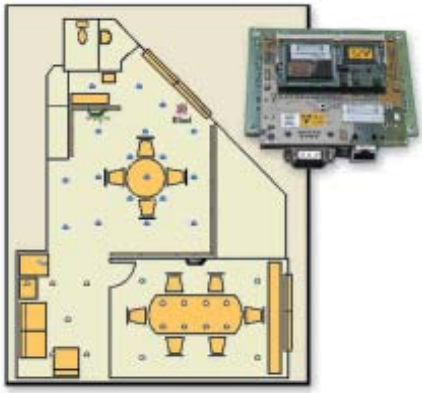
Comfort, the Intelligent Home System

Comfort Web Server Module

Contents

Section 1 Overview and Specifications

Introduction to Comfort Web Server Module



The Comfort Web Server Module CWM01 is an add-on module which allows Comfort to be connected to a Local Area Network as well as to the Internet so that a browser can be used to view web pages in Comfort. It comes with a RS232 interface and an Ethernet interface. The embedded web server software is also built-in allowing web pages representing a home, office or factory layout with alarm points and appliances to be displayed on a browser. The activation of motion detectors as well as opening and closing of doors and windows is shown on the screen as they occur. The state of connected appliances and lights is also represented. Clicking on a light or appliance will change the state of the device (off to on and vice versa), and the change in state is updated as it occurs. The security system can also be armed to any mode (Away, Night, Day or Vacation) or disarmed by the click of a button. Any alarm activation will be shown in a message box or as a flashing icon. A network camera server on the local area network can be linked to the web server to view the premises on the Internet.

The web page can be customized by anyone with knowledge of HTML. Several sample files and graphic images are provided as a reference to jump start the application.

Connection to the Internet can be via a dial-up external modem connected to the CWM serial port, so **no computer is required to provide Internet Access.** Alternately, if a PC or router on the local

area network has a permanent connection to the Internet (ISDN, ADSL, cable modem or leased line), this can be used as a gateway for Internet access.

Features

- Built-in Web Server with Linux Operating System
- Network Interface (RJ45 connector) 10 MB/sec
- RS232 Interface to external modem (modem not supplied) for dial-up internet access without a PC
- Port mapping to allow camera servers to be accessed from same IP address (maximum of 10 ports)
- Flash memory 8 MB for operating system, software and web pages, DRAM 4 MB. Approximately 5 MB is used by the operating system, 3 MB left for web page design and graphics
- Sample graphic image files and designs provided in CWM and CD-ROM
- Access by computer through the internet or through a local network

Specifications

Dimensions:	108 x 88 mm baseboard with web server daughterboard (85 x 85 mm)
Power supply:	12V 30mA from Comfort (for baseboard) 7V 2A from External Power Supply adapter (supplied, 100-250VAC input, 7VDC 2A adapter)

System Requirement

- Comfort system with firmware version “Outside or Action 4.204” and above.

Required Operating Systems (for Browser)

- Windows 98, Windows 2000, Windows NT, Windows XP
- Windows Millennium Edition requires Sun Java Virtual Machine

Browser Requirement

- Internet Explorer 5.0 or later
- Netscape 6 and above
- Opera Browser 7.0 and above with Java
- Mozilla Firefox 1.0

Supported Protocols

- TCP/IP, HTTP, FTP, PPP

Operating Environment

- 5 to 40 deg C
- 10% to 90% relative humidity non-condensing

Setup

Accessories Provided

- Universal Power Supply Adapter (100 to 250 VAC in, 7VDC, 2A out)
- "Crossover" Type Network Cable
- CWM CD-ROM and Manual
- 4-way cable for connection to Comfort

Connections

- JP2/2A – 12V/COM/KA/KB connector. Connected to 12V/COM/KA/KB on Comfort.
- RJ45 connector on daughterboard. For 10BaseT Ethernet connection.
- RS232 connector on daughterboard. For connection to external modem (not supplied).

Jumper Settings

- SW7 – set according to the ID of the UCM (see "UCM ID Switch" settings).

Buttons

- SW1 – Reset button. This button reinitializes the CWM. It does not change any parameters in Comfort.

LED Indicators

- D1 "RDY" (Green) should be on at all times when powered up.
- D2 "BUSY1" (Red) not used.
- D9 (Red) RS485 Transmit to Comfort.
- D10 (Green) RS485 Receive from Comfort.
- D11 (Green) RS232 Receive from Network
- D12 (Red) RS232 Transmit to Network

ICs

- U1 – Microcontroller IC. Label indicates the firmware version number "CWM 5.xx".
- U5 – RS485 Interface to Comfort

UCM ID Switch

Comfort is able to support up to 8 UCMs. SW7 is a set of 3 headers which is used to determine the ID, in accordance to the table below:

Table 1: ID Settings

ID	SW7-A	SW7-B	SW7-C
1	Short	Short	Short
2	Open	Short	Short
3	Short	Open	Short
4	Open	Open	Short
5	Short	Short	Open
6	Open	Short	Open
7	Short	Open	Open
8	Open	Open	Open

By convention, UCM ID = 1 is used for uploading/downloading. The CWM should be set to ID 2 or above so that any communication failure can be reported by Comfort.

Press RESET (SW1) after changing the ID settings.

The number of UCMs in Comfigurator should be set to the highest UCM number of the system including the CWM. This is the same as programming **Location 1672**, according to the number of UCMs and CWM connected. Press reset on Comfort after changing the number of UCMs.

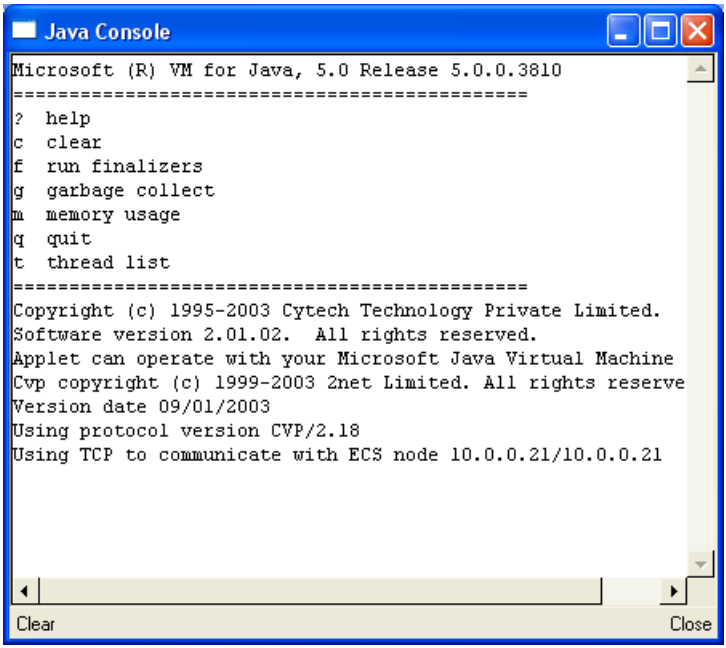
Java Virtual Machine (JVM)

As CWM uses the Java technology to communicate with the browser, your computer must have the Java Virtual Machine (JVM) installed. The most common JVMs are the Microsoft Virtual Machine and the Sun JVM.

Microsoft does not supply their Java VM in their new products and does not allow it to be downloaded from their Website because of legal problems with Sun Microsystems. Hence it is preferable to use the Sun JVM.

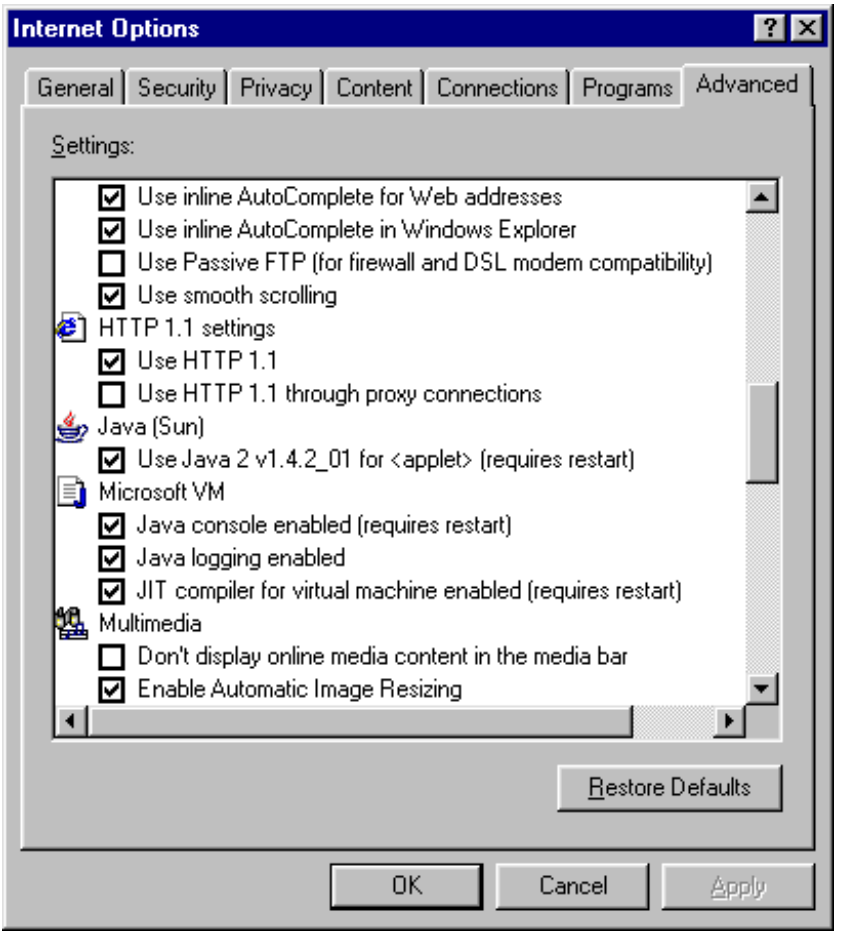
To download the Sun JVM, point your browser at http://java.sun.com and click on the Download Java link. This will install the Java Runtime Environment as well as the Java plug-in. The latest version as of this printing is 1.4.2. To see the JVM version in Internet Explorer, go to Tools menu and select Sun Java Console.

For Microsoft Virtual Machine, the version should be 5.0.0.3802 or above. To see the JVM version, go to View -> Java Console in Internet Explorer. A window will open showing the Java Console.



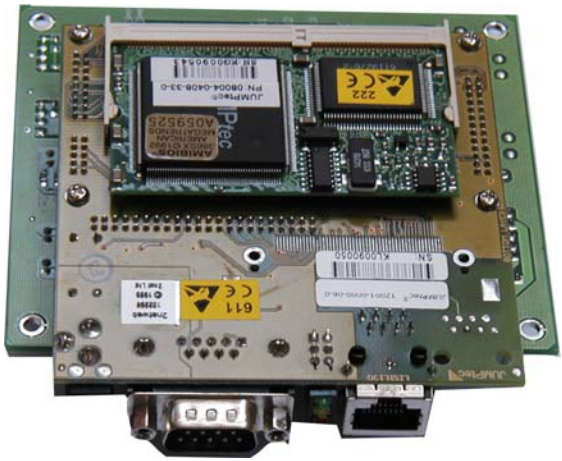
The first line shows the JVM version ("Microsoft (R) VM for Java, 5.0 Release 5.0.0.3810" in the screen above). If Java Console is not shown in the View Menu, go to Tools -> Internet Options, select the "Advanced" Tab, scroll down the list to Microsoft VM, or Java VM and check the box titled "Java Console Enabled (requires Restart)". You will be asked to reboot the machine in order for the setting to take effect. If an older JVM is used, you may not be able to control the CWM elements by clicking on the icons.

An incompatible JVM version is one of the main causes of failure to connect or login for CWM. If the loading of the web page is extremely slow, try switching the JVM. We have found that the web page loads faster using the SUN JVM in some Windows XP machines. To change the Java VM in Internet Explorer browser, select the Tools Menu > Internet Options > click the Advanced Tab. To select the Sun JVM, check the "Java (Sun)" Box shown below. To use Microsoft JVM, clear the Java (Sun) box.


Internet Options
General
Security
Privacy
Content
Connections
Programs
Advanced
Settings:
Use inline AutoComplete for Web addresses
Use inline AutoComplete in Windows Explorer
Use Passive FTP (for firewall and DSL modem compatibility)
Use smooth scrolling
HTTP 1.1 settings
Use HTTP 1.1
Use HTTP 1.1 through proxy connections
Java (Sun)
Use Java 2 v1.4.2_01 for <applet> (requires restart)
Microsoft VM
Java console enabled (requires restart)
Java logging enabled
JIT compiler for virtual machine enabled (requires restart)
Multimedia
Don't display online media content in the media bar
Enable Automatic Image Resizing
Restore Defaults
OK
Cancel
Apply

Section 2Connecting up the CWM

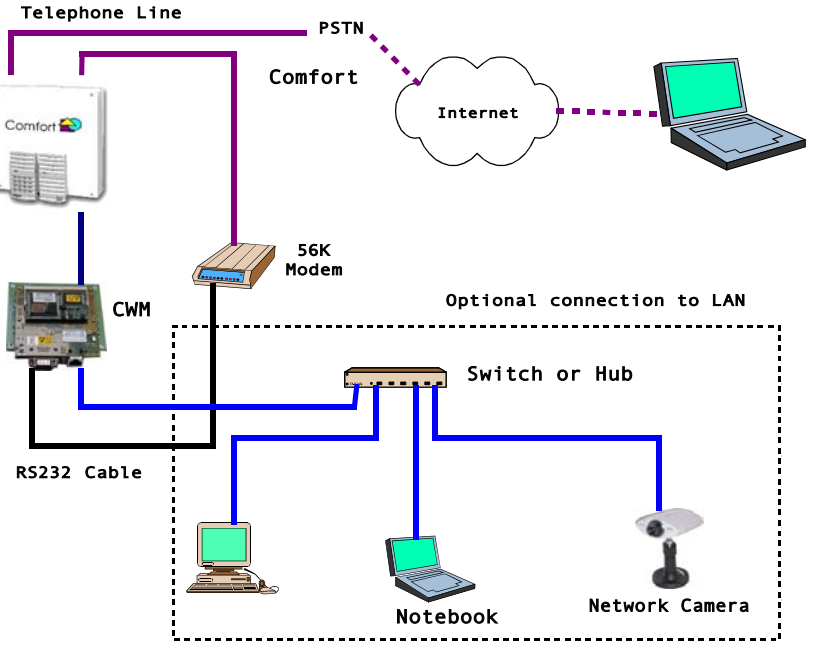
Connections



1. Before connecting, set the ID on SW7 to the ID of the CWM according to the table in the previous section and according to the number of other UCMs in the Comfort Network. If there is only 1, set the ID to 2. By convention, ID 1 is reserved for UCM01/02 to upload/download from Comfort. Communications Failure is not reported for ID=1. Up to 8 UCMs of different types (e.g. C-Bus, EIB) can be connected to the Comfort network.
2. The CWM is connected to Comfort via the supplied 4 way white cable from 4-pins header JP2/2A to Comfort's header J15. It is not necessary to switch off the power to Comfort before plugging in this connection.
3. The Green RDY led on the UCM (D1) should light up and remain on. The LEDs D9 (red) and D10 (green) should blink rapidly showing that RS485 communications has been established between Comfort and the UCM. D9 (green) flashing shows that it is receiving communications from Comfort (poll). D10 (red) comes on when the UCM responds to a poll from Comfort.
4. The following few pages illustrates how the CWM is to be connected depending on the way that the CWM is to be linked to the internet, i.e. whether it is via a dial-up modem, via a PC as a gateway on a network, or whether it is through a router. Note that for all cases; always connect the network cable to the CWM RJ45 socket before connecting power to the CWM. If the CWM is powered on before the

Network is connected, its network drivers will not be loaded and the network connection will NOT work.

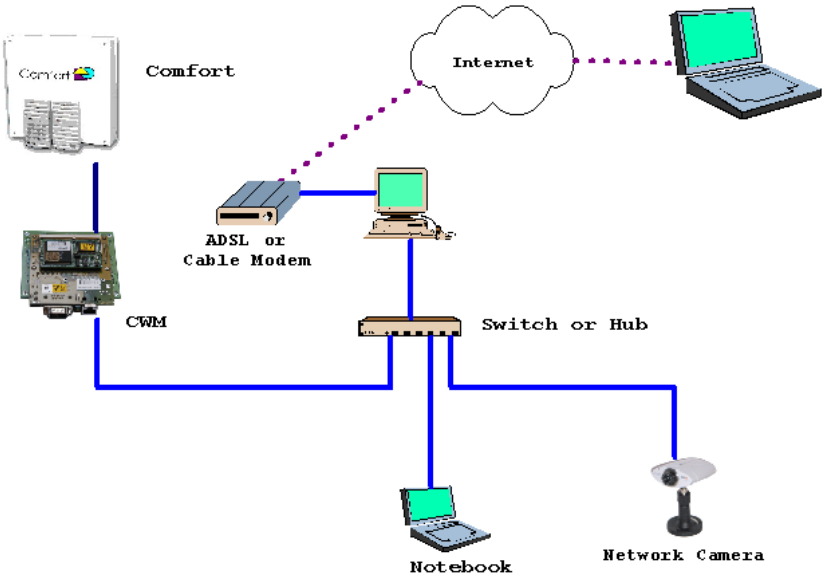
Dial Up Connection



The above figure shows how the connection is to be done when an external modem is connected directly via the CWM serial port. The incoming telephone line is still connected to the TEL-IN port of Comfort, while the TEL-OUT is connected to the external modem as well as other telephones within the premises. If such a non-dedicated line is used for internet access, any alarm or event triggering a dial out will result in the line being seized for dialing out purposes.

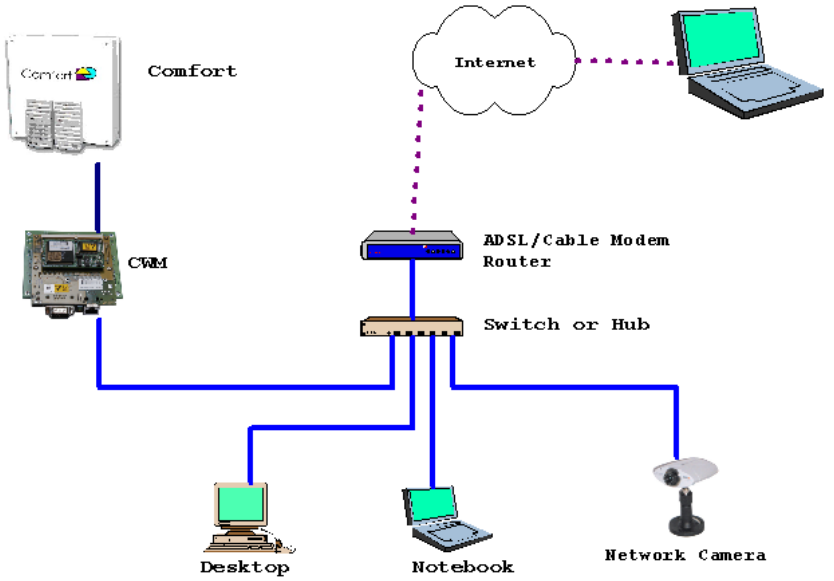
The CWM also has an Ethernet port with a RJ45 connector for connection to a Local Area Network via a hub or switch. This allows any PC or laptop on the LAN to be able to access the CWM.

Broadband Internet via PC Gateway



In this configuration, an ADSL or cable modem is connected directly to a PC. This gateway PC and CWM as well as other computers and devices are connected to a hub or switch. In order for the devices on the network to share the Internet connection, the gateway PC must run a software router like Winroute Pro. The software router must be set up to allow port forwarding to the CWM and network camera(s) which are to be accessed from the Internet. The gateway must also run a DNS update software to work with a dynamic DNS redirection service like no-ip.com. This can also be done using Cytech's Dynamic IP system (see "Dynamic IP Setup"). The gateway must always be on to allow Internet access. It is recommended that the gateway PC be a dedicated machine for this function.

Broadband Internet with Router



In this configuration, an ADSL or cable modem is used for Internet connectivity and a router is used to allow the other computers and CWM to share the Internet connection. The router must be set up for port mapping or forwarding for the CWM and network cameras which are to be accessed from the Internet. All the network devices are connected to a switch or hub. In order to provide the dynamic IP address to the remote browser, one of the PCs on the network must run DNS update software to work with a dynamic DNS redirection service like no-ip.com or run on Cytech's Dynamic IP system (See "Dynamic IP Setup").

Section 3Setting up the CWM

This section shows how to configure the CWM to change the IP address and specify how to connect to the Internet.

Connecting CWM to the Network

In order to set up the CWM, it is necessary to connect a computer, either Desktop or Notebook with a network card to the CWM on the Local Area Network (LAN) using the TCP/IP protocol. This can be done by connecting a crossover CAT5 cable directly between the computer and CWM or by connecting the CWM to the network via a hub or switch using a parallel CAT5 cable.

NOTE: Always connect the network cable to the CWM RJ45 socket before connecting power to the CWM. If the CWM is powered on before the Network is connected, its network drivers will not be loaded and the network connection will NOT work

Setting up the CWM

The CWM is set by default to the IP address 10.0.0.16. Should the IP address be amended and forgotten, proceed on to the section “Running CwmSetup”. To set up the CWM, open up the web browser with the following address:

http://10.0.0.16/admin.htm

Note that this address is only for the default IP address 10.0.0.16 with Port 80. For other IP addresses, please access the admin page via the format:

http:///(IPaddress):(PortNumber)/admin.htm

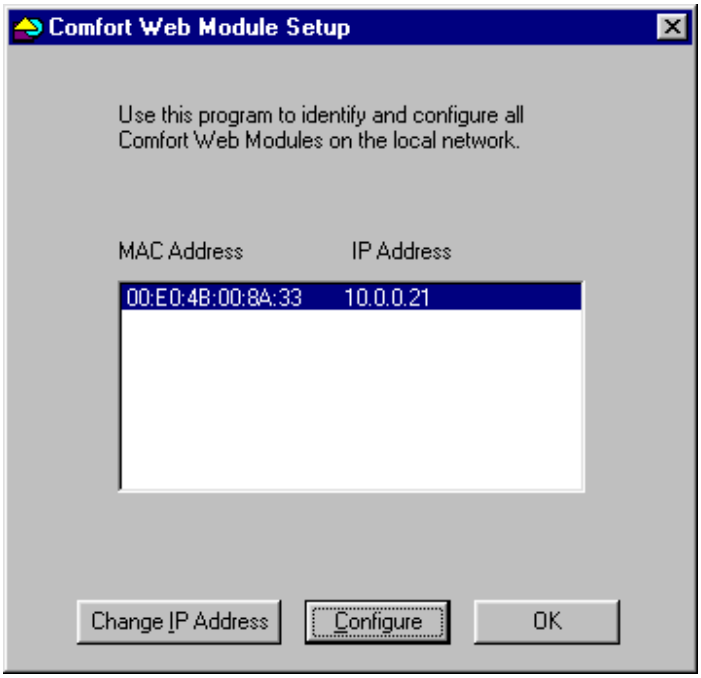
This should bring up the following screen:

Select “Module Setup” to continue, which will bring up the screen shown in “Module Setup”.

Running CwmSetup

CwmSetup.exe is a Windows program which discovers the IP address of the CWM and allows a new IP Address to be assigned. It also launches the browser-based configuration program which sets up other parameters like the Webserver port, Internet connection method, DNS and gateway addresses, FTP addresses etc. CwmSetup.exe is supplied in the CD-ROM which comes with CWM.

The CwmSetup program screen is shown below:



The program identifies the MAC address and IP Address of the CWMs on the local network. The button “Change IP Address” allows the selected CWM IP address to be changed from the default 10.0.0.16. Change the IP address so that it is on the same subnet as the computer used to configure the CWM. For example, if your computer IP address is 192.168.0.1 and the subnet mask is 255.255.255.0, then the CWM can be set to any IP address from 192.168.0.2 (as not to clas with computer’s IP) to 192.168.0.254 to be on the same subnet.

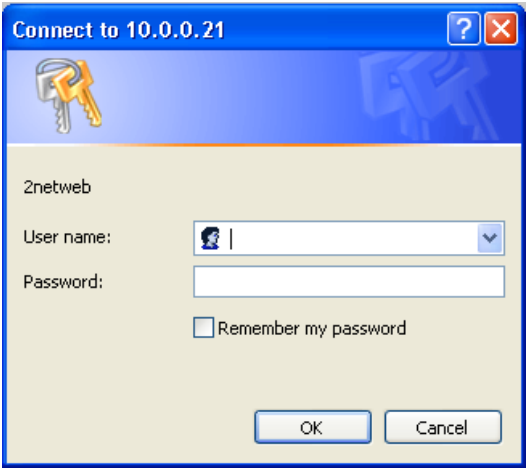
Click on “Configure” to continue to configure the CWM. This opens a series of browser-based screens. The opening screen is

“Welcome to CWM Configuration Wizard

Click Next to continue”

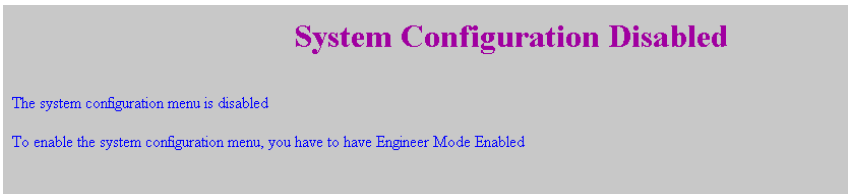
Module Setup

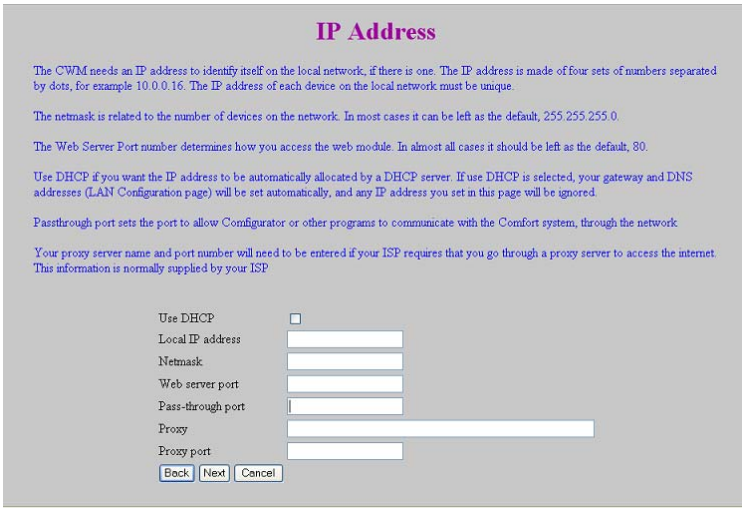
Before clicking on Next, please ensure that Engineer Sign In option is enabled. The next screen shown below will ask for the user name and password to access the screen.



Both the default user name and password is “admin”. The password can be changed later

If the Engineer Sign In option has not been enabled, the following screen will be loaded after signing in.





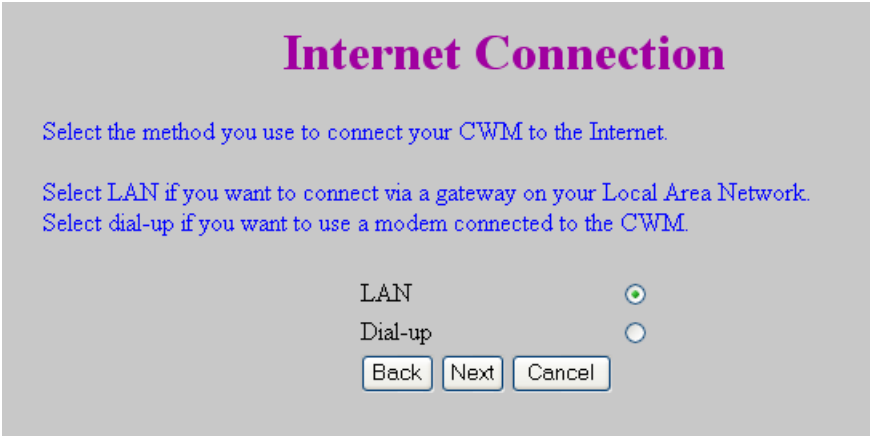
With the correct login, the Local IP address and Net mask are displayed, and can be changed if required depending on the network in which the CWM is connected.

The Web server port is the port on the CWM for the web server. This is usually port 80. However, CWM will work with port numbers other than 80, if port 80 is used for another Web server or other devices.

The Pass-through Port (default 10001) is another port on which the UCM (Universal Communications Module) can be accessed via TCP/IP over the network rather than by RS232, as with a regular UCM. This can be used for remote upload and download with the Comfigurator software tool. Comfort firmware Outside 4.200 and above and CWM 5.52 and above are required to support this feature.

Proxy can also be set from this page if needed.

Press next for the next screen when completed to show the following screen;

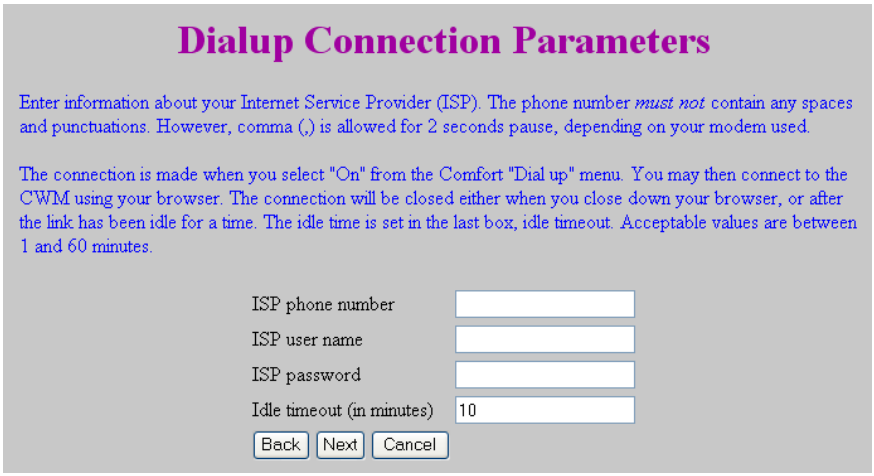


This allows you to select the method for Internet connection; either by dial-up or through the LAN (Local Area Network). For dial-up connection, an external modem (not supplied) is to be connected to the serial port of the CWM. For LAN, the CWM is to be connected to the LAN via the Ethernet port and will access the Internet through a gateway (router or PC) on the network (as shown in the previous section). Press Next to continue to the next screen.

For LAN connection, the screens pertaining to Dial-up (Dial-up Connection Parameters, Web Camera, and Web Camera Part 2) will not appear. Refer to the screen titled LAN Configuration. If the CWM is not meant to access the Internet, select LAN connection.

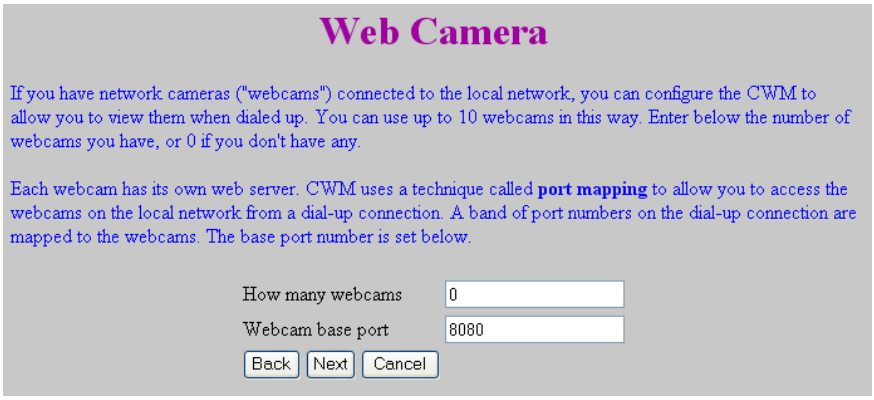
If a Dial-up connection was specified for Internet Connection, the next screen is shown in the next figure.

Dialup Parameters



The ISP Phone number, user name, password, are to be entered in the corresponding fields. The Idle Time-out in minutes is for disconnection of the dial-up connection when there has been no activity for the specified time. The parameters entered are stored in CWM.

Press Next to continue.

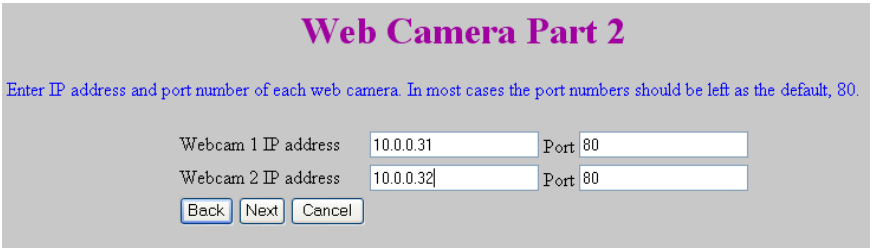


The above screen allows network cameras to be viewed through the same Internet connection and IP address as the CWM. For dial-up

modem configuration, the CWM performs Port Mapping to map ports on the Internet IP address to a private IP address and Port on the local network.

Up to 10 network cameras can be connected. Enter 0 if network cameras are not used. The network cameras have a built in Webserver e.g. Axis 2100.

The web cam base port is the starting port number through which the camera images will be accessed. CWM uses port mapping to map the Internet IP address port number to a local IP address and port.



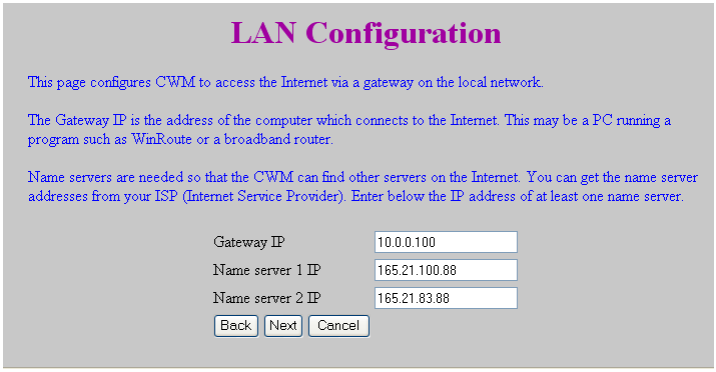
The above screen shows what is displayed when there are 2 network cameras specified. For each camera, enter the local IP address and port number to access its internal Webserver. Normally the port number will be 80, the http port.

For Internet Access via LAN, the dialogue for web cameras will not appear. If the gateway is a PC, it will require a software router like Winroute Pro to perform the NAT (Network Address Translation) and Port Mapping to allow requests from the Internet to be routed to the CWM and Network Cameras. This is explained in Section 7 - Gateway Setup

The next screens described below (LAN Configuration and Renew Period) pertain to LAN configuration. For Dial-up Internet access, the LAN Configuration and Renew Period pages will not be shown; the FTP Server page will appear next. If the CWM is to be accessed from the Local network only and not to be connected to the Internet, skip the LAN configuration and Renew screens and go to the FTP Server page.

For LAN connection the screen will be as shown in the following figure;

LAN Setup



The above screen specifies the gateway IP address of a router or PC on the network which provides Internet access. The Name Servers fields are the servers on the Internet which provide the Domain Name Service for the Internet connection. Refer to your Internet Service Provider or FTP host for the IP addresses of these servers. Click on "Next" to continue.

After setting the gateway IP, click on Finish to save the configuration. Should any other amendments be required, use the Back button to go back to any of the previous pages to make the necessary changes. To quit without saving, click on Cancel.

After saving the changes, click on reset on the screen to reset the CWM. It will probably take a few minutes before the CWM is initialized. A good way of verifying that the CWM is initialized is by running CwmSetup and seeing whether it can be detected.

Dynamic IP Setup

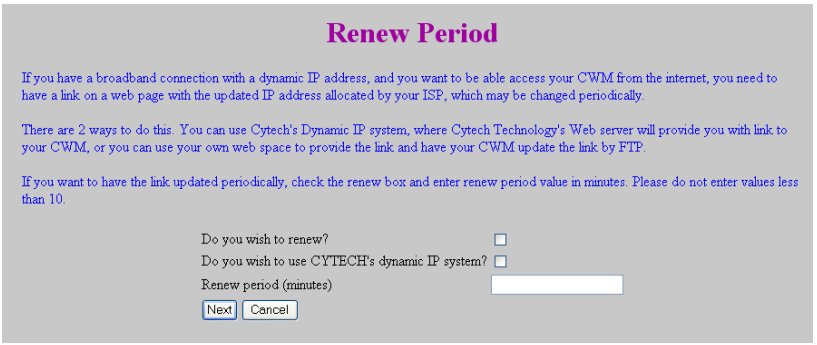
Most Internet connections will have a dynamic IP address, i.e. the IP address will be assigned by the Internet Service Provider (ISP) will change from time to time. For a dial-up modem connection, a different IP address is assigned each time the dial-up connection is made. For ADSL, some plans include a fixed IP address, usually for companies running their own web server. For plans which involve dynamic IP address, the IP address may not change for some time, sometimes every few days. Cable modem connections usually involve dynamic IP addresses. To access CWM from a remote browser on the Internet, the IP address of the system must be known. For fixed IP addresses, you can just type in the IP address or URL (and optionally port number if not 80). For dynamic IP addresses, there are 3 methods of getting the dynamic IP address of the CWM; using Cytech Technology's Dynamic IP redirection system, using FTP to send the current IP address to your own web page or using a dynamic DNS redirection service like www.no-ip.com. Use of other Dynamic IP Redirection services is not within the scope of this manual.

Ensure that the Engineer Sign In Option is enabled (by pressing F0 on the keypad). If the CWM has been reset, the Engineer Sign In Option has to be enabled again to broadcast to the CWM.

To configure Dynamic IP setup, go to the CWM setup page, i.e.

http://(IPaddress):(PortNumber)/admin.htm

and select Dynamic IP Setup.



The Renew Period gives the time interval for CWM to refresh the dynamic IP address for the connection to the remote web page.

In order to use Cytech's IP redirection system, check the box in the above screen

Cytech's dynamic IP redirection service is hosted on the company's web server. The user registers with a username and password on the setup screen. CWM will send its IP address periodically to the allocated space on the website. To access the CWM from any browser on the internet point your browser to the URL

http://www.cytech.biz/dynip/username.php

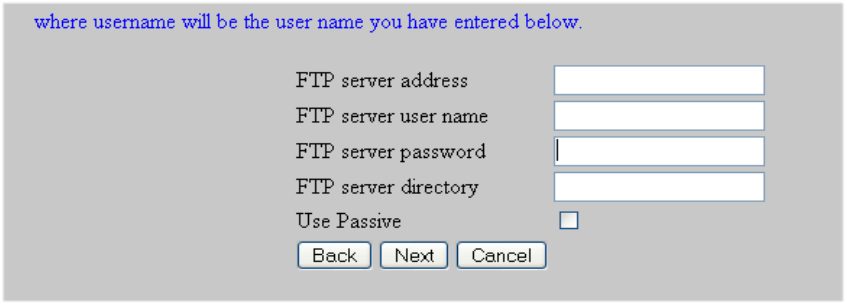
where "username" is the user name which is entered in the Dynamic IP setup page. The browser will be redirected to the actual IP address of the CWM. Note that the Cytech web site does not host the users CWM pages or gather any information about the CWM other than its IP address. However it must be noted that anyone who enters the same URL will be redirected to the CWM at the IP address. Anyone who has inadvertently or deliberately reached the CWM IP address must know the User code of the Comfort system in order to sign in. If there are 6 attempts to sign in on the CWM web page, keypad or telephone, the Sign In Tamper Alarm will be activated which will lock out further attempts.

For those using Cytech's dynamic IP system, all that is needed is for the user to register with a user name and password. The email address field is not used – it does not have to be entered. The link to the CWM will be set as http://www.cytech.biz/dynip/(UserName).php.

For those not using Cytech's dynamic IP redirection system, do not check the box in the previous screen. In this case, the user will have to specify an FTP address to which the CWM can upload the IP address. This also allows a URL address e.g. www.userpage.com/home.html set up by the user, to host the IP address redirection, without relying on Cytech's web server.

The FTP Server screen will ask for the address of the FTP server, as well as the user name and password for logging in. All these information are normally obtainable from the provider of the web space.

The FTP server directory is the path within the FTP server to send the dynamic IP address. This is often "public_html" or "/". This information should be available from your ISP or your FTP host.



Press Next to continue

Click Finish to save the configuration.

This shows that the configuration has been saved. Press the Reset link on the screen to reboot CWM. It is not necessary to switch the power off and on as in previous versions.

Upgrading the CWM Software

To help facilitate the updating of the CWM, an online updating mechanism has been set up. To upgrade the CWM, please ensure that you are online. Then, simply click on the link in

http://(IPaddress):(PortNumber)/admin.htm and the CWM should be updated accordingly.

Changing Password

Here, the Engineer Sign In Option has to be enabled again. You may need to do so again if the CWM has been reset. Selecting this option allows the Password to be changed. This will replace the existing password. However, note that the user name will still be maintained as "admin".

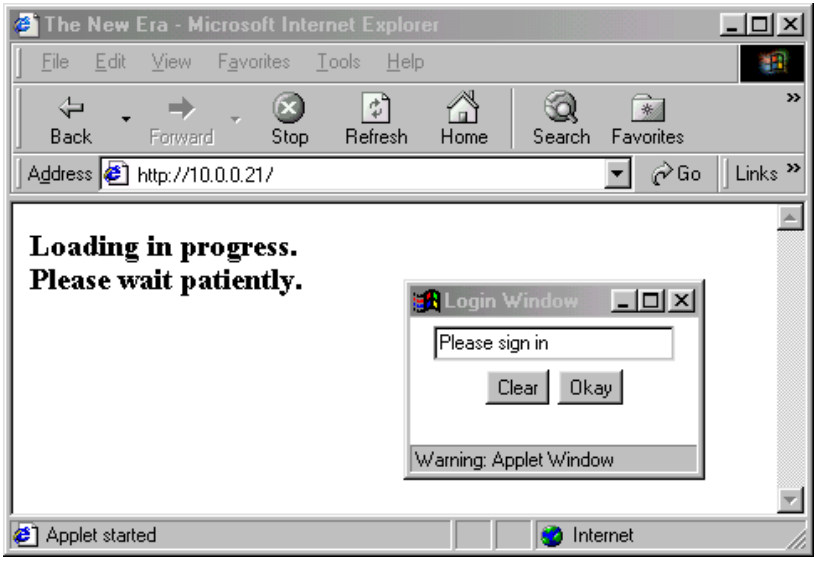
Testing CWM on the Local Network

Once you have done the setup as described above, you can test CWM immediately without needing to do any programming of CWM. Make sure Comfort is powered on and connected to the CWM via the supplied 4 way cable. Comfort can be programmed to the default template. Remember that minimum "Outside" firmware on U1 is required.

CWM can be connected to the PC with the supplied crossover Ethernet cable, or it may be connected to the Local Area Network (on the same subnet) via a hub.

Open your browser (Internet Explorer 5 or 6, or Netscape 7, Opera 7 or other Java-enabled browser) on the computer which you have used to set up the CWM, or any computer on the network to which you have connected the CWM (with the same subnet).

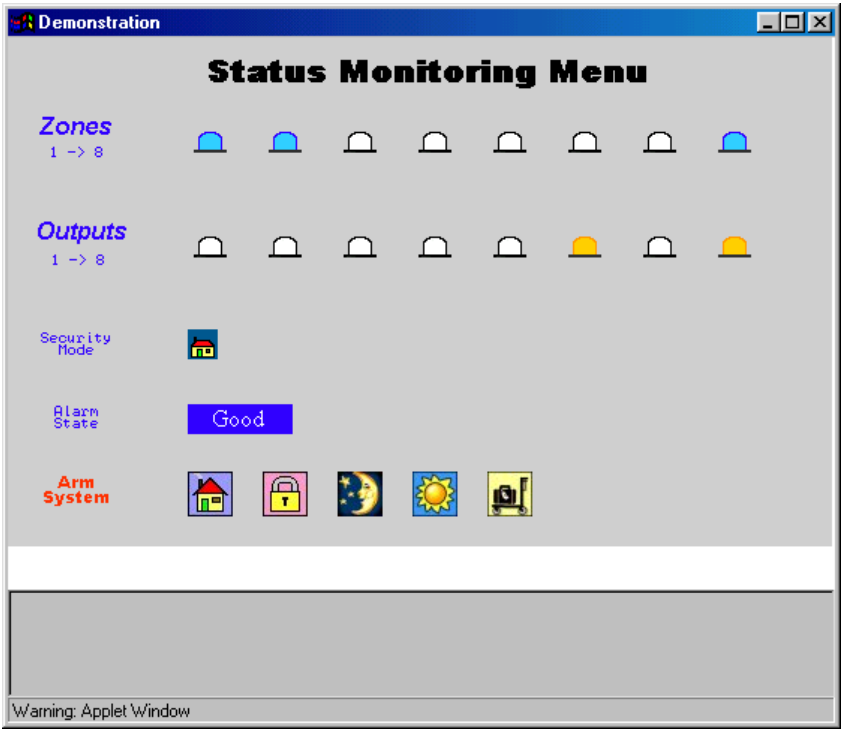
Type in the local IP address of CWM, e.g. 10.0.0.16 or the IP address was assigned during the setup procedure.



The browser will display “Loading in progress.” During this time, the Java Virtual Machine is loading on your computer. After 10 to 30 seconds, depending on the speed of your machine, the Login window will appear, which prompts “Please Sign In”

Enter your Comfort sign in code which can be from 4 to 6 digits. Any valid Comfort user code will allow access. These codes are kept within Comfort, not the CWM or on any web site so there is better security. It is recommended that sign-in codes be 6 digits for maximum security.

Once the user code has been validated, the default web page will be displayed, as in the example below with the sample index.htm file.



When the page loads, the state of the outputs 1 to 8 and inputs 1 to 8 will be updated, displaying the images for the object depending on whether the object is on or off. Please ensure that the message window indicates “All images are up-to-date”.

When any programmed zone is activated the corresponding image will change from white to blue (if nothing happens, it probably means that the one has not been programmed).

Clicking on any output will cause the state to change, from off to on, or on to off. When the cursor is over the icons, the cursor will change to a finger, and the border of image will be highlighted. Clicking on the image will cause the familiar hourglass to appear until the cursor is moved away from the image. An “acknowledge’ announcement is heard when the user clicks on the image (provided a sound card is installed). **To get the best results, keep the left mouse button pressed for a second or so when clicking on an image. Short clicks tend to get missed out.**

The bottom row of icons is for arming and disarming.

Security Off	Away Mode	Night Mode	Day Mode	Vacation Mode
				

Arm Comfort by clicking on the Away, Day, Night, or Vacation icons. As this is a security operation, the Sign-in box will appear on screen. Enter your user code to enable the operation. If the code is authorized, the system will be armed after the programmed exit delays. The Security Mode icon in the 3rd row will change to the corresponding icon, which is an animated gif. To disarm, click on the Home icon. Comfort will be disarmed to Security off when the user code is entered, and the Security Mode icon will change to Home.

The Alarm State icon shows Good, Trouble, Alert or Alarm.

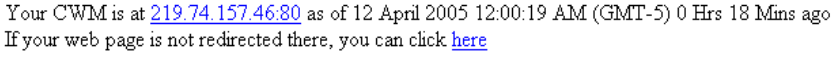
The Text window displays Status messages from Comfort.

If the CWM dial-up and remote FTP settings have been correctly programmed, then it would also be possible to access the system from the Internet.

Accessing the CWM via Cytech's Dynamic IP System

For those who are not accessing via the local network, and are using Cytech's dynamic IP system, you can access the CWM via http://www.cytech.biz/dynip/(UserName).php. There, the following login screen will be loaded.

The password is the password set by the user in the dynamic IP setup as explained earlier in this section. Simply login with the correct password. This will then load the next screen:



This screen serves to show the current address of the CWM, as well as the last address update. The page should be re-directed to the current CWM address. If it does not seem to be redirecting, the user may also click on the link on the page.

After that, the steps will be similar to that of connecting to the CWM on the local network, i.e. signing in with Comfort's sign-in code, etc.

Accessing the CWM via Other DNS Systems

For those who are accessing the CWM by other means besides using Cytech's dynamic IP system, you will normally have a webpage which will redirect the user to the relevant webpage, e.g. a web page with a link as shown below.

In such a case, the user will also be redirected to the current updated CWM address. There, the steps to login are similar to the other 2 methods.

Section 4Programming

Uploading Files to CWM

Previously, to upload files to the CWM, File Manager had to be used. However, this is tedious in nature as it only allows for the uploading and downloading of 1 file at a time. To speed up these processes, with this current version (5.70), File Manager has been removed. File uploads and downloads can easily be done with the help of FTP.

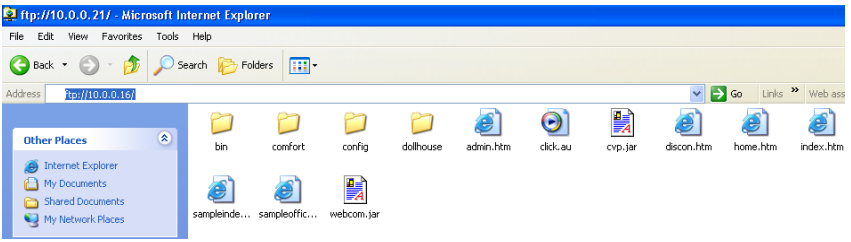
FTP via Browser

CWM now currently supports FTP. For Windows 2000 and Windows XP, it can be accessed using the following address by keying in the following address in Internet Explorer (or any compatible browsers):

ftp:///(IPaddress)

For example, for the default CWM configuration, one can upload files to the CWM from ftp://10.0.0.16/

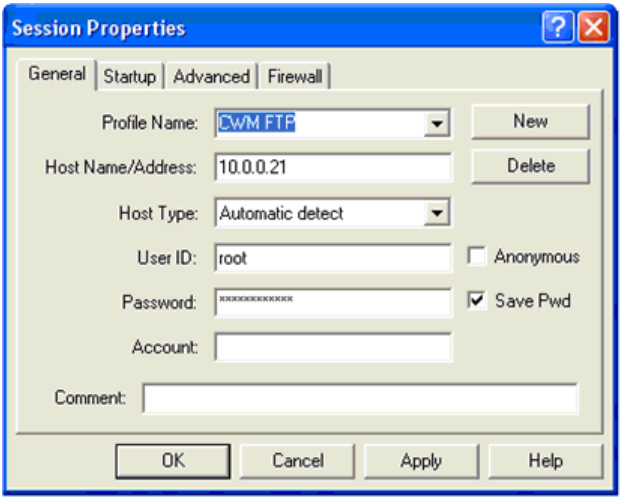
To login, engineer menu must be enabled. Then, access the address format as shown above. If you encounter an error message, click on "OK" to clear the message. After that, right click on the screen and select "login as". Then, login as username "admin" with the correct password. The default password is "admin" unless amended (See "Changing Password"). Following that, the following screen should appear:



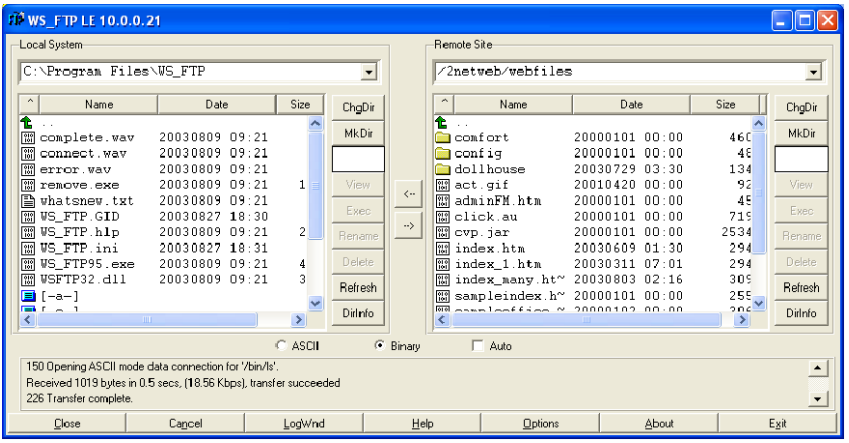
From this screen, uploading of files to the CWM is simpler. Simply copy and paste the files that you wish to upload to the CWM to this page and to whichever directory one wants. Directories can also be created. Similarly, it also allows for the downloading of files from the CWM. This greatly enhances the ease of troubleshooting when the need arises.

FTP via FTP Client

For those who are using Windows 98 have to use a FTP client like WS FTP and will have to configure it to connect to the CWM.



The above screen shot is an example of using WS FTP. Note that it has been configured to work with a CWM of address 10.0.0.21. The User ID and passwords need to be set as well. Correctly entering the username and password, you should be able to connect to the CWM FTP server as shown below.


WS_FTP LE 10.0.0.21
Local System
C:\Program Files\WS_FTP
Name
Date
Size
complete.wav 20030809 09:21
connect.wav 20030809 09:21
error.wav 20030809 09:21
remove.exe 20030809 09:21 1
whatsnew.txt 20030809 09:21
WS_FTP.GID 20030827 18:30
WS_FTP.hlp 20030809 09:21 2
WS_FTP.ini 20030827 18:31
WS_FTP95.exe 20030809 09:21 4
WSFTP32.dll 20030809 09:21 3
[-a-]
ChgDir
MkDir
View
Exec
Rename
Delete
Refresh
DirInfo
Remote Site
/2netweb/webfiles
comfort 20000101 00:00
config 20000101 00:00
dollhouse 20030729 03:30
act.gif 20010420 00:00
adminFM.htm 20000101 00:00
click.au 20000101 00:00
cvp.jar 20000101 00:00
index.htm 20030609 01:30
index_1.htm 20030311 07:01
index_many.ht~ 20030803 02:16
sampleindex.h~ 20000101 00:00
ASCII
Binary
Auto
150 Opening ASCII mode data connection for '/bin/ls'.
Received 1019 bytes in 0.5 secs, (18.56 Kbps), transfer succeeded
226 Transfer complete.
Close
Cancel
LogWnd
Help
Options
About
Exit

TCP/IP Pass-through Port

TCP Pass-through is a function whereby the Ethernet data is directly passed to the RS232 port of the UCM within the CWM and vice versa. This allows serial commands to be sent and status received using the LAN or Internet. It allows Comfigurator or WizComfort to work through the CWM by specifying a Network IP address and Port.

In order to enable the Pass-through port operation, Engineer Code must be enabled, by pressing F0 on the Keypad as usual. If Engineer Code is disabled at midnight on the same day or in Program Menu 3,4,0, the Pass-through Port will also be disabled. Only 1 Pass-through port can be established at one time.

While pass-through port operation is in progress, applet communications will cease, i.e. the normal operation of the CWM will stop. You will not be able to control or monitor Comfort via CWM until the pass-through connection is closed by disabling Engineer Code using Program Menu 3,4,0 or using the shortcut key “F+0” (unless it has been amended).

The default pass-through port number is 10001. This is specified in the browser setup using cwmsetup.exe or under the Module Setup page in http://(IPaddress):(PortNumber)/admin.htm. Port numbers can range from 0 to 65535. The official list can be found at http://www.iana.org/assignments/port-numbers

Port numbers already used by CWM are 20 (file transfer data), 21 (file transfer control), 23 (telnet), 80 (http), 8080 (http alternate) and 10001 (default pass-through).

The Pass-through port feature is enabled on CWM firmware 5.63 and above.

If installed in a system with a firewall, check that the firewall does not block the assigned port for TCP/IP pass-through.

Web Page Programming

The Comfort Web Server Module (CWM) enables Comfort to be controlled and monitored from a standard web browser such as Microsoft Internet Explorer and Netscape Navigator. The CWM makes use of Java Applets to provide icons and switches which change with the state of the device being monitored. These Java Applets interact with control variables which exchange information between the client browser and the server. The Java Applets are provided in webcom.jar, which contains Applets for controlling or monitoring input and output devices, X10, security mode, camera and alarm state. The applet code can be embedded in the HTML file using the <APPLET> tag.

The Java Applets are designed to send commands to Comfort by means of programmed Responses. The Responses must be preprogrammed in Comfort to perform the desired operations. Any Response can be activated by means of the Applets. For example, if Response 1 turns on Output 1, clicking on an icon can be programmed via the applet to send Response 1 to Comfort via the CWM.

The Java Applets monitor the state of variable like Zone, Output, X10, the Security Mode, and Alarm state, and can display the changed state using a specified image.

For each alarm input or appliance monitored or controlled by Comfort, two images are associated; one when it is On, and one when it is Off.

For example, the radio when it is off is shown as  When it is turned on, it can be represented as  , The program line which controls this element is illustrated as an example.

<PARAM NAME="Element1" VALUE="zone, 2, 5, /comfort/radio1.gif, 6, /comfort/radio0.gif, 350, 20, 1">.

This means the ON/Off status of the radio is monitored by Zone 2. If Zone is Off, radio0.gif is displayed, and zone 2 is On, radio1.gif is displayed.

Clicking on the radio icon will change its state, i.e. if it is On, it will turn off and vice versa. The programming line shown above specifies that Response 5 is used to turn on and Response 6 is used to turn off the radio. The set of coordinates tells where the icon should be located on the page.

Note that because of the visual feedback of the appliance state offered by web-based access, it is very desirable to monitor the state of the appliance. This can be done using a CSM01 current sensor connected to a zone input for many appliances.

Programming Elements

A sample index.htm page would look like this:

```
<HTML>
<HEAD>
<TITLE> ..... </TITLE>
</HEAD>
<BODY>
<APPLET CODE=WebComfort.class ARCHIVE=webcom.jar, cvp.jar
WIDTH=700 HEIGHT=500>
```

The above line specifies the Java archive to be downloaded to the browser.

The definition of the elements on the Java Applets follows. These consist of a series of statements of the form;

<PARAM NAME= ”name” VALUE=”value”>

…

…

</APPLET>

</BODY>

</HTML>

The types of elements used are; **Element, Window, Mode, Arm, Cam, State, Counter**, **Cntr, RespIcon**, **IconHighlight**. Each parameter is assigned a sequential numeric value starting with 1 for each of the types, for example,

<PARAM NAME=”Element1” VALUE="zone,4,0, /comfort/md1.gif,0 , /comfort/md0.gif, 19,376,1">

<PARAM NAME=”Element2” VALUE="zone,5,0, /comfort/detect1.gif,0 , comfort/detect0.gif , 120,278,1">

A break in the sequence numbering for each element will invalidate the rest of the sequence. The element of each type need not be contiguous, i.e. they may be followed by other elements, but the sequence number of the element must be maintained, e.g., the following sequence is acceptable:

<PARAM NAME=”Element1” VALUE="......">

<PARAM NAME=”Arm1“ VALUE=".....">

<PARAM NAME=”Element2” VALUE=".....">

<PARAM NAME=”Element3” VALUE=".....">

<PARAM NAME=”Arm2“ VALUE=".....">

The following sequence is NOT acceptable because of a break in the sequence:

<PARAM NAME=”Element1” VALUE="......">

<PARAM NAME=”Arm1“ VALUE=".....">

<PARAM NAME="Element3" VALUE="....."> **(ELEMENT2 is missing!)**

For each type, a token string is required in the "VALUE=" field. The number of tokens and the format of the tokens must be strictly adhered to.

The image files are normally stored in a subdirectory. In the examples shown, they are in the "/comfort" subdirectory

The types of parameters are defined below:

Window

Format:

<PARAM NAME="Window#" VALUE="Title, window-image">

Explanation:

The parameter "Window" creates a new window on the screen. The first token is the title which will appear on the title bar. The second token is the name of the image file which will be displayed in the background. This image file may be in .gif or .jpg format which are the ones accepted by Java. The size of the window is determined by the image file. Keep the image size within the limits of your display. A minimum display resolution setting of 800 x 600 for pixels is recommended for the monitor.

The image file should consist of the static or fixed layout of the premises to be monitored on CWM. Any painting program line Windows Paint, or Paint Shop, or a Floor Plan design software can be used to create the background image.

Up to 8 windows may be used to represent different levels in a home or building.

Example:

<PARAM NAME="Window1" VALUE="Office, /comfort/office.gif">

This opens a window titled "Office" with a background image using office.gif.

Element (zone and output)

Format:

<PARAM NAME="Element#" VALUE="zone, number, response_on, on-image, response_off, off-image, x,y, window ">

<PARAM NAME="Element#" VALUE="output, number, response_on, on-image, response_off, off-image, x,y, window ">

Explanation:

The element name "Element" is used to represent devices like lights and appliances which are controlled by Comfort, as well as devices which are connected to Comfort Zone Inputs. The state of the device,

either off or on is represented by alternate images. The device state can be provided by a Zone (Input) or Output number.

“zone” is the token which indicates that a zone (input) is providing the status feedback for the device.

“output” is the token which indicates that an output is providing the status feedback for the device.

“number” is the zone (Input) or Output Number (0 to 64) on Comfort which provides the status feedback for the device to Comfort. If “zone” is specified, the zone number must be programmed to the appropriate zone type. An unprogrammed zone will not respond. If "zone" or "output" is 0, this means that there is no feedback status, and only the Off Image will be displayed. Clicking on the image will alternately activate the response_on and response_off.

“response_on” is the Comfort Response (program) number (1 to 254 for Outside; 1 to 1023 for Action) which turns on the device. The Response number specified must be programmed to perform the required actions. (This is not to be confused with the Zone On Response which is activated when the zone goes on)

“On-image” is the image file which represents the device when it is in the ON state. Note that the definition of Off and On depends on whether the Zone Type used is Normally Open or Normally Closed.

“response_off” is the Comfort Response (program) number (1 to 254 for Outside; 1 to 1023 for Action) which turns off the device. The Response number specified must be programmed to perform the required actions. (This is not to be confused with the Zone Off Response which is activated when the zone goes on).

“Off-image” is the image file which represents the device when it is in the OFF state. Note that the definition of Off and On depends on whether the Zone Type used is Normally Open or Normally Closed.

“x” and “y” are the x and y coordinates of the image displayed. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

“Window” is the window number which the element belongs to.

Example:

<PARAM NAME=”Element1” VALUE=”zone, 2, 17, /comfort/lightcir_1.gif, 18, /comfort/lightcir_0.gif, 350, 20, 1”>

This element represents a light controlled by Comfort and whose status is fed back to Zone (Input) 2 via a Current sensor (CSM01). lightcir_1.gif is the image shown when the light is on (Input 2 on) and lightcir_0.gif is the image shown when the light is off (Input 2 off). Clicking on the light switches will turn off or on the light depending on its current state. Response 17 turns on the light and Response 18 turns off the light. The image is at coordinates (350,20) in Window number 1.

The “zone” element allows control of any device using Responses which can be programmed for infrared control, x10 transmission, pulse outputs or on/off control and where the device state is available on an input zone through a current sensor.

<PARAM NAME=”Element2” VALUE=”output, 5, 9, /comfort/lightcir_1.gif, 10, /comfort/lightcir_0gif, 420, 50, 2 ”>

This element represents a light controlled by Comfort and whose status is in output 5. Lightcir_1.gif is the image shown when the light is on (output 5 on) and lightcir_0.gif is the image shown when the light is off (Output 5 off). Clicking on the light switches off or on the light depending on its current state. Response 9 turns on the light and Response 10 turns off the light. The image is at coordinates (420,50) in Window number 2.

The “output” element can be used for devices which are controlled directly through the outputs without any input feedback. For example a pulse to open a gate or door will show the on image momentarily during the duration of the pulse. A device which is controlled directly from the outputs is also represented in this way.

<PARAM NAME=”Element3” VALUE=”zone, 15, 0, /comfort/detector1.gif, 0, /comfort/detector0.gif, 550, 10, 1 ”>

This element represents a motion detector connected to Zone (Input) 15. detector1.gif is the image shown when the detector detects movement (Input 15 on) and detector0.gif is the image shown when the detector is off (Input 15 off). In this case the response_on and response_off is 0, i.e. not used because this element provides status only and not control.

A zone or output number of 0 is valid and means that there is no feedback for this element. This is used to issue a command without feedback status. The off-image file will be displayed at all times, as an on status will not be received. A valid filename must be specified for the on-image even though it is not used.

e.g. <PARAM NAME=”Element3” VALUE=”zone, 0, 16, /comfort/imageoff.gif, 16, /comfort/imageoff.gif, 550, 10, 1 ”>

This displays imageoff.gif at all times. When clicked, Response 16 is always activated. If the on and off responses specified are different, then they will be alternately activated

This method is used to implement the Disconnect function to cause the dial-up modem to hang up. This is described in more detail in the “Programming Comfort” section.

Element (X10)

Format:

<PARAM NAME=”Element#” VALUE=”x10, housecode, unitcode, response_on, on-image, response_off, off-image, yes/no, x,y, window ”>

Explanation:

The token “x10” for parameter “Element” is used to represent the status of X10 modules. X10 commands to the addresses from wall switches or other x10 controllers will be reflected in the image displayed.

“X10” is the token name for x10 control

“Housecode” is the housecode (A to P) of the x10 module to be controlled and monitored.

“Unitcode” is the unit code (1 to 16) of the x10 module to be controlled and monitored.

“response_on” is the Comfort Response (program) number (1 to 254 for PRO, 1 to 1023 for ULTRA) which turns on the x10 module. The Response number specified must be programmed to perform the required actions.

“On-image” is the image file which represents the device when it is in the ON state.

“response_off” is the Comfort Response (program) number (1 to 254) which turns off the device. The Response number specified must be programmed to perform the required actions.

“Off-image” is the image file which represents the device when it is in the OFF state.

“Yes” or “no” indicates if the x10 module is a lamp module which can respond to the All Lights On and All Lights Off x10 commands. Please check with the X10 module instruction sheet to find out whether the module does respond to these commands.

“x” and “y” are the x and y coordinates of the image displayed. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

“Window” is the window number which the element belongs to.

Example:

<PARAM NAME=”Element4” VALUE=”x10, A, 1, 33, /comfort/moduleon.gif, 34, /comfort/moduleoff.gif, no, 350, 20, 1”>

This element represents an X10 module with x10 address A1 (housecode=A, unitcode=1). moduleon.gif is shown when the module is on and moduleoff.gif is shown when the module is off. Clicking on the device icon switches off or on the module depending on its current state. Response 33 turns on the light and Response 34 turns off the module. The image is at coordinates (350,20) in Window number 1. “No” indicates the module is not a lamp module which can be controlled by the “All Lights On” X-10 command.

Note:

When the window is first opened, the X-10 elements are shown in the off state, as X-10 modules cannot be polled for their current state. The state is updated when the module is controlled for the first time.

Arm

Format:

<PARAM NAME="Arm#" VALUE="off-x, off-y, off-image, away-x, away-y, away-image, night-x, night-y, night-image, day-x, day-y, day-image, vac-x, vac-y, vac-image, window ">

Explanation:

This parameter allows the system to be disarmed (security Off) or armed to Away, Night, Day and Vacation modes. This parameter does not show the security mode - display of the current security is by parameter "mode".

"Off-x, off-y" are the coordinates of the security off image. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"off-image" is the image file for security off

"Away-x, away-y" are the coordinates of the away mode image. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"away-image" is the image file for away mode

"Night-x, night-y" are the coordinates of the night mode image. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"night-image" is the image file for night mode

"Day-x, day-y" are the coordinates of the day mode image. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"day-image" is the image file for day mode

"Vac-x, vac-y" are the coordinates of the vacation mode image. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"vac-image" is the image file for vacation mode

"Window" is the window number which this parameter belongs to.

Example:

<PARAM NAME="Arm1" VALUE="0, 200, /comfort/disarm.gif, 50, 200, /comfort/away.gif, 100, 200, /comfort/ night.gif, 150, 200, /comfort/day.gif, 200, 200, /comfort/vacation.gif, 1">

This places the disarm.gif image at (0,200), away.gif image at (50,200), night.gif at (100,200), day.gif at (150,200) and vacation.gif at (200,200). These elements are in window 1.

Mode

Format:

<PARAM NAME="Mode#" VALUE="x, y, off-image, away-image, night-image, day-image, vac-image, window">

Explanation:

This parameter displays the current security mode (off, away, night, day, Vacation) by specifying the image files in the parameter list.

"x, y" is the location of the image to be displayed. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"off-image" is the image file for security off

"away-image" is the image file for away mode

"night-image" is the image file for night mode

"day-image" is the image file for day mode

"vac-image" is the image file for vacation mode

"Window" is the window number which this parameter belongs to.

Only one of the images is displayed in the same location, depending on the current mode, so the images must be of the same size.

Note that this "Mode" parameter only displays the current mode, while the "Arm" parameter controls the security mode.

Example:

<PARAM NAME="Mode1" VALUE="150, 430, /comfort/disarm.gif, /comfort/away.gif, /comfort/ night.gif, /comfort/day.gif, /comfort/vacation.gif, 1">

This places the image at (150,430) and the selected image file will be displayed depending on the security mode.

State

Format:

<PARAM NAME="State#" VALUE="x, y, base-image, idle-image, trouble-image, alert-image, alarm-image, window">

Explanation:

This parameter displays the current Alarm State of the system. There are 4 states: Idle (No alarm), Trouble (e.g. zone trouble, power failure, telephone cut etc.), Alert (Zone Alert, Entry Alert), and Alarm (Intruder, Fire Panic). The image associated with each of these states will be displayed when the system is in the corresponding alarm state, and the image will blink. The “base” image is displayed during the blink.

“x y” is the location of the image to be displayed. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

“base-image” is the image file for base image which is displayed during the blink

“idle-image” is the image file for idle state

“trouble-image” is the image file for trouble state

“alert-image” is the image file for alert state

“alarm-image” is the image file for alarm state

“Window” is the window number which this parameter belongs to.

Only one of the images is displayed in the same location, depending on the current alarm state, so the images must be of the same size.

Example:

<PARAM NAME=”State1” VALUE="300, 430, /comfort/base.gif, /comfort/idle.gif, /comfort/trouble.gif, /comfort/alert.gif, /comfort/ alarm.gif, 1">

This places the image at (300,430) and the selected image file will be displayed depending on the alarm state.

Cam

Format:

<PARAM NAME=”Cam#” VALUE="x, y, webcam-image, ip-address, destination-port, subnet-mask, source-port,window">

Explanation:

This parameter is used to place a camera icon on the web page and allow the user to view the images on the camera. Only a network camera with its own web server may be used, i.e. one that has an Ethernet port with a built-in web server, like Axis and Samsung Webthru. These products have models which act as camera servers which allow several normal CCTV cameras to be connected. The camera server is connected to the same local area network as the CWM and must belong to the same subnet according to the subnet mask.

“x y” is the location of the image to be displayed. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"webcam-image" is the image file for the camera.

"ip-address" is the local IP address of the camera.

"destination-port" is the port number of the camera web server, usually 80.

"subnet-mask" is the subnet mask for the local network e.g. 255.255.255.0.

"Source-port" is the port number of the camera web server when accessed from the Internet. CWM is able to do "port forwarding" from the Internet. As there will only be one public IP address assigned when it is connected to the Internet, access to the camera will use the same public IP address with a port name. Port forwarding translates the IP address:port address to a local IP address and allows several local IP addresses to be accessed using a single public IP address. **The port numbers should be what was specified in the setup procedure**.

"Window#" is the window number which this parameter belongs to.

The camera server must be configured according to the instructions of the product used, i.e. to set the IP address and subnet mask and the viewing parameters.

For Video Servers where more than 1 CCTV camera can be connected, there will be a single IP address to access the server. This has to be set up like a single camera. The access will be to the server's home page where you can select the camera image to view.

Counter

Format:

<PARAM NAME="Counter#" VALUE="x, y, number, divisor, Q/R, start-image, value1, value1-image, value2, value2-image,.., valueN, valueN-image, window #">

Explanation:

The Counter element is used for C-Bus, EIB Instabus, and Honeywell Smartfit interfacing where monitoring is by means of counters. In C-Bus and EIB systems, the counters store the current state of Group Addresses.

"x y" is the location of the image to be displayed. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"number" is the counter number which is being monitored. The allowable values range from 0 to 127 for PRO, and 0 to 255 for ULTRA.

"Divisor" is the value that is divided into the counter value to obtain the value for comparison. The value for this parameter is expressed in decimal. If the range of values desired is 0 to 100, then the required divisor value is 2.55 (255/100).

"Q" or "R" indicates if the values of interest to be displayed is the Quotient or Remainder of the result. "Remainder" is used for displaying

exact values like temperature. “Quotient” is used to display decimal digits (hundreds, tens or single-digit values)

“start-image” is the image file which is displayed during upon starting of Java or the lowest value image.

“value1” is the threshold value above which “value1-image” will be displayed. In other words if the computed value is greater than or equal to “value1”, the “value1-image” is displayed.

“valueN” is the threshold value above which “valueN-image” will be displayed. In other words if the computed value is greater than or equal to “valueN”, the “valueN-image” is displayed.

“Window#” is the window number which this parameter belongs to.

Note: The threshold value must be in ascending order for the system to work correctly.

Example 1:

Display counter 50 value (from 0 to 255) at Location (10,20) in 3 digits with each digit having a size of 30 x 30 pixels

<PARAM NAME=”Counter1” VALUE="10, 20, 50, 100, Q, /comfort/0.gif, 1, /comfort/1.gif, 2, /comfort/2.gif, 1”>

This displays the hundreds digit (0,1,2)

<PARAM NAME=”Counter2” VALUE="40, 20, 50, 100, R, /comfort/0.gif, 10, /comfort/1.gif, 20, /comfort/2.gif, 30, /comfort/3.gif, 40, /comfort/4.gif, 50, /comfort/5.gif, 60, /comfort/6.gif, 70, /comfort/7.gif, 80, /comfort/8.gif, 90, /comfort/9.gif, 1”>

This displays the tens digit (0 to 9)

<PARAM NAME=”Counter3” VALUE="70, 20, 50, 10, R, /comfort/0.gif, 1, /comfort/1.gif, 2, /comfort/2.gif, 3, /comfort/3.gif, 4, /comfort/4.gif, 5, /comfort/5.gif, 6, /comfort/6.gif, 7, /comfort/7.gif, 8, /comfort/8.gif, 9, /comfort/9.gif, 1”>

This displays the ones digit (0 to 9)

Example 2:

Display counter 255 value (0 to 255) in the range 0 to 100 as 3 digits as in example 1

<PARAM NAME=”Counter1” VALUE="10, 20, 50, 255, Q, /comfort/0.gif, 1, /comfort/1.gif, 1”>

This displays the hundreds digit (0,1)

<PARAM NAME=”Counter2” VALUE="40, 20, 255, 25.5, Q, /comfort/0.gif, 1, /comfort/1.gif, 2, /comfort/2.gif, 3, /comfort/3.gif, 4, /comfort/4.gif, 5, /comfort/5.gif, 6, /comfort/6.gif, 7, /comfort/7.gif, 8, /comfort/8.gif, 9, /comfort/9.gif, 10, /comfort/0.gif, 1”>

This displays the tens digit (0 to 9)

If the additional threshold value of 10 is omitted it will display 190 instead of 100 when the maximum value of 255 is received.

<PARAM NAME="Counter3" VALUE="70, 20, 50, 25.5, R, /comfort/0.gif, 2.55, /comfort/1.gif, 5.1, /comfort/2.gif, 7.65, /comfort/3.gif, 10.2, /comfort/4.gif, 12.75, /comfort/5.gif, 15.3, /comfort/6.gif, 17.85, /comfort/7.gif, 20.4, /comfort/8.gif, 22.95, /comfort/9.gif, 1">

This displays the ones digit (0 to 9)

Example 3:

This example displays the counter value by means of a pointer to a scale or water level in a tank. In this example there are 10 threshold values.

<PARAM NAME="Counter1" VALUE="100, 200, 255, 1, Q, /comfort/0per.gif, 25.5, /comfort/10per.gif, 51, /comfort/20per.gif, 76.5, /comfort/30per.gif, 102, /comfort/40per.gif, 127.5, /comfort/50per.gif, 153, /comfort/60per.gif, 178.5, /comfort/70per.gif, 204, /comfort/80per.gif, 229.5, /comfort/90per.gif, 255, /comfort/100per.gif, 1">

Cntr

Format:

<PARAM NAME="Cntr#" VALUE="x, y, number, on-response, off-response, divisor, Q/R, start-image, value1, value1-image, value2, value2-image,.., valueN, valueN-image, window #">

Explanation:

This is very similar to the Counter parameter except that clicking on the image can activate on and off responses. When the image is clicked, the value of the counter will be checked. The On-response is activated if the counter has 0 value and the off-response is activated if the counter has a nonzero value.

The Cntr element is used for C-Bus, EIB Instabus, and Honeywell Smartfit interfacing where monitoring is by means of counters. In C-Bus and EIB systems, the counters store the current state of Group Addresses. Cntr is available from webcom.jar version 1.0.9 onwards.

"x y" is the location of the image to be displayed. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"number" is the counter number which is being monitored. The allowable values range from 0 to 255.

"On-response" is the response that will be activated when the image is clicked when the counter has a zero value (meaning that the device monitored is off).

"Off-response" is the response that will be activated when the image is clicked when the counter has a nonzero (1 to 255) value, (meaning that the device monitored is on).

"Divisor" is the value that is divided into the counter value. The value for this parameter is expressed in decimal. If the range of values desired is 0 to 100, then the required divisor value is 2.55 (255/100).

"Q" or "R" indicates if the values of interest to be displayed is the Quotient or Remainder of the result. Remainder is used for displaying exact values like temperature. In most cases "Q" is used.

"start-image" is the image file which is displayed during upon starting of Java or the lowest value image.

"value1" is the threshold value above which "value1-image" will be displayed. In other words if the computed value is greater than or equal to "value1", the "value1-image" is displayed.

"valueN" is the threshold value above which "valueN-image" will be displayed. In other words if the computed value is greater than or equal to "valueN", the "valueN-image" is displayed.

"Window#" is the window number which this parameter belongs to.

Note: The threshold value must be in ascending order for the system to work correctly.

Example 1:

Counter 100 value (0 to 255) at Location (10,20) represents a Group address on EIB or C-Bus. A value of 0 indicates that the group address is Off, while 255 means the Group Address is fully On. A value between 1 and 254 indicates that the device (normally a light) is dimmed at an intermediate level. This line will display different images depending on the dimming level at the group address divided into the ranges 25%, 50%, 75%, 100%.

<PARAM NAME="Cntr1" VALUE="10, 20, 100, 201,202, 1, Q, /comfort/off.gif, 64,/comfort/25pc.gif, 128, /comfort/50pc.gif, 192, /comfort/75pc.gif, 255, /comfort/on.gif, 1">

In this example, 10,20 is the coordinates of the image, 100 is the counter number, 201 is the Response which is activated when the counter value is 0, 202 is the Response which is activated when the counter value is nonzero, 1 is the divisor (no division), Q means Quotient is used for comparison, off.gif is the off level image, 64 is the threshold value for displaying the next parameter 25pc.gif, 128 is the threshold for displaying the next parameter 50pc.gif, 192 is the threshold for displaying the next image 75pc.gif, and 255 is the threshold for displaying the last image on.gif.

RespIcon

Format:

<PARAM NAME="RespIcon#" VALUE="type, x, y, image, window #, action, action,...,action">

Explanation:

This element is used to directly execute Actions via CWM as distinct from Comfort Responses which reside in the Comfort Panel U4 IC. This may be used when Comfort's 255 Responses is not enough for the application. Be careful when using this parameter so as not to conflict with the Timers, Flags and counters which are already used by Comfort Responses.

This parameter is available from webcom.jar 1.0.9 onwards

"Type" is for future use. It is ignored currently; please use a default value of 1.

"x y" is the location of the image to be displayed. Coordinates are referenced from the top left corner of the window and the size extends from the top left corner of the image to the right and downwards.

"Image" is the image file which is displayed at the location specified.

"Window#" is the window number which this parameter belongs to.

"Action",..,"action" is the list of actions to be executed. Each CWM Response is made up of a maximum of 6 Actions. More than 1 CWM Response can be executed in the same line by using "255" as a separator. For example, act1, act2, act3, act4, act5, act6, 255, act7, act8, act8, act10, act11, act12 will execute the first CWM response consisting of act1 to act6, followed by the second CWM response consisting of act7 to act12. Note that actions cannot start in a CWM response and end in the next.

Example 1:

<PARAM NAME="RespIcon1" VALUE="1, 10, 20, image1.gif, 1, 128,2,1,255, 195,65,1,5,">

In the example, the Type is 1, location is (10,20), and window is 1. The first CWM Action is 128, 2, 1 (Output 2 On), followed by the next CWM Response 195,65,1,5 (X10 A1 On).

IconHighlight

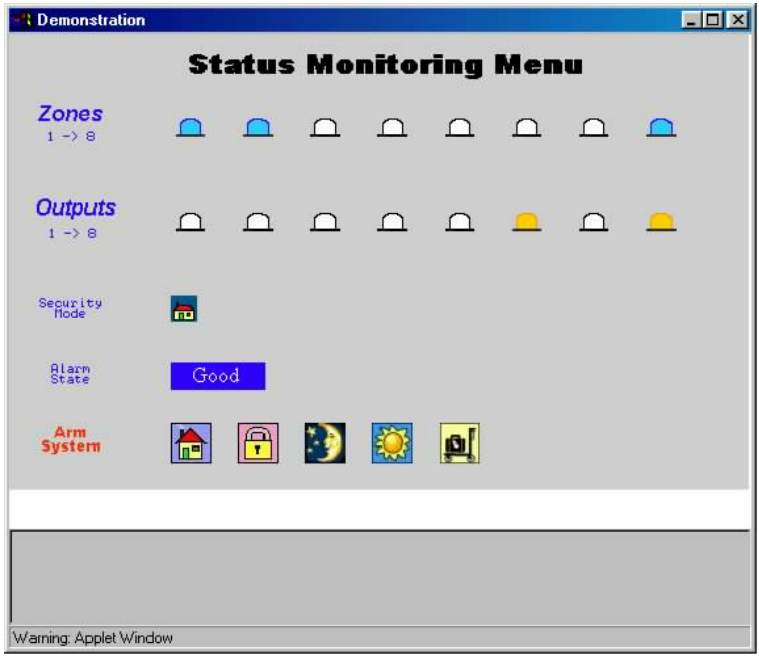
Format:

<PARAM NAME="IconHighlight" VALUE="Off">

Explanation:

By default when you hover the mouse on any clickable image, the rectangular border around the image becomes highlighted. This parameter disables the highlighting feature. One of the instances where you might use this is when multiple images are controlled by the same action as in a bank of lights. If the highlight is enabled then placing the mouse over one of the lights would cause a highlight over the whole bank of lights which some may prefer not to see.

Sample Program



This sample design monitors the state of 8 input zones, 8 outputs, the Alarm State, and the security mode. Clicking on the outputs will change the state from on to off and vice versa, and the change will be reflected in the colour of the output icon. If a zone turns on the icon will change colour. Note that the monitoring of the zone depends on the zone being programmed to the appropriate zone type. If a zone is not programmed, i.e. left as Zone Type 0, it will not be monitored.

This will work with any Comfort program, even the default system with only Zone 1 programmed. Program Zones 2 to 8 to any Zone Type (except 0) to see that the Zones icons will reflect the real time changes to the Inputs.

The sample file contents are shown below for reference:

<HTML>

<HEAD>

<TITLE>Comfort Web Server Test Page</TITLE>

</HEAD>

```
<BODY background=#FFFFFF>
<H3>
Loading in progress...
<BR><BR>
Please wait until login box appears.
</H3>
<BR>
<APPLET CODE=WebComfort.class ARCHIVE=webcom.jar,cvp.jar
WIDTH=1 HEIGHT=1>
<FONT COLOR=#FFFFFF>
</FONT>
<PARAM NAME="Window1"                    VALUE="Demonstration,
/comfort/background.gif">
<PARAM NAME="Element1"                   VALUE="zone,1,0,
/comfort/led_blu.gif,0 , /comfort/led.gif, 120,55,1">
<PARAM NAME="Element2"                   VALUE="zone,2,0,
/comfort/led_blu.gif,0 , /comfort/led.gif , 170,55,1">
<PARAM NAME="Element3"                   VALUE="zone,3,0,
/comfort/led_blu.gif,0 , /comfort/led.gif, 220,55,1">
<PARAM NAME="Element4"                   VALUE="zone,4,0,
/comfort/led_blu.gif,0 , /comfort/led.gif , 270,55,1">
<PARAM NAME="Element5"                   VALUE="zone,5,0,
/comfort/led_blu.gif,0 , /comfort/led.gif, 320,55,1">
<PARAM NAME="Element6"                   VALUE="zone,6,0,
/comfort/led_blu.gif,0 , /comfort/led.gif, 370,55,1">
<PARAM NAME="Element7"                   VALUE="zone,7,0,
/comfort/led_blu.gif,0 , /comfort/led.gif, 420,55,1">
<PARAM NAME="Element8"                   VALUE="zone,8,0,
/comfort/led_blu.gif,0 , /comfort/led.gif, 470,55,1">
<PARAM NAME="Element9"                   VALUE="output,1,1,
/comfort/led_ora.gif,2 , /comfort/led.gif, 120,125,1">
<PARAM NAME="Element10"                  VALUE="output,2,3,
/comfort/led_ora.gif,4 , /comfort/led.gif, 170,125,1">
<PARAM NAME="Element11"                  VALUE="output,3,5,
/comfort/led_ora.gif,6 , /comfort/led.gif, 220,125,1">
<PARAM NAME="Element12"                  VALUE="output,4,7,
/comfort/led_ora.gif,8 , /comfort/led.gif, 270,125,1">
<PARAM NAME="Element13"                  VALUE="output,5,9,
/comfort/led_ora.gif,10 , /comfort/led.gif, 320,125,1">
<PARAM NAME="Element14"                  VALUE="output,6,11,
/comfort/led_ora.gif,12 , /comfort/led.gif, 370,125,1">
```

<PARAM NAME="Element15" VALUE="output,7,13, /comfort/led_ora.gif,14 , /comfort/led.gif, 420,125,1">

<PARAM NAME="Element16" VALUE="output,8,15, /comfort/led_ora.gif,16 , /comfort/led.gif, 470,125,1">

<PARAM NAME="Mode1" VALUE="120, 195, /comfort/disarm_small.gif, /comfort/away_small.gif, /comfort/night_small.gif, /comfort/day_small.gif, /comfort/vacation_small.gif, 1">

<PARAM NAME="State1" VALUE="120, 245, /comfort/base.gif, /comfort/idle.gif, /comfort/trouble.gif, /comfort/alert.gif, /comfort/alarm.gif, 1">

<PARAM NAME="Arm1" VALUE="120, 290, /comfort/disarm.jpg, 170, 290, /comfort/away.jpg,220, 290, /comfort/night.jpg,270, 290, /comfort/day.jpg,320, 290, /comfort/vacation.jpg, 1">

<FONT color=#000000>

Sorry, your browser doesn't support java.</FONT>

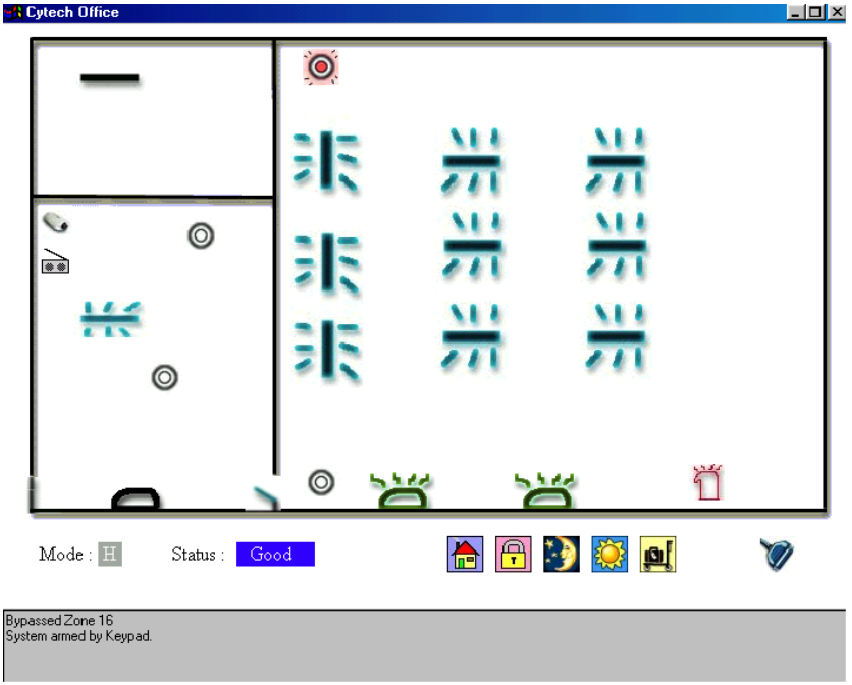
</APPLET>

</BODY>

</HTML>

This file is saved in sampleindex.htm as well as index.htm, and is also found in your CWM CD-ROM

A More Complex Example



The devices controlled in the example above are 5 banks of fluorescent lights, 3 airconditioners, a water boiler for drinking water, 4 Motion detectors, and 3 doors to each of the rooms. The current Security Mode and the alarm state are shown below the main image. The gray window at the bottom displays the alarm and restore messages from Comfort.

The lights shown in the example are controlled by the TWS01 Lighting Control module which has a main-rated relay to switch the light and a current sensor to sense the state of the light connected to a two way manual switch. The radio and Water heater are controlled by X10 modules. The design in the example is shown below:

```
<HTML>
<HEAD>
<TITLE>Comfort Web Server</TITLE>
</HEAD>
<BODY background=#FFFFFF>
<H3>
Loading in progress.<BR>
Please wait patiently.
```

```
</H3>
<BR>
<APPLET CODE=WebComfort.class ARCHIVE=webcom.jar,cvp.jar
WIDTH=1 HEIGHT=1>
<FONT COLOR=#FFFFFF>
</FONT>
<PARAM NAME="window1"   VALUE="Cytech Office,
/comfort/background_office.gif">
<PARAM NAME="element1"   VALUE="zone,4,0, /comfort/door_re1.gif,0 ,
/comfort/door_re0.gif, 19,376,1">
<PARAM NAME="element2"   VALUE="zone,5,0, /comfort/detect1.gif,0 ,
/comfort/detect0.gif , 120,278,1">
<PARAM NAME="element3"   VALUE="zone,16,0, /comfort/door_re1.gif,0 ,
/comfort/door_re0.gif, 195,375,1">
<PARAM NAME="element4"   VALUE="zone,14,0, /comfort/detect1.gif,0 ,
/comfort/detect0.gif , 230,20,1">
<PARAM NAME="element5"   VALUE="zone,15,0, /comfort/detect1.gif,0 ,
/comfort/detect0.gif , 230,365,1">
<PARAM NAME="element6"   VALUE="zone,13,0, /comfort/detect1.gif,0 ,
/comfort/detect0.gif , 150,160,1">
<PARAM NAME="element7"   VALUE="zone,1,17, /comfort/airc_n1.gif,18 ,
/comfort/airc_n0.gif , 300,372,1">
<PARAM NAME="element8"   VALUE="zone,2,17, /comfort/airc_n1.gif,18 ,
/comfort/airc_n0.gif , 420,372,1">
<PARAM NAME="element9"   VALUE="zone,3,19, /comfort/airc_n1.gif,20 ,
/comfort/airc_n0.gif , 78,372,1">
<PARAM NAME="element10"          VALUE="zone,6,11,
/comfort/lightfl_h1.gif,12 , /comfort/lightfl_h0.gif , 60,30,1">
<PARAM NAME="element11"          VALUE="zone,7,13,
/comfort/lightfl_h1.gif,14 , /comfort/lightfl_h0.gif , 60,230,1">
<PARAM NAME="element12"          VALUE="zone,8,15,
/comfort/light3fla_v1.gif,16 , /comfort/light3fla_v0.gif , 360,70,1">
<PARAM NAME="element13"          VALUE="zone,9,128,
/comfort/light3fl_v1.gif,129 , /comfort/light3fl_v0.gif , 240,75,1">
<PARAM NAME="element14"          VALUE="zone,10,130,
/comfort/light3fla_v1.gif,131 , /comfort/light3fla_v0.gif , 480,70,1">
<PARAM NAME="element15"          VALUE="x10,P,6, 45,
/comfort/heater1.gif, 46, /comfort/heater0.gif , no,540,370,1">
<PARAM NAME="element16"          VALUE="x10,P,1, 41,
/comfort/radio1.gif, 42, /comfort/radio0.gif , no,32,180,1">
<PARAM NAME="cam1"       VALUE="30, 150, /comfort/webcam.gif,
10.0.0.22,80, 255.255.255.0, 8080,1">
<PARAM NAME="element17"          VALUE="zone,0,0,
/comfort/mode.gif,0 , /comfort/mode.gif , 10,430,1">
<PARAM NAME="mode1"      VALUE="80, 430, /comfort/disarm.gif,
/comfort/away.gif, /comfort/night.gif, /comfort/day.gif, /comfort/vacation.gif,
1">
<PARAM NAME="element18"          VALUE="zone,0,0,
/comfort/status.gif,0 , /comfort/status.gif , 125,430,1">
<PARAM NAME="state1"       VALUE="195, 430, /comfort/base.gif,
/comfort/idle.gif, /comfort/trouble.gif, /comfort/alert.gif, /comfort/alarm.gif, 1">
<PARAM NAME="element19"          VALUE="zone,0,220,
/comfort/stop.gif,0 , /comfort/stop.gif, 535,425,1">
```

```
<PARAM NAME="arm1"        VALUE="310, 425, /comfort/disarm.gif,350,
425, /comfort/away.gif,390, 425, /comfort/night.gif,430, 425,
/comfort/day.gif,470, 425, /comfort/vacation.gif, 1">
<FONT color=#000000>
Sorry, your browser doesn't support Java.</FONT>
</APPLET>
</BODY>
</HTML>
```

To try this example, refer to the section on Uploading Files to CWM. Rename the index.htm file as sampleindex.htm. Look for the file sampleoffice.htm and rename it to index.htm. Close the browser window and access the IP address of CWM again.

The Input and Output assignment are shown below. A Local Expansion Module LEM01 is needed as there are 16 inputs and outputs (not all used)

Zones	**Description**	**Zone Type**	**Remarks**
1	Office Aircon 1	8	Current Sensor
2	Office Aircon 2	8	Current Sensor
3	Outside Aircon	8	Current Sensor
4	Main Door	2	Door Contact
5	Outside Office Movement	5	PIR
6	Store Light	8	Current Sensor
7	Outside Light	8	Current Sensor
8	Office Light 2	8	Current Sensor
9	Office Light 1	8	Current Sensor
10	Office Light 3	8	Current Sensor
11	Unused		
12	Unused		
13	Outside Office Movement	5	PIR
14	Office Right Movement	5	PIR
15	Office Left Movement	5	PIR
16	Office Door	1	Doorcontact

Output	**Description**
1	Office Aircon 1 IR
2	Office Aircon 2 IR
3	Outside Aircon IR
4	Unused
5	Unused
6	Store Light
7	Outside Light
8	Office Light 2
9	Office Light 1
10	Office Light 3

Programming Steps

The Comfort system to be used with the CWM should be programmed and debugged before trying to access it with CWM.

The first step with CWM web page design is to get a background file. This can be done using any Paint program, including Windows paint or Paint Shop Pro, or a Floor Plan design program. Only include the static elements of the floor plan, leaving gaps for the doors, windows and gates which are monitored or controlled by Comfort. However, note that the CWM allows for about 3 MB for graphics and web page design.

Once the background image has been drawn, upload the file to CWM as instructed in the previous section, then load the web page by typing the IP address in the Explorer URL bar. The next step is to try to locate the various graphic elements like doors, windows, motions detectors, lights, and other appliances on the screen over the background image. A library of image files is provided on the CD-ROM and is also preloaded in the ../comfort subdirectory. If no suitable images are included, you will have to generate your own images using any drawing program, and upload the image files one by one to the specified directory. The file format for the image files should be .jpg or .gif only. Keep the image size as small as possible in order to reduce the time required to load the page, and also to save memory in CWM. Avoid unnecessarily high colour depth.

It is highly recommended to do the design in an iterative manner, uploading and testing after a few elements have been added. Be careful that all image files used in the index.htm file is available in the specified path, otherwise the entire image will not be seen.

It is not necessary to connect Comfort to the CWM to program the CWM web page.

Display of X,Y, Coordinates

A tool is provided which aids in determining the location of the elements on the page. This causes the coordinates to be displayed in the Java Console in Java-enabled browsers when the mouse is clicked on the page. In Internet Explorer, click on View -> Java Console. In Netscape, select Tasks -> Tools -> Java Console. The following line must also be inserted in the index.htm file

<PARAM NAME = “MouseClicked” Value = “On”>

This line is to be inserted together with the rest of the parameter setting lines. The word “MouseClicked” is case-sensitive.

When the web page design has been completed, this line may be removed in desired to prevent users from seeing the coordinates on every mouse click.

Remember that each image is inserted with the top left corner at the set coordinates.

Image Library

To help in developing the CWM graphics elements, a library of .gif icons are supplied on the CWM CD-ROM. The file names give an indication of the content and orientation of the icons, for example, door_ln1.gif  means a door which opens on the Left and to the North. The size of each icon is also shown in the table below, to help when positioning the icon on the background. Remember that the image is referenced from its top left corner.

Icon	Filename	Icon	Filename
	Night.gif 30 x 30		Away.gif 30 x 30
	Day.gif 30 x 30		Vacation.gif 30 x 30
	Disarm.gif 30 x 30		stop.gif
	Led0.gif 30 x 30		Led_blu.gif 30 x 30
	Led_gre.gif 30 x 30		Led_ora.gif 30 x 30
	Led_red.gif 30 x 30		Led_yel.gif 30 x 30
	Radio0.gif 25 x 30		Radio1.gif 25 x 30
	Lightcir_0.gif 20 x 20		Lightcir_1.gif 20 x 20
	Heater0.gif 30 x 30		Heater1.gif 30 x 30
	Aircsm_s0.gif 39 x 21		Aircsm_s1.gif 42 x 21
	Aircsm_n0.gif 39 x 21		Aircsm_n1.gif 42 x 21
	Aircsm_w0.gif 21 x 39		Aircsm_w1.gif 21 x 42
	Aircsm_e0.gif 21 x 42		Aircsm_e1.gif 21 x 42
	Airc_s0.gif 60 x 30		Airc_s1.gif 60 x 30

Icon	Filename	Icon	Filename
	Airc_n0.gif 60 x 30		Airc_n1.gif 60 x 30
	Airc_e0.gif 30 x 55		Airc_e1.gif 30 x 60
	Airc_w0.gif 30 x 55		Airc_w1.gif 30 x 60
	Aircon_a0.gif 30 x 30		Aircon_a1.gof 30 x 30
	Curtain_a0.gif 30 x 30		Curtain_a1.gif 30 x 30
	Curtain_b0.gif 30 x 30		Curtain_b1.gif 30 x 30
	Door_a0.gif 30 x 30		Door_a1.gif 30 x 30
	Door_b0.gif 30 x 30		Door_b1.gif 30 x 30
	Door_c0.gif 30 x 30		Door_c1.gif 30 x 30
	Fan_a0.gif 30 x 30		Fan_a1.gif 30 x 30
	Fire_a0.gif 30 x 30		Fire_a1.gif 30 x 30
	Fire_b0.gif 30 x 30		Fire_b1.gif 30 x 30
	Gate_a0.gif 30 x 30		Gate_a1.gif 30 x 30
	Indicator_a0.gif 30 x 30		Indicator_a1.gif 30 x 30
	Lamp_a0.gif 30 x 30		Lamp_a1.gif 30 x 30
	Lamp_b0.gif 30 x 30		Lamp_b1.gif 30 x 30
	Light_a0.gif 30 x 30		Light_a1.gif 30 x 30
	Light_dim.gif 30 x 30		Light_bright.gif 30 x 30
	Pir_a0.gif 30 x 30		Pir_a1.gif 30 x 30

Icon	Filename	Icon	Filename
	Tv_a0.gif 30 x 30		Tv_a1.gif 30 x 30
	Window_a0.gif 30 x 30		Window_a1.gif 30 x 30
	Window_b0.gif 30 x 30		Window_b1.gif 30 x 30
	Lightfl_h0.gif 60 x 30		Lightfl_h1.gif 60 x 30
	Lightfl_v0.gif 30 x 60		Lightfl_v1.gif 30 x 60

Section 5Programming Comfort

Comfort Programming

The Comfort system should be programmed in the usual way, defining the security zones, sensors and switches connected to the inputs, and the Control menu for control of the home appliances. Refer to the Comfort Engineer Manuals, worksheet and Programming with Action codes for programming information. As mentioned, the Java Applets send commands to Comfort using Responses, and monitor the state of Zones, outputs, X10, alarm state, and security mode.

The id of the UCM connected to the CWM must be set correctly, as well as the number of UCMs in the system (Location 1672). Up to 8 UCMs can be connected to Comfort.

The only additional programming required for CWM is to set up a Home Control menu item for Dial Up (only for modem dial-up). This will tell CWM to dial up to the ISP using the telephone number programmed during the CWM Configuration, and log in using the programmed user name and password.

Dial Up Home Control Menu

In Home Control menu (Engineer Menu 3,1), set up a spare Control key, say 9 with the following settings

Key	Description				Action (0 to *)	Action Words				Resp
						Description	(0-255)	(0-255)	(0-255)	(0-127)
9	Word 1	Word 2	Word 3	Word 4	0	Off	229			220
	(0-255)	(0-255)	(0-255)	(0-255)	1	On	230			219
	177	56			2					
	Dial Up				3					
					4					
					5					
					6					
					7					
					8					
	Location for Feedback Input				9					
					*					

Set up an unused Response, say 219 and 220 to do dial up and disconnect

Response 219:

138,2, 18, 255 Dial up for id=18, (i.e. UCM id 2)

Response 220

138,0, 18, 255 Disconnect id=18 (i.e. UCM id 2)

Action 138,2,18 will cause the CWM to send the dialup command to CWM when the telephone line is free. This applies when the modem is connected to Comfort's TEL OUT line. Comfort monitors the incoming telephone line and only sends the command when the line is not used.

Action 138,1,18 causes the CWM with id=18 to send the dial up command to the CWM immediately. Use this action when the Modem is on a dedicated line or on another telephone line, and not connected to TEL OUT.

Action 138,0,18 tells CWM to disconnect or end the call.

The UCM id used in response 138 refers the id of the module on the RS485 bus where 17 = UCM 1, 18 = UCM 2, ..., 24 = UCM 8. A special type of UCM is used to interface to the CWM.

An icon can be placed on the CWM screen to disconnect from the Internet using the "zone" element, e.g.

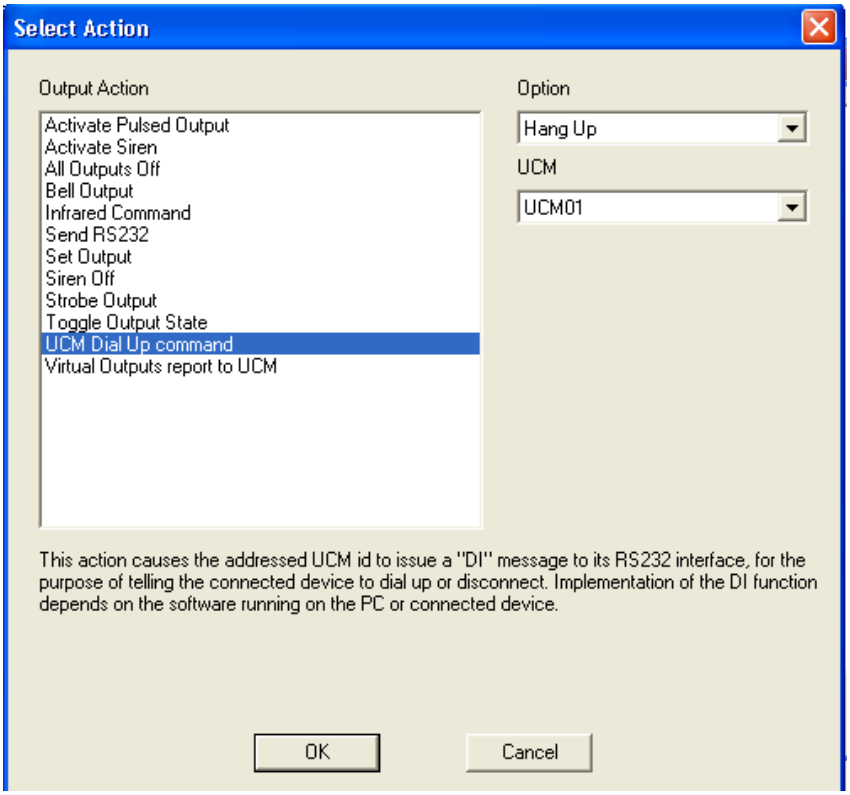
<PARAM NAME="Element#" VALUE="zone, 0, 253, /comfort/hangup.gif, 0, /comfort/hangup.gif, 350, 20, 1">

Element# gives the element number with # being a numeric value. The zone value specified is 0 which means that there is no feedback from Comfort. The Response On number is 253 which in the above example tells Comfort to disconnect the CWM from the Internet. The image file hangup.gif is displayed. If not commanded to disconnect, the CWM will automatically disconnect the dial-up modem after a duration of inactivity as specified in the setup script.

Instead of using the keypad to program, one can also use Comfigurator to program the dialing up and hanging up for the home control menu. To do so, create a response using the UCM Dial Up command found under the Output tab in Response Wizard.

The responses mentioned earlier can be replicated using:

- UCM 2 DialOut
- UCM 2 Hangup
- UCM 2 DialOutWhenFree


Select Action
Output Action
Activate Pulsed Output
Activate Siren
All Outputs Off
Bell Output
Infrared Command
Send RS232
Set Output
Siren Off
Strobe Output
Toggle Output State
UCM Dial Up command
Virtual Outputs report to UCM
Option
Hang Up
UCM
UCM01
This action causes the addressed UCM id to issue a "DI" message to its RS232 interface, for the purpose of telling the connected device to dial up or disconnect. Implementation of the DI function depends on the software running on the PC or connected device.
OK
Cancel

Section 6Troubleshooting

Login Window does not appear

After typing the IP address of CWM in the URL window, the login window should appear.

If it does not, it could be due to incorrect IP address or the index.html file is missing or wrongly programmed, or the network cable may have been connected after the CWM was powered up. Always connect the network cable to the CWM RJ45 socket before connecting power to the CWM. If the CWM is powered on before the Network is connected, its network drivers will not be loaded and the network connection will NOT work.

Login Window is cleared after entering Code

If the Login window appears (like above picture) , and the correct code is entered and transmitted, but the Login Window is cleared, without a “correct code” or “Invalid Code” message, Comfort or the CWM may not be connected correctly. The causes of this could be CWM UCM ID (SW7) not set to the correct ID, or Comfort Location 1672 (Modules and Settings Screen in Comfigurator) not set to the correct number of UCMs, or the CWM is not switched on, or the network cable may have ben connected after the CWM was powered up.

Take note that over the Internet there could be up to 10 to 50 seconds delay (depending on Internet traffic) between the time the login code is entered and the “OK” message is received.

Web Page does not appear

If the Login window does appear, and the correct code has been entered and acknowledged by CWM, but the expected background image does not appear, the most likely cause is that one or more of the image files specified in the index.htm file is missing, or the file name does not match the name specified in the file. Check all the image file names in the index.htm file against the actual files in the specified image folder.

Take note that over the Internet there could be 10 to 50 seconds delay before the CWM home page appears, depending on the speed of the connection, Internet traffic and the size of the images.

IP Address Lost

Use the program cwmsetup.exe to discover the IP address of the CWM.

CWM Files have been Corrupted

If at any time, the CWM files might have corrupted such that one is unable to access the CWM, the files in the CWM might have been corrupted. To reset the CWM back to factory default, program a response with the following action codes:

197,19,82,69,83,69,84, 67,79,78,70,255

This assumes that you are sending a string of “82,69,83,69,84, 67,79,78,70” via RS232 to ID19 (i.e. UCM ID = 3).

Alternatively, this can be done by Comfigurator by setting the response as:

Send RS232 3 52,45,53,45,54,43,4F,4E,46

Triggering this response will then reset the CWM, reverting it back to the default configuration. However, the index.html file and other user files will still remain intact.

Password Lost

If at any time, the password may have changed accidentally. To reset the password for the CWM, program a response with the following action codes:

197,19,82,69,83,69,84,80,87,68,255

This assumes that you are sending a string of “82,69,83,69,84,80,87,68” via RS232 to ID19 (i.e. UCM ID = 3).

Alternatively, this can be done by Comfigurator by setting the response as:

Send RS232 3 52,45,53,45,54,50,57,44

Triggering this response will then reset the password for the CWM, reverting it back to the default password.

TCP Pass-Through Port Does Not Work

If the CWM is working correctly, but the assigned TCP Pass-through port does not work, the problem is probably due to a firewall blocking the ports. Configure the firewall to allow the port assigned to TCP Passthrough (default 10001)

Version History

UCM/CWM 5.70 (29 March 2005)

1. Engineer Code needed to perform changes to the configuration settings in CWM.
2. Cytech's dynamic IP system established.

UCM/CWM 5.63 (25 September 2003)

1 Engineer Code enabled and disabled will send PS01/PS00 to enable and disable TCP Pass-through port operation. PS00/01 report does not require a login to allow Pass-through operation to be independent of the CWM web page. Login will be required during the TCP Pass-through operation e.g. for upload and download.

2 RS232 Commands for corresponding UCM version have been added, including Vocabulary Download

UCM/CWM 5.12 (19 November 2001)

Initial Release

Limited Warranty

Cytech Technology Pte Ltd. provides a warranty for a period of 12 months from the date of purchase. This warranty covers defects in materials and workmanship under conditions of normal use by the original buyer only. In the case of any breach of such warranty, Cytech Technology Pte Ltd. shall either repair or replace the defective equipment upon return of the equipment to its repair center at the purchasers own expense.

Cytech Technology Pte Ltd. is not liable under any circumstances for any damages, loss of anticipated revenue, loss of time or any other losses resulting from the purchase, installation, use or failure of this product.

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