

EZ CE Panel

Getting Started

CE Panels

MANUFACTURED and MARKETED

by

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WARNING!

Programmable control devices such as the CE Panel must not be used as stand-alone protection in any application. Unless proper safeguards are used, unwanted start-ups could result in equipment damage or personal injury. The operator must be made aware of this hazard and appropriate precautions must be taken. In addition, consideration must be given to the use of an emergency stop function that is independent of the programmable controller.

The diagrams and examples in this user manual are included for illustrative purposes only. The manufacturer cannot assume responsibility or liability for actual use based on the diagrams and examples.

WARNING: If the CE Panel is used in a CLASS I, DIV. 2 environment, the following conditions must be met: Class I, Div. 2 methods; AND — must conform to all rules and requirements of applicable jurisdictions regarding Class I, Div. 2 installations; ALSO — peripheral equipment controlling this device or being controlled by it shall be suitable for service in the location in which they are used. Failure to comply with any of the above installation requirements will invalidate the device's qualifications for service in CLASS I, DIV. 2 hazardous locations.

WARNING: EXPLOSION HAZARD — SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.

WARNING: EXPLOSION HAZARD — DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.

CAUTION

Do not press the CE Panel touch screen with any sharp objects. This practice may damage the unit beyond repair.

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Getting Started Guide, 04/10

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MANUAL OBJECTIVE:

This manual gives you an overview of AVG's Windows CE-based panels. It mainly provides the following information specific to the CE panel:

- An instruction guide on Programming, running and storing CE user projects on the panel
- Ethernet Network connection and setup
- Upgrading the Operating System and firmware

SYSTEM REQUIREMENTS AND RESOURCES

Hardware

- CE Panel & enclosed mounting hardware (4, 6, or 8 DIN Clip Brackets, depending on size of CE Panel model)
- 24 Volt Power Supply,
- RS-232C Programming Cable
- PLC Interface Cable as required
- Ethernet cables as required
- Stylus
- PC requirements:
 - a. IBM or compatible PC (Pentium or better) with a mouse and separate serial port (USB port may be used with a Serial to USB converter)
 - b. Display with at least 800 x 600 resolution (1024 x 768 recommended)
 - c. Standard Windows XP/Vista® operating system

Software:

PanelEdit Software

The software also contains an extensive Help section, which provides detailed information on Uticor CE Panel programming.

Please refer to the following resources; to answer your hardware and software related questions:

Queries	Information Resources
CE Panel Mounting and Installation	CE panel Hardware User manual (P/N: Man-UTIC-CE)
CE panel wiring and connections	CE panel Hardware User manual
Panel Programming	PanelEdit Programming Software- Help Section

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1. CE PANEL OVERVIEW:

The CE panel is a graphical user Interface, which comes factory-loaded with Windows CE Operating System. The user project for the panel is created using the PanelEdit software. The Windows CE environment on the CE panel:

- Supports the following programs:
 - File viewers for MS Office: Excel, Word, PowerPoint
 - PDF file viewer
 - WordPad text editor
 - FTP server
- Provides a familiar Windows desktop and user interface
- Includes Internet Explorer web browser
- Provides support for some third-party devices

1.1 QUICK-START GUIDE: CE PANEL APPLICATION

This section describes the steps required to quickly program your CE panel and get it up and running. You may refer to the later sections for a more detailed description of other CE features. Follow these steps to program your CE panel:

1.1.1 CREATE A PANEL PROGRAM WITH THE PANELEDIT SOFTWARE

- The CE Panel application allows users to interact with a variety of PLCs using a graphical user interface. The operator interface screens are designed on a PC using the uWin PanelEdit software.

1.1.2 TRANSFER PROGRAM TO THE CE PANEL

- The CE panels are generally factory-loaded with a Splash.img project. Hence, when you power up the CE panel for the very first time, it would automatically run the HMI application which will, in turn display the pre-programmed screen with the company logo. If there is no project available, then the panel would display a “No power-up screen” Message on the screen.
- Once in this CE HMI Application mode, the newly designed Panel project can be transferred to the panel. The CE panel allows you to transfer the panel projects from a PC using the Panel Editor through the following two modes of communication:
 - **Serial Port:** Connect the COM1 9-pin port on the CE panel to the computer’s programming port using the Programming cable (PGM-CBL) and transfer the project.
 - **Ethernet:** To be able to transfer project over Ethernet, it is necessary to configure the CE panel’s IP address first. This can be done by exiting the CE Application (Splash screen) and accessing Networks and Connections in the Control Panel. (Refer to **Section 6.0** for details)

- Once the new project is successfully transferred to the CE panel, it is saved in the \FLASH\ CE TouchPanel\ Projects folder, as a single file with the same Project name as the one defined when creating the program on a PC. The extension for this file is **.img**.

The CE panel will now run the new project until you exit the application

- **Important:** To ensure that this new project is the one that loads up every time on HMI application Start-up, you need to specify the project name in Application Setup. To do so, exit the panel application by Right-clicking on the project screen or touching and holding the screen to bring up a menu. Click “Exit application”. You would automatically enter the Windows CE desktop.

1.1.3 MODIFY THE PANEL’S APPLICATION SETUP

- The CE panel allows you to store multiple user Projects/applications. As a default, the panel is programmed to load the Splash.img project, at Startup.
- To ensure that your newly transferred program is the one that loads on Startup, enter the Application Setup Mode and specify the new Project name and its path. The panel will auto-persist the new Application settings to memory when you press OK, in the Application-Setup dialog box. Refer to **section 6.2** for more details.



Important Note: *it is very important to specify the new Project name and Path in **Application Setup**. It needs to be done only when transferring a completely new panel Project to the CE panel. This step can be skipped if you are making programming changes to a project already loaded and running on the panel.*

2. WINDOWS CE-PANEL STARTUP AND OPERATION

The CE operating system presents a desktop that is similar to the desktop on a Windows Operating System, such as Windows 2000 or Windows XP. There are however some subtle differences:

The CE operating system has a much smaller memory foot-print compared to the Windows desktop (about 20 MB versus couple of Giga bytes). To achieve a small foot print, CE has retained only the essential features.

2.1 INTERACTING WITH THE PANEL

You can interact with the CE panels using different methods – an external mouse or keyboard, an in-built keypad or the touch screen itself. They allow easy navigation through the screens and can be used by anyone who is familiar with the Windows operating system on PCs.

a. USB Mouse or Keyboard

The CE panel comes with a built-in USB port. You can connect USB mouse or a USB keypad or both using a USB Hub. This is especially useful for accessing the smaller icons on the screen easily.

b. On-screen Keypad

You can also use Input Panel which is an on-screen keypad. Click on the input panel icon in the bottom task bar to bring up the input panel. The CE panel may bring up the input panel automatically in most of the instances when it needs user input.

c. Touch Screen or a Stylus

It is highly recommended that you use a stylus (such as the ones used with palm devices) to tap the touch-screen.

The CE panels also come with a touch screen on the display. Touch allows you to mimic a mouse in the following manner:

Mouse action	Equivalent Touch	Response
Left Button single click	Single Touch	Selects an item
Double-click	Double Touch	Selects and Opens the selected item. The speed of double touch/click can be adjusted through the Control panel
Drag	Hold Stylus and Drag	Moves selected Item
Right click	Touch and hold a bit longer	A dotted circle would appear, and then the right click menu appears

2.2 THE CE PANEL DESKTOP ICONS

When the CE panel is powered up, it will automatically boot into the Windows CE desktop, unless programmed otherwise (see section 6.2.1).



Fig 3.2 Windows CE desktop

The CE desk top shows several familiar-looking icons. (Actual icons on your desktop may vary based on the components installed on the unit). Here is a brief description of the icons found on a typical factory shipped unit:

- **My Computer**
This icon is similar to the desktop windows My Computer icon. Clicking on this icon brings up a window that shows number of folders. You may notice that there are no drive letters shown here. CE operating system does not have drive letters (such as C:).
- **Recycle Bin**
Like the desktop Windows, this is the icon of recycle bin. Items deleted are sent to the Recycle bin.
- **Microsoft Wordpad and Media Player**
The EZ-CE Panels come with Wordpad and Media player installed, and icons are placed on the desktop.

- **File Viewer Shortcuts:**

The CE panel comes with a number of convenient File-viewing applications, and their icons should appear on the Desktop, or in the Programs directory of the “Start” Menu. For example: Image Viewer, Word Viewer, Pdf Viewer, Excel Viewer and PowerPoint viewer.

2.3 TASK BAR AND START-UP MENU

The Task Bar on the CE panel is located at the bottom of the display. As a default the bar is visible all the time. However, like desktop Windows, it can be hidden by Right-clicking on the Task Bar -> Properties-> check Autohide.

The Start Symbol is located on the left side of the bar. Several status icons are located on the right side of the task bar.

- **Start Menu**

Clicking on the Start Symbol brings up the start-up menu. It acts as the main gateway to the panel's programs, folders, and settings.



- **Status Icons**

The task bar displays a variable number of status icons that communicate the status of certain programs and computer settings, including Date/Time, Input Keypad, Ethernet Connection, etc.

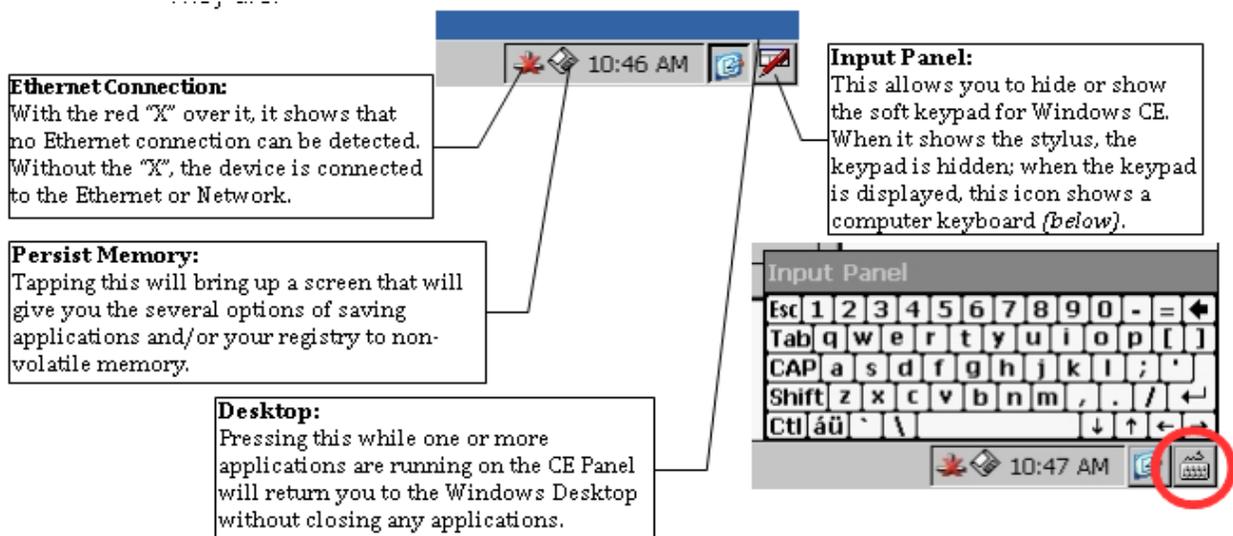


Fig 3.3 Status Icons on CE Taskbar

3. STORAGE AND FILE SYSTEM

3.1 STORAGE AREAS

The CE panel has 3 main storage areas for its Applications, Operating System and data.

3.1.1 FLASH (ON-BOARD):

Flash memory provides non-volatile storage. The CE panel has 32 MB on-board flash. The flash stores the complete OS image that includes CE operating system, bundled user programs (such as Wordpad, file viewers), registry, etc. On power-up, the Operating System is copied from Flash to the RAM OS. Also, the applications run from RAM are copied. Approximately 26MB is reserved for the OS in On-board flash.

About 3MB of on-board flash is available for users. This can be used for application/data storage. The on board Flash appears as FLASH folder in the “My Computer” window. You can add (paste)/delete application and data files in this folder. Files copied in FLASH folder are persistent, i.e. they will not be lost during a power cycle.

3.1.2 RAM (ON BOARD):

The CE panel has 64MB on board RAM. Out of this 32 MB is reserved for the OS, and the remaining 32 MB is available for the Program as well as Storage memory. User can adjust the division between the program and storage. Please refer to the “System” settings under Control panel later on in this manual. (See section 4.8)

On power-up, the OS is copied from on-board flash to RAM, and executed from there. All folders, except FLASH and Storage Card, reside in RAM. All folders in RAM are dynamically created on Power-up. RAM is volatile, i.e. the contents of this area are not retained during a power cycle.

3.1.3 STORAGE CARD- COMPACT FLASH (OPTIONAL)

The CE Panel has a slot for optional compact flash card. You can use any off-the-shelf compact flash card in this slot. The compact flash card can be used to store user applications and data files. You can run an application stored on compact flash by double clicking it.

The compact flash module appears as “**Storage Card**” folder within “My Computer” window. If the card is not present, the **Storage Card** folder icon would also not be visible.

3.2 REGISTRY

Registry data base in CE panel, like in desktop Windows versions, stores a variety of information. The CE panel supports persistent registry, i.e. the registry information is not lost when power is turned off. The registry information is stored in the on-board flash memory. Registry is recreated on power-up in RAM.

3.3 PERSIST MEMORY – FLASH AND REGISTRY



Fig 3.3a Persist icon on the Taskbar

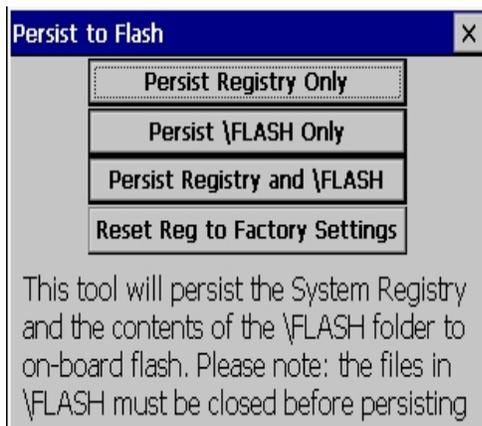


Fig 3.3b Persist to Flash or Registry

One of the Task Bar icons, shaped like a Floppy disk (see **fig 3.3a**) is used to Persist Memory; it backs up the selected items to the panel's non-volatile, on-board flash memory. It can also reset the Registry to the factory settings. Clicking on the icon, brings up the selection dialog, shown on the left (see **fig.3.3b**)



Important Note: Changes made to the HMI Application or Ethernet configuration should always be followed by a persist to retain the settings on power cycle.

4. THE CONTROL PANEL

Similar to the standard Windows OS, the Control Panel on the CE panel provides many utilities to maintain the system. Control Panel is accessed on the desktop, through the “My Computer” icon or by clicking the Start button, and then clicking Settings -> Control Panel.



Fig 4.0 CE Control Panel

Most of these icons/objects are also found in the desktop windows, and work in a similar manner. Following is a description of *some* of the **icons** specific to the CE panel:

4.1 AVG CE SYSTEM INFO

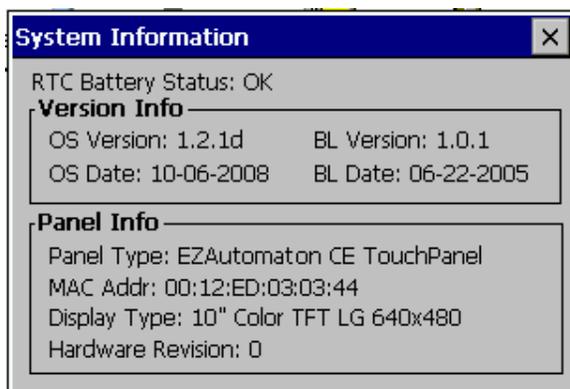


Fig 4.1 CE System information

As the name suggests, AVG-CE System Info icon is an icon specific to AVG’s CE panel that allows you to view system information about the panel.

This includes the Battery Status (Battery is used for Real Time Clock), Operating System (OS) version, and Panel Information including the panel type and MAC-ID.

4.2 DATE/TIME SETTINGS



Fig 4.2 CE Panel Date/ Time

This icon is used to set system date and time. It can be accessed by clicking on the time, displayed on the taskbar. Can also be retrieved by clicking the desktop Start button, and then clicking Settings -> Control Panel-> Date/Time

The time is maintained by a real-time clock IC, which is battery backed. If the unit does not retain the date and time, please check the battery.

You can view or modify the current time zone that is installed on the terminal. Changing the time zone adjusts the current time and date to match the new time zone. Check the Daylight Savings box to enable or disable daylight savings for the selected time zone.

4.3 DIALING PROPERTIES

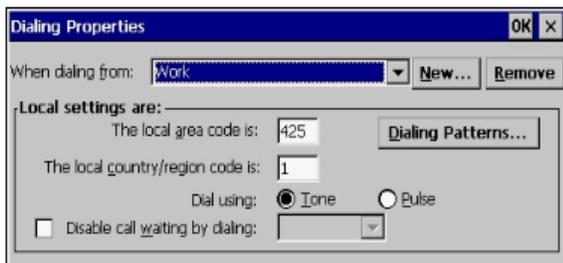


Fig 4.3 Set Dialing Properties

Dialing icon allows you to define settings for panel's default Dialing location. Settings include area code, tone or pulse dialing, etc.

4.4 DISPLAY PROPERTIES / SCREENSAVER

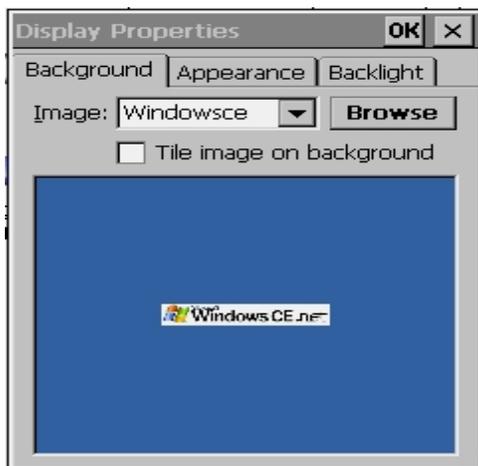


Fig 4.4 Display Properties



Note: The Panel programming software **CANNOT** be used to program the ScreenSaver on a CE panel. It needs to be set on the CE panel itself, using the Display Properties dialog in the Control Panel.

The Display dialog box allows you to manage several display related properties, such as background, appearance, backlight and screensaver.

Background: This tab allows you to personalize the panel's desktop background. Click Browse to search for an image on your panel. You can also decide if you want the image to be tiled.

Appearance: Use this tab to change the CE desktop's theme color.

Backlight/ Screensaver: This tab can be used to turn off the backlight and turn on the screensaver. To enable the screen saver, check the checkbox and then select an idle time. This will activate the screen saver after the terminal has been idle for the specified time.

4.5 INPUT PANEL

Input Panel Properties OK X

Input Panel

Current input method:
Keyboard 

Options...

Allow applications to change the input panel state

To quickly switch input methods, tap the Input Panel arrow and then tap the desired method from the menu that appears.

This selection allows applications that require text entry to automatically bring up the keypad.

The keypad is a floating panel; it appears over the clock, but can be dragged to anywhere the operator needs it.

The CE panel provides a soft keypad (onscreen keypad) for entry. This icon allows you to edit certain properties of the keypad. A conventional keyboard, or a mouse, can be also be connected to the CE panel through the USB Port.

See Fig 4.5 On-screen input Keypad on the left.

4.6 INTERNET EXPLORER SETTINGS



Fig 4.6 Internet Explorer Settings

The Windows CE operating system is preloaded with Internet Explorer. The Internet Setting dialog in the Control Panel provides tabs to configure parameters such as Start page, Search page, Connection and Security for accessing and using the Internet on the CE panel.

To open the Internet Explorer program, you can double-click the Internet Explorer icon on the desktop. You can also Select Start>Programs>Internet Explorer to view the Web pages.

The CE Internet explorer is similar to the desktop version and allows access to most Websites, although you may not be able to enter certain advanced web pages.

The CE panel needs to be configured and connected to a Network to be able to access remote Web pages. See **Section 5.0** on (Network and Dial-up Connections) for details on configuring the Ethernet network.

4.7 TOUCH-PAD STYLUS CALIBRATION

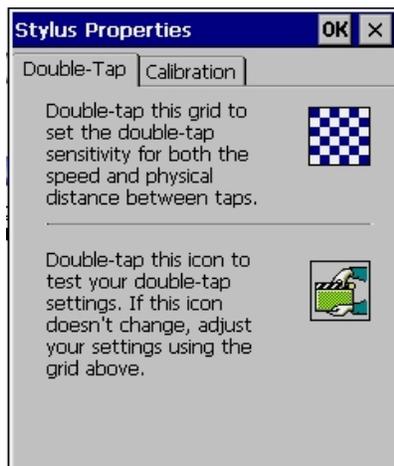


Fig 4.7 Calibrating the Touch screen

Click on the **Stylus** icon in the Control Panel. The Stylus Properties dialog is used to calibrate the Touch Screen on the CE panel with the following operations:

Double-Tap: The Double-tap tab sets the sensitivity for both the speed and physical distance between screen taps using a stylus or a mouse.

Calibration: The touch screens are factory calibrated and should not generally require any calibration. However, you may have to do this if the terminal is not responding to your taps. Follow the instructions provided to configure response settings for the touch screen, or the mouse.

4.8 SYSTEM PROPERTIES

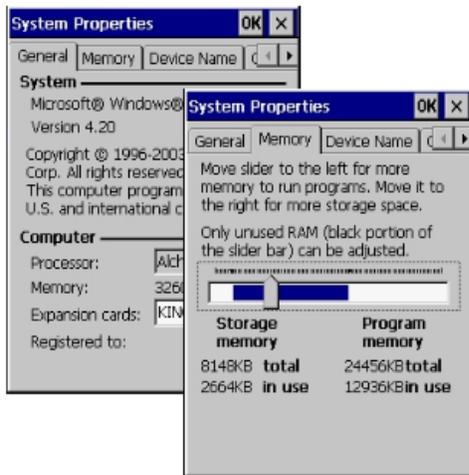


Fig 4.8 CE panel System Properties

The System Properties dialog provides System, device, and copyright information for the CE Panel. It also provides memory allocations for storage and programs.

General: Details like the CE Operating System version installed, the internal Processor used and the memory Expansion cards are displayed in the General tab.

Memory: Shows you the amount of Storage memory and the Program Memory allocated. These settings are controlled by the system at startup and can be adjusted by an application program. Move the slider to adjust the allocation for program memory, if the program requires so.

Device Name: The Device Name tab displays the name and description for your CE Panel so it can identify itself to other computers on the network.

Note: The Device name must to unique to avoid confusion, when on a network.

Copyright: This tab provides copyright information for your CE panel.



Note: Once any of the Windows Settings for the CE panel have been altered, it is very important to be safe and **Persist to Registry and Flash** (see section 3.3), to avoid losing these settings after a Power cycle.

5. NETWORK AND DIAL-UP CONNECTION

CE panel lets you define network connections, including TCP/IP, Static IP address or DHCP, name servers, etc. Network Settings can be accessed by clicking on the Start button , and then clicking Settings -> Network and Dial-Up connection

5.1 DEFINE ETHERNET SETTINGS FOR YOUR CE PANEL

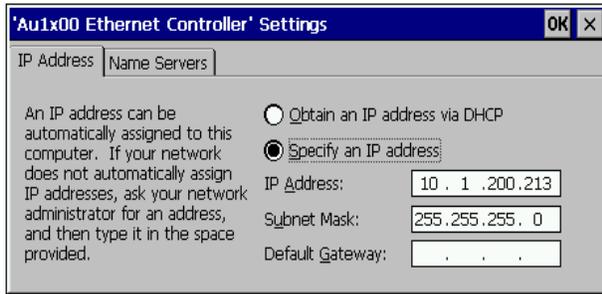


Fig 5.1a Ethernet settings

To assign an Ethernet address to your CE panel, click on Settings -> Network and Dial-Up connection>AUMAC1

Some networks automatically assign IP addresses to Ethernet devices if DHCP is enabled. The IP address, Subnet Mask, and Gateway fields are disabled.

If DHCP is not enabled, you can manually specify an IP address for the terminal. Refer to the table below:

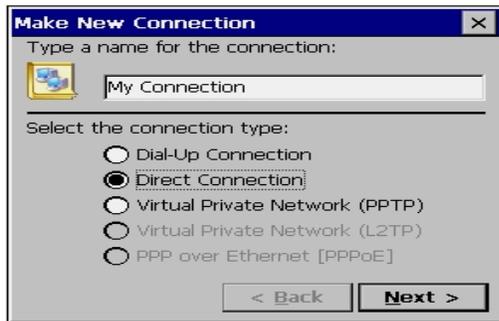
FIELD	DESCRIPTION	VALID VALUES AND RANGES
IP address	A unique address identifying the panel on the Ethernet network.	xxx.xxx.xxx.xxx 000.000.000.000 (default) Range of values for the first set of decimal numbers is 1-255 unless all the fields are set to 000. The range of values for the last three sets of decimal numbers is 0...255.
Subnet Mask	Must be identical to the server subnet mask	xxx.xxx.xxx.xxx
Default Gateway	Optional Gateway address.	xxx.xxx.xxx.xxx (preferably none)

Fig 5.1b Ethernet- IP definitions



Note: Once the Ethernet Settings for the CE panel have been defined, it is very important to **Persist to Registry** (see section 3.3), to avoid losing these settings after a Power cycle.

5.2 MAKE A NEW NETWORK CONNECTION



By clicking on this icon, you can make a new Network Connection and configure COM1 & COM3 port settings through the “Direct Connection” selection.

Fig 5.2 Make a new Network connection

6. RUN A CE APPLICATION

6.1 ACCESS THE APPLICATION

The CE panel application is called CE_HMI.exe, and is located in \FLASH\CE HMI\ folder. A short cut to the application is also placed on the desktop.

After transferring the CE application from the PC, you need to run the application. This can be done in the following ways:

- a) Click on the desktop icon for the CE application (if available)
- OR
- b) Access the original .exe file located in the Projects folder.
 - i. On the desktop, click on My Computer
 - ii. Navigate to FLASH\EZCE TouchPanel\ folder
 - iii. Click on the file named CE_HMI.exe

This would start loading the application. After a few moments the CE application would come up. The application may open a project or display a “No power up screen” message depending on its setup.

6.2 ACCESS THE APPLICATION-SETUP MODE

In certain cases you would need to change the CE panel settings (e.g., to connect your Panel CE to an external device such as a printer) or to specify your panel’s new Project path, you need to modify the configurations in the HMI application. To do so, you would have to start the CE panel Application (as described above), and interrupt its Startup sequence before it fully loads the panel program.

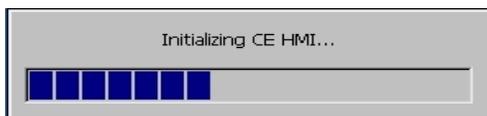


Fig 6.2a Initializing CE Application



Fig 6.2b CE Firmware Revision



Fig 6.2c Application Setup Dialog

1. When you initially run the application, a message box would appear as shown in **fig. 6.2a**.
2. This will be followed by the “Loading CE Panel Application...” screen The center part of this screen is a button (indicated by the dashed line); press it quickly to enter the Application Setup mode, as shown in **fig 6.2b**.
3. A dialog box appears. See **fig 6.2c**

6.2.1 APPLICATION SETUP MAIN OPERATIONS

The Application Setup mode allows you to perform the following panel operations:



Fig 6.2.1a Select Project to load

Select Project:

The CE panels allow the user to store multiple projects.

Click on the drop down menu to see the projects that are immediately available to run, and select the project you want to load. (See fig. 6.2.1a) Press Ok when done.



Fig 6.2.1b Specify Project path

Specify project Path:

If the project you want to use is not in the drop-down list (i.e. it has not been loaded into onboard Flash Memory), you can use the “Path...” button to tell the Panel application where to look for it.

(See fig. 6.2.1b)

Using the on-screen keyboard; specify the path for the folder that contains the CE panel project. Press OK, and the Application Setup window will display all the projects from the specified folder in the Select Project drop-down menu. Here you can select the project you want to load. Press OK again to accept the selection.

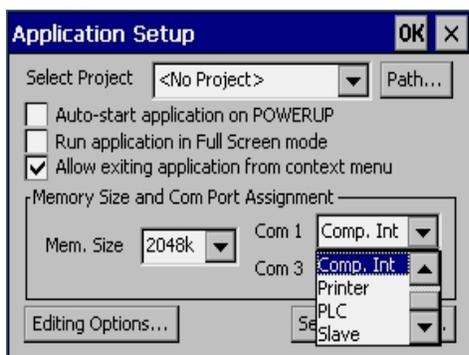


Fig 6.2.1c Panel COM port

Serial Port Settings:

The Application Setup screen can also be used to select peripheral devices with which the CE TouchPanel may communicate in the place of, or in addition to, the devices connected through a network. These can be selected by clicking on the drop-down menus for COM1 and COM3 and selecting the appropriate device. (See fig 6.2.1c)

Following devices can be assigned to COM ports 1 & 3:

Comp. Interface: The development PC is connected to this port for project transfer.

Printer: This selection will allow you to connect a serial printer to the Com port. Certain objects can print to serial port from the CE Panel application.

PLC: Select this to connect a PLC to the port. HMI application would then use the selected port to communicate with the PLC.

Slave: HMI application can send some messages to slave devices like marquees and PLCs.

Remember, if you select new devices, they may need to be configured in the Windows CE Control Panel for the panel to be able to communicate with them.

To configure COM1 or COM3 in Windows CE, go to the Control Panel and select the **Network and Dial-up Connections**. In the **Network Connections**, select “**Make New Connection**”, and then select “**Direct Connection**” and press “**Next**” to configure the COM1 or COM3 serial ports. See **section 5.2** for details.

SAVE YOUR SETTINGS

If you make any changes to the Application Setup in this screen, be sure to press OK to save your settings. If you just close the screen by pressing “X”, it will cancel any setting changes and continue to run the HMI Application in its previous settings. When you press “OK”, a screen would appear, warning you not to cycle power to the unit while it saves the new settings.

(See fig 6.2.1d)



Fig 6.2.1d Saving the Settings

6.2.2 APPLICATION SETUP ADDITIONAL OPTIONS

There are several other settings that can be changed in the HMI Application Setup screen. A quick overview of them is as follows:

- There are three checkboxes that you can select to decide how and when the HMI Application will run:
 - **Auto-start application on POWERUP**
Selecting this box will cause the HMI application to automatically run when the CE TouchPanel is powered up. On power-up, it will boot into Windows CE and then immediately start the HMI Application, instead of automatically entering the Windows desktop mode.
 - **Run application in Full Screen mode**
This will remove the Windows Menu bar from the top of the CE TouchPanel screen while the HMI application runs. You will still need to select Start> Settings> Taskbar and Start Menu, and then select “Auto hide” to remove the Windows Taskbar from the bottom of the CE TouchPanel screen.
 - **Allow exiting application from context menu**
If you are using a USB Mouse with your CE TouchPanel, this selection will allow you to exit the HMI application by right-clicking on the mouse and selecting Exit from the content menu. This is useful in allowing the user to access to the CE panel Windows desktop and settings.
- **Memory Size:** The drop-down menu allows you to select the maximum amount of RAM memory used by the CE panel Application. You can choose from three settings; 512k, 1024k (1MB), or 2048k (2MB).
- **Password protection:** Pressing the “Editing Options” allows you to set a password to control who can edit the panel application while it is running. Pressing the “Setup Protection” button allows you to set a password to control who can modify these Application Setup options.



Important: Save your new settings by pressing “OK” in the upper right corner of the Application Setup screen. Pressing “X” to exit will merely close the Application Setup window and cancel any changes made.

7. TRANSFER & UPGRADE APPLICATIONS AND FILES

7.1 CE PANEL- TRANSFERRING FILES AND FOLDERS

User can transfer their files (data or application) to and from the CE panel in a variety of ways. Please note that only FLASH folder (and Storage Card) is non-volatile or persistent. Anything copied to a folder in RAM will be lost on power-up. You can also connect the CE panel to your local area network, and transfer the files from Network to the CE Panel.

7.1.1 COMPACT FLASH CARD

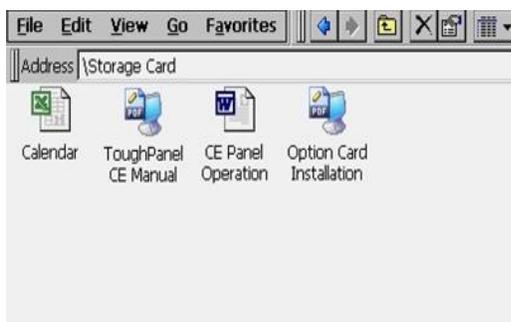


Fig 7.1.1 Compact Flash drive on CE

You can copy your files on a Compact Flash card from a PC using a compact flash card reader/writer. Then, plug in the compact flash card in the unit. The compact flash appears as “Storage Card” Folder within “My Computer” folder. You can copy files from the Storage Card folder and paste the files to the desired location on the CE panel. Similarly files can be copied from the CE panel onto the Flash card.

The panel projects should be generally saved in the projects subfolder in Flash. They would appear with an extension *.img.

7.1.2 USB FLASH DRIVE

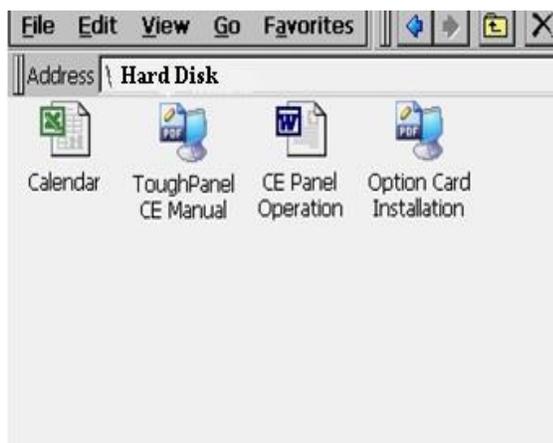


Fig 7.1.2 USB flash drive on CE

You can copy your files to a USB Flash drive from a PC. Then, plug the USB flash into the CE panel. The USB flash appears as “Hard Disk” Folder within “My Computer” folder.

Note: If you don’t see the “Hard Disk” icon immediately, cycle power to the panel. On boot up, you should be able to see the folder.

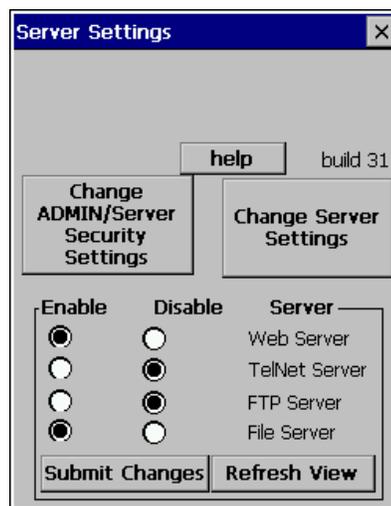
You can copy files from the Hard Disk folder and paste the files to the desired location on the CE panel. Similarly files can be copied from the CE panel onto the USB Flash card.

7.2 FILE SHARING ON THE NETWORK

The CE panels allow you to transfer files to and from the Network through file sharing.

7.2.1 HOW TO CONFIGURE FILE SHARING ON EZCE

- a) Within the control panel on the CE panel there is an option for “Server Settings”. If this is the first time you have opened this object, it is required to setup a password for the “Admin” account. To set up the password, Select **Server Settings** and click on to “**Change ADMIN/Server Security Settings**” from the Dialog Box.



- b) You would be directed to a page as seen below

ADMIN/ Server Security Settings

- Changes to these settings must be made only by knowledgeable persons.
- When prompted for "Enter Network Password", use ADMIN as user name, and associated admin password for the password.
- If you change your admin password, your device or system password is also changed to the same value. (You may change the device password using Password Utility in Control Panel, and changing device password doesn't change Admin password)
- Note: In order to change the Server Settings the Web Server has been enabled. It will stay enabled unless disabled through the Restart Network page. The Web Server can also be disabled through the Control Panel Server Settings dialog. For security issues, it is highly recommended to disable the Web Server if it is not going to be used.

Continue to Settings...

Cancel

- c) Select “Continue to Settings”. You will be directed to a page as shown below

Address

Home | Network | Features | User Accounts | Restart Network / Enable-Disable

Web Server: Enabled | Telnet Server: Disabled | FTP Server: Disabled | File Server: Enabled

Welcome to the Windows CE networking configuration page! With this device properly configured you can run the following: Web Server, Telnet Server, FTP Server, and File Server. Please carefully consider the following configuration options before continuing.

Admin password setup

Please set a password for your device. Choose something that is both easy to remember and is a strong password (such as one that contains numbers, letters, and punctuation). **The username for your device is ADMIN**

Enter new password

Confirm new password

- d) Set up a new Password. Also select the level of security required when configuring the device in the Compatibility Mode.

Compatibility Mode

Choose the level of compatibility and security required when configuring the device.

The compatibility mode applies to whether clients will be able to configure the device, such as being allowed to access this NetworkAdmin page. It does not affect their ability to use most of the device's features. For instance, even if you select 'Highest Security Mode', Windows 95, Windows 98, Windows ME, and other operating systems will be able to use most of the device's functionality.

The compatibility mode you chose will also affect which clients can access files and/or printers shared from this device. Setting 'High Security Mode' will block Windows 95/98/ME from accessing password protected resources.

Highest Security Mode (Windows 2000, XP, and above)

The device will use a more secure protocol when authenticating client requests. This mode is not supported by Windows 95, Windows 98, Windows ME, or browsers other than Internet Explorer.

Backward Compatibility Mode (Windows 95, 98, and ME)

The device will use a less secure protocol when authenticating client requests. When this mode is selected, you can configure your device using Windows 95/98/ME, but if a hacker is able to intercept network packets you send as you configure the device they could determine your password much more easily than if you were running 'Highest Security Mode.' However, unencrypted passwords will not be sent across the network. Select this mode only if you plan to configure your device using Windows 95, Windows 98, or Windows ME.

Minimum Security Mode (Web browsers other than Internet Explorer and Macintosh)

The device will use HTTP basic authentication to validate users for configuration pages. HTTP basic authentication is an extremely insecure protocol because your password will be sent across the network unencrypted. **When this mode is selected, a hacker who is able to eavesdrop on your network could immediately determine your password.** Select this mode only if you plan to configure your device with a browser other than Internet Explorer, or if you plan to configure your device with Internet Explorer running on a Macintosh.

- e) Click Submit from the bottom of the screen. You should receive confirmation in a new dialog box which would read “**Your password has been saved**”.
- f) Once you have set a password, this will be used for all network settings for the panel. In the Main Menu, select **Home**, followed by ‘**Network Settings**’. You will be taken to the following page:

Network Configuration:

Please fill in all IP address information given to you by your Internet Service Provider.

Note: If DHCP is enabled, the gateway will attempt to query the network for all required information.

Adapter	AUMAC1
DHCP Enabled	<input type="radio"/> Yes <input checked="" type="radio"/> No
IP Address	<input type="text" value="10.1.200.232"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="0.0.0.0"/>
DNS Server 1	<input type="text" value="0.0.0.0"/>
DNS Server 2	<input type="text" value="0.0.0.0"/>
Primary WINS Server	<input type="text" value="0.0.0.0"/>
Secondary WINS Server	<input type="text" value="0.0.0.0"/>

Device Name

Note: Setting the device name may take several seconds.

Device Name

Windows CE Version: (4.20) Build Version: (1088) SysVersion: (1088)

- g) On this page the default name for the device is set to ‘EZCE’. Depending on how many CE panels you have attached to your network it is recommended that each have their own unique name. After renaming the panel, click ‘Submit’.

- h) You will be brought back to the same Network Configuration page. From the top of this page select 'Features'. This should bring you to a page that looks similar to the screen below.

The screenshot shows a web browser window with the address bar containing "http://localhost/NetworkAdmin/servers". The navigation menu includes "Home", "Network", "Features", "User Accounts", and "Restart Network / Enable-Disable". Below the menu, there are status indicators for "Web Server: Enabled", "Telnet Server: Disabled", "FTP Server: Disabled", and "File Server: Enabled". The main content area is titled "File Server" and contains the following sections:

- File Server**: A configured file server will allow for sharing files on the network that this device is connected to. [Click here to configure your file server](#)
- FTP Server**: A configured ftp server will allow for transmitting files to and from this device. [Click here to configure your ftp server](#)
- Telnet Server**: A configured telnet server will allow for telnet access to this device's command prompt. [Click here to configure your telnet server](#)
- Web Server Administration**: A configured Web Server will allow outside clients access to this device's Web Server. [Click here to configure your web server](#)

- i) On the features page, select 'File Server'. Here select the folder you would like to share and give it a name. This name will appear on the network for the shared folder. Next click 'Submit'. Once the folder names are saved, you will be taken back to the same File Servers page. A new listing will appear called 'Shared Permissions' with the new name that you gave this folder. Here, select Modify as no one will have permissions to this new location, by default.

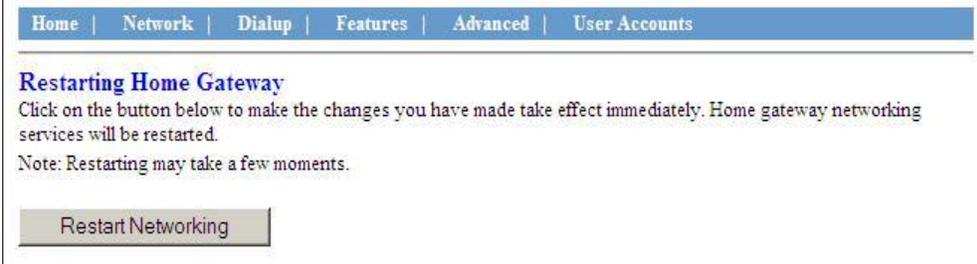
The screenshot shows the configuration page for shared folders and permissions. It includes the following sections:

- Share Permissions**: Please choose the share you wish to modify. A table lists "Flash on PC" with a "Modify" button.
- Disable ALL Passwords**: If you disable passwords *ALL* shares (file and print) will be available to anyone on the network. It includes an "ADMIN Password:" input field, radio buttons for "PWD Enabled" (selected) and "PWD Disabled", and a "Submit" button.
- Shared Folders**: Please choose the folder you wish to share and then enter a share name. It lists four folders: "\Network", "\FLASH" (checked), "\Application Data", and "\Recycled". Each folder has an input field for the share name and a "Submit" button.

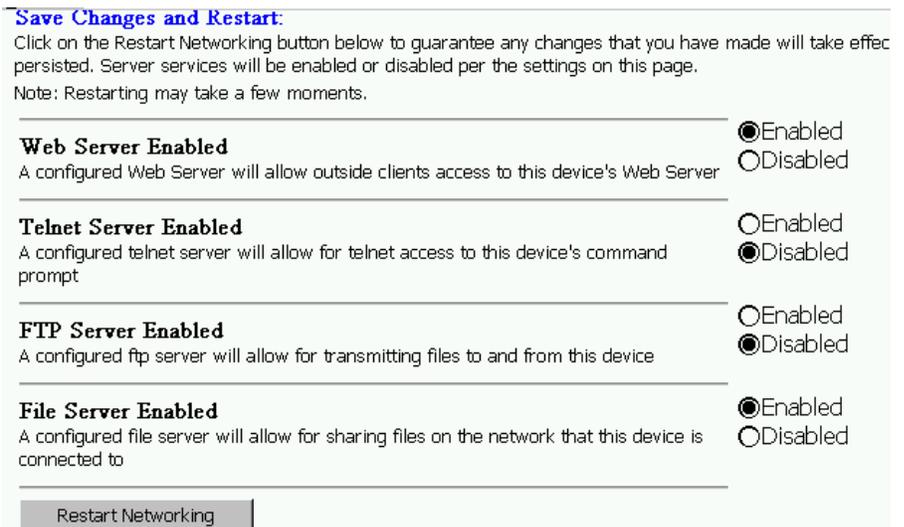
- j) You can now select which user will have permission to this folder on the network by selecting allowed, then modify.



- k) Once you have finished modify then select 'Home'. This should bring you back to the home page. Here select 'Restart Networking'.



- l) Takes you to a page which displays all the new Network Settings.



- m) Confirm and hit the Restart Networking. The panel may appear to be offline for a few moments then should reconnect. You should now be able to connect to your panel from your PC by going to your 'Start Menu' then selecting 'RUN' and typing the unique name that you gave the panel (i.e. [\\EZCE](#)). Windows should present you with a login screen for the panel. Just like when you logged into the panel before the user name should be 'admin' and the password should be your admin password. If it doesn't seem to recognize the username then try to use the panel name in the username field ([\\EZCE\admin](#)).

7.3 UPGRADING THE CE OPERATING SYSTEM

There are very few situations when you would be required to upgrade the CE Panel's Operating System (OS). Please do so **ONLY when advised by AVG Technical Support**. If necessary, you will be sent an "OS Image update Application" to do the upgrade. This file should be written to a Compact Flash card.

7.3.1 HOW DO YOU CHECK THE CURRENT FIRMWARE VERSION?

The Current Operating System version on the panel can be checked by clicking the Start button on the CE panel's desktop, and then clicking Settings -> Control Panel>AVG System info.

7.3.2 WARNINGS:

1. Use only a Compact Flash card to upgrade the OS. USB flash Drive CANNOT be used.
2. No other applications should be running while installing a new O.S. Unpredictable results could occur, such as an inoperable system.
3. The Panel MUST NOT lose power during installation. If it does, the Panel will be inoperable and the Factory will have to be consulted for a repair procedure.
4. Only the hardware specific Factory recommended NK.Bin file should be installed on the Panel. If the incorrect image is used unpredictable results could occur, such as an inoperable system.
5. The NK.BIN file being used must be on the root of the Compact Flash card.
6. The current Persistent Registry will be lost when the new O.S. is installed.

7.3.3 PROCEDURE:

1. Close ALL other applications that might be running.
2. Insert the Compact Flash card into the CE panel slot.
3. Locate and then run AVG_UpdateOS.exe on the CE panel.
4. Read the CAUTION and click Continue.
5. Locate the appropriate bin image from the drop down list. The file must have the (.bin) extension. The file name should start with NK, for example an appropriate file could be NK_*.bin. Click on Continue.
6. The Message Box "AVG OS Update - Confirm" should appear. Selecting the "Cancel" button will cancel this installation without affecting the current OS. Selecting the "Start Update" button will start the installation process. Make note of the warning in the Message Box. By selecting "Start Update" the current O.S. image will be erased from Flash. The new O.S. image will be written to Flash. The CE unit

- MUST NOT** lose power during this process. If power is lost, the Factory will have to be consulted for a repair procedure.
7. After selecting Yes, the selected File Name will appear in the main window.
 8. Now the File Size, Build Version and Build Date should be displayed.
 9. The flash erase procedure will now start. The amount of flash being erased will be reported in the main window, as well as the current progress of the erase procedure.
 10. When the flash erase procedure is finished, the main window should display “Flashed Erased OK”
 11. The file “read and write” procedure will now start. The current status of this procedure will be displayed in the main window.
 12. When the read-write procedure is finished the main window will display “NK.BIN successfully written to flash”
 13. After the installation is complete the message “This Panel must be Power Cycled to use the new O.S.” will be displayed. Do to the nature of CE the new image will not take effect until the next power cycle when the OS is loaded from Flash into Ram.

7.3.4 ERRORS :

1. **“Error: failed to open the file”** – The file selected was corrupted. Verify that the image selected was the correct image for this hardware and retry otherwise, please consult the Factory for a solution.
2. **“Error with this NK.Bin, unable to load new O.S. into flash!”** – An invalid image file was opened; please consult the Factory for the correct hardware specific NK.BIN image file.
3. **“Error: not enough room in flash”** – The image that was going to be written to flash was too big, verify that the image selected was the correct image for this hardware and retry otherwise, please consult the Factory for a solution.
4. **“Error: failed to erase flash”** – There was an error erasing Flash. Do Not Power Cycle the Panel. Verify that the NK.BIN selected was the correct image and no other applications are running then retry. If this error occurs again, consult the Factory before Power Cycling the Panel.
5. **“Error in write to flash unable to continue”** – There was an error in writing the new image to flash. Do Not Power Cycle the Panel. Verify that the NK.BIN selected was the correct image and no other applications are running then retry. If this error occurs again, consult the Factory before Power Cycling the Panel.
6. **“NK.BIN Failed Checksum in flash”** – The image written to Flash did not match the original file. Verify that the NK.BIN selected was the correct image and no other applications are running then retry. If this error occurs again, consult the Factory before Power Cycling the Panel.

7.4 UPDATING THE CE PANEL APPLICATION (FIRMWARE)

Similar to the OS Upgrade, upgrade the CE Panel's firmware **ONLY after discussing the issue with AVG Technical Support**. If your hardware is working well and you are using the same panel edit software that was originally used to program the panel then there is no need to make a firmware update.

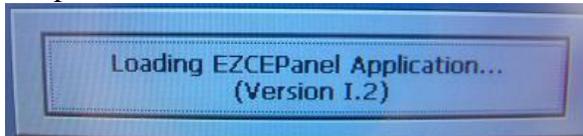
If necessary, you would be sent a "CE Touchpanel" folder to do the upgrade. This file can be written to a Compact Flash card or copied to a USB Flash Drive.

7.4.1 APPLICABLE TO:

- OS version 1.2.0 or later
- CE touch panel only (Does not apply to Touch screens that have a proprietary Operating System)

7.4.2 HOW DO YOU CHECK THE CURRENT FIRMWARE VERSION?

Current Firmware version on the panel can be checked while loading the HMI application on the CE panel as shown below. In this case, I.2 indicates the Firmware version.



You could also check for the current firmware version on your panel by going to Information Tab under Panel menu in the CE Panel Edit software.

7.4.3 WARNINGS:

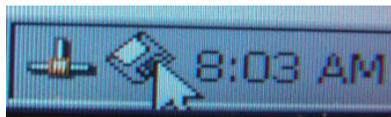
1. No other applications should be running while installing a new O.S. Unpredictable results could occur, such as an inoperable system.
2. The Panel **MUST NOT** lose power during installation. If it does, the Panel will be inoperable and the Factory will have to be consulted for a repair procedure.

7.4.4 PROCEDURE:

1. You should have been sent a folder named **CE TouchPanel**. This folder may or may not be zipped. If it was sent to you as a zipped folder then unzip it.
2. Inside the CE touch panel folder, you should see four different icons - Projects folder, CE_HMI touch panel.exe, CE_HMI.zip and Readme.doc. **DO NOT** unzip this second

CE_HMI zip file. It **must** remain zipped! **Do not remove** any of the four objects from the CE TouchPanel folder. The folder will be transferred to the CE panel in its entirety.

3. Plug the Compact flash (storage) card or USB jump drive (hard disk) on to the CE Panel.
4. If the panel does not recognize the Flash drive or USB drive, recycle the CE Panel power.
5. Navigate to the CE Panel's /Flash/CE TouchPanel folder. Copy the **Projects** folder
6. Navigate back to the location you have saved the new EZCE TouchPanel folder, either in the Compact Flash (storage) or USB Drive (Hard Disk). Paste the **Projects** folder into the CE TouchPanel folder. Answer yes when you are asked if you want to replace the existing folder.
7. Copy the entire CE TouchPanel folder from the compact flash (Storage) card or a USB jump drive (hard drive) depending on which you are using and paste it in the CE Panel's **Flash** Folder. Answer yes when asked if you want to replace existing folder.
8. Once the CE Touch panel folder is pasted into the flash folder, Persist by clicking on the little disk icon just to the left of the clock located on right hand side of the Task Bar.



Remember: Once the CE panel firmware has been upgraded, it is very important to be safe and **Persist to Registry and Flash** (see section 3.3), to avoid losing these settings after a Power cycle.

9. You should now be able to run the HMI application with the new firmware on it. Navigate to the CE Panel's \Flash\CE TouchPanel folder. Double click on the colorful CE_HMI Panel Icon.
10. For your convenience, a shortcut can be placed on the desktop by performing a "Copy" on CE_HMI icon then navigating to the desktop and performing a "Paste Shortcut".
11. During the Installation, if you are asked to re-enter the path for the projects directory at any point, click on the CE application shortcut to run the application. As soon as you see the Gray Box that says "Loading CE Panel Application" click on to it. Enter Application Setup mode and specify the Project path. Refer **Section 6.2** more details.