Local Application software by MidNite Solar
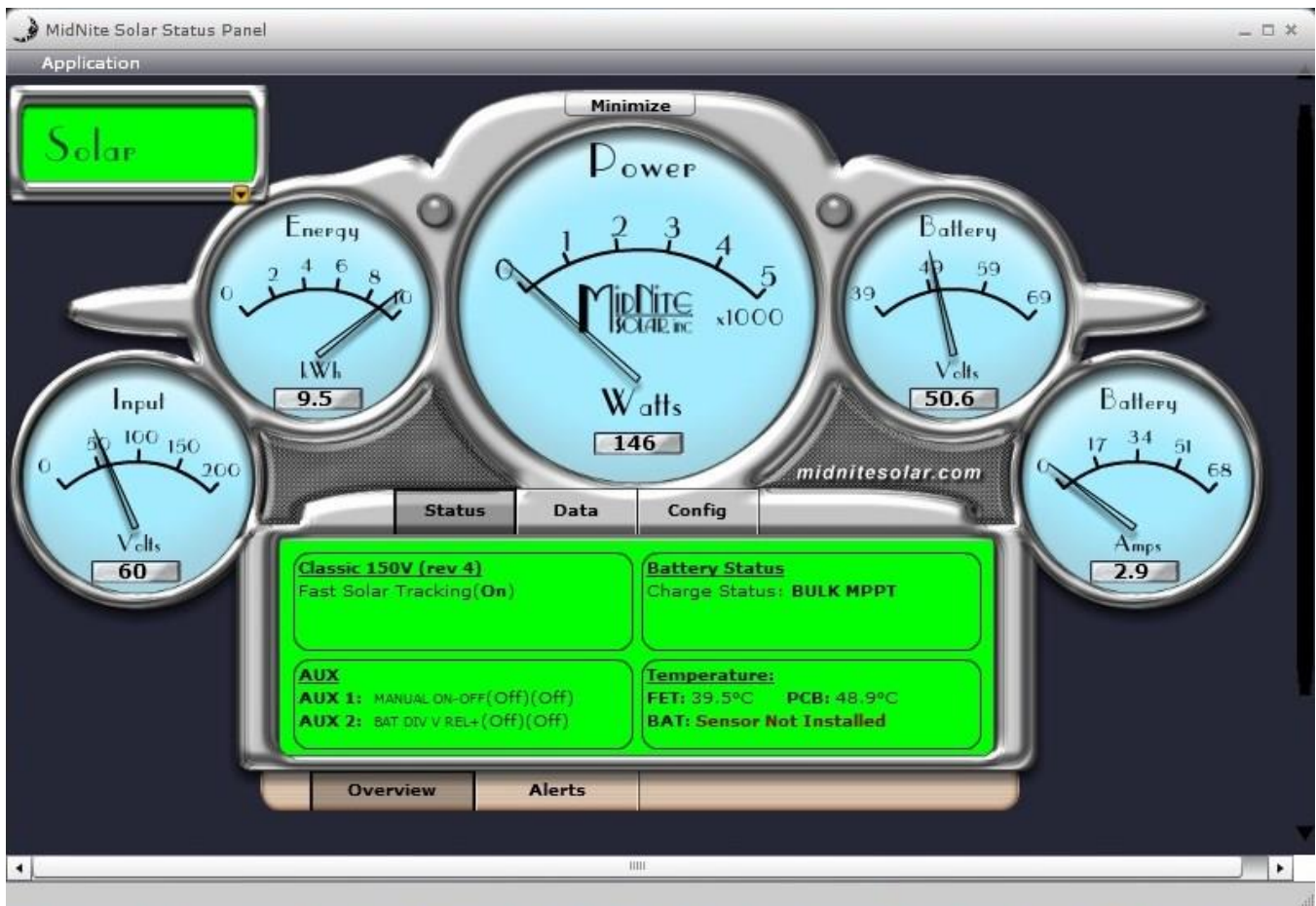
Table of Contents

About the MidNite Solar Local App

The MidNite Solar Local App was designed to run on a computer that is on the same network as the Classics you intend to interface with. When used on the LAN "Local area network" the Local App and Classic do not require any set up unless you change the TCP Port of the Classic. The Local App can be used to interface with a Classic over the Internet but this is an advanced function and requires adjustments to your router and possibly an account with DynDNS.org.

Warning---When using the Local app to talk to the Classic over the Internet there is no security protecting the Classic. Once the router is opened up the outside world will be able to see the Classic.

We suggest that if you are interested in interfacing with your Classics over the Internet you use My MidNite. This is a free service we offer and it is web based. Simply put all you need to do is go to www.mymidnite.com and answer a few simple questions to create an account. You will then have access to your Classics anywhere there is Internet and a computer. We will explain how to use the Local App over the Internet in this manual for those that prefer to use it that way. We have a router section in this manual and will document routers we are familiar with. If you do not see yours here we will not be able to tell you how to do it. You will need to consult with the router manufacturer for assistance.

To use the Local App you will need to first download and install Adobe Air. This is a free download from Adobe's website. After completion of the install of Adobe Air you will need to download and install the Local App from www.mymidnite.com To configure the Local App to work over the Internet please refer to the section "Using the Local App over the Internet".

Local App log on screen

When you open the Local App software it will automatically detect every Classic on your local network. There will be a main screen with each Classic listed. See the picture below for reference.

Each Classic will have KWH "Energy" and Power "Watts" displayed on this screen as well as a radio button labeled Status Panel you can click on. When you click on a Status Panel button for a particular Classic it will take you to the Status Panel for that Classic.

Main Status Panel
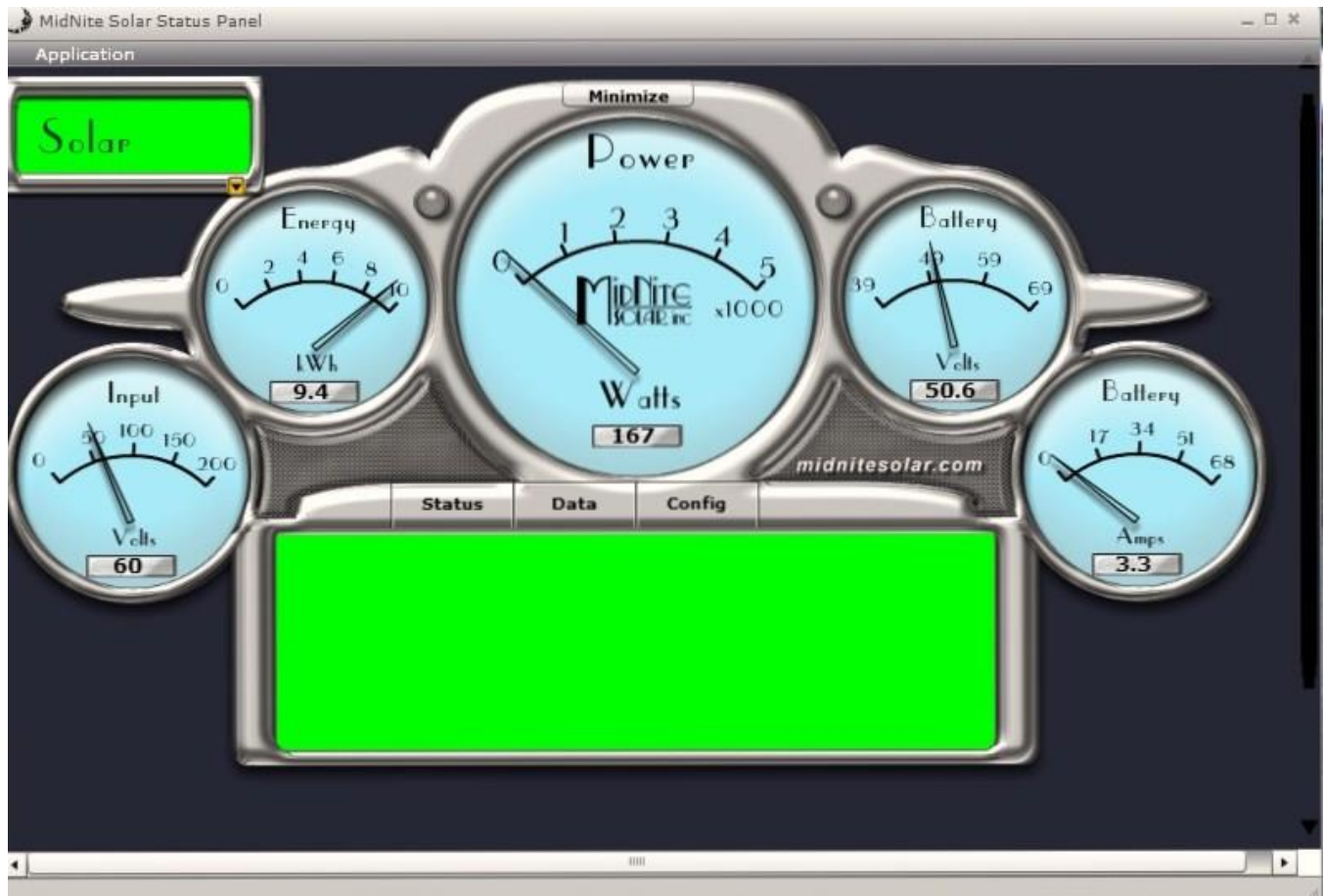
Here you will see the gauges and dashboard LED's. The Gauges are labeled and some of them range based on the Classic settings. The Power meter allows the user to scale it from 1-5kw in 1kw steps. There are LED's on each side of the Power meter. The left LED is Aux 1 and the right LED is Aux 2. There is a Minimize button above the Power meter that will take you back to the main log on screen. In the top left corner there is a box with the name of this Classic and there is a drop down arrow to allow you to jump to another Classic without going back to the log on screen. There will also be occasional icons displayed in the Power meter. You can mouse over them for a definition.

Configuration Screens

There are 2 main configuration screens in the dashboard view. The Settings menu under Configuration will allow you to set the units of measure to US or Metric as well as a few other items. This Settings screen can be seen in the picture below.

To access this screen Click Config and then click Settings. You can see there is a radio button to manually check for updates to the Local App as well as a drop down box to set the interval at which the App will check for updates automatically.

You will also want to check autodetect Classics as well as Enable Data Logging if they are not checked already.

This is the second configuration screen this is accessed by Clicking Config then Classic. There are three settings for you to adjust here.

The first is the Power meter scale. This lets you select a 1,2,3,4 or 5kw scale for the Power meter.

The second box allows you to name your Classic. After you enter the name you have given your Classic click the enter button to the right to save it to the Classic. This is stored in the Classic's memory and will be remembered even if the Classic is power cycled.

The third box allows you to change the TCP Port assigned to that Classic. This will normally be left as 502 but may need to be changed for certain applications. For example you may have multiple Classics and want to access them over the internet and most normal routers only allow a Port to be forwarded to one IP address. If you have multiple Classics you will need to switch all but one of them to different ports. We suggest using 503 and 504 and so on but you will want to check your router and make sure nothing else is using the ports you will be assigning. Once you issue a new port number to the Classic the Software will no longer Auto detect it so you will need to go to "Setting up the local app to find the Classic on the internet" and add the Classic Manually.

Alert Icons
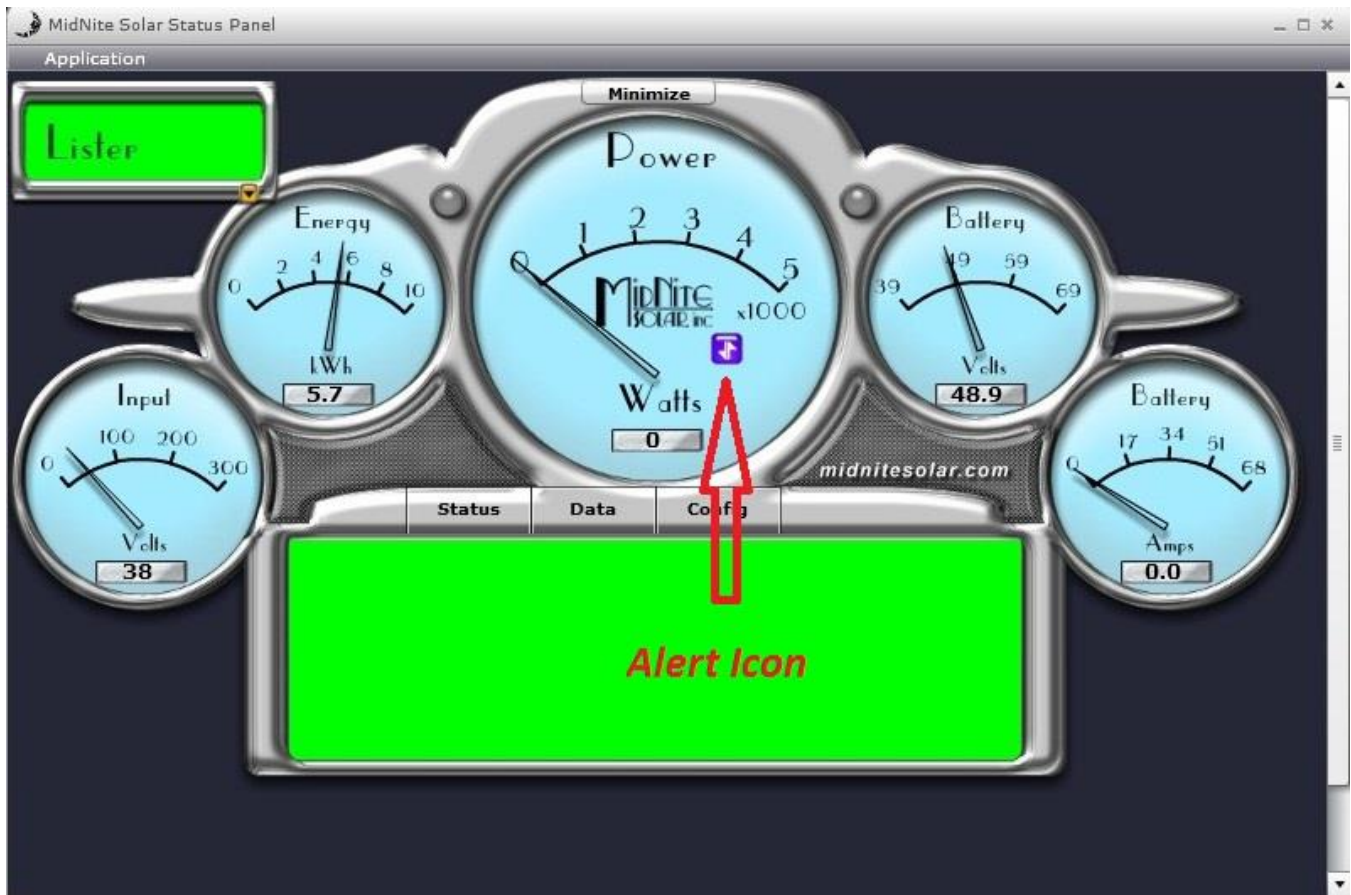
There are several Alert Icons that may show up. They will be displayed in the Power Meter as seen above. We have 3 levels of Alert's an Informational Alert will be Blue in color and is just informational. A Warning Alert will be yellow and may not need any attention. An Error Alert will be red and signifies there is a problem and the Classic has stopped charging.

Below is a list of the Alert Icons and a brief description of what they mean.

 " Classic over-temperature or FETs over-temperature" The Classic is over-temperature and has gone to Resting to protect itself.

 "Arc Fault" The Classic detected an Arc Fault and stopped charging.

 "Ground Fault" The Classic detected a Ground Fault and stopped charging.

 "Battery Voltage too high" The battery voltage is above the set point.

 "Input voltage too high" The input voltage is above the Classics rating.

 "DEFCON 3" Not Implemented yet

 "DEFCON 4" Indicates a Processor or software issue.

"Hyper VOC" The input voltage is above the operational limit.

"Current Limit reached" The current limit set point has been reached and the Classic is current limiting.

 "Partial shade" The Classic is detecting the MPPT voltage to be lower than normal indicating partial shading.

"Temperature sensor shorted" Indicates a short in the battery temperature sensor cable.

"Low Light" The Classic has determined there is not enough sunlight to continue to charge.

"Input voltage lower than output voltage" The DC input voltage is below the Battery voltage.

"Snow Melt" The Classic is in Snow Melt mode.

Connecting the Local App to a Classic directly

You may desire to connect the Computer that is running the Local App directly to the Classic either with a crossover cable or through a switch on a dedicated network/subnet. (Note that if you use a ROUTER with DHCP capabilities on this private network then you can skip the rest of this).

The Classic has DHCP enabled by default. If you plug it straight into your PC chances are it will NOT work unless you are running a Linux or Windows server on your machine. The following is the recommended way to handle this case:

First setup your PC:
Set your LAN IP address to your desired subnet. I recommend something like 192.168.13.1. Set your subnet mask to 255.255.255.0. Gateway and DNS are not required in this case.

Now on the Classic set the NET series of menus set the following:
MODE: STATIC
IP: 192.168.13.100
SN: 255.255.255.0
GW: 192.168.13.1 (same as your PC)

You can skip D1 and D2. If you are on a private network/subnet you can also disable web access to reduce the traffic on your network.

Now you and the Local App should be able to access the Classic using a crossover/private network.

To test, open a console window (Windows Start->run->cmd, Mac Applications>terminal, Linux -- really?) and run:

ping 192.168.13.100

You should see the pings returning with a time value in the millisecond range otherwise you will see an error indicating that the IP address could not be reached.

Note that before you go mucking about changing LAN IP settings on your machine, at the very least write down all the settings that where there BEFORE you changed them. We will be unable to guide you in re-setting up your personal network if you change it according to these instructions.

Setting up the Classic to work with the Local App over the Internet

The Classic needs to be connected to the Local Network and have battery voltage applied to it to continue. Please refer to the Classic Owner's Manual for information on connecting the Classic to the Local Network. The Classic will be assigned an IP address by your router when it is connected into the router and powered.

You need to set the Classic up to use a static IP address so the router will know where to forward the ports to. On the Classic push the Main Menu button 3 times and then scroll to the right until NET is highlighted and press Enter. The Mode will be set for DHCP and highlighted. Use the up or down arrows to change it to Static and press Enter. Note if you need to change the IP address for whatever reason you can do so by scrolling to the right and changing the groups as you go being certain to press Enter when you are done. Now you will need to document this IP address for future use. As seen in the picture below this Classic has an IP address of 192.168.1.115

Please document your IP address here: .   .   .
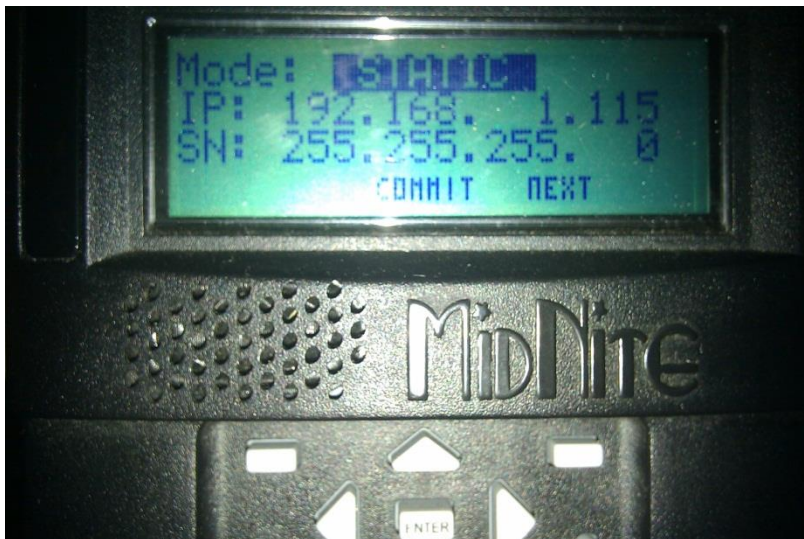
DynDNS.org set up

If you have a Static IP address please skip this section and proceed to "Setting up your Router". This is only required if you have a Dynamic IP address. To determine if you have a static or dynamic IP address please contact your internet service provider.

DynDNS.org is a service that keeps track of the ever changing IP address you have been given by your internet provider. Your router will update DynDNS anytime this IP address changes. Because we have no way of knowing what that IP address may be at any given time DynDNS also has us create a URL.

You need to go to www.dyndns.org and create a free account. There is a link near the bottom of the page under additional products for creating a free account. Click on that link and follow it to the page where you will set up your account as seen in the picture below.

You will need to enter a little info on this page in order to create your account. First you need to pick a Host Name and enter it in the box. Then you need to select the remainder of the URL from the drop down box. This can be seen in the photo above. The only other parameter you need to enter is the IP address of the system the Classic is hooked to. If you are creating this account from a computer on that same network DynDNS shows you that IP address right below the text box. If you are on a computer that is not on the same network as the Classic doing this you will need to find the IP address of the Network the Classic is on. This can be done by using a computer on that same network and going to www.whatsmyip.com. After you have filled in both fields click add to cart and continue on creating your account. You will want to document your Host Name, User Name and Password for future use.

Host Name:

User Name:

Password:

Setting up your Router

You will need to set up Port forwarding in your router. The port assigned to each Classic needs to be forwarded to the IP address of that Classic. You documented this in "Setting up the Classic to work with the Local App over the Internet". You will need to set up DDNS if you have a dynamic IP address and set up an account with DynDNS.org. These are considered advance user adjustments in your router and you will need to know how to access your router. We have included a Router section in this manual. If you do not see your router here we do not know how to set it up. We have documented every router we are familiar with. For assistance on setting your router up please contact the manufacturer of the router.

Setting up the local app to find the Classic on the internet

You will need to add a little info to the Local App in order for it to go out over the Internet and find your Classic. Please refer to the picture below.

When you open the Local App click on Application and click on Configuration as seen in the photo Above.
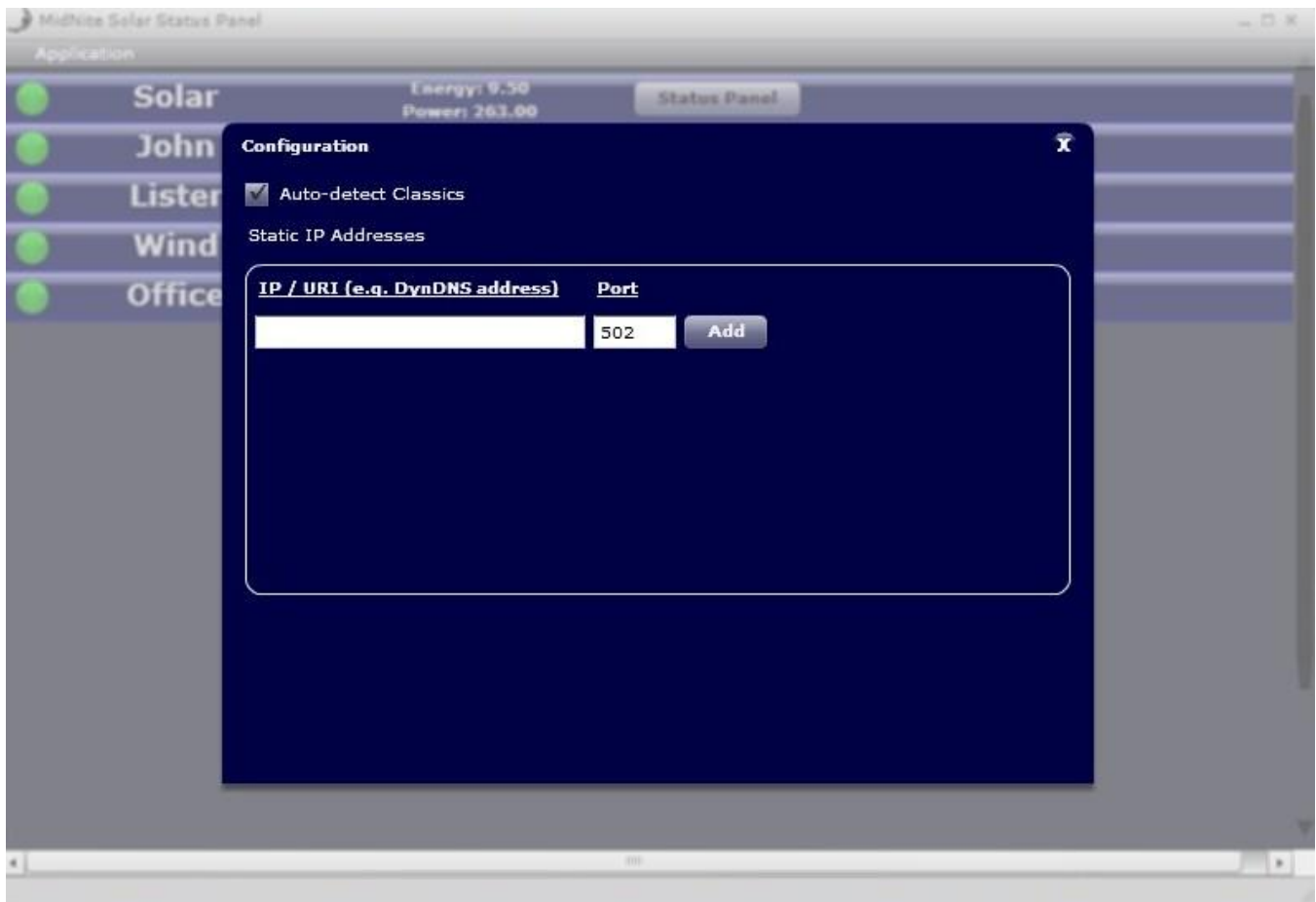
On the Configuration screen you will need to enter an IP address or URL. If you determined you had a static IP address from your Internet provider then you need to enter that address in the IP/URL field. You documented this IP address earlier in the set up process. Make sure you enter the port number you assigned this Classic and then click Add. If you have multiple Classics enter them all here now.

If you determined earlier you had a Dynamic IP address and you set up a DynDNS account you need to enter the Host Name or URL you selected when setting up the DynDNS account. Make sure you enter the port number you assigned this Classic and then click Add. If you have multiple Classics enter them all here now.

After you enter all of your Classics on this screen close it out with the X in the top right and restart the Local App.

Belkin N150

The Belkin N150 has a default IP address of 192.168.2.1 The default password is blank.

You will need to access 2 portions of the routers programming, Port forwarding under Firewall > Virtual Servers. And DDNS under Firewall > DDNS.

Click on Virtual Servers under Firewall this will bring you to the Port Forwarding screen as seen above. Check the Enable box and fill in a Description for this port. Enter the port number assigned to the Classic in the 2 inbound boxes as well as the 2 private ports. Enter the IP address that you have documented from earlier when you set the Classic. Save your changes and continue on to the DDNS part of setup if required.

BELKIN | Router Setup

Firewall > DDNS

Dynamic DNS allows you to provide Internet users with a fixed domain name (instead of an IP address which may periodically change), allowing your router and applications set up in your router's virtual servers to be accessed from various locations on the Internet without knowing your current IP address. Your Wireless Router supports dynamic DNS through DynDNS.org (http://www.dyndns.org). You must create an account before using this service. More Info

DDNS Service >   DynDNS ▾   Web Site

DDNS Status >   Disable

User Name >

Password >

Domain Name >

Clear Changes   Update Dynamic DNS

DDNS setup (you only need this part if you have a dynamic ip address)

Click on DDNS under Firewall as seen above. Select DynDNS in the drop down box. Fill in your username, password and URL or Domain Name. This data would have been documented in the section of the manual on Setting up a DynDNS account. Leave all the other fields in default setting. When you are done click "Update Dynamic DNS".

Belkin N300

The Belkin N300 has a default IP address of 192.168.2.1 The default password is blank.

You will need to access 2 portions of the routers programming, Port forwarding under Firewall > Virtual Servers. And DDNS under Firewall > DDNS.

Click on Virtual Servers under Firewall this will bring you to the Port Forwarding screen as seen above. Check the Enable box and fill in a Description for this port. Enter the port number assigned to the Classic in the 2 inbound boxes as well as the 2 private ports. Enter the IP address that you have documented from earlier when you set the Classic. Save your changes and continue on to the DDNS part of setup if required.

BELKIN | Router Setup

LAN Setup
LAN Settings
DHCP Client List

Internet WAN
Connection Type
DNS
MAC Address

Wireless
Channel and SSID
Security
Wi-Fi Protected Setup
Use as an Access Point

Firewall
Virtual Servers
MAC Address Filtering
DMZ
DDNS
WAN Ping Blocking
Security Log

Utilities
Restart Router
Restore Factory Defaults
Save/Backup Settings
Restore Previous Settings
Firmware Update
System Settings
Self Healing

Firewall > DDNS

Dynamic DNS allows you to provide Internet users with a fixed domain name (instead of an IP address which may periodically change), allowing your router and applications set up in your router's virtual servers to be accessed from various locations on the Internet without knowing your current IP address. Your Wireless Router supports dynamic DNS through DynDNS.org (http://www.dyndns.org). You must create an account before using this service. More Info

DDNS Service >   DynDNS ▼   Web Site

DDNS Status >   Disable

User Name >

Password >

Domain Name >

Clear Changes   Update Dynamic DNS

DDNS setup (you only need this part if you have a dynamic ip address)

Click on DDNS under Firewall as seen above. Select DynDNS in the drop down box. Fill in your username, password and URL or Domain Name. This data would have been documented in the section of the manual on Setting up a DynDNS account. Leave all the other fields in default setting. When you are done click "Update Dynamic DNS".
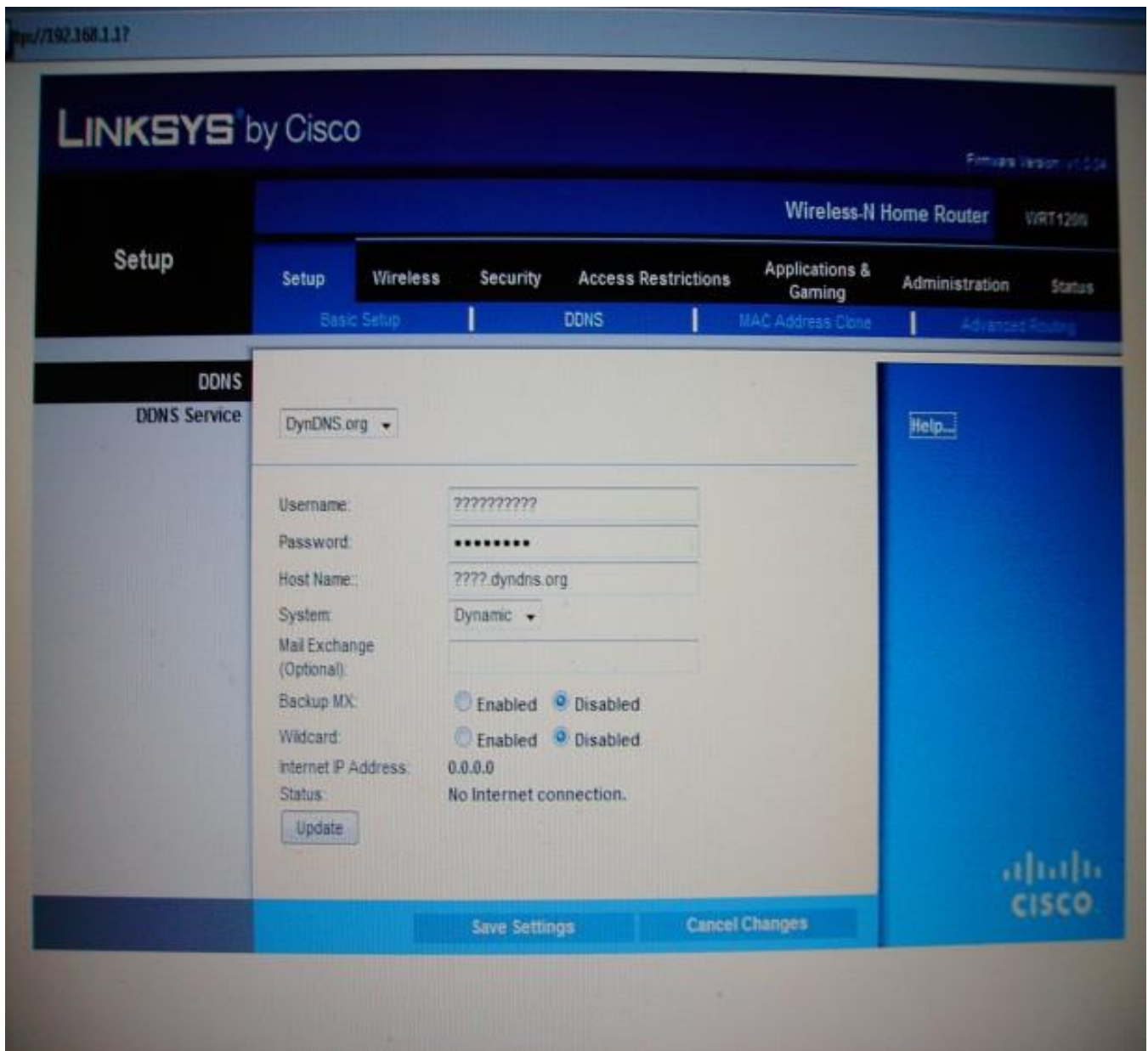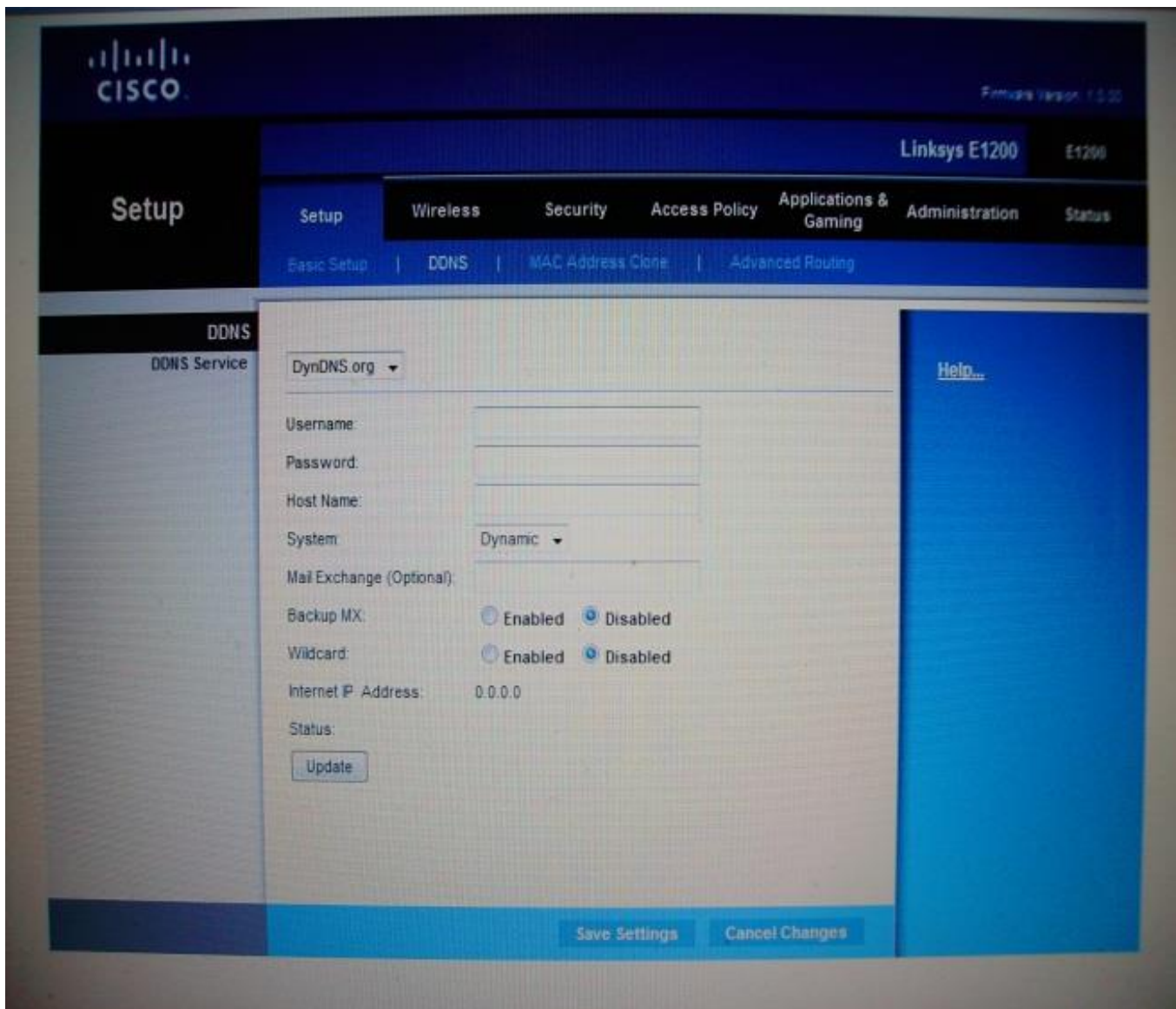
Linksys WRT54GS

The Linksys WRT45GS has a default IP address of 192.168.1.1 The default username and password is admin for both.

You will need to access 2 portions of the routers programming, Port Range forwarding under Applications and Gaming and DDNS under Setup. Follow the steps below to complete setup.

You will need to set port forwarding for each Classic. Click Application & Gaming and then click Port Range forward. Enter a name in the Application field this can be just Classic or you could use a name for it like wind or solar this is for your reference only. Enter the port the Classic is set to in the Start and End boxes. Enter the Static IP address of each Classic this would have been documented in the section on Setting up the Classic for the Network. Check the box that says Enable for each Classic on the system. Click save settings and wait for the router to tell you it updated successfully.

DDNS setup (you only need this part if you have a dynamic ip address)

Select DynDNS.org in the drop down box. Fill in your username and password as well as the host name in the fields. This data would have been documented in the section of the manual on Setting up a DynDNS account. When you are done click save settings and make sure the router comes back and tells you Update success in red under Status.

Linksys WRT120N
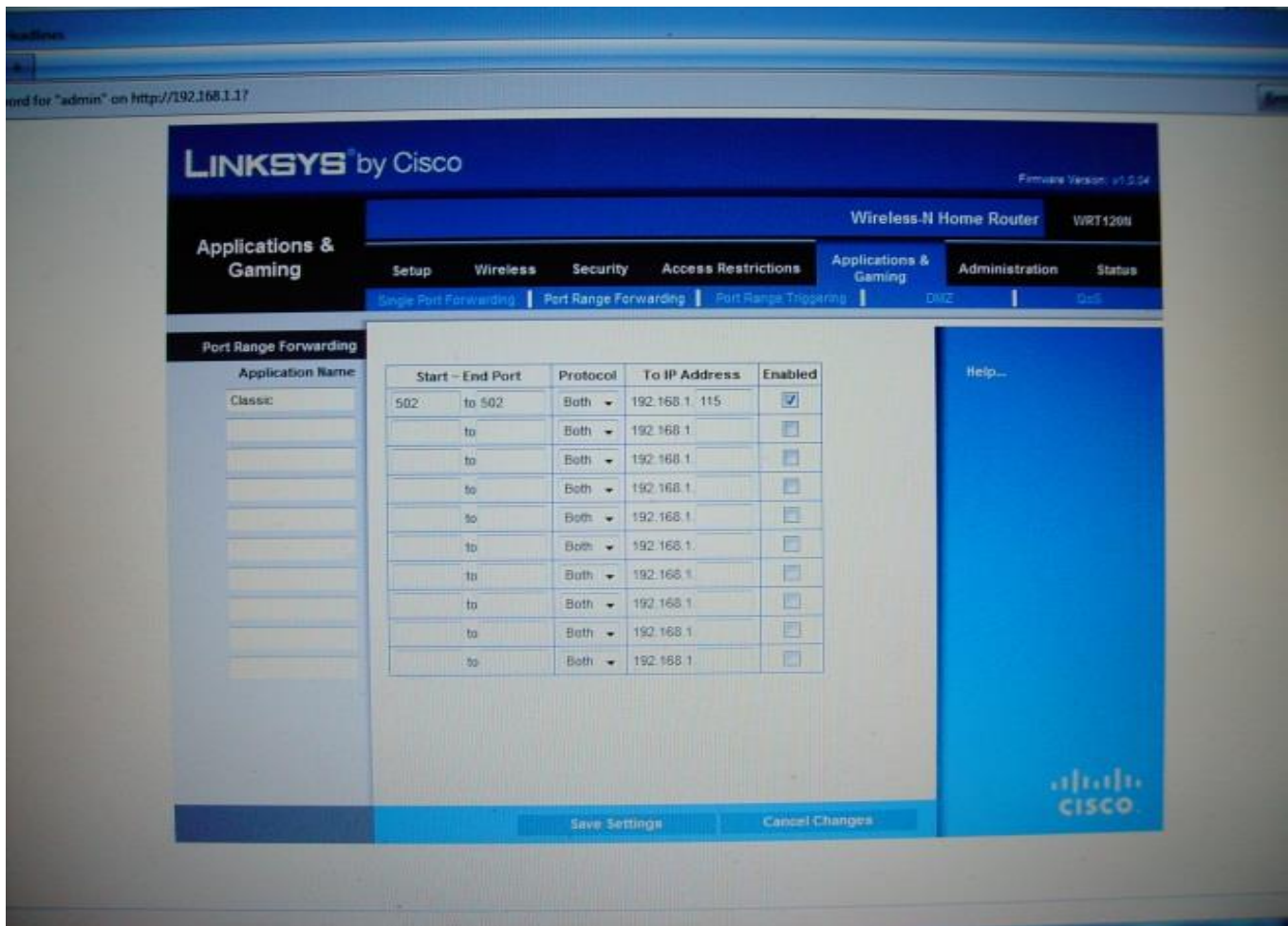
The Linksys WRT120N has a default IP address of 192.168.1.1 The default username and password is admin for both.

You will need to access 2 portions of the routers programming, Port Range forwarding under Applications and Gaming and DDNS under Setup. Follow the steps below to complete setup.

You will need to set port forwarding for each Classic. Click Application & Gaming and then click Port Range forward. Enter a name in the Application field this can be just Classic or you could use a name for it like wind or solar this is for your reference only. Enter the port the Classic is set to in the Start and End boxes. Enter the Static IP address of each Classic this would have been documented in the section on Setting up the Classic for the Network. Check the box that says Enable for each Classic on the system. Click save settings and wait for the router to tell you it updated successfully.

DDNS setup (you only need this part if you have a dynamic ip address)

Select DynDNS.org in the drop down box. Fill in your username and password as well as the host name in the fields. This data would have been documented in the section of the manual on Setting up a DynDNS account. Leave all the other fields in default setting. When you are done click save settings and make sure the router comes back and tells you Update success under Status.

Linksys E1200

The Linksys E1200 has a default IP address of 192.168.1.1 The default username and password is admin for both.

You will need to access 2 portions of the routers programming, Port Range forwarding under Applications and Gaming and DDNS under Setup. Follow the steps below to complete setup.

You will need to set port forwarding for each Classic. Click Application & Gaming and then click Port Range forward. Enter a name in the Application field this can be just Classic or you could use a name for it like wind or solar this is for your reference only. Enter the port the Classic is set to in the Start and End boxes. Enter the Static IP address of each Classic this would have been documented in the section on Setting up the Classic for the Network. Check the box that says Enable for each Classic on the system. Click save settings and wait for the router to tell you it updated successfully.

DDNS setup (you only need this part if you have a dynamic ip address)

Select DynDNS.org in the drop down box. Fill in your username and password as well as the host name in the fields. This data would have been documented in the section of the manual on Setting up a DynDNS account. Leave all the other fields in default setting. When you are done click save settings and make sure the router comes back and tells you Update success under Status.

NetGear N150-WNR1000

The NetGear N150-WNR1000 has a default IP address of 192.168.1.1 The default username is admin and the password is password.

You will need to access 2 portions of the routers programming, Port Range forwarding under Applications and Gaming and DDNS under Setup. Follow the steps below to complete setup.

Click on port forwarding in the advanced menu on the left side of the screen. On the screen that comes up (See Picture above) check port forwarding and then click "Add Custom Service".

You will need to give each forwarded port a name in the box named "Service Name". This name is not important to the router it is there for your reference. You could use Classic or a name like Wind or Solar for this.

Enter the port number assigned to the Classic in the "Starting Port" and "Ending Port" boxes. Enter the Static IP address of the Classic this would have been documented in the section on Setting up the Classic for the Network. Click Apply.

Repeat this process for each Classic by Clicking "Add Custom Service" and entering the data for each Classic.

DDNS setup (you only need this part if you have a dynamic ip address)

In the Advanced Menu on the left side of the screen click "Dynamic DNS". On the screen that opens check the box labeled "Use a Dynamic DNS Service". Select DynDNS from the drop down box labeled "Service Provider".

Fill in the Host Name, User Name and Password that you have from DynDNS. You documented this earlier in the section on setting up a DynDNS account.

Click apply to save these settings.

NetGear N300-WNR2000

The NetGear N300-WNR2000 has a default IP address of 192.168.1.1 The default username is admin and the password is password.

You will need to access 2 portions of the routers programming, Port Range forwarding under Applications and Gaming and DDNS under Setup. Follow the steps below to complete setup.

Click on port forwarding in the advanced menu on the left side of the screen. On the screen that comes up (See Picture above) check port forwarding and then click "Add Custom Service".

You will need to give each forwarded port a name in the box named "Service Name". This name is not important to the router it is there for your reference. You could use Classic or a name like Wind or Solar for this.

Enter the port number assigned to the Classic in the "Starting Port" and "Ending Port" boxes. Enter the Static IP address of the Classic this would have been documented in the section on Setting up the Classic for the Network. Click Apply.

Repeat this process for each Classic by Clicking "Add Custom Service" and entering the data for each Classic.

DDNS setup (you only need this part if you have a dynamic ip address)

In the Advanced Menu on the left side of the screen click "Dynamic DNS". On the screen that opens check the box labeled "Use a Dynamic DNS Service". Select DynDNS from the drop down box labeled "Service Provider".

Fill in the Host Name, User Name and Password that you have from DynDNS. You documented this earlier in the section on setting up a DynDNS account.

Click apply to save these settings.

NetGear N600-WNDR3700

The NetGear N600-WNDR3700 has a default IP address of 192.168.1.1 The default username is admin and the password is password.

You will need to access 2 portions of the routers programming, Port Range forwarding under Applications and Gaming and DDNS under Setup. Follow the steps below to complete setup.

Click on port forwarding in the advanced menu on the left side of the screen. On the screen that comes up (See Picture above) check port forwarding and then click "Add Custom Service".

You will need to give each forwarded port a name in the box named "Service Name". This name is not important to the router it is there for your reference. You could use Classic or a name like Wind or Solar for this.

Enter the port number assigned to the Classic in the "Starting Port" and "Ending Port" boxes. Enter the Static IP address of the Classic this would have been documented in the section on Setting up the Classic for the Network. Click Apply.

Repeat this process for each Classic by Clicking "Add Custom Service" and entering the data for each Classic.

DDNS setup (you only need this part if you have a dynamic ip address)

In the Advanced Menu on the left side of the screen click "Dynamic DNS". On the screen that opens check the box labeled "Use a Dynamic DNS Service". Select DynDNS from the drop down box labeled "Service Provider".

Fill in the Host Name, User Name and Password that you have from DynDNS. You documented this earlier in the section on setting up a DynDNS account.

Click apply to save these settings.

NetGear G54-WGR614

The NetGear G54-WGR614 has a default IP address of 192.168.1.1 The default username is admin and the password is password.

You will need to access 2 portions of the routers programming, Port Range forwarding under Applications and Gaming and DDNS under Setup. Follow the steps below to complete setup.

Click on port forwarding in the advanced menu on the left side of the screen. On the screen that comes up (See Picture above) check port forwarding and then click "Add Custom Service".

You will need to give each forwarded port a name in the box named "Service Name". This name is not important to the router it is there for your reference. You could use Classic or a name like Wind or Solar for this.

Enter the port number assigned to the Classic in the "Starting Port" and "Ending Port" boxes. Enter the Static IP address of the Classic this would have been documented in the section on Setting up the Classic for the Network. Click Apply.

Repeat this process for each Classic by Clicking "Add Custom Service" and entering the data for each Classic.

DDNS setup (you only need this part if you have a dynamic ip address)

In the Advanced Menu on the left side of the screen click "Dynamic DNS". On the screen that opens check the box labeled "Use a Dynamic DNS Service". Select DynDNS from the drop down box labeled "Service Provider".

Fill in the Host Name, User Name and Password that you have from DynDNS. You documented this earlier in the section on setting up a DynDNS account.

Click apply to save these settings.