if the network search seems to hang with the following screen for more than a few minutes:



Check the following:

- Is the PC connected to the rack network?
- Is the rack powered?
- Are the PC and rack IP addresses in the same subnet space?
- Can the rack be pinged from the PC?

For further help see the FAQ at the end of this manual and section 2.1 Connecting Racks.

Software removal

The Crystal Vision Statesman application and/or the Sentinel Systems driver can be removed through the add/remove applet in the Control Panel.

3.4 Multi PC install guide

3.4.1 Introduction

For Statesman 4 to be installed on multiple PCs across a network, one PC needs to be designated as a Master PC to act as a server and maintain the Crystal Vision database.

The market leading MySQL relational database manager is used to store the board data needed by the Master and remote client PCs.

Crystal Vision recommends using the XAMPP package from Apache Friends for the MySQL server as this simplifies the installation and provides a powerful web based management interface.

WARNING: Please check with your IT department before proceeding with the installation of XAMPP. Web server or database installations can cause network security issues.

Note: The MySQL database option requires the correct licence key from Crystal Vision for which there is an additional cost.

The first part of the installation guide describes setting up the Master PC and the second part describes the procedure for creating other users on the network.

Follow the instructions carefully for correct installation. It is important to carry out the installation of the necessary programs in the correct order which is as follows:

1. Discover the IP address or host name of the Master PC
2. Install XAMPP Web and MySQL server
3. Run the MySQL server, then start the Statesman 4 software installation

Note: During the installation of the Statesman 4 software, you will be required to install the Statesman Licence Server program.

4. Run the Statesman Licence Server program
5. Complete the installation of Statesman 4 software

Running the Master PC software

Once installed, the sequence required to run the software on the Master PC is as follows:

1. Run the XAMPP control panel and start the Apache web server and MySQL server
2. Start the Licence Server
3. Run the copy of Statesman on the Master PC – without this step client PCs cannot operate racks

Note: Client PCs can be started in any order.

WARNING: The PC connected to racks (normally the Master PC) should not be shutdown if continuous operation of the Statesman network is to be maintained.

Upgrading from a Single PC to a Multi PC installation.

There is a separate install guide for those wishing to upgrade a Single PC installation to use Multiple PCs whilst converting their existing SQLite database to MySQL.

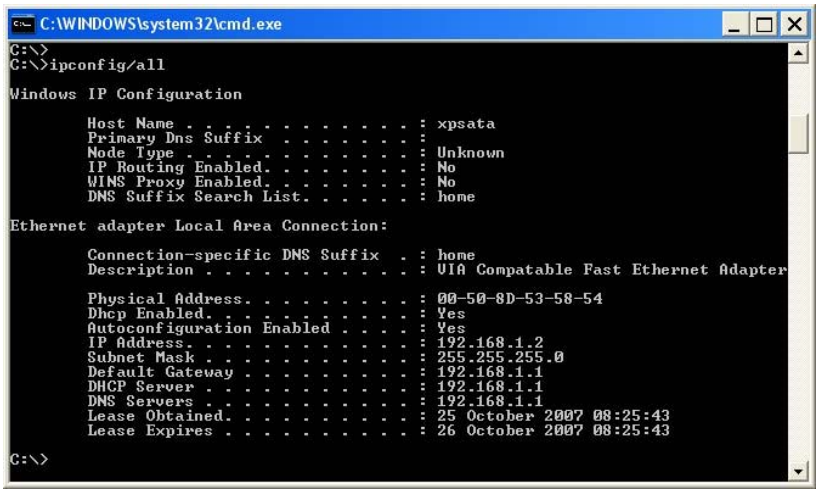
Refer to *Upgrading Single PC systems to Multi PC* at the end of this chapter.

Discovering the IP address or host name of the Master PC

The IP address or host name of the PC the server software is installed on is required to enable other PCs on the network to locate the servers.

To discover this information use the built-in Win2k/XP command *ipconfig* as follows:

1. Click on *Start* >> *Run* and then type *cmd*
2. In the command line box that opens, type *ipconfig/all* against the prompt



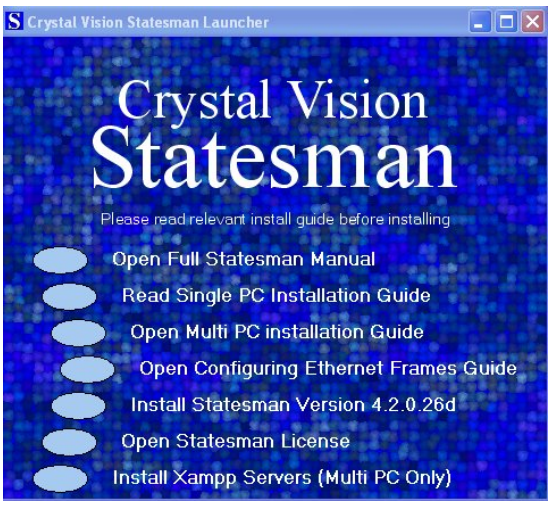
The host name in this example is *xpsata* with IP address *192.168.1.2*. Write down the details for your system as they will be required during the MySQL setup later on.

Tip: Another way of finding the above information for all devices on a network, including racks, is to use a freely available network utility such as SoftPerfect's Network Scanner.

Installing XAMPP servers

To complete a new Statesman 4, Multi PC installation, proceed as follows:

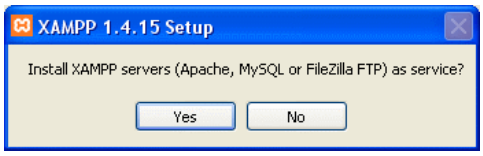
- Insert the Statesman 4 CD and the launcher menu should appear:



- Click on the button next to 'Install XAMPP Servers'

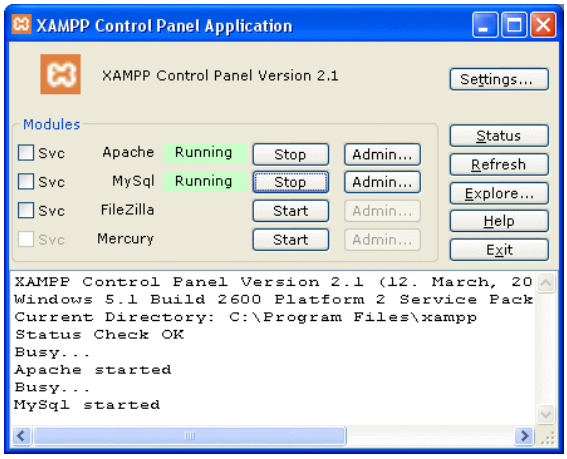
Alternatively explore the CD and run the file with a name similar to ‘xampp-win32-1.4.15-installer’.

- Proceed with the XAMPP installation obeying any prompts



- When the installer asks if you want to install servers as services, select ‘No’

- When the installer asks if you want to start the control panel, select *Yes*



- Once the control panel has been opened, click on the *Start* buttons next to Apache and MySQL - the dialogue box should report that both start OK
- Leave the programs and XAMPP control panel running while you proceed with the installation.

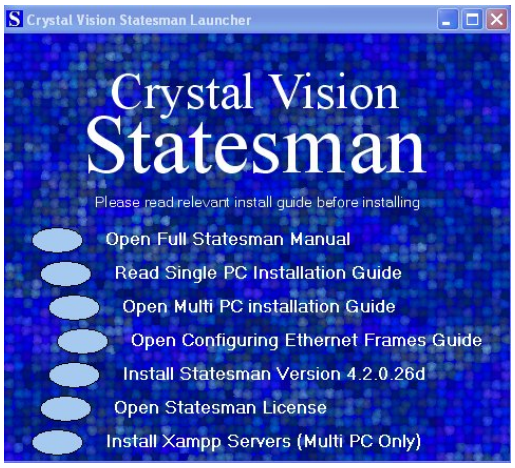
Note: The Apache and MySQL programs will need to be run each time the Master PC is re-started.

To check everything is working correctly, open a web browser and navigate to http://localhost/. The XAMPP logo should be displayed as below.

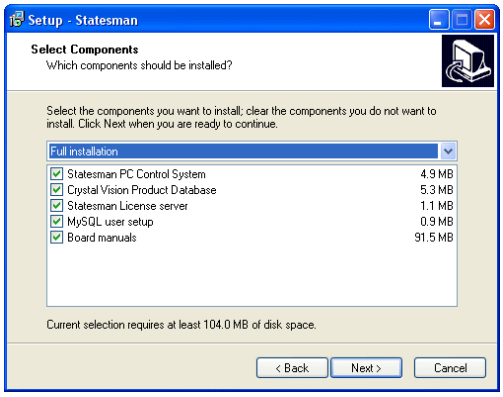
Installing statesman

To complete a new Statesman 4, Multi PC installation, proceed as follows:

- Backup and remove any previous version of Statesman including installation folder and old settings; default directory C:/Program Files/CrystalVision
- Ensure that the USB dongle has been connected to the correct port on the PC
- Insert the Statesman 4 CD and the launcher menu should appear:



- Click on 'Install Statesman Version x.x.x.xxx'. Alternatively, explore the CD and double-click the file 'cvsetup_vx.x.x.xxx'.
- Select a *full* installation from the drop down list



- Include Board manuals to install pdf versions of Crystal Vision manuals
- Click *Next* to proceed with the installation
- Unless already present on the PC, the Sentinel Protection Installer will start, this is required for the USB dongle to operate
- Click *Next* to proceed with the Sentinel install; choose a *Complete* setup and reply *Yes* to accept firewall modifications
- When the Setup – *Statesman - Ready to Install* screen appears click *Install*
- Obey any further installation program prompts and allow Statesman to start

3.4.2 Running Statesman for the first time

The first time Statesman runs, it will need to be configured with a licence key that matches the dongle fitted in the PC. Any racks attached to the PC and/or the network will also need to be selected for control.

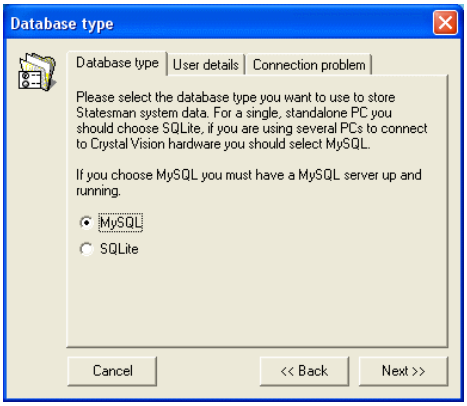
To continue the Multi PC installation, proceed as follows:

- The license can be found by clicking on “Open Statesman License” on the launcher screen or by opening the license.txt file inside the License folder on the CD.
- Paste the licence key number supplied for Statesman version 4 into the box provided and click *OK*

Note: The licence number previously supplied for version 3 will not work with version 4.

Select Statesman System database

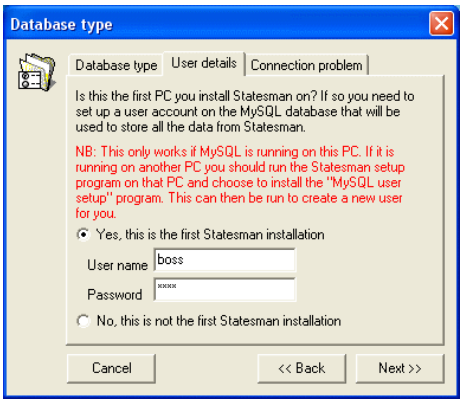
Statesman will now ask you which database you want to use to store Statesman System data. For multiple PC installations, please select MySQL.



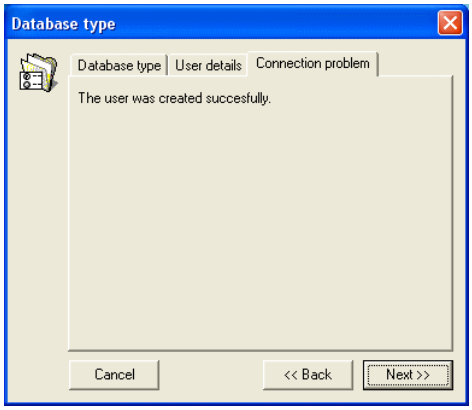
Choose Statesman System database username and password

If this is a new MySQL server, you will be asked to enter a user name and password, which you would like Statesman to use to log onto the server. Choose something that you find easy to remember and make a note of it for future use. Login User names and Passwords are case sensitive.

Note: The MySQL server allows many users to access the same databases across a network. However, to ensure security of data, users (or the user's application) must login with a user name and password before they can access data. These login details are not the same as those used for starting Statesman. MySQL user details are stored within the Statesman set-up and do not need to be entered every time Statesman is started.



Click 'Next' and you should see the following message to confirm successful creation of the username and password.



Logging into Statesman System Database

The next screen will ask you to log on using the username and password you have just chosen above. The following will apply:

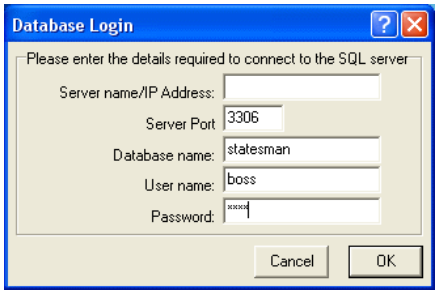
Server name/IP address = as obtained earlier with *ipconfig* or a *network scanner*

Server Port = '3306'

Database Name = 'statesman'

Username = enter a name previously set-up

Password = enter the password associated with the username entered

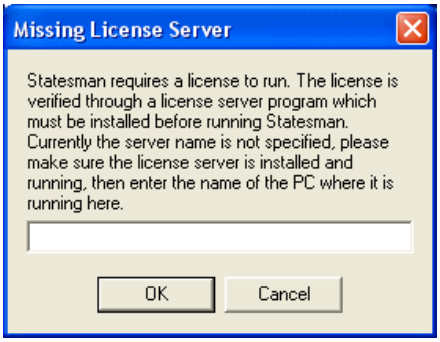


Tip: Don't rely on *localhost* as the server name. The Master PC will have no problem finding this, but other systems on the network require a unique *host name* or *IP address*.

Click OK to complete the login and launch Statesman.

Location of the Licence Server

When Statesman starts it may display a message asking for the name of the PC where the Licence Server is running.



The Licence server was installed with the Statesman software. To launch it go to *Start>Programs>Crystal Vision* and click on *Statesman Licence Server*. A yellow padlock should appear in your taskbar. Once this has been completed, enter the host name or IP address of the PC the licence server is running on.

Note: The name *localhost* only works when the server is running on the same PC as the Master copy of Statesman.

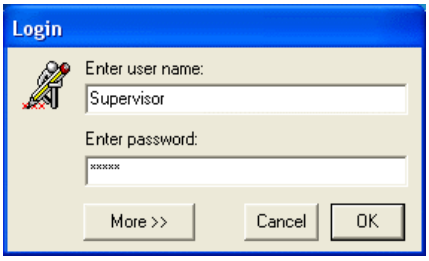
Tip: It is recommended to use the Master PC *host name* instead of *localhost* as that information is required when setting up other PCs. Also host names typically remain the same even though IP addresses change.

Note: The Licence Server program will need to be run every time the PC is restarted.

Create a supervisor user

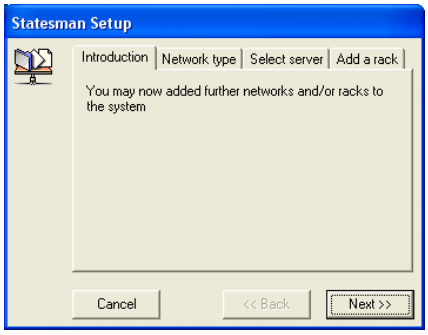
A 'Supervisor' user will now be created with the power to perform set-up tasks such as setting alarms, designing composite boards and signal paths, creating users and granting access to boards. The privileges of this default 'Supervisor' can be removed once another 'Supervisor' user is created after Statesman runs.

- Enter a memorable password in the boxes provided and click *OK*, This is the password the 'supervisor' will use when logging on



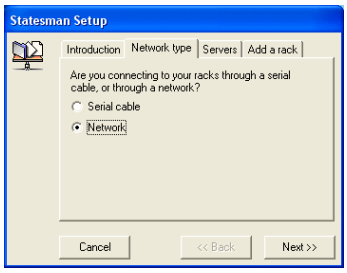
- Log in as the 'Supervisor', using the password previously created and click *OK*

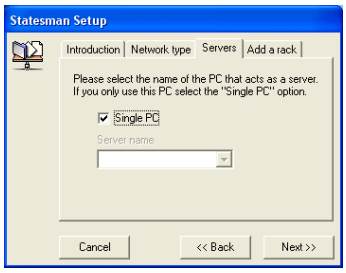
Statesman setup

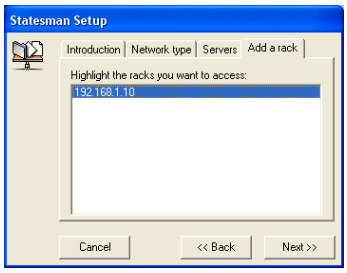


This stage allows the following to be selected, TCP/IP or RS422 connection for initial rack network, Single or Multi PC install and additional rack networks.

Initial network connection

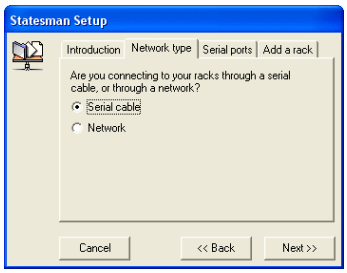


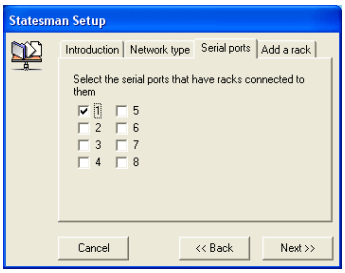




- *Select Network >>*
- *Select Single PC >>*
- *Highlight a rack >>*
  - Click *Next* to proceed to the next stage.

Initial serial cable connection

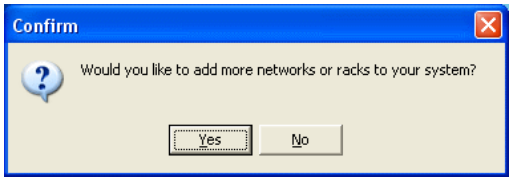




- *Select Serial cable >>*
- *Select a port >>*
  - Click *Next* to proceed to the next stage.

For either network or serial cable connection:

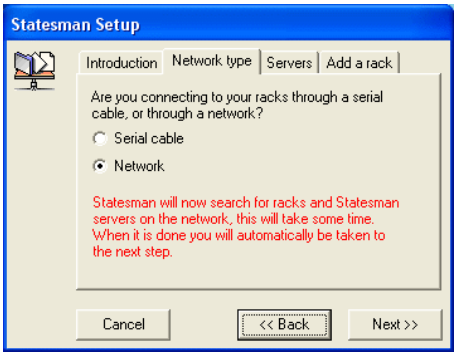
- When asked to add more networks, select *NO*.



Statesman should now be ready to use. Further racks can be connected from within Statesman as explained in the Operation chapter.

Trouble shooting

Statesman will search for racks and Statesman servers automatically. The process does take some time, which is normal. However, if the network search seems to hang with the following screen for more than a few minutes:



Check the following:

- Is the PC connected to the rack network?
- Is the rack powered?
- Are the PC and rack IP addresses in the same subnet space?
- Can the rack be pinged from the PC?

For further help see the FAQ at the end of this manual and section 2.1 Connecting Racks.

Software removal

The Crystal Vision Statesman application and/or the Sentinel Systems driver can be removed through the add/remove applet in the Control Panel.

3.5 Setting up client PCs

If this is the first time Statesman has been installed or you are a first time Statesman user, it is recommended to read the Getting Started chapter before setting up client PCs.

It is also recommended to create Statesman users and MySQL users with appropriate privileges before installing Statesman on client PCs.

A simple method of creating a MySQL user is presented here, but readers are recommended to refer to the User Management section of the Operation chapter where both Statesman and MySQL user management is discussed fully.

3.5.1 Installing Statesman on client PCs

Once remote users have been granted access to the SQL server, Statesman can be installed on client PCs.

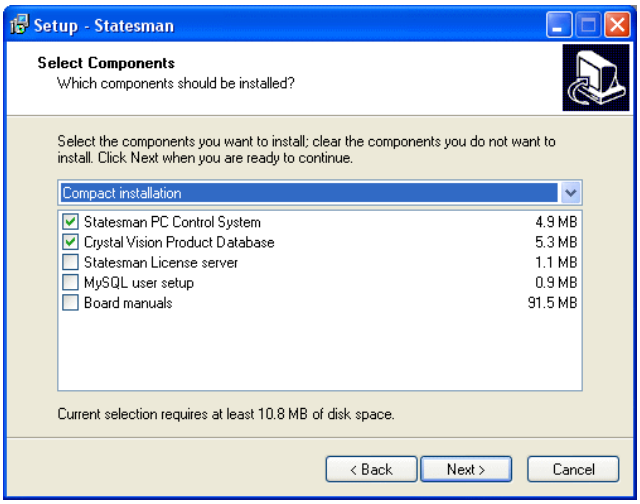
IMPORTANT: Ensure that the XAMPP webserver and MySQL are running on the server PC while setting up remote users. It will also be necessary to have Statesman running on the PC to which the Crystal Vision hardware is connected.

To Install Statesman on a client PC, proceed as follows:

- Run the Statesman Install program

This can be done by clicking on the button next to 'Install Statesman version x.x.x.xxx' on the CD menu. Alternatively, explore the CD and double-click cvsetup_vx.x.x.xxx.exe to install.

Select C*ompact installation* for a client installation, including the *Statesman PC Control System* and *Crystal Vision Product Database* . Include *Board manuals* if required.



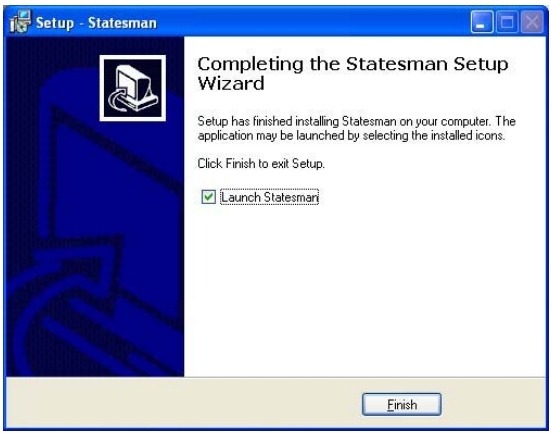
During this install, the Sentinel Protection Installer will run by default. This is not required for client PCs but it will do no harm to let it run.

Note: Although the product database is maintained by the server in a Multi PC system and selecting the product database and allowing a Sentinel install may seem redundant, the Sentinel driver and product database enable a remote PC to be used for fault finding or emergency purposes if the server fails (the licence code and dongle will also need to be transferred to this PC in an emergency).

If you are prompted for the licence code when Statesman first runs, check the following:

- Is the licence server running?
- Is the remote PC IP address in the correct subnet range?
- Are firewall settings preventing communication with the licence server?

Check settings as appropriate and try again.



Ensure that *Launch Statesman* is checked when the Statesman wizard finishes and click on *Finish*. Statesman will load and begin searching for the MySQL server installation on the network.

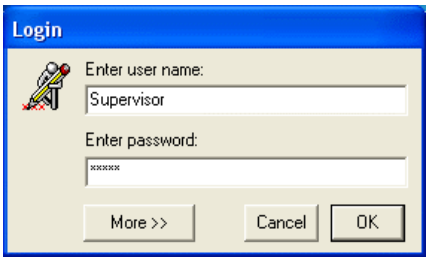
If you are prompted for its location or a licence code, the search has failed. Check that the XAMPP web server, MySQL and licence server are running on the Master PC.

Tip: Check that Statesman is also running on the Master PC with powered Crystal Vision hardware connected so that the client installation can be tested properly.

Enter user details

The login prompt appears

- Enter the remote client login credentials or use Supervisor credentials to test the installation.



- Click *OK* when done and proceed to test the installation

Testing client privileges

- Login to Statesman with the remote client *Statesman* user credentials (**NOT** MySQL credentials)
- Test that remote client privileges are as expected

This completes the installation of Statesman software on the remote client PC.

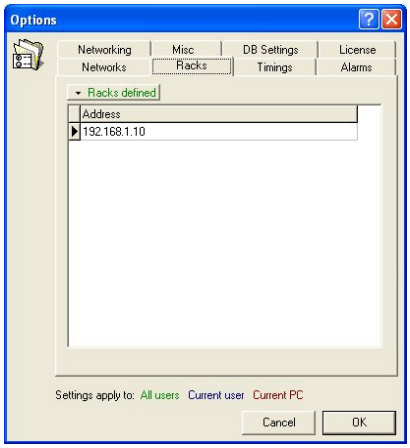
3.6 Adding or changing racks within Statesman

The method used to add or change racks differs between serial port connections and TCP/IP connections.

Tip: It is recommended to perform an Installation Backup before and after changing rack connections. Refer to the *Performing an installation backup* section for details.

3.6.1 Working with network connections

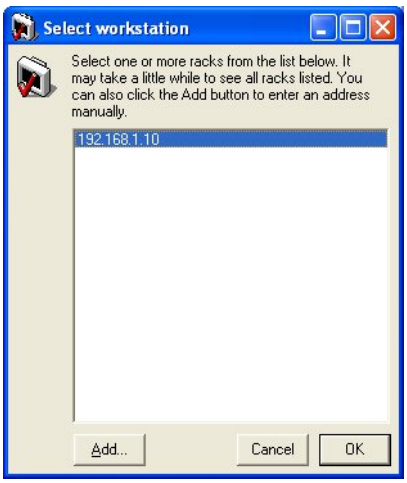
To add or modify TCP/IP connections go to *Statesman Settings >> Options >> Racks*.



To delete a connection highlight its IP address, click on *Racks defined* or click the right mouse button and select *Delete*. A message will appear warning that no-one will be able to control the rack and that its deletion here will also remove all its boards. Click on *Yes* to remove the rack and all its boards or *No* to cancel.

Note: In a DHCP system (not recommended), IP addresses may change after a rack has been powered down and back up again for maintenance. Fortunately, Statesman's built-in port scanner can be used to find its new address.

To make Statesman search for newly added or DHCP re-assigned racks click on *Racks defined* or click the right mouse button and select *Add Rack* on the Racks menu. The *Select Workstation* dialog appears.



Wait for the search process to complete, and then highlight one or more network connections and click on *OK*.

If an expected IP address does not appear, but you would still like to add it, click on *Add..* and enter it manually in the box provided.

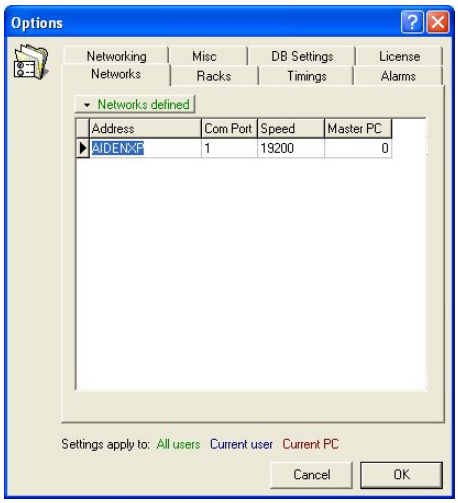
Tip: To change the address of a frame *as registered within Statesman*, click on *Racks defined* or click the right mouse button and select *Change IP address*. Modify the address in the box provided and click OK. This *cannot* be used to change the IP address of the frame itself.

Note: Statesman may need to be re-started for changes to take effect.

3.6.2 Working with serial connections

It is recommended that older racks with only serial ports are connected to serial ports on the Master PC as explained in the Connecting RS422 racks section of the Hardware Installation chapter.

To add or modify one or more RS422 connected racks go to *Statesman Settings >> Options >> Networks* on the Master PC copy of Statesman.



To delete a connection highlight the connection entry, click on *Racks defined* or click the right mouse button and select *Delete*.

A message will appear warning that no-one will be able to control the rack and that its deletion here will also remove all its boards. Click on *Yes* to remove the rack and all its boards, or *No* to cancel.

Adding an RS422 network to the Master PC

To add an RS422 network connected to the Master PC, Open the copy of Statesman running on the Master PC, click on *Racks defined* or click the right mouse button and select *Add local RS422 network*. Type the COMM port in the box provided and click *OK*.

Adding a Master PC RS422 network to a client PC

To add a serial network connected to the Master PC to a *client PC*, open Statesman at the client PC and click on *Racks defined* or click the right mouse button and select *Add remote RS422 network*. Select the Master PC host name from the list and click *OK*.

Note: Statesman will need to be re-started for connection changes to take effect.

Tip: Perform an *Installation Backup* after changing rack connections.

3.7 Upgrading Single PC systems to Multi-PC

Statesman 4 has been designed to allow SQLite based Single PC systems to be easily upgraded to a Multi PC installation with all of the existing board settings and macros imported into a MySQL database.

The procedure involves the following steps:

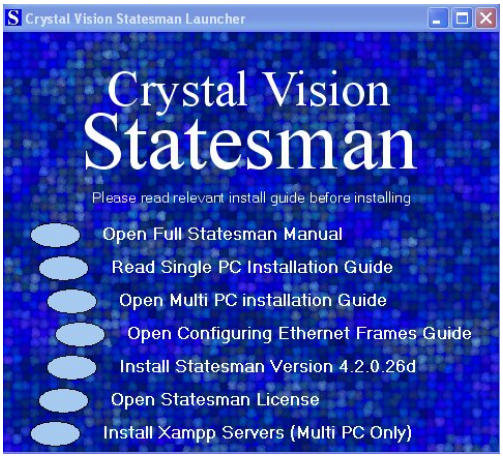
- At the PC running the existing single copy of Statesman install the XAMPP servers, MySQL user setup and Crystal Vision licence server
- Run the XAMPP servers and MySQL user setup to create a MySQL user
- Launch Statesman, choose the Upgrade option at the login prompt and enter the new Multi PC licence provided and MySQL database details when prompted
- Wait until Statesman closes after the MySQL database imports the old settings
- Run the Multi PC licence server, then run Statesman in Multi PC mode with the old settings intact

Note: The given steps need to be followed *exactly* to avoid database errors.

Installing XAMPP servers

The first step of the upgrade is to install the XAMPP servers.

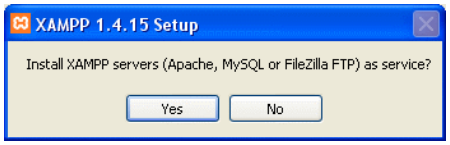
- Insert the Statesman 4 CD and the launcher menu should appear:



- Click on the button next to 'Install XAMPP Servers'

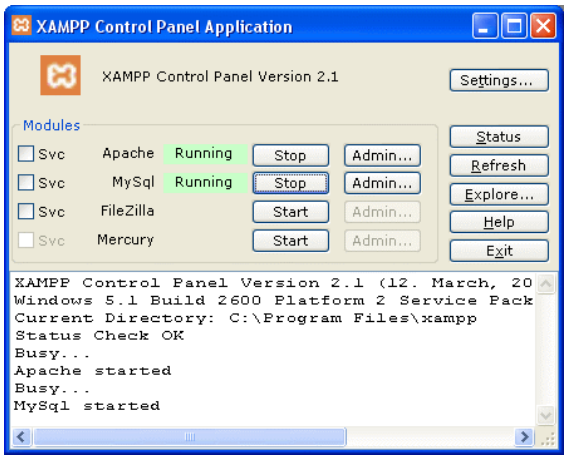
Alternatively explore the CD and run the file with a name similar to 'xampp-win32-1.4.15-installer'.

- Proceed with the XAMPP installation obeying any prompts



- When the installer asks if you want to install servers as services, select *No*

- When the installer asks if you want to start the control panel, select *Yes*



- Once the control panel has been opened, click on the *Start* buttons next to Apache and MySQL - the dialogue box should report that both start OK
- Leave the programs and XAMPP control panel running while you proceed with the installation.

Note: The Apache and MySQL programs will need to be run each time the Master PC is re-started.

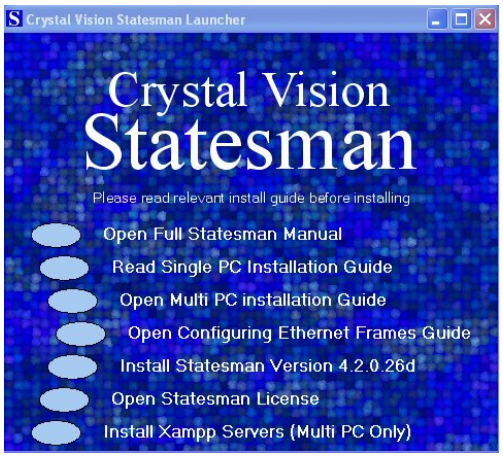
To check everything is working correctly, open a web browser and navigate to http://localhost/. The XAMPP logo should be displayed as below.

Installing additional statesman options

To continue with the upgrade proceed as follows:

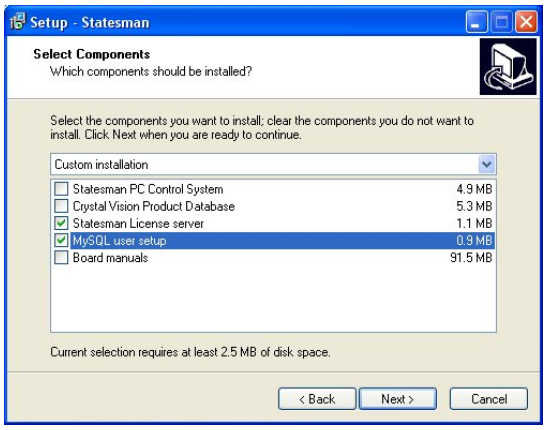
Tip: Backup the old Statesman installation folder first.

- Ensure that the USB dongle is connected to the correct port on the PC
- Return to the Statesman 4 CD launcher menu:



- Click on ‘Install Statesman Version x.x.x.xxx’. Alternatively, explore the CD and double-click the file ‘cvsetup_vx.x.x.xxx’.

- Select a *custom* installation from the drop down list and check *Statesman Licence server* and *MySQL user setup*



- If a warning appears about not removing existing components, ignore the warning and click on *YES* to continue anyway
- Click *Next* to proceed with the installation
- Obey any further installation program prompts but DO NOT allow Statesman to start by unchecking *Launch Statesman*

The next step is to create the main MySQL user for the Master PC.

- Open the install directory folder, normally *C:\Program File\Crystal Vision*

- Click on *createmysqluser.exe* to create the MySQL user

- Enter a memorable user name and password.

Finding the MySQL server name

When Statesman is run to upgrade it, the MySQL server name (or IP address) must be known, this is the same as the host name (or IP address) of the PC.

It is recommended to use the host name, rather than the IP address, as this remains the same even in a DHCP network where IP addresses may change. The server host name will be needed by all PCs on the network.

To discover this information use the built-in Win2k/XP command *ipconfig* as follows:

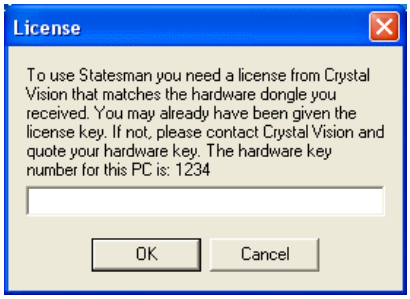
3. Click on *Start >> Run* and then type *cmd*
4. In the command line box that opens, type *ipconfig/all* against the prompt
5. Make a note of the *Host Name* shown

Upgrading Statesman

To start the upgrade procedure run Statesman, which should proceed to the user logon.

- Enter the your usual Statesman credentials for starting the Single PC system

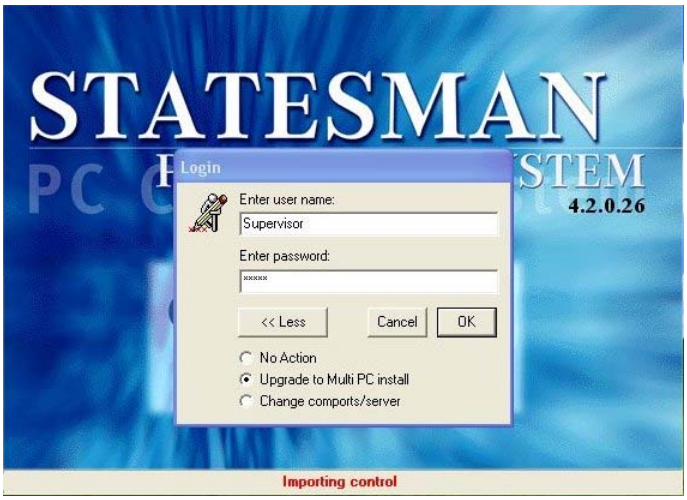
- Then click on *More>>* check *Upgrade to Multi PC* install and click *OK*
- Enter the new Multi PC licence code when prompted click *OK*



- The database login appears

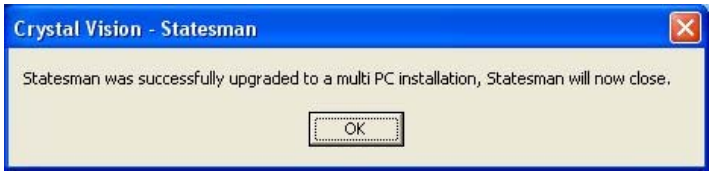
- Enter the MySQL credentials and server host name noted earlier

- Statesman will import the Single PC database into e Multi PC MySQL database



Note: This process may take some time, depending on the size of the Single PC database.

When the update has finished a success message appears and Statesman will close.



The next step is to run the Multi PC Licence server.

- Go to *Start >> Programs >> Crystal Vision >> Statesman licence server*

- Click on the program entry to run it

Tip: To check that the licence server is running, hover the mouse over its yellow padlock icon at the right hand side of the bottom status bar.

A pop-up should appear showing the number of licensed boards.

- Finally, run Statesman as a Master PC for a Multi PC system, but with all the board and Statesman user settings intact.

Trouble shooting

If a *Database server missing* or *database locked* message appears it may be because the licence server has been run before the existing user and board data has been imported to create a properly configured MySQL Statesman database.

To proceed with the installation despite the error, check *Continue* and click *OK* (twice) to dismiss the warning. Then proceed to the user login and request an upgrade. The rest of the installation should proceed normally.

Tip: Perform an *Installation Backup* after the upgrade.

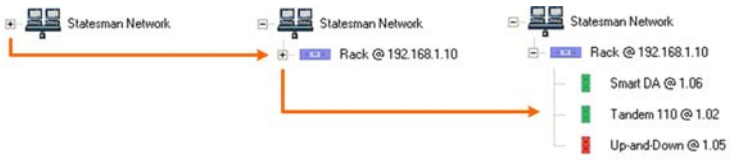
4. Getting started

The Statesman PC Control System may be run from the desktop or quick launch icon. Alternatively it may be run from the Crystal Vision programs folder via the Start menu or by double clicking on the *statesman.exe* file in the installed program directory.

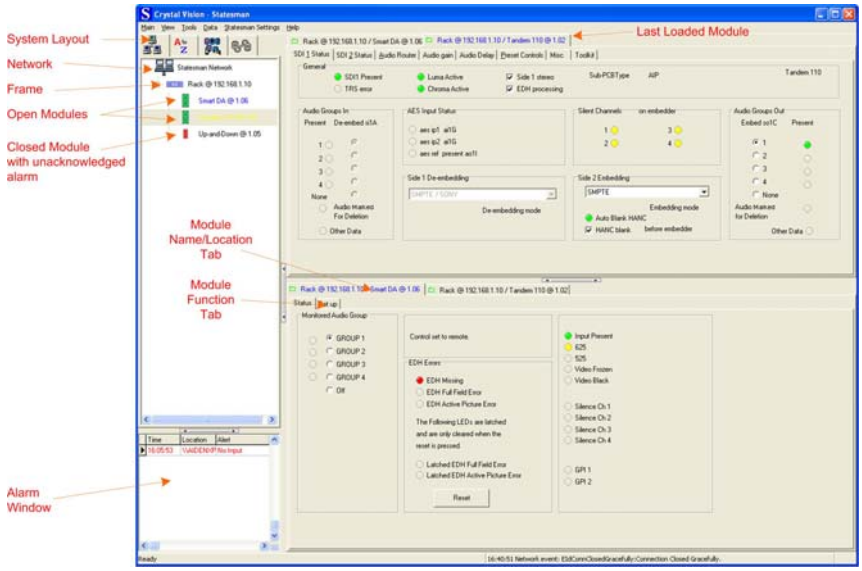
Tip: To view all application windows, set graphics resolution to *at least* 1024 x 768.

4.1.1 Board icons and control panels

Networks and their connected racks and boards are detected automatically when Statesman loads. The default view is always *System Layout* in which any configured networks are shown. To open a network, click on the '+' sign; to see the contents of a rack click on its '+' sign; board icons should then be seen below the rack.



To open a board double-click on its icon, or highlight it, right-click and choose *Open* from the menu displayed. The selected board's tabbed menus will be loaded into the upper and lower control windows. To view an opened board click on its *name/location* tab. To close a board right click its name/location tab and choose *Close Tab.*



Note: The last board to be selected is always shown in the upper window.

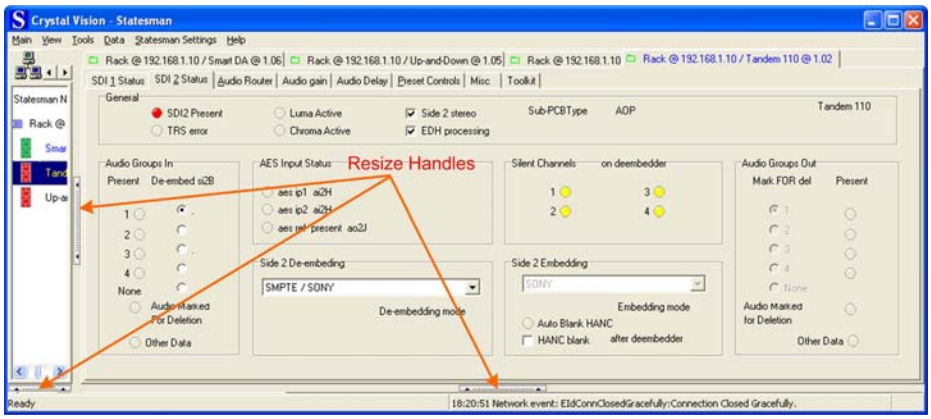
Board and rack status is shown with the following colour and size coding:

- A board is present when its icon is in full colour and absent when greyed out
- A board panel is open when its icon is large and closed when small
- A board icon is the source of an active or unacknowledged alarm if red and not alarmed or acknowledged if green

Alarms are discussed in detail in *section 3.5, Managing alarms*.

The menu display is repeated for convenience to allow dual-control display of boards with duplicate signal paths or to allow two functions to be viewed at the same time.

The physical position and size of the four main windows, upper/lower board, System View and Alarms can be changed as desired using the resize handles provided.

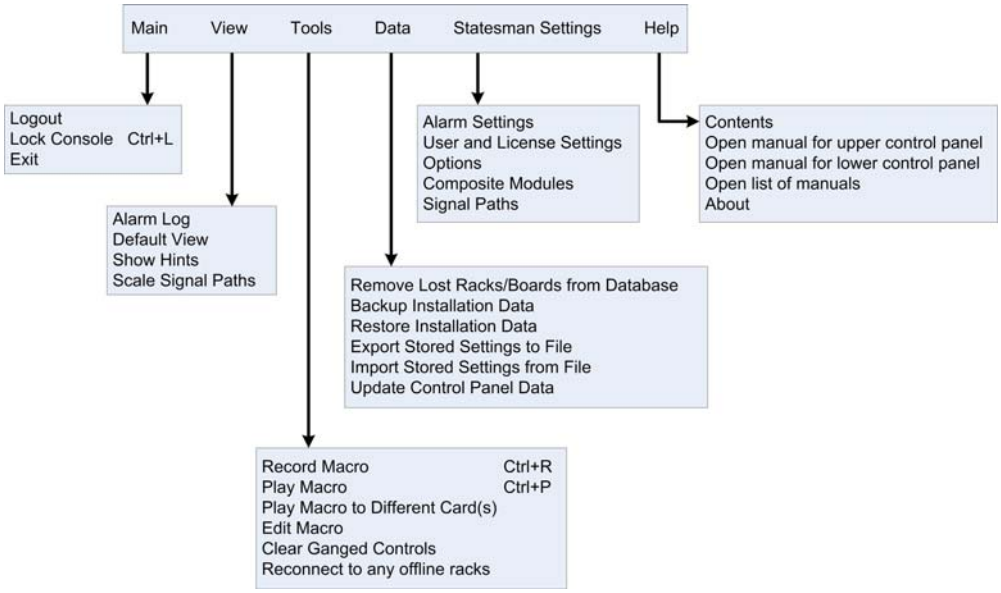


To alter window size, move the cursor over a resize handle until it is highlighted, then hold the left mouse button down and drag the handle. When the window is arranged as desired, release the mouse button.

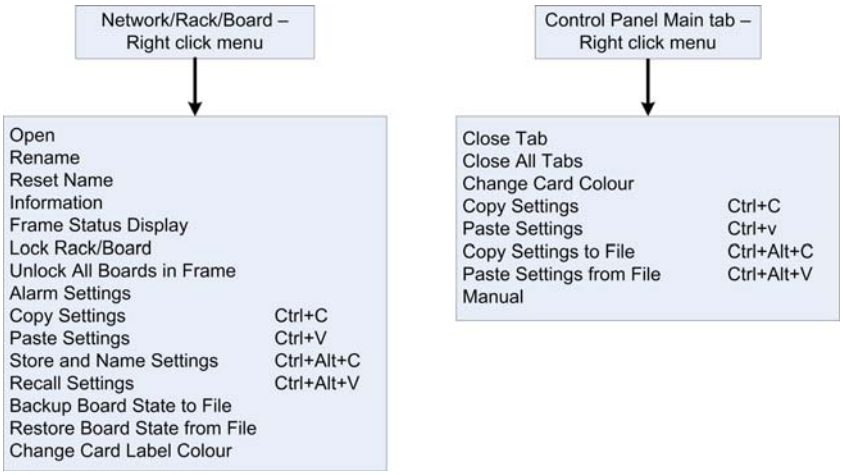
In the example above, the alarm and lower board windows have been hidden by clicking once on their window handles. The application window has then been resized for just one board. The hidden windows can easily be restored by clicking on their handles again. The direction in which a window collapses or can be restored is indicated by two small arrows at each end of the handle.

Tip: Default sizes can be restored by clicking on *Default View* under the view menu.

The tool bar at the top of the main window provides access to Statesman menus.



Right clicking board tabs and rack or board icons reveals further menus:



Tip: Frequently used menus are associated with keyboard shortcuts for convenience.

Note: Menu commands are greyed out when not applicable

4.1.2 Understanding board tab text colours

The default text colour of board names in menu tabs depends on whether the board's control panel is active and appears on top of other panels or is hidden behind them.

	Priority	Default colour	Changeable?
Normal board	High - On top	Blue	No
	Low - Not on top	Black	Yes
Composite board	High - On top	Blue	No
	Low - Not on top	Black	No

The text colour of the board tab name for loaded boards whose control panel is behind other board panels can be selected from a wide range of system colours. The default tab name text colour for active boards and composite boards cannot be changed and is always blue.

To change the low-priority tab name text colour, right click the loaded board tab and choose Change Card Colour. This will display a standard windows colour palette selection menu. Select or create a desired colour and click on OK.

To change the tab name low-priority colour for all boards in a rack, highlight the rack icon and choose Change Card Label Colour.

4.1.3 Changing board names

By default board names follow the format *standard name@rack.slot location* for example, Smart DA@1.06. To rename a board right click the board icon and choose *Rename*. Then type a suitable name in the prompt provided. To reset the name to its default name, right click the board icon and choose *Reset Name*.

4.1.4 Using ganged controls

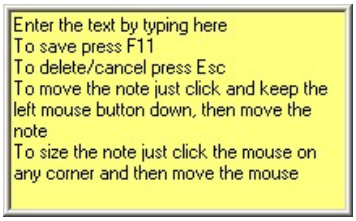
To gang board slider controls together to move them as one, right click on the slider chosen as the Master with the CTRL key held down and then, whilst continuing to hold the CTRL key, right click on one or more further sliders to use as slaves.

To clear ganged controls and restore them to individual use, select 'Clear Ganged Controls' in the Tools menu. The control is only available when a board application is active and controls have been ganged.

4.1.5 Using notes

To attach a note to a board, right-click any control menu tab and select Write Note to display up a 'sticky yellow note' for that tab.

Each control menu has its own note



Enter the desired text in the box provided. To save it and send it to all connected computers across the network press the F11 key on the keyboard. The note will only be seen on connected computers that are displaying the same board. To delete or cancel the note, press the Esc key.

To move the note, click on it and drag it with the mouse whilst holding the left mouse button down. To resize the notes window, left click on a drag control in any corner and move the mouse whilst holding the left mouse button down.

4.1.6 Using hints

Cards with hint enabled database entries, will be able to display operational Hints when the mouse is hovered over Statesman menus and commands. To enable Hints ensure that 'Hints' is enabled in the View menu.

4.1.7 Saving and copying board settings

There are four ways to save or copy board settings:

1. Copy via the clipboard to another board
2. Store and name settings for each board to file/database
3. Backup an entire board 'state' including presets to a file/database
4. Export all stored settings (but not presets) to local storage

Which method is best depends on what you want to do. For example, to copy settings from one board to another of the same type and on the same PC, the easiest way is to copy and paste settings via the clip board.

For settings to be made available to other PCs in a Multi PC network, the easiest way is to store and name settings to the database.

If you wish to allow other PCs to use the same presets for certain boards, their entire 'state' including presets can be saved to file.

There is also an option to export all saved settings (but not presets) to a named file locally on the PC's hard drive. This can prove useful if settings have to be restored following a system crash or when exporting settings to a network in a different location.

The first three methods use commands obtained by right-clicking either a board icon or a board tab. The *export stored settings* to local storage method is obtained via the *Data* menu.

The subject of data management including updating Control Panel data from Crystal Vision's ftp server is dealt with in detail in the Data management section of the Operation chapter.

5.Operation

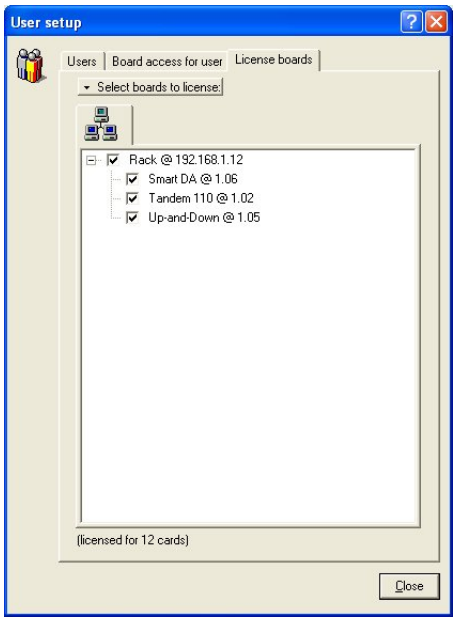
5.1 Managing users, boards and licences

Each user added to Statesman can be given access to different racks and different boards within those racks. However, the total number of boards that can be controlled at any one time is determined by a licence obtained from Crystal Vision. The licence requires a hardware dongle to be present and is usually fitted to a Master PC.

Boards displayed in client copies of Statesman can be temporarily locked to prevent control access and clients can lock their own consoles to prevent unauthorised access while left unattended.

5.1.1 Licensing boards

To use the licence administration tool to allocate the licence to selected boards, log on to Statesman with *Supervisor* rights.



Navigate to the *Licence boards* tab of the *User setup menu* under *User and Licence Settings* on the tool bar.

Place a tick by the racks and/or boards to apply the licence and allow them to be available for control.

Click on *Save* when prompted.

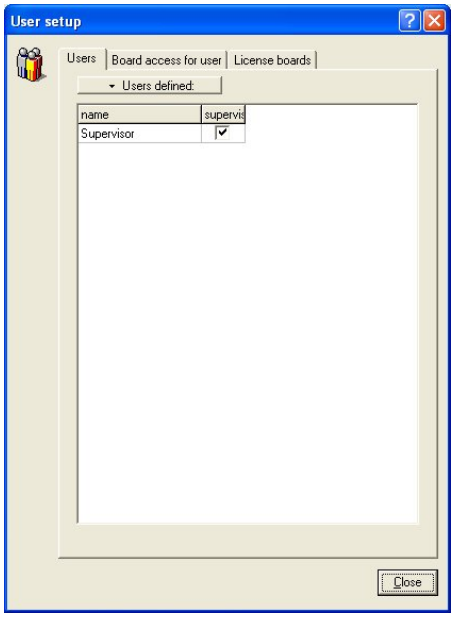
Note: Boards not assigned to control will appear in Statesman with a red padlock symbol.

Note: It is not possible to assign access beyond the licence value shown at the bottom of the form. To obtain licences for further boards, contact Crystal Vision.

To apply a new licence, refer to *Applying Licences* in the *Setting Statesman Options* section in this chapter.

5.1.2 User management

User management is only available to users with supervisor status.



To access user settings, login with supervisor status and click on User and Licence Settings under the Statesman Settings menu in the tool bar.

The available commands from the drop-down *Users defined* menu are:

Add user
Duplicate user
Delete user
Change password

Note: These commands can also be obtained as a context sensitive right-click menu from anywhere inside the white area.

Adding a Statesman user

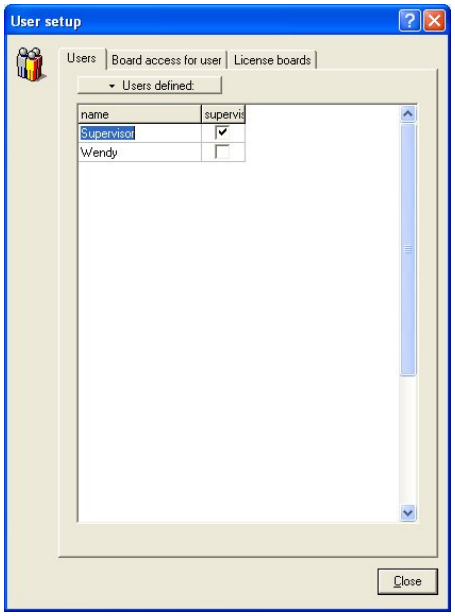
- To add a user, click on Add user

- Enter a name in the box provided and click *OK*

- Enter a memorable password for the new user and click *OK*

Note: Passwords are case sensitive but names are not. So *Supervisor* is the same as *superVisor*, but *password* is different to *PassWord*.

- The new user is added to the user list



New users are added by default as *non-supervisor* users.

Non-supervisor users do not have access to the following Statesman menus:

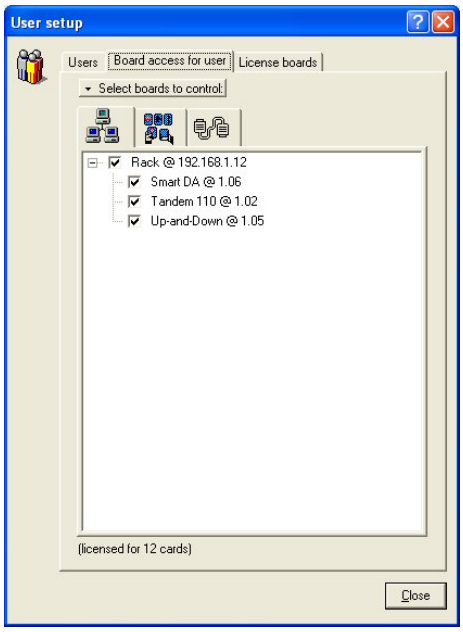
- Alarm Settings
- User and Licence Settings
- Options
- Design Composite Boards/Signal Paths
- Remove Lost Racks/Boards from Database
- Backup or Restore Installation Data
- Update Control Panel data

Note: Non-supervisory users may change their own passwords.

Note: Statesman users are not the same as MySQL users added to the MySQL Statesman database in Multi PC systems. MySQL users cannot be added or removed using this interface.

5.1.3 Assigning user access to boards and signal paths

To assign user access to boards and signal paths for a selected user, *highlight the user's name in the user list* then click on the *Board access for user* tab.



Place a tick against the appropriate rack and boards for the selected user to control.

To grant access to the selected user for *Composite Boards* and/or *Signal Paths* click on those tabs and place a tick against the required items.

Tip: Use the *Licence boards* tab to assign the licence obtained from Crystal Vision to currently installed boards as explained at the start of this chapter.

Note: It is also possible for a Supervisor to remove access to boards by locking boards on client machines. All users can also prevent operator access at their workstations by locking the console. A password will be required to unlock it.

5.1.4 Data management

The Data menu provides access to the following:

- Backup and Restoration of installation data
- Export and import of all stored settings to/from file
- Removing lost racks and boards from the database
- Update control panel data

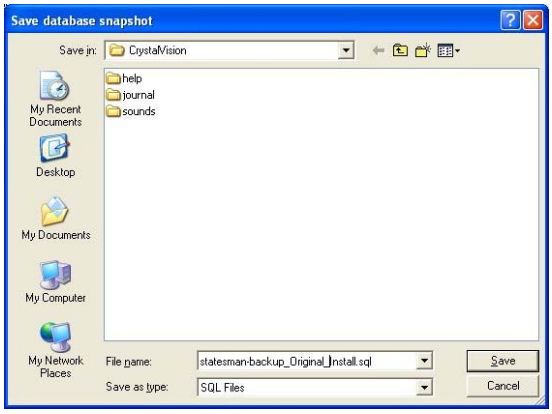
Other data management tools available from right-click menus include:

- Copy and Paste settings via the clip board
- Store and name/recall settings to/from file
- Backup and restore board settings and presets to/from file

Performing an installation backup

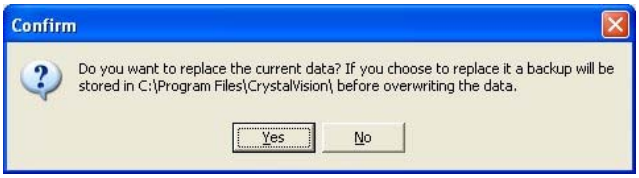
It is recommended to perform an installation backup before performing major re-configuration or if a workstation replacement or re-build is needed.

To perform an installation backup go to *Data >> Backup Installation Data*. The Save database snapshot dialog opens.



Navigate to an appropriate directory, name the backup with a memorable name and click *Save*. This will create a backup file in the folder selected.

To restore the backup go to *Data >> Restore Installation Data*. The replace data confirmation appears.



Select the desired option (normally *Yes)* to proceed to the *Load data* dialog.

Select a backup file from the appropriate location on you PC and click on *Open*.

Note: The backup file extension is *.sql* for Multi PC systems and *.db* for Single PC systems.

Tip: for greater security backup the entire installation folder set and/or copy the statesman database.

Copy and paste settings

The copy and paste commands are provided to enable the configuration settings of one card to be duplicated and applied to other boards of the same type. The paste command will not work with dissimilar boards. This is a fast method of applying the same settings to a number of identical cards.

To temporarily copy the settings of a board, display the right-click board icon or board tab menu and choose *Copy Settings* (keyboard shortcut *Ctrl+C*).

To paste the settings to an identical board highlight its icon, or select its tab, right-click for the menu and choose *Paste Settings* (keyboard shortcut *Ctrl+V*). The target board's settings will be overwritten with those just saved.

If an attempt is made to paste to a different board a warning will be given.

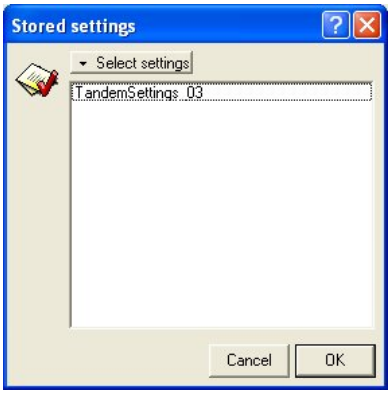
Note: A board must be selected and its control menu loaded before copy commands function. It is not possible to save from or paste to a Composite Card.

Store and name settings

This allows settings to be saved to file/database and for those settings to be applied to identical boards using the module right-click *Recall Settings* command.

To store and name board settings, display the right-click board icon or board tab menu and choose *Store and Name Settings* (keyboard shortcut *Ctrl+Alt+C*).

To recall the settings from file/database to an identical board highlight that board's icon, or select its tab, right-click for the menu and choose *Recall Settings* (keyboard shortcut *Ctrl+Alt+V*).



Highlight the appropriate settings and click *OK*, the target board's settings will be overwritten with those in the saved file. If an attempt is made to paste to a different board a warning will be given.

Note: Use the *Select settings* menu to rename or delete stored settings.

Backup board state

This is only available for boards that support presets and where presets have been created. Backup board state requests the entire board state including all of the board's presets. For example, Tandems have 16 presets which can be written into and recalled. Backup board state will copy all of these along with the current settings the board is set to. Since the board has to be interrogated, the process may take some time.

To backup a board's entire state, display the right-click board icon or board tab menu and choose *Backup board state to File*. Enter a name for the settings in the box provided.

To restore the settings, display the right-click board icon or board tab menu and choose *Restore Board State from File*.

Highlight the appropriate entry and click *OK*, the target board's settings and presets will be overwritten.

Note: Use the *Select settings* menu to rename or delete stored settings.

Export and Import stored settings to/from file

The import and export commands, available via the Data menu, are provided to allow system administrators to anticipate and recover from system failures or perform system re-builds.

The *Export Stored Settings to File* command compiles all of the Stored and Named settings for all boards and exports them to a file with a .db extension. This file can be read by both Single PC SQLite and Multi PC MySQL systems to restore settings of all boards.

Use the *Import Stored Settings from File* command in the Data menu to restore board settings.

Note: Preset data is not included in the data exported to file.

Removing lost racks or boards

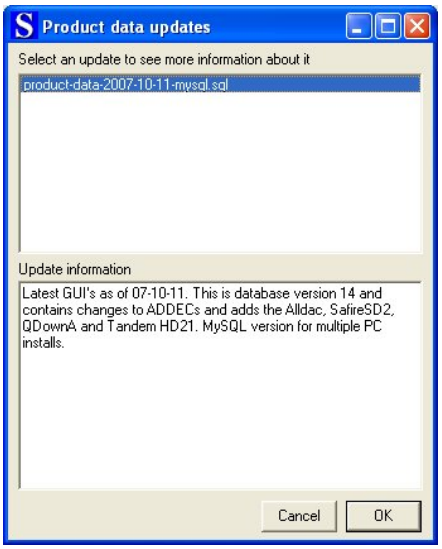
Statesman is designed to recognise and 'install' boards in connected racks automatically. When a rack is taken off-line or a board removed, they are greyed out in Statesman's explorer view, but are not automatically removed.

To remove redundant items from the explorer view and their corresponding configuration settings from the Statesman database choose *Data>>Remove Lost Racks/Boards from Database.* The board types remain registered with the database and new or existing active boards of the same type are not affected.

Updating control panel data

Sometimes updates are made available for control panel functionality either because of new features or 'fixes' for existing boards or to support a newly released board.

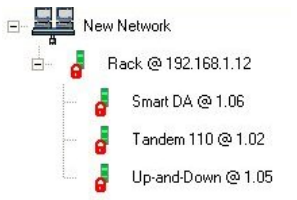
Statesman can be asked to connect to the Crystal Vision ftp server to obtain the latest update. Go to *Data >> Update Control Panel* data. Highlight the required update to see a short description. Click OK when ready.



Note: A database update may require Statesman and/or the MySQL database to be re-booted.

5.1.5 Locking boards

Boards displayed in client copies of Statesman can be temporarily locked to prevent control access. Boards that have been locked are shown on clients logged into without Supervisor rights with a red padlock. It is not possible to operate controls on a locked frames or boards.



Note: Racks and boards are shown with a line through them on clients logged into with Supervisor rights.

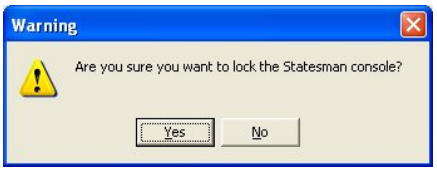
To lock or unlock a board or frame/rack, log on to Statesman with *Supervisor* rights. Highlight the frame/rack in the System View and right-click for the device-specific context sensitive menu. Choose *lock* or *unlock* as required to change the status of the device in *all* client (non-supervisory) copies of Statesman.

Note: The visual status of devices in Statesman logged into by Supervisors does not change. Supervisors are recommended to use the context sensitive menu to reveal lock status – i.e. if *unlock* is highlighted the device is *locked*.

To unlock a board, highlight it and choose *Unlock* from its right-click menu. To unlock all boards in a rack choose *Unlock All Boards in Rack* from its right-click rack menu.

5.1.6 Locking the console

Any console can be locked to prevent access without a password by choosing *Lock Console* from the *Main* menu, or by typing keyboard shortcut *Ctrl+L* and clicking Yes to the conformation message.



Once the console is locked, no user control will be possible until it is unlocked using the user's own password.

To unlock a locked console, choose *Unlock Console* from the main menu or type *Ctrl+U* on the keyboard. The verify password screen will be displayed.

Type a valid password to unlock the console.

It is only possible to lock or unlock a console from its own keyboard/mouse, it cannot be done over a network

Note: Client users may change their passwords.

5.2 Setting Statesman options

The *Options* menu under *Statesman Settings* allows options to be configured for the following categories:

Commonly used settings

Note: Only main functions are listed in this bullet list.

- Networks – manage local/remote RS422 *serial* connected racks
- Racks – add, delete, change and search for *network* connected rack IP numbers
- Alarms – enter e-mail, SMTP details and select a PC to send alarms to
- Licence – use this form to update the Crystal Vision licence

Advanced settings

The following settings are provided for advanced users and can be left at their default values set by install wizards and configuration prompts for standard Single and Multi PC installations.

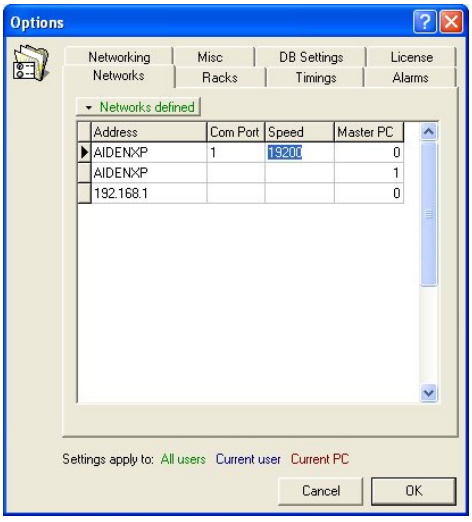
- DB Settings – manage MySQL/SQLite database connections
- Timings - set system parameters and ensure optimal performance
- Networks – add or change Statesman server
- Networking – TCP/IP server, IP rack port and Licence server details
- Miscellaneous (Misc), for example, enable full debug messages, set message filter, set Signal path scaling

Note: The server name for the Statesman database, MySQL server and Licence server are the same as the Master PC host name in a standard Multi PC installation.

5.2.1 Managing connected racks

The *Statesman Settings >> Options >> Networks* tab shows the following information:

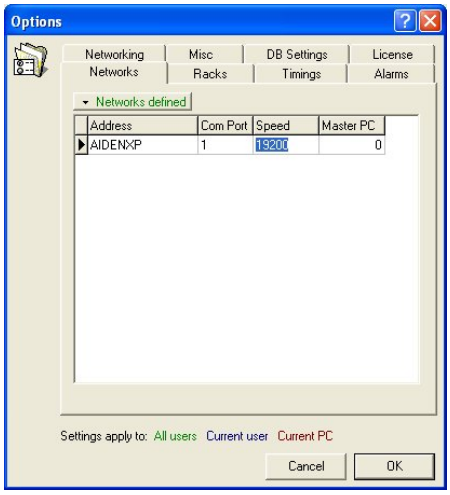
- RS422 connected racks
- IP connected racks and IP address of the Master PC



The method used to add or delete racks depends on the connection type.

Managing RS422 connected racks

The network form acts as a status display with context menus available to change connections.



The available commands from the drop-down *Networks defined* menu are:

- Add Local RS422 Network
- Add Remote RS422 Network
- Add Statesman Server
- Change Statesman Server
- Delete

Note: These commands can also be obtained as a context sensitive right-click menu from anywhere inside the white area.

Local and remote RS422 networks

Normally, RS422 racks are connected to a Master PC. Rack connections at the Master PC are referred to as local, Master PC rack connections managed from another PC are referred to as remote.

Note: Although there is no strict topology limit and racks may be connected to copies of Statesman in any location in a network, it is recommended to only connect RS422 networks at the Master PC for ease of system maintenance.

Adding and deleting RS422 racks

To add a local RS422 network, click on *Add Local RS422 Network* and enter the COMM port in the box provided and click *OK*.

To add a remote RS422 network, click on *Add Remote RS422 Network* and select or browse for the Master PC with RS422 connected racks and highlight its name and click *OK*.

Note: It is not necessary to select a COMM port for a remote PC as this is determined within its own copy of Statesman. The Baud rate is always 19,200.

For additional racks, add local or remote racks up to the maximum supported by your PC/Statesman.

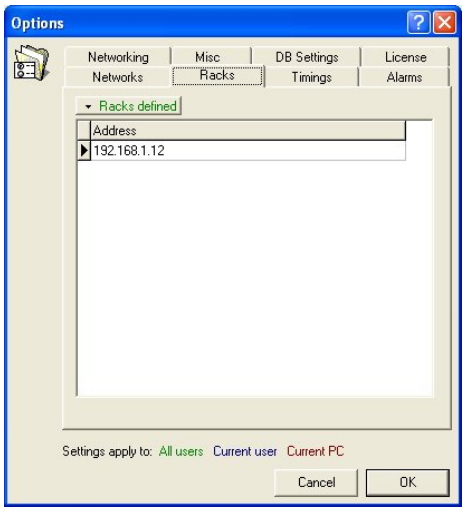
To delete an RS422 network, highlight it and click on *Delete*. A message will appear warning that the rack and all its installed boards will become unavailable.

Adding the first IP connected rack

To add a network connected rack for the first time to a system with only RS422 connected racks proceed as explained in *Adding an IP network to an RS422 based system* section.

Managing network (IP) connected racks

Although it is possible to use the network tab to *delete* details relating to IP connected racks, it is recommended to use the *Racks* menu to *add* or *delete* IP connected racks.



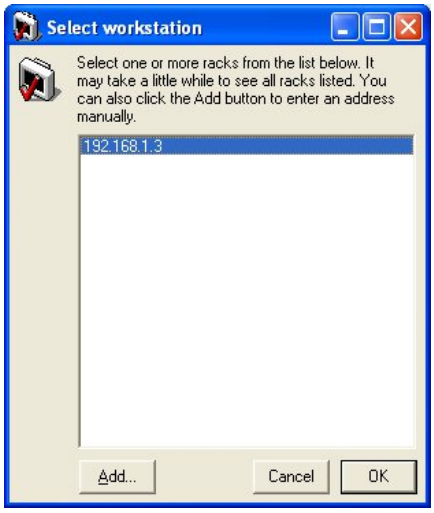
The available commands from the drop-down *Networks defined* menu are:

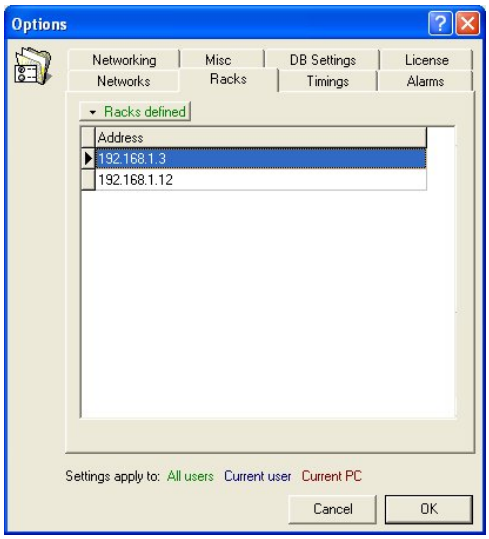
Add Rack
Change IP address
Delete

Note: These commands can also be obtained as a context sensitive right-click menu from anywhere inside the white area.

Adding and deleting racks

To add a network connected rack click on *Add Rack*. Statesman will search the network for connected and powered racks and display their IP addresses. Highlight the rack and click on OK. It will automatically appear in the Racks tab form.





If the IP address of the rack is known, but it is not automatically detected it can be added manually using the *Add*.. control on the *Add Rack (Select Workstation)* form.

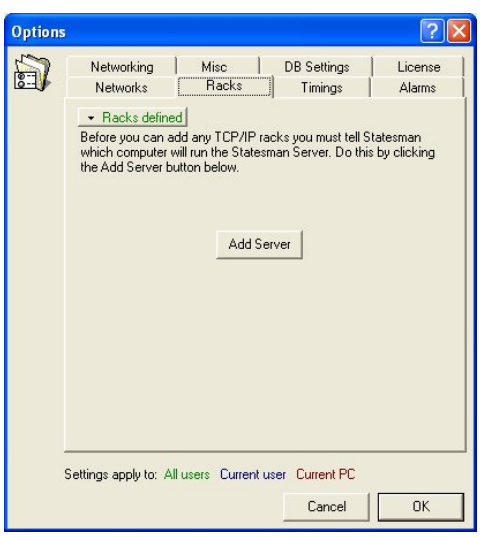
Enter the IP address (all four parts) and click *OK*.

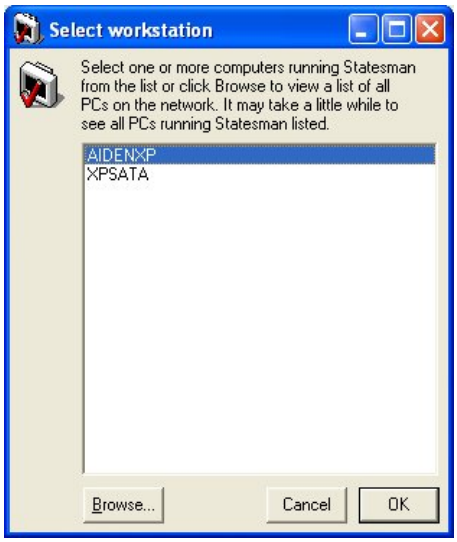
To delete a rack, highlight it and click on *Delete*. A message will appear warning that the rack and all its installed boards will become unavailable.

Adding an IP network to an RS422 based system

To add one or more network connected racks for the first time to a system with only RS422 connected racks proceed as follows:

- Go to *Statesman Settings* >> *Options* >> *Racks* and click on *Add Server*





Note: The 'Statesman server' in the instructions above is normally the Master PC.

- Highlight the Master PC in the Select Workstation list or browse for the Master PC and click *OK*
- Then add racks as explained in the previous section by clicking on *Racks defined* (or right –click for the context sensitive menu) and choosing *Add rack*
- Highlight one or more racks from the list provided and click *OK*

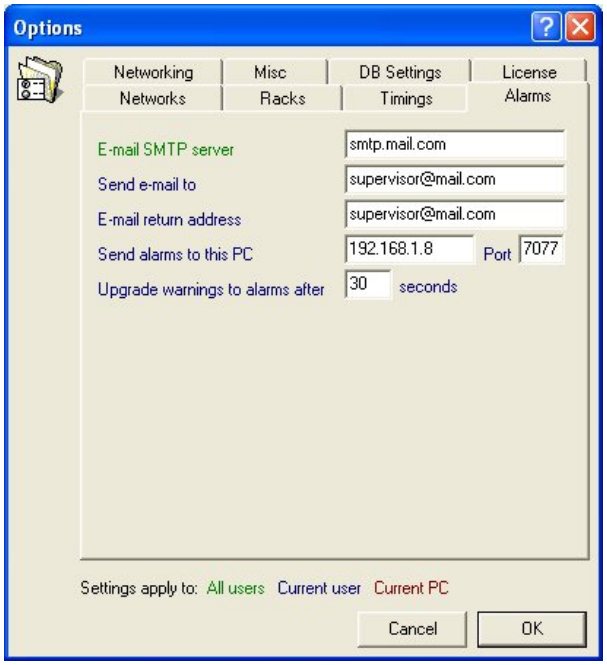
Forcing a network subnet range search

If Statesman cannot find any racks, the search facility may need to know the appropriate IP range. Use the *Add..* control on the *Add Rack (Select Workstation)* form as explained in the previous section, but add only the first three sections of the IP range to search with.

Note: For this search function to work, the IP address of at least one Ethernet adaptor in the PC must lie in the same range.

5.2.2 Setting Alarm options

The Alarm tab provides access to a number of system parameters:



The following table summarises system parameters configurable under the Alarms tab:

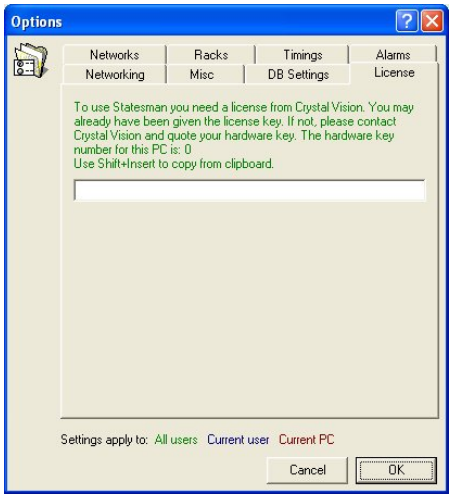
	Values	Notes
E-mail SMTP server	SMTP server name or IP number	Name or IP number of the server used to send or receive mail
Send e-mail to	Valid e-mail address	PC MUST have access to an SMTP mail server
E-mail return address	Text for email message from field	PC MUST have access to an SMTP mail server
Send alarms to this PC	Name or IP address of target PC	Any PC on the network with the Alarm Watcher running can show alarms sent to it
Upgrade warnings to alarms after	Default value is 30 seconds	Time after which warnings are treated as alarms

Note: To test alarm via e-mail on your local PC, enter 127.0.0.1 (IP loop address) as the e-mail SMTP server.

Tip: Settings are colour coded to indicate which users (All users, Current user, Current PC) they apply to.

5.2.3 Updating board licences

Additional board licences are available from Crystal Vision. To apply each additional licence open the *Options >> Licence* tab.



Copy the licence code to the clipboard then paste it into the space provided using Ctrl+V or Shift + Insert and click OK.

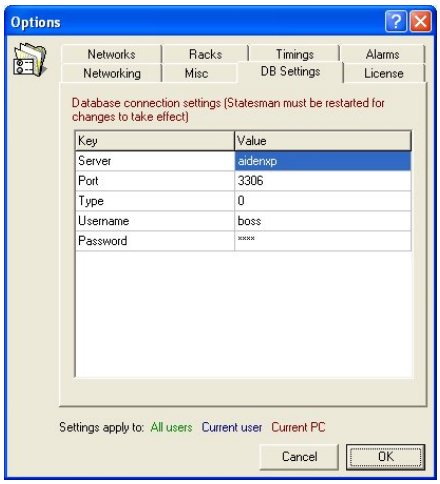
Note: The licence MUST match the Hardware Key (dongle number) of your PC.

Tip: Settings are colour coded to indicate which users (All users, Current user, Current PC) they apply to.

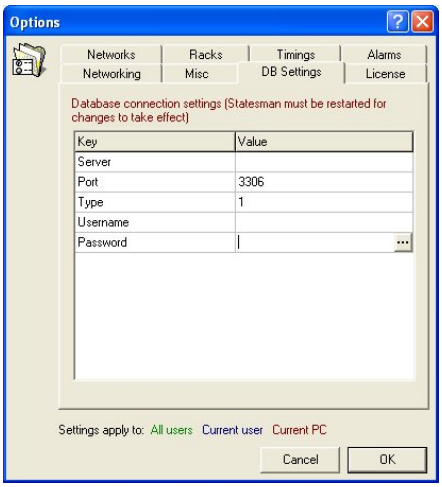
5.2.4 Managing database settings

Database settings are normally set by installation wizards and configuration prompts, however system changes such as a Master PC rebuild, may require other PCs to be re-configured. The connection to the Statesman database is controlled via the *dbconnection.ini* file in the Crystal Vision folder and can be managed via *Options >> DB Settings*.

The information displayed depends on the installation type:



Multi PC DB Settings

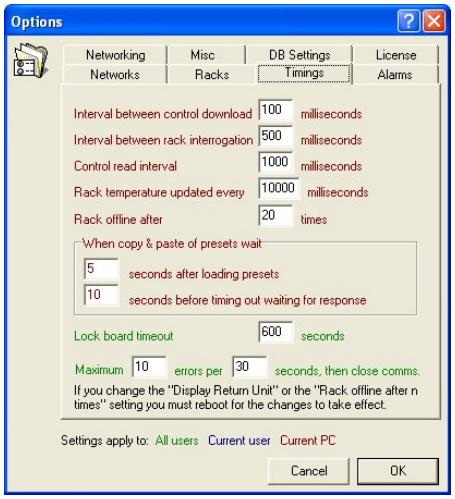


Single PC DB Settings

If the Statesman server (Master PC host name) or MySQL password changes they can be updated via the *Options DB >> Settings* tab.

5.2.5 Setting timing options

The *Timings* tab provides access to a number of system timing parameters:



The following table summarises system parameters configurable under the Timings tab:

	Notes
Interval between control download	Default value 100 milliseconds
Interval between rack interrogation	Default value 500 milliseconds
Control read interval	Default value 1000 milliseconds
Rack temperature updated every	Default value 10,000 milliseconds
Rack offline after	Default value 20 times
Copy & Preset delays	Defaults: 5 second post preset load, 10 second response timeout
Lock board timeout	Default value 600 seconds
Errors before comms closed	Defaults: Max 10 errors per 30 seconds

Notes:

The default value for *Interval between control download* of 100 milliseconds may be reduced for smoother slider control if trackerballs are not used, but at the expense of increased network traffic.

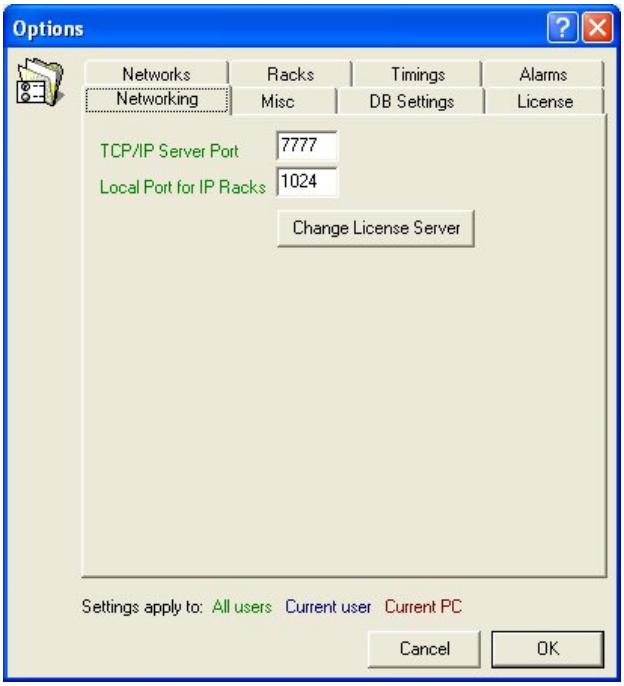
The *Rack offline after value* is the number of times Statesman must fail to get a response from the rack before it marks it as absent.

Changing the *Rack offline after* value will require Statesman to be exited and re-started to take effect.

Tip: Settings are colour coded to indicate which users (All users, Current user, Current PC) they apply to.

5.2.6 Setting networking options

The *Networking* tab provides access to a number of networking parameters:



The following table summarises system parameters configurable under the Timings tab:

	Notes
TCP/IP Server Port	Default value is 7777, but check for conflicts
Local Port for IP Racks	Default value 1024, but check for conflicts

Notes:

The TCP/IP Server Port number may be any 'safe' unused number available in the network. If in doubt consult a network specialist.

Tip: Settings are colour coded to indicate which users (All users, Current user, Current PC) they apply to.

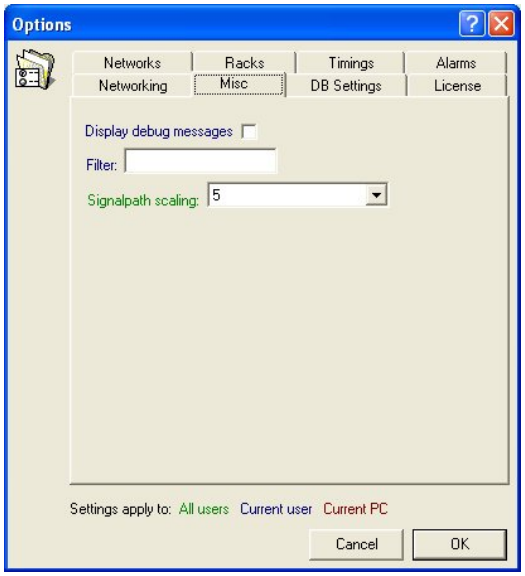
Change Licence Server

The change Licence Server button provides access to the *Missing Licence Server* prompt box.

If the licence server is run on a PC other than the Master PC, or if the Master PC details change, enter the new host name here.

5.2.7 Setting debug, signal path scaling and other options

The *Misc* tab provides access to a number of miscellaneous parameters:



The following table summarises system parameters configurable under the Misc tab:

	Notes
Display debug messages	Tick this option if instructed to do so by Crystal Vision support, otherwise keep it unticked.
Filter	Apply a custom filter to limit debug messages displayed
Signalpath scaling	Select a scaling value for the Signal path view

Note: The items available here may be subject to change as Statesman is updated.

Tip: Settings are colour coded to indicate which users (All users, Current user, Current PC) they apply to.

5.2.8 Master PC setting summary

The main settings relevant to the servers running on a Master PC are spread across Option tabs as follows:

Setting	Option tab/parameter name
MySQL server/Statesman database location	*DB Settings; Server* (or *Racks; Add Server* if adding first IP rack)
MySQL username	*DB Settings; Username*
MySQL password	*DB Settings; Password*
Licence server	*Networking; Change Licence Server; Location*

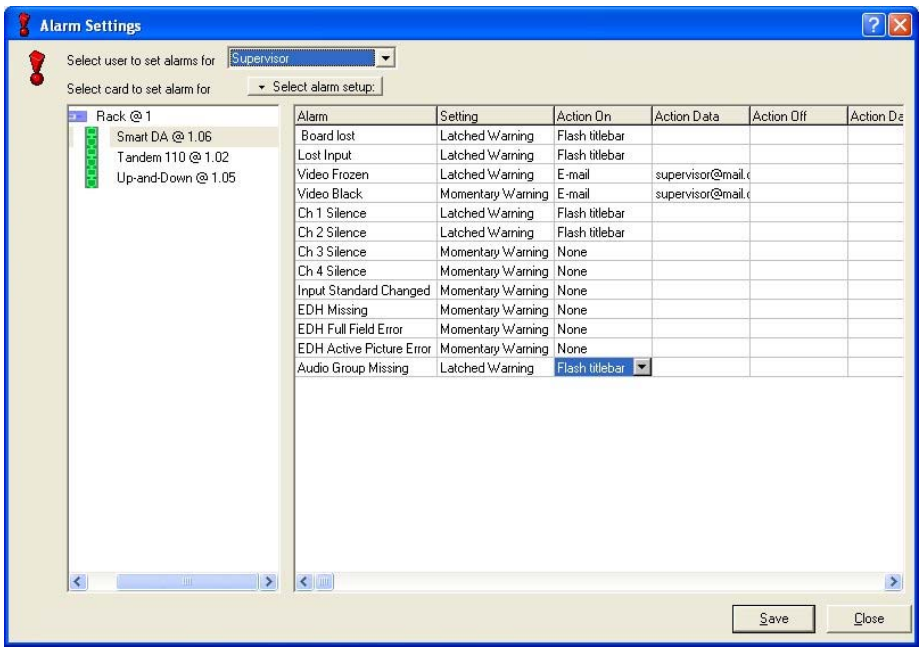
5.2.9 Managing racks summary

The Option tabs recommended for managing racks are as follows:

Action	Option tab/parameter name
Manage RS422 connected racks	*Networks, Networks defined*
Manage IP connected racks	*Racks, Racks defined*

5.3 Managing alarms

Statesman's database can associate each board with a range of alarms. The notification action for each enabled alarm can be selected in the Alarm Settings menu found under the Statesman Settings menu or by right-clicking a highlighted board.



The right-hand window will list all of the alarms that the current database associates with the board highlighted in the left-hand window. To modify the setting for an alarm click in the *Setting* entry for the chosen alarm.

Possible settings are:

- None
- Momentary Warning
- Latched Warning
- Momentary Alarm
- Latched Alarm

Possible action for ON and OFF are:

- None
- E-mail
- Flash title bar
- Play sound
- Play Macro

To change the notification or alarm action click in the appropriate *Action* entry for the chosen alarm.

Note: Notification (*Action data*) settings are defined in *Statesman Settings >> Options >> Alarms*

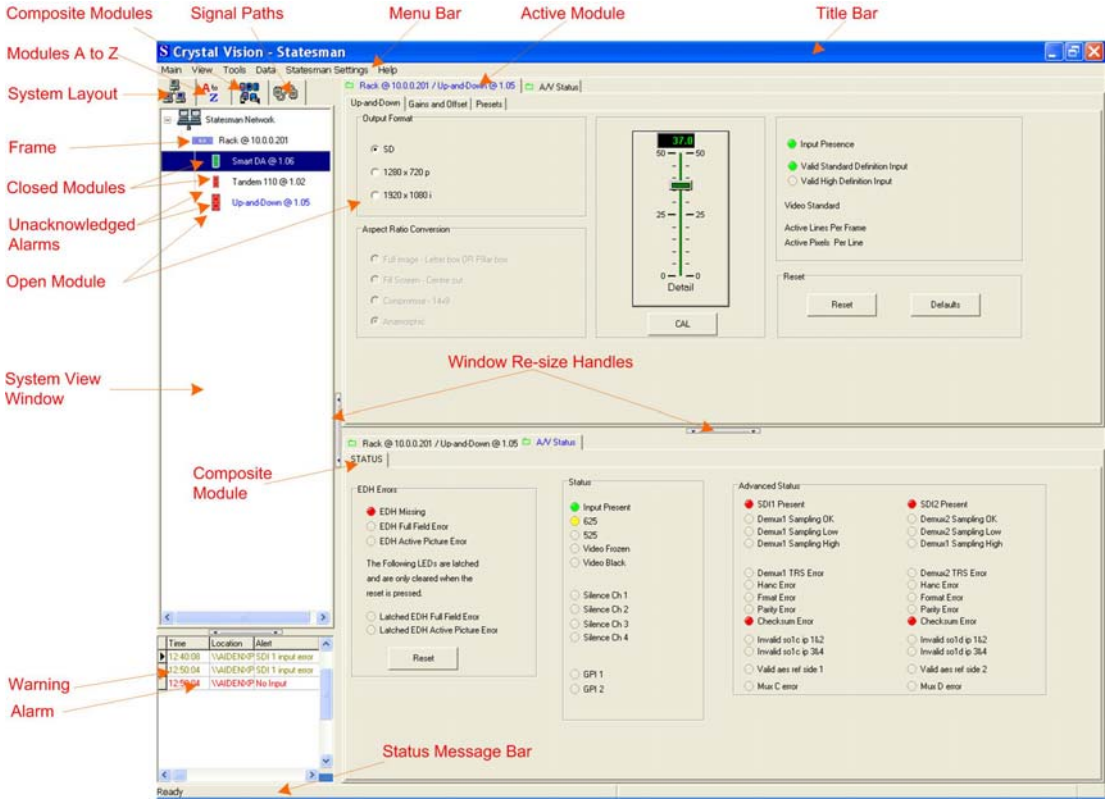
Tip: Settings can be copied from one board to another of the same type and from one alarm category to another of the same type.

Use the *Select alarm setup* drop down menu for *Copy*, *Paste* and *Clear All*.

Click *Save* when done and *Close* to dismiss the menu.

5.3.1 Status messages and on-screen alarm notification

The main application window is designed to allow an operator to see the status of installed Crystal Vision boards at-a-glance.



Board and rack status is shown with the following colour and size coding:

- A board is present when its icon is in full colour and absent when greyed out
- A board panel is open when its icon is large and closed when small
- A board icon is the source of an active or unacknowledged alarm if red and not alarmed or acknowledged if green

In the above off-screen image two boards are coloured red and are associated with alarms, but the host rack is not generating any errors and is coloured blue.

The Title Bar can be configured to flash status as alarms are generated and the status bar will display status messages as they occur. To view a list of recent messages click on the status bar.

If *Display debug messages* is selected in the *Options >> Miscellaneous* tab under *Statesman Settings*, status messages will include debug information. It is recommended to keep this option *unchecked* unless Crystal Vision support personnel have requested it specifically.

5.3.2 Using the alarm window

The alarm window allows reported alarms to be analysed according to location, time and alert type.

Note: Latched warnings are shown in amber and latched alarms in red.

The order in which alarms are displayed can be changed. Click on the *Time*, *Location* or *Alert* title bar to select it, and reorder the list according to the chosen category. Click it again to toggle the order direction as shown by the upward or downward arrow. If necessary move the slider to scroll through the list.

Acknowledging alarms

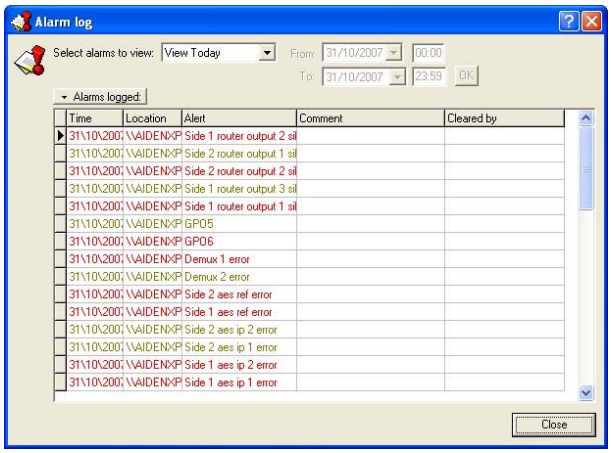
Alarms should be acknowledged to remove them from the list and deactivate any associated alarms. To acknowledge an alarm right click it when highlighted and select one of the following:

- Acknowledge
- Acknowledge all for this board
- Acknowledge all

Note: Acknowledging an alarm will NOT remove the cause of the alarm, but it will mask it until it is re-triggered.

Using the alarm viewer utility

All alarms whether acknowledged or not can be viewed using the Alarm Log viewer accessed from the View menu.



The analysis tools are enhanced compared to the alarm viewer in the main application window. For example, comments can be added and alarms can be viewed between given dates and exported to an external file or deleted altogether.

The preset view categories available from the drop down list include:

- View today
- View yesterday
- View last used
- View all
- View special – enter from to dates/times

Access the *Alarms Logged* menu (or right-click) for:

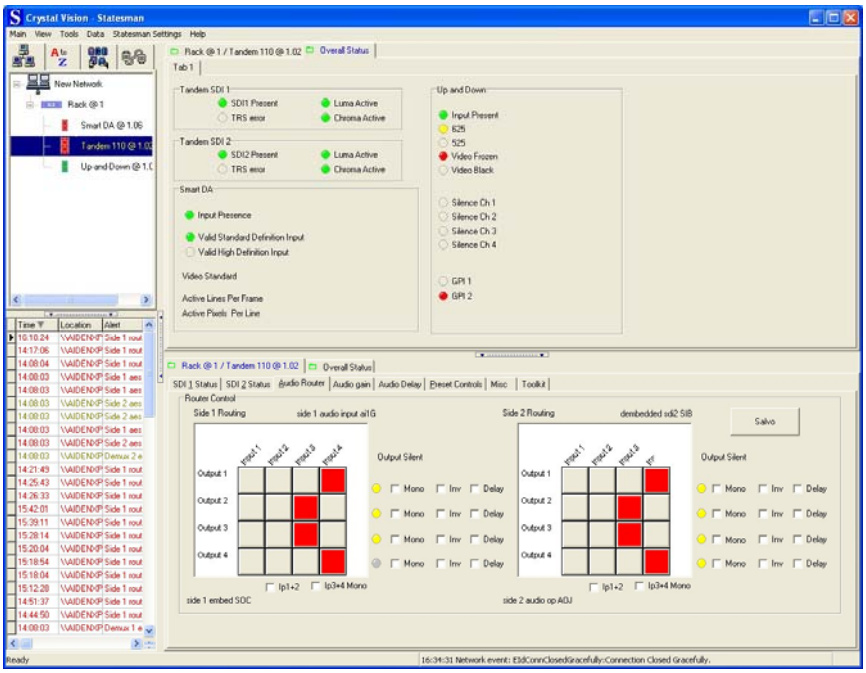
- Delete visible
- Delete Selected
- Delete All
- Export Alarms

5.4 Composite boards

Composite boards are custom boards created from components from other boards to limit, simplify or assemble features for specific control purposes.

One example - a Safire control surface can be created which allows operators to start auto transitions, but does not allow Safire parameters and key settings to be altered.

Another example might combine all of the status LEDs from a number of TANDEM boards into one control surface alongside a router to allow inputs to be instantly changed when signal failure is detected.



Composite boards limit the interaction by a user and focuses their attention on important signal presence indicators.

Note: Only users with Supervisor access can create or edit Composite boards.

The full set of controls are still available to operators with full privileges able to view the original 'donor' boards.

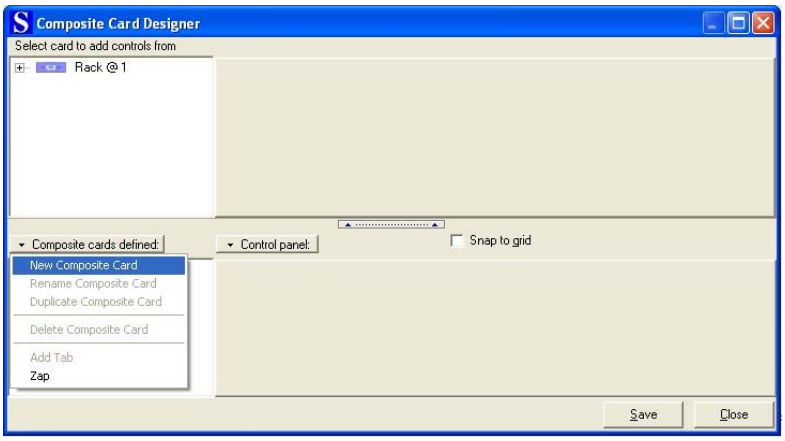
5.4.1 Creating new composite boards

The composite board designer is accessed from the Statesman Settings menu. Before running the designer any open control panels must be closed.

A warning will be given if any board control panels are open when attempting to run the designer.

Select the Yes box if it is OK to close all open control panels and run the designer.

When the Composite board designer first runs it will display two empty panels. Click on *Composite Boards defined* and select *New Composite Board* to create a new composite board.

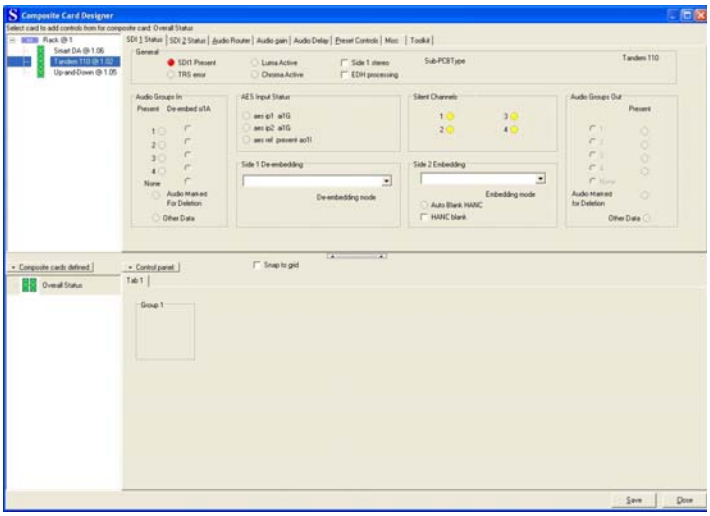


Type a suitable name into the prompt box provided.

Selecting donor boards

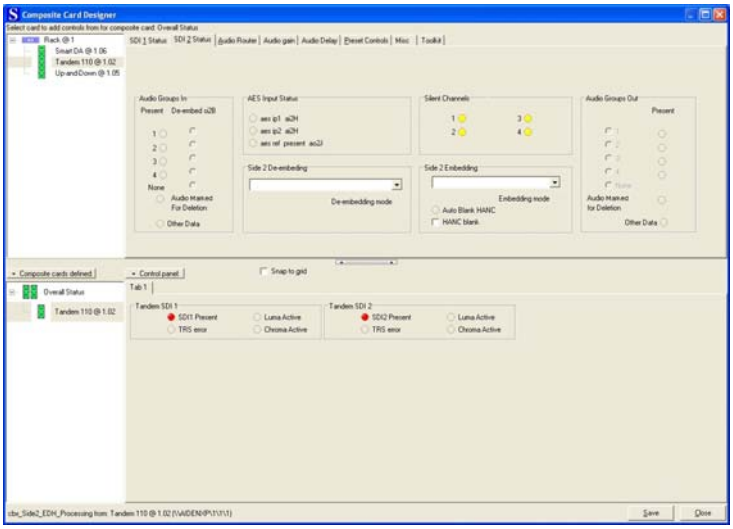
Click on a rack and a 'donor' board to extract controls from.

The blank Groupbox is ready to accept controls. If necessary it can be deleted. To delete a Groupbox right click and select delete or press the delete button on the keyboard.



The new composite card is now ready to be populated with individual controls and/or control groups from existing boards, which have been loaded into the top panel.

To copy controls from an existing board, click on the individual controls, or their Groupbox and drag them into the lower window. Individual components within a group can be deleted and the group box can be resized and renamed.



Note: As controls are dragged to the designer control panel, they are removed from the 'donor' card. If necessary the 'donor' card can be refreshed by double clicking on its icon. No controls are ever actually removed from the existing 'donor' board.

Tip: Check *Snap to grid* to ease the task of aligning groups and icons.

Using group boxes

Although it is quicker to move entire group boxes into the new composite board, it is not possible to move components to other groups.

Tip: To devise custom group boxes, create them first in the new composite board and then copy individual controls.

Warning: Group boxes can be resized using the grab handles visible when highlighted. It is not recommended to attempt to resize a Groupbox to include other Groupboxes.

Using menus

Available menus can be obtained from drop down menus or right-click context sensitive menus as follows:

Composite board defined

- New Composite board
- Rename Composite Board
- Delete Composite Board
- Duplicate Composite Board
- Add Tab
- Zap

Control panel

- Add Tab
- Delete Tab
- Rename Tab
- Add Group Box
- Move Left
- Move Right

To change the group name or add a label, highlight the Groupbox, right-click for a menu and select Rename Groupbox or Add Label. To delete a group select Delete Groupbox. A label is always associated with a Groupbox and may be placed anywhere inside it.

To delete a control or rename a label highlight the control or tab right click for menu, then select the appropriate command.

Tip: For quick delete, highlight the component and hit the *Delete* key.

Note: The *Zap* command is used to remove ALL composite boards from the database.

Saving composite boards

To save the composite board(s) created click on the Save button at the bottom of the designer window. When finished with the designer click on the close button or the cross at the top right hand corner of the designer window. A save dialogue will also appear if the designer is closed before any new composite boards have been saved.

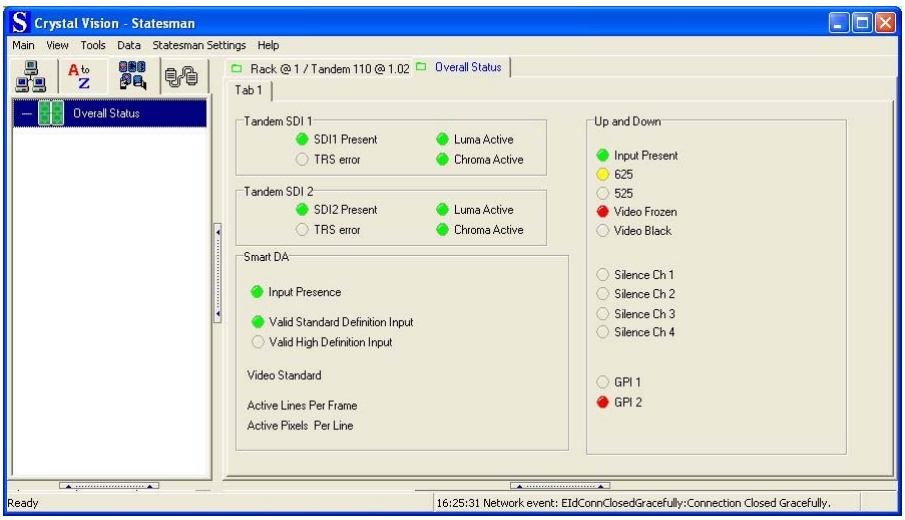
Editing and duplicating composite boards

To duplicate an existing board click on *Duplicate Composite Board* from the *Composite Board Defined* or right-click menu. Duplicating boards provides a fast way of creating a number of similar composite boards that differ only in minor detail.

To edit an existing composite board, run the designer and double click the board to edit.

Using Composite Boards

To use a composite board click on the *Composite Board* tab in the main application to load it into the upper window. Once created, composite boards can be assigned to users.



Note: Only users with Supervisor access can create or edit Composite boards.

5.5 Using Macros

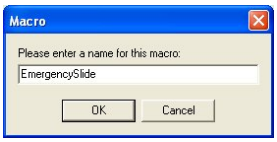
Macros enable sequences of commands or menu operations to be recorded and played back at a later time to the same boards or to identical boards in the same or different racks.

Examples of the use of this feature include automating setting up effects such as chroma keys or self keys which need to be applied in sequence on a regular basis or operating a switcher module such as a SW808 upon a given alarm condition to source a service slide or re-route a transmission feed.

Recording Macros

To record a sequence of operations as a Macro using keyboard shortcuts proceed as follows:

- Hold down the control key *Ctrl* and press the *R* key or click on *Record Macro* from the Tools menu
- A dialogue box will appear asking for a name for the macro



- Provide an appropriate name and click *OK*
- Perform the required steps exactly as required – a red flashing red circle ● appears at the lower right hand corner of the status bar
- When finished hold down the control key *Ctrl* and press the *R* key again, click the flashing red circle or select *Tools >> Stop Recording*.

Playing Macros

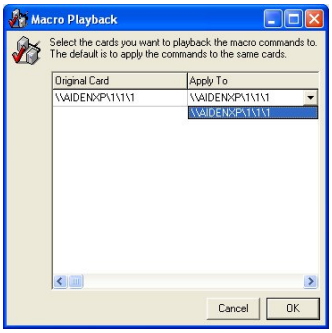
To play the Macro back to the same board, hold down the *Ctrl* key and press *P*, or click on *Tools >> Play*, select the file and click *OK*.

The recorded effect is played back exactly as before.

Access the *Select Macro* pull down menu for the following commands:

Rename
Delete

To play the Macro to a different board of the same type click on *Tools >> Play Macro to different card(s)*. Select the macro and click OK. The Macro Playback menu appears.



Select the board to play to from the *Apply To* drop down menu.

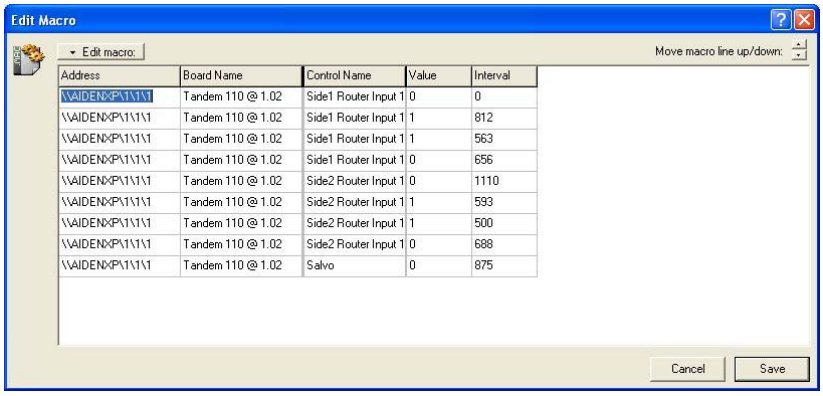
The naming convention used for the source and target boards is one of the following:

Master PC	Serial port	Rack	Board node
\\HOSTNAME	\1	\01	\04

Master PC	Rack IP Address		Board node
\\HOSTNAME	xxx.xxx.xxx.xxx		\04

Editing macros

To edit a recorded Macro click on *Tools >> Edit Macro* and select a macro.



The value and interval of each variable in the Macro can be modified as desired.

Access the Edit Macro pull down menu for the following commands:

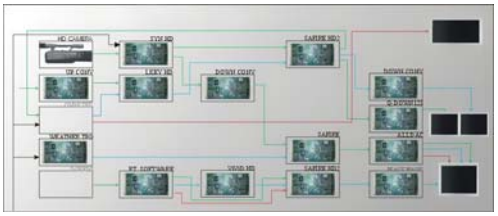
Copy
Paste
Add “Copy Settings” Action
Add “Paste Settings” Action
Add “Play Macro” Action
Delete

Click on *Save* when done.

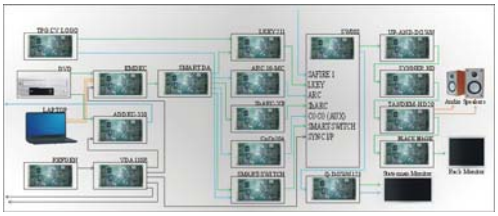
5.6 Using Signal Paths

The Signal Path option is used to create active system-mimics where device or sub-system icons can be clicked-through or 'drilled-down' to reveal control panels or more detailed schematics. In this way, a system drawing can be navigated layer by layer to device control panels no matter how complex the system.

There is no limit to the number of signal paths that can be created and stored.



HD and keying example

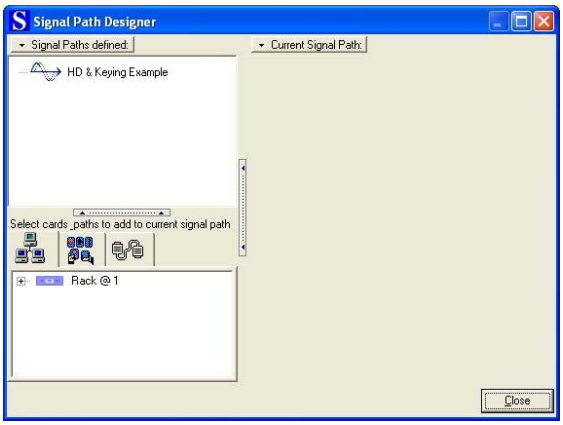


SP signal processing example

Alarms generated by devices in the flow are migrated upwards to the highest system layers. This means that operators always have see-at-a-glance monitoring laid out to represent real-world systems that also allows rapid navigation to control devices.

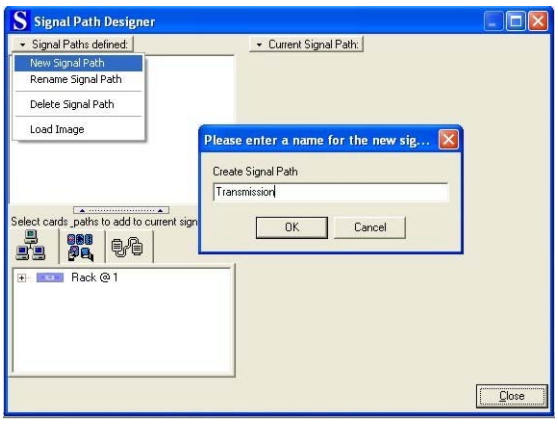
5.6.1 The Signal Path Designer

To open the signal path designer go to *Statesman Settings >> Signal Paths*.

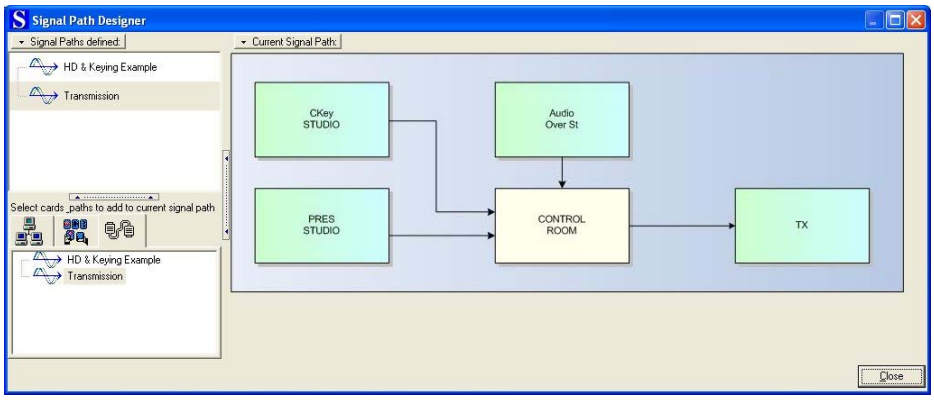


Any existing signal paths will be shown in the upper left window.

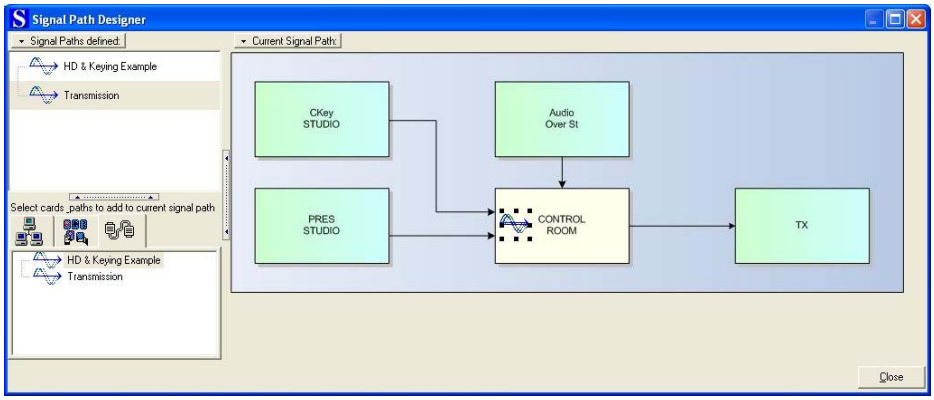
To create a new one, go to *Signal Paths defined >> New Signal Path*, enter a name in the box provided and click *OK*.



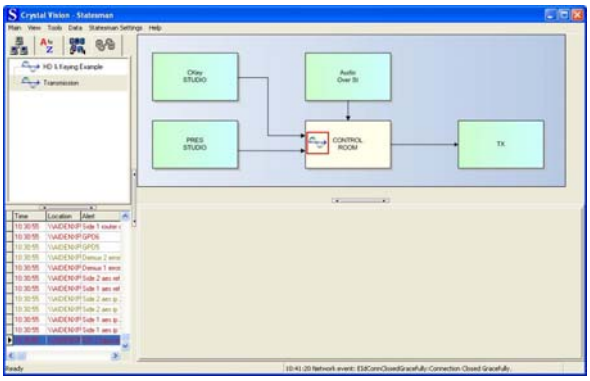
Select a background in *.bmp* format or any of the other formats supported; *.gif, .jpg/jpeg* and click *OK*. This example uses a high level schematic drawn using Visio™ representing a simple transmission system.



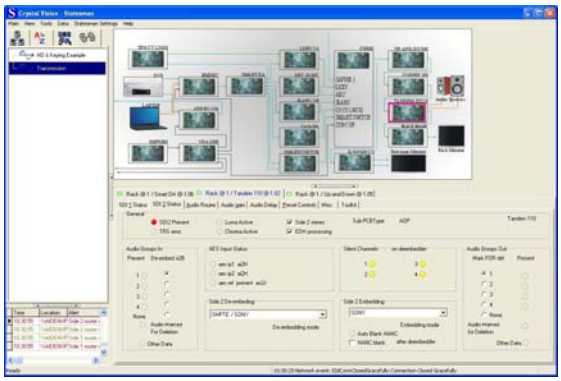
In this example, a previously configured *HD&Keying Example* signal path schematic already exists. To place this as an active icon into the high level drawing, it must be dragged from the lower window and dropped on the control room block.



To use this signal path the designer must be closed. To open it for normal use, click on its transmission icon in the Signal Path System View. To click-through or 'drill-down' to the control room schematic, click on its signal path icon, to open a specific board, click on its icon.



Transmission high level schematic

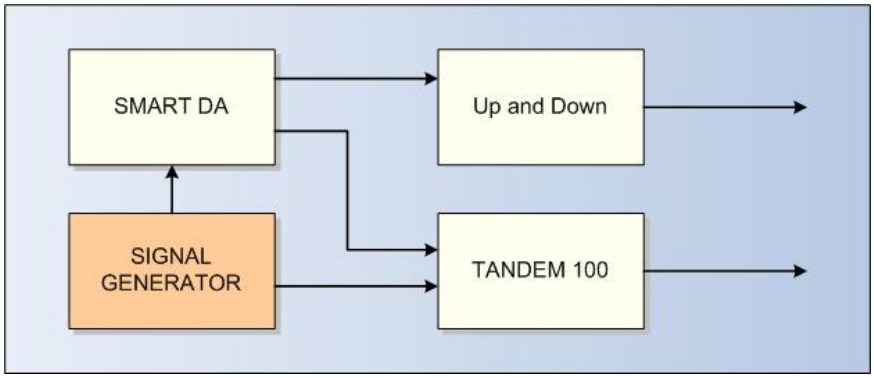


HD Keying – drilled own to Tandem HD-20

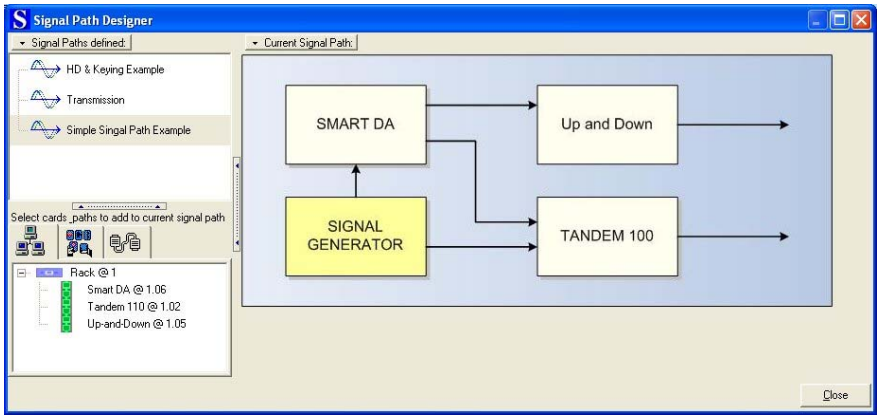
A red outline on the Signal path icon indicates a device alarm has occurred within the Control Room. An operator clicks on the *red outlined icon* to click-through to the *control room* schematic and then clicks on the *red outlined Tandem* board icon to see that the second SDI input has failed. The operator may need to take action, unless the alarm has triggered a macro to replace the failed input.

Designing a board-level signal path schematic

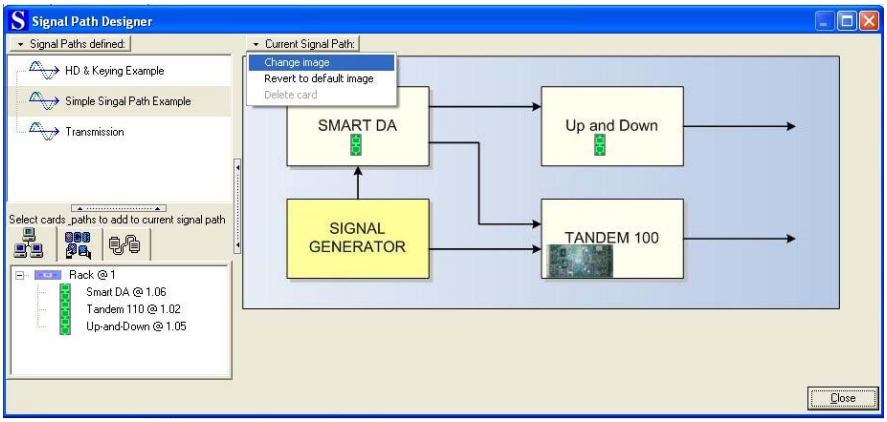
The first step is to design a signal flow using a graphics package. The following simple flow may suffice as an example.



Open the Signal Path designer, create a new signal path and import a suitable board level system drawing.

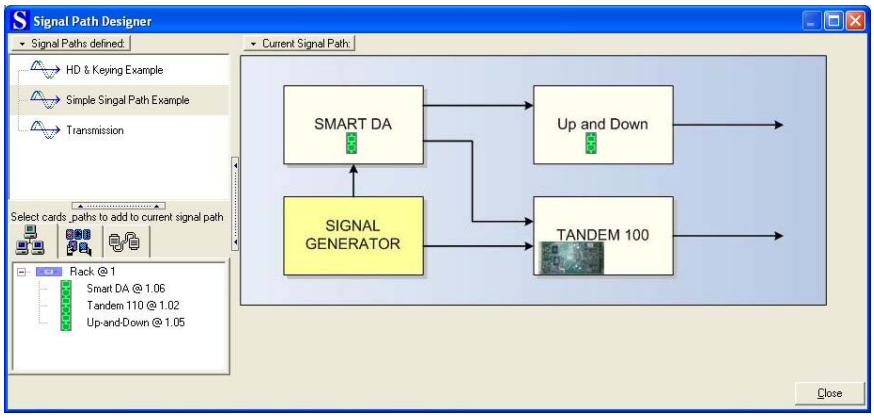


Drag device icons from the System View to appropriate blocks in the Signal Path graphic.



To change the default graphics for the device go to *Current Signal Path >> Change Image*. Select a device image in *.bmp* format or any of the other formats supported; *.gif, .jpg/jpeg* and click *OK*.

Note: For best results, the board image should be pre-scaled to suit the background.

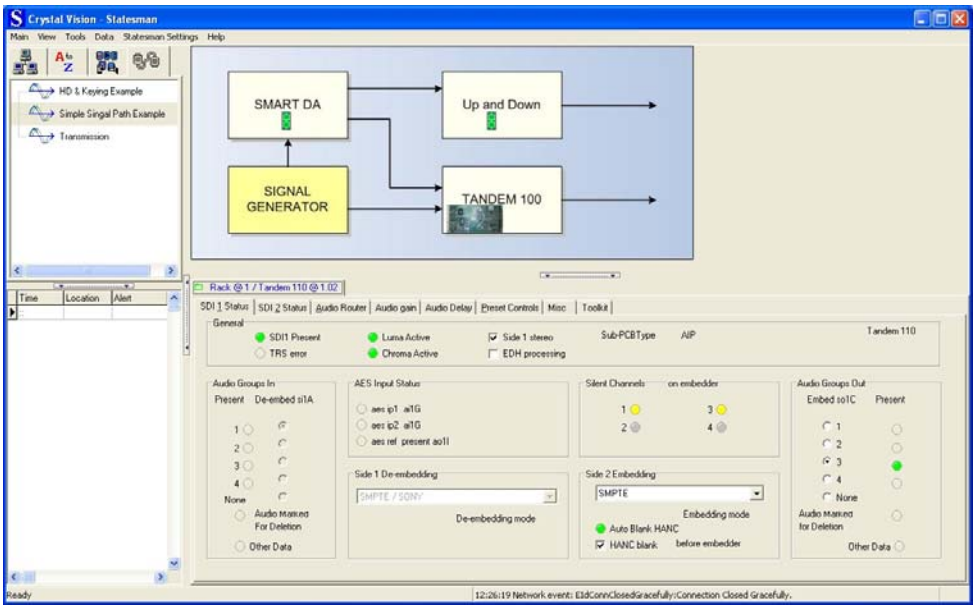


The device image can be a scanned image of an actual board or a functional block drawing or any other image desired.

To revert to the default image, highlight the current board image, then go to *Current Signal Path >> Revert to Default Image*.

To delete an image, highlight it, then go to *Current Signal Path >> Delete Board*.

Click on *Close* when done to save the signal path.



Click on a device icon in the signal flow to open its control panel.

6.Frequently asked questions

How do I wire an RS422 cable?

There's no need to wire any cables if Indigo frames are used as they support the use of RJ45 Cat5 patch cables. All you need is a converter from 9 pin to RJ45 in addition to the RS232 to RS422 converter.

However if older frames are used, 9 pin RS422 cables are required. Refer to the Appendix for RS422 wiring details.

The amber front panel COMMS LED is no longer flashing, what's wrong?

This shows that the rack is not receiving serial communication commands. It is NORMAL for a NETWORK connected rack. For SERIALLY connected racks, proceed as follows:

If an RS485 to RJ45 converter (recommended) is used, check that a standard CAT5 patch cable runs to the top RJ45 socket on the rack labelled, Statesman 422. Do NOT use the lower socket labelled Ethernet for serial connections.

If an RS232 converter is used, check that is fitted correctly (RS232 towards the PC – RS422 towards the cable).

If an RS422 cable is used instead of a CAT5 patch cable, check that the RS422 cable runs to a Remote 2 port of the Crystal Vision rack. Check that the RS422 cable is correctly wired. Refer to Type 2 cable wiring details in the Appendix.

Check that the correct port and Baud rate has been selected in Statesman.

If necessary perform an RS232 Com port test with a loop-back connector as described in the Appendix. If the Loop Back Test fails try disabling any IR port and repeat the test.

If an older (non-Indigo) rack is used, check that the front panel has Statesman enabled firmware fitted.

The rack and all its card icons remain greyed out, what's wrong?

This usually means that communication with a rack has been lost. For local serially attached racks, perform checks as suggested for *The amber front panel COMMS LED is no longer flashing, what's wrong?* If the rack is connected via a network, perform checks as suggested in answer to *How do I perform basic network checks?*

Note: If the problem occurs at a specific remote Statesman installation, it maybe that the remote user has not been authorised to view the available racks and boards.

Can Statesman be switched to an alternative COMM port at login?

Yes; use the *More>> Change comports/server* option at the login stage to select any COMM port.

Can the MySQL database be installed on a different PC to the Master PC?

Yes. However, it is strongly recommended for most users to install Statesman components on a designated Master PC.

Note: The Multiple PC Statesman system has been designed to be as flexible as possible. For example, for advanced users, the MySQL database could be located on the main company server rather than the Master PC. In fact, Statesman can be re-directed at login to use any designated PC as the database server.

Use the *More>> Change comports/server* option at the login stage to select another server PC.

How do I perform basic network checks?

Check that the TCP/IP protocol is installed on all participating computers.

Check that all computers on the same network have IP address in the same subnet range:

For example the following computers IP: 10.0.0.202, IP: 10.0.0.203, IP: 10.0.0.204 with subnet 255.255.255.0 will all be able communicate with each other and a server/host PC with IP: 10.0.0.200 and a rack with IP: 10.0.0.201. A PC with IP: 168.192.1.7 will not.

Check also that any firewalls are not blocking communication.

See the answer to *How do I use the ping command to test basic communication?*

How do I obtain the IP address and host name for a PC?

For XP/2000 select *Start>>Run* then type *cmd* then select *OK*. Then type *ipconfig/all* at the prompt.

How do I obtain or change the IP address for a new rack?

The rack is set to obtain an IP address by DHCP when it is shipped. If necessary, to ease the task of finding a rack, it can be set to a fixed address of 10.0.0.201. A web page at that address can then be used to change the address.

Refer to Assigning static rack and PC IP addresses in the Hardware Installation chapter for further details.

Tip: To ease system maintenance, attach a label to each rack with its unique and fixed IP address.

How do I use the ping command to test basic communication?

For XP/2000 select *Start>>Run* then type *cmd* then select *OK*. Then type *ping<space>IP address* or *host name* at the prompt.

What's best DHCP or fixed IP addressing?

Dynamic Host Configuration Protocol (DHCP) allows IP addresses to be automatically assigned to devices in a network from a defined number range. One advantage that DHCP offers is that it is difficult for two active devices to have the same address. In fixed addressing schemes this is typically a user configuration error, but it has catastrophic results as it causes loss of service and network failure.

However, since DHCP assigns addresses dynamically, the address of a specific device might change as devices are removed or added to the network. This means that DHCP can cause confusion if users get used to a specific IP address for certain devices such as database servers, licence servers or racks. In addition, Statesman does not attempt to poll for IP address changes. For these reasons fixed or static addressing is recommended for Statesman networks.

Tip: To ease system maintenance, attach a label to each rack with its unique and fixed IP address.

How do I set rack addresses for serial control?

Unique serial addresses are required in Statesman systems where multiple racks communicate with a Single PC port. The procedure differs slightly between rack types but requires setting the serial address with a hexadecimal switch at the rear of active panels.

Note: The addresses used for serially controlled racks are different to IP addresses used for network control. The full procedure for setting serial addresses is covered in the appropriate frame manual and is summarised in the Setting the serial rack address section of the Installation chapter.

How are racks added to Statesman?

Network attached racks

For Network attached racks go to *Statesman Settings>> Options>>Racks*. Available racks should be listed. Highlight the rack to add and click *OK*. If expected racks are not listed, check that they have unique IP addresses assigned in the correct range for the network and that they're connected to the network correctly. See the answers to *How do I obtain the IP address for a new rack?* and *How do I use the ping command to test basic communication?*

Note: Racks can also be added by clicking on *Add* without highlighting a listed address and typing their partial or full address into the form provided.

Local serially attached racks

For local serially attached racks it's important to remember that local RS422 networks are added using their COMM ports. For example, if 3 racks are linked together using an RS422 daisy chain, those three racks would be added as one network using the COMM port they are connected to. Go to *Statesman Settings>> Options>>Networks*. Right click to display the networks menu and select *Add local RS422 network* then enter the COMM port number and click *OK*.

Remote serially attached racks

For remote serially attached racks it's important to remember that these networks are added using the IP address or host name of the PC to which they are attached.

Go to *Statesman Settings>> Options>>Networks*. Right click to display the networks menu and select *Add remote RS422 network*. Highlight or browse for the host PC and click *OK*.

Note: The remote PC with serially attached racks MUST be running Statesman and connected to the network for its racks and cards to become available. Access permissions also affect available racks and cards.

A message appears asking for a licence on a working system, what's wrong?

Check that the USB dongle has not been removed.

For Multiple PC systems running MySQL, open the XAMPP control panel and check that both MySQL and the Apache web server are running. Also check that the Licence Server is running.

Restart Statesman if configurations were changed after performing checks.

Can I support multiple PCs with SQLite?

No, only MySQL supports multiple PCs. A Single PC copy of Statesman can be upgraded to use MySQL. See *How do I convert from SQLite to MySQL?*

How do I convert a Single PC from SQLite to MySQL?

To upgrade a Single PC installation to a Multi PC installation, proceed as follows:

Ensure that you are running the latest version of Statesman. When your Single PC copy of Statesman asks for a user name and password at start-up, click on *More>>* and select the *Upgrade* option.

Note: An existing SQL server and licence server must have already been installed.

The procedure is covered fully in Upgrading Single PC systems to Multi PC section of the Software Installation chapter.

See also the answer to *How do I install MySQL and a Licence Server?*

How do I install MySQL and a Licence server?

Although it's possible to install your own licensed copy of MySQL independently of the Statesman install routines, it is recommended to follow the Multiple PC Installation instructions provided.

The Crystal Vision Licence server is normally installed on the same PC as MySQL and the Apache web server during a Multiple PC installation. The licence server works with a single USB dongle to provide licence management for all racks and cards in a system.

The multiple PC install guides guarantee that a working web server (Apache), licensed MySQL server and Crystal Vision Licence server are installed properly. Crystal Vision cannot provide support for systems installed using different components.

Refer to the Software Installation chapter for the appropriate Multiple and Single PC software installation guides.

Why does a Multi PC system need MySQL and Statesman user login details?

To ensure data security with many users in a network accessing the same database, users (or the user's application) must login with a MySQL user name and password.

Note: MySQL login details are not the same as those used for starting Statesman. MySQL user details are stored within the Statesman set-up and **do not** need to be entered every time Statesman is started.

How do I prevent removed racks or boards from appearing in the system view?

Statesman is designed to recognise and 'install' boards in connected racks automatically. When a rack is taken off-line or a board removed, they are greyed out in Statesman's explorer view, but are not automatically removed.

To remove redundant items from the explorer view and their corresponding configuration settings from the Statesman database choose *Data>>Remove Lost Racks/Boards from Database*. The board types remain registered with the database and new or existing active boards of the same type are not affected.

What is a typical Multi PC boot up sequence?

Once Statesman starts on the Master Statesman PC, it will look for a Statesman licence server. The licence server should be running on the Statesman Master PC.

The Statesman licence server sends the licence information back to Statesman and at the same time sends it to the MySQL server.

When a client copy of Statesman starts it too looks for the Statesman licence server and then connects to the MySQL server to obtain the licensing information. Finally, client access is granted to racks and installed cards according to licence details via the Statesman application running on the Master PC.

How do I obtain rack and board information?

To view a rack's status web page, right click and choose *Rack Status Display*. To obtain a summary of rack or board information available to Statesman, highlight the rack or board and choose Information from the right click menu.

A recently purchased board is not recognised by Statesman, what do I do?

Obtain a database update from Crystal Vision.

Statesman does not run correctly or produces database errors, what can I do?

Try restoring the database and/or installation settings from previously saved backup file(s).

How do I test that alarms can be sent by e-mail using only a local PC?

To test alarm via e-mail on your local PC, enter 127.0.0.1 (IP loop address) as the e-mail SMTP server.

An update has not restored previous configuration data, what can I do?

Ensure that the backup option is selected during the update.

What is a private IP address?

Private IP addresses are reserved for internal networks (intranets) and are not used on the Internet. The fixed rack address, 10.0.0.201, forced with panel dip switch 4 in the down position, is taken from the range of private single class A addresses of which there are over 16 million available (10.0.0.0 to 10.255.255.255). Examples of private addresses in this manual are based on the 256 addresses from 10.0.0.0 to 10.0.0.255, using a subnet mask of 255.255.255.0.

However, other private address spaces exist and may freely be used. Please consult with your System Administrator if help is needed with network infrastructure.

Why don't I have any Signal Path schematics?

No default Signal Path schematics are supplied as they depend on each customer's individual system design. We recommend a Systems engineer or other individual familiar with your system be asked to provide system schematics graphics for use with the Signal Path option.

How can I tell if a Statesman system is using SQLite or MySQL?

Only a MySQL based system can support multiple Statesman PC workstations. If your system supports one PC, it is a SQLite based system. However, the following servers must be running on the Master PC for a Multi PC system to operate: the XAMPP control panel with the Apache web server and MySQL server started, the Crystal Vision licence server with a dongle present.

The database connection is controlled by the *dbconnection.ini* file in the Crystal Vision program folder. The easiest way to find the settings is to go to the *DB Settings tab* of the Options menu. An SQLite database system is known as a *Type 1* and a MySQL database system is a *Type 0*. Also, if MySQL is configured it will show a Statesman server name and (MySQL) user credentials. An SQLite database does not require a user name and password, *though Statesman itself does.*

For an SQLite, Single PC system, the *dbconnection.ini* file will also show the directory in which the (SQLite) statesman database is to be found: typically *C:\Program Files\Crystal Vision\data\statesman.*

Can exported board settings be used by other Statesman users?

Yes. However, exported board settings are intended for use by individual Statesman users and are **NOT** stored in the MySQL database in Multi PC systems. Settings made for all boards at a workstation are stored in a **.db** database file when exported for **both** MySQL and SQLite systems. They can be shared with other users by manually copying the settings file and moving it to other Statesman PCs or by other users locally storing changes made by other users.

Note: Exported board settings **DO NOT** include presets for boards even if a *Backup Board State* has been previously performed for those boards.

Why does Backup Board State take a long time?

The Board 'State' includes preset data as well as board settings and Statesman has to interrogate the selected board to obtain the presets stored there. Presets are considered to be local to each workstation and can only be restored to the Statesman PC where they were created.

Why does a remote client need a product database and Sentinel driver?

Although the product database is maintained by the server in a Multi PC system and selecting the product database and allowing a Sentinel install may seem redundant, the Sentinel driver and product database enable a remote PC to be used for fault finding or emergency purposes if the server fails (the licence code and dongle will also need to be transferred to this PC in an emergency).

If disc space is limited, both can be omitted in remote client installations if preferred.

Do I need to use the XAMPP interface to add MySQL users?

No. MySQL users are added when using the Multi PC installation wizard and configuration prompts. However, the Appendix has an alternative method using the XAMPP interface for advanced users.

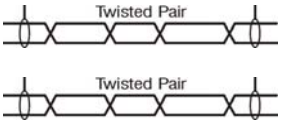
7.Appendix

7.1 RS422 cable data

7.1.1 Type 1

Type 1(extension) cable connections

Signal	Male 26 way high density 'D' type plug pin No	Female 26 way high density 'D' type socket pin No
GND	**6 / Shell**	**6/ Shell**
PBRX +	**17**	**17**
PBRX -	**25**	**25**
PBTX +	**7**	**7**
PBTX -	**16**	**16**



Use extension cables to increase distance between SK 2 and Slave rack.

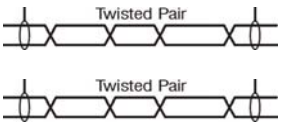
It is recommended to use high quality shielded twin pair cable for RS422 cabling.

7.1.2 Type 2

The type 2 cable is a standard RS422 drop cable, specify length when ordering.

Type 2 drop cable connections

Signal	Male 9 way 'D' type plug Pin No	Female 26 way high density 'D' type socket pin No
GND	**4 / Shell**	**6/ Shell**
PC +	**3**	**18**
PC -	**8**	**26**
FR +	**7**	**9**
FR-	**2**	**8**

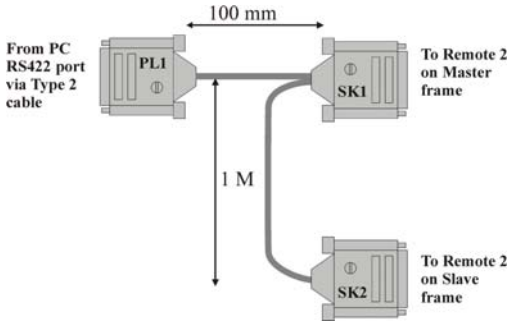


Type 2 length should not exceed 150 metres

7.1.3 Type 3

The Type 3 cable is only used to connect Master/Slave rack pairs to a Type 2 drop cable.

PL1 receives a Type 2 drop cable, SK1 connects to Remote 2 on a Master Rack and SK2 connects to Remote 2 on a Slave Rack.



Type 3 cable connections

Signal	Male 26 way high density 'D' type plug pin No	Female 26 way high density 'D' type socket pin No	Female 26 way high density 'D' type socket pin No
GND	**6 / Shell**	**6/ Shell**	**6/ Shell**
PC +	**18** Twisted Pair	**18**	
PC -	**26**	**26**	
FR +	**9** Twisted Pair	**9**	
FR-	**8**	**8**	
PBRX +		**17** Twisted Pair	**17**
PBRX -		**25**	**25**
PBTX +		**7** Twisted Pair	**7**
PBTX -		**16**	**16**

Type 3 PL1 to SK1 length is 100mm, SK1 to SK2 length is 1 metre.

Use a Type 1 extension to increase Master slave separation.

7.2 Com port testing

A Loop Back utility is an external PC serial port test program, which will confirm that a simple text string can be sent and received by any selected PC serial port.

The easiest way to perform this test is by using the HyperTerminal program normally found on Windows systems at *Start >> Programs >> Accessories >> Communications >> HyperTerminal.*

Preparation

The selected Master PC port MUST not be in use by any other application. For this reason, the main Statesman application has to be closed for the test to work correctly.

To run the test, proceed as follows:

- Obtain an RS232 loop back connector wired as follows:

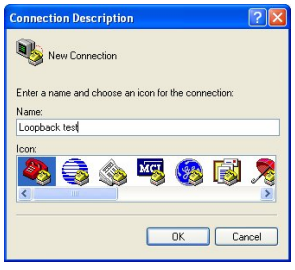
Signal	Female 9 way 'D' type plug Pin No
Rx Data Tx Data	2 3] **Connect pins 2 & 3**
Pins 1, 4, 5, 6, 7, 8 and 9	**No connection required**

- Power down the Master PC used for the test
- Remove any RS232 to RS422 connector
- Fit the loop back connector directly into the RS232 port on the PC used to connect to a Statesman rack
- Power the Master PC again and run *HyperTerminal*

The following screen shots illustrate the steps involved:

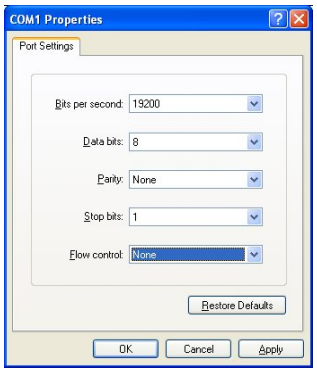
Create a session and call it *Loopback test*

No other application or process must be running that might open a com port.

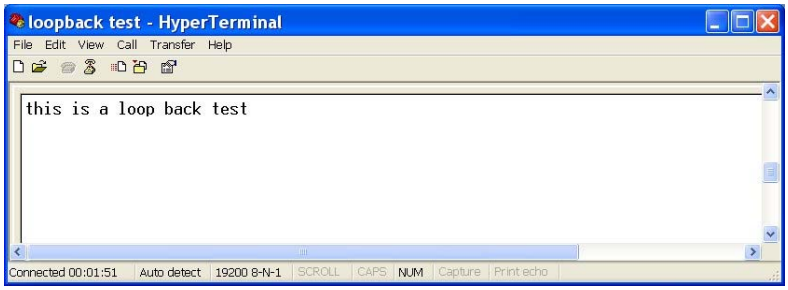


Select the com port to test.

Enter the port settings.



When the terminal window appears type some text.



If you can see the text, the serial port is working and the test has been successful.

Remove the serial cable and type text; it should not appear in the window.

If the test does not succeed try the following:

- Check the loop back connector wiring and that it is inserted in the correct Master PC RS232 com port
- If necessary use a different com port
- Check that the port selected has been enabled in the PC BIOS and that it has also been recognised and enabled by the operating system
- Disable any IR port

If the test is still unsuccessful, the PC port may have a hardware fault and replacement of the motherboard or plug-in com port board (if applicable) may be required.

Note: The Loopback Test connector will not work on RS422 ports. If the Loop Back Test is run with Statesman running, it may prompt to shut down software using the selected serial port.

7.3 Creating MySQL users with XAMPP

Although the MySQL user setup program installed in the Crystal Vision directory of the Master PC can be used to create new users, the MySQL management tool of the XAMPP web interface is far more powerful. It allows MySQL users to be created or removed and to associate them with particular PCs for security purposes.

Note: This procedure is for **ADVANCED** users only.

To create a MySQL user specific to a particular PC, it will be necessary to know the hostname or IP address of the PC. Refer to *How do I obtain the IP address and host name for a PC?* in the FAQ for further details if necessary.

To create a MySQL remote client user, proceed as follows:

- Open a web browser and navigate to http://localhost/ from the Master PC or http://serverhostname from any other PC on the network
- Select the button marked English (or your native language)

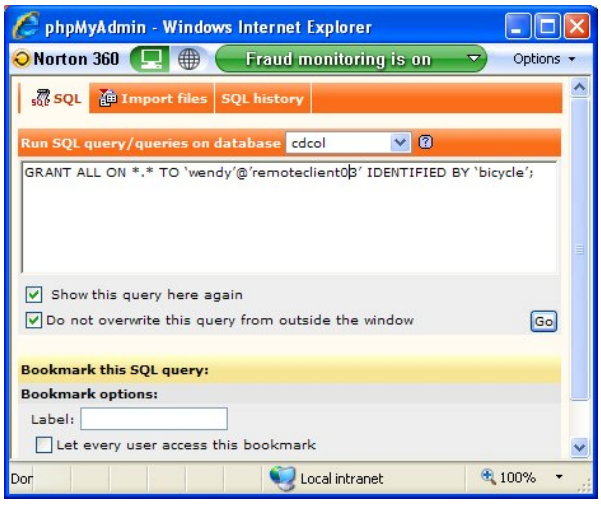
Tip: Disable any Internet, firewall or other system settings that block 'pop-up' windows

- The XAMPP web page opens

- Select the item *phpMyAdmin* on the orange menu bar at the left of the screen
- Click on the Window icon labelled *SQL* just below the *phpMyAdmin* logo at the top left of the screen.

Select phpMyAdmin >> *>>Click on SQL*

This will open a new window to process MySQL statements.



As an example, the following text might be entered for a new user called *wendy*:

*GRANT ALL ON *.* TO 'wendy'@'remoteclient03' IDENTIFIED BY 'bicycle'*

This gives full access (ALL) to all databases (*.*) to a user called *wendy* on the PC with host name *remoteclient23* using the password *bicycle*. Click on *GO* to apply.

If the SQL query is successful, you should see the following message.

Note: This has created a new MySQL user for a Statesman installation at a designated PC. It has not created logon credentials for *wendy* to log on to a remote client copy of Statesman itself. For help with creating Statesman users, refer to the User Management section of the Operation chapter.

Switching the installation to a remote client user

These steps change the database settings for the remote MySQL client user for the PC. This procedure may be skipped if remote MySQL users are not required.

- Go to *Options >> DB Settings* and change the Username and Password to those of the appropriate MySQL client user; say *wendy* and *bicycle*
- Then re-load Statesman for the changes to take effect
- If a *Database server missing* warning appears. choose *Edit database connection details* and re-enter the required details

Note: The MySQL remote client user name and password are stored within the database settings of the remote Statesman set-up and do not need to be entered every time Statesman is started on the remote PC.

7.4 Ordering codes

The following order codes apply to Statesman 4 options currently available from Crystal Vision:

IND SSK-02

Statesman 4 Starter Pack for RS422 only. Includes Statesman software on CD, dongle, licence for two boards, D-Type to RJ45 converter, RS232 to 422 converter and 3m CAT5 cable.

ST4DONGLEUSB02

Statesman 4 Starter Pack for Ethernet. Includes Statesman software on CD, activating USB dongle, Statesman licence for two boards and 3m CAT5 cable.

ST4LICENCE01

Additional Statesman 4 licence for one board.

ST4SPDONGLEUSB02

Statesman 4 Starter Pack for Ethernet with Signal Path option. Includes Statesman software on CD, activating USB dongle, Statesman licence for two boards and 3m CAT5 cable.

ST4SPLICENCE01

Additional Statesman 4 licence with Signal Path option for one board.

ST4-MULTI-PC

Special Statesman 4 upgrade licence required if using more than one PC.