

# PVM1010 or PVM2020 IP Address Assignment

Advanced Energy  
Lance Kasari  
10/23/13

## 1 Introduction

When a PVM1010 or PVM2020 powers up on a network, by default it automatically asks for its IP address and gateway address using the DHCP protocol. While this works well for many installations, there are instances where having an assigned static IP address is preferred. These may include networks that do not have a DHCP server and all addresses are statically assigned, or for customers that will be using Modbus TCP, and want the IP address of the inverter to always be the same.

If a static IP address is desired, the IP settings must be known first before using this procedure. The person in charge of the network will be able to provide the necessary information.

The PVM does not have a local user interface, so any changes to its power-up default settings must be done via the network itself. This presents some unique challenges when the PVM powers up with no assigned address (as it will in the case of no DHCP server available) or when a static IP address is desired.

**IMPORTANT NOTE:** An alternative method of setting the IP address of a PVM2020 can be done using the new Modbus Master Utility program and a USB-RS485 converter box. Please see the Modbus Master Utility Program instructions, section 12 for details. This allows you to set the IP settings using Modbus rather than using PVMSync and the DHCP server.

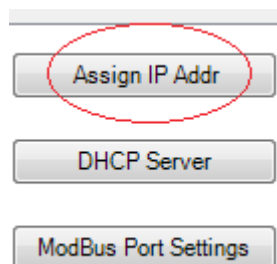
## 2 Assigning a Static IP

In this step we will assume the PVM is up and running on the local network with dynamically assigned IP address via DHCP. If there is no local DHCP server, jump ahead to section 3. If PVMSync version 4.3c (or greater) is not installed, install it now and start it.

Select the PVM in the inverter list:

Name	Serial #	IP Address	Version
PVP 250K-480	PV26008ABA0510090012	192.168.190.122	203.3

Click on the "Assign IP Addr" button:



A new form will open up. Fill in the information in the form and click the “Save” button. The settings in the image below are examples only. You must use settings that are correct for the network the PVM will be connected to. You can obtain your IP settings from the local IT manager. The second DNS entry is optional; the others are required fields.

**IMPORTANT NOTE:** Even though some versions of PVMSync list the word [optional] next to DNS 1, this is NOT optional. The user must enter a valid DNS server. If the IT department does not provide one, you can use 8.8.8.8, which is Google’s DNS server and is stable.

Set IP Address

IP Address Settings

IP Address (a.b.c.d)

192.168.190.121

Netmask (a.b.c.d) **Example Only!**

255.255.255.0

Gateway Address (a.b.c.d)

192.168.190.10

DNS 1 IP Address (a.b.c.d) [optional] **Not Optional**

216.228.160.5

DNS 2 IP Address (a.b.c.d) [optional]

Save Cancel

After setting a new static IP address, the PVM is automatically rebooted so the various network connections will restart with the new address and gateway information. Use the “Scan” button to find the PVM on the network again.

When a static IP is in use the PVM will flash the status LED in a repeating LONG-LONG-LONG pattern towards the end of the bootup process.

### 3 Using the DHCP Server

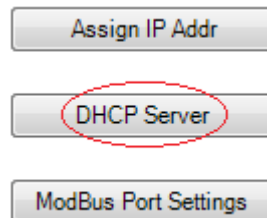
A standalone DHCP server is bundled with PVMSync. To use the built-in DHCP server, start PVMSync 4.3c (or greater)..

**IMPORTANT:** Never run this DHCP server on a real network. Only use this DHCP server when connected directly from your laptop to the inverter or test setup. Using the DHCP server while connected to a real network can cause problems and thus cause IT personnel to hunt you down.

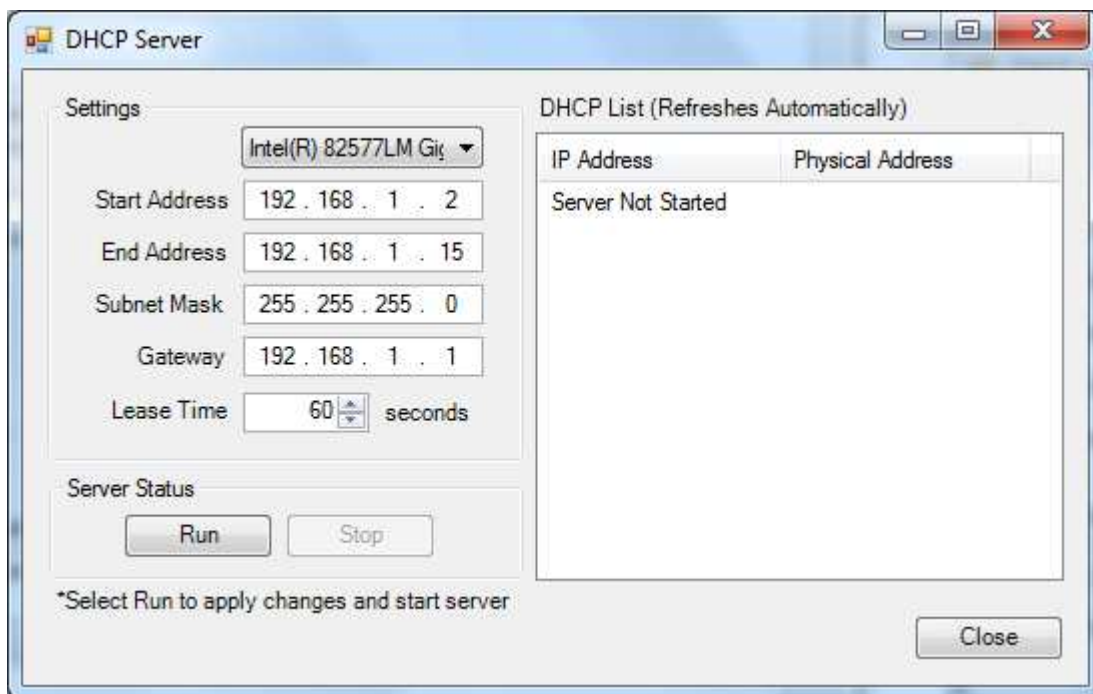
Follow these steps to use the DHCP server to connect to a PVM board.

**IMPORTANT:** You must do the first three steps first, or the DHCP server will fail, since it needs the LAN port connected before it can configure it.

1. Connect a Cat5 Ethernet cable from the LAN port on your computer to the LAN connector of the inverter or PVM test setup.
2. Turn on the inverter or test setup.
3. Make sure the LEDs on your computer's LAN port are on or flashing.
4. Start PVMSync if it is not already running
5. Launch the DHCP server by clicking on the "DHCP Server" button in PVMSync



6. Enter a starting address, end address, Subnet mask, gateway address:



7. Select your LAN connection from the pull down list. (Usually something like "Intel blah blah network connection")
8. Click on the Run button
9. At this point, the DHCP server is running on the local network. You should see the PVM IP address show up within 1 minute. If not, restart the PVM so it will query the DHCP server for an address. When an address is assigned, it will be displayed in the allocation table:

IP Address	Physical Address
192.168.1.2	00:40:9D:3B:6F:

10. Click on the Close button, then click the Find PVM button on the Main PVMSync screen.
11. The PVM should show up in PVMSync now.

At this point, the PVM can be left in dynamic address mode or a new static IP address can be assigned using the steps in Section 2.

## **4 Forcing Dynamic IP Selection**

If the PVM needs to be reconfigured and switched from using a static IP address back to a dynamically assigned address, it is possible to do this at boot time by holding in the Post push button during boot up.

1. Turn off the inverter or PVM Test setup.
2. Press and hold the Post button on the PVM
3. Turn on the invert or test setup, while continuing to hold the Post button.
4. Watch the Status LED go through its flashing bootup sequence.
5. Release the button about 15 seconds after the quick flashing sequence completes.

If the PVM recognizes this condition, it will update the NVRAM settings to set DHCP boot to true and do an automatic reboot of the PVM. When the unit boots back up, it will expect a dynamically assigned address.