Purpose: This document will explain how to configure Windows 7/10 so that the CNC11 software will function correctly. The settings for Windows 10 are very similar as Windows 7. Some of the fields may just be in a slightly different location. Below is a link to a video which shows the setup for Windows 10.

https://youtu.be/Akmw8ak_TlM

Required Materials:

- SATA II SSD
- USB or SATA DVD player
- USB mouse
- copy of Windows 7/10 Home Premium 64-bit
- copy of the latest version of CNC11 software

Instructions for Configuring Windows 7/10

1.) Install SSD and DVD player into servo PC/console. Make sure to plug the SATA cable from the SSD into SATA0 on the motherboard. Software **MUST** be loaded on the system that you are working on. It **CANNOT** be loaded onto an SSD remotely and then installed onto the control. Windows does not allow that.

2.) Connect a **SHIELDED** CAT5/CAT6 Ethernet cable to the on-board Ethernet port and the MPU11.

3.) Power on the MPU11 and servo PC/console.

4.) Insert the Windows 7/10 DVD and install the Windows software.

5.) Using the mouse, right click on the task bar, which is located on the bottom of the screen, and select "Properties".
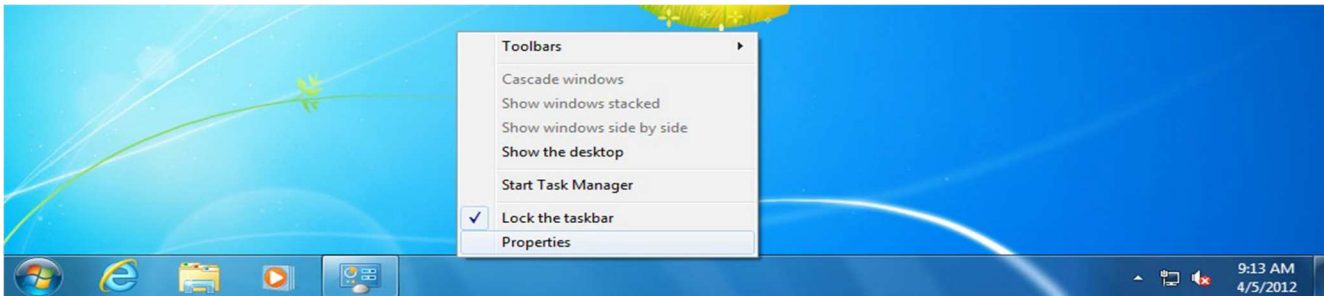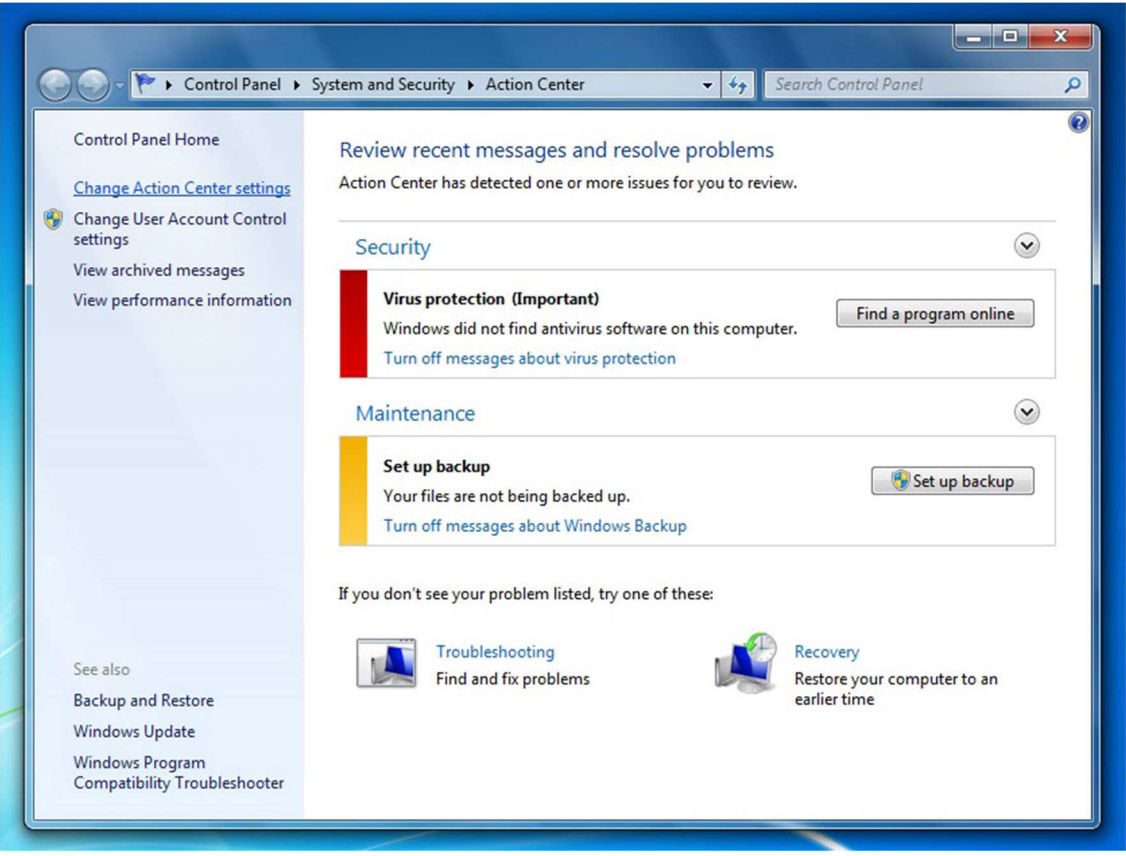
6.) Check the "Auto Hide" option.
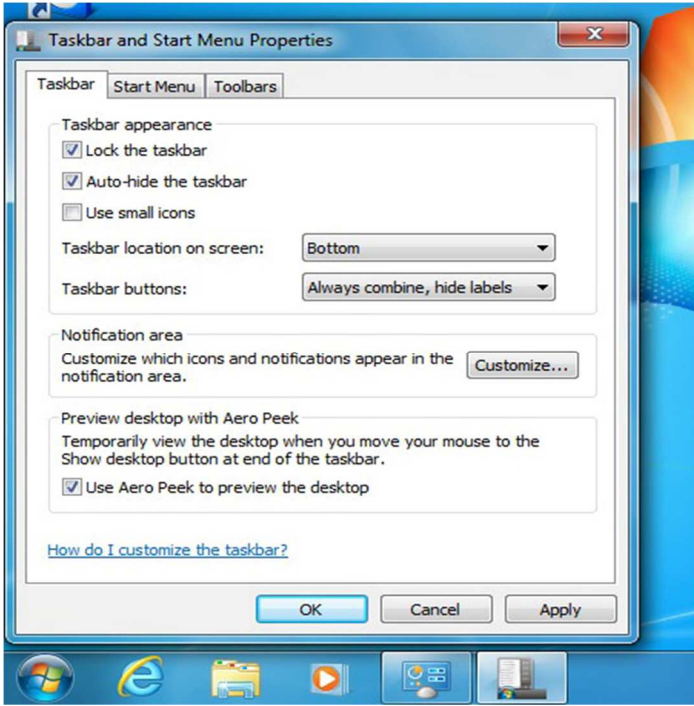
7.) Right click on the "Action Center" icon, which is the green flag that is located on the right side on the task bar.
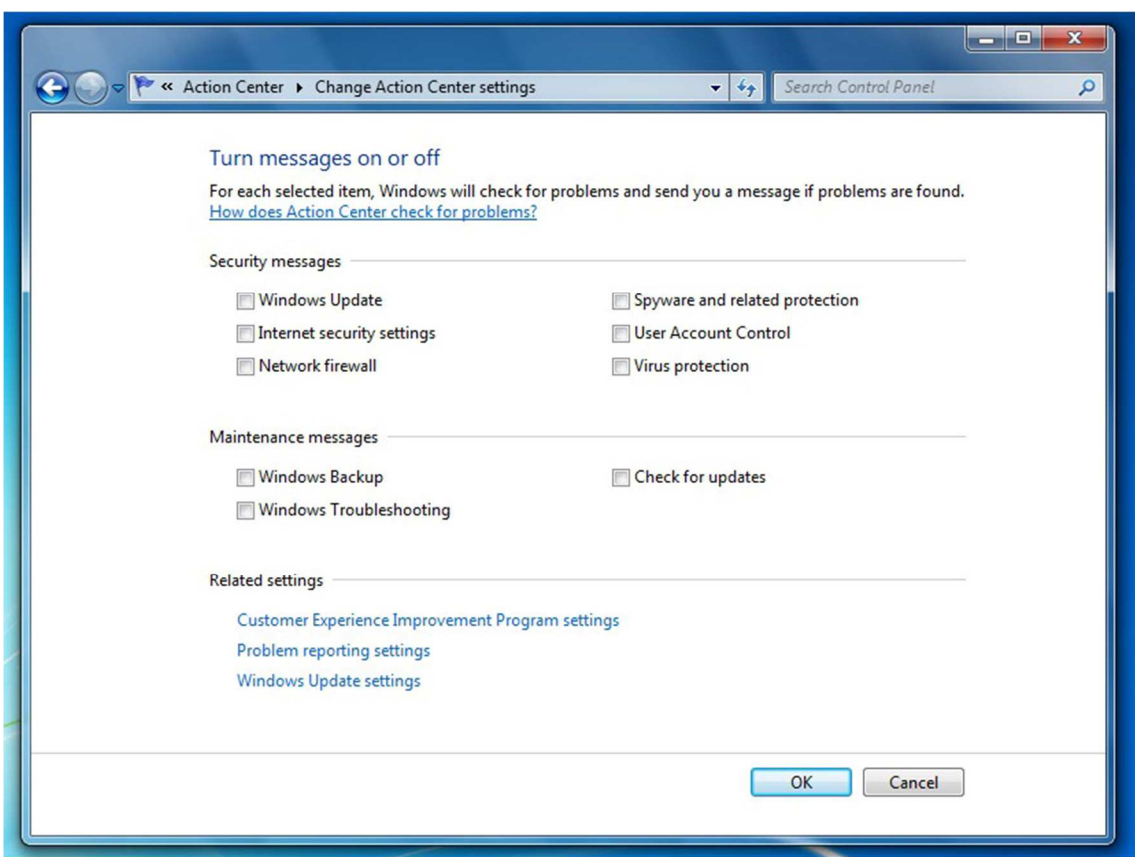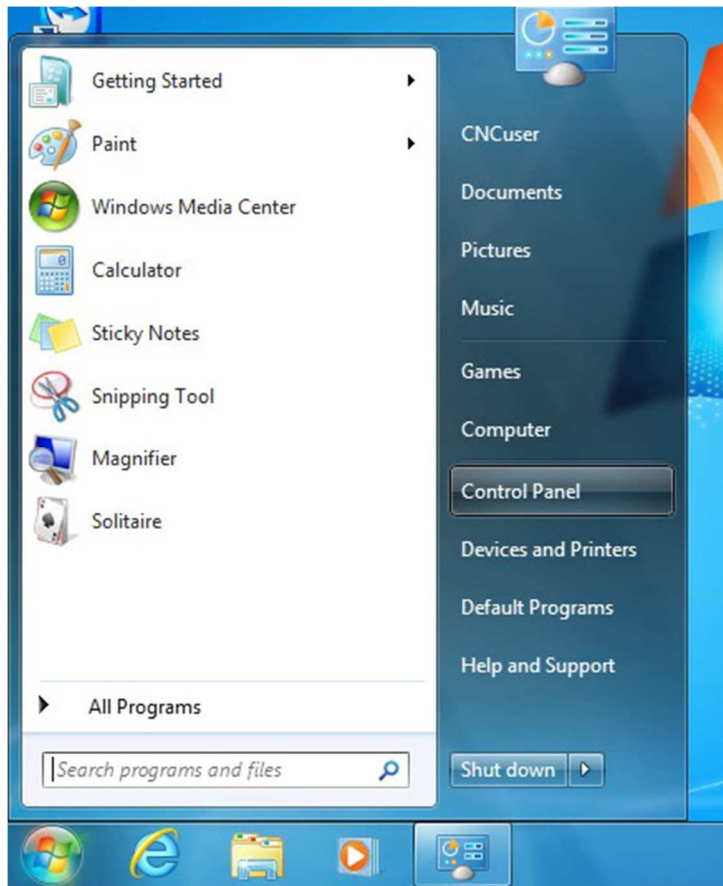

8.) Select "Open Action Center".
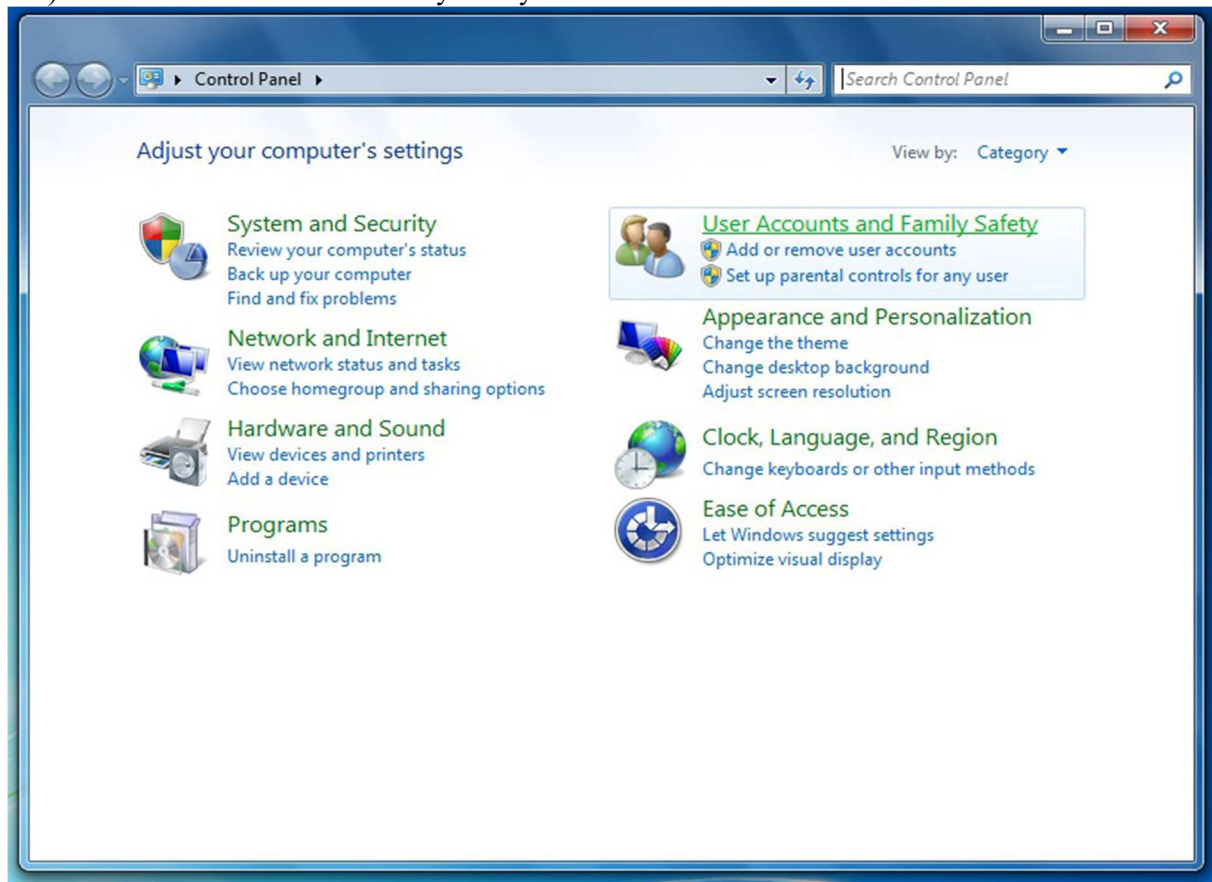
9.) Click on "Change Settings".

10.) Make sure that all of the options have their respected boxes unchecked.

11.) Click on the "Start" button and select "Control Panel".

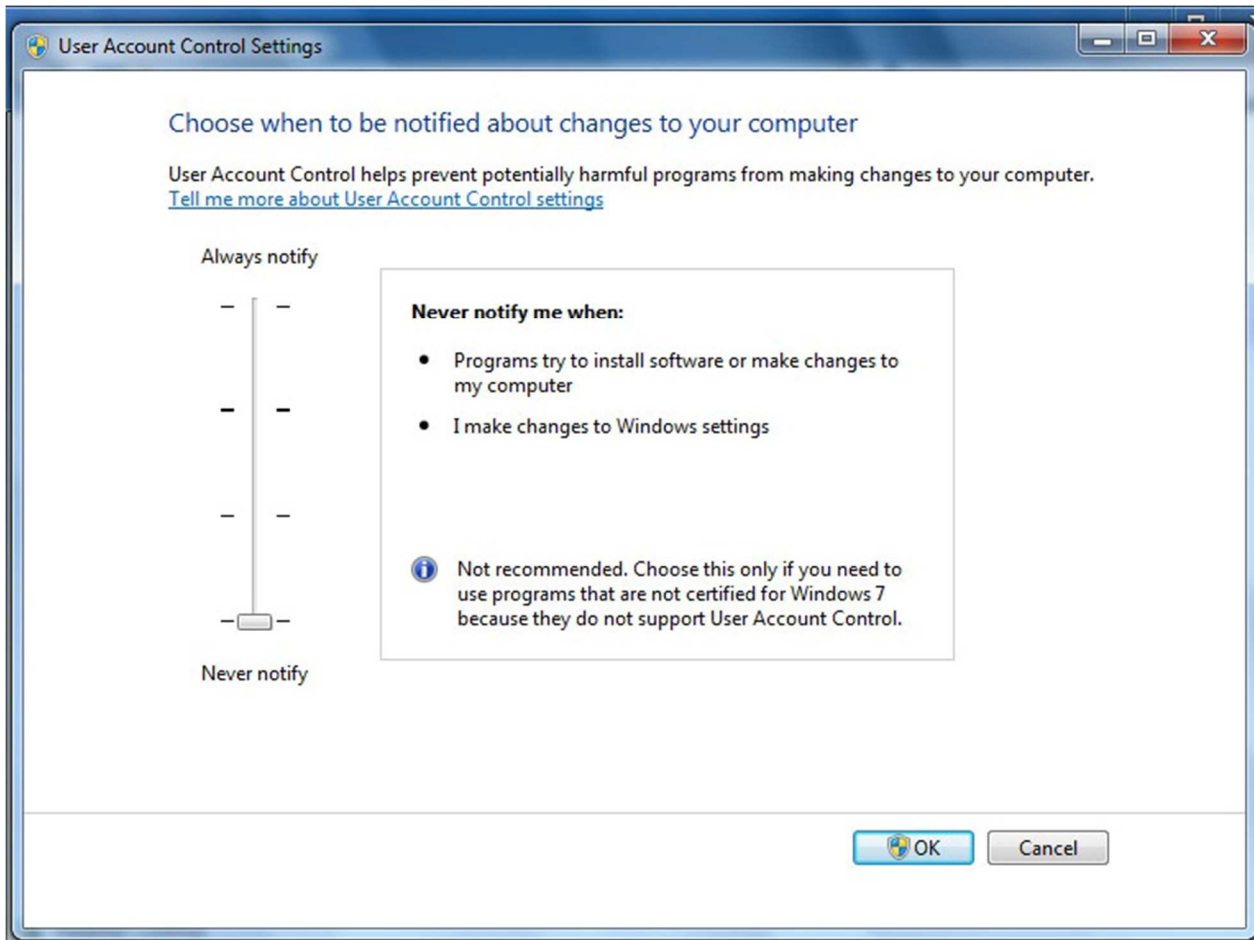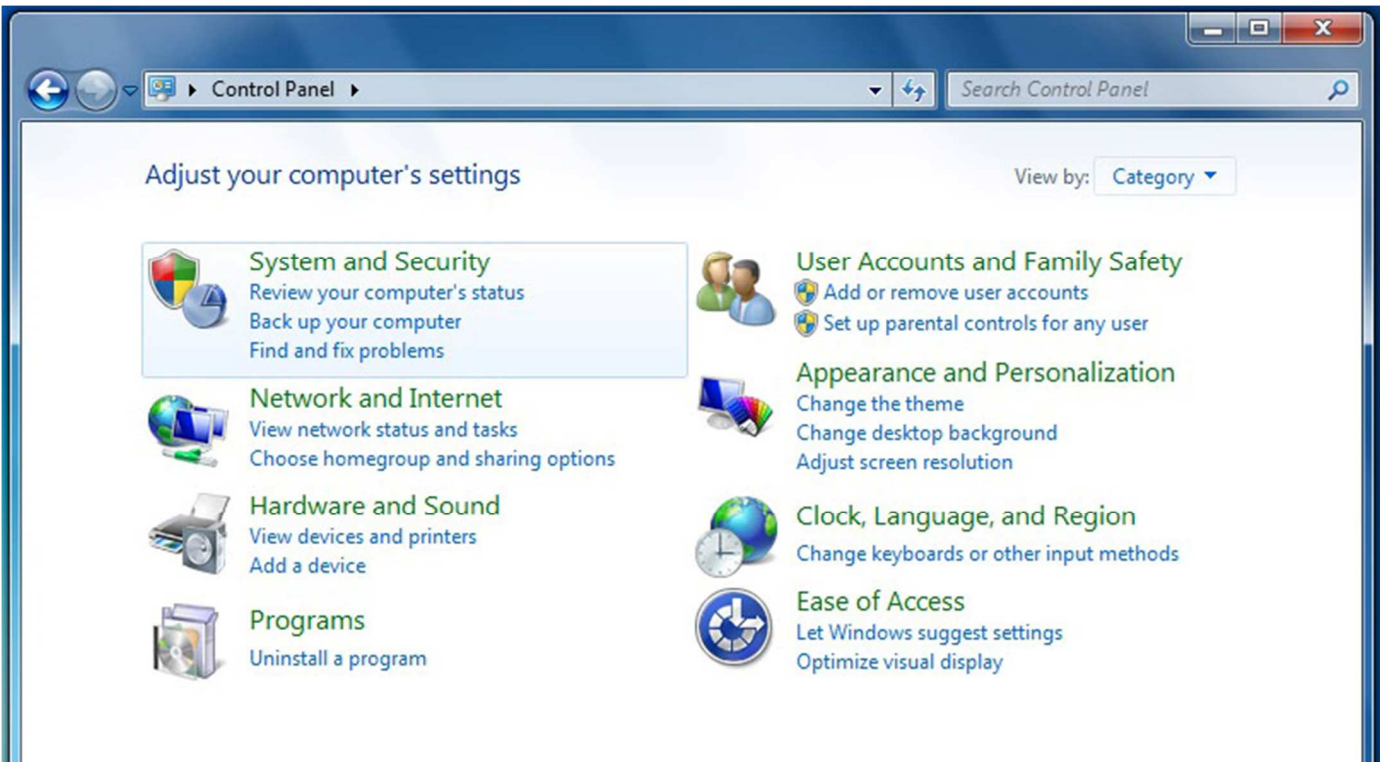12.) Select "User Accounts & Family Safety".

13.) Click on "User Accounts"

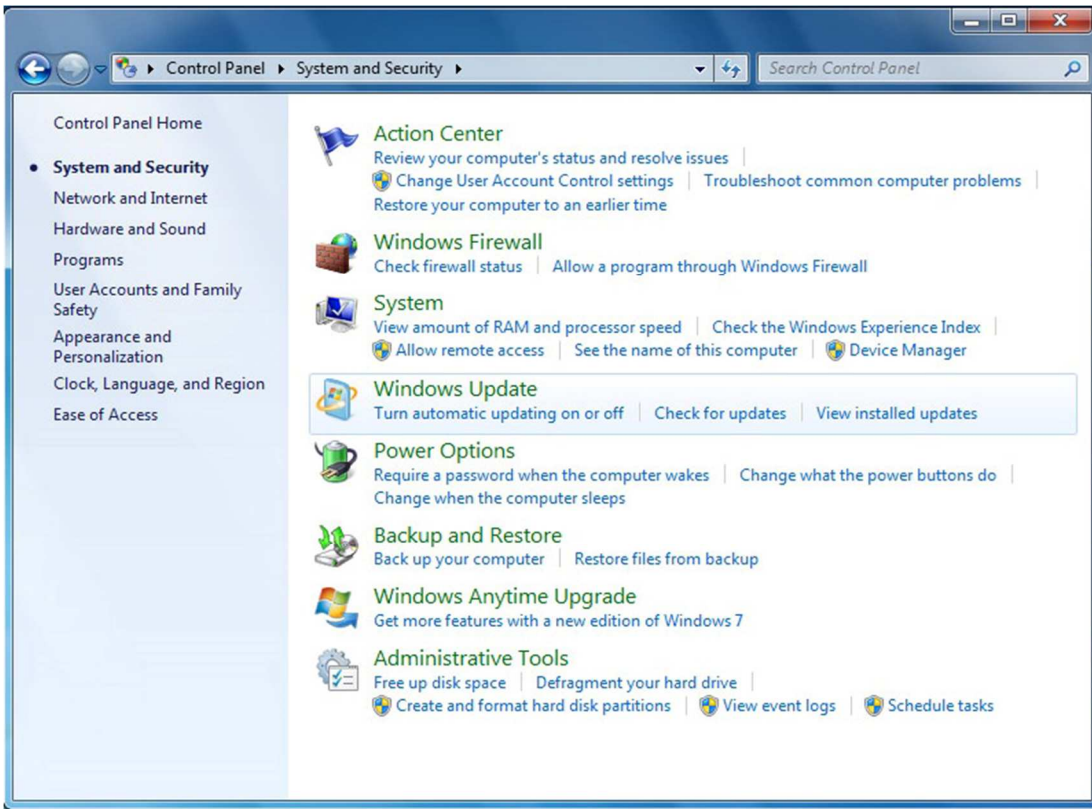14.) Create an administrative account with the name **CNCuser**.

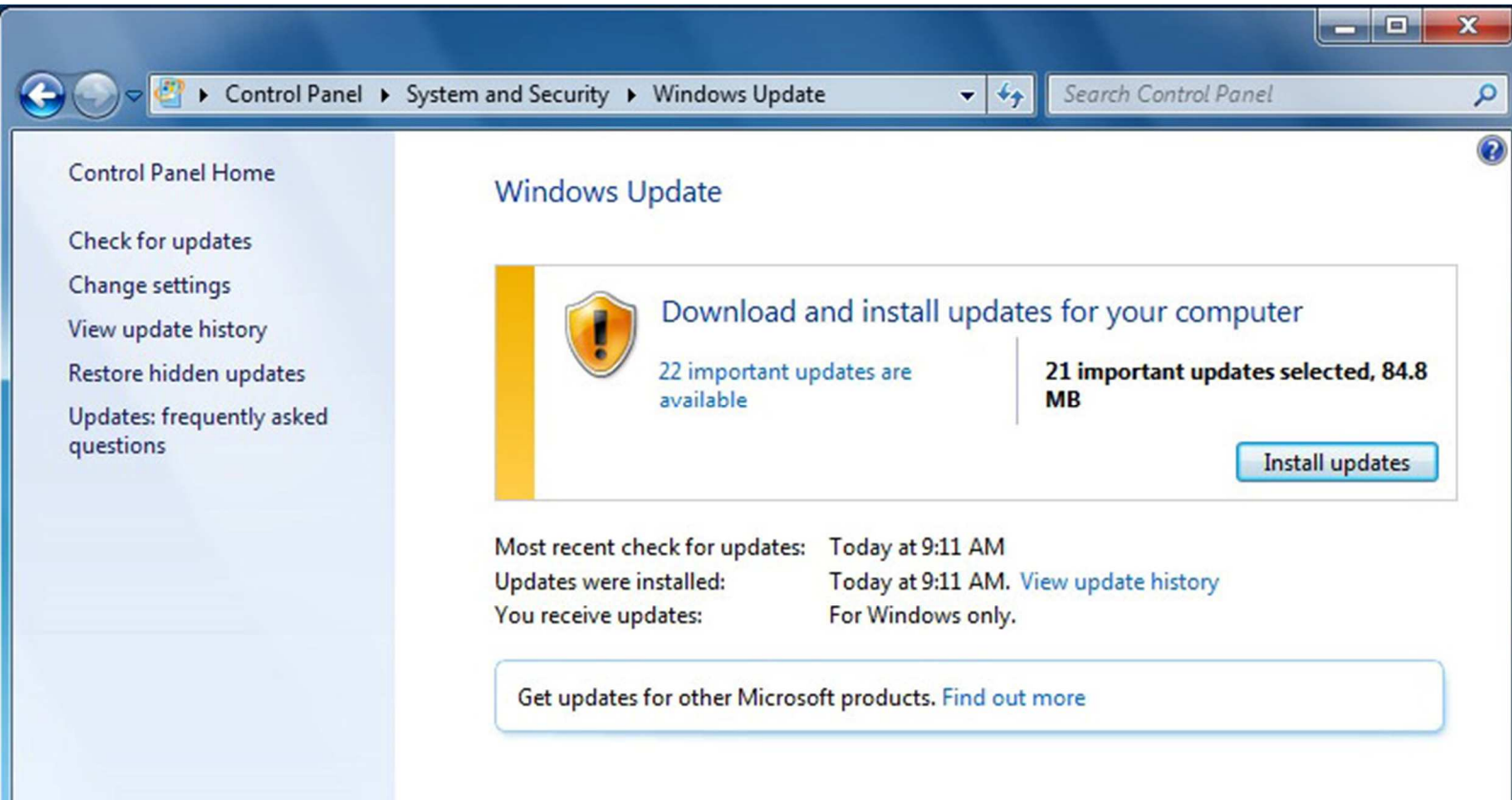15.) Select "Change User Account" and lower the slider bar to "Never Notify".

User Account Control Settings

Choose when to be notified about changes to your computer

User Account Control helps prevent potentially harmful programs from making changes to your computer.
Tell me more about User Account Control settings

Always notify

Never notify me when:

- Programs try to install software or make changes to my computer
- I make changes to Windows settings

ⓘ Not recommended. Choose this only if you need to use programs that are not certified for Windows 7 because they do not support User Account Control.

Never notify

OK   Cancel

16.) Go back to "Control Panel" and select "System & Security".

Control Panel ▶   Search Control Panel

Adjust your computer's settings   View by: Category ▼

System and Security
Review your computer's status
Back up your computer
Find and fix problems

Network and Internet
View network status and tasks
Choose homegroup and sharing options

Hardware and Sound
View devices and printers
Add a device

Programs
Uninstall a program

User Accounts and Family Safety
Add or remove user accounts
Set up parental controls for any user

Appearance and Personalization
Change the theme
Change desktop background
Adjust screen resolution

Clock, Language, and Region
Change keyboards or other input methods

Ease of Access
Let Windows suggest settings
Optimize visual display

17.) Select "Windows Update"


18.) Click on "Install Updates".

19.) The computer may need to be restarted after the updates are done installing. Go back to the above screen and keep clicking "Install Updates" until you see the screen below. Next click on "Change Settings" on the left hand tab.
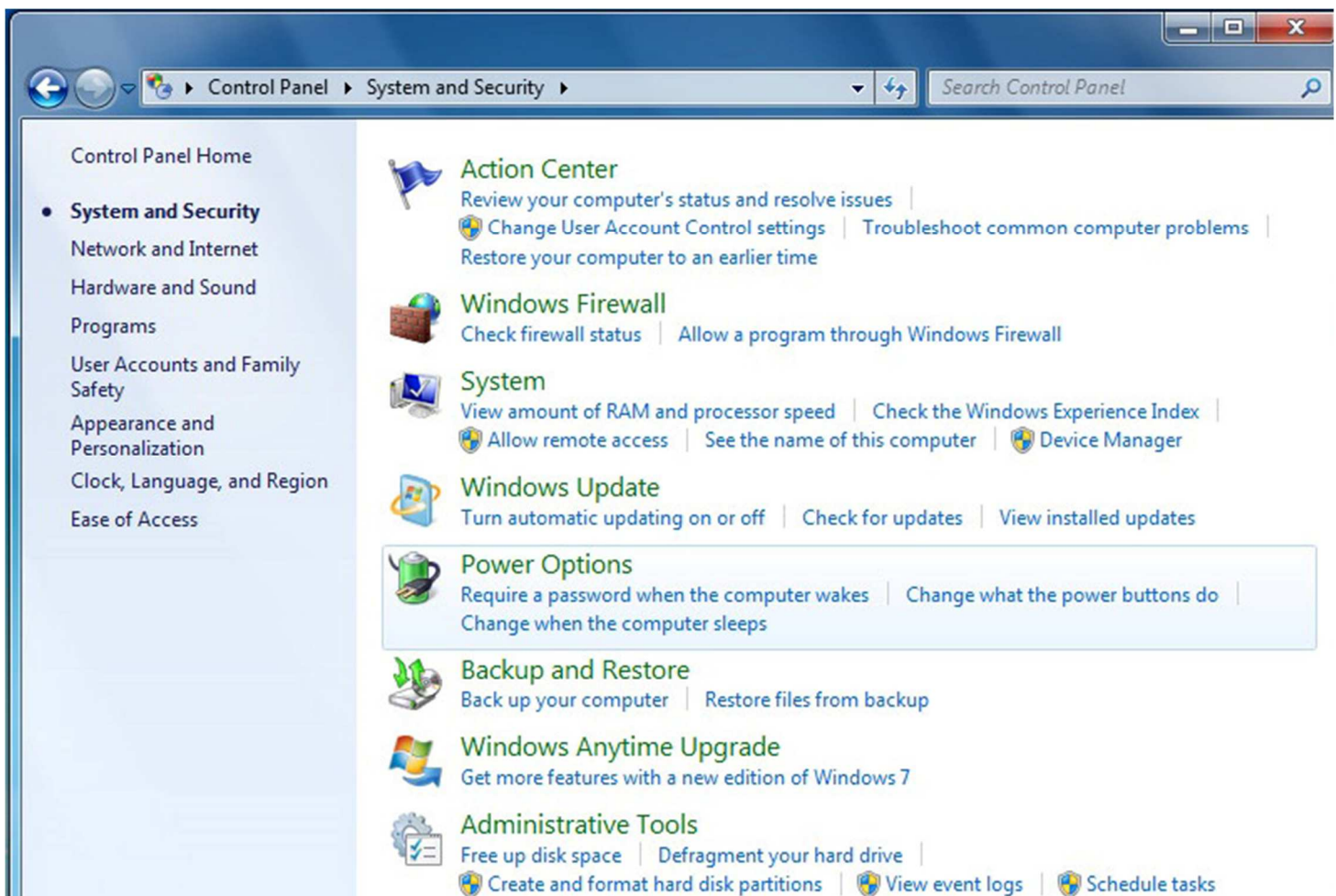

20.) Select "Important Updates" and then select "Never Check for Updates".
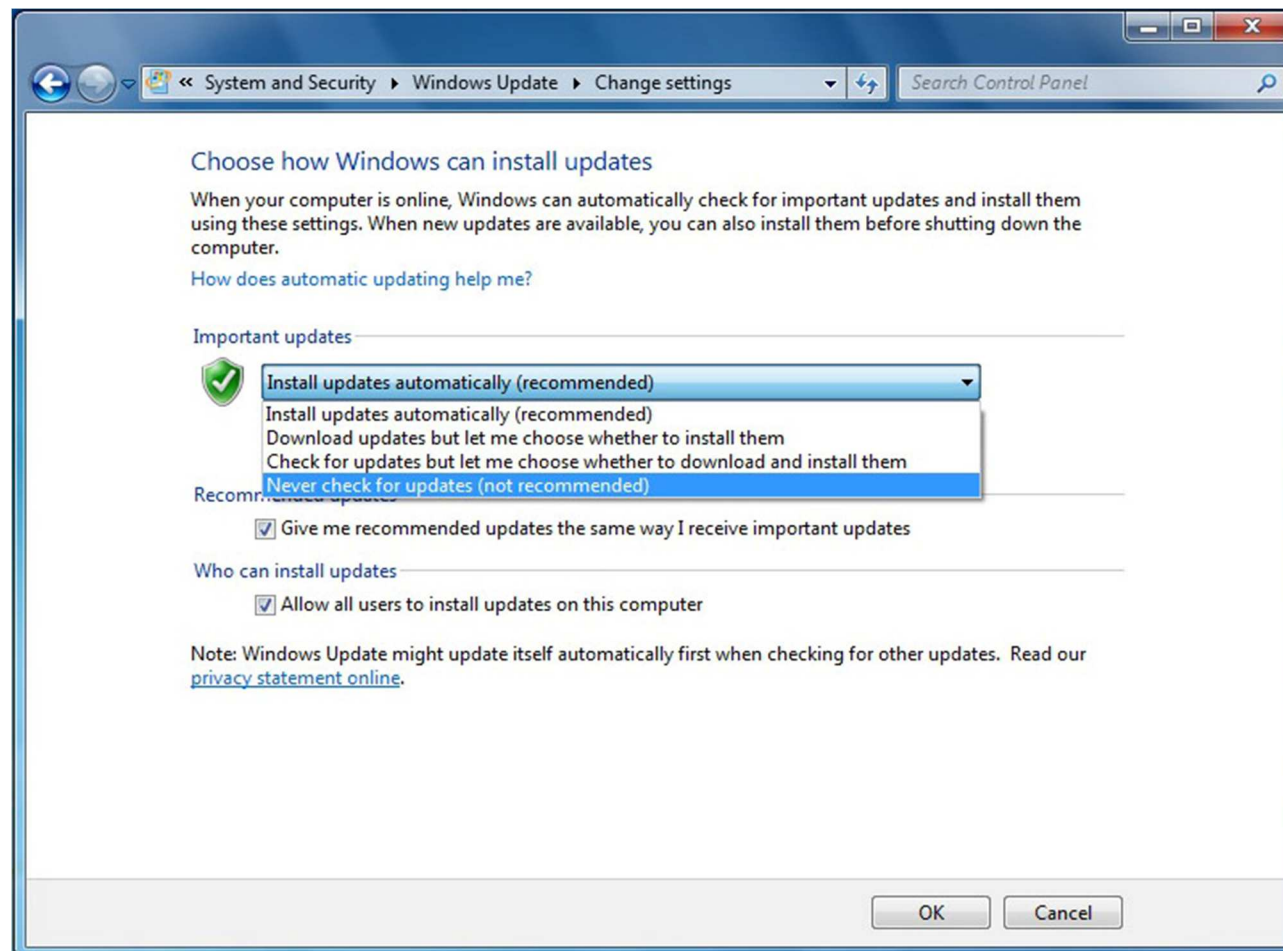
21.) Go back to "Control Panel", "System and Securities".
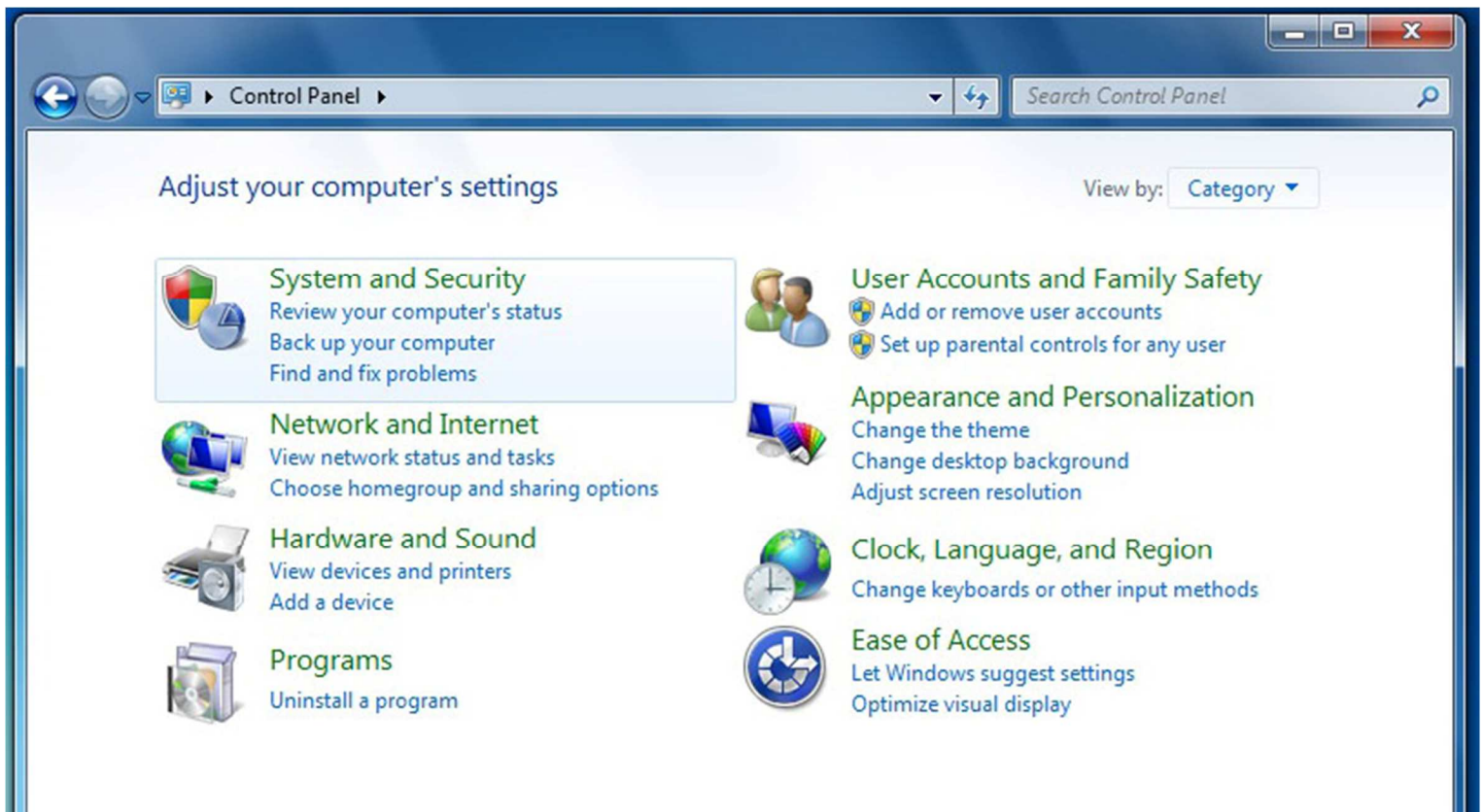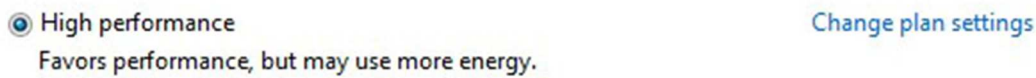

22.) Select "Power Options".

23.) Click on the down tab next to "Show additional plan".

Show additional plans ─── ⌄

24.) Next select "High performance" then select "Change Plan Settings".

◉ High performance   Change plan settings
   Favors performance, but may use more energy.

25.) Then select "Change Advanced Power Settings".
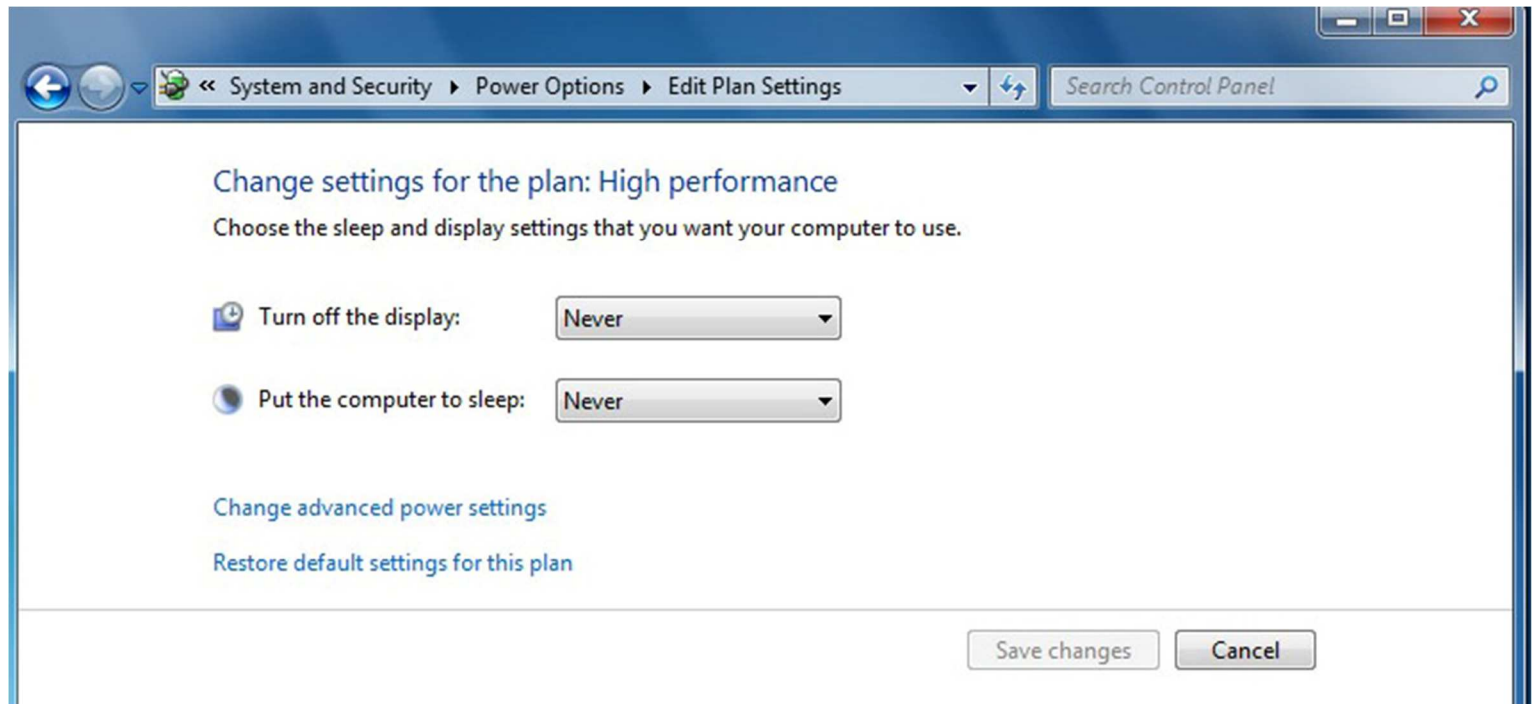
26.) You should now be at the Power Options screen.
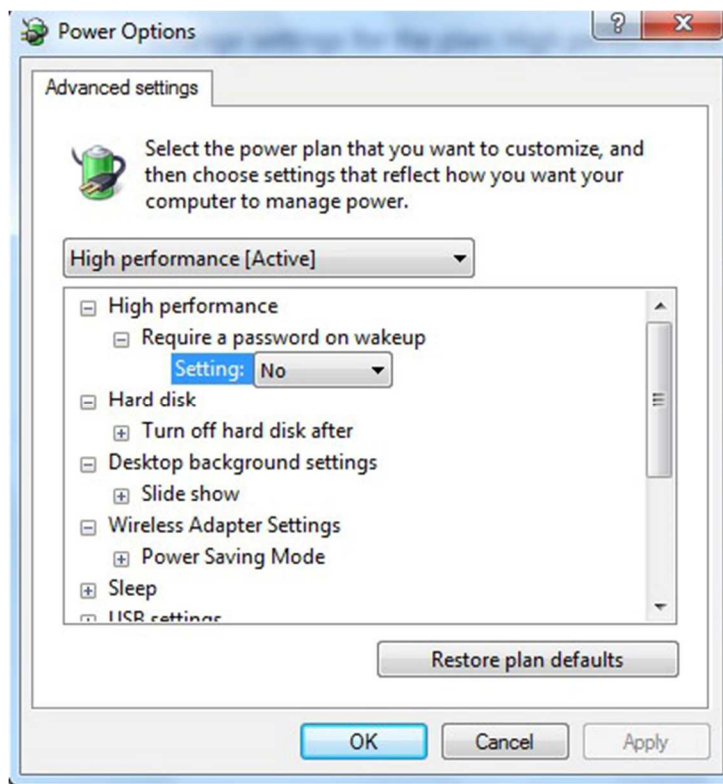
27.) Make sure that the settings are as described below:

High Performance
    - required password → NO
HDD
    - Turn off HDD → Never
Desktop Background
    - Slide Show → Available
Wireless Adapter Setting
    - Power Saving mode → Maximum performance
Sleep
    - Sleep after → Never
    - Allow hybrid sleep → ON
    - Hibernate after → Never
    - Allow wake times → Enable
USB Settings
    - USB selective suspend → Disable
Power Buttons
    - Power button action → Shut down
    - Sleep button → Sleep
PCI Express
    - Link state power manage → OFF
Processor Power Management
    - Minimum processor state → 100%
    - System cooling policy → Active
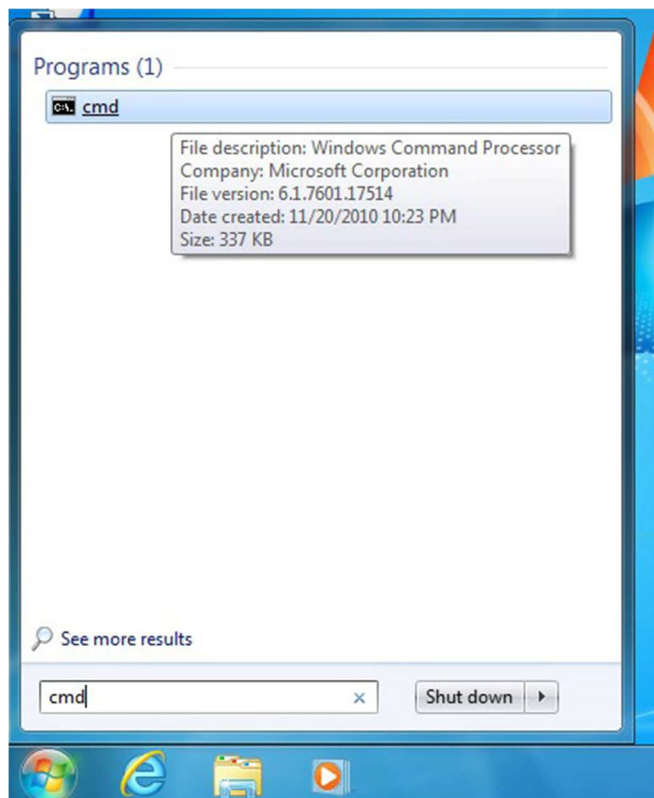   - Maximum processor state → 100%
Display
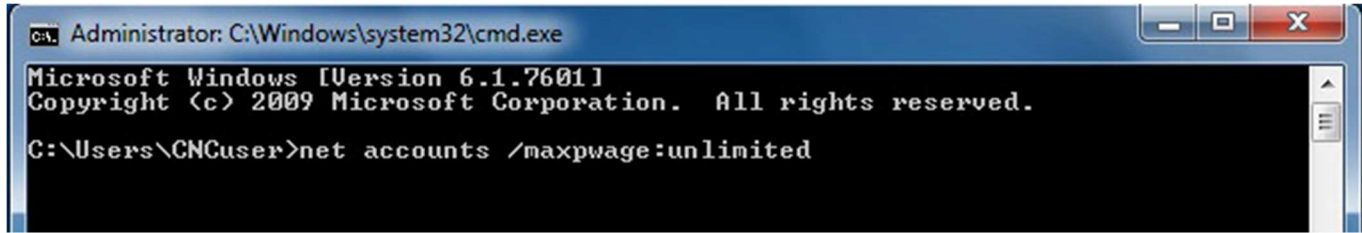   - Turn off display after → Never
Multimedia Settings
    - When sharing media → Prevent idling to sleep
    - When playing video → Optimize video quality

28.) Next the user password expiration needs turned off. Click the Windows icon, then type: cmd to bring up the command prompt.
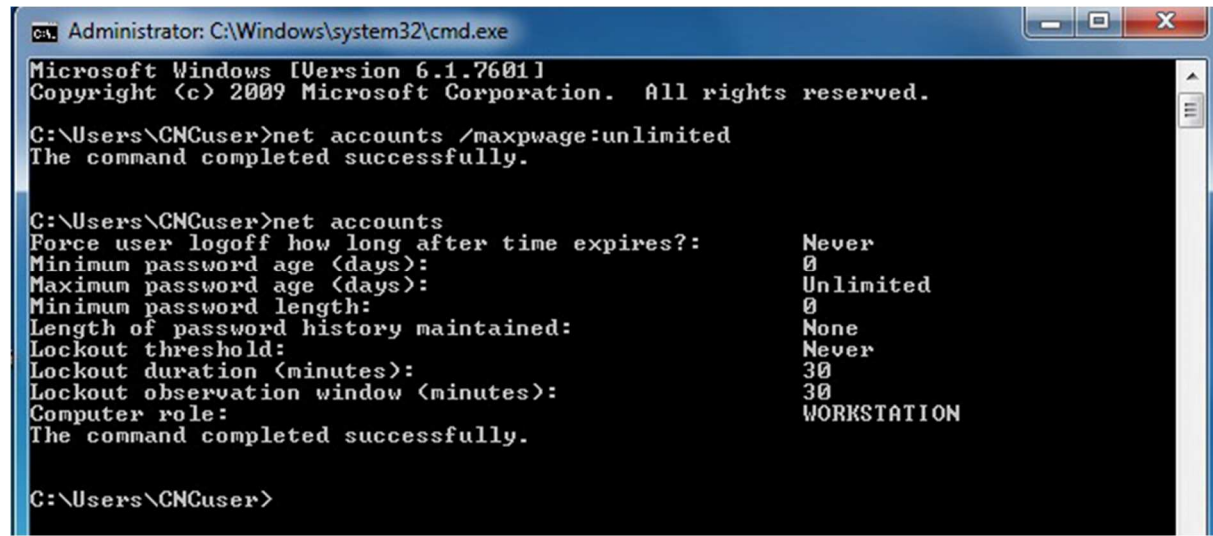
29.) Make sure the title bar reads "Administrator: C\Windows\system32\cmd.exe", then type: **net accounts** (press enter). Third line down will read " Maximum password age (days):   42", confirm and then type: **net accounts /maxpwage:unlimited** (press enter).


```
Administrator: C:\Windows\system32\cmd.exe                    _ □ X

Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\CNCuser>net accounts /maxpwage:unlimited
```

30.) Type: net accounts again to verify that it says "unlimited" beside the "Maximum password age". If it does type: **exit** (press enter) to close the command prompt window.
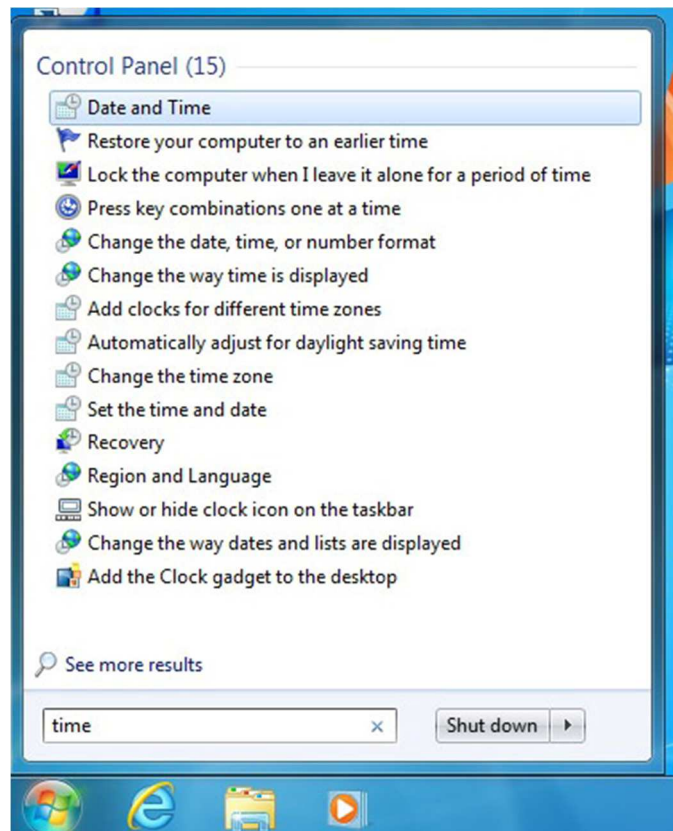


```
Administrator: C:\Windows\system32\cmd.exe                    _ □ X

Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\CNCuser>net accounts /maxpwage:unlimited
The command completed successfully.


C:\Users\CNCuser>net accounts
Force user logoff how long after time expires?:      Never
Minimum password age (days):                         0
Maximum password age (days):                         Unlimited
Minimum password length:                             0
Length of password history maintained:               None
Lockout threshold:                                   Never
Lockout duration (minutes):                          30
Lockout observation window (minutes):                30
Computer role:                                       WORKSTATION
The command completed successfully.


C:\Users\CNCuser>
```
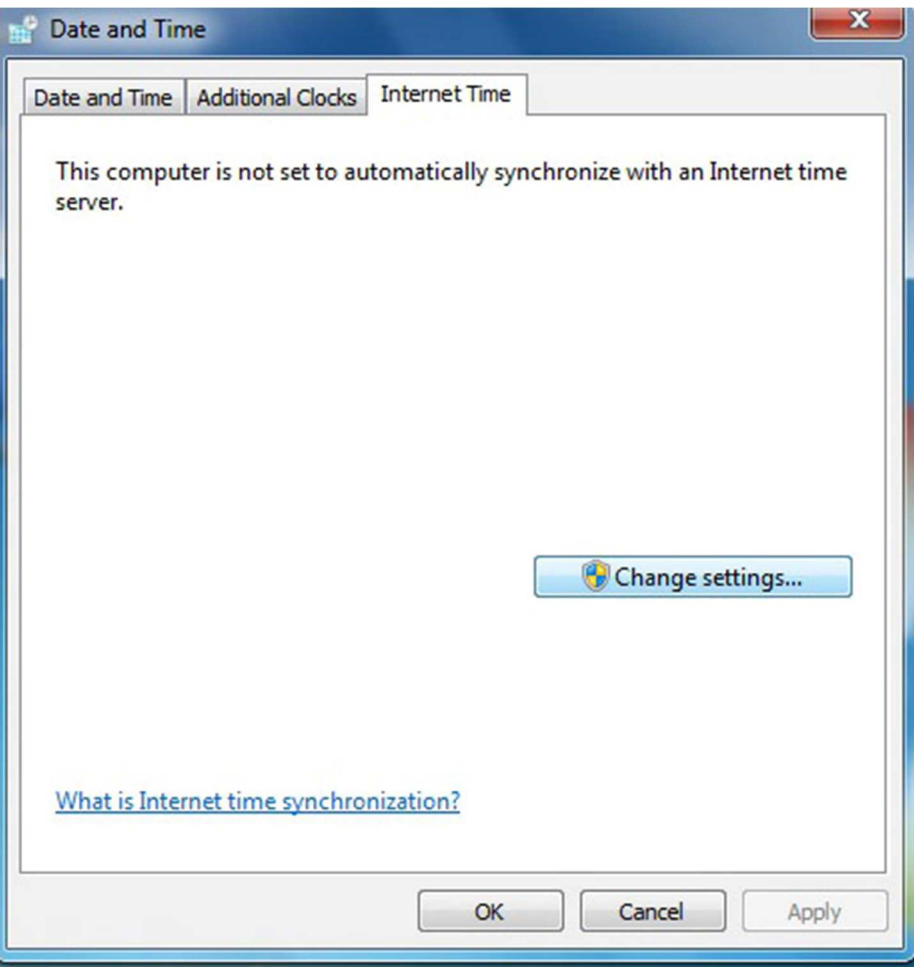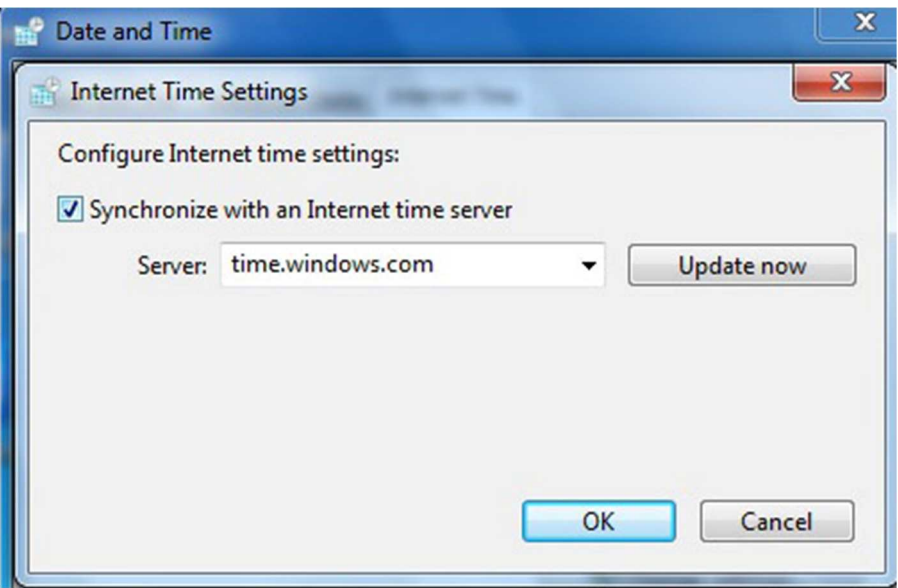
31.) The "Internet Time" synchronization also needs turned off. To do this click on the Windows button and type: **time**, then click on "Date and Time" in the list.


```
Control Panel (15)

   Date and Time
   Restore your computer to an earlier time
   Lock the computer when I leave it alone for a period of time
   Press key combinations one at a time
   Change the date, time, or number format
   Change the way time is displayed
   Add clocks for different time zones
   Automatically adjust for daylight saving time
   Change the time zone
   Set the time and date
   Recovery
   Region and Language
   Show or hide clock icon on the taskbar
   Change the way dates and lists are displayed
   Add the Clock gadget to the desktop

   See more results

   time                    ×      Shut down  ▶
```

32.) Click on the "Internet Time" tab and then click the "Change Settings" button.

Date and Time

| Date and Time | Additional Clocks | Internet Time |

This computer is not set to automatically synchronize with an Internet time server.

Change settings...

What is Internet time synchronization?

OK   Cancel   Apply

33.) Uncheck the box for "Synchronize with an Internet time server", then click "OK" to close that window and click "OK" again to close the "Date and Time" window.

Date and Time

Internet Time Settings

Configure Internet time settings:

☑ Synchronize with an Internet time server

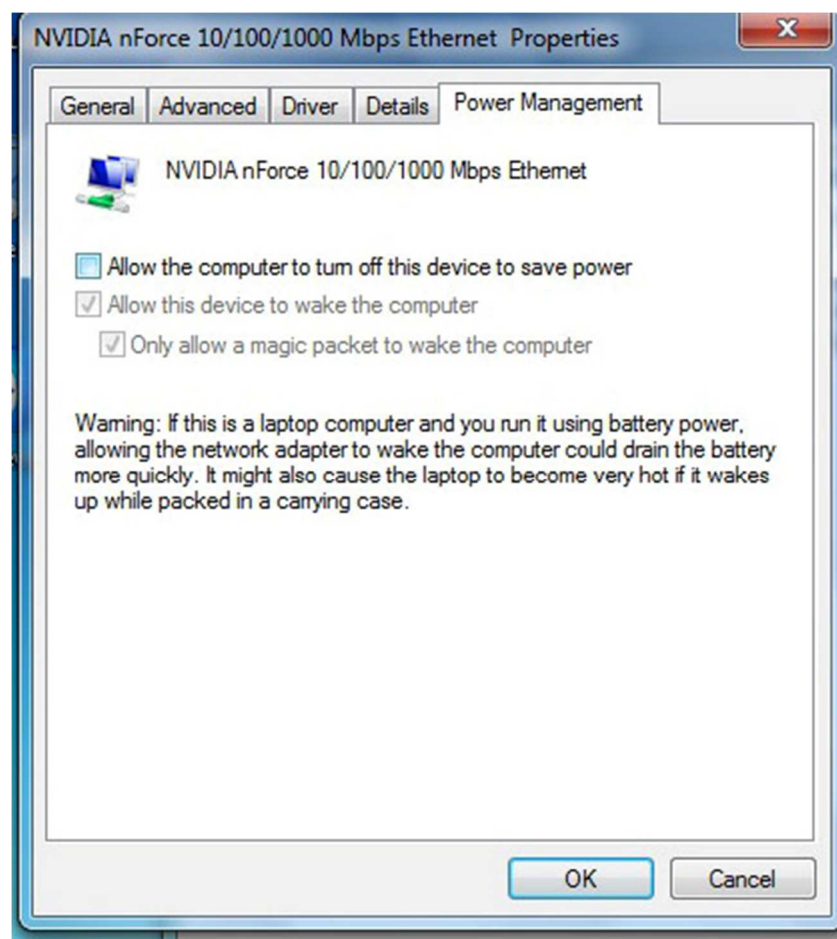Server: time.windows.com   ▼   Update now

OK   Cancel

34.) Click on the "Start Button" and type: **network connection** in the search window. Click on "View Network".
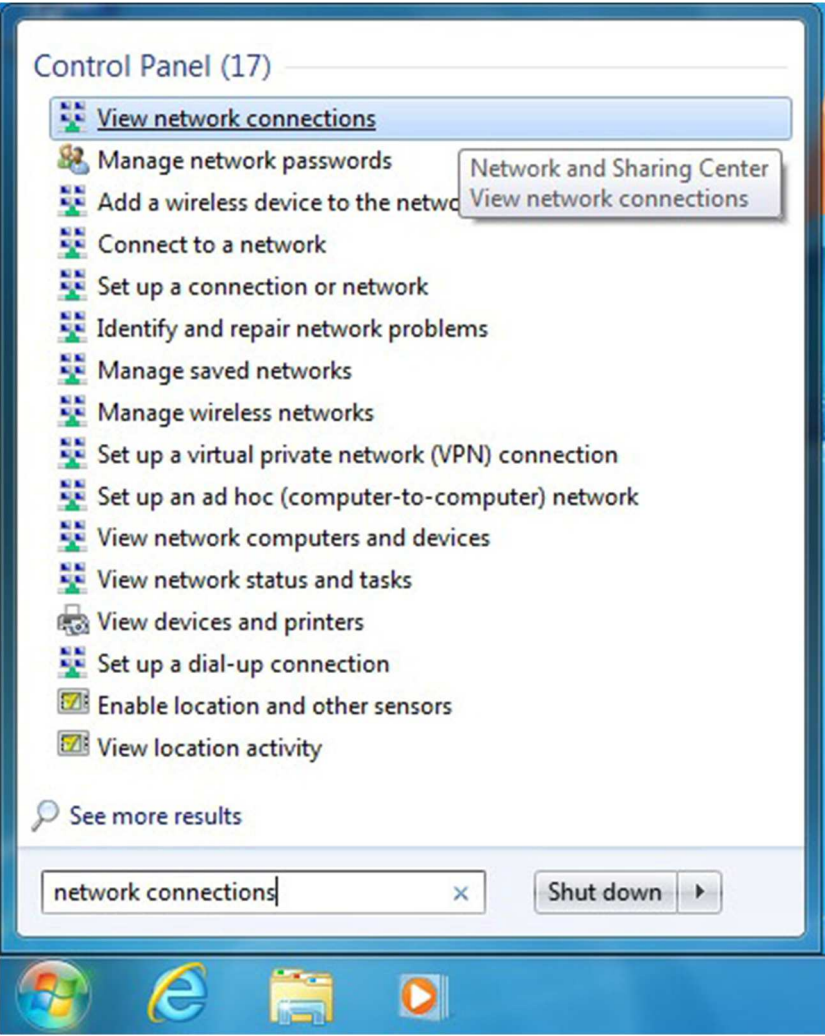
35.) Right click on the network card. Click on "Properties".
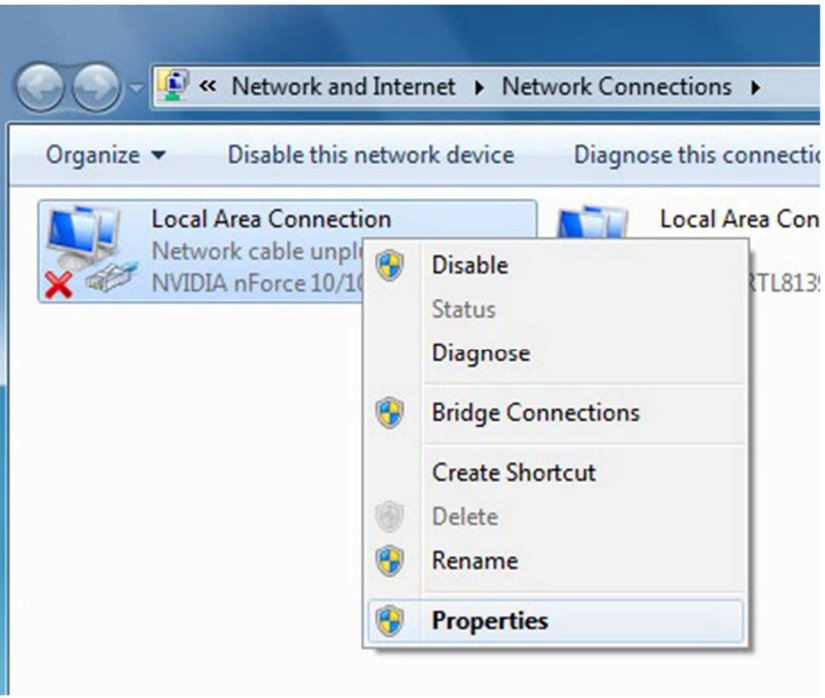
36.) Click "Configure". Click on the "Power Management" tab and make sure that the "Allow the computer to turn off this device to save power" box is unchecked.

37.) After Windows 7/10 is configured the last thing you will need to do is activate Windows 7/10, which can be done via the Internet or phone.

38.) Open "Windows Activation" by clicking the "Start" button, then right click "Computer", then click "Properties", and then click "Activate Windows now".

Note: If you are installing a new SSD in which Centroid has installed the Windows 7/10 operating system, you will NEED to change the product key before attempting to activate Windows 7/10 by clicking on the "Start" button, then click on "Control Panel", then click on "System & Security", then click on "System", scoll all the way to the bottom and click on "Change product key".

39.) If using the Internet and Windows 7/10 detects an Internet connection, click on "Activate Windows online now", type in the Windows 7/10 product key when prompted, then click "Next" and follow the remaining instructions.

40.) If activating Windows 7/10 via the phone, click on "Show me other ways to activate", type in the Windows 7/10 product key when prompted, then click "Next", then click "Use the automated phone system", then click on the location nearest you from the drop-down list, then click "Next".

41.) Call one of the phone numbers listed and an automated system will guide you through the activation process.

42.) When prompted, enter the installation ID that's listed on the screen into the phone's keypad.

43.)   Type the confirmation ID that the phone system gives you into the space provided under Step 3, then click "Next", and then follow the remaining instructions.


Instructions for Installing CNC11 Software

1.) Install CNC11 software. Make sure you configure the network adapter and install the appropriate PLC program if needed. Also, if you want the PLC Detective software, you will need to install WinPcap.

2.) Once the CNC11 software installation is complete, right click on the CNC11 icon located on the desktop and select "Properties". Select the "Shortcut" tab, then select "Advanced". Check the box for "Run as Admin". Select "OK", then "Apply", and then "OK".

3.) Go into "Control Panel", select "System and Security", and then "Windows Firewall". On the upper left side of the window click on "Allow a program of feature through Windows Firewall", find cncm or cnct in the list and check both boxes for private and public, then click Ok.

4.) If want to eliminate the scan & fix pop up and autoplay pop up when you plug in your USB stick, you will need to do the following. To suppress the scan & fix click on the Windows icon type: **msconfig** and click on the "Services Tab" then scroll down and uncheck "Shell Hardware Detection". Click "Apply" then "Ok" and then you will need to power cycle the PC. To suppress the autoplay click on Windows icon and type: **autoplay** then uncheck "use AutoPlay for all media and devices" and click "Save".

5.) You are now ready to run CNC11 software on your Windows 7/10 PC/console.

6.) If you clicked on the CNC11 icon to start the software and you are getting 64180 MPU11 not responding errors. You most likely didn't have the MPU11 connected to the PC when you installed the software. Check your Ethernet card to make sure it is configured properly.

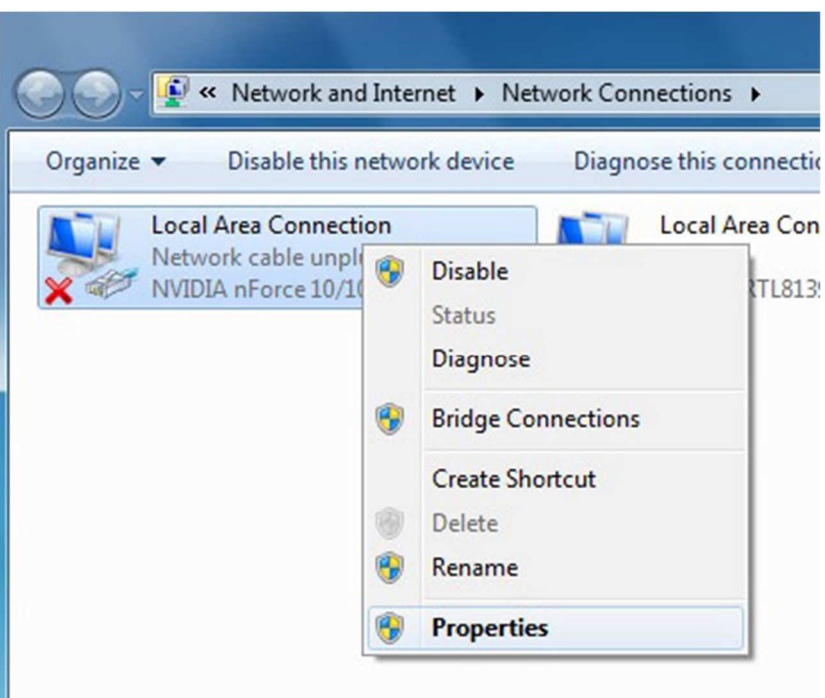7.) Go to "Control Panel" and select "Network and Internet".
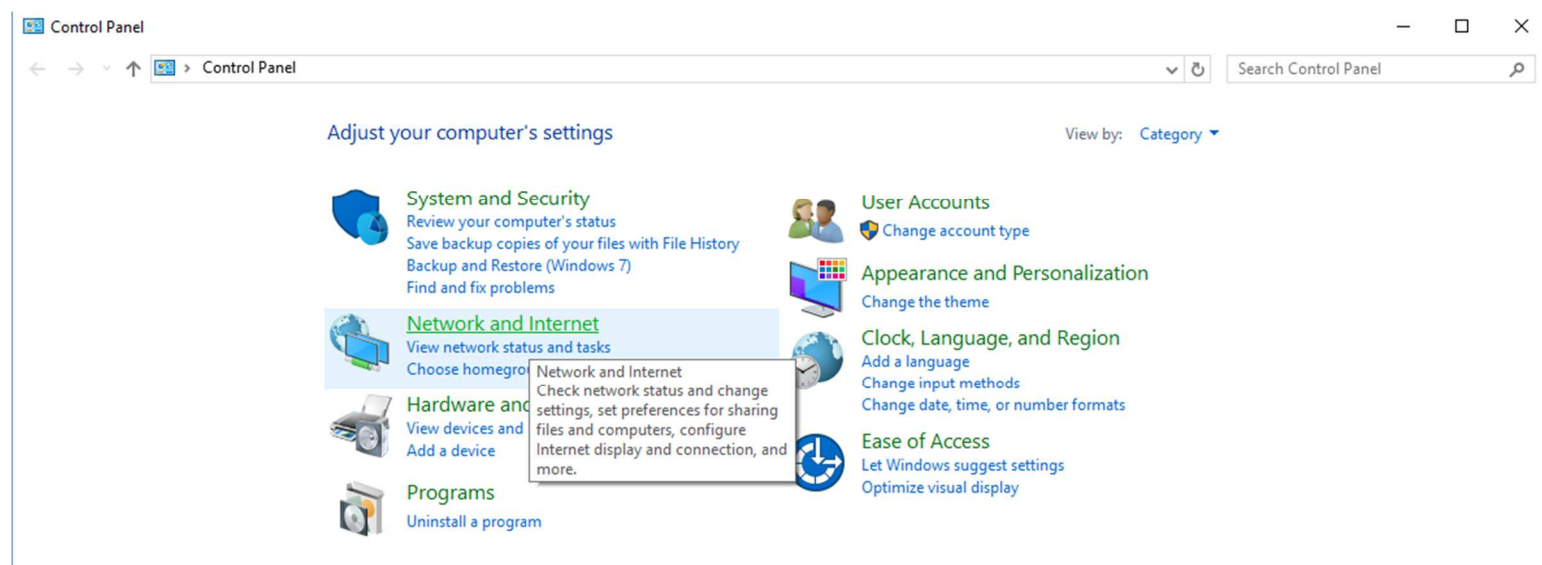
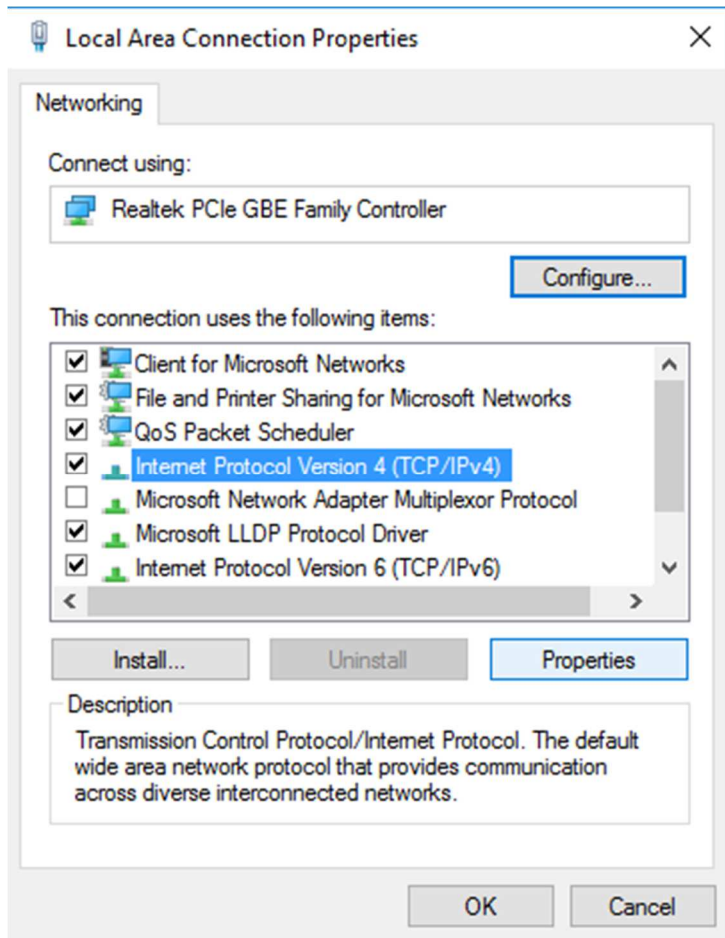8.) Click on "Network and Sharing Center".
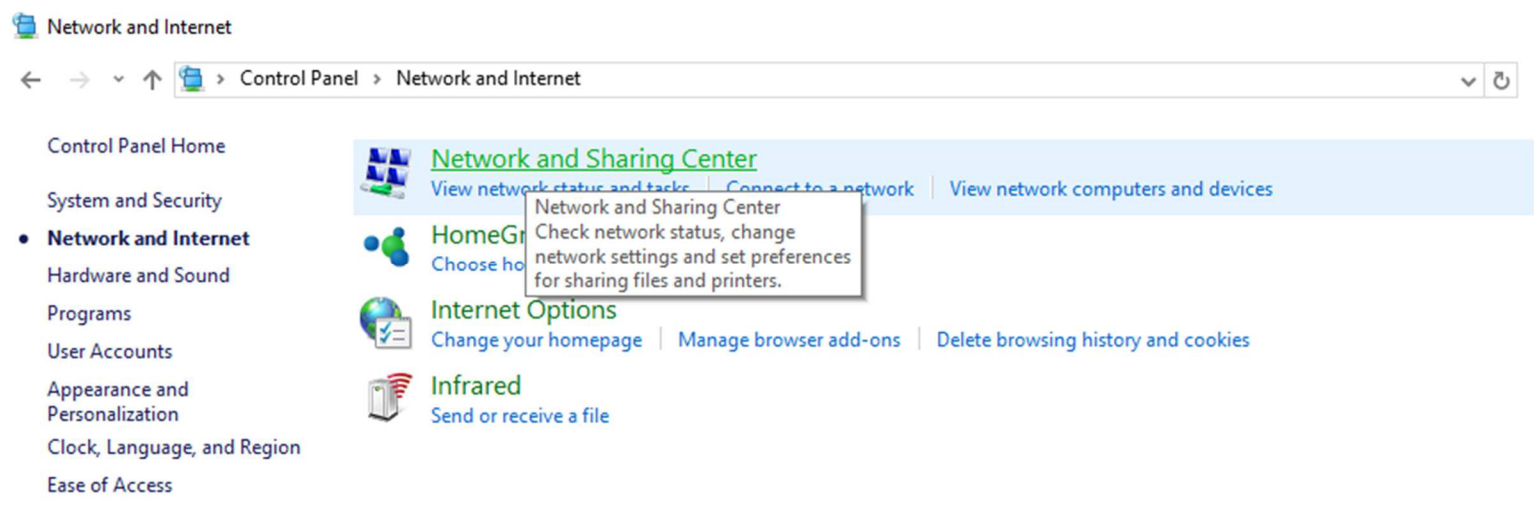
10.) Click on "Change adapter settings" on the upper left corner of the window.
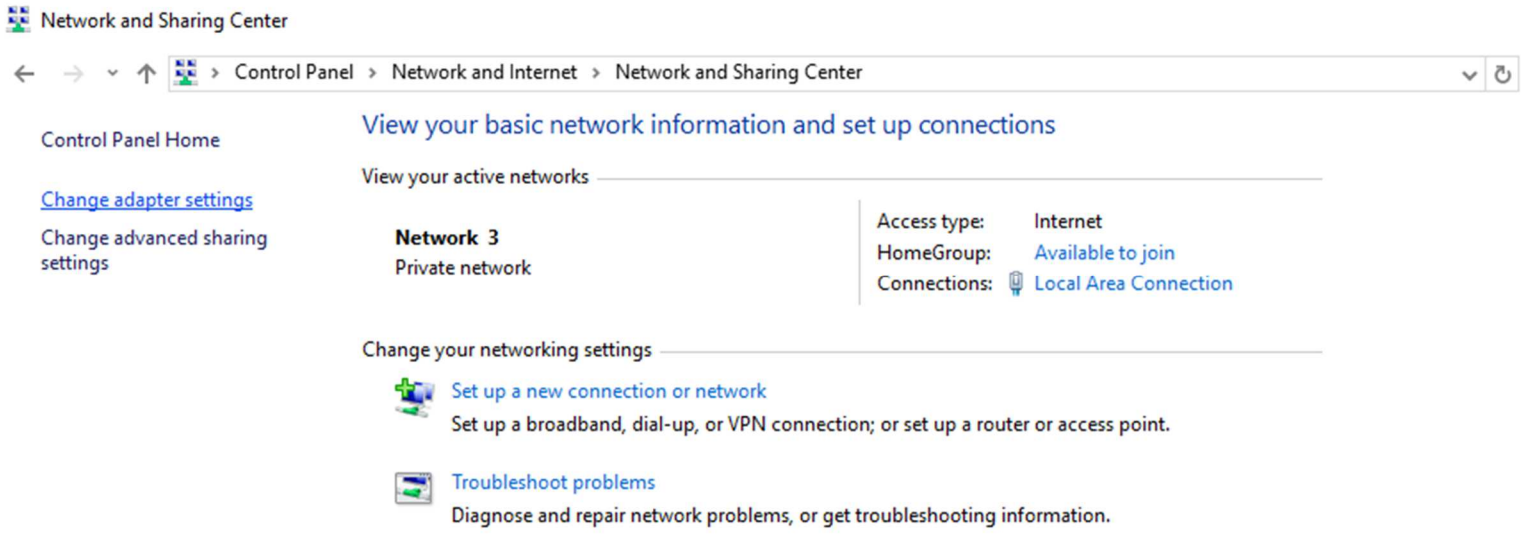
11.) Right-click on the network icon that is connected to the MPU11 and select "Properties".
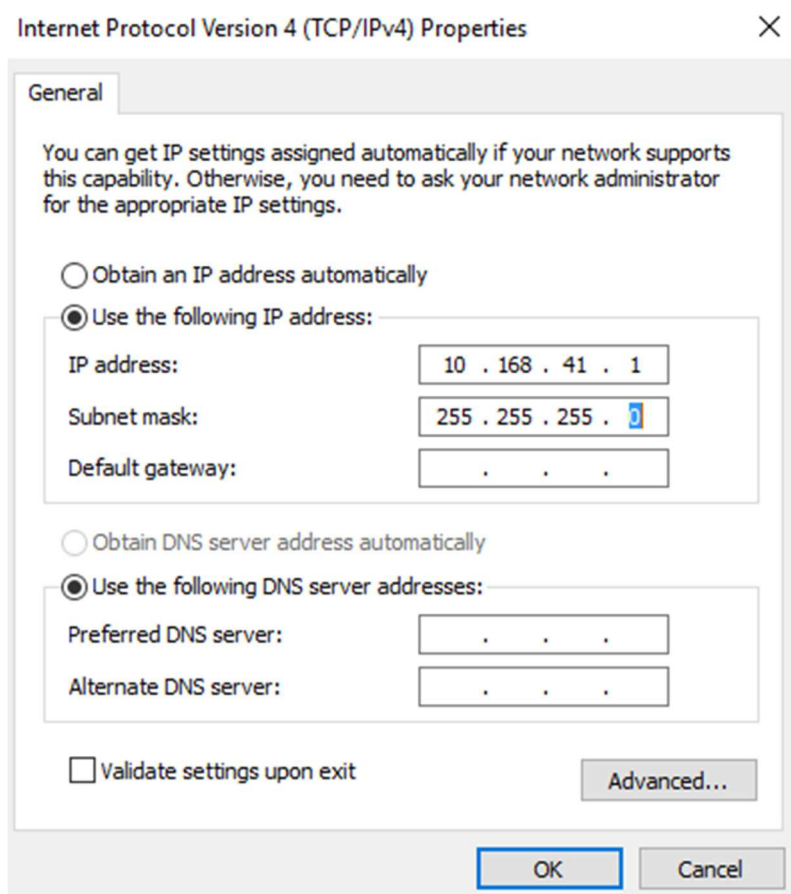
12.) Highlight "Internet Protocol Version 4 (TCP/IPv4)" then click "Properties" again.

13.) Select "Use the following IP address" then set the IP address and Subnet mask to:

    IP address: 10.168. 41.1
    Subnet mask: 255.255.255.0

Internet Protocol Version 4 (TCP/IPv4) Properties   ✕

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
◉ Use the following IP address:

IP address: 10 . 168 . 41 . 1

Subnet mask: 255 . 255 . 255 . 0

Default gateway: .   .   .

○ Obtain DNS server address automatically
◉ Use the following DNS server addresses:

Preferred DNS server: .   .   .

Alternate DNS server: .   .   .

☐ Validate settings upon exit   Advanced...

                  OK   Cancel

14.) Click OK and then try to start the CNC11 software again.