ModuLab XM ECS

CONNECTIONS/COMMUNICATIONS

HTTP://WWW.AMETEKSI.COM/SUPPORT-CENTER/SOLARTRON-ANALYTICAL/USER-TESTS



When working with the Solartron Analytical ModuLab® XM ECS, as with all Solartron Analytical equipment, it is important to run a connections and communications check to ensure that the equipment is ready to use with the computer chosen. The ModuLab XM ECS operates in conjunction with XM-Studio software. The following is a guide to ensure proper connections and communications:

Powering Up the Instrument

1. Does the instrument power up?
    1.1. To confirm, after flipping the power switch on the back of the apparatus to the "on" position, the display on the front panel of the ModuLab XM ECS, if fitted, should become active, displaying the Solartron Analytical logo. The green power LEDs on the modules will flash, then continually light. Additionally, fans on the back of the equipment should begin running.
    1.2. If the instrument does not power up:

        a. Confirm that the outlet is working with other electrical instruments.

        b. Try another power cable.

        c. Check the fuse in the rear panel between the main input socket and switch of the ModuLab XM ECS. The fuse can be found and checked as shown in Figure 1, below. Should the fuse be blown, replace and retry. If the fuse fails again, please contact help at AMETEK®/Solartron Analytical at http://www.ameteksi.com/contact-us/contact-technical-support .



Figure 1

Potentiostat Communications-Passed

2. Is the ModuLab XM ECS communicating with your PC?
    2.1. To verify communications, download the latest version of XM Studio software and firmware from http://www.ameteksi.com/products/software/xm-studio-software.

Downloading/Upgrading Software

a. After selecting “Click Here to Download Software” from the above listed webpage, the software will begin downloading as a zip file. Click the file to open the menu.
b. Right click on “ModuLab Setup”, and click “Extract All” (Figure 2).

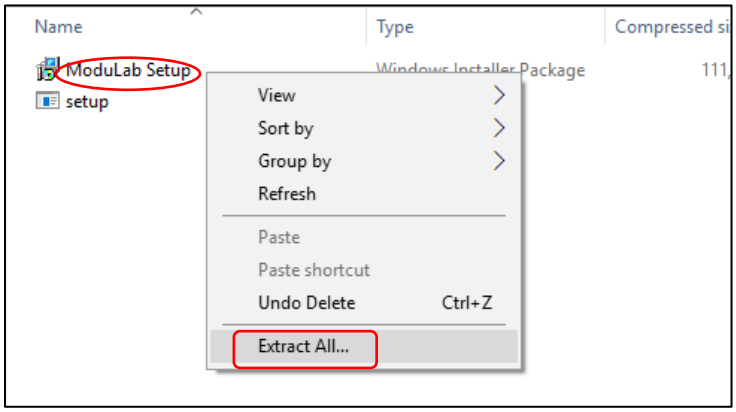


Figure 2

c. Select “Extract” (Figure 3).

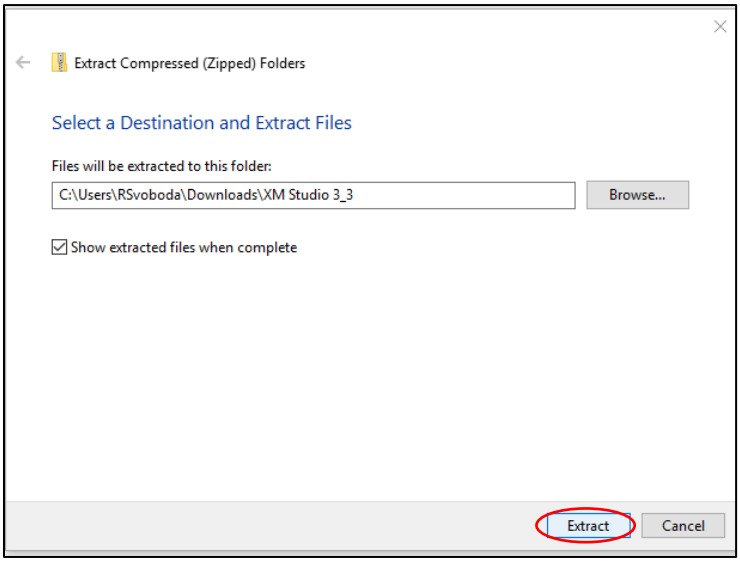


Figure 3

d. Double-click on “ModuLab Setup” to open the setup wizard (Figure 4).

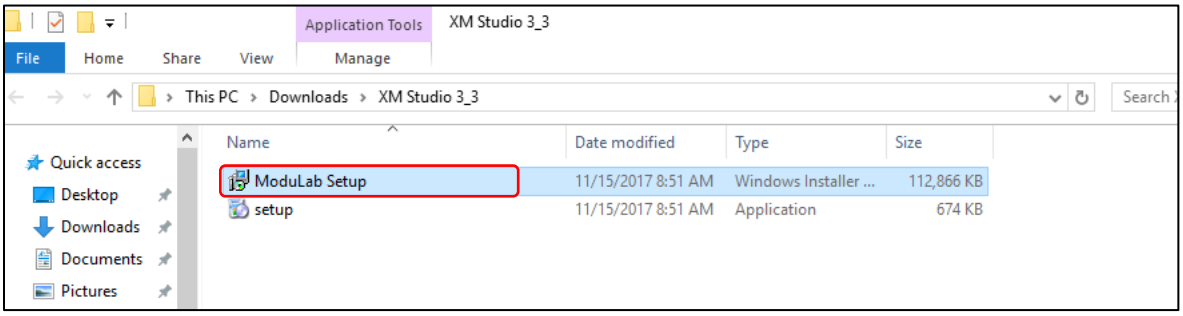


Figure 4

e. Click “Next”, then select “I Agree” to the “End User License Agreement” (Figure 5).

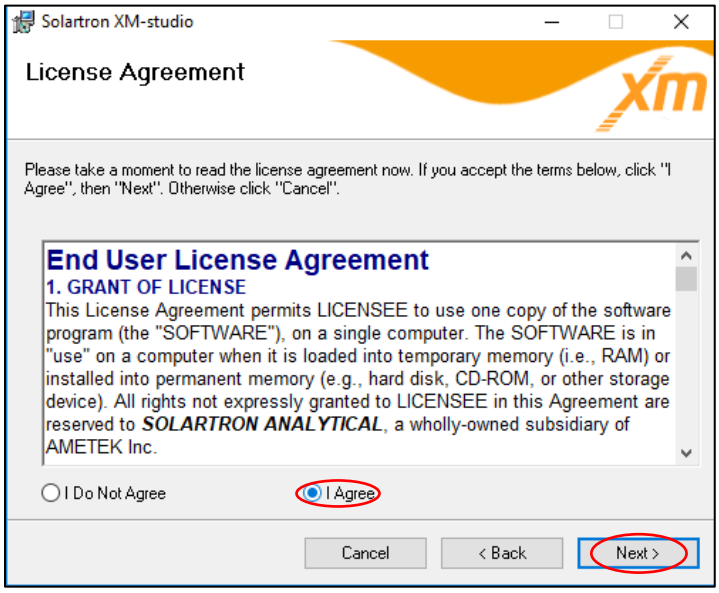


Figure 5

f. Click “Next”, then select the file destination and select “Next” again after selecting the installation folder (Figure 6).

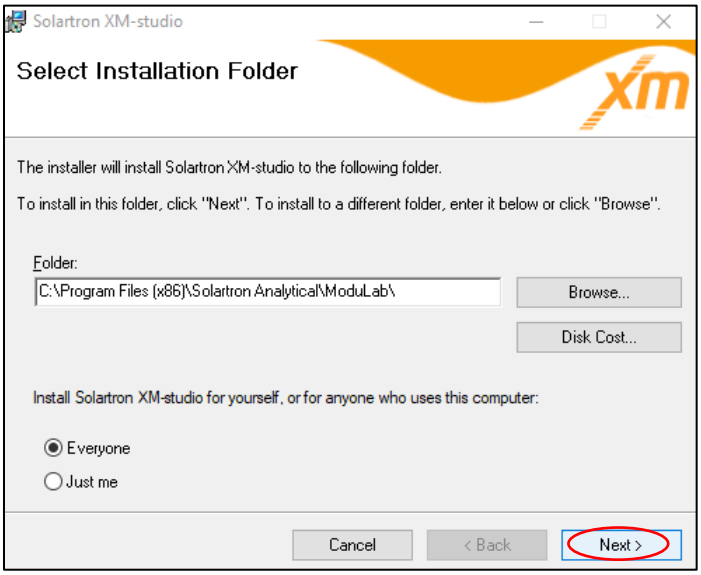


Figure 6

g. Select “Next” twice more and agree to allowing the program to make changes to your computer to complete the software installation. Select “Close” to exit the installation (Figure 7).

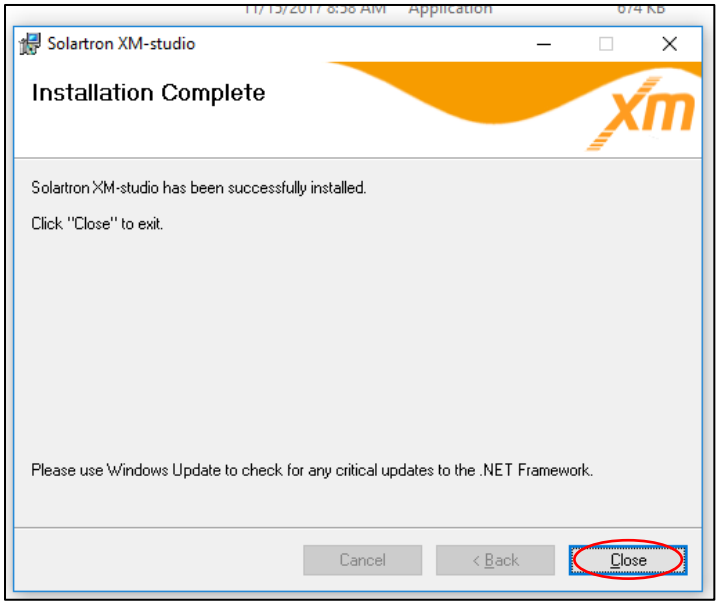


Figure 7

3. Is the ModuLab XM ECS communicating with your PC?
    3.1. To verify communications, download the latest version of XM Studio firmware from http://www.ameteksi.com/products/software/xm-studio-software.

Downloading/Upgrading Firmware

a. After selecting "Click Here to Download Firmware" from the aforementioned webpage, the firmware will begin downloading as a zip file. Click the file to open the menu.

b. Double-click on "XM Studio Upgrade Pack…" to open the file (Figure 8).

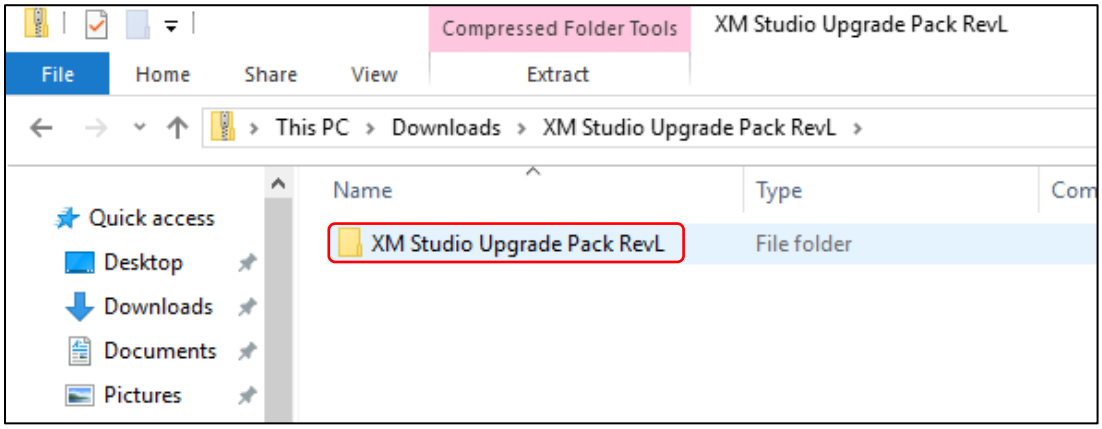


Figure 8

c. Click "Extract", then "Extract All" (Figure 9).

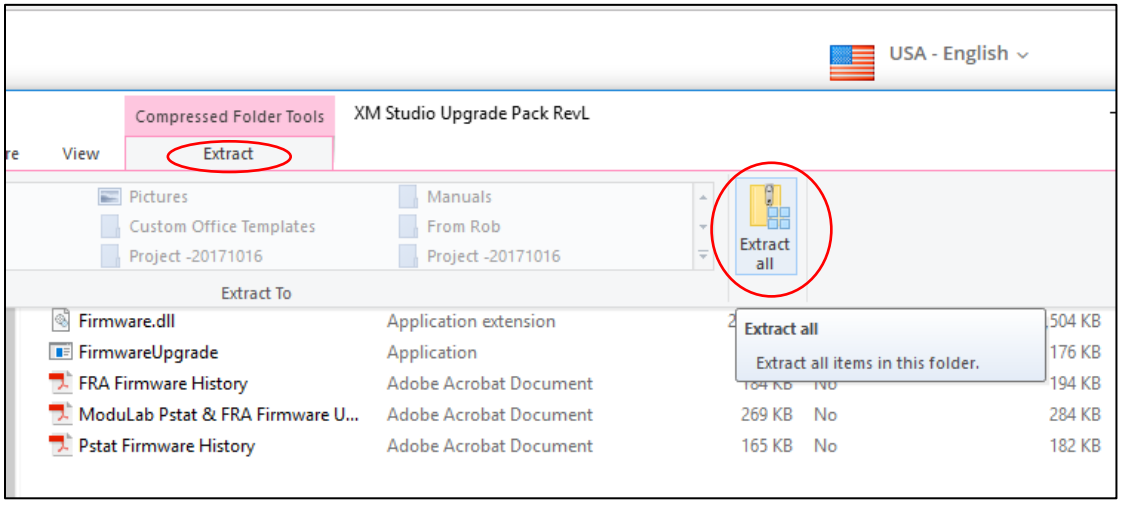


Figure 9

d. Select a file destination and click “Extract” again (Figure 10).

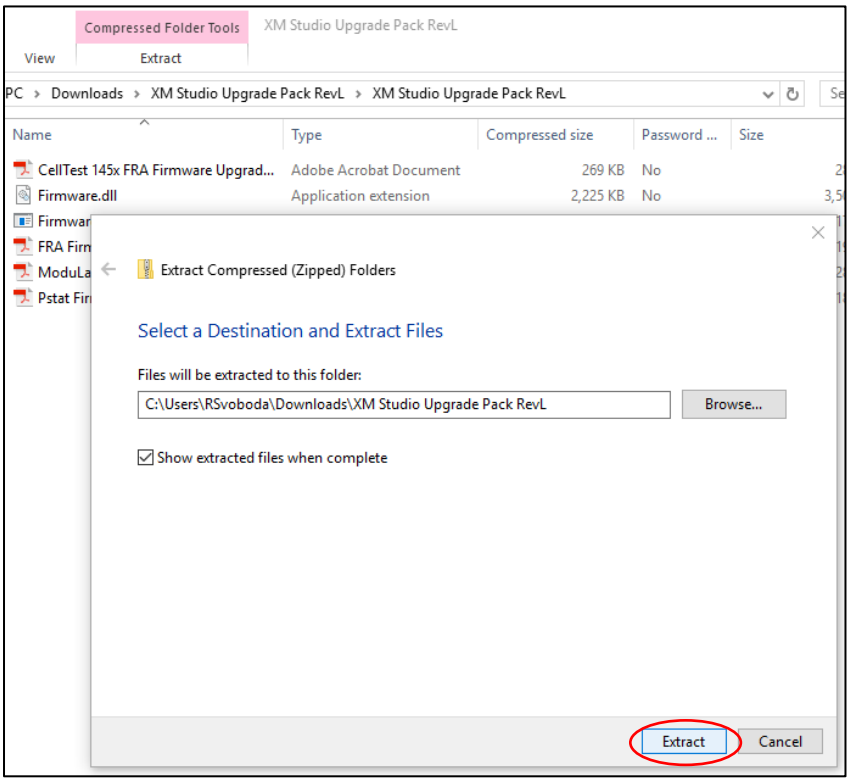


Figure 10

e. Connect to the ModuLab XM ECS and turn it on. Open the file labeled “FirmwareUpgrade” (Figure 11).

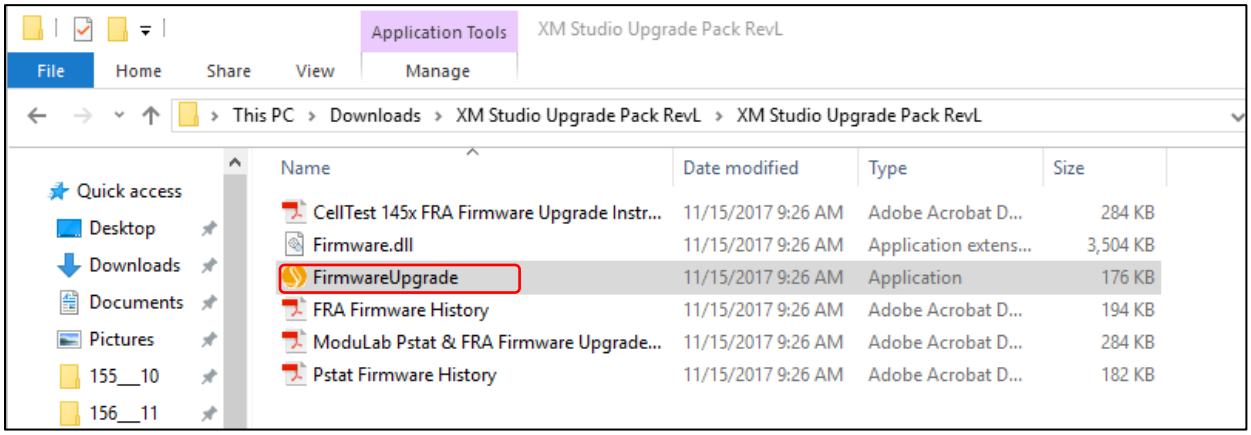


Figure 11

f. After the Power Lights on the ModuLab XM ECS remain lit, indicating that the apparatus is powered on, select “Search”. IP addresses should display on the page (Figure 12).

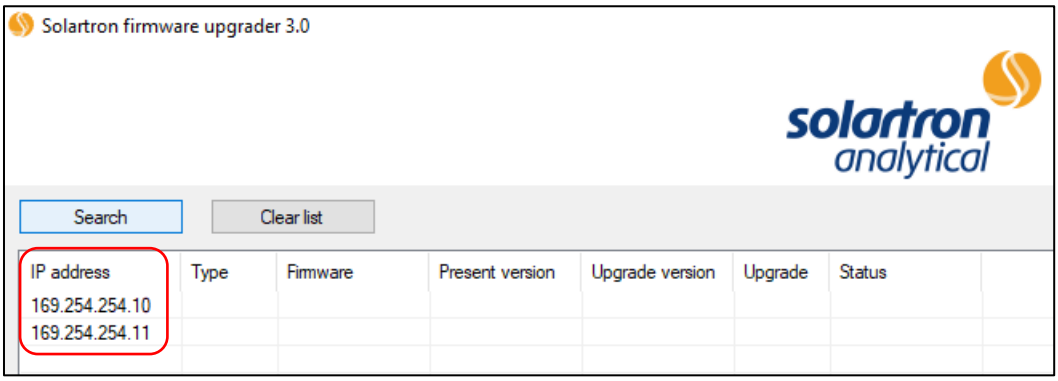


Figure 12

g. If IP addresses do not display, use the “IP Address:” drop down menu to select the instrument(s) and click “Add Instrument” (Figure 13). The IP addresses should now display in the left-hand column as shown in Figure 12. If the addresses do not display, they can be manually set, following the procedure outlined in section 5 of this document.

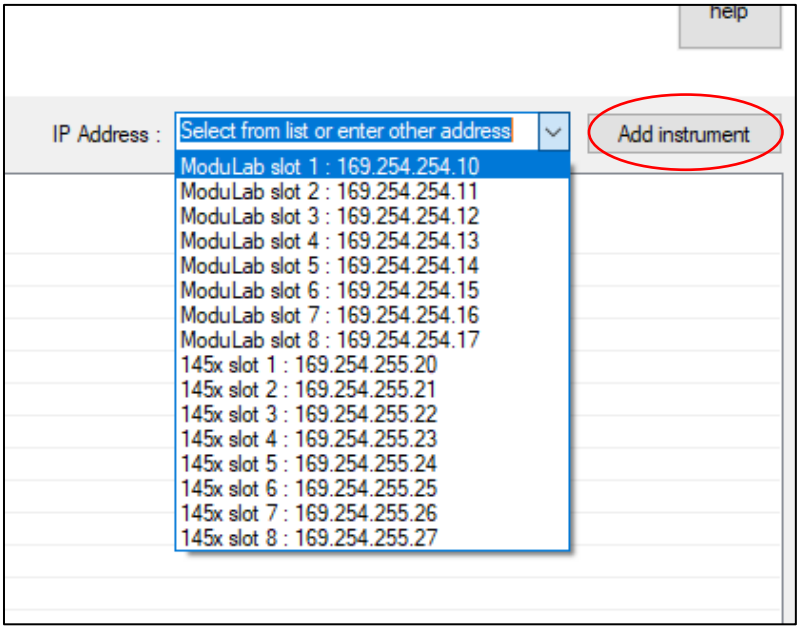


Figure 13

h. Enter the password in the lower left corner of the screen. The default password is "Solartron". Click "Check Versions" (Figure 14).

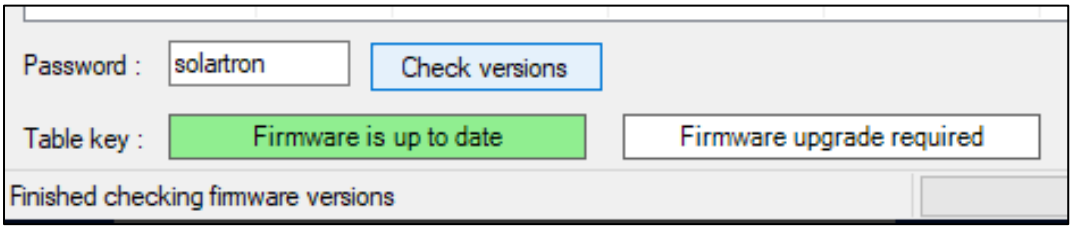


Figure 14

i. Each module should now display in a list next to its IP address. If the module is highlighted in green, the firmware associated with the module is up-to-date. If it is not highlighted or is highlighted in gold, the firmware is not the latest version and must be updated. Select the boxes next to each piece of equipment beneath the title "Upgrade" (Figure 15).

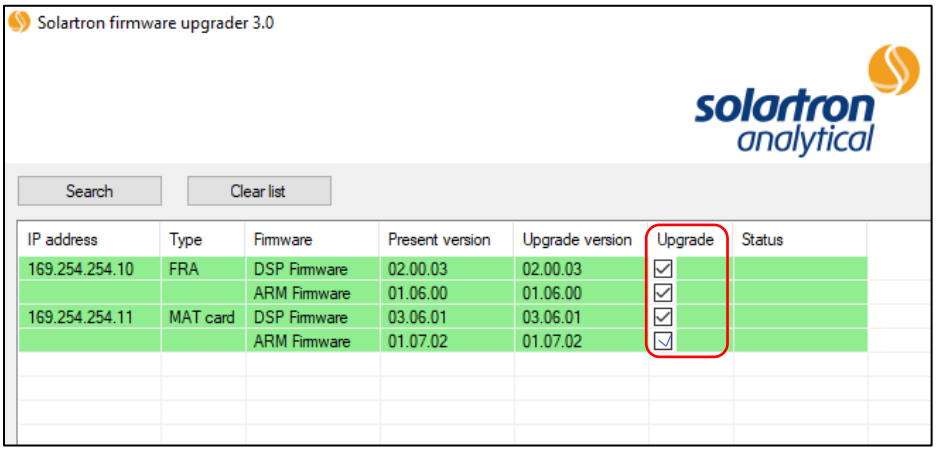


Figure 15

j. Click "Upgrade" at the bottom right of the screen (Figure 16).

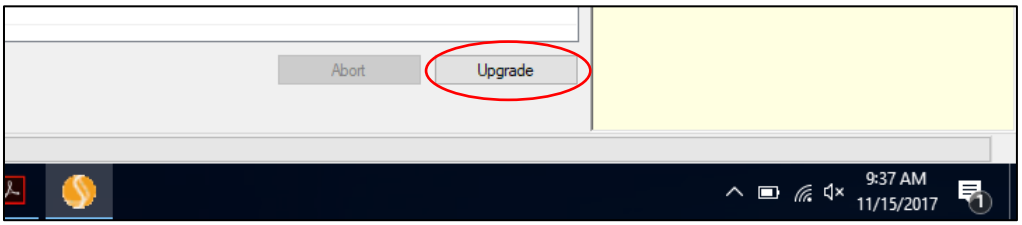


Figure 16

k. Select “OK” to complete the download/upgrade (Figure 17).

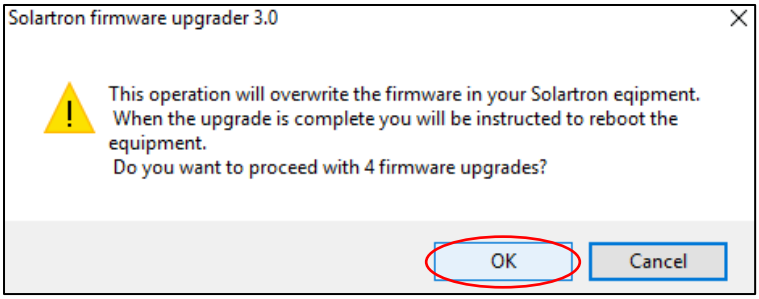


Figure 17

l. When the download/upgrade is complete, click “OK” and reboot the system (Figure 18).

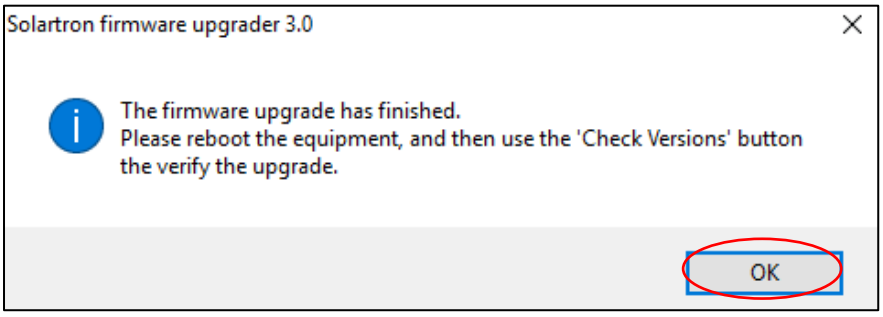


Figure 18

m. Open the file again and select “Check Versions” (Figure 19) to confirm that the upgrade was successful. All items in the list should now be highlighted in green as shown in Figure 15, indicating that the firmware is up to date.

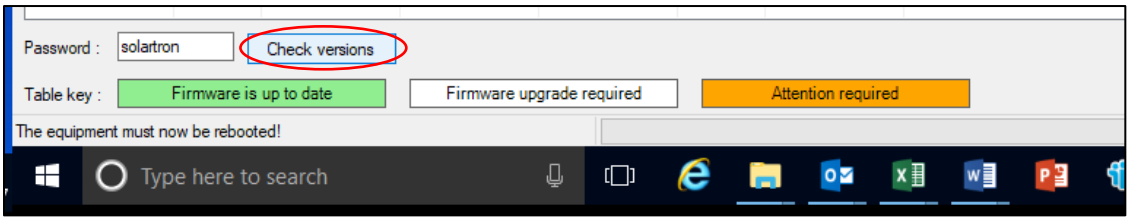


Figure 19

The firmware should now be installed/updated, and ready to use with the ModuLab XM ECS. This will be indicated by each module listed being highlighted in green. If the modules in the list were not highlighted in green, the firmware versions will need to be updated again, as it is likely that the firmware was more than one version behind on updates.

After Downloading/Upgrading Firmware

4.1 After downloading the software and firmware:

a. Double click the ECS icon (Figure 20) to start the program and select the tab called "System" at the bottom left corner of the screen (Figure 21). This will display the "User Preferences" and "Equipment Library" as seen in Figure 22.



Figure 20

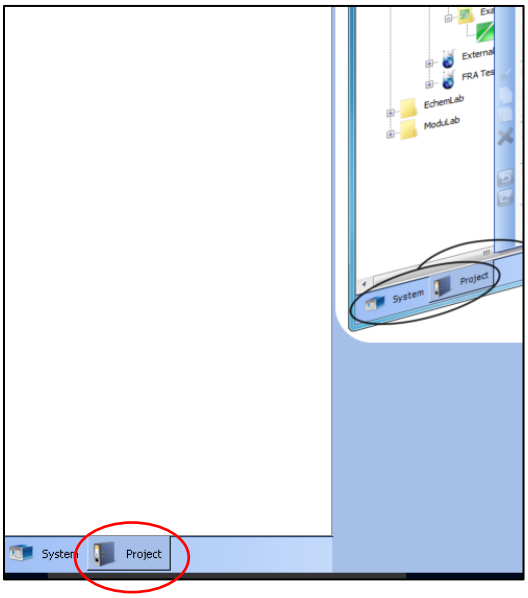


Figure 21

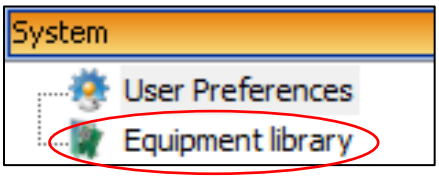


Figure 22

b. Click on “Equipment library” to display the “Equipment summary”. The “Equipment library” will initially be empty, as the PC has not yet been connected to the hardware. Click “Search” (Figure 23).

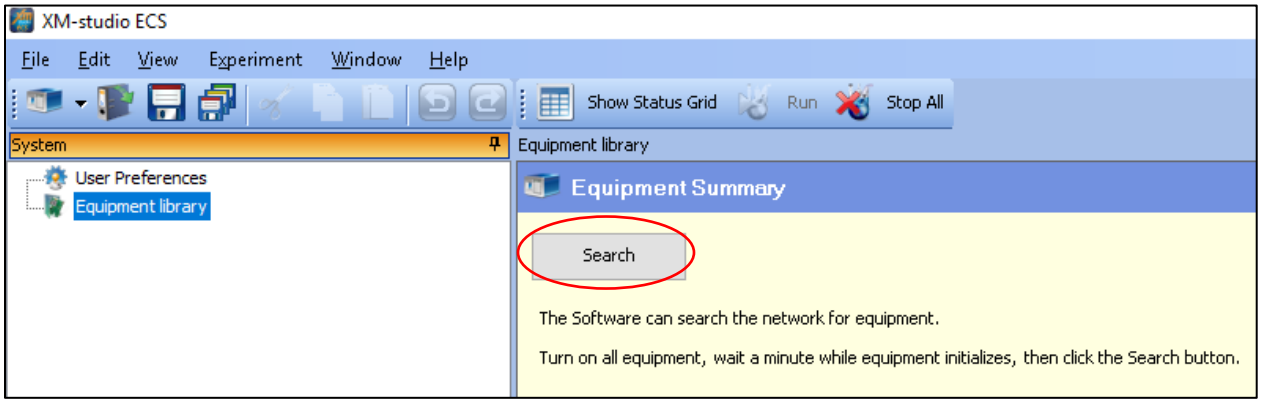


Figure 23

c. The search button will disappear, and a list of available equipment will display (Figure 24). This should correspond to the modules contained in the Modulab XM ECS' chassis. *If the search fails, ModuLab XM ECS can be selected manually by right clicking on the "Equipment Library" and selecting "Add New", then "ModuLab XM ECS".*

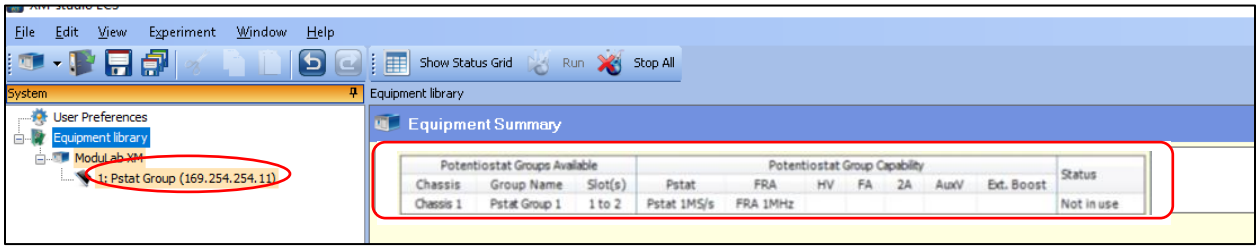


Figure 24

d. The front panel of the ModuLab XM ECS, if fitted, will also show a list of equipment equivalent to that listed in the "Equipment Summary" (Figure 25). **Note:** *Not all ModuLab XM ECS units have a display panel. If not fitted with a display, ignore this check.*



Figure 25

e. Click "+ Equipment Library" to display "ModuLab XM" (Figure 26)

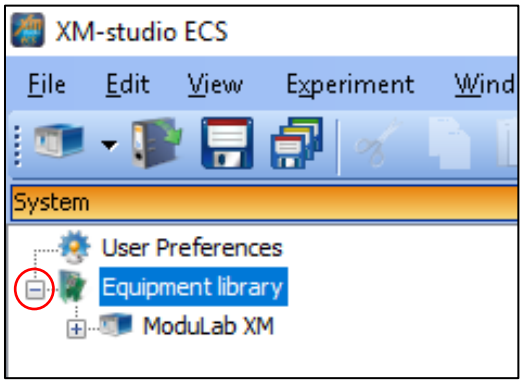


Figure 26

f. Click on "ModuLab XM" to display the general settings and chassis display (Figure 27).

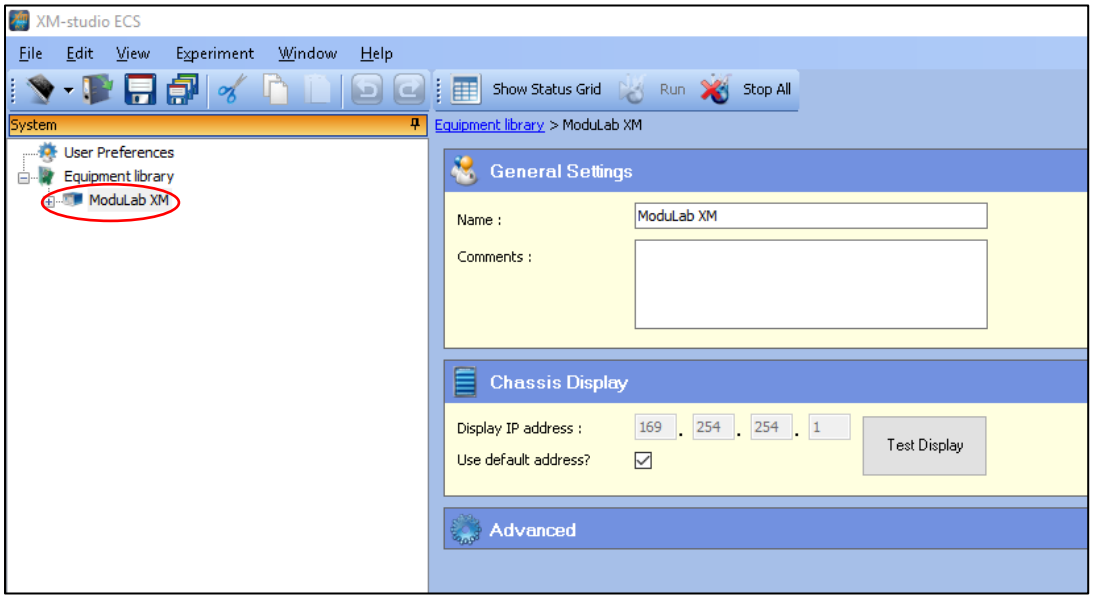


Figure 27

g. Click “+ModuLab XM” to open the “Pstat Group” (Figure 28).

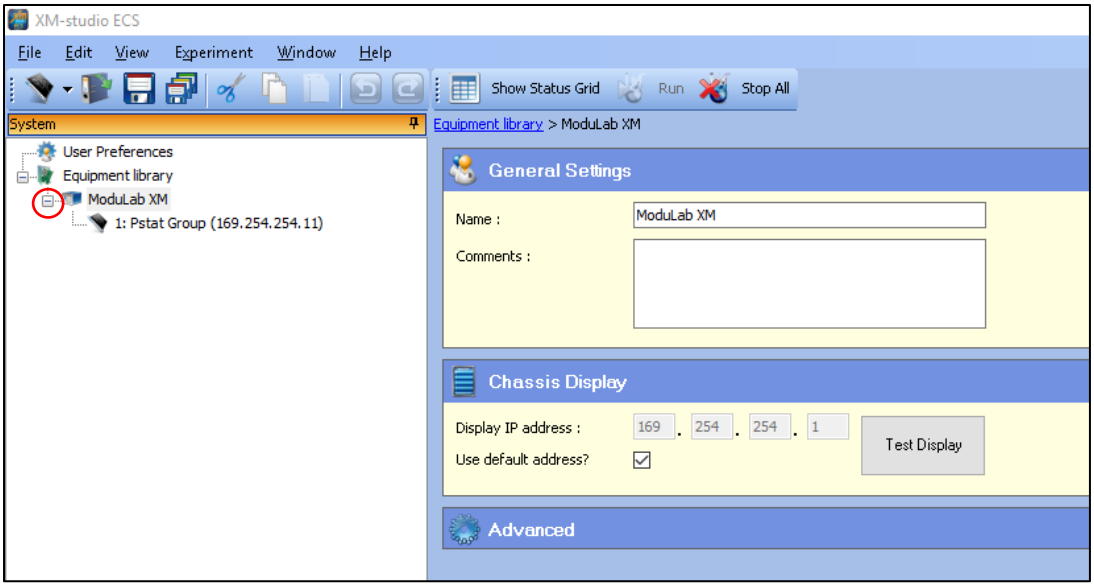


Figure 28

h. Click on “Pstat Group”. Ensure that the box next to “Use default address?” is checked. If an FRA is present, also check the boxes next to “FRA Present:” and “Use default address?”. Select “Test” next to each option. (Figure 29).

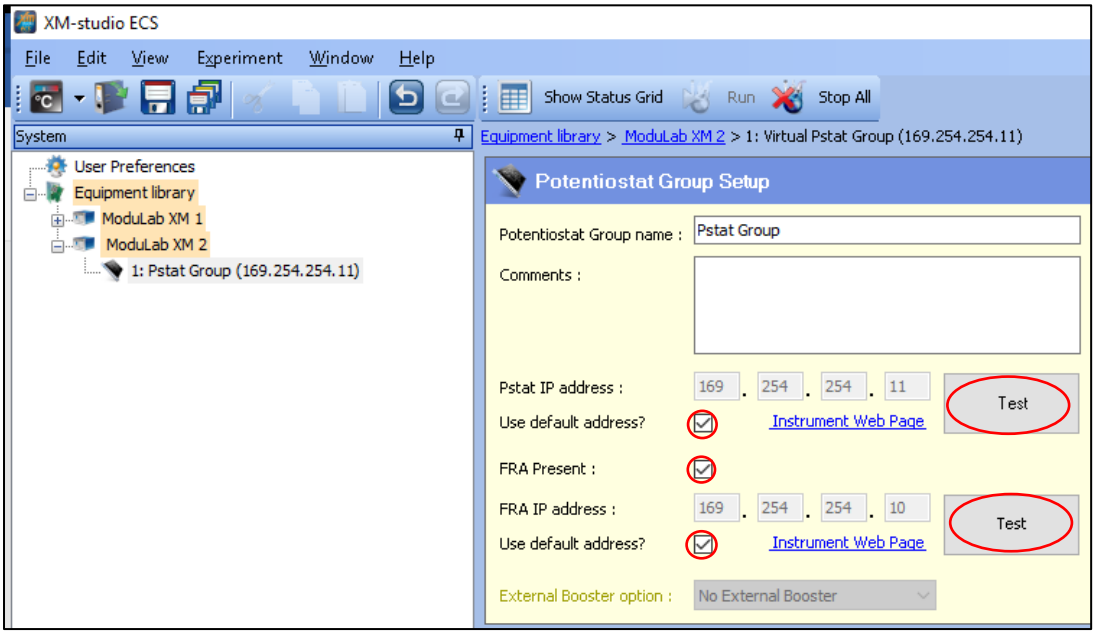


Figure 29

i. The box to the right of the test keys should then populate with options that are fitted together with firmware update and calibration information (Figure 30).

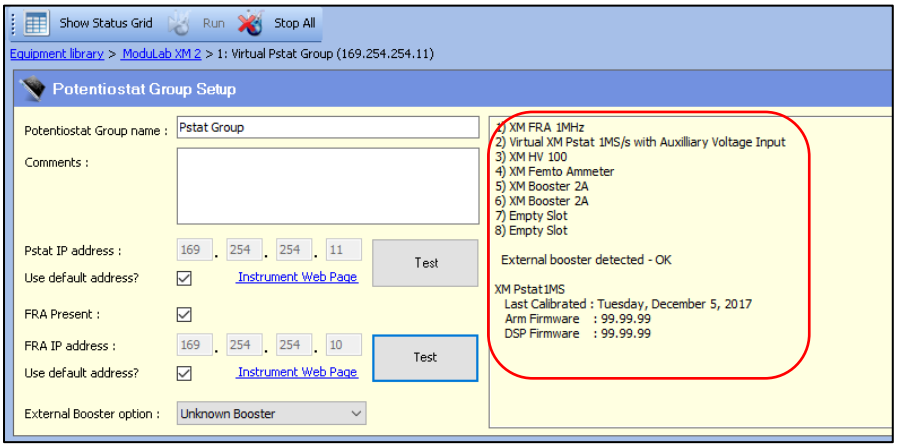


Figure 30

j. This should enable all components present in the chassis. The appearance of a module in “Equipment Summary” indicates that connection/communication is established, and the ModuLab XM ECS is ready to be used with XM-Studio software.

5. If the system does not display the ModuLab XM ECS equipment, check the PC/ethernet configuration. Windows XP, 7, 8, and 10, by default, use automatic addressing on power-up. This should enable the PC to recognize the ModuLab XM ECS address and to assign a different address to the PC's ethernet port. If this does not happen automatically, the address will need to be assigned manually.
    5.1 The following sections describe the typical procedure for setting an IP address for Windows 10.
        a. Open the control panel and click "Network and Internet", then "Network and Sharing Center (Figure 31).

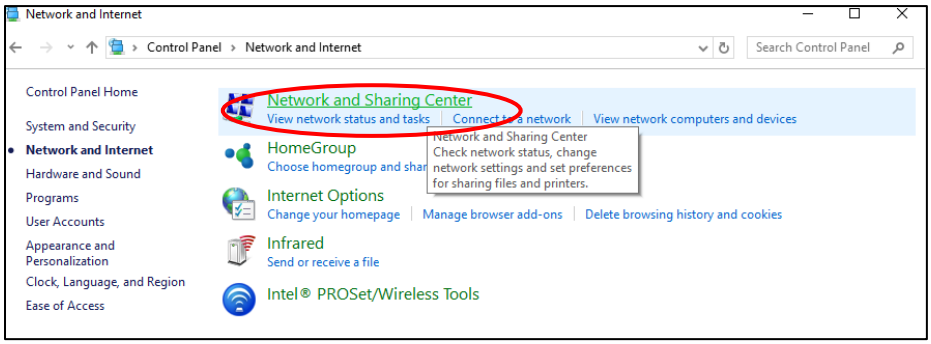


Figure 31

        b. Select "Ethernet 2" to open the "Ethernet 2 Status" menu, then select "Properties" (Figure 32).

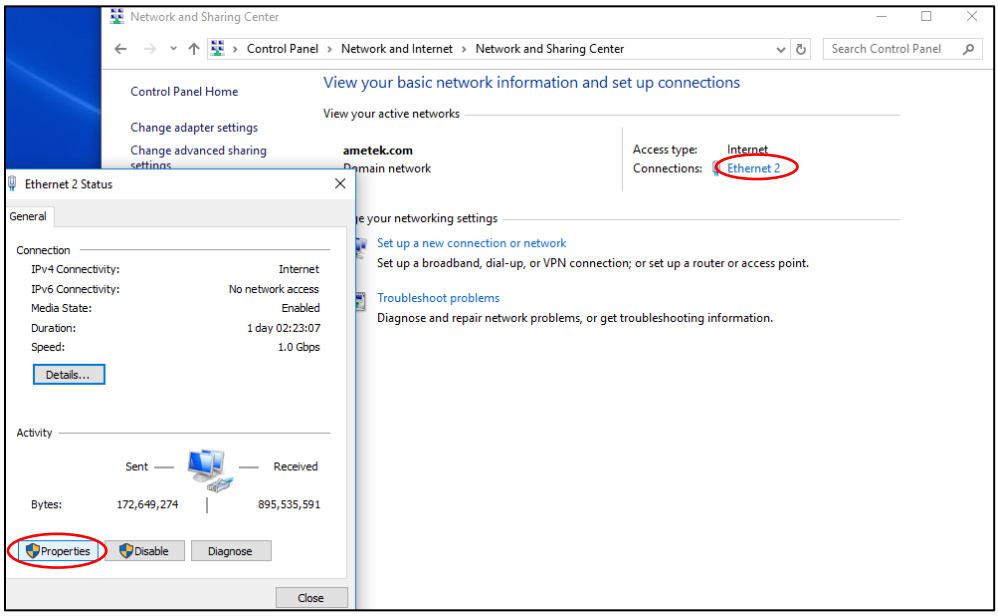


Figure 32

c. Select “Internet Protocol Version 4 (TCP/1Pv4)” (Figure 33).

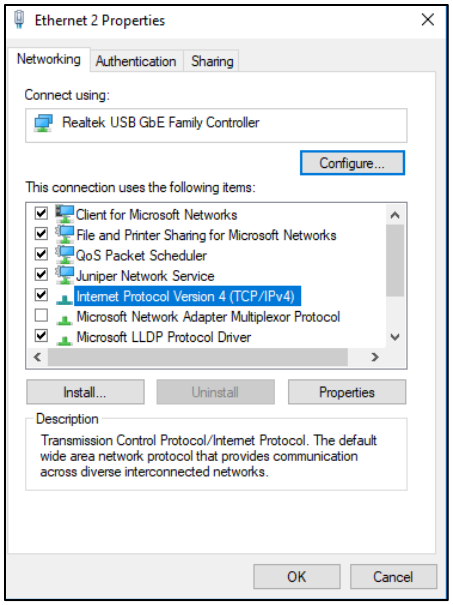


Figure 33

d. Select “Use the following IP address:” and enter the values shown in Figure 34.

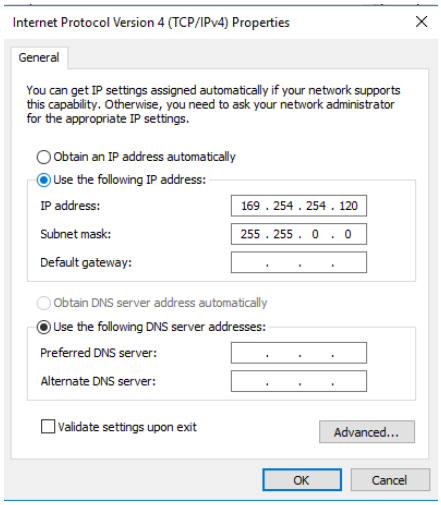


Figure 34

e. Click “OK” on both dialog boxes, and close the “Network Connections Panel”. Begin again with step 2.1 in this document to confirm that connections are established. If difficulties with connecting are still met, contact help Ametek at http://www.ameteksi.com/contact-us/contact-technical-support .

www.ameteksi.com
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