



# **Compact Contact Center**

## **Installation & Maintenance**

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# Introduction

## General

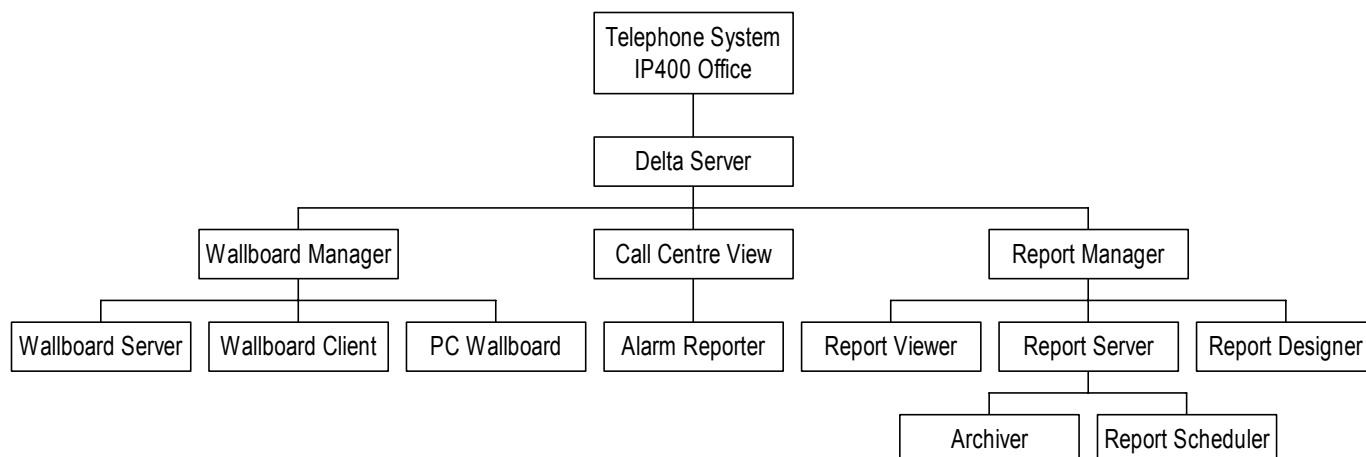
Compact Contact Center Modules (CCC) provide the user with the necessary tools to facilitate the management of call traffic. They are designed to provide a tightly integrated real time and historic reporting package and wallboard support for the eBusiness digital communications platform. The product consists of a set of fully integrated modules sharing a common database utilizing Interactive Directory and Database (IDD) technology.

The suite of modules consists of the following applications:

- **Call Center View (CCV):**  
Provides a management package for telephone based staff and supports any size Customer Facing Department (CFD) or contact center. To effectively control customer service levels, real time human resource management is essential and the Call Center View has been specially designed to manage the CFD's or contact center's most valuable and expensive asset – its people.
- **Call Center View Alarm Reporter:**  
Provides information (for each Contact Center Profile) about alarms that have occurred within the Compact Contact Center. The detailed alarm information for each directory number is presented in report format, which can then be printed.
- **Wallboard Manager:**  
Real time information from the contact center is essential to react to constantly changing telephone traffic levels and provide excellent customer service. Wallboards allow managers and staff to monitor the service being provided and respond immediately. Wallboards provide current information on the number of calls waiting, response times and service levels.
- **PC Wallboard:**  
The PC Wallboard delivers traditional wall mounted wallboard functionality to the desktop but with the additional benefit of each PC Wallboard agent being able to configure and monitor a personalized view of the contact center. The PC Wallboard also enables agents to increase their productivity and maintain revenue levels with the added benefit of managing customer callback requests.
- **Report Manager:**  
Provides in depth historical reporting on CFD or contact center activity. In addition to call information, the Report Manager also reports agent activity. This powerful package allows individual call records to be stored and reported upon months later.
- **Report Designer:**  
The Report Designer is a software tool used for querying and reporting. It enables the user to create reports that contain data from their contact center database and schedule reports to be updated and printed.
- **CCC User Access:**  
This allows the user to have security and store their personal view of the contact center activity.

# Overview

Compact Contact Center provides the user with the necessary tools to facilitate the management of call traffic. The diagram below shows the concept:



This document describes the equipment (including Software) required and the procedures to be followed to install the CCC Manager modules on a customer's site.

The **"Installation and Maintenance Manual"** covers the installation of the Telephone System.

# System Specification

The Server PC will support up to 5 Clients.

The Operating System on the Server PC can be either Windows 2000 server or Windows NT Server 4.0. All UK Hardware will be shipped with Windows 2000 server installed.

The Operating System of the Client PCs can be either Windows NT Workstation 4.0, Windows 95/98 or Windows 2000 Professional.

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## Computer Systems

Each Server PC and Client PC **must** meet the minimum requirements as detailed in this section.

### Server PC: (Supporting Max 5 Clients):

- Pentium II 400MHz or higher, with 1 x 10GByte hard disk
- Minimum 256 MBytes of RAM

### Client PC:

- Pentium II 133MHz or higher, with >1GByte hard disk
- Minimum 64Mbytes of RAM

**Monitor:** 15" (or optional 17") SVGA supporting 800x600

**Keyboard:** Win NT/95/98/2000 Compatible

**Floppy Disk Drive A:** 3.5" 1.44 Mb high density

**CD ROM Drive**

**Backup Device:** On Stream 30GB Digital Drive (optional).

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## Expansion Cards

- **Wallboard Comms Card:** Advantech PC-LabCard (Model PCI – 1601A)
- **Network Card:** 3Com EtherLink 10/100Mbps PCI Combo (Model No: 3C905B-COMBO)

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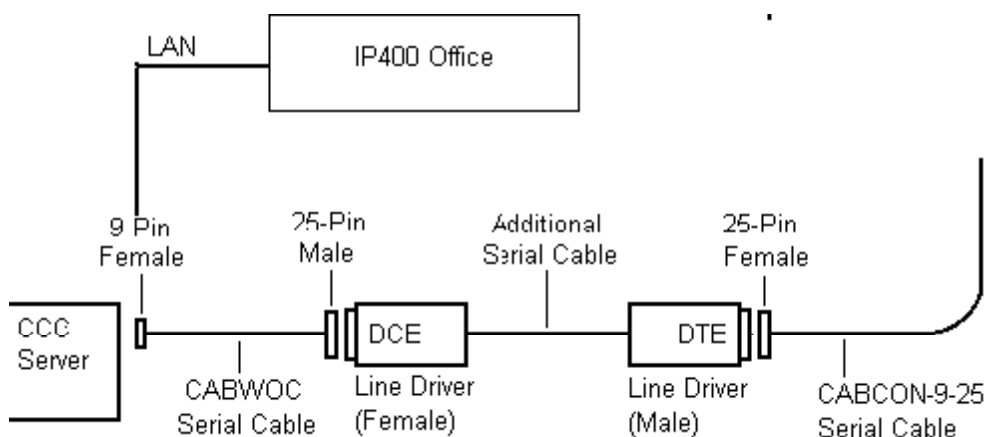
## System Software

Software	Version	Media type
Windows NT Server	Version 4.0	CD ROM
Windows 2000 Server	Latest	CD ROM
Windows NT Workstation	Version 4.0	CD ROM
Windows 95	Latest	CD ROM
Windows 98	Latest	CD ROM
Windows 2000	Latest	CD ROM
Application CD	Latest	CD ROM. incorporating all related CCC applications and MSDE database.

**Note:** Windows 2000 Service Pack 1 may be needed during the setup for Windows 2000. Please read the This can be downloaded from the Internet at: <http://www.microsoft.com/windows2000/downloads/default.asp>.

## Connecting the CCC Server

The LAN provides connection between the IP400 and the CCC Server. It will support 10/100 Mbps connection. The length of cable is dependent on structured cabling and speed.



## Wallboard Devices

### Wallboard 22

Specification	
Voltage	220/240V AC <b>OR</b> 110V AC. (Check label on rear of wallboard)
Wattage	108W
Cold Start Inrush Current	30A for up to 6ms
Baud Rate	9600 only
Input	RS 485
Weight	6 kg
Dimensions	L 1097 x D 75 x H 198 mm

Installation power distribution circuit rating to be greater than 6 amp, any circuit breakers must be capable of handling the cold start inrush current without tripping. For details of Wallboard 22 Installation see "Wallboard 22" on page 6.

### Wallboard 10

Specification	
Voltage	Check label on rear of wallboard
Wattage	35W
Cold Start Inrush Current	30A for up to 6ms
Baud Rate	9600 only
Input	RS 485
Weight	4 kg
Dimensions	L 469 x D 75 x H 123 mm

Installation power distribution circuit rating to be greater than 6 amp, any circuit breakers must be capable of handling the cold start inrush current without tripping. For details of Wallboard 10 Installation see "Wallboard 10" on page 40.

# Limitations

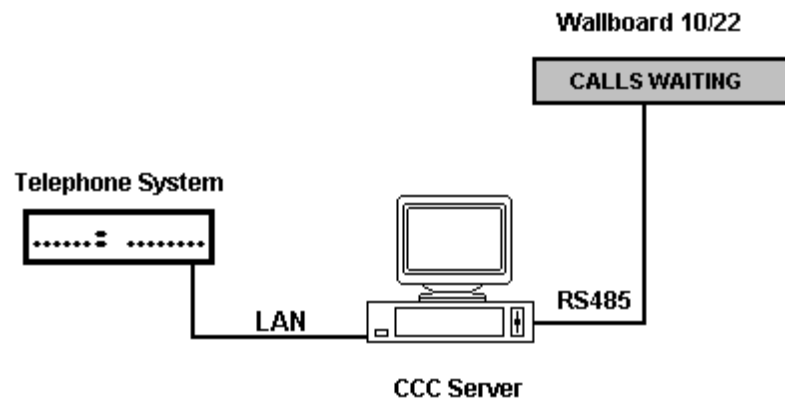
## 15 Agent Systems and below

The Compact Contact Center Manager comprises a suite of tightly integrated Contact Center Modules installed on a CCC Server PC platform running Windows 2000 or NT4. The Compact Contact Center Manager may be installed either with or without Voice Manager Pro. The following lists the Compact Contact Center modules included within the Compact Contact Center Manager which are designed to run concurrently on the CCC Server PC: -

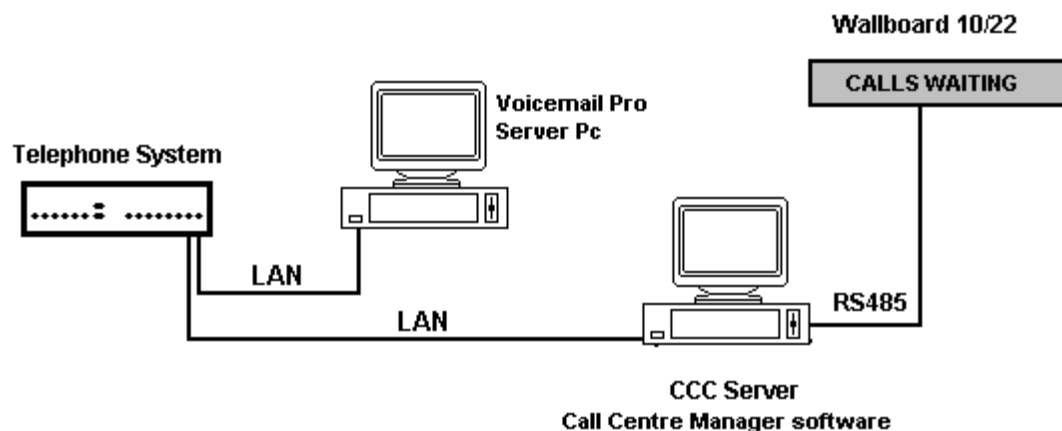
CCC Server PC

- Call Center View.
- Wallboard Server.
- Report Server and Client.
- Report Designer (optional).
- Voice Processing Administration (if Voice Manager Pro is present).

The following diagram shows the Compact Contact Center connectivity, for systems of 15 agents and below, supplied on a standalone PC from Avaya **without** a Voice Manager.



The following diagram shows the Compact Contact Center Manager connectivity, for systems of 15 agents and below, where a Voice Manager is present.

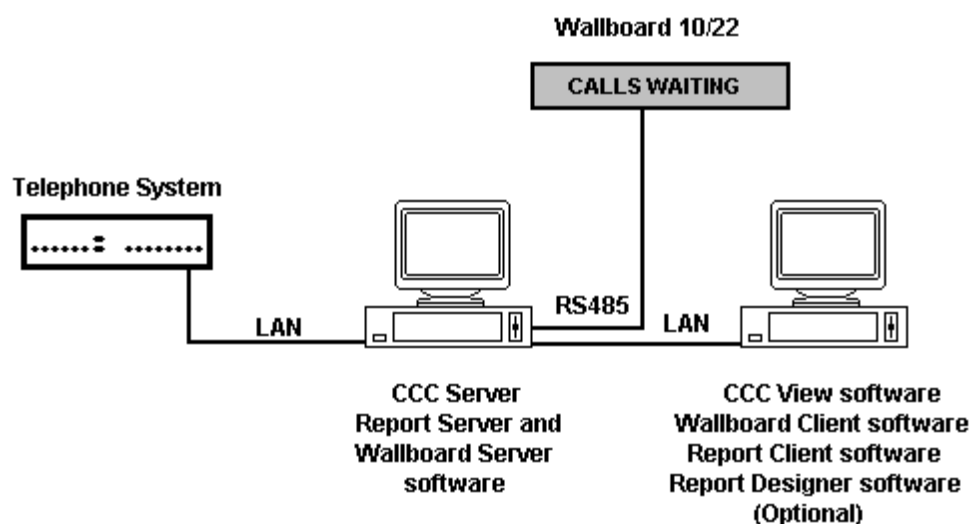


## Systems above 15 Agents

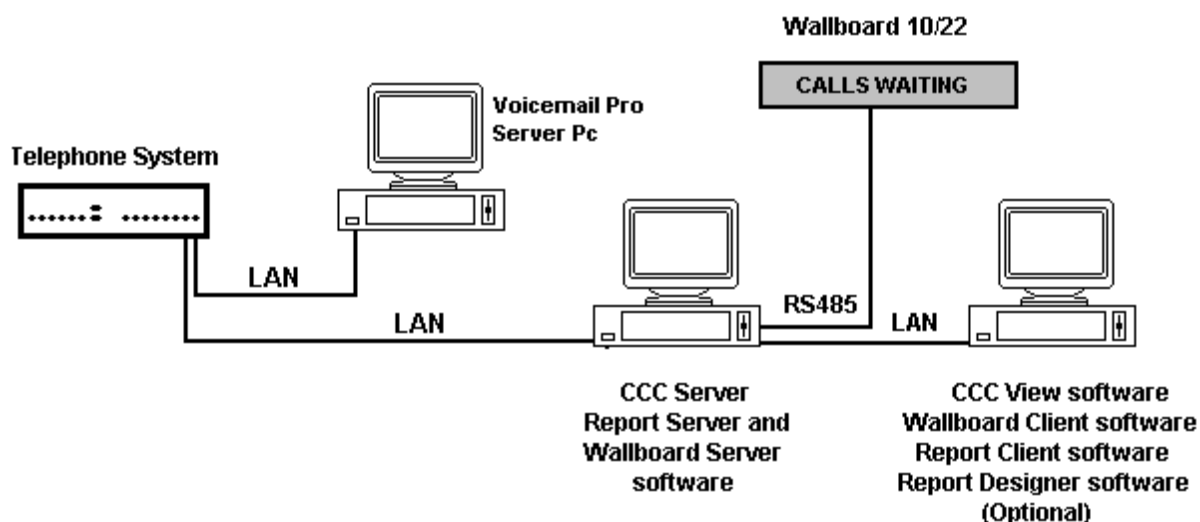
Due to the traffic demands of contact centers above 15 agents, the Report Server and Wallboard Server must reside on a dedicated PC. The product is offered as a complete solution supplied on 2 PC's, capable of being installed on the customer's existing LAN. The Compact Contact Center Manager supports 5 concurrent supervisor positions. It may be installed either with or without a Voice Manager. The following details where the applications reside:

Client PC	Server PC
Call Center View	Delta Server
Wallboard Client	Report Manager
Report Viewer	Wallboard Server
Report Designer (Optional)	Report Scheduler
Voice Processing applications	Archiver
PC Wallboard	
CCV Alarm Reporter	
CCC User Access	

The diagram below shows the Compact Contact Center Manager without a Voice Manager being installed.



The diagram below shows the Compact Contact Center Manager where a Voice Manager is present.





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# PC Configuration

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## Overview

The Server PC requires a 4 GB partition for the software applications. The remaining of the hard drive is used for the Archiver database.

This section details the PC configurations as follows:

1. Server PC configuration using Windows NT 4.0 Server. See "Server PC Setup – NT4" on page 10.
2. Server PC configuration using Windows 2000. See "Server PC Setup – Windows 2000" on page 14.
3. Client PC configuration using Windows NT 4.0 Workstation. See "Client PC Setup - Windows NT Workstation" on page 16.
4. Client PC configuration using Windows 95. See "Client PC Setup - Windows 95" on page 17
5. Client PC configuration using Windows 98. See "Client PC Setup - Windows 98" on page 18.
6. Client PC configuration using Windows 2000. See "Client PC Setup - Windows 2000" on page 19.

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# Server PC Setup – NT4

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## 1. Windows NT Server 4.0 Modifications

On a machine with Windows NT4 already installed, you need to check the following settings.

- 1 The Computer Name needs to be **ARCHIVERSQL**.
- 2 The network protocol is TCP/IP.
- 3 Windows NT Server Service Pack 6a must have been installed. If you are in doubt, install the service pack again.
- 4 Ensure that the Time Zone is set to local time [e.g. for UK set it to English (United Kingdom)].
- 5 Make sure that the screen display properties have been set to the following:

**Desktop Area** is set to 800 by 600 pixels. **Color palette** is set to 65536.

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### 1.1 Create the C and SDX Shares

1. Double click on the **My Computer** icon.
2. Click the right mouse button on drive C: and select **Sharing** from the menu.
3. Click on the **New Share** button.
4. Enter **SDXSHARE** (Uppercase) in the Share name and ensure that the user limit is set at **Maximum Allowed**.
5. Click on the **OK** button, then Click on the **New Share** button.
6. Enter **C** (Uppercase) in the Share name and ensure that the user limit is set at **Maximum Allowed**.
7. Click on the **OK** button to close the screen.
8. Click on the **Apply** button and then the **OK** button.

---

### 1.2 Guest Account

1. Click **Start**; highlight **Programs** and then **Administrative Tools**.
2. Click on **User Manager for Domains**.
3. Double click on the **Guest Account**. Remove the check from the check box of "Account Disabled".
4. Click **OK** and then close the User Manager for Domains screen.

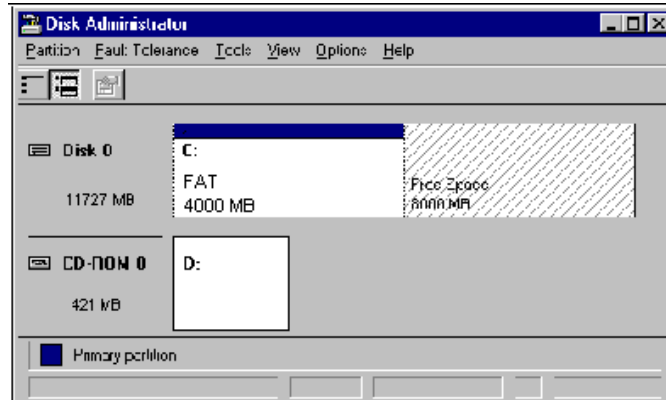
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### 1.3 Event Log Settings

1. Click **Start**; highlight **Programs** and then **Administrative Tools**.
2. Click on **Event Viewer**. Click **Log** and then **Log Settings**.
3. Select **System** from the drop down list. Select **Overwrite Events as needed**.
4. Select **Security** from the drop down list. Select **Overwrite Events as needed**.
5. Select **Application** from the drop down list. Select **Overwrite Events as needed**.
6. Click **OK** and exit the Event Viewer.

## 2. Partition the Disk

1. From the Windows Taskbar, click **Start**, point to **Programs**, point to **Administrative Tools (Common)** and click **Disk Administrator**.
2. If you are running this application for the first time, a warning screen will show stating that the system configuration will now be updated. Click **Ok** to continue. Click **Ok** to the confirmations.
3. A graphical representation of all the physical disks connected to your computer along with their partition appears. A status bar at the bottom of the window provides basic information on partitions. A color-coded legend on top of the status bar shows what the different partition colors and patterns represent.



4. Click the D drive (i.e. CD-ROM).
5. From the **Tools** menu, click **Assign Drive Letter**.
6. Click to select **Assign Drive Letter**, and select letter **E**.
7. Click **OK**.
8. From the Confirmation screen, click **Yes** to continue.
9. From the **Partition** menu, select **Create**. Click **Yes** to continue and create the partition. The Create Primary Partition screen displays the size of the partition to be created. This will usually be the maximum since it will contain all of the free space available. Click **OK**.
10. From the **Partition** menu, select **Commit Changes Now**. Click **Yes** to save the changes.
11. Click **Yes** to save the changes.
12. Click **OK** to update the Emergency Repair configuration and create a new Emergency Repair Disk.
13. Click the D drive. From the **Tools** menu, click **Format**. Set File System to **NTFS**. Click **Start** to initiate the format request and then click **OK** to continue.
14. When the formatting is finished, click **OK**.
15. From the Format D:\ screen, click **Close** to return to the Disk Administrator window.
16. From the **Partition** menu, click **Exit** to close the Disk Administrator application.

### 3. Installation of Wallboard Card.

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#### ***Advantech ISA Wallboard Card Installation***

Card Settings: -

JP1 (ch#1) 485  
JP2 (ch#2) 485  
JP3 (ch#1) IRQ9  
JP4 (ch#2) IRQ5  
JP5 (ch#1) On  
JP6 (ch#2) On

To change the settings:

1. Click **Start**, highlight **Settings** and then click **Control Panel**.
2. Double click the **Ports** icon.
3. Highlight **Port 3** and then click **Settings**.
4. At the next screen click **Advanced**.
5. Change Base I/O port address to **3e8**.
6. Change **IRQ** to **5**, then click **OK**.
7. Click **Don't restart Now** and then click on **OK**.
8. Highlight **Port 4** and click on **settings**.
9. At the next screen click on **Advanced**.
10. Change **Base I/O Port Address** to **2e8**.
11. Change **IRQ** to **9** and then click **OK**.
12. Click **Restart Now**.

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#### ***Advantech PCI Wallboard Card***

Card settings:           SW1 (CH1) = ON  
                              SW1 (CH2) = ON  
                              JP1 = 485  
                              JP2 = 485

To change the settings:

1. Ensure that the card is not plugged into the PC. If the card is still in the PC shut down the PC and remove the power leads before removing the card, otherwise the hard drive may become corrupted.
2. Insert the Advantech PCI drivers utility installation diskette 1 into drive A.
3. Select **Start**, and then click on **Run**.
4. At the next screen type **A:\setup.exe** and click on **OK**.
5. At the welcome screen click **Next**.
6. At the software license screen agreement screen click **Yes**.
7. At the destination screen accept the defaults and click **Next**.
8. At program folder accept the defaults and click **Next**.
9. When prompted insert disk 2 and click on the **OK** button.
10. At set-up complete screen and click **Finish**.
11. At Advantech PCI serial Service Manager screen make sure that the Start/Stop service control is **Install and Start Service** and then click **OK**.
12. Click **OK** at the next screen.
13. Shut down the computer and install the card into PCI SLOT 4.

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## 4. Install Database Application

If SQL 2000 is to be installed instead of MSDE, please go to the section "4.2 Installing Microsoft SQL 2000".

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### 4.1 Installing MSDE 2000

1. Insert the CCC Installation CD into the drive.
2. From the Windows taskbar click Start, select Run and then click on the Browse button.
3. View the CD drive and double click the MSDE folder. Select MSDEInst.exe and click on the open button.
4. Click the OK button to continue.
5. Select the required language for the installation and then click on the OK button. The installation could take up to 20 minutes.
6. Once the setup is complete, reboot the PC when requested.
7. Once Windows has restarted, installation of service pack 1 for SQL Server Desktop Engine will automatically begin. Wait for the SQL Server Desktop Engine screen to show.
8. Once the service pack installation is complete, reboot the PC when requested.

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### 4.2 Installing Microsoft SQL 2000

It is possible to install SQL 2000 instead of MSDE. The software is not supplied as part of CCC and you will need to purchase your own copy, as Avaya does not supply it.

The following steps will install SQL Server 2000 components:

1. Insert the SQL Server 2000 compact disc into your CD-ROM drive. If the compact disc does not auto run, double-click Autorun.exe in the root directory of the compact disc.
2. Select **SQL Server 2000 Components**, select **Install Database Server**, and then setup prepares the SQL Server Installation Wizard. If not installing on Windows NT Server version 4 or Windows 2000 Server a warning message will be displayed stating that only client components will be available. Click **OK**. At the **Welcome** screen, click **Next**.
3. In **Computer Name** dialog box, **Local Computer** is the default option and the local computer name appears in the edit box. Click **Next**.
4. In the **Installation Selection** dialog box, click **Create a new instance of SQL Server, or install Client Tools**, and then click **Next**.
5. Enter the **User Information**. Click **Next**.
6. Click **Yes** to accept the software license agreement.
7. Enter the 25 digit CD-Key. Click **Next**.
8. In the **Installation Definition** dialog, select **Client Tools Only**.
9. In the **Select Components** dialog, select the desired components. It is recommended that you have **Management Tools** and **Client Connectivity** options selected. Click **Next**.
10. In **Start Copying Files** dialog box. Click **Next**.
11. In the **Setup Complete** dialog box, click **Finish**.

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# Server PC Setup – Windows 2000

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## 1. Windows 2000 Modifications

On a machine with Windows 2000 already installed you need to check the following:

- 1 The computer name needs to be **ARCHIVERSQL**.
- 2 The network protocol needs to be set to TCP/IP.
- 3 Ensure that the Regional Options are set to local time [e.g. for UK set it to English (United Kingdom)].
- 4 Make sure that the screen display properties have been set to the following:
  - Desktop area is set to 800 by 600 pixels.
  - Color palette is set to True Color (32 Bit).
- 5 Install Database Application as detailed in section "4. Install Database Application" on page 13.
- 6 Check the Wallboard card jumper settings as given in section "3. Installation of Wallboard Card." on page 12.
- 7 Create Shares as described in the section "1.1 Create the C and SDX Shares" on page 10.

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## 2. Guest Accounts

For CCC applications to communicate, the Guest Account on Windows 2000 needs to be enabled. To modify the Guest Account:

1. Click the right mouse button on the **My Computer** Icon. Select **Manage**.
2. Expand the folder **Local Users and Groups**.
3. Open the **Users** folder and then double click on **Guest**.
4. Click on the **General** Tab. Remove the check by '*Account is disabled*' then click on the **Apply** button. Click on **OK** and then close all screens.

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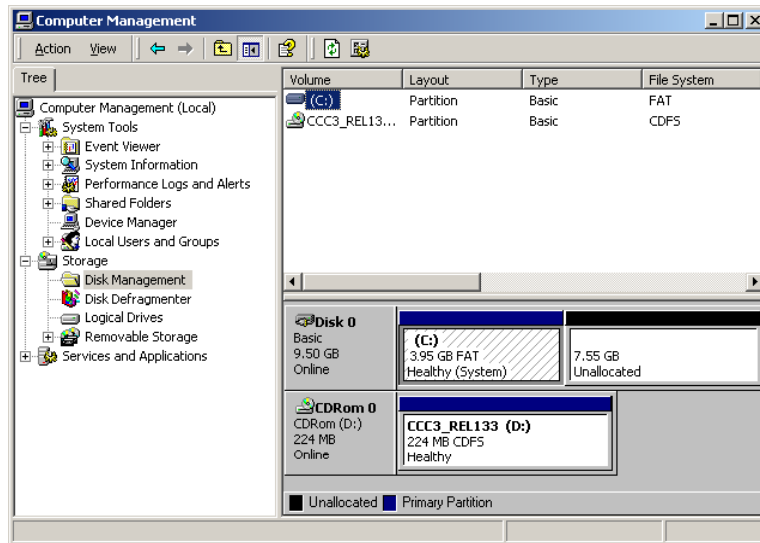
## 3. Event Log Settings

The Event Log settings are altered through the Windows Event Viewer. To do this:

1. Click the right mouse button on the **My Computers** Icon. Select **Manage**.
2. Expand the Event Viewer folder.
3. Click the right mouse button on **Application Log** and select properties. In the Log size section select 'overwrite events as needed'. Click on **Apply** and then **OK**.
4. Click the right mouse button on **Security Log** and select properties. In the Log size section select overwrite events as needed. Click on **Apply** and then **OK**.
5. Click the right mouse button on **System Log** and select properties. In the Log size section select overwrite events as needed. Click on **Apply** and then **OK**.
6. Close all open windows.

## 4. Partition the Disk

1. Click the right mouse button on the **My Computer** icon. Select **Manage**.
2. Click on the **Disk Management** folder.



3. Click the right mouse button on the CD ROM section, select **Change drive letter and drive path**. Click on the edit button.
4. At the Assign Drive Letter screen, select the drive letter as **E**. Click on the **OK** button to continue.
5. At the confirmation screen, click **Yes** to continue.
6. At the Disk management screen, click **Yes**.
7. Click the right mouse button on the unallocated section of Disk O, select **Create Partition**.
8. At the welcome screen click **Next**.
9. At the Create Partition type screen select **Primary**, click on **Next** to continue.
10. At the Specify Partition Size screen accept the **default** size and click on **Next**.
11. At the Assign Drive letter or Path screen, do not assign a drive letter or path and click on **Next** to continue.
12. At the format partition screen, select **Perform a Quick Format** and accept all other defaults. Click on **Next** to continue.
13. At the completed screen click on the **Finish** button.
14. Click the right mouse button over the new volume, select change drive letter, and drive path.
15. Click on **Add** and assign the letter **D**.

You are now ready to install CCC applications, see "Install CCC Applications" on page 20.

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# Client PC Setup - Windows NT Workstation

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## 1. Windows NT Workstation Modifications

On a machine with Windows NT4 workstation already installed you need to check the following:

1. The Computer Name must **NOT** be **ARCHIVERSQL**.
2. Windows NT Server Service Pack 6a has been installed. If you are in doubt, install the service pack again.
3. Ensure that the Time Zone is set to local time [e.g. for US set it to English (United States)].
4. Make sure that the screen display properties have been set to the following:
  - Desktop Area is set to 800 by 600 pixels
  - Color palette is set to 65536.
5. Ensure that a guest account has been enabled as described in section "1.2 Guest Account" on page 10.
6. Amend the Event log settings as described in section "1.3 Event Log Settings" on page 10.

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## 2. Map Network Drive

1. From the Windows NT desktop, click (using the right mouse button) Network Neighborhood and select Map Network Drive.
2. Select a Map Drive (e.g. E:), in the Path Type \\ARCHIVERSQL\C, ensuring **Reconnect at logon** is also checked.
3. Click **OK**. This enables you to share the CCC (e.g. Call Center View) files.

You are now ready to install CCC applications as detailed on "Install CCC Applications" on page 20.



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# Client PC Setup - Windows 95

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## 1. Windows 95 Modifications

On a machine with Windows 98 already installed, the following settings are required:

1. The Computer Name must **NOT** be **ARCHIVERSQL**.
2. Ensure that the Regional Settings are set to local time [e.g. for UK set it to English (British)].
3. Make sure that the screen display properties have been set to the following:
  - Desktop Area is set to 800 by 600 pixels
  - Color palette is set to 65536.

---

## 2. Map Network Drive

1. From the Windows 95 desktop, click (using the right mouse button) **Network Neighborhood** and select Map Network Drive.
2. Select a Map Drive (e.g. E:), in the Path Type **\\ARCHIVERSQL\C**, ensuring **Reconnect at logon** is also checked.
3. Click **OK**. This enables you to share the CCC (e.g. Call Center View) files.

You are now ready to install CCC applications as detailed on "Install CCC Applications" on page 20.

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# Client PC Setup - Windows 98

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## 1. Windows 98 Modifications

On a machine with Windows 98 already installed, the following settings are required:

- 1 The Computer Name must **NOT** be **ARCHIVERSQL**.
- 2 Ensure that the Regional Settings are set to local time [e.g. for UK set it to English (British)].
- 3 Make sure that the screen display properties have been set to the following:
  - Desktop Area is set to 800 by 600 pixels
  - Color palette is set to 65536.

---

## 2. Map Network Drive

1. From the Windows 98 desktop, click (using the right mouse button) **Network Neighborhood** and select **Map Network Drive**.
2. Select a Map Drive (e.g. E:), in the Path Type \\ARCHIVERSQL\C, ensuring **Reconnect at logon** is also checked.
3. Click **OK**. This enables you to share the CCC (e.g. Call Center View) files.

You are now ready to install CCC applications as detailed on "Install CCC Applications" on page 20.

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# Client PC Setup - Windows 2000 Professional.

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## 1. Windows 2000 Modifications

On a machine with Windows 2000 Professional already installed, the following settings are required:

- 1 The Computer Name must **NOT** be **ARCHIVERSQL**.
- 2 Ensure that the regional options are set to local time [e.g. for UK set it to English (United Kingdom)].
- 3 Make sure that the screen display properties have been set to the following:
  - Desktop Area is set to 800 by 600 pixels
  - Color palette is set to 65536.
- 4 Ensure that the guest account has been enabled. Refer to "2. Guest Accounts" on page 14.
- 5 Alter the Event Log settings as described in section "3. Event Log Settings" on page 14.

---

## 2. Map Network Drive

1. From the Windows desktop, Click the right mouse button on the **My Computer** icon and select **Map Network Drive**.
2. Select a Map Drive (e.g. F).
3. In the Folder section type **\\ARCHIVERSQL\C**
4. Make sure that the **Reconnect at logon** is also checked. Click on **Finish**. This enables you to share the CCC (e.g. Call Center View) files.

You are now ready to install CCC applications as detailed on "Install CCC Applications" on page 20.

# Install CCC Applications

## Installing CCC

This section describes the procedures of installing the software for the Compact Contact Center suite. If there is another server called ARCHIVERSQL on the network, then install the CCC applications without the server plugged to the network.

**Note:** If Internet Explorer is on the same PC or server as the delta server software, you must make sure that where there is an Internet service that there is also an Internet user.

Listed below are the required CCC applications required depending on your hardware setup.

Server PC:	Client PC	Standalone Server
Delta Server	Report Client	Delta Server
Report Scheduler	Wallboard Client	Wallboard Server
Report Manager	CCV Alarm Reporter	Report Manager
Wallboard Server	Call Center View	Call Center View
	PC Wallboard	PC Wallboard
		Report Client
		CCV Alarm reporter

To install the applications:

1. With Windows running, insert the **Application CD** into the CD Drive. It should Autostart. If this does not happen use the My Computer facility to view the CD drive. Double click on Setup.exe.
2. Choose the appropriate setup language and click on **OK**.
3. At the Welcome screen click on **Next** to continue.
4. Select a **full installation** and click **Next** to continue.
5. Select the applications that you want to install. Click **Next** to continue.
6. Installation will start. During the process you will be asked, "You are about to configure an Archiver to 2000MB. Continue?" Click on the **Yes** button.
7. Installation will start. Part way through the installation process a message will show saying "Installation Complete". Click on the **OK** button and then further components will be installed.
8. A message will show saying that the installation is complete. Click on the **OK** button.
9. At the InstallShield Wizard installation complete screen, select to **Restart the computer** and then click on the **Finish** button.
10. Re-boot the PC.

**Note:**

1. After logging onto a newly started Server PC, Delta Server and Archiver will all start automatically. These are all timed starts and will take 1-2 minutes.
2. If you are using NT4, you will need to install Service Pack 6a level and restart the PC.

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# Trouble Shooting

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## CCC Installation

1. Whenever anything is loaded from the I386 directory on a Windows NT4 installation CD, re-installation of NT4 Service Pack 6a is **NECESSARY**.
2. On the Server PC, ensure that the guest account is enabled. Also, ensure that the C drive is shared with the names 'C' and 'SDXSHARE'. Shares must have full permissions.
3. If, for whatever reason, the Server PC has to be renamed from the default name (ArchiverSQL), be aware that Microsoft SQL cannot be guaranteed to operate correctly if a name that includes spaces is used.

---

## CCC Client applications

1. It is possible that a Client application will **NOT** automatically find the Delta Server, if the Client application and Delta Server are on PCs on different networks. When this happens, click the '*Advanced*' button (from Find Server screen) and select the option to enable the name of the PC running the Delta Server to be typed in.
2. When using Microsoft Windows 98, for Client applications mapping a drive to the C drive on the Server PC will speed up Server discovery.
3. When using a Global/Seltek Voice Manager for queuing which uses the traditional pickup method, the number of calls presented along with the answer time statistics for an agent/agent group may not be as expected.

---

## Report Manager

1. To be sure that the Archiver is passing information into the database it is a good idea to keep the status window displayed.

---


## Wallboard Server/Client

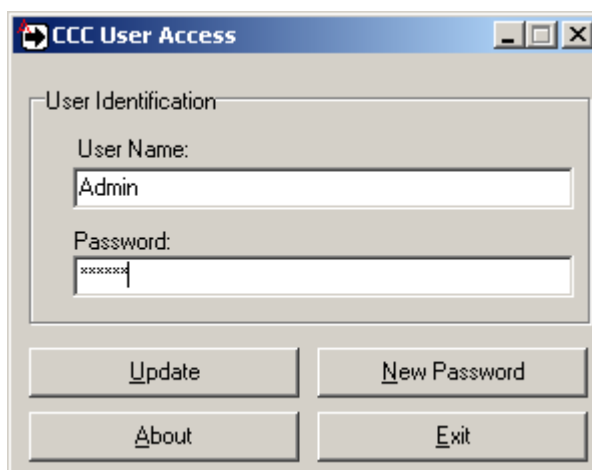
1. On the Wallboard Server/Client, a User can only remove scheduled messages from the schedule with a higher access level than the User that scheduled the message or by the user that scheduled the message. It therefore follows that if a user with Administrator access rights has scheduled a message then only that User can remove that message from the schedule.

# CCC User Access

## Starting CCC User Access

To log on using CCC User Access:

1. Double click on the CCC User Access Icon showing at the bottom right of the screen . If this is not visible double click the Icon on the desktop and then double click on the Icon which should now be visible.
2. A CCC User Access screen will show. Any user name can be entered to give system supervisor rights. When the update button becomes active, click on it to update the repository.



If you put the user name as Admin, a password box is displayed. When you log on as Administrator for the first time, it is recommended that you change the password. To do this click on the New Password button, enter your new password and confirm the change.

Until you change the password, Administrator can be logged on by entering the following:

Name: **Admin**  
Password: **NMYSBH**

Administrator Rights	System Supervisor Rights	No Name
<ul style="list-style-type: none"> <li>▪ System Administrator functions available.</li> <li>▪ Ability to change ALL setup screens.</li> <li>▪ Ability to change the language in CCV.</li> <li>▪ CCV Alarm Reporter can be run.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ability to change the language in CCV.</li> <li>▪ Ability to change some setup screens.</li> </ul>	<ul style="list-style-type: none"> <li>▪ No setup screens available</li> </ul>

---

# Change Server PC Name

---

## Overview

It is vital that the Server PC used to run the CCC modules is called ARCHIVERSQL whilst installing the applications. Once the installation is complete, change the PC name and workgroup name if desired, as detailed in this section, prior to connecting the PC to the network.

The following procedure has to be performed **after** the CCC applications have been installed on the relevant PCs. However you **must** ensure none of the CCC applications are running.

---

## NT4 Server PC

---

### Change Server PC Name

Make sure that there are no programs running on the server then follow the instructions below.

1. From the Windows Taskbar, click **Start**, point to **Settings** and select **Control Panel**, double click **Network**,
2. From the Identification tab click **Change**.
3. Type your computer name as required. Click **OK**.
4. From the Identification tab, click **OK** to confirm.
5. When prompted, click **Yes** to restart the PC.
6. If you are using **MSDE** you will need to re-install it as detailed in section "4.1 Installing MSDE 2000" on page 13 and then proceed to the section "Change ODBC Settings" on page 24.  
If you are using **SQL 2000** continue to following the instructions given below.
7. From the Windows Taskbar, click **Start**, point to **Programs**, select SQL Server, and then select **SQL Query Analyzer**.
8. Enter the new PC name in the SQL Server field.
9. Select the SQL Server Authentication option and enter **sa** as the Login name, leaving the password field empty.
10. Click **OK**
11. Execute the following command

**sp\_dropserver ARCHIVERSQL**

12. Execute the following command

**sp\_addserver #####,LOCAL**

(e.g. if the server PC has been renamed as ARCHIVERSQL123 enter **sp\_addserver ARCHIVERSQL123,LOCAL**.)

13. Re-boot the Server PC.
14. Now proceed to the section "Change ODBC Settings" on page 24.

---

**Change ODBC Settings**

Ensure you perform the following procedure for both the SDXArchiver and SDXRepository System Data Sources.

1. From the Windows Taskbar, click **Start**, point to **Settings** and select **Control Panel**.
2. From the Control Panel, open **ODBC**, and click **System DSN** tab. The ODBC Data Source Administrator screen appears.
3. Select **SDXArchiver** and then click **Configure**.
4. In the **Description** box, enter the new Server name (e.g. if the PC name has been changed to ARCHIVERSQL123, then in the above screen, SDXArchiver on server ARCHIVERSQL changes to SDXArchiver on server ARCHIVERSQL123).
5. In the **Server** box, enter the new server name (e.g. ARCHIVERSQL123), click **Finish**.
6. Click **Test Data Source** to ensure the configuration is created and then click **OK**.
7. Select **SDXRepository** and then click **Configure**.
8. In the **Description** box, enter the new Server name (e.g. if the PC name has been changed to ARCHIVERSQL123, then in the above screen, SDXArchiver on server ARCHIVERSQL changes to SDXArchiver on server ARCHIVERSQL123).
9. In the **Server** box, enter the new server name (e.g. ARCHIVERSQL123), click **Finish**.
10. Click **Test Data Source** to ensure the configuration is created and then click **OK**.
11. From the ODBC Data Source Administrator screen, click **OK**.



---

# Windows 2000 Server

---

## Change Server PC Name

Make sure that there are no programs running on the server then follow the instructions below.

1. Click the right mouse button on the **My Computer** icon. Select **properties**.
2. Click on the **Network Identification** tab.
3. Click on the **Properties** button.
4. Type your computer name as required. It needs to be 15 characters or less. Click **OK** to confirm name change.
5. Re-start your computer.
6. Once the PC has restarted, an error screen may appear stating that you cannot reach repository database. Click **OK**.
7. Close **all** the CCC applications.
8. Click on the Windows **Start** button; highlight **Programs**, **Administrative Tools** and click **Data Sources (ODBC)**.
9. Click on the **Configure** button.
10. Click on the **System DSN** tab.
11. Highlight SDXARCHIVER and click on the **Configure** button.
12. In the section that asks "Which SQL Server do you want to connect to?", select the new Computer name from the drop down box.
13. Change the description of the data source to reflect the new name if required.
14. Click on the **Finish** button.
15. Click on the **OK** button.
16. Highlight SDX REPOSITORY and click on the **Configure** button.
17. In the section which asks "Which SQL Server do you want to connect to?", select the new Computer name from the drop down box.
18. Change the description of the data source to reflect the new name if required.
19. Click on the **Finish** button.
20. Click on the **OK** button.
21. Close all open screens.
22. Re-boot the computer.

---

# Change Client PC Names

---

## General

Once the Server PC name has been changed you will need to change the references to the server PC on the Client PC's. The following sections details the procedure depending upon the operating system being used on the client machine.

---

## Operating Systems

---

### Windows NT Workstation

The ODBC settings of the SDXArchiver and SDXRepository databases need to be changed. This is detailed in the section "Change ODBC Settings" on page 24.

---

### Windows 95/98

Make sure that there are no programs running on the PC then follow the instructions below.

1. From the Windows Taskbar, click **Start**, point to **Settings** and select **Control Panel**.
2. From the Control Panel, double click on **ODBC Data Source (32bit)** and click **System DSN** tab.
3. Select the **SDXArchiver** and then click **Configure**.
4. In the **Description** box, enter the new Server name (e.g. if the PC name has been changed to ARCHIVERSQL123, then in the above screen, SDXArchiver on server ARCHIVERSQL changes to SDXArchiver on server ARCHIVERSQL123).
5. In the **Server** box, enter the new server name (e.g. ARCHIVERSQL123), and click **OK**.
6. Select **SDXRepository** and then click **Configure**.
7. In the **Description** box, enter the new Server name (e.g. if the PC name has been changed to ARCHIVERSQL123, then SDXArchiver on server ARCHIVERSQL changes to SDXArchiver on server ARCHIVERSQL123).
8. In the **Server** box, enter the new server name (e.g. ARCHIVERSQL123), and click **OK**.
9. From the ODBC Data Source Administrator screen, click **OK**.

---

## Windows 2000

Make sure that there are no programs running on the PC then follow the instructions below.

1. Click on the Windows **Start** button; highlight **Programs**, **Administrative Tools** and click **Data Sources (ODBC)**.
2. Click on the **Configure** button.
3. Click on the **System DSN** tab.
4. Highlight SDXARCHIVER and click on the **Configure** button.
5. In the section which asks "Which SQL Server do you want to connect to?" , select the new Computer name from the drop down box.
6. Change the description of the data source to reflect the new name if required.
7. Click on the **Finish** button.
8. Click on the **OK** button.
9. Highlight SDX REPOSITORY and click on the **Configure** button.
10. In the section which asks "Which SQL Server do you want to connect to?", select the new Computer name from the drop down box.
11. Change the description of the data source to reflect the new name if required.
12. Click on the **Finish** button.
13. Click on the **OK** button.
14. Close all open screens.
15. Re-boot the computer.

---

# Administering the Database

---

## Overview

If you have installed the MSDE database, four scheduled tasks are installed automatically. The parameters cannot be configured, listed below is a description of each scheduled task's function. If you have purchased and installed Microsoft SQL 2000 you can use the tools provided to create and schedule backups etc.

---

### Disk Backup

This task is enabled by default and scheduled to run once a week on a Sunday at 2 am. It backs up the SDXArchiver database to the default backup directory, which is d:\microsoft sql\server\mssql\backup. At the same time any backup that is more than 4 weeks old is deleted.

---

### Tape Backup

This task is disabled by default and cannot be used when only the MSDE database is installed.

---

### Integrity Check

This task is enabled by default and is scheduled to run once a week on a Sunday at 1 am. It checks for any problems/corruption in the SDXArchiver database and automatically fixes any minor faults that are found without affecting any data.

---

### Optimizations

This task is enabled by default and is scheduled to run once a week on a Sunday at 1 am. For each table in SDXArchiver, a 10% sample of the data is taken and used to update the statistics used by the query optimizer (an engine used to analyze queries and determine the quickest way to return the data being queried for).

---

### Restore

If needed to restore from a backup created above, please contact your field engineer for help.

# Telephone System

## Requirements

This section assumes that the installer is familiar with the basic programming of the Telephone System and the Programming manual is available.

- Telephone System Software must be Level 3.0 or higher.
- When using CCC applications, you can only use 4600/4400/2050/20CC handsets with ACD Agents logged on and Turret devices. However, Report Client obtains information on all devices.
- Server Licenses are required for the applications. Listed below are the software license names as shown within manager.

Names in Manager	Description
CCC Server	Allows CCC to operate with the first 5 agents and the first supervisor position. With this license you get: 1 x Call Center View 1 x Wallboard Server 1 x Archiver 1 x Report Designer 1 x Report Viewer 1 x PC Wallboard.
CCC Agents	Required for each additional 10 agents
CCC Supervisor	Required for each extra supervisor position giving access to report viewer and call center view.
CCC Soft Agent	Enables PC Wallboard to be used

### Naming Directory Numbers

Since the Telephone System programming is reflected within the Compact Contact Center Manager applications, it is important to name the directory numbers (i.e. Agents, Groups, Trunks, DIDs, etc.).

It is also highly recommended that the directory names be unique to aid identification of specific directory number within the Standard Reports.

Where directory numbers of a specific type are unnamed, or when more than one directory number as a specific type has the same name, the Standard Reports will group data for those directory numbers as a single entity (e.g. all unnamed agents will be grouped together as a single agent called "No Name", and all DIDs named "Company DID" will be grouped together as a single DID called "Company DID, etc.).

If the directory numbers have not been named, then the terminology for the directory numbers implemented in the Contact Center Manager applications is:

- Agent – ACD Agent (XXXX\*) – XXXX
- Group – Agt Group (XXXX) – XXXX
- Trunk Grp – Trunk GP (XXXX) – XXXX
- Tie Line (Trunk) – Tie Line (XXXX) – XXXX
- DPNSS (Trunk) – DPNSS (XXXX) – XXXX
- DASS (Trunk) – DASS (XXXX) – XXXX
- POTS(TWC) – Alog (TWC) (XXXX) – XXXX

\* Where XXXX is the directory number.

---

## Group Reporting

When configuring it is important to understand how calls are attributed to groups on the Call Center View, Wallboards and Report Manager.

---

### ***IP400 in the Contact Center Environment***

Staff Management is a LOCAL issue hence all real time and historic analysis for teams will require local CCC's.

Traffic Management is a GLOBAL issue. Therefore in an IP400 configuration calls waiting across an entire network (queued) are displayed on all Call Center View implementations across IP400.

---

### ***Call Center View and Wallboard Manager***

The Call Center View and Wallboard Manager products report on groups directly derived from the Database. Agents and Trunks may be reported on in as many groups as they are members of within the database. It is important however to understand how statistics for these groups are derived and it is important for the user of the system to understand these reporting structures. These are defined below

**Call Totals and average durations** for Groups are calculated by totalling the statistics for the members of group. Should an agent or group be a member of multiple groups, their call totals will appear in multiple groups.

**Lost Calls** are only attributed to the initial target agent group i.e. Initial ring group. Lost calls are also attributed to Trunk Lines, and Trunk Groups.

**Agent Status** Information for a group shows the number of agents or trunks within a given group, which are in each state.

#### **Agent Statistics for:**

**Calls Waiting, PCA, GOS, Longest Wait, LWait (Ans), L Wait (Lost), Overflowed to/From** statistics are only incremented for calls which are directly presented to that agent group. That is they only increment where the agent group is used for Call routing purposes.

#### **Trunk Statistics for:**

**Calls waiting** and **Lost** are calculated by totalling the statistics for the members of the trunk group.

**PCA** and **GOS** are calculated for each trunk group after totaling answered calls (plus lost for GOS) for the members of the trunk group.

**LWait (Lost)** and **LWait (Ans)** reflect the longest wait of all those logged against any member of the trunk group.

---

### ***Report Manager***

The CCC has two concepts for historic reporting that cater for different views a supervisor may require of their contact center. One type of report referred to as 'Target' reports provides analysis based on where the call was presented and relates closely to the manner in which the call routing has been configured. The second type of report, referred to as 'collective' reports, is based on arbitrary sets of agents and need not necessarily correspond to the manner in which switch call routing is programmed.

**CCC reporting characteristics associated with Voice Manager**

The following conditions apply to the initial answer/ lost segment of calls which were first presented to the Voice Manager (VM) (e.g. Voice Mail front ended systems):

1. Trunk/DID – Call remains unanswered until answered by non-Voice Manager device or if terminated within 3<sup>rd</sup> party Voice Mail, or encountered an "Answered" flag in Voice Manager.
2. 3<sup>rd</sup> Party Voice Mail – Answered if Voice Mail connects, lost by Voice Mail if caller hangs up before Voice Mail can answer.
3. Voice Manager – Calls will only be registered as answered when the Voice Manager has successfully processed the call (passed an "Answered" flag in Call Flow)
4. Agent/Agent Group – Designation of answered and lost calls is directly dependent upon clause 1.
5. If a call was lost whilst being transferred by Voice Manager, the lost call statistics will be designated to the transfer target. Calls lost whilst alerting or connected to Voice Manager will be deemed lost by the Voice Manager device or group.
6. A call successfully transferred by Voice Manager will be treated as a new incoming call by trunks, DID and Agents, but transferred by Voice Manager devices.

**Note:** A call, which is first connected to Voice Manager but not deemed answered by VM, will be considered lost, but not refused if terminated during first connection to VM.

# Wallboard Installation and Maintenance

## Wallboard 22

### Introduction

The Wallboard 22 is a two line by 22-character tri-color Wallboard. It connects via a multi-drop circuit to the host PC running the Wallboard Server application.

The display wallboard consists of the following assemblies.

**Housing:** A housing that is manufactured from an aluminum extrusion with anti reflective polycarbonate screen and removable plastic end caps.

**Power Supply:** 9V DC switch mode power supply assembly incorporating an RJ45 chassis mounted data connector. The power supply is configurable for use from either 120V AC or 240V AC (NOMINAL VOLTAGES) supplies.

**Logic Control Board:** Logic control board that receives RS485 serial data from the data RJ45 connector.

**Display Board Assembly:** Tri-color display board assembly, which consists of three display boards which, are connected one to the other by a fiber optic link. The left-hand display board receives display data from the logic control board, via a fiber optic link and it outputs data to the next display board etc.

Each display board consists of decoding and LED row and column circuitry which drives the LED matrix consisting of 18 5x8 LED blocks.

### Installation

Before commencing installation, please check from the packing list that all parts are included.

#### Packing List:

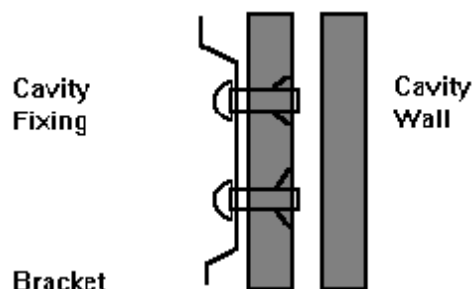
- 1 x Wallboard 22
- 2 x Wall mount brackets
- 2 x Spun hanging wires
- 4 x Cavity rawl plugs
- 4 x Screws
- 2 x Eyehole bolts
- 2 x Masonry rawl plugs
- 2 x Housing clamps
- 1 x RJ45 Terminal Box
- 1 x IEC Power lead

Before commencing installation, please take a couple of minutes ensuring that the final location of the display will be both safe and practical for the customer. Also check that the power socket provided is suitable for this type of display.



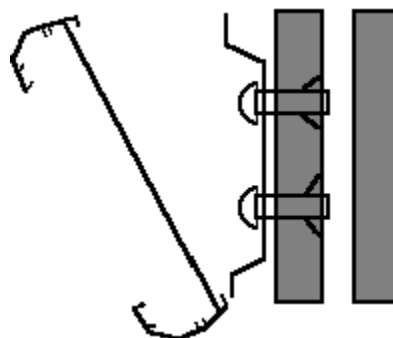
### Wall Mounting

Once a location has been decided upon, mark its location on the wall with a pencil through the two holes in the brackets. Before drilling the holes, a suitable utility detector should be used. Once this has been done, the holes may be drilled and the brackets mounted using the relevant fixings provided.



Before mounting the display onto the brackets, the network address should be assigned. The power lead should also be attached prior to mounting.

To mount the display, first hook the bottom of the two brackets into the bottom rear recess channel of the display. See the diagram shown below.



Push the wallboard flat against the wall and push upward to fully locate the bottom half into the recess. Now allow the display to fall approximately one inch. The display should now be safely located onto the two brackets.

To remove a wall mounted display then reverse the above paragraph.

**Note:** The wallboard position can be adjusted by sliding sideways in either direction.

### Ceiling Mounting

Using the mounting kit provided, firstly, drill the 6-mm holes for the eyehole bolts and secure them into the ceiling. Pass the spun wire chain through the eyeholes and through the housing clamps and tighten at the required height.

Remove the right hand end cheek of the wallboard by unscrewing the two fixing screws.

Slide the two nipples on the end of the spun wire chain into the middle groove of the display housing and replace the end cheek. Center the display on the hanging wires. Adjustments can be made by sliding the display to achieve the final level.

#### Warning

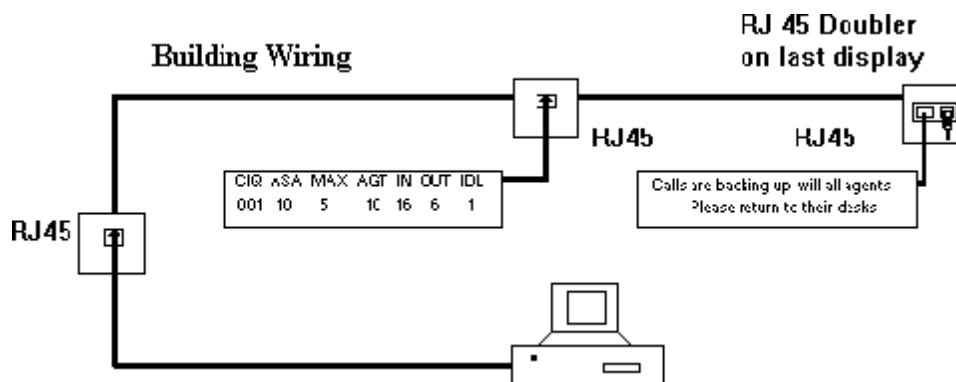
**Ensure the ceiling can support the weight of the wallboard prior to fixing.**

### RS485 Serial Connection

The RJ45, RS485 flying lead is one meter long. It cannot be removed from the Wallboard; therefore, this must be taken into consideration for the location of the RJ45 terminal box.

Fit the RJ45 terminal box within one meter of the center of the Wallboard.

The Wallboard should be connected to the host system by utilizing a drop off wiring configuration (See the diagram below).



All RJ45 sockets should be wired identically with the terminated RJ45 plug on the final socket with the supplied RJ45 doubler.

### Network Addressing

Each display can be configured to display different messages. This is achieved by allocating each display its own network address. Within each display, there is a board containing eight dip-switches. For more information see the section entitled "Serial Connection & Dip-Switch Details" on page 37.

## Additional Equipment

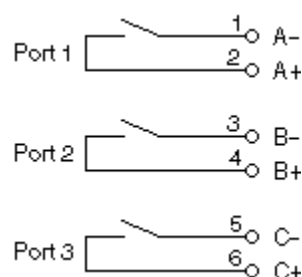
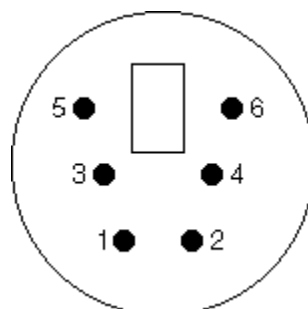
**External Alarm Device** for connection to Wallboard 22 only.

An external alarm device is available to supplement the in-built buzzer. This interface allows a DC powered device to be attached to a couple of pins provided by a 6-pin DIN connector, which is mounted on the rear of the display. This 6-pin DIN port provides the ability to connect the additional device in addition to the internal buzzer.

### Connection Details

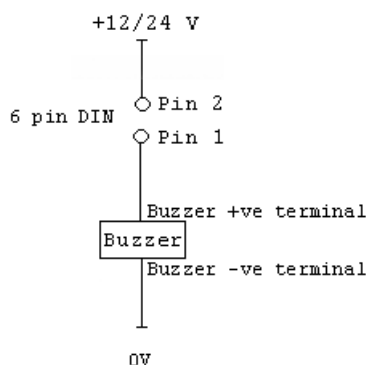
The external 6-pin DIN connector is located adjacent to the Mains Power Lead (IEC Connector). The pins are numbered on the connector from 1-6. Port 1 will replicate the internal buzzer, and should be used for buzzers. Ports 2 and 3 are not used at this point.

#### Socket View



#### 6 Pin Mini-DIN

The overall connection schematic looks like this:



### Compatible External Devices

All of the devices below are available from the Farnell Electronics Catalogue, and have been tested by Ferrograph and are recommended as suitable for connection to the external interface.

**Note:** This external interface has been designed for connection of DC Voltage devices ONLY.

#### Continuous/Pulsed Single Tone Sounders – 12V & 24V DC

Farnell Reference: FEC143-400  
FEC143-402  
FEC143-403

---

## Periodic Maintenance and Inspection

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### ***Cleaning Display Screen***

Time periods between cleaning depend upon local conditions and are at the discretion of the operator. This routine cleaning can be carried out in the normal way using a damp and/or dry cloth.

<p><b>Note:</b> <i>This screen is specially coated to reduce reflections and although this coating is very durable misuse or incorrect cleaning, procedures can damage it.</i></p>
--

---

### ***LED Illumination Test Inspection***

The purpose of this test is to ensure no LED fails to illuminate and should be checked annually.

Remove the left-hand end cheek and carefully slide out the logic control board so that the dip-switches are accessible. Set switch 8 to ON, inspect the LED display that will run blocks of Green, Red and Yellow across the display. Look for any LED's that fail to illuminate.

Return switch 8 to the OFF position to stop this test.

---

### ***LED Matrix Scanning Inspection***

The purpose of this inspection is to ensure the LED matrix is being scanned correctly. Remove the left-hand end cheek and carefully slide out the logic control board so that the dip-switches are accessible.

Set switch 7 to ON, Yellow diagonal stripes will run across the display. Check that these stripes are straight and that Yellow is the only color displayed. Having completed this visual inspection return switch 7 to OFF and ensure that all switch settings comply with system requirements for baud rate and wallboard network address number. See Section D for dip-switch details.

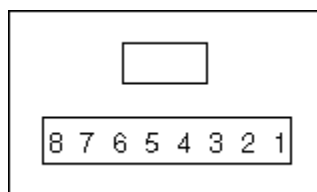
## Serial Connection & Dip-Switch Details

### Wallboard Terminal Box RJ45 Connector Pin Out Details

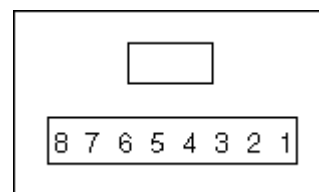
Pin	
2	Signal Ground
3	Sign Rx+ Input
4	Sign Tx+ Output
5	Sign Tx- Output
6	Sign Rx- Input
7	—

### Pin out Connections

Wallboard x RJ45 Socket



Wallboard x+1 RJ45 Socket



Pins from 2 to 7 should be connected identically from all RJ45 boxes to all others.

### Dip-Switch Details

#### Network Address

OFF Position Represents 0

ON Position Represents 1

SW4	SW3	SW2	SW1	ADDRESS
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	0	0	0	8
1	0	0	1	9
1	0	1	0	10
1	0	1	1	11
1	1	0	0	12
1	1	0	1	13
1	1	1	0	14
1	1	1	1	15

---

**Baud Rate**

Dip Switch Settings are:

SW5	SW6	DATA BIT/SEC
OFF	OFF	19200
ON	OFF	9600
OFF	ON	2400
ON	ON	1200

Ensure the Baud rate is set to 9600.

---

**Test Functions**

SW7	SW8	FUNCTION
OFF	OFF	Normal Running
ON	OFF	Diagonal Stripe Test
OFF	ON	Full Screen LED Test
ON	ON	Information Screen (Only on power up)

The information screen shows three pages where the following text is displayed. The dip switches must be set with the display powered down, then switch power on to achieve information screen.

Yellow Text	Software Version Sign Type
Green Text	Network Number
Red Text	Baud Rate

---

## RS485 Communication Systems

This standard officially allows 30 wallboards to be connected via a RS485 transmission cable of up to 1200 meters to a PC RS485 port.

The PC TX+ is connected to the wallboard RX+; similarly, the PC TX- is connected to the wallboard RX-. The recommended technique is to run a cable from the PC to the nearest wallboard then from this wallboard to the next nearest wallboard etc.

At the last wallboard on the bus it is necessary to connect a 120 $\Omega$  terminating resistor between the wallboard RX+ and RX- connections using the supplied terminated RJ45 Plug and the RJ45 doubler.

The cable specification must include a twisted pair with an overall screen and characteristic impedance of 100 ohms.

---

## Ground Loops

Proper operation of RS485 requires a signal return path. A third wire should connect all the system signal grounds together and is most often an additional shield conductor.

Distributed power systems in industrial applications may have differences in the AC power line grounds of several volts as measured from location to location. Ground differences that are greater than 5V RMS can destroy the RS485 transceivers. Loop currents can exist within the shield conductor because of these voltage potentials, causing data errors. Loop currents can be minimized by installing 100 ohm resistor in series with the cable shield and the RS485 Line Driver ground connection or by ensuring that the screen of the cable does not make contact with the wallboard frame earth. Spurs, which lead off from the main RS485 cable to a wallboard, should be kept to less than one meter long.

---

# Wallboard 10

---

## Introduction

The Wallboard 10 is a single line display consisting of 10 tri-color characters. It connects via a multi-drop circuit to the host PC running the Wallboard Server application.

The display wallboard consists of the following assemblies.

**Housing:** A housing, which is manufactured from an aluminum extrusion with anti reflective polycarbonate screen and removable aluminum end, caps.

**Power Supply:** This display has an in-built DC power. This power supply has been set to the required AC voltage for the country of use.

**Logic Control Board:** Logic control board that receives RS485 serial data from the data RJ45 connector.

---

## Installation

The display is supplied with 2 wall mounting brackets, ceiling mounting kit, PC connection plugs and wall fixings.

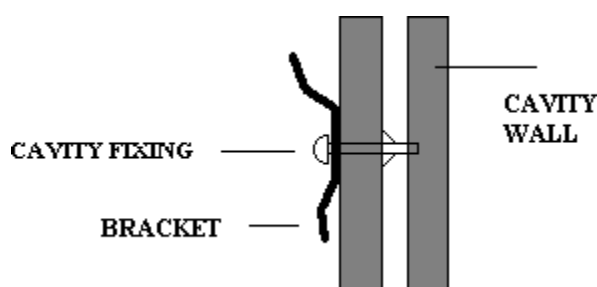
The Wallboard 10 displays all come with a 2-meter power cable provided for mains supply. Ensure the voltage requirement is compatible with the intended mains supply, and that the supply rating is greater than 5 Amp.

There are two methods of hanging the displays.

---

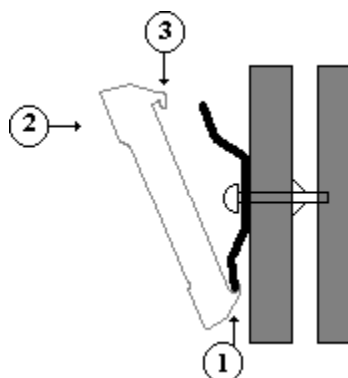
### Wall Mounting

Fix the 2 wall mounting brackets using the cavity fixings provided. The bracket is angled to allow a 10 degree downward tilt to the display. Please ensure the brackets are the correct way up. See the diagram below.





To mount the display, first hook the bottom of the two wall brackets into the bottom rear channel recess of the display. See the diagram below.



Push display flat against the wall and upward to fully locate the bottom half of the bracket. Allow display to then drop down onto the top edge of the 2 brackets to obtain a locked fixing. To remove, reverse the above procedure.

**Note:** The display can be adjusted by sliding sideways in both directions.

### Ceiling Mounting

From the mounting kit provided, fix the ceiling hanging wires and adjust to the height required. See the diagram below.

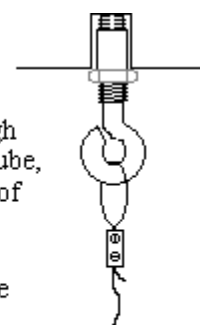
#### Warning

**Ensure the ceiling can support the weight of the wallboard prior to fixing.**

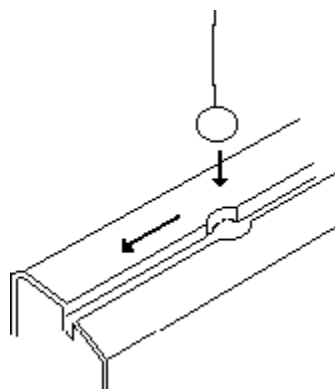
Drill a hole 6mm in diameter in the ceiling. Insert brass rawl plug in the hole. Screw the long threaded eye bolt into the plug. Secure the bolt to the ceiling with the nut.



Push the cable through the end of the small tube, then through the eye of the bolt in the ceiling. Feed the cable back through the small tube and tighten the two screws. The cable is now secured. Trim off any excess wire.

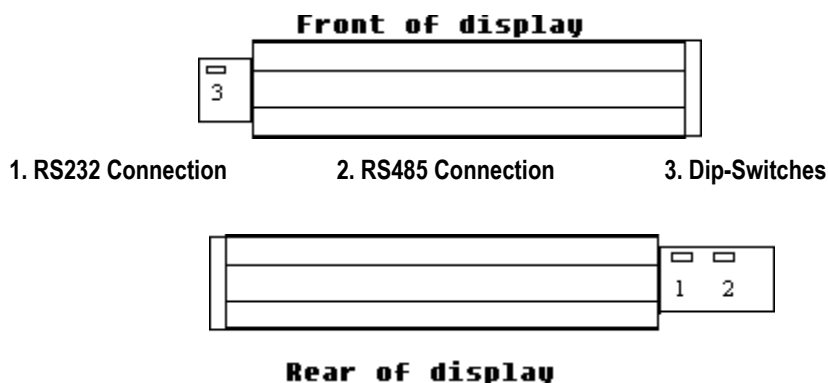


Slide in the 2 ends of the hanging wires into the top groove of the display housing through the pre-drilled center hole. Center the display on the hanging wires. See the diagram below.



## Serial Connection and Configuration

An RJ45 junction box is provided as standard, alternatively if required an RJ45 coupler and 2 way adapter can be used. The serial cable is normally connected to the logic board for RS485 operation, check label on rear of display for specific configuration. The serial communications lead from the PC is connected to the junction box as shown later in this manual. Following section 2.3 below, but changing the dip-switch settings as per the diagram below can do modifications to the network numbers and baud rates.



To set the network number requires access to the Wallboard 10 logic board as explained above.

To address individual displays in a network, a network number can be set on the dip-switch on the logic board. Network 0 is a general address and will accept all data from the host system. The network number is set using switches 1,2,3 and 4.

### Dip-switch Number

1	2	3	4	Network
OFF	OFF	OFF	OFF	0
ON	OFF	OFF	OFF	1
OFF	ON	OFF	OFF	2
ON	ON	OFF	OFF	3
OFF	OFF	ON	OFF	4
ON	OFF	ON	OFF	5
OFF	ON	ON	OFF	6
ON	ON	ON	OFF	7
OFF	OFF	OFF	ON	8
ON	OFF	OFF	ON	9
				ETC....

### **Baud Rate**

The Baud Rate can be changed to 1200, 2400, 9600 or 19200 using the dip-switch. The Baud Rate is set using switches 5 and 6.

5	6	Baud Rate
ON	ON	1200
OFF	ON	2400
ON	OFF	9600
OFF	OFF	19200

Ensure the Baud rate is set to 9600.

### **Test Functions**

Test functions are provided to assist installation engineers. These are selected on the dips-witches. Test functions are selected using switches 7 and 8.

If switch 7 and 8 are **OFF** at power reset:

7	8	
ON	ON	Freeze Display
OFF	ON	Alternating ON/OFF Blocks of LED's
ON	OFF	Stripes
OFF	OFF	Normal Operation

If switch 7 and 8 are **ON** at a power reset:

7	8	
ON	ON	Information Screen
OFF	ON	Stripes
ON	OFF	Alternating ON/OFF Blocks of LED's
OFF	OFF	Freeze Display

## System Wiring

The principle for wiring up your display wallboards is that the PC output port is connected to the input of each wallboard. See Figure 7.

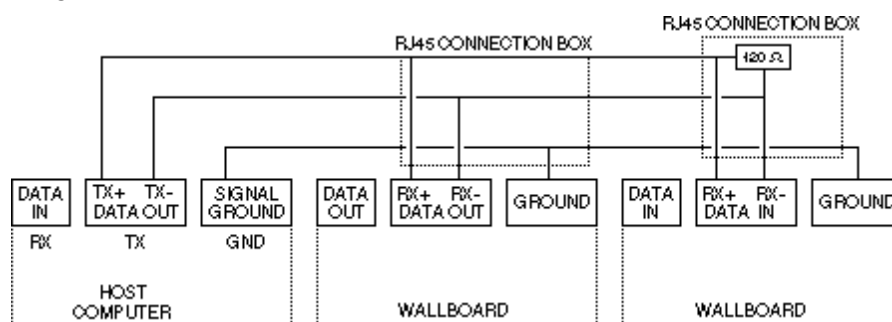
The connection is RS485 and the screen of the cable is connected to the wallboard signal ground, which is floating.

The wallboard housing frame ground is connected to earth by the power cable

### RS485

This standard officially allows 30 wallboards to be connected via a RS485 transmission cable of up to 1200 Meters to a PC RS485 port.

The PC TX+ is connected to the wallboard RX+; similarly, the PC TX- is connected to the wallboard RX-. The recommended technique is to run a screened cable from the PC to the nearest wallboard, then from this wallboard to the next nearest wallboard etc. At the last wallboard on the bus, it is necessary to connect a 120Ω terminating resistor between the wallboard RX+ and RX- connections within the RJ45 connection box. See the diagram below.



The installation technique is that data input of each display is electronically connected to the transmit output of the PC.

---

## Periodic Maintenance & Inspection

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### ***Cleaning Display Screen***

Time periods between cleaning depend upon local conditions and are at the discretion of the operator. This routine cleaning can be carried out in the normal way using a damp and/or dry cloth.

<p><b>Note:</b> <i>This screen is specially coated to reduce reflections and although this coating is very durable misuse or incorrect cleaning procedures can damage it.</i></p>
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### ***Led Illumination Test Inspection***

The purpose of this test is to ensure no LED fails to illuminate and should be checked annually.

Remove the right hand end cheek and carefully slide out the logic control board so that the dip-switches are accessible. Set switch 8 to ON, inspect the LED display that will run blocks of Green, Red and Yellow across the display. Look for any LED's that fail to illuminate.

Return switch 8 to the OFF position to stop this test.

---

### ***Led Matrix Scanning Inspection***

The purpose of this inspection is to ensure the LED matrix is being scanned correctly. Remove the right hand end cheek and carefully slide out the logic control board so that the dip-switches are accessible.

Set switch 7 to ON, Yellow diagonal stripes will run across the display. Check that these stripes are straight and that Yellow is the only color displayed. Having completed this visual inspection return switch 7 to OFF and ensure that all switch settings comply with system requirements for baud rate and wallboard network address number.

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