

Welcome!

We greatly appreciate your purchase of the CP450. We are sure you will find it reliable and simple to use. Superior performance for the right price, backed by solid technical and customer support is what Altinex has to offer.

We are committed to providing our customers with Signal Management Solutions® to the most demanding audiovisual installations at competitive pricing and we welcome you to join the ranks of our many satisfied customers throughout the world.

1. Precautions and Safety Warnings

Please read this manual carefully and heed all warnings. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your CP450 and to prevent fire and shock hazards.

1.1 General

- Do not open the unit or its adapter; high-voltage components are inside.
- There are no user serviceable parts inside. Qualified Altinex service personnel must perform all service on the CP450.

1.2 Installation Precautions

- Place the CP450 in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose this unit to water or moisture. Do not place in direct sunlight, near heaters, or heat-radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle carefully; dropping or jarring can damage the unit.

- Do not pull any cables that are attached to the CP450.
- If the CP450 is not used for an extended period, disconnect the adapter from the wall to avoid fire, shock, and loss of power.

1.3 Cleaning

- Unplug the CP450 adapter before cleaning and clean only with a dry cloth. Never use strong detergents or solvents such as alcohol or thinner. Do not use a wet cloth or water to clean.

1.4 FCC Notice

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions found herein, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- Any changes or modifications to the unit not expressly approved by Altinex, Inc. could void the user's authority to operate the equipment.

2. Installation Procedure

Determine if the CP450 will be mounted on a stand, wall, or panel. The mounting stand may be purchased from Altinex. The mounting holes on the rear of the unit are VESA standard, 75x75 mm spacing.

- Step 1. Determine the best location for installing the CP450; consider access and routing for power, USB, RS232, and LAN cables.
- Step 2. Route all cables for the installation. Make sure the cables have service loops and are routed neatly.
- Step 3. Have qualified personnel install the mounting brackets (or other hardware) for the CP450.
- Step 4. Prepare the control software using your normal software development station. The CP450 is not required. We recommend using AVSnap as the control software. It is free, easy to use, and has many features designed for use with the CP450.
- Step 5. Debug the software using the device for which it was written; the COM and LAN ports work the same as any computer.
- Step 6. When the control software is complete, copy all necessary files to a USB drive or upload over you LAN. See section 7.5 for uploading your application over the LAN.
- Step 7. Connect the power adapter provided with the CP450 to AC power and then to the CP450.
- Step 8. The CP450 boots automatically.
- Step 9. Copy the files from the USB drive to the CP450. If application software is required, install it at this time. Once all software has been installed, close all open applications.
- Step 10. Restart the CP450 and verify all changes. Place a shortcut to the new control in the startup folder. Verify the CP450 boots up and automatically launches the control software.

3. Limited Warranty/Return Policies

Please see the Altinex website at www.altinex.com for details on warranty and return policies.

4. Technical Specifications

Specifications are subject to change. See www.altinex.com for up-to-date information.

Features/Description	CP450-010
Details	
LCD Size	10.1 in
Max. Resolution	1280x800 (16:10)
LCD Colors	16.2M
CPU	Intel® Celeron® J1900 (quad core, 2.0 GHz)
RAM	2 GB
WLAN	802.11 a/b/g/n/ac
Storage	mSATA 16 GB
External Connections	
12 VDC IN	DC Jack (1)
USB 2.0	Type A F (2)
USB 3.0	Type A F (2)
RS-232/422/485	DB9 M (1)
RS-232	RJ45 F (1)
LAN	RJ-45 F (2)
Audio Out	3.5 mm F (1)
Mounting Holes	3 x 3 in. (75 x 75 mm)
Agency Approval (ALL)	
EMC	CE, FCC
Safety	CE
Accessories Included (ALL)	
Power Adapter + AC Cord	+12VDC
Optional Accessories	
Stand	AC403-102

Table 1. CP450-010 General

Mechanical	CP450-010
Material	ABS w/ PC Plastic frame
W x H x D	11.1 x 7.1 x 1.7 in. (282 x 181 x 42 mm)
Weight	2.4 lb. (1.1 kg)
Shipping Weight (approximate)	5.7 lb. (2.6 kg)
T° Operating	0 ~ 45°C
T° Maximum	60°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs. (min.)

Table 2. CP450-010 Mechanical

Electrical	CP450-010
External Connections	
USB 2.0	Standard
USB 3.0	Standard
LAN Speed	10/100/1000 Mbps (GbE)
RS232/422/485	+3 to +15 V -6 to +6 V -6 to +6 V
RS232	+3 to +15 V -3 to -15 V
Speaker Output	2 W max.
Power Consumption	(maximum from adapter)
+12VDC	30W

Table 3. CP450-010 Electrical

5. About Your CP450 MultiTouch

The CP450 Series of touch screen controllers are ideal for a variety of applications including multimedia control, general computing, advertising, real-time data terminals, interactive self-service centers, digital surveillance, etc. Each controller is a computer running Windows Embedded Standard 7 and includes:

- Touch Screen with Integrated Dual Speakers
- Wireless Local Area Network (WLAN)
- 2 COM ports and 2 LAN ports
- AVSnap Professional AV System Integration Tool
- 2-USB 2 ports and 2-USB 3 ports

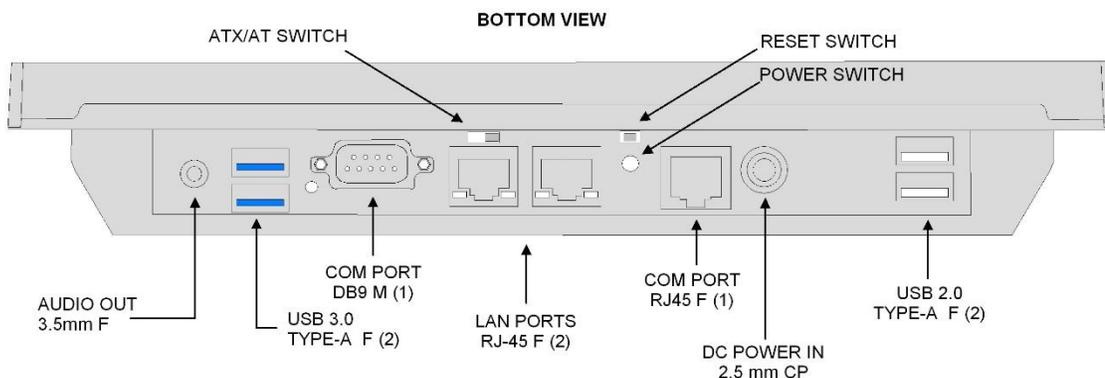
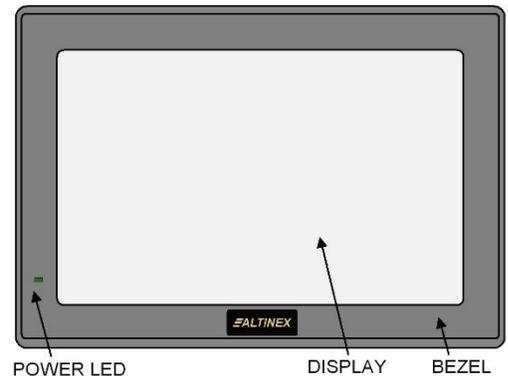
The CP450 senses "touch" from a finger, stylus, pen, pencil, gloved finger, or other tool. The touch screen is very accurate and responsive to the touch. The CP450 incorporates effortlessly into PC based control systems. The two COM ports can directly control serial devices using standard RS-232 communication. The two LAN ports allow connectivity to a local area network or a direct connection to another TCP/IP device. Consider the Altinex AC301-201 TCP/IP to RS-232 Adapter which allows RS-232 communication through a standard LAN connection.

The AC301-201 has both serial (DB9) and network (RJ-45) connections. The AC301-201 connects to a serial device using its DB9 connection, and to the LAN using standard network cable. AVSnap, HyperTerminal, or other RS-232 communication software can then be used to control the serial device using the IP address of the adapter in place of the COM port. In this way, a single controller can be used to control any number of serial devices using their unique IP address.

The built-in wireless LAN can be used to control remote devices through a wireless router or directly to a remote IP. As an information interface in a classroom, public information kiosk, etc., the wireless connection can also be used to upload real-time data to the CP450 ensuring the most up-to-date information is available to the user.

The CP450 can be mounted to a stand for table use, or it can be wall or rack mounted. The CP450-010 has a standard 75mm x 75mm VESA mounting on the back of the unit.

AVSnap provides a complete environment for designing simple to sophisticated graphical user interfaces (GUIs). AVSnap is preinstalled on each CP450 making it easy to integrate into any control environment. Design high-quality GUIs with minimum effort by way of user-friendly toolbars for buttons, volume controls, progress bars, and much more. AVSnap incorporates a simple programming language with an organized interface that makes even complex programming code easy to read and maintain.



6. Application Diagrams

Diagram 1: Typical Setup

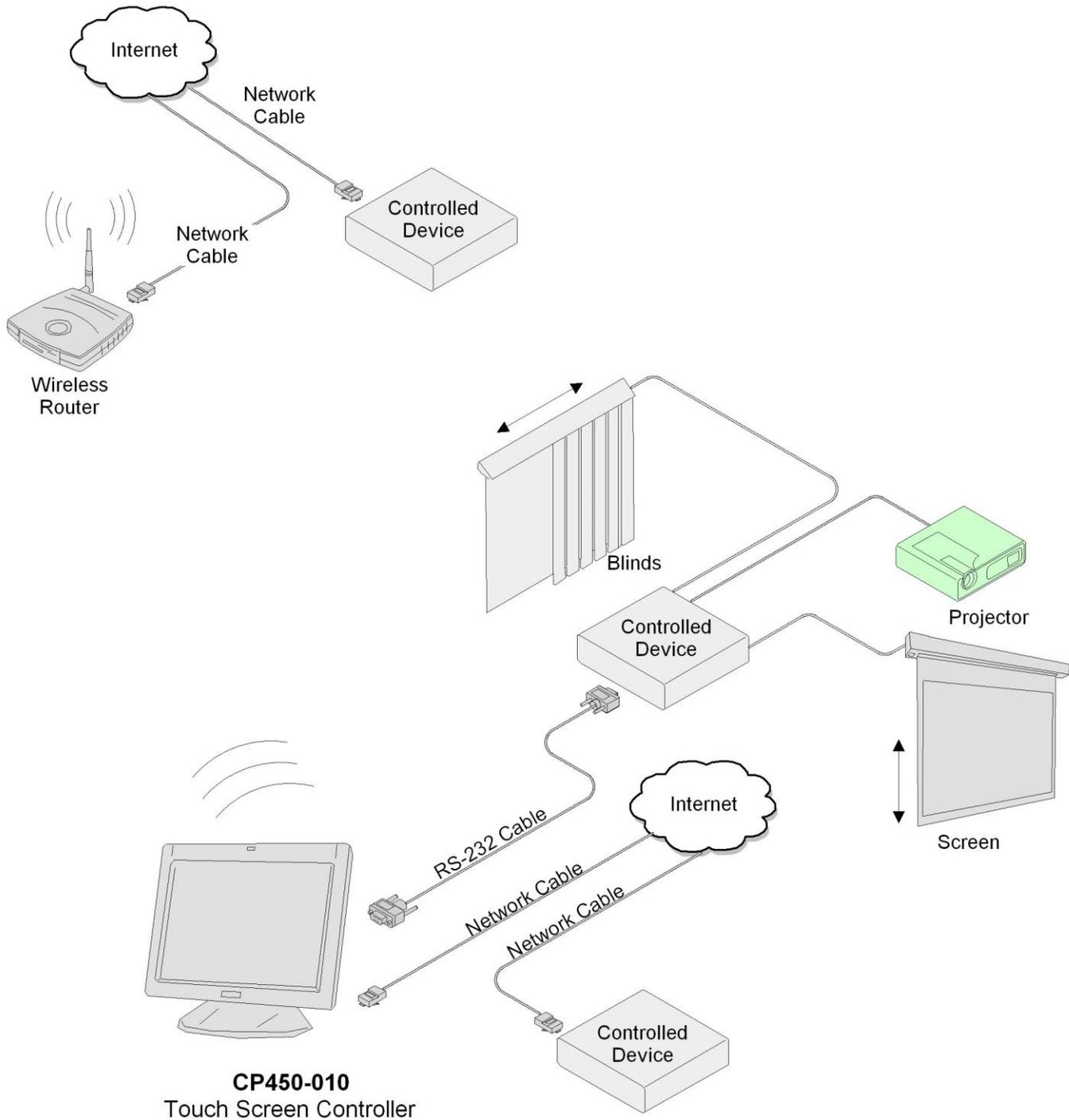
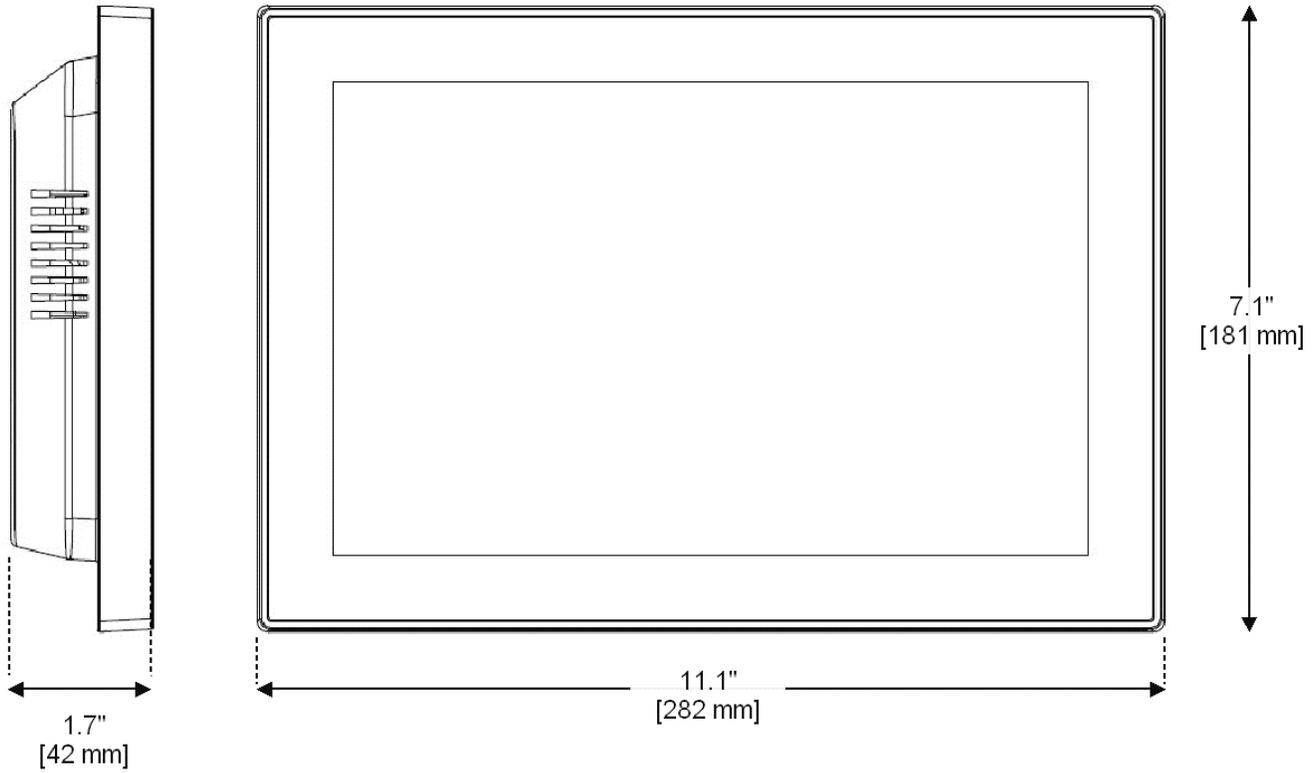


Diagram 2: CP450-010 Dimensions



7. Operation

The CP450 is designed for use in a fixed application where the system boots up directly into the user application and does not allow access to the operating system. The application and GUI interface are normally created using a standard desktop computer and then installed onto the CP450 using a USB drive or network connection.

Once set-up, the CP450 will work trouble-free without user intervention.

7.1 Default Configuration

The CP450 ships with only the Administrator account and no password set. The CP450-010 boots automatically and displays the desktop. The desktop has a shortcut to the Startup folder. Place any application in this folder to start automatically at power up/reset.

You can use the touch panel in the ship configuration or you can add a user account for application and password protect the Administrator account for use with application updates and Windows modifications.

See section 7.6 for adding a user account.

7.2 Power Up and Shutdown

The CP450 boots automatically as soon as power is applied. There is no need to press the power switch on the bottom of the unit. In most installations, the system boots directly into the end-user application.

The CP450 can be powered down using the shutdown/power off option from the START menu, or directly from an AVSnap application using the "App.Shutdown" function.

7.3 Preparing Control Software

It is not recommended to design and create control software directly on the CP450. In most situations, it is easier and faster to write and debug control software on a standard desktop computer and then transfer the completed file when ready. However, if the CP450 needs to be programmed "in place", use an external USB keyboard and mouse. Simply plug in the devices and wait for the system to recognize the new hardware and load the drivers.

The best way to create and edit on the CP450 is to use a USB drive plugged into the bottom of the unit and make changes directly to the USB drive then copy the final files to the CP450's "C" drive.

7.4 AVSnap

AVSnap provides a complete environment for designing simple to sophisticated graphical user interfaces (GUIs). AVSnap is preinstalled on each CP450 making it easy to integrate into any control environment.

Use the predefined procedures and functions to communicate with devices over RS-232, LAN, or create your own custom functions. In addition to standard communication and control, the functions below are useful for typical touch screen applications and can be assigned to buttons or placed in startup and shutdown routines. The samples shown here require an application object named "App" to be part of the application.

App.Shutdown..... Close the application and turn off the computer. Use with the App.Quit function as follows:
 App.Quit;
 App.Shutdown;

App.SleepMonitor..... Turn off monitor power.

App.Quit..... Quit the runtime environment and return to edit mode if running an AMT file. If running an EXE file, quit the EXE and close the application.

App.Stop Stop the executable application. Use with EXE files only!!!

App.Powersave Hibernate (standby) the computer per display property settings.

App.RunScreensaver Launch the screensaver. If no screensaver is installed this command has no effect.

7.5 Upload New Application Over LAN

In order to update the application over the network, use Windows Remote Desktop (RDP). The CP450 ships configured with Windows Remote Desktop Connection allowed.

In order to upload over the network, the touch panel must be connected to the network.

You can have an administrator account for configuration and a user account for normal operation. This allows the user account to be set for auto login without a password.

Note: The CP450 ships with only the administrator account and no password.

In order to use the administrator account as received, go straight to section 7.7 and 7.8.

Otherwise, continue to create a standard user account.

7.6 Create User Account for Remote Desktop

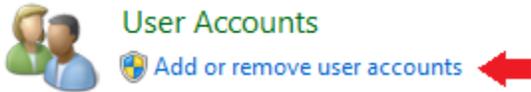
7.6.1 Add A User

In order to upload over the network, the touch panel must be connected to the network.

Examples in this user guide use "Test1" as the standard user.

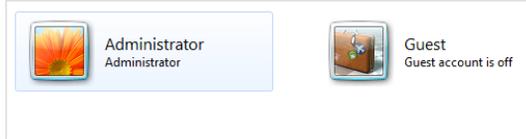
This operation can be executed on the touch panel, or remotely over your local network using the Administrator account.

- Log in as the Administrator.
- Open the Control Panel.
- Select User Accounts option.



- Select Add or remove user accounts.

Choose the account you would like to change



Create a new account
What is a user account?

- Create a standard user; Test1 in this example.

Name the account and choose an account type

This name will appear on the Welcome screen and on the Start menu.

Test1

- Standard user
Standard account users can use most software and change system settings that do not affect other users or the security of the computer.
- Administrator
Administrators have complete access to the computer and can make any desired changes. Based on notification settings, administrators may be asked to provide their password or confirmation before making changes that affect other users.

We recommend that you protect every account with a strong password.

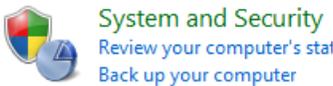
Why is a standard account recommended?

Create Account Cancel

7.6.2 Enable Remote Desktop

If you create a user account, it must allow remote connections. Make the following changes to allow remote connections.

- Open the Control Panel.
- Select System and Security.

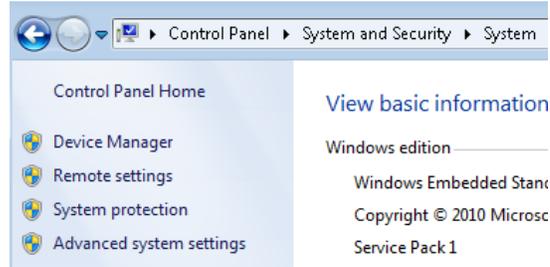


- Select System

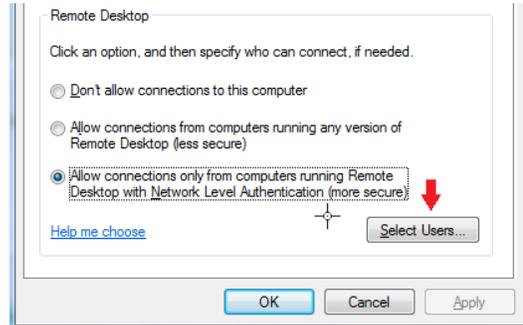


- Select Remote settings

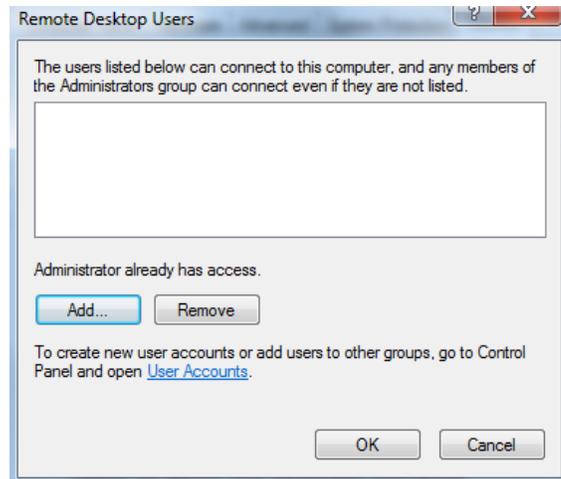
Note: This step requires an administrator. If you are not logged in as an administrator, you will need to enter the administrator password.



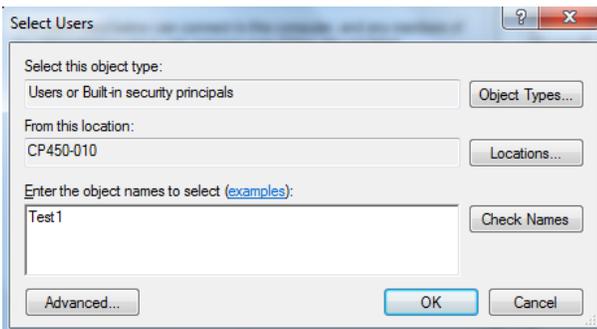
- Select one of the "Allow connections..." options and then click Select Users.



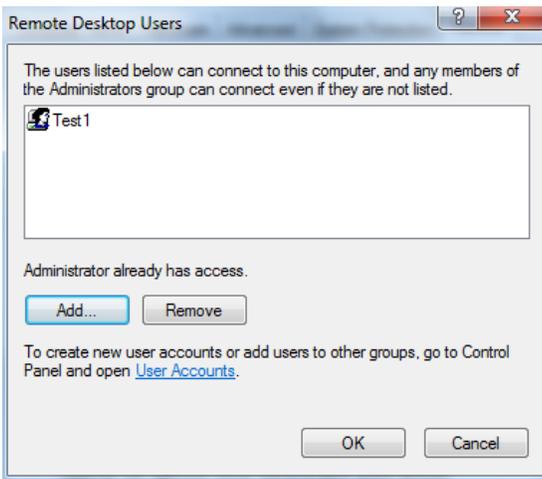
- Click the Add button.



- Type in the name of the user; in this case Test1 and then click OK.



- Click OK again to add the user.



- At the next window, click OK to close the window.

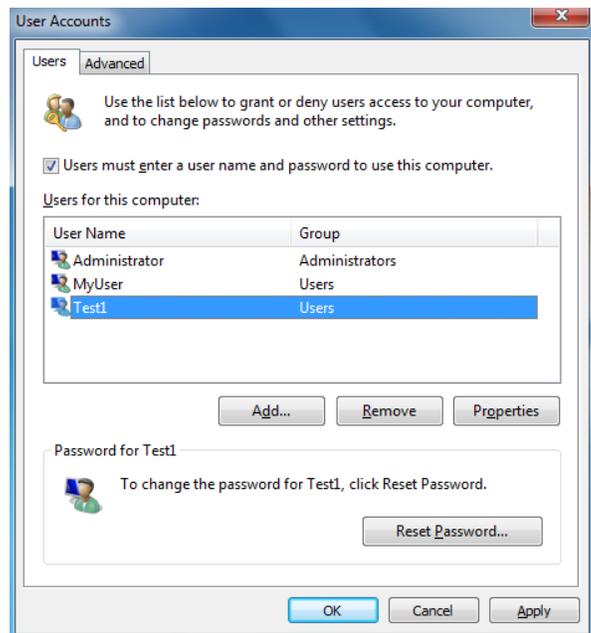
7.6.3 Enable Auto Logon

- Set the account to automatically start at power up without requiring the user to enter a password.

Type WIN + R and enter "netplwiz" then press ENTER.

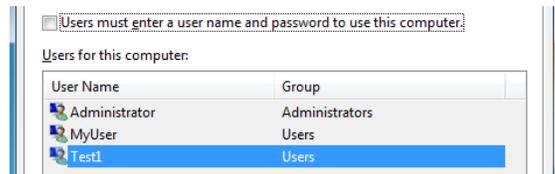
Note: This step requires an administrator. If you are not logged in as an administrator, you will need to enter the administrator password.

- Select the Test1 user account.

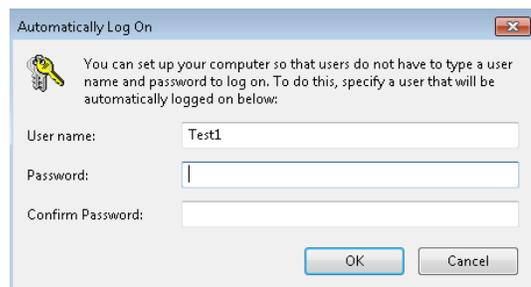


- Uncheck the box labeled "Users must enter a user name and password to use this computer."

Note: The checkbox must be checked in order to change the user selection.



- Click Apply to confirm the selection and enter the password for this account. Only one account can be selected for automatic logon.



A password is not required, but if used you need to enter it here for automatic log on.

- If you are making the changes remotely, you can now close your current connection and do a remote login to the new account.

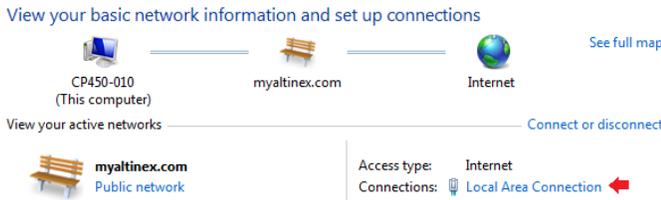
7.7 Get CP450-010 IP Address

The CP450-010's IP address is needed to make the remote connection. The touch panel must be connected to your local network in order to find the correct IP address.

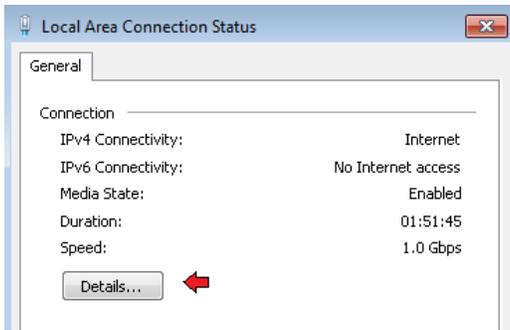
- On the CP450-010 desktop, open the Network and Sharing center by click on the icon shown below and then selection Open Network and Sharing Center.



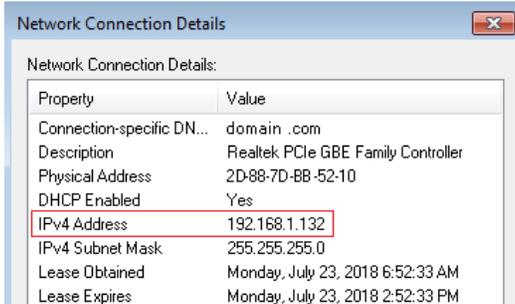
- Next, click on the Local Area Connection link.



- In the status window, select the details button.



- In the details window, look for the IPv4 Address. That is the IP address needed for the remote connection.



7.8 Upload Details

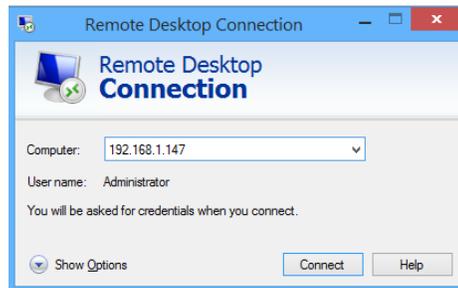
Make sure the CP450-010 is up and running and connected to the local network. Also, you need to know the IP address of the CP450-010 as shown in the previous section.

Any users currently logged in to the same account will automatically be logged out when the remote connection activates.

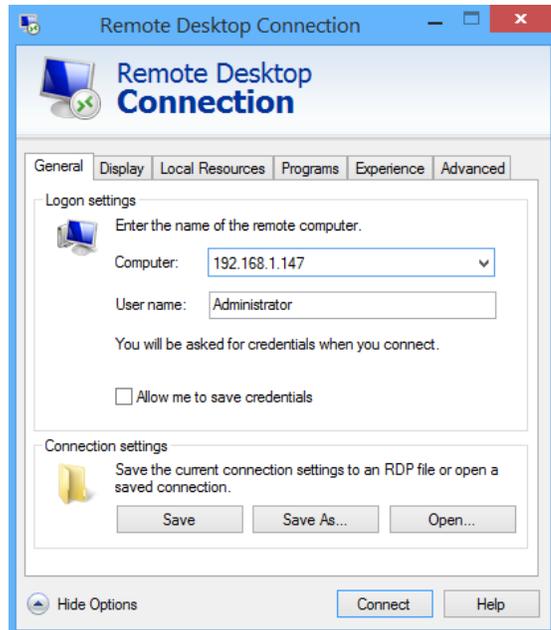
- On the start menu, search for Remote Desktop Connection.



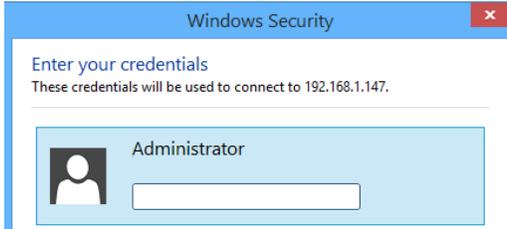
- On the Remote Desktop Connection window, select Show Options to see the full window.



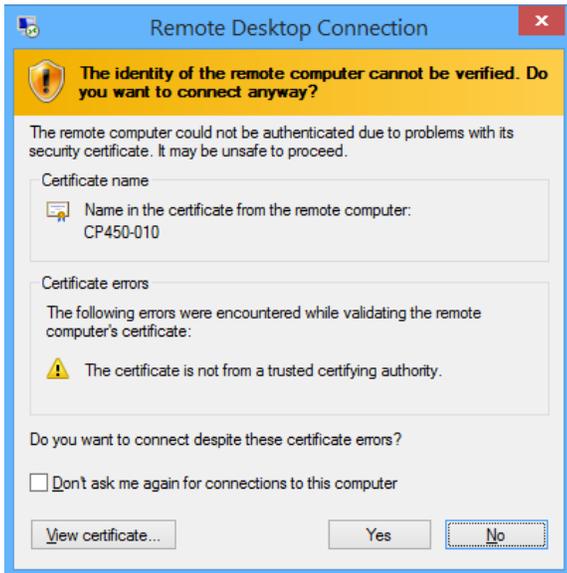
- Enter the IP address of the CP450-010 and the user name of the account you want to log into. The image below shows the default Administrator, but you can also enter a user account name like Test1 in the previous examples.



- In the Windows Security window, you can either enter the password for the account selected, or you can select another account.



- You may receive a warning that the remote computer cannot be verified. At this prompt, click Yes to continue the login.



- The remote desktop now appears on your computer. The remote desktop window has the following header when in full screen mode.



- The remote desktop window has the following header when the window is reduced.



- You now have control of the CP450-010.

Use COPY and PASTE to move files from your computer to the CP450-010 touch panel.

You can also modify the touch panel environment just as if you were working on the touch panel.

- Create new users
- Change background
- Change power and sleep settings
- Etc.

To end the remote session, simply close the Remote Desktop Connection window by clicking the close "X" button on the window.



8. Troubleshooting Guide

We have carefully tested and have found no problems in the supplied CP450-010. However, we would like to offer suggestions for the following:

Touch Panel	
Symptom	Resolution
LEDs Are OFF	<ol style="list-style-type: none"> 1. Make sure the unit is plugged into a working AC outlet and the DC plug is inserted all the way into the switcher. 2. Use only the power adapter provided.
No Network Communication	<ol style="list-style-type: none"> 1. The CP450-010 has 3 RJ45 connectors; 2 network ports and 1 serial port. The RJ45 connector next to the DCV input is NOT a network connector. Make sure your network connection is not on this connector. 2. Open the Network and Sharing Center and make sure both of the Local Area Connections are enabled.
Application Does Not Start Automatically on Power Up	<ol style="list-style-type: none"> 1. Make sure you have the latest copy of the app on the touch panel. 2. Make sure the app, or a shortcut to the app, is in the Startup folder. 3. Launch the app manually and make sure it runs properly.
The CP450 Does Not Turn On When Power Is Applied	<ol style="list-style-type: none"> 1. Make sure the unit is plugged into a working AC outlet and the DC plug is inserted all the way into the switcher. 2. Use only the power adapter provided. 3. Make sure the ATX/AT switch is in the AT position. The switch is located on the bottom of the CP450 directly above the RJ45 connector connected next to the DB9 connector. Make sure the slide switch is set to the right of the CP450 as viewed from the front; towards the DC connector.
USB 3 Device Not Operating to Full Speed	<ol style="list-style-type: none"> 1. Make sure the connected device is a USB 3 device. 2. Make sure the device is connected to a USB 3 port on the CP450. The CP450 has two USB 2 ports and two USB 3 ports. The USB 3 ports are on the left side of the CP450.

