NORTECH

NorVenue

User Guide

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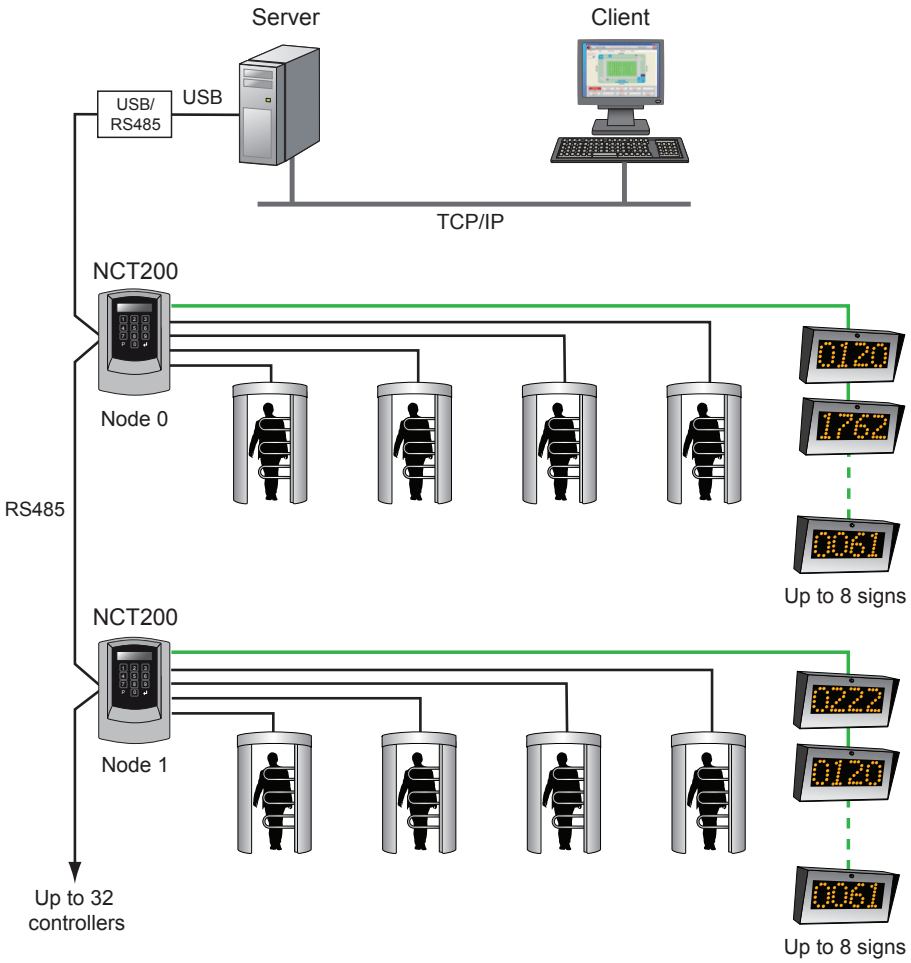
Contents

1. Introduction

NorVenue provides centralised count management and monitoring for a venue that has multiple entry and exit points and/or discrete areas such as stands, levels, circles, etc., where it is necessary to monitor total and individual occupancy levels.

Each entry point (and exit point, if necessary) is individually monitored by one of four counters within an NCT200 counting controller. A count input (either increment or decrement) to the NCT200 needs to be a single clean pulse from voltage free contacts. The NCT200 stores the count value locally and makes it available to the NorVenue software over a network connection. For more information refer to the NCT200 User Guide.

NorVenue is implemented as a Client/Server system where the Server maintains communication with the NCT200 controllers and manages the counts and associated data, and the Client provides the user interface, retrieving data from the Server as necessary. The network configuration is shown below and the functions of the Server and Client are described on the next page.



1.1 NorVenue Server

The NorVenue Server communicates with up to 32 NCT200 controllers via RS485 and/or TCP/IP networks. It continuously polls the controllers for their count values and updates its own records. It maintains a database of counter identities, count values, alarm thresholds and other user settings. It also manages 'virtual counters' that maintain counts derived from real counter values and fixed values (e.g. maximum capacity of an area). These virtual counters make it possible for all of the important summary information to be readily available on-screen and for reporting.

The Server keeps an historical log of all count values recorded every 15 minutes. This information can be displayed on-screen and used to generate reports using date and time of day filtering.

Upon request from the Client, the Server is able to increment, decrement and set to a new value any of the NCT200 counters via the communications network. Each of the four counters within an NCT200 controller has 2 output signals. Counters 1 and 2 each have a relay output and an open collector output. Counters 3 and 4 each have two open collector outputs. The Server can remotely control the operation of these outputs upon request from the Client.

1.2 NorVenue Client

One or more PCs can run NorVenue Client to be able to view on-screen the count values at each entry point against a plan of the venue. Up to ten important real and virtual count values may be displayed at the bottom of the screen plus further counts positioned at appropriate locations on the plan. The PC running the Client software can be the same PC that is running the Server or another PC connected to the same TCP/IP network. The Client requests updates from the Server at regular intervals (configurable) so that it can update its own display.

When they occur, alarm conditions can be displayed on the Site Plan to pinpoint the location of the problem. There are options for audible alarms and alarm acceptance requirements.

It is possible for a user to increment, decrement, and set to a new value any of the physical counters individually. There is also a system reset feature that resets all counters to zero

It is possible to request a status report that can be printed and/or saved as a file. The report shows the instantaneous values of all of the counters (most recent update). A status report can be requested to give the values of the counters at the time of the request or at an earlier time and date.

2. Preparation For Software Installation

2.1 Hardware Installation

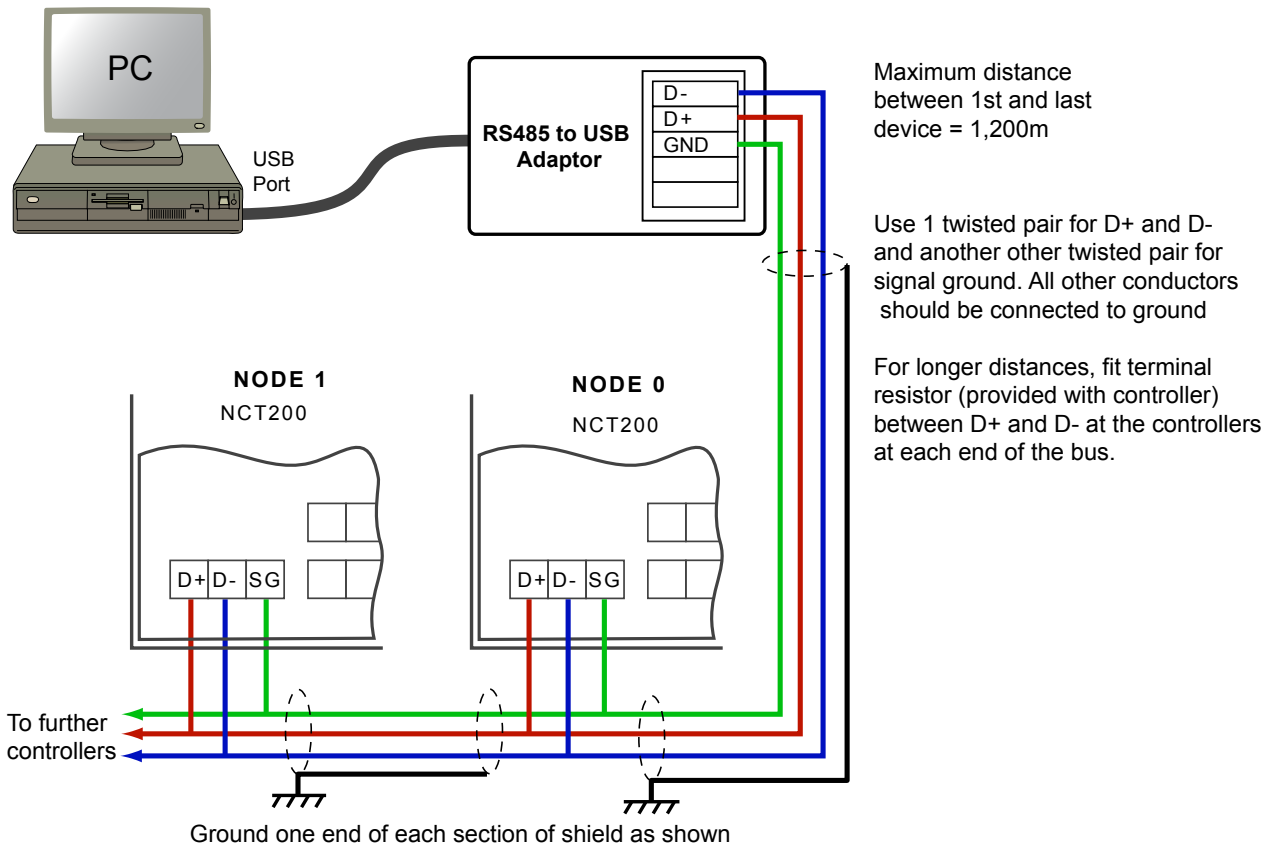
The NCT200 modules must be installed and tested locally according to the NCT200 User Guide. The configuration of the counters will be carried out via the software, so the only parameter that needs to be set locally is the node identity (see section 2.2).

The NCT200 modules can be connected to the Server PC via either an RS485 network or a TCP/IP network.

2.1.1. RS485 Network

The counter modules must be cabled together in a 'Daisy chain' to form the RS485 communications bus. It is very important that the cabling is carried out according to RS485 standards. Use only twisted pair screened cable such as Belden 9729 and follow the rules shown in the diagram below.

RS485 Cabling



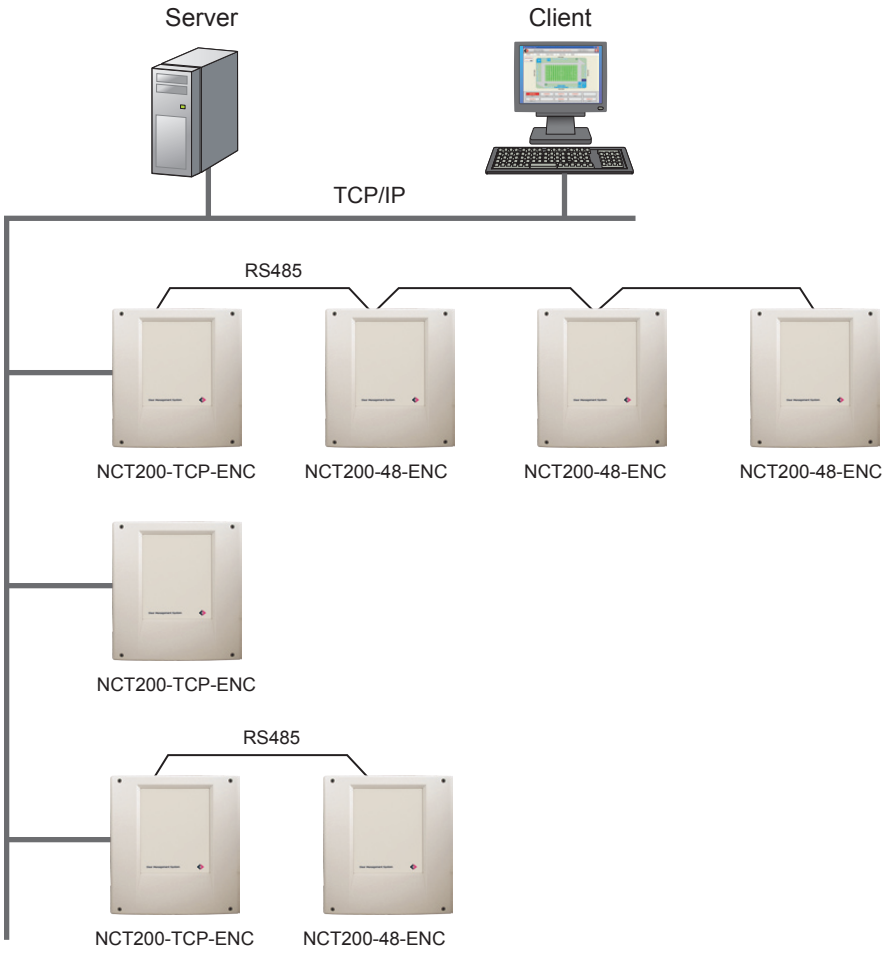
The connection to the PC is via a USB/RS485 converter (supplied). This must not be plugged into a USB port on the PC until the Server software has been loaded, as the correct driver for the converter is loaded with the Server software.

2.1.2. TCP/IP Network Connection

If the TCP/IP version of NCT200 counter module is purchased, connection to the server PC can be made by connecting into a local area data network (TCP/IP). This may be either an existing network shared by other applications or a dedicated network installed to TCP/IP standards.

Each NCT200 module will either have a dedicated 'thin server' with an RJ45 type network socket (NCT200-TCP-ENC) or will need to be connected to the nearest thin server using an RS485 bus (refer to section 2.1.1 for details).

The illustration below shows a typical configuration.



Each thin server needs to be assigned a valid IP address and a port number. The IP address may either be automatically assigned by a DHCP server on the network, or, where there is no DHCP server, manually using the Lantronix utility program to access the thin server over the network.

It is recommended that a trained IT engineer installs the network and configures the thin servers.

The PC hosting the NorVenue server must have a network port that is connected to the same network as the thin servers.

During the device configuration section of the server configuration procedure described in section 3.4.2, you will need to provide the assigned IP address and port number of the thin server that links each NCT200 module back to the PC via the TCP/IP network.

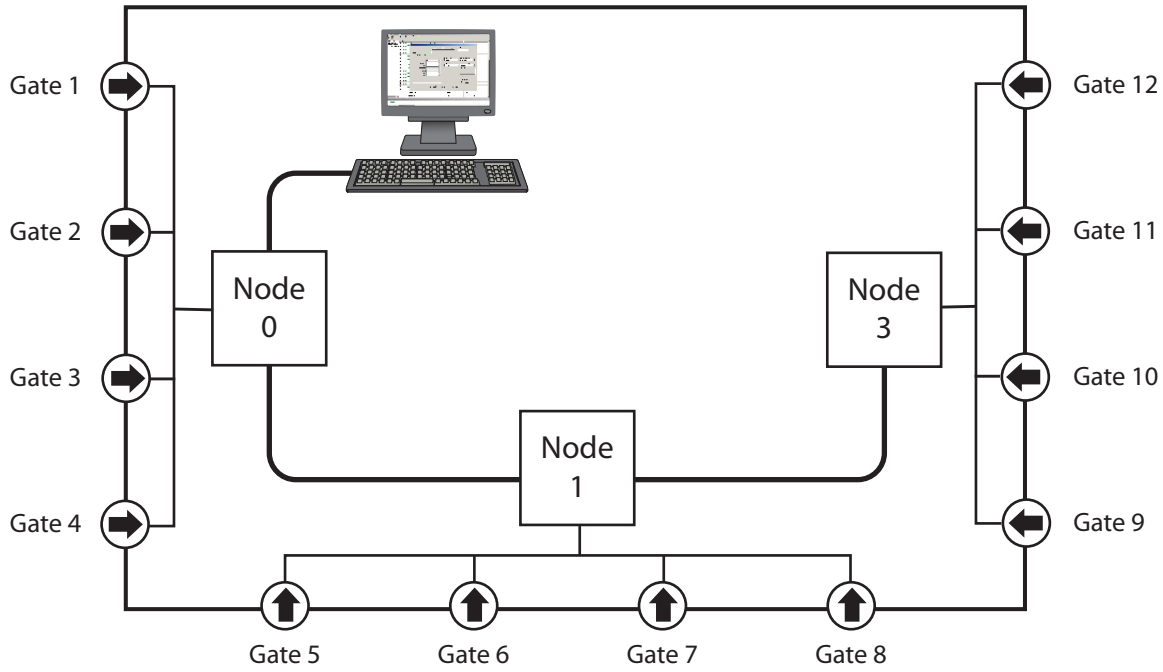
Please refer to the TCP/IP Network Configuration Guide before installing and configuring the network.

2.2 Data Preparation

In order to ensure that the data held within the software is correct and easy to follow, the installation of the counters must be well documented. A naming system for each controller and each monitored access point must be employed that is relevant to the user (i.e. it must be possible for the user to easily relate the information on the screen to the 'real world').

Note: The procedure for delivering NorVenue requires that a plan of the venue showing the positions of the access points are provided to Nortech once the Server software has been configured. This information together with a copy of the configuration data enables Nortech to deliver accurate site plan details within the Client software. Therefore it is important that the assignment of devices and counters within the Server software is clear and corresponds with the data provided with the site plan.

Each NCT200 must be assigned a unique node number that must also be configured within the controller itself (refer to NCT200 User Guide). The node numbers should start at zero and follow the site plan, where node zero is assigned to the first controller (i.e. the controller associated with the first 4 monitored access points in the plan). A typical configuration is shown below:



Keep a record of the node identity of each NCT200 module together with the location of the monitored access point to which each of the counters relate. If possible, mark up a plan of the venue with the positions of the NCT200 modules and mark the node and counter number (from 0 to 3) against each of the associated access points (for example '4-0' shows that the counter is counter 0 of node 4).

Where it is necessary to use more than one physical counter to monitor all of the entry points to or exit points from a discrete area, a record of this relationship should be made so that an appropriate 'virtual counter' can be assigned to the area correctly. Also, if there are any access points providing access between two areas, the 'from' area and 'to' area should be recorded against the monitoring points.

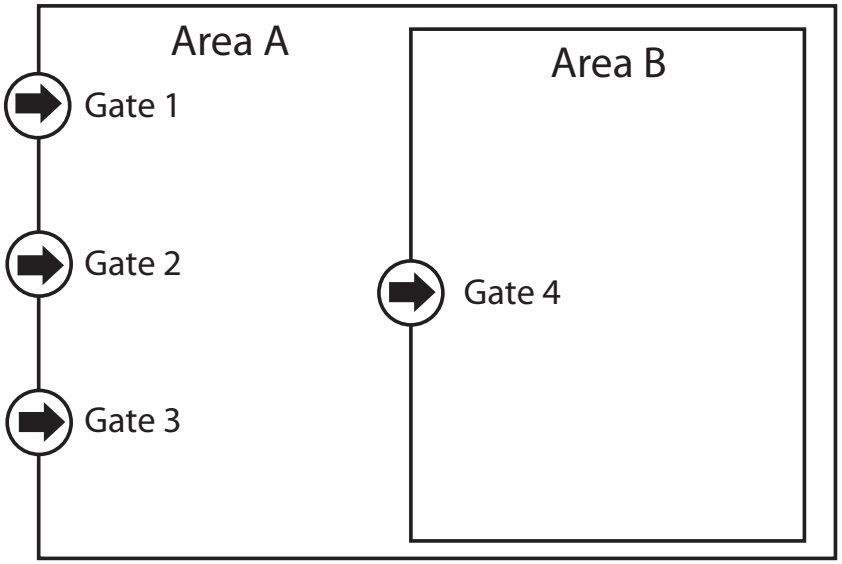
Keep a record of the node identity of each controller and the location of the monitored access point to which each of the 4 counters relate. If possible, mark up a plan of the venue with the positions of the controllers and mark the node and counter number (from 0 to 3) against each of the associated

access points (for example ‘4-0’ shows that the counter is counter 0 of node 4).

Where several access points provide access to a discrete area, a record of this relationship should be made so that an appropriate ‘virtual counter’ can be assigned to the area correctly. Also, if there are any access points providing access between two areas, the ‘from’ area and ‘to’ area should be recorded against the control points.

Example

In the diagram, Gates 1, 2 and 3 provide access into Area A so the total count of people entering Area A is the sum of the counts for Gates 1, 2, and 3. However, Gate 4 gives access from Area A to Area B. Therefore the count of people in Area A would need to take account of those passing to Area B. The calculation for this would be the sum of the counts for Gates 1, 2, and 3 minus the count for Gate 4. The count for Area B would simply be the count value for Gate 4. This concept will be explained in greater detail in section 3.3.4.



3. Installing and Configuring the Server Software

3.1 Software Licensing Overview

The NorVenue software is supplied as a standard package. Its capacity to manage a particular installation depends upon the software licence purchased for the project. The licence covers the installation of the Server software on one PC only. Therefore, the licence key will not be issued until the software has been installed on the target PC.

Once the server software has been installed, the licence key must be requested from Nortech by sending us the registration code that is generated when the software is run initially (see section 3.3). Once you receive the licence key and enter it as requested, it will enable you to enter the program and configure the system according to the scope of the licence.

If necessary, the software licence can be later upgraded and a new licence key issued accordingly.

3.2 Installation

The Server software must be installed on the PC that has the network connection to the NCT200 controller(s). Insert the disk into the disk drive. If the program doesn't automatically run (autorun), double-click on 'Splashscreen.exe'. The welcome screen will be displayed:

Click 'Install Counting Server' and follow the on-screen instructions. Do not install the Counting Client at this point.

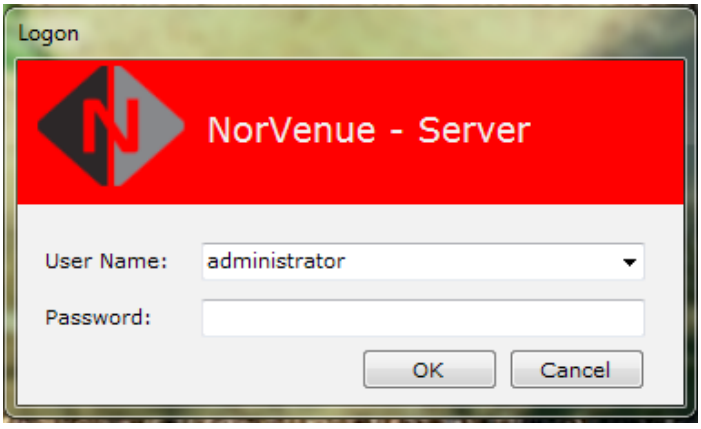
3.3 Starting up the Server Program

Once installed, double-click the ‘Counting - Server’ icon on the desktop.

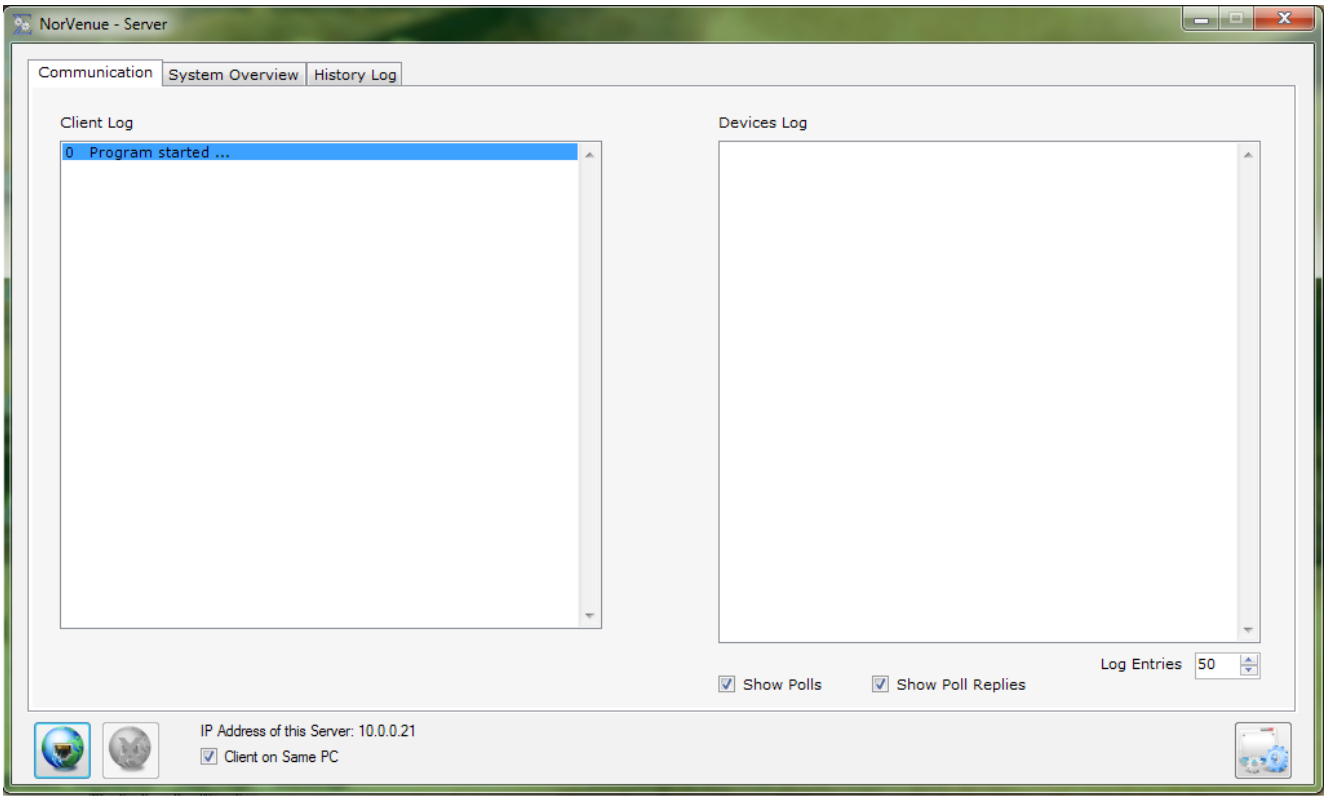
The registration screen is displayed:

At this stage, you must apply for the registration key from Nortech. Make a note of the registration code (BFEB in the example) and send it to Nortech with the reference of the order. You will be sent a 16-character registration key by return.

When you have the registration key, double-click the ‘Counting - Server’ icon on the desktop to display the registration window again, enter the registration key and click the ‘Register’ button.



There are 2 default User Names on initial installation; “administrator” and “operator”. Log on as “administrator” with the default password “admin”. The Server screen opens at the communications tab:



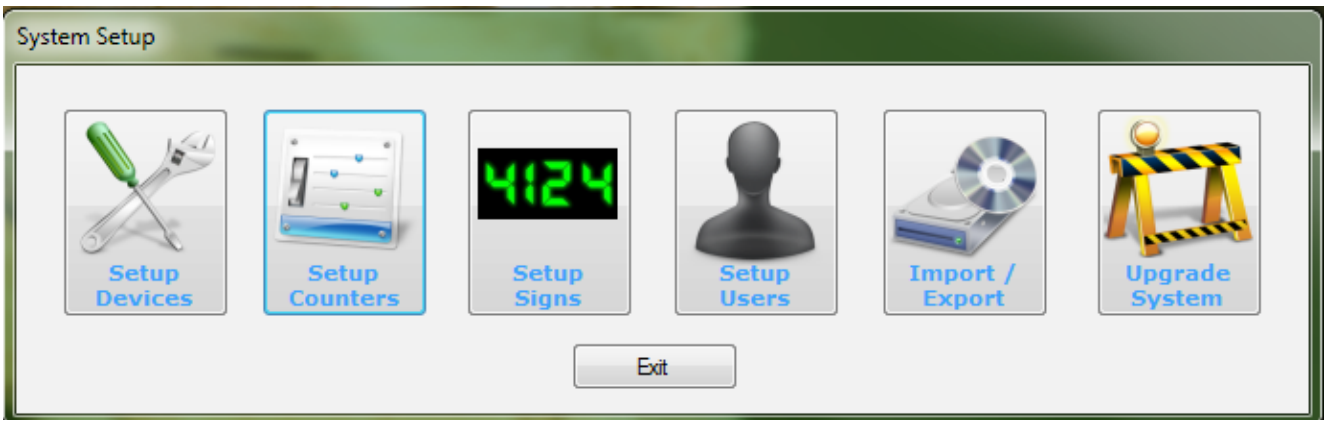
This screen will show communications activity when the Server is running. The left-hand panel displays communications activity with the Client software and the right-hand panel displays communications activity with the counter modules.

When you open the program, the Server is stopped and no events are displayed in the communications panels.

It is necessary to configure the Server settings before running the Server.

3.4 Configuring the Server

Click the “System Setup” button at the bottom right of the screen. The ‘System Setup’ screen is displayed:



There are six options:

Setup Devices - use this option to configure parameters for the connected NCT200 counter devices

Setup Counters - use this option to configure parameters for real and virtual counters.

Setup Signs - use this option to configure parameters for the connected Variable Message Signs (VMS’s).

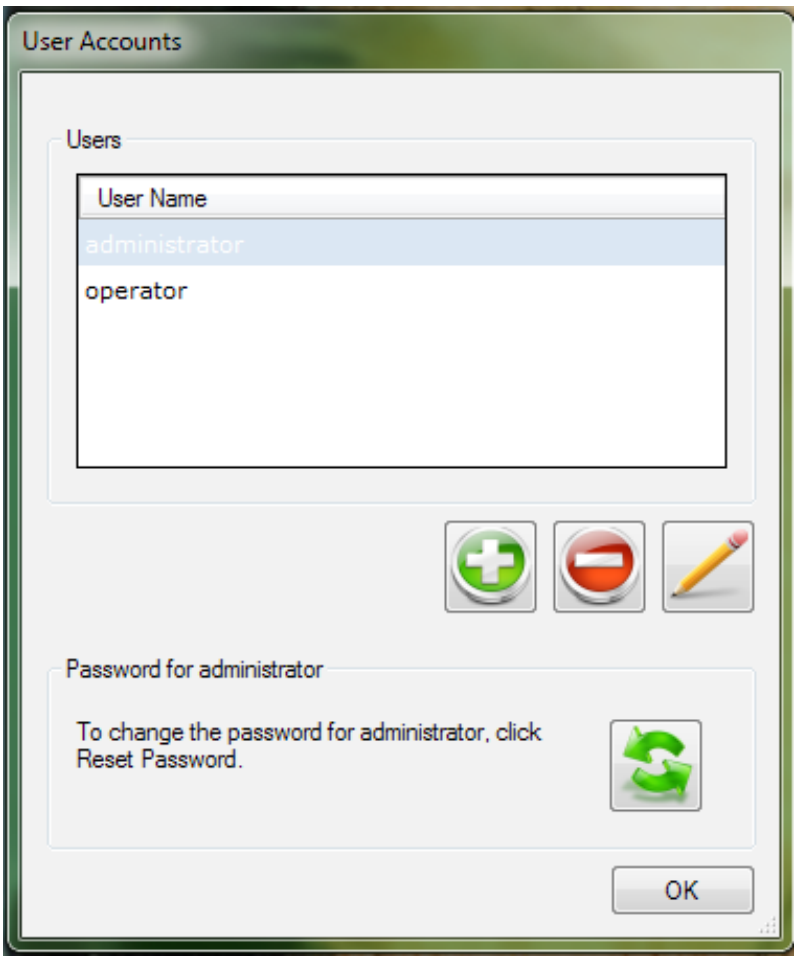
Setup Users - use this option to add new users and passwords and to edit existing users

Import/Export- use this to backup the system configuration, once it has been set up. An old backup can be imported to replace the current configuration. Also, the configuration files can be transferred to another PC.

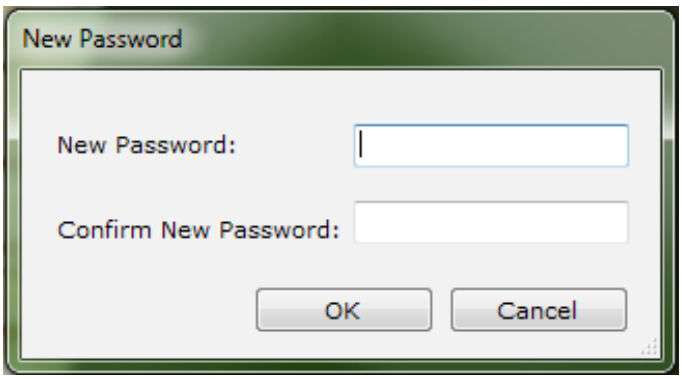
Upgrade System - where it is necessary to upgrade the system to accommodate additional counters, this option allows you to request and register a new licence key.

3.4.1. Setup Users

If security is an issue, it is advised that the users are setup up at the start of the process so that only authorised staff have access to those features that correspond with their responsibilities. Click the 'Setup Users' button to show the 'User Account' screen:

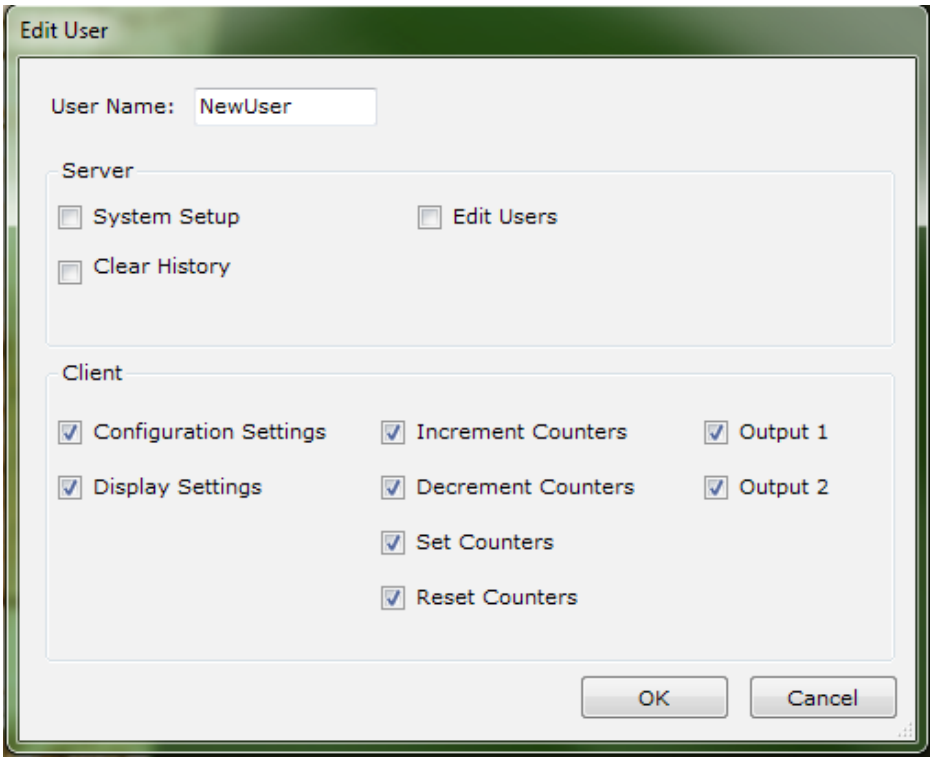


It is advised that, at the very least, the default passwords for 'administrator' and 'operator' are replaced with your own passwords. To change an existing password, highlight the user name in the list and click the 'Reset Password' button. The 'New Password' dialog box is displayed:



Type the password in both boxes and click 'OK'. The default password is no longer valid and you must use your new password to logon as this user in future sessions.

To add new users, click the '+' button. The 'Edit User' screen opens with 'NewUser' as the User Name:



The User Names and Passwords set in this dialog box apply to logging on to the Client as well as the Server. Therefore, access levels can be set for activities on the Server only, the Client only or on both. Therefore it is possible to assign standard Users that have access to the Client but not the Server.

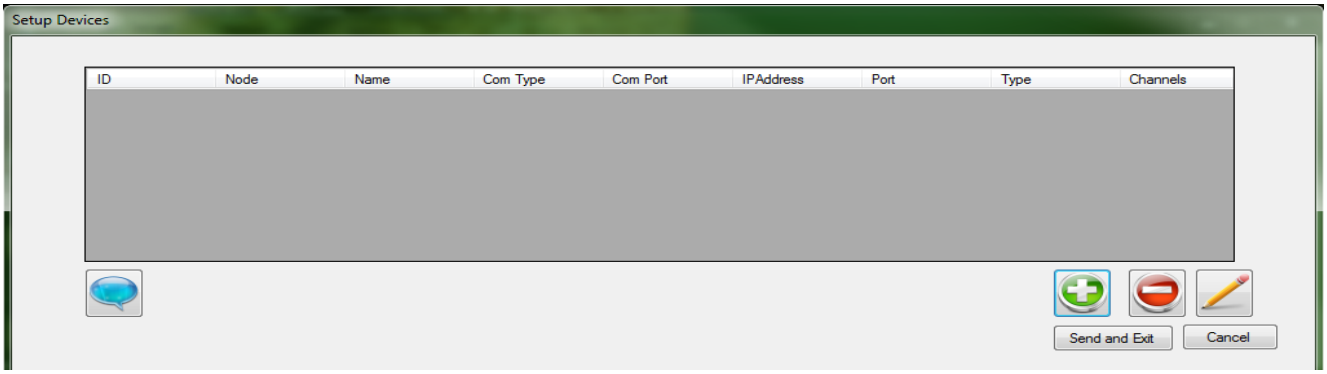
Change the User Name to an appropriately descriptive name and then tick or untick the boxes against each of the activities as appropriate so that only those activities relevant to the user's responsibilities are ticked.

Once the access rights have been set, click 'OK' to close the 'Edit User' dialog box.

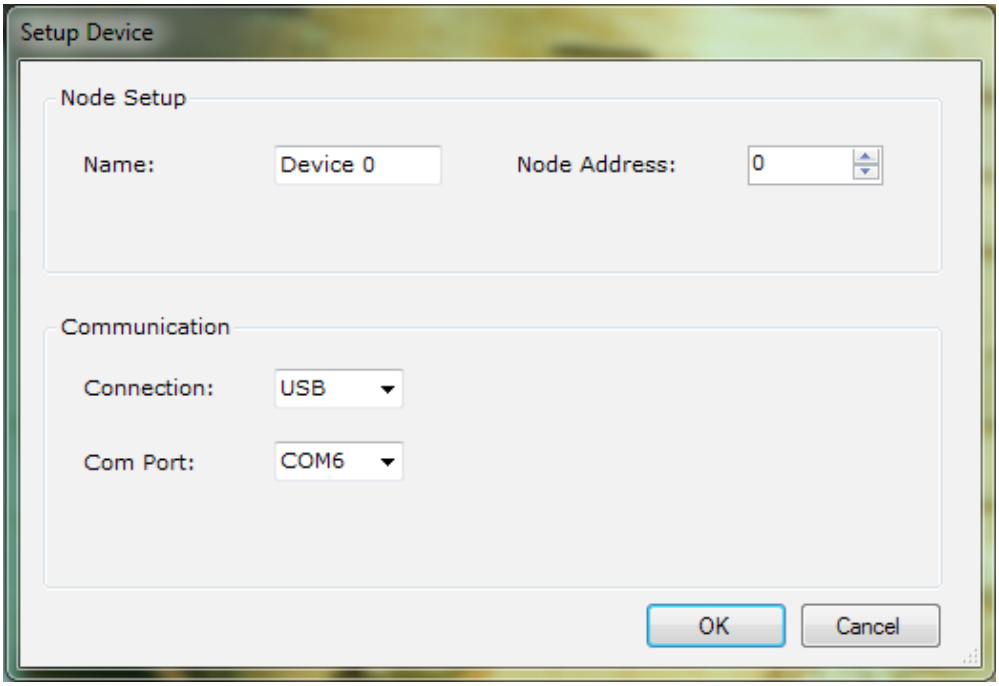
Finally, add a new password for the User as described on the previous page.

3.4.2. Setup Devices

The first step in configuring how the system operates is the setting up of the devices (NCT200 modules). This establishes the correct communication settings for the devices and confirms that the communications interface is functioning correctly. Click the 'Setup Devices' button to display the 'Setup Devices' screen:



Initially, no devices are shown. Add each device one at a time by clicking the '+' button and entering the data in the 'Setup Device' box.



Note: When the devices are added to the Server, the associated counters are automatically added and assigned numbers. The counters are numbered sequentially according to the order that the devices are added to the Server. Before starting, refer to the information you prepared in section 2.2 to ensure that you add the devices in the correct order according to the numbering plan that you wish the counters to follow on the Site Plan.

Configure the device as follows:

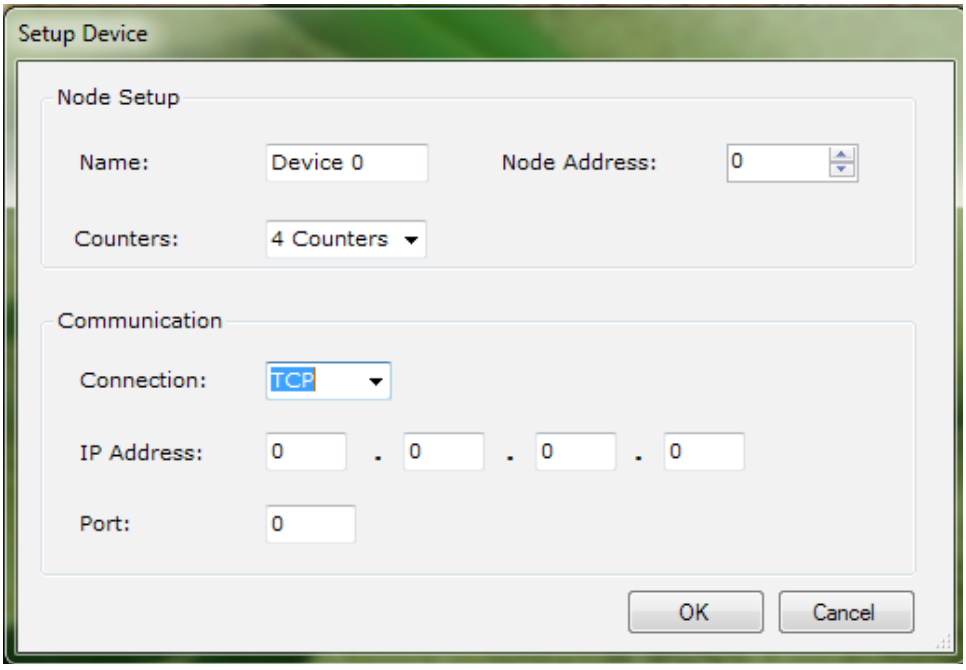
Node Address:	for the system to function correctly, the Node Address entered here must correspond to that set in the device itself.
Name:	as explained in section 2, it is important that each device is named according to its function and/or location so that users can easily identify it. Provide a suitable name (e.g. “Gates 1 - 4”).
Counters:	Choose 1, 2 or 4 counters according to your installation plan.
Connection:	Set this to either USB if the NCT200 module is directly connected via an RS485 bus or TCP if the NCT200 module is connected via TCP/IP

If the connection is set to USB the following parameter box is displayed:

Com Port:	This must be set to the communications port that has been assigned to the USB Serial Port by the operating system. The drop down box may offer several options. If in doubt, go to the Control Panel in Windows, select the ‘System’ icon and check the ‘Device Manager’ list under the ‘Hardware’ tab to identify the USB Serial Port number.

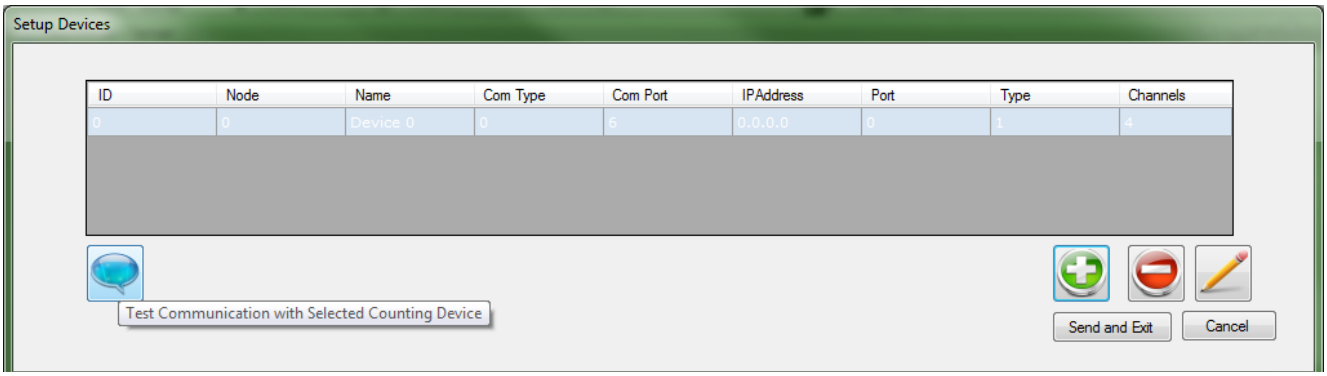
If the connection is set to TCP the following parameter boxes are displayed (see below):

IP Address:	This address will have been assigned to the device during installation. Please confirm the IP address with the person responsible for networking the devices.
Port:	The port address will have been assigned to the device during installation. Please confirm the IP address with the person responsible for networking the devices.



Click ‘OK’ to close the ‘Setup Device’ box.

Before adding another device, check that communications with this device is functioning correctly by clicking the ‘Communications Test’ button on the bottom left of the screen while the device is highlighted in the list.



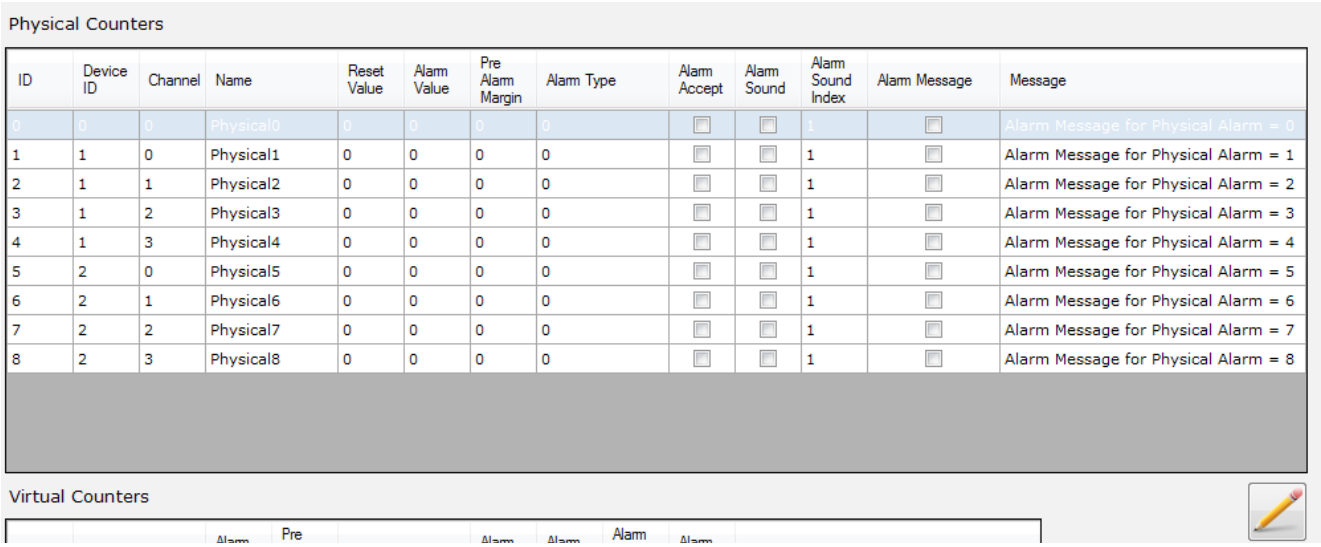
Wait for the ‘Communications OK’ dialog box. If the test fails, check that the parameters are set correctly. If all parameters are correct, then there may be a hardware or cabling problem. Check that the cabling has been carried out according to recommendations.

Continue to add all devices and remember to test communications at each stage. When all devices have been added, click ‘Send and Exit’. This will send the configuration information to the NCT200 devices and close the ‘Setup Devices’ window.

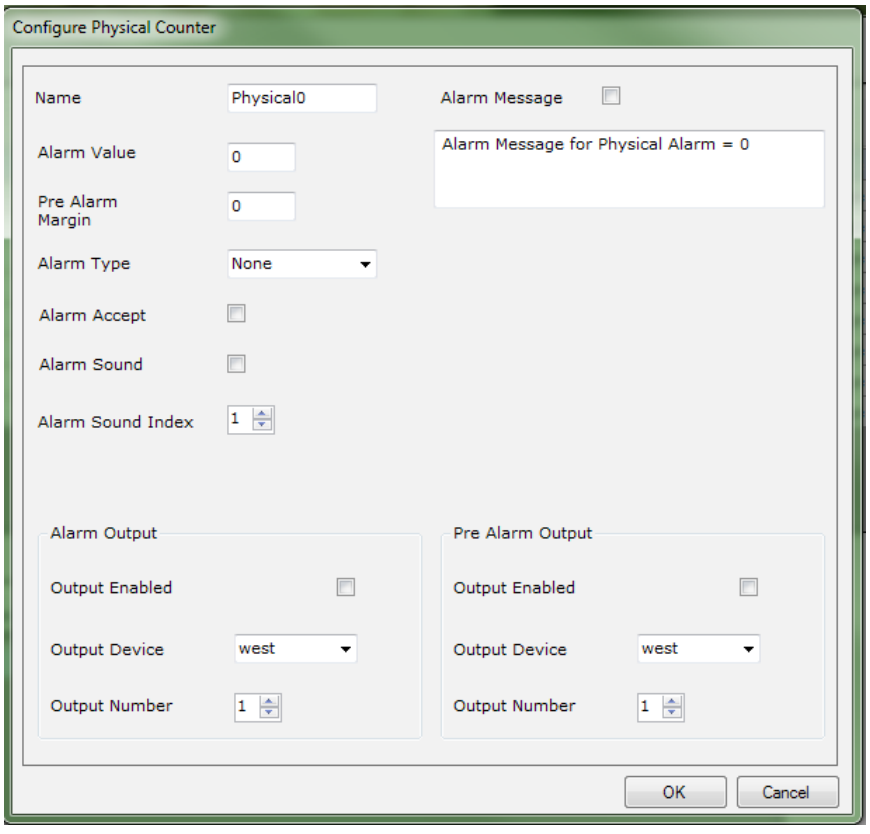
3.4.3. Configure the Physical Counters

Now that all of the devices have been added and configured, the operating parameters of each of the physical counters must be set.

Click the ‘Setup Counters’ button to open the ‘Setup Counters’ window:



The top pane of the ‘Setup Counters’ window shows the physical counters. This pane is already populated with the physical counters associated with the devices that were configured in the previous step. The settings are set to default values. It is necessary to edit each counter in turn by highlighting the entry in the list and clicking the ‘Edit’ button at the bottom right of the pane (alternatively, double-click on the required entry in the list). The ‘Configure Physical Counter’ dialog box is displayed:



The counter can be configured as shown in the table below. Please note that these parameters are the same for both physical and virtual counters.

Name:	Rename the counter with a name appropriate to its function (e.g. “Gate1”).
Alarm Value:	This is the threshold beyond which an alarm is raised. See ‘Alarm Type’ for more details.
Pre Alarm Margin:	When a count is within this margin of the ‘Alarm Value’, a pre-alarm will be active to indicate that the count is getting close to the Alarm Value. See ‘Alarm Type’ for more details.
Alarm Type:	For physical counters this parameter should normally be set to ‘Maximum’ if the counter alarms are required. As the value approaches a maximum permitted value the Pre-alarm and Alarm thresholds act as follows: the Alarm is active when count is above the Alarm threshold. Pre-alarm is active when the count is at or below the Alarm threshold value and within the Pre-alarm margin of the Alarm threshold. In certain circumstances (normally applies to virtual counters) it may be necessary to set this value to ‘Minimum’. The alarms will then apply as the value approaches a minimum value permitted value where it is being monitored as it approaches a minimum permitted value as follows: Alarm is active when count is below the Alarm threshold. Pre-alarm is active when the count is at or above the Alarm threshold and within the Pre-alarm margin of the Alarm threshold.
Alarm Message:	If this box is ticked, an alarm message will be displayed on the Client screen when the alarm for this counter is active. The alarm message can be edited in the text box.
Alarm Sound:	If this box is ticked, a sound file will be played on the Client PC when the alarm is active. If the alarm accept box is ticked, the sound file will be repeated until the alarm has be manually acknowledged. Otherwise, it will play just once. The sound file to be played can be selected from a range of default sound recordings supplied with the software (any of the default sound files can be replaced with a user sound file in the Client Software).
Alarm Accept:	If this box is ticked, whenever the alarm is raised, a manual acceptance is required to silence the audible alarm.
Alarm Output	It is possible to assign an output to be activated whenever the count value is beyond the Alarm threshold. To do this, tick the box ‘Output Enabled’ box and select the output device and output port number that you wish to be activated.
Pre Alarm Output	It is possible to assign an output to be activated whenever the count value is within the Pre Alarm margin of the Alarm threshold. To do this, tick the box ‘Output Enabled’ box and select the output device and output port number that you wish to be activated.

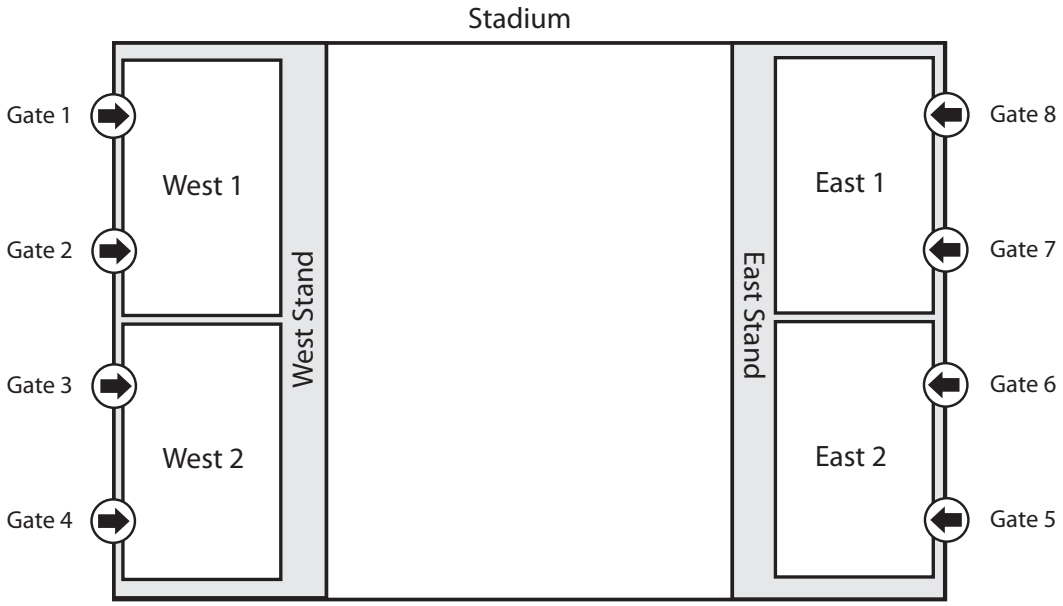
Click ‘OK’ to close the ‘Configure Physical Counter’ dialog box. Repeat the above procedure for each of the Physical counters.

3.4.4. Add and Configure Virtual Counters

As explained in section 2, to provide useful information to the user, the physical count values can be processed to produce values that are more appropriate to the administration of the venue. For example, several gates may provide access to a particular area. The capacity of that area is finite and therefore a real-time indication of its occupancy level is vital information. The information can be calculated simply as the total occupancy (sum of all entrance gate counters) or as the remaining capacity (total capacity of the area minus the sum of all entrance gate counters).

The formula for the virtual counter value can be as simple or complex as necessary and any combination of real counters, virtual counters and fixed values (constants) can be added or subtracted to create the value. The formula to determine the remaining capacity of a venue, for example would be (total capacity) - (total of all entry counters) + (total of all exit counters).

Note: It is important to structure your virtual counters logically from bottom upwards to avoid unnecessary duplication of formulas and to be able to keep track of the structure. See the example below:



Virtual Counter Formulas

West 1 = Gate 1 + Gate 2

West 2 = Gate 3 + Gate 4

West Stand = West 1 + West 2

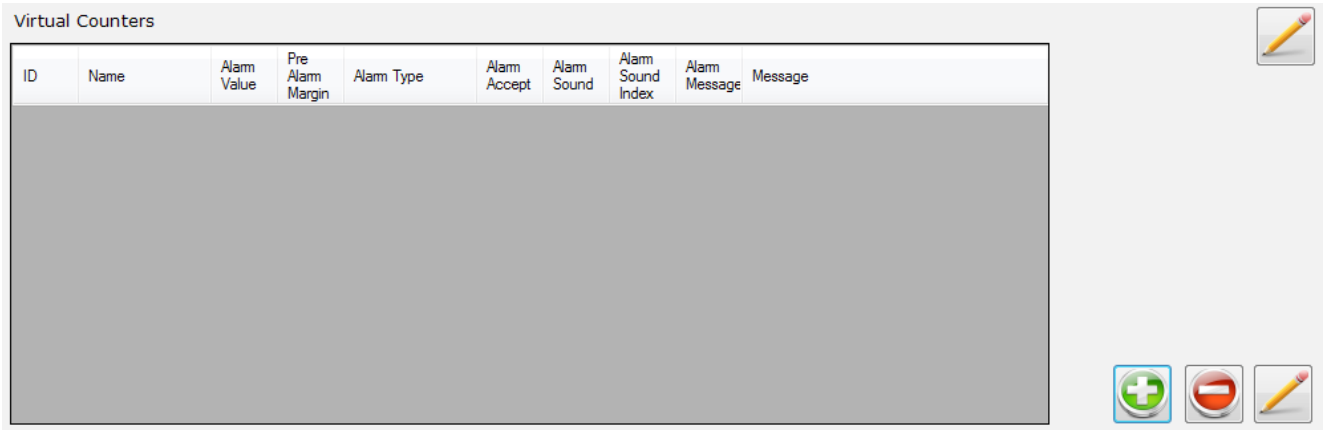
East 1 = Gate 7 + Gate 8

East 2 = Gate 5 + Gate 6

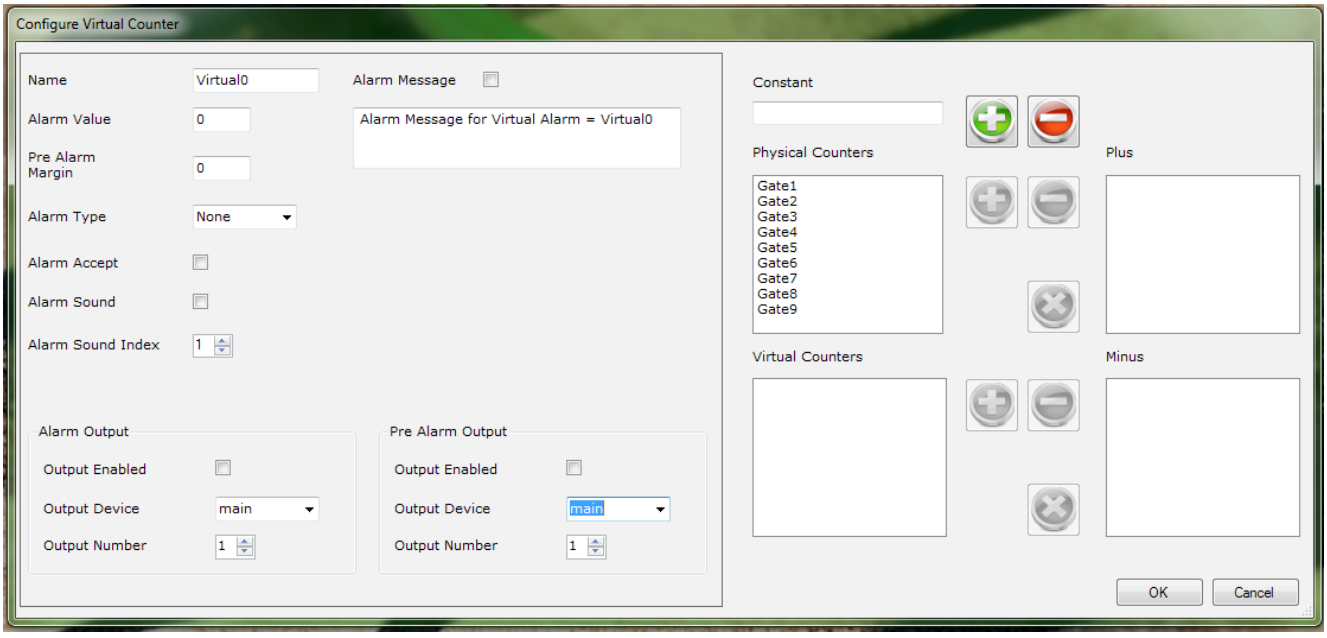
East Stand = East 1 + East 2

Stadium = West Stand + East Stand

The bottom pane of the ‘Setup Counters’ window shows the virtual counters. Initially, it is unpopulated as shown below:

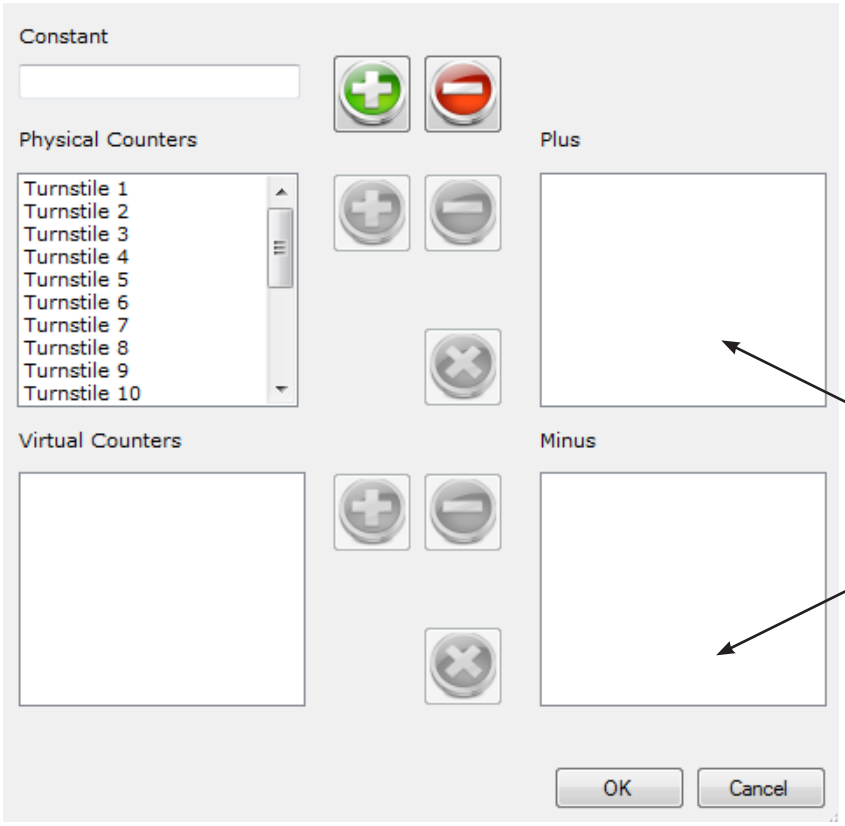


Click the ‘+’ button to the bottom right of the pane to add a new virtual counter. The ‘Configure Virtual Counter’ dialog box is displayed as shown below.



Give the virtual counter a descriptive name that relates to the item that the counter is monitoring (e.g. ‘West Stand’). The alarm options should be set in the same way as those of the physical counters.

The right hand panel of the dialog box is used to determine how the count value is calculated. The use of this panel is explained on the next page using an example.



The value of the count is equal to:

The sum of the values of all items in the 'Plus' box

minus the sum of the values of all items in the 'Minus' box.

Counters can be added to either box according to the required formula for the virtual counter. For example, to create the formula 'Turnstile 1' minus 'Turnstile 2':

add Turnstile 1' to the 'Plus' box, and add 'Turnstile 2': to the 'Minus' box.

To add a Physical counter to the 'Plus' box, highlight it in the 'Physical Counters' box and click the associated '+' button. To add it to the 'Minus' box, highlight it in the 'Physical Counters' box and click the associated '-' button.

It is possible to add Virtual Counter values to the formula in the same way as Physical counters. All existing virtual counters are listed in the 'Virtual Counters' box.

Constants (fixed values such as the capacity of a stand) can be added to the formula. To include a constant, enter the value in the 'Constant' box and click either '+' to add it to the 'Plus' box, or '-' to add it to the 'Minus' box.

Up to 50 items can be used in the formula.

An item can be removed from either box by highlighting it and clicking the associated 'x' button.

Click 'OK' to complete the task of adding the virtual counter. Add additional virtual counters as necessary.

Once all virtual counters have been added, click 'Exit' to close the 'Setup Counters' window.

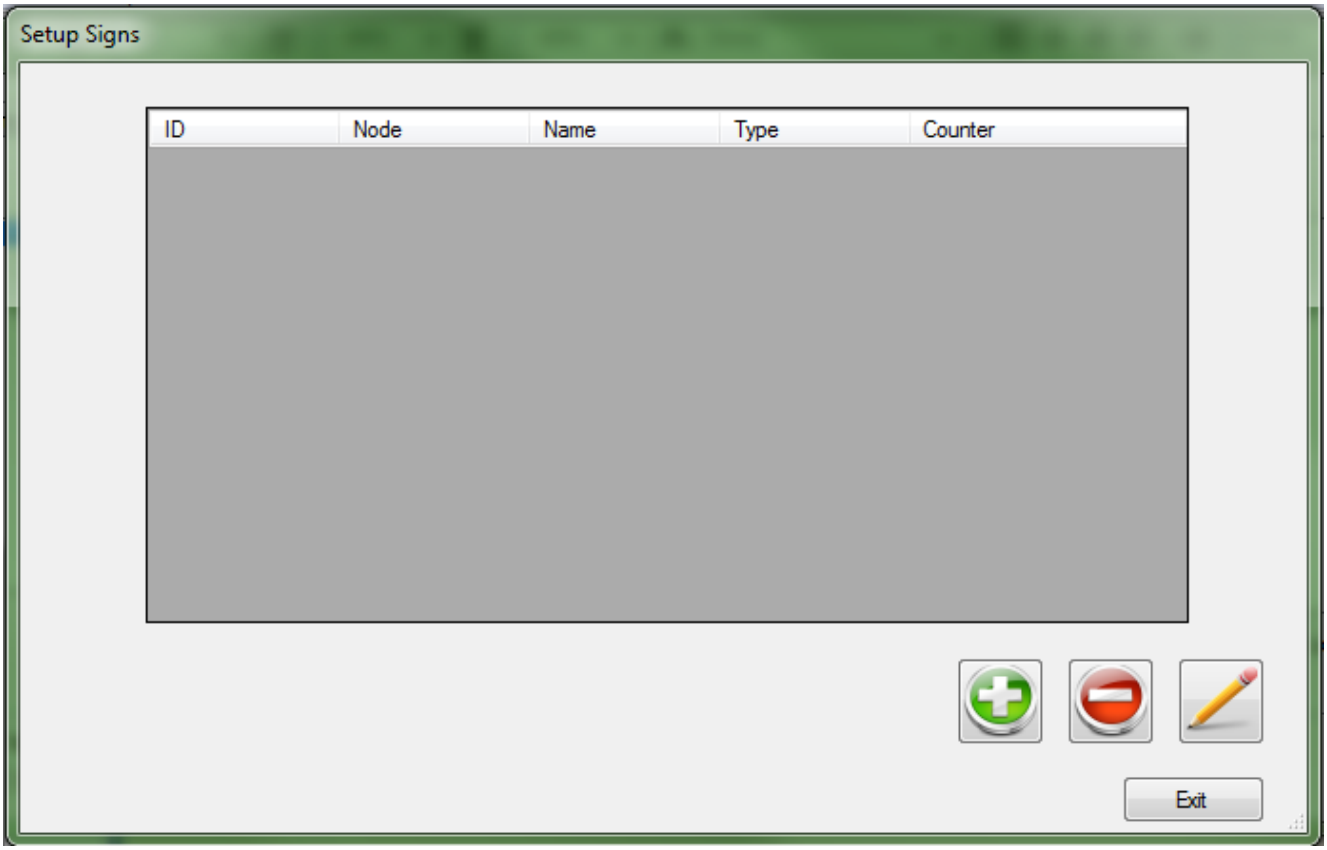
Click 'Exit' to close the 'System Setup' dialog box.

3.4.5. Add and Configure Variable Message Signs

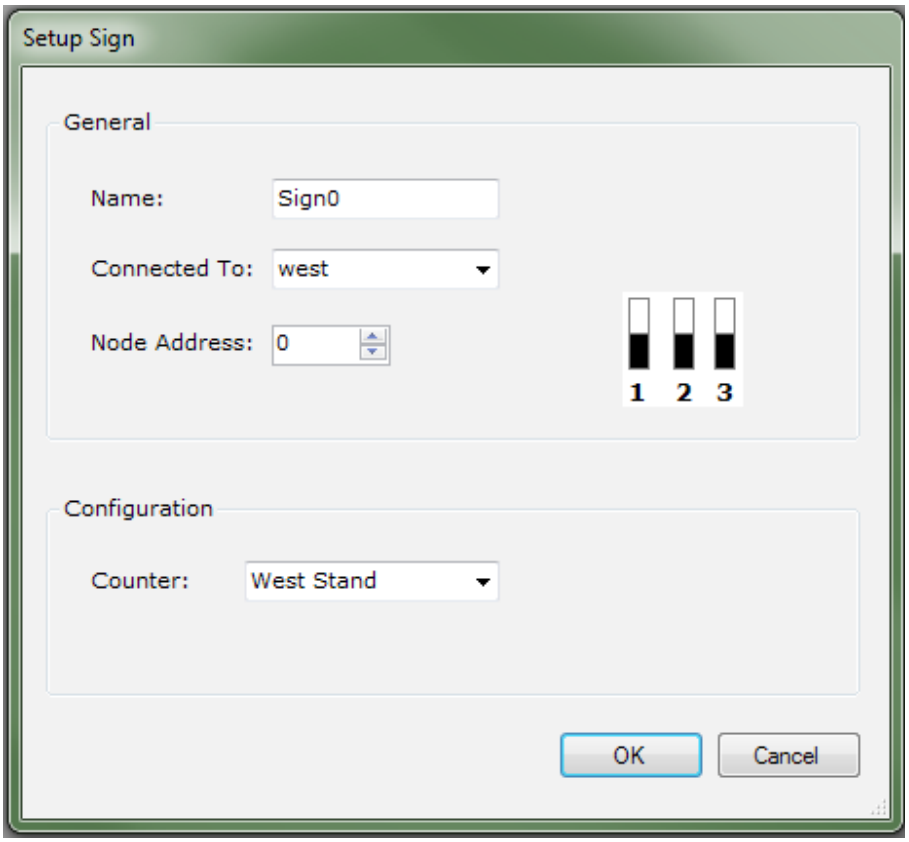
Variable Message Signs (VMS's) are connected to the system via the NCT200 modules. Up to eight count values can be displayed per NCT200 module. Any individual count value can be displayed on one or more VMS's. Each VMS count value relates to the node number set in the associated VMS(s). These are numbered from 0 to 7.

The method of assigning a count value to a sign is to configure a virtual counter to calculate the required value and then assign that virtual counter to the sign. Before adding signs to the system, ensure that you have configured a virtual counter with the information that you wish the sign to display.

Click the 'Setup Signs' button to display the 'Setup Signs' screen. Initially, it is unpopulated as shown below:



Click the '+' button to the bottom right of the pane to add a new sign. The 'Setup Sign' dialog box is displayed as shown on the next page.



Give the sign a descriptive name that relates to its location and/or the purpose of the count (e.g. 'West Stand Attendance').

Identify the physical sign by selecting the device that it is connected to and the node address assigned to the sign.

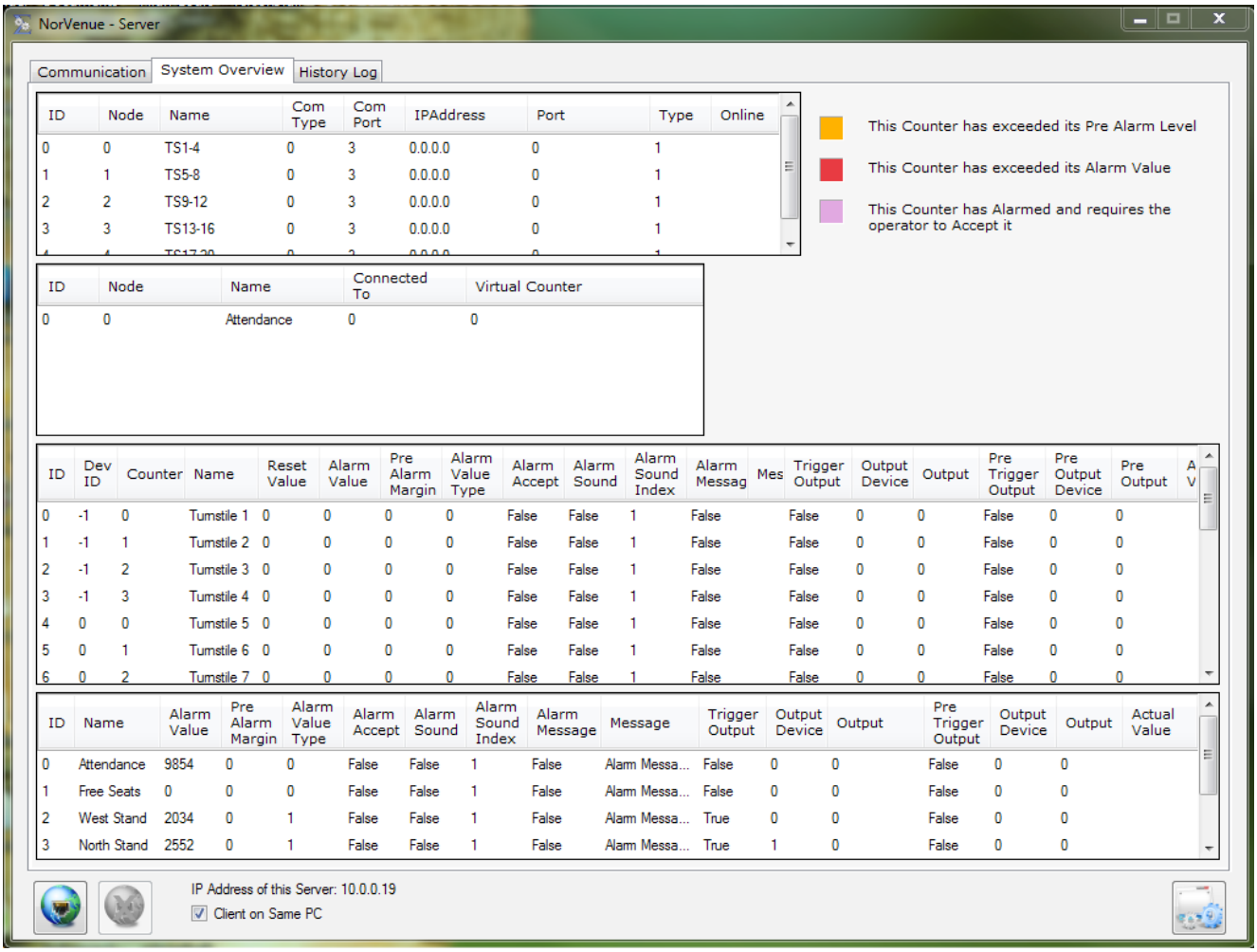
Note: To ensure that the physical sign displays the correct count value, the node address configured within it must correspond to the node address set here. This is carried out using DIP switches. To help you to set the correct node address within the sign, the DIP switch settings that correspond to the node address selected here are displayed on the right-hand side of the dialog box.

Finally, select the virtual counter that will be used to supply the count for the sign and then click on 'OK'. The dialog box will close and the new sign will appear in the list.

3.4.6. Final Check of the Server Configuration

You can now review the configuration of the system by selecting the 'System Overview' tab.

The screen should look similar to the one shown on the next page. Check that all devices and counters have been configured and named correctly. If not, go back into the 'System Setup' and make the required corrections.



3.4.7. Running the Server Communications

Once the system is configured correctly, select the ‘Communications’ tag and run the Server Communications by clicking the ‘Start Communications” button on the extreme bottom left of the window (see note below). The ‘Device Log’ pane should show a steady stream of events. None of the reports should be ‘failure’ events (red text).

Note: If the Client Software is to be installed on a different PC to the Server Software, before you start the Server, untick the ‘Client on same PC’ box at the bottom left of the Server screen and make a note of the Server IP address displayed above it.

3.4.8. Recording Server Configuration Data

At this stage, it is necessary to provide a copy of the configuration files to Nortech so that corresponding Site Plan information can be included with the Client Software. Instructions will be given by a Nortech engineer on how to produce a copy of the configuration data for use by Nortech in producing the Site Plan files.

Do not attempt to load the Client software without the correct Site Plan files unless specifically instructed to do so by a Nortech engineer.

4. Installing and Configuring the Client Software

4.1 Installation

The Client software should only be installed once the configuration information has been provided to Nortech and the Client Software has been supplied together with the correct Site Plan details. The Client software must be installed either on the same PC as the Server software or on a PC on the same TCP/IP network as the Server PC.

Insert the disk into the disk drive. If the program doesn't automatically run (autorun), double-click on 'Splashscreen.exe'. The welcome screen will be displayed:

Click 'Install Counting Client' and follow the on-screen instructions.

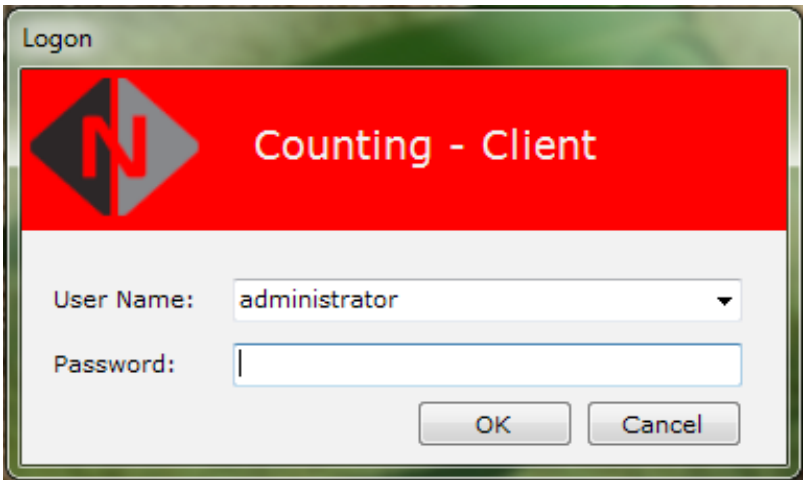
4.2 Starting up the Client Program

Once the Client software is installed, ensure that the Server communications is running and then double-click the 'Counting - Client' icon on the desktop.

Follow the instruction appropriate to your Server/Client configuration:

4.2.1. The Client is on the Same PC as the Server

The following login screen is displayed:

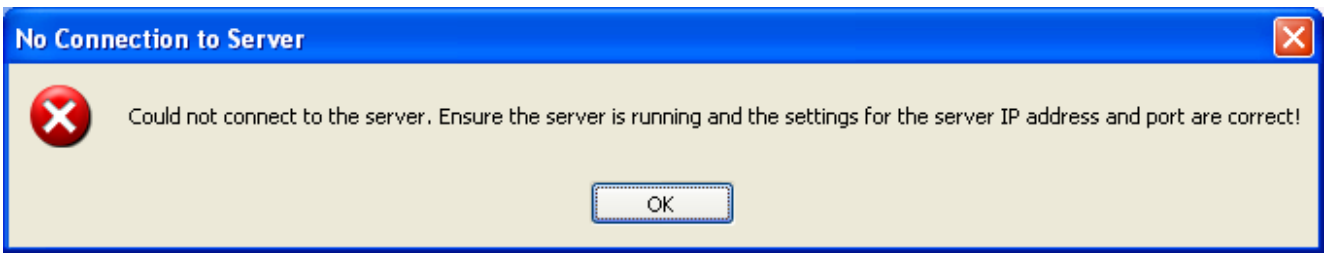


Type the new administrator password (changed in section 3) and click ‘OK’. The ‘Menu’ dialog box is displayed:

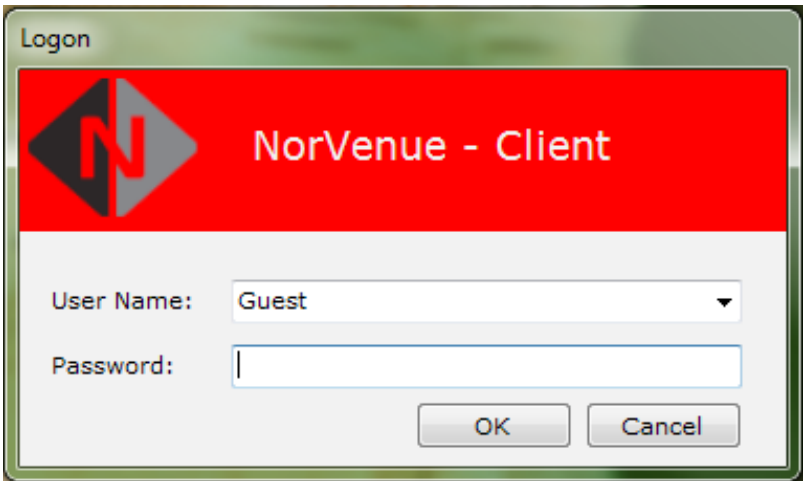
Go to section 4.3.

4.2.2. The Client is on a Different PC to the Server

The following warning message is displayed:

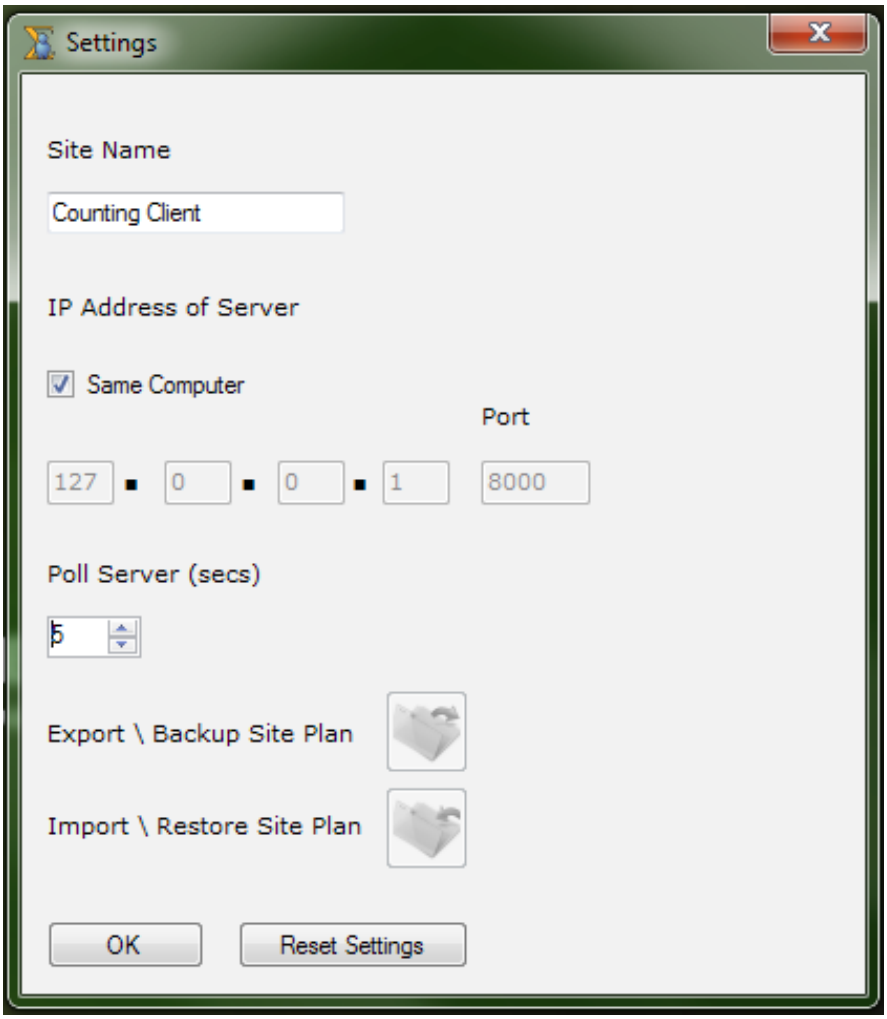


Click ‘OK’ to open the special ‘restricted’ logon dialog box:



This only allows the ‘Guest’ user to logon to the Client. The ‘Guest’ has limited access to change the communications settings. Enter the ‘Guest’ password ‘administration’ and click ‘OK’. The restricted ‘Menu’ dialog box is displayed:

Click ‘Settings’ to open the ‘Settings’ dialog box:



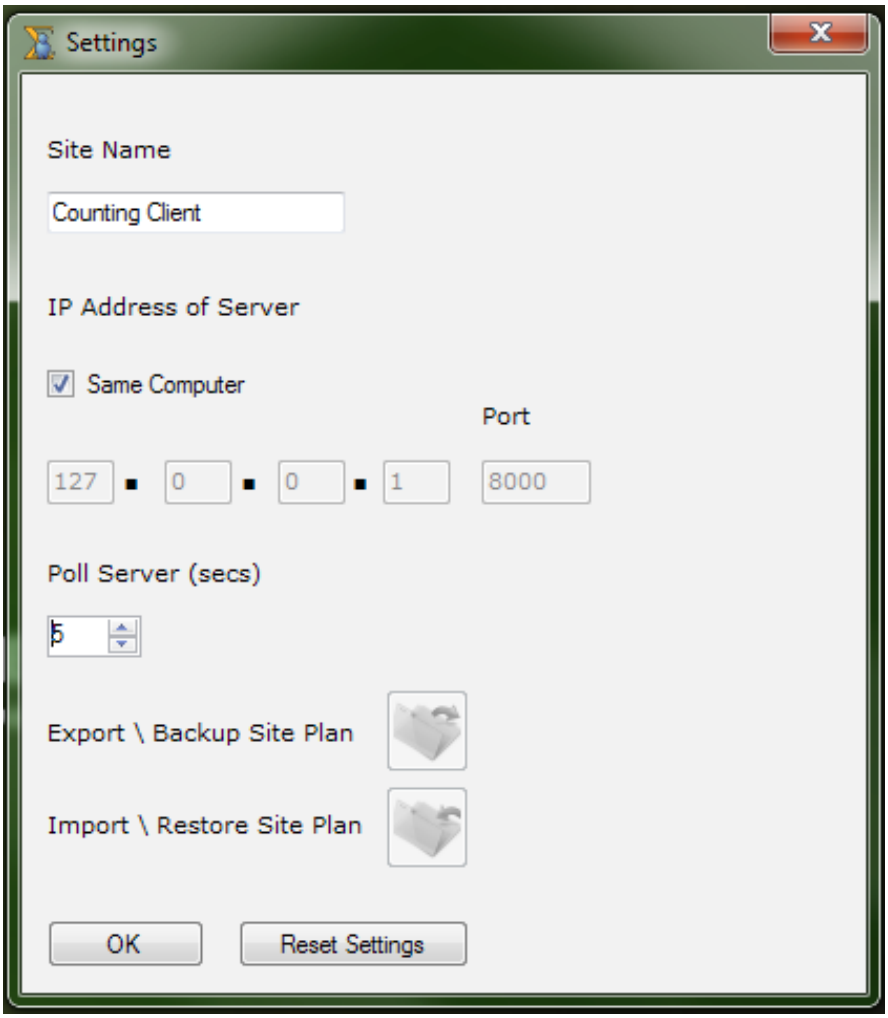
Untick the ‘Same Computer’ box and enter the IP address of the Server PC (as noted in section 3.4.7). The Port number should be left as 8000.

Click ‘OK’ to close the ‘Settings’ dialog box and then click ‘Exit’ to stop the ‘Client’ software.

Double-click the ‘Stadium Counter - Client’ icon on the desktop once again and logon as Administrator as explained in section 4.2.1.

4.3 Client Software Settings

Click ‘Settings’ to open the ‘Settings’ dialog box:



The ‘Settings’ dialog box allows you to provide a name for the venue. This will appear in the banner on the Client screen.

It is not necessary to change any of the remaining settings at this stage but there is an options to change how frequently the Client polls the Server for updates. Unless there is a problem with excessive network activity, this should be left at 5 seconds for convenience.

The fact that you were able to logon to the Client as Administrator confirms that the settings in the ‘IP Address of Server’ section are correct. Therefore it is important that these setting should not be altered. Otherwise the Client will no longer be able to communicate with the Server.

It is possible to backup and/or export the Site Plan files by clicking the ‘Export \ Backup Site Plan’ button, browsing to the folder where you wish to save the files and clicking ‘OK’.

If it is necessary to reapply a previously backed up Site Plan, this can be achieved using the ‘Import / Restore Site Plan’ button. A new site plan can also be easily imported using this feature. Simply click the ‘Import / Restore Site Plan’ button, browse to the folder containing the files and click ‘OK’.

Click ‘OK’ to close the ‘Settings’ dialog box.

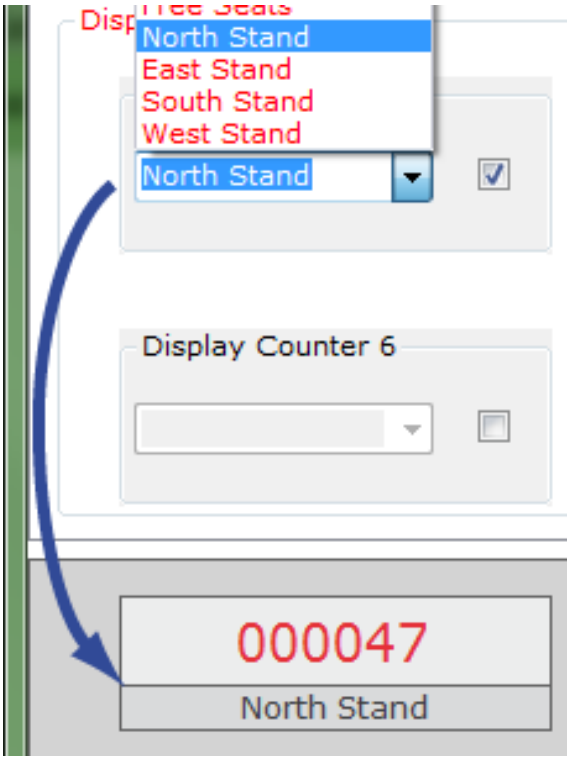
4.3.1. Running the Client Software and Configuring the Display

Start the Client software by clicking the 'Start' button in the 'Menu' dialog box. The main screen opens with the 'Site Plan' tab active. This should display all of the monitored access points (physical counters) and Variable Message Signs (VMS's) against the Site Plan image.

Note: The monitored access points are displayed as numbered boxes (black when no alarm is active; orange, red or purple if alarm is active). The VMS's are shown as green rectangles. The locations of the access points and VMS's are determined by an XML file created by Nortech which is based on advanced information provided by the customer. There may also be some count values and/or percentages on the Site Plan image if this has been specified by the customer. Check that the correct information is shown against the Site Plan.

Each of the 10 counter displays at the bottom of the screen can be configured to show the current value of any of the physical or virtual counters. To configure them, select the 'Display Setup' tab.

4.3.2. Display Setup



While the 'Display Setup' tab is selected, you can assign counters to the counter displays at the bottom of the screen as follows:

1. Tick the tick box associated with the counter display (shown on the right).
2. Use the drop-down box to select the counter (physical or virtual) from the list.

The current count value and identity of the selected counter is displayed in the corresponding counter display box.

4.3.3. Sound Files

When any of the counters (physical or virtual) reach an alarm threshold, an audible alarm can be raised (see section 3.4.3). The audible alarm is implemented as a sound file being played through the PC speakers. The sound file for a particular counter alarm and the way that it operates will depend upon the following Server settings for that counter:

Alarm sound enabled - a sound is only played if enabled in the Server.

Default alarm sound index - an alarm sound index is assigned to the counter alarm.

Alarm acceptance enabled - if enabled, the sound file is repeated until it is manually excepted. Otherwise it is played once at the time that the alarm is triggered.

The top part of the 'Display Setup' screen provides a means of assigning users own sound files to each of the sound indices:

To listen to the current sound file, click the arrow button to the right of the name box. To replace the sound file, click the 'Browse' button, browse to the required .WAV file on the PC, select it and click 'OK'. Check that the sound file works as expected by clicking the arrow key. Click the 'Reset' button to return to the default sound file.

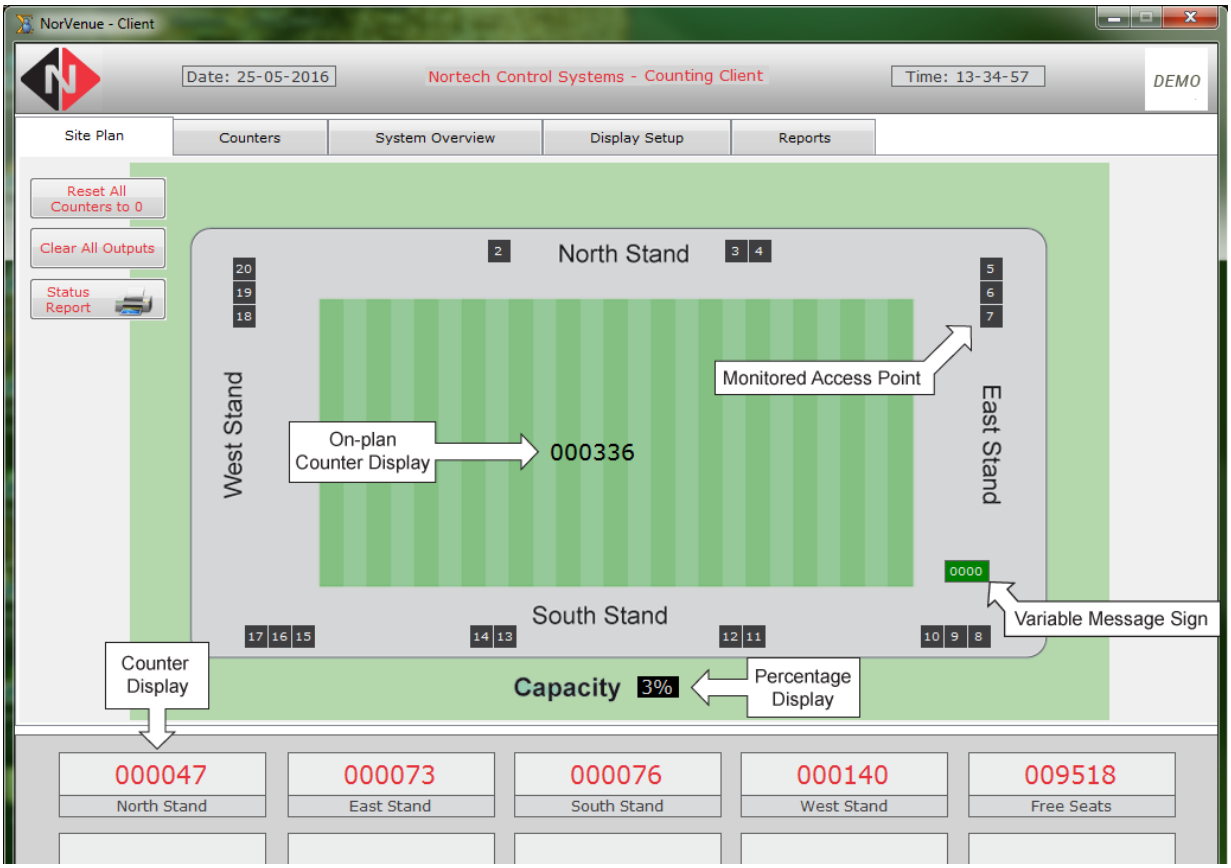
The configuration of NorVenue is now complete and the system is ready for use

5. Using NorVenue

This section provides help on using NorVenue features. Use the bookmark panel on the left to navigate to the feature for which you require help.

5.1 Using the Site Plan

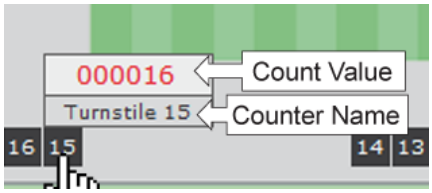
The ‘Site Plan’ screen displays all of the relevant information necessary to monitor the counter status of the venue. Most day to day user actions can be carried out from the ‘Site Plan’ by clicking buttons or right-clicking over icons or counters.



5.1.1. Monitored Access Points

Each monitored access point (turnstile or group of turnstiles that have a physical counter assigned to it/them) is represented as a numbered box. Its colour represents its current alarm status where black indicates no alarm present. A white box indicates that the associated counter module is off-line or that the counter has not been configured correctly in the Server software.

Hovering over the access point icon displays the name of the counter and the current count value:

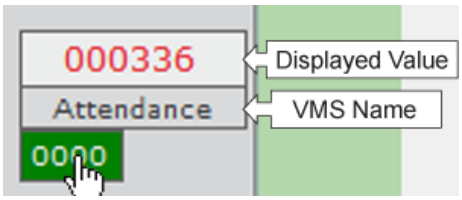


Right-clicking an access point icon activates a pop-up menu with a range of options to accept an alarm, change the counter value, etc. (See section 5.2).

5.1.2. Variable Message Signs

Each Variable Message Sign (VMS) is represented as a numbered box. Its colour represents its current alarm status where green indicates no alarm present. A white box indicates that the associated counter module is off-line or that the VMS has not been configured correctly in the Server software.

Hovering over the VMS icon displays the name of the VMS and the current displayed value:



5.1.3. Counter Displays

Each of the 10 counter displays below the Site Plan can be assigned to display any counter value (physical or virtual). The counter name is displayed below the value.

Depending upon requirements, there may be additional counters shown on the Site Plan itself to provide information about the occupancy of individual areas and/or the whole venue. These may be shown as count values or as percentage occupancy.

Hovering over a count value or percentage on the Site Plan shows the identity of the counter.

Right-clicking any counter activates a pop-up menu that allows acceptance of an associated active alarm.

Right-clicking any counter display at the bottom of the screen that relate to a physical counter will activate a full pop-up menu in the same way as right-clicking an access point icon (See section 5.2).

5.2 Physical Counter Control

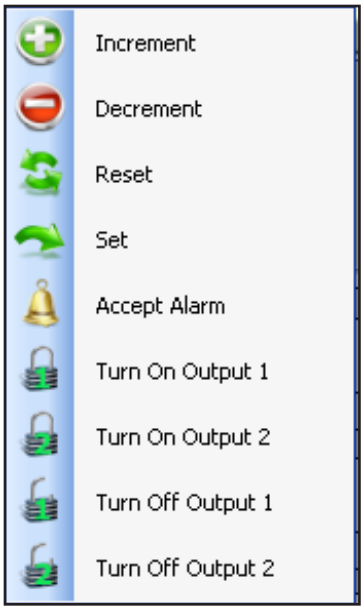
Each of the physical counters are incremented when a turnstile allows the entry of a person through an access point. It may be necessary on occasions to manually alter the value of the physical counter.

Selecting the 'Counters' tab allows you to view all of the physical and virtual counters in list form. This view also provides a number of counter and alarm controls.

Each physical counter value may be incremented, decremented, reset to zero or it may be assigned a new value. These actions may either be carried out from the Tools pane in the 'Counters' view or by using the right-click pop-up menu in the 'Site Plan' view:

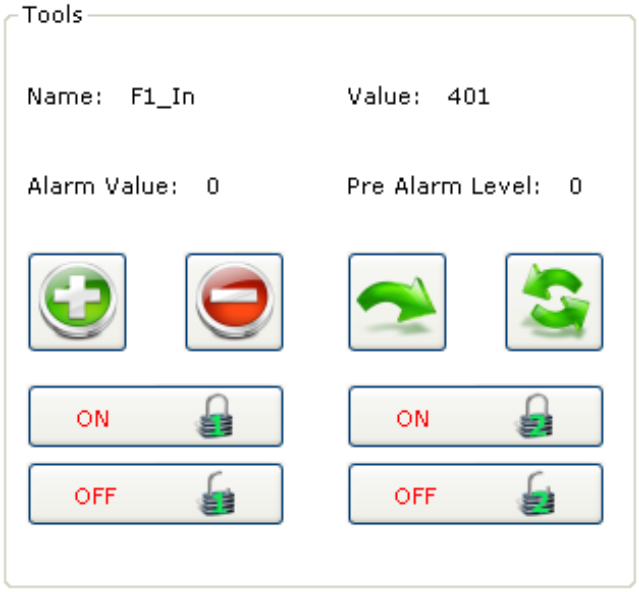
From the 'Site Plan' View

Right-click on a counter icon to open the popup menu:



From the 'Counters' View

Select a physical counter from the list and use the 'Tools' pane:



5.2.1. Reset all Physical Counters

Where it is necessary to reset the whole system to the initial state (before the venue opens, for example), then this is achieved by clicking the 'Reset Counters to zero' button at the top left-hand side of the 'Site Plan' tab. It will take several seconds for all of the displayed counter values reflect the zero values of the physical counters.

5.2.2. Reset a Single Physical Counter to Zero

If it is necessary to reset a physical counter to zero (before the associated entrance is opened, for example), this can be achieved in either of two ways:

From the Site Plan

1. Right-click on the physical counter icon
2. Select ‘Reset’

From the ‘Counters’ View

1. Select the ‘Counters’ tab
2. Click on the counter in the ‘Physical Counters’ list to highlight it
3. Click the ‘Reset Counter’ button in the ‘Tools’ pane

It will take several seconds for the on-screen physical counter value and those of any dependant counters to reflect the change.

5.2.3. Increment a Physical Counter

If it is necessary to increment the value of physical counter, (example: where an individual or group are allowed to enter without passing through a turnstile), this can be achieved in either of two ways:

From the Site Plan

1. Right-click on the physical counter icon
2. Select ‘Increment’
3. Enter the increment value and click ‘OK’

From the ‘Counters’ View

1. Select the ‘Counters’ tab
2. Click on the counter in the ‘Physical Counters’ list to highlight it
3. Click the ‘+’ button in the ‘Tools’ pane.
4. Enter the increment value and click ‘OK’

It will take several seconds for the on-screen physical counter value and those of any dependant counters to reflect the change.

5.2.4. Decrement a Physical Counter

If it is necessary to decrement the value of physical counter (example: when a known number of people leave the venue without passing through a controlled exit), this can be achieved in either of two ways:

From the Site Plan

1. Right-click on the physical counter icon
2. Select ‘Decrement’
3. Enter the decrement value and click ‘OK’

From the ‘Counters’ View

1. Select the ‘Counters’ tab
2. Click on the counter in the ‘Physical Counters’ list to highlight it
3. Click the ‘-’ button in the ‘Tools’ pane.
4. Enter the decrement value and click ‘OK’

It will take several seconds for the on-screen physical counter value and those of any dependant counters to reflect the change.

5.2.5. Set a Counter to a New Value

Where it is necessary to change the value of physical counter, this can be achieved in either of two ways:

From the Site Plan

1. Right-click on the physical counter icon
2. Select ‘Set’
3. Enter the new counter value and click ‘OK’

From the ‘Counters’ View

1. Select the ‘Counters’ tab
2. Click on the counter in the ‘Physical Counters’ list to highlight it
3. Click the ‘Set Counter’ button in the ‘Tools’ pane.
4. Enter the new counter value and click ‘OK’.

The dialog box will close and it will take several seconds for the on-screen physical counter value and those of any dependant counters to reflect the new value.

5.3 Display Control

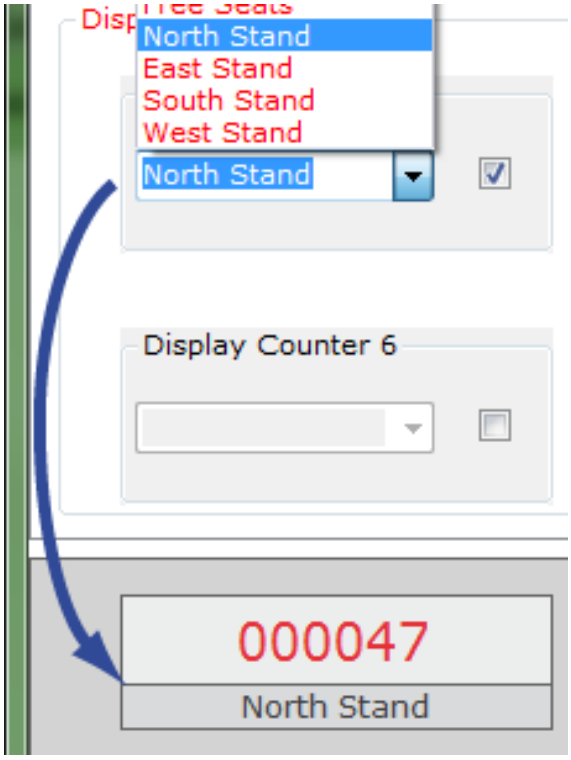
If it is necessary to change which counters are displayed on the screen, the 10 counter displays at the bottom of the ‘Site Plan’ screen can have different counters assigned to them. However, the counters on the main plan are not configurable from the controls and require the assistant of the installer.

5.3.1. Assign a New Counter to the Count Displays Below the Site Plan

Assign a new counter to one of the count displays at the bottom of the Site Plan screen as follows:

1. Select the ‘Display Setup’ tab
2. Tick the tick box associated with the required counter display if not already ticked (see right).
3. Use the drop-down selection box to select the required counter (physical or virtual) from the list.

The current count value and identity of the selected counter is displayed in the corresponding counter display box.



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5.4 Alarm Handling

Some counters may be configured to provide an alarm when the value passes a preset threshold value. An active alarm may give a number of visible and audible signals according to the way is was configured. These are:

1. All visible representations of the counter change colour
2. An alarm message box is displayed.
3. A sound file is played through the PC speakers.

Certain counter alarms may also require manual acceptance to silence the audible indication.

5.4.1. Alarm Types and Colour Code

The colour of an object on the screen changes colour according to the type of alarm condition. The interpretation of the colours are:

Red - the count value has passed the alarm threshold value. The counter will stay this colour while the count value remains beyond the alarm value threshold.

Orange - the count value is within the pre-alarm margin of the Alarm value. The pre-alarm value is set as a margin around the alarm value so that the counter remains orange when the count is within this margin of the alarm value (unless it passes the alarm threshold). It therefore acts as an early warning.

Purple - the count value has passed the alarm threshold value and requires manual acceptance. Once accepted, the colour changes to red while the alarm condition remains.

5.4.2. Accept an Alarm

When an alarm that needs manual acceptance to silence the audible signal, the counter with the active alarm changes colour to purple. There are two options for accepting an active alarm:

From the Site Plan

1. Right-click on the count display or physical counter icon that is indicating the need for alarm acceptance (purple)
2. Select ‘Accept Alarm’

From the ‘Counters’ View

1. Select the ‘Counters’ tab
2. Find the alarm in the ‘Alarm Accept Queue’ pane at the bottom right of the window.
3. Highlight the alarm in the queue and click the ‘bell’ symbol.

This will silence the audible alarm and the colour of the counter will change to red and remain red while the count is beyond the alarm value.

5.5 Counter Output Control

Each of the four physical counters within an NCT200 controller has 2 output signals to control external devices. These outputs can be activated or deactivated manually from the Client software. There are two ways of activating and deactivating individual outputs:

1. Right-click the physical counter icon in the ‘Site Plan’ view.

2. Use the Tools pane in the ‘Counters’ view

See section 5.2 for more information.

5.5.1. Clear all Outputs

If it is necessary to clear all outputs (when resetting the system before or after an event, for example), click the ‘Clear all Outputs’ button at the top left of the ‘Site Plan’ window.

5.5.2. Activate a Specific Output

When it is necessary to activate a specific output (to give a signal that indicates that an area is full, for example), this can be achieved in either of two ways:

From the Site Plan

1. Right-click on the physical counter icon
2. Select either ‘Turn on Output 1’ or ‘Turn on Output 2’

From the ‘Counters’ View

1. Select the ‘Counters’ tab
2. Click the required physical counter to highlight it
3. Click the appropriate ‘ON’ button in the ‘Tools’ pane.

5.5.3. Deactivate a Specific Output

When it is necessary to activate a specific output, this can be achieved in either of two ways:

From the Site Plan

1. Right-click on the physical counter icon
2. Select either ‘Turn off Output 1’ or ‘Turn off Output 2’

From the ‘Counters’ View

1. Select the ‘Counters’ tab
2. Click the required physical counter to highlight it
3. Click the appropriate ‘OFF’ button in the ‘Tools’ pane.

5.6 Reports

NorVenue records the readings of all counter and logs the data every 15 minutes. This facilitates the production of statistical information for reporting and analysis. Status reports can be generated for viewed, printing and/or saving from the Client software.

5.6.1. Produce a Status Report for the Current Time

To produce an instantaneous record (snapshot) of the status of all counters at the current time (as part of accounting or health and safety procedures, for example), the procedure is as follows:

1. Click the 'Status Report' button on the top right of the 'Site Plan' screen - the 'Reports' tab is automatically selected and the report is displayed on the screen.
2. Use the page navigation bar above the report to navigate through the pages of the report.
3. Provide and appropriate name for the report and either click the 'Printer' button to send the report to a printer or click the 'Diskette' button (on the page navigation bar') to export the file as either an Excel file or Acrobat (PDF) file.

Note: If you wish the exported report to be retrievable from within NorVenue, save it to the 'Reports' folder under "C:\Nortech Control Systems\ Stadium Counter Client"

5.6.2. Produce a Status Report for an Earlier Date and Time

To produce a report of the status of all counters recorded at an earlier date and time, the procedure is as follows:

1. Select the 'Reports' tab
2. Enter the required date from using the pop-up calender
3. Enter the required time by selecting each field in turn (hours, minutes, and seconds) and using the scroll buttons to select the required values.
4. Provide an appropriate name for the report and then click the 'Search' button. The report is displayed on the screen.
5. Use the page navigation bar above the report to navigate through the pages of the report.
6. Click the 'Printer' button to send the report to a printer or click the 'Diskette' button (on the page navigation bar') to export the file as either an Excel file or Acrobat (PDF) file.

Note: If you wish the exported report to be retrievable from within NorVenue, save it to the 'Reports' folder under "C:\Nortech Control Systems\ Stadium Counter Client"

5.6.3. View Exported Status Reports

Any exported report that was saved in the 'Reports' folder can be selected from the Client Software for viewing. The file will open in the application (e.g. Excel or Adobe Reader) associated with the file type. It is necessary therefore, that an appropriate application is available on the PC that is running the Client Software.

View an exported report as follows:

1. Select the ‘Reports’ tab in the Client software.
2. Identify the drop-down search box below the message ‘Load an Old Status Report’ and search for the filename.
3. Click the ‘Folder’ button. The report will open in the associated application.

6. System Administration

There are a number of configurable items that may need to be changed after NorVenue has been commissioned and put into service. The configuration of these items should only be carried out by an administrator or support engineer. The configuration is carried out on the Server software when Server communications has been halted.

Due to the amount of data being processed, History reports can only be generated from the Server software and therefore require an administrator or user with Server access rights to carry it out.

6.1 Alarm Management

An alarm can be activated when a counter reaches a preset threshold value. When the alarm becomes active, a number of visible and audible signals may be given. These are:

1. All visible representations of the counter change colour (for physical counters, this includes the associated access point icon on the Site Plan)
2. An alarm message box is displayed (configurable).
3. A sound file is played through the PC speakers (configurable).

Optionally, a counter can also be configured so that an active alarm condition requires manual acceptance to silence the audible indication.

6.1.1. Change Alarm Settings

This is carried out on the Server and should only be carried out by a system administrator. The procedure is as follows:

1. Close the Client software.
2. Stop the Server communications by clicking the ‘Stop Communication’ button at the bottom left of the ‘Communication’ window.
3. Click the ‘System Setup’ button at the bottom right of the ‘Communication’ window. The ‘System Setup’ dialog box is displayed.
4. Click ‘Setup Counters’. The ‘Setup Counters’ window opens.
5. Double-click the counter that you wish to change. If it is a physical counter, the ‘Configure Physical Counter’ dialog box opens. If it is a virtual counter, the ‘Configure Virtual Counter’ dialog box opens. The alarm settings are the same for both:
6. Make the appropriate change(s) (refer to section 3.4.3 for an explanation of the parameters).
7. Click ‘OK’ to close the ‘Configure Physical Counter’ dialog box Click ‘Exit to close the ‘Setup Counters’ window.
8. Click ‘Exit’ to close the ‘System Setup’ dialog box.
9. Restart the Server communications by clicking the ‘Start Communications’ button on the bottom right of the communications screen and check that the Server is communicating with the devices correctly (right-hand pane).
10. Run the Client Software.

6.2 History Log

NorVenue records the readings of all counter and logs the data every 15 minutes. This facilitates the production of statistical information for reporting and analysis. The History Log can be viewed using date and time filtering. History reports can be generated, viewed, printed and/or saved.

6.2.1. View History Log and Produce a History Report

The records in the history log can be searched for all records between two dates or further filtered to records taken during a certain time period on each of the days. A printable report can be generated for printing and/or exporting. The procedure is as follows:

1. Select the ‘History Log’ tab in the Server software
2. Enter the required start and end dates from using the pop-up calenders. (These are inclusive dates. For a single day, select the same date in both fields).
3. If it is necessary to filter on time of day, enable the time period filter by ticking the box and then enter the required start and end times on each day by selecting each field in turn (hours, minutes, and seconds) and using the scroll buttons to select the required values.
4. Click the ‘Search History’ button. The filtered records are displayed on the screen.
5. Use the page scroll bar on the right to navigate through the records.
6. To produce a printable report, click the ‘Create Report’ button. The report is created in a new screen.
7. Use the page navigation bar above the report to navigate through the pages of the report.
8. Click the ‘Printer’ button to send the report to a printer or click the ‘Diskette’ button (on the page navigation bar’) to export the file as either an Excel file or Acrobat (PDF) file.