dataprobe

iBoot G2S

Web Enabled
Power Switch

v150619e

Congratulations on purchasing the best network controlled power switch available. The iBoot-G2S provides you the ability to reboot crashed devices with the click of a mouse. Be sure to read up on all the features of the iBoot-G2S Including:

- **Web Based** setup and control with mobile browser support.

- **Built-in two port Network Switch:** Simplify network cabling and reduce network closet clutter.

- **Graceful Shutdown:** attempt a soft shutdown or reboot before cycling power.

- **Telnet** setup and control

- **Event Scheduling:** Set power actions on regular intervals.

- **Expansion:** Add low cost iBoot-EXP units for up to three outlets controlled.

- **AutoPing:** Automatic monitoring and action for failed equipment.

- **I/O Control:** Control or Monitor your own digital Inputs and Outputs. Use inputs to control the AC outlet.

- **Management Utility:** Easy Setup, Firmware upgrades and Reset to Factory Default

- **Easy Software Integration:** Use the DxP Protocol to build your own custom applications.

- **New iBoot Cloud Service** – BETA – Control all your iBoots from one web portal.

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1. Table of Contents

2. Important Safety Instructions

When using this product, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

1. Read and understand all instructions.
2. Follow all warnings and marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product in an outdoor environment or near water, for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in this product and the back or bottom are provided for ventilation to protect it from overheating; these openings must not be blocked or covered. The openings should never be blocked by placing the product on the bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
8. This product is equipped with a three wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug. Do not use a 3-to-2 prong adapter at the receptacle; use of this type adapter may result in risk of electrical shock and/or damage to this product.
9. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
10. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
11. Never push objects of any kind into this product through slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock. Never spill liquid of any kind on the product.
12. To reduce the risk of electrical shock, do not disassemble this product, but take it to a qualified serviceman when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect re-assembly can cause electric shock when the appliance is subsequently used.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a) When the power supply cord or plug is damaged or frayed.
    b) If liquid has been spilled into the product.
    c) If the product has been exposed to rain or water.
    d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
    e) If the product has been dropped or has been damaged.
    f) If the product exhibits a distinct change in performance.
14. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
15. Do not use the telephone to report a gas leak in the vicinity of the leak.
16. Do not exceed the maximum output rating of the auxiliary power receptacle.

Save These Instructions

3. General Description

The iBoot-G2S is a network attached, IP addressed, web controlled AC power switch. Anyone with a web browser can access iBoot-G2S to perform power On, Off or Power Cycle (Reboot or Power Burst). iBoot-G2S access is password protected with user and administrator security levels.

The built-in network switch with two ports, allows iBoot-G2S to be installed in applications where an additional network port for power control is impractical or impossible. It is not necessary to use the second network port, or to have

iBoot-G2S features international standard IEC320 connections and is compatible with power mains worldwide. A simple Web browser interface makes it easy to control power from anywhere in the world with a click of a mouse. iBoot-G2S also supports Telnet for text commands, as well as Dataprobe's Exchange Protocol (DxP) for interfacing to a variety of Dataprobe products and custom software development.

3.1. Uses for iBoot

- Remote reboot of any device, routers, servers, kiosks, etc. The device to be rebooted need not be network attached.
- Secure sensitive devices by keeping them powered off when not in use. This prevents hackers from seeing them at all times.
- Power down equipment when not needed for power savings and to save on wear and tear.
- Power up alert devices like sirens, lamps, messages; or control environmental system like heaters, coolers pumps, etc.

3.2. Multiple Control Options

In addition to the Web control capabilities, iBoot-G2S features several other means to operate automatically or under computer control.

AutoPing and Heartbeat: The AutoPing feature allows iBoot-G2S to automatically detect failed equipment and perform a timed reboot or other power control function (like turning on an indicator or siren). You set up to four IP addresses to be periodically pinged. When iBoot-G2S no longer detects a response from the address(es), the programmed power control function is actuated.

The heartbeat function works in reverse; it looks for a message from a device and takes action when that message is no longer received. The heartbeat generator app installs in your server and allows the iBoot-G2S to auto reboot when the server crashes.

Telnet: iBoot's Command Line Interface (CLI) allows direct control and setup through Telnet.

USB: iBoot's Command Line Interface (CLI) allows direct control and setup through the USB port.

Dataprobe Exchange Protocol: iBoot-G2S supports Dataprobe Exchange Protocol (DxP) This protocol allows Dataprobe products to communicate across networks, and allows developers to design custom applications to integrate iBoot-G2S into custom applications. For more information about DxP, contact Dataprobe Applications Engineering and Support.

3.3.   Expansion to Three Outlets

iBoot-G2S can be linked to two expansion units, iBoot-Exp to control three outlets. All three outlets are controlled and managed through the iBoot-G2S web page and CLI. Each outlet is independently controlled. AutoPing and Heartbeat can be used to control
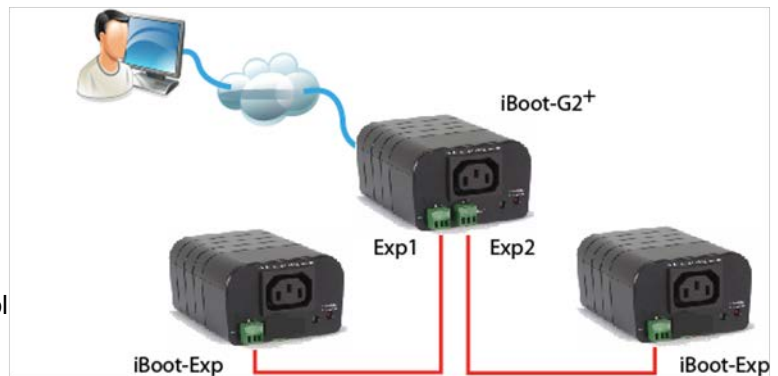

3.4.   Expansion to GPIO

When not used for expansion to iBoot-Exp, the Expansion Ports on the iBoot-G2S can be used as general purpose I/O (GPIO) to monitor and control additional devices.   Inputs on the expansion ports can be used to monitor alarm contacts, environmental sensors, relays and switch closures. The outputs can drive relays for process control, security and environmental controls.

The inputs can also be used to control the power of the main power. Several modes of operation allow the inputs to be connected to physical switches or other management systems that generate contact closures to control the power. Inputs 1 and 2 can be set for a variety of power control options.

iBoot-G2S uses Dataprobe Exchange Protocol (DxP) to communicate with other Dataprobe devices to allow transport of GPIO information across the network.   DxP protocol is available from Dataprobe's website, allowing you to create programs to monitor and control any Dataprobe DxP enabled device, or exchange status and control between devices across the network.


2 Inputs and 2 Outputs as GPIO

Transport Digital Events across the Network
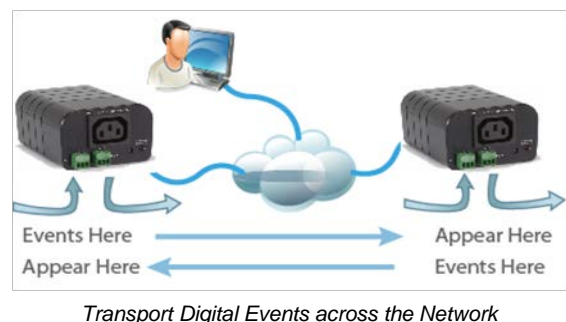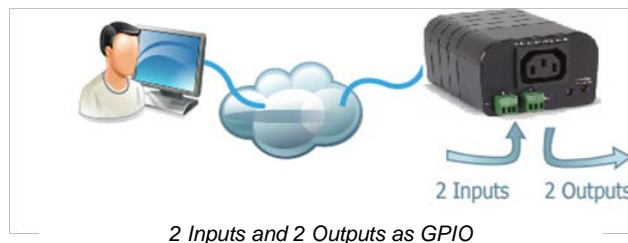
4. Hardware Installation

4.1. Ethernet Connections

iBoot-G2S supports two 10/100 Ethernet connections. The built in two port unmanaged switch allows uplink and downlink connections to be made through the iBoot to be inserted into an existing cable run without the need for a separate switch.

Either port can be connected to the uplink (network) or downlink (device). Use the cable provided or other suitable unshielded twisted pair (Cat 5) cabling. Activity (green) and 100Mb (amber) LEDs on the network connector indicate when the network connection is properly established and when the connection is 100 Mbit/s.
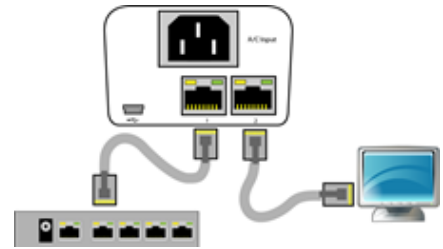
Connect 10/100 Ethernet

4.2. AC Power Connections

Connect the device to be powered ON and OFF to the IEC receptacle marked A/C Output. An IEC 320 to North American (NEMA 5-15) power cord is included for connecting the iBoot-G2S outlet to the device to be controlled.
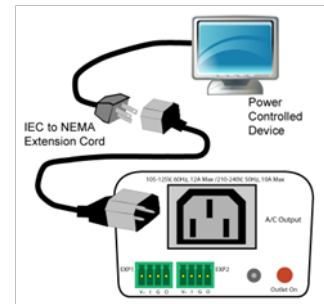
If a cord with a different terminating receptacle is required, be sure it is properly rated and meets all the required local electrical standards. If the device to be powered uses an IEC320 receptacle and detachable power cord, an IEC to IEC extension cord can be used.

IEC to NEMA 5-15 Outlet Cord for North America Included

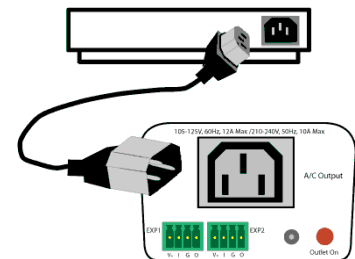The iBoot-G2S can be connected to a power strip to allow simultaneous control of multiple devices.

Make sure that the combined load of all controlled devices does not exceed 12 Amps for 105-125VAC or 10 Amps for 210-240VAC.

An LED Indicator next to the Switched Outlet will be On to indicate that the power is On at that outlet. This LED will turn Off to indicate that the power is Off to the outlet.

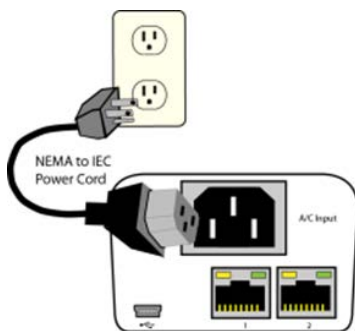*Source Additional Outlet Cables Locally*

Connect the supplied power cord to the connector labeled AC Input, and the other end to your AC source. If a power cord with a different terminating plug is required, be sure it is properly rated and meets all the required local electrical standards.
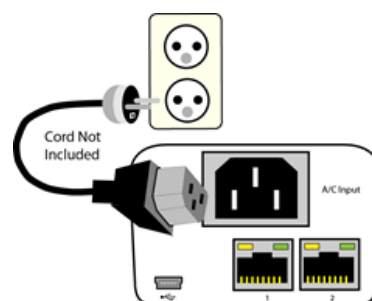

*Power Cord for North America Included*

Source Additional Power Cords Locally

4.3. Expansion Connections

iBoot-G2S has two Expansion Ports, Exp1 and Exp2 for connection to iBoot-Exp, or for use as General Purpose Inputs and Outputs (GPIO). Mode settings on the iBoot-G2S determine how the expansion ports function.

Connections to the iBoot-Exp are made using screw terminal blocks. The screw terminal blocks are on removable connectors for easy cable fabrication.

Make sure screw terminals are tightened securely and that there are no loose strands of cable, or excessive stripped wires.
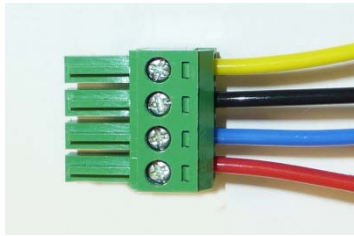
Proper Screw Terminal Connections
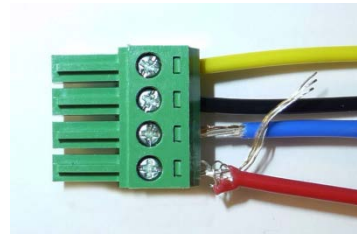
Poor Screw Terminal Connections.

Note Loose Wires and

Connecting to iBoot-Exp

Terminal blocks are connected pin-to-pin with the iBoot-Exp as shown:

Connect:

Function	iBoot-G2S		iBoot-Exp	
Power	V+	Power Out	V+	Power In
Feedback	I	Input	O	Output
Ground	G	Ground	G	Ground
Command	O	Output	I	Input

Expansion units (iBoot-Exp) are shipped with a cable for easy connection to the iBoot-G2S . Maximum cable length is 1000 ft (305 m) using 22 AWG wire.
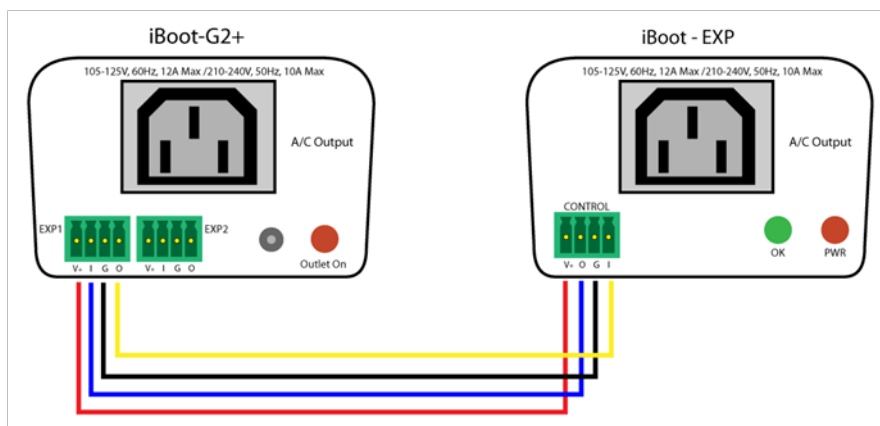
iBoot-G2+ to iBoot-EXP Connections

Connection for physical switch for power control

Connection to the I/O connector for power control uses pins 2 and 3 as shown in the connection diagram. The function of the switch is determined by the setup. See sect 7.2

Input Connections to Switches for Power Control

Connection to General Purpose I/O

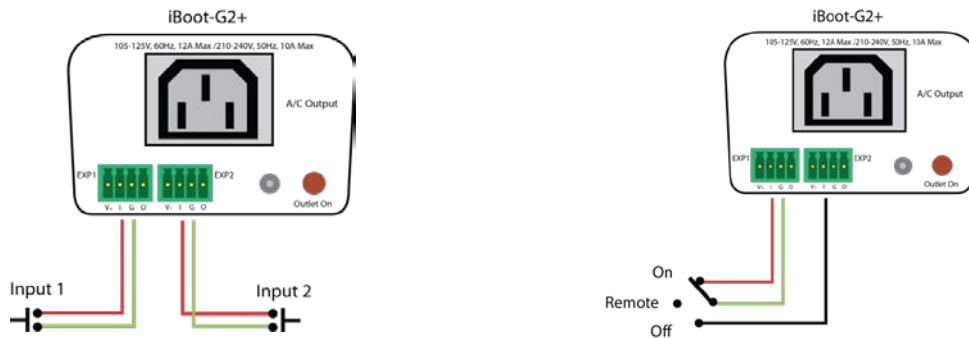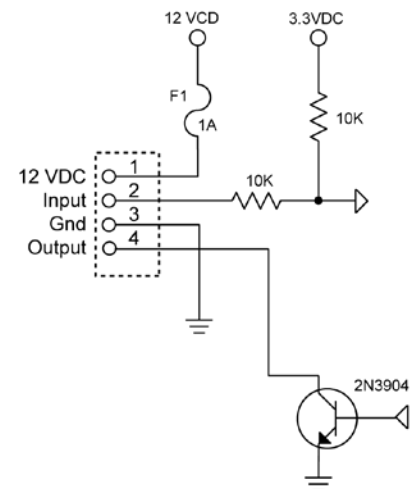| Function	iBoot-G2S	Description
Power	V+ Power Out	This is +12 VDC power out from the iBoot-G2S Maximum current 100 mA
Feedback	I Input	Input for status signals. Dry Contact input or Open Collector.
Ground	G Ground	Signal Ground for Input and Output
Command	O Output	2N3904 NPN Transistor. 100 mA Maximum

Schematic of Input and Output Connections Used as General Purpose I/O

4.4.   USB Connection

The iBoot-G2S has a USB connection that can be used for:

- Connection to a PC for setup and control
- Connection to a PC for heartbeat monitoring

To use the USB port, install the USB driver. Download the driver at http://dataprobe.com/support/iboot.html

USB Driver Installation

- Run ibootG2Driver.exe prior to connecting the iBoot-G2S to the USB port of the PC.
- Connect the USB iBoot-G2S to a USB port of the PC.
- The PC will discover the iBoot-G2S and assign a COM port. To find the COM port go to
- Control Panel > System > Device Manager > Ports (COM & LPT) The com port assigned will be USB Serial Port (COMn)

The USB port can now be used with a standard Terminal Client (like HyperTerminal) to communicate directly with the iBoot-G2S. Dataprobe also provides a simple terminal program (EZ Term) at http://dataprobe.com/support/iboot.html

4.5. Mounting Options

iBoot-G2S is suitable for desktop or shelf mounting. A mounting kit for wall and DIN rail mounting is available. Order part:

1920033   Mounting Kit for iBoot-G2S G2 Series

⚠ **Remove all cables from the unit prior to installing or removing any mounting hardware.**

1920033 Mounting Kit
iBoot G2 Series

Installing the Wall Mounting Kit	DIN Rail Mounting
1. Remove the four mounting screws from the underside of the unit. Do not disassemble the unit.	1. Install the Wall Mounting Kit as shown.
2. Install the wall mounting ears to the unit using the screws removed in Step 2	2. Install the DIN rail clips using the four screws provided.
3. The unit is ready for wall mounting.	3. Ready for DIN rail mounting.
4. Use M3 or #4 screws for attachment to suitable surface	

5. Initial Configuration

The Device Management Utility (DMU), available online at http://dataprobe.com/support/iboot.html, provides the easiest means to find and configure your iBoot-G2S for use. It can discover all the iBoots on your network, display the current IP address of each, and allow setting of any valid IP address.

<u>Install and Run the DMU</u>

1. Download DMUSetup.exe
2. Run DMUSetup.exe
3. Run the DMU

Note: The IP address can only be set within the first two minutes of powering up the iBoot. The DMU will only work with iBoots on the same physical subnet as the PC.

Once the DMU is run, click on Device | Discover to display all the iBoots on your network. The DMU will display the Location Name of the iBoot, the product ID and Version Number, the current IP Address, and the MAC Address. Factory defaulted iBoots will display with the name **New iBoot-G2S** and have the factory default IP address of **192.168.1.254.** If the IP address was assigned by a DHCP server, no changes to the IP Address are required.
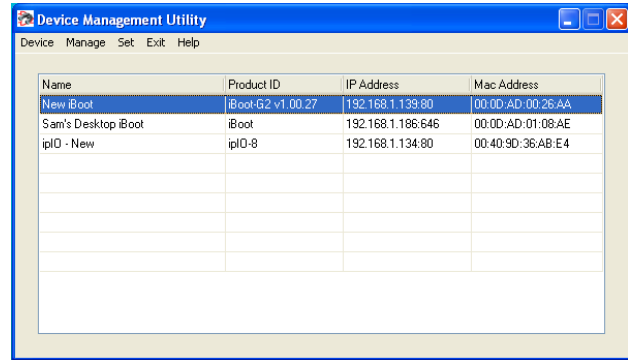
The IP address field also indicates the port for web access that is used by the iBoot. The standard port for web browser control is factory default Port 80.

<u>Change the IP Address</u>

1. Click on the row containing the iBoot-G2S to be set. The row will become highlighted.
2. From the menu select Set | IP Address
3. Enter the new IP Address into the form. Click OK when done.
4. A confirmation box is displayed. Click OK to clear the box.

DMU Discovers Dataprobe Devices on Local Network
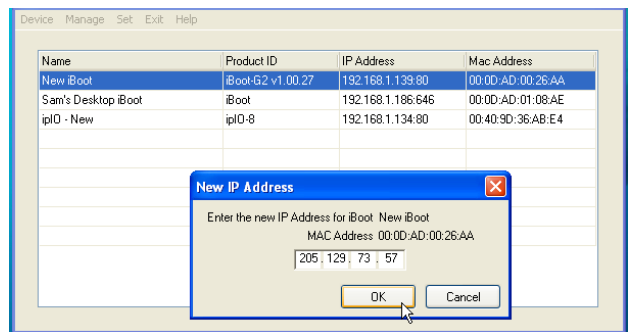
Enter New IP Address for iBoot

IP Address Successfully Set

Once the IP Address is set, other all other operational features of the iBoot-G2S can be set up. Click on Discover again to refresh the display, highlight the desired iBoot-G2S and click on Manage | Launch Browser. Follow the instructions on Page 14 to configure the iBoot.

The DMU can also be used to return an iBoot-G2S to its Factory Default condition. This can be used to recover an iBoot-G2S with a lost password. Highlight an iBoot-G2S from the display and select Set | Factory Defaults. This must also be done within the first two minutes of powering up the iBoot.

5.1. Other ways to set the IP Address

1. Automatically from a DHCP Server
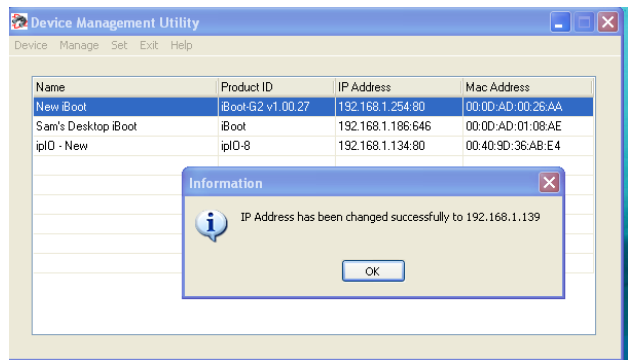2. Web Browser via the Set-up Page
3. Command Line Interface (Telnet & USB)

iBoot-G2S comes with factory installed IP address 192.168.1.254.

Setting the IP address from a DHCP Server

A DHCP server will automatically assign an IP address (dynamic address) as well as Subnet Mask and Gateway to the iBoot. If you reboot the iBoot-G2S with the IP Mode set for DHCP, the DHCP server will be able to assign an IP address. Once an IP address is assigned, you must check the
DHCP server or use the iBoot-G2S Device Management Utility (DMU) to see what address is assigned to the iBoot. You can lock the iBoot-G2S to the current address, by selecting IP Mode = Static without changing the addresses. Set the IP Mode either by using the web setup page, or via Telnet commands.

If you set the IP address using another method, the address becomes static. To return iBoot-G2S to dynamic addressing using DHCP, select DHCP mode in Network Setup and reboot the unit.

Setting the IP address using Web Browser

To set the IP address using a Web Browser, connect the Ethernet connection to your local network and apply power to iBoot.

Open your browser and access iBoot-G2S by entering the default (192.168.1.254) or current IP address into your browser's Address window. Enter the administrator credentials, click on Setup and follow the instructions on Page 14.

6. Web Browser Operation

6.1. Password Protection

iBoot-G2S uses two username/password credential sets, one for normal power control (User) and one that also provides access to the setup functions (Admin). This configuration can be changed to require Administrator credentials at all times or allow unsecured User level control. See section 7.12.

Default Credentials:

Role	Username (fixed)	Password (settable)
Administrator	admin	admin
User	user	user

Open your browser and enter the IP address of iBoot-G2S into the address bar. If you have changed the IP address by any of the methods described, enter that address, otherwise, use the default IP address 192.168.1.254

Enter the username and password when prompted. When the proper username/password is received the Control and Status Page is displayed.

iBoot-G2S uses an inactivity timer for security. This timeout is user selectable from 0 to 99 minutes. Setting to zero disables the timeout feature. When there is no activity for the set time in minutes, the user is automatically logged out and the username and password will need to be entered again for access. This is to prevent accidental lockout by leaving the user logged in.

As the iBoot-G2S allows only one Web user logged in at any time, use caution when disabling the timeout feature, as it is possible to lock out other users by forgetting to logout. Closing the browser will not log the user out and will lock out web access. If you do become locked out, access the iBoot-G2S via Telnet and reboot the unit, or press the reset button (see Section 11)

6.2. Mobile Browser Support

The web pages described below are for screen sizes 700 pixels wide and greater. The iBoot-G2S uses a set of mobile browser pages without setup options. The iBoot-G2S automatically detects the screen size and redirects automatically to the mobile pages. There is an option to view the full site from the mobile pages.
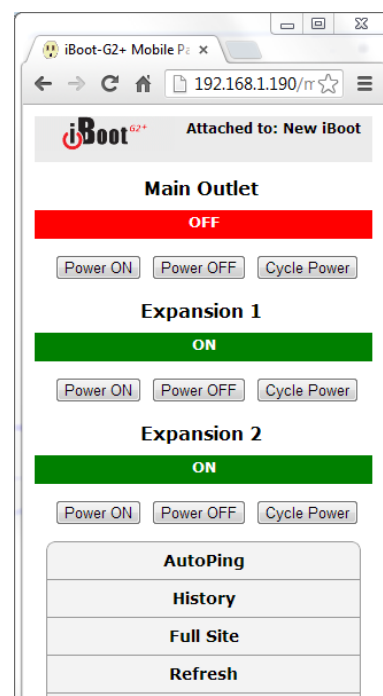
6.3. Control and Status Page

Once the user is validated, the Control and Status is displayed. (Only one person can be connected to the iBoot-G2S at a time.)

The look of the Control and Status page will be determined by which options are selected for the Expansion, AutoPing and Heartbeat.

If the iBoot-G2S is connected to a time server (see Section 7.11), The Home page will also show the five most recent history events, including the Outlet, Action, User and Time/Date of each event. The iBoot-G2S holds the last 32 events in memory. The user can access a complete history webpage, download the history in a .csv file, or clear the history.

6.4. Power Status

The Power Status section shows the current status, and allows control of the power outlet(s). The look of the Power Status Section is determined by the setup of the Expansion feature.

Expansion Set for iBoot-Expansion:

The Power Status section shows the On or Off status of each of the three manageable outlets, Main, Exp1 and Exp2.

To control the power, select the desired outlets and click on the appropriate button. If an outlet is linked to the Main outlet, an **Linked to Main** message will replace the checkbox (as shown for Exp1) and it will be managed in sync with the Main Outlet.

A clock icon will indicate that the outlet has an active schedule for power control.

Expansion Set for Power Control

If the expansion ports are set for Power Control mode, and the inputs are currently controlling power, a Lock icon will be displayed, indicating that the outlet is locked by the external controls. While the inputs are controlling power, ALL other control is locked out.

During power cycling, the Power Status bar will indicate the temporary status, with a blue background. Once the cycle is complete, the status bar will revert to its original condition. To abort a power cycle, select the desired outlet and click on either Power On or Power Off buttons. iBoot-G2S will assume the status selected

Expansion Set for Independent I/O Mode:

The Power Status section shows a single status for the Main outlet. Expansion ports 1 and 2 are displayed below in an External I/O section with a status of Open or Closed for the Input and Output of each. A button toggles the status of the output of Exp 1 and Exp2.
.
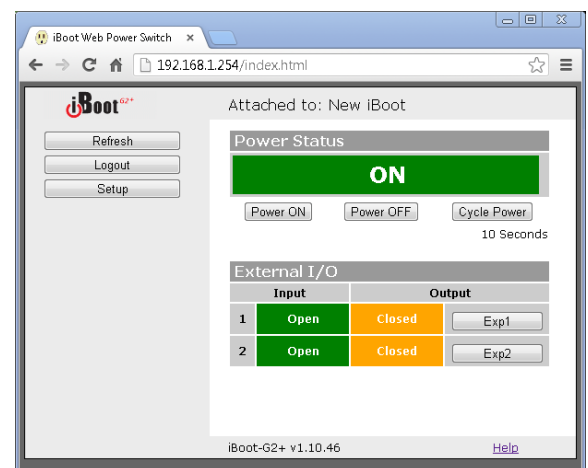
AutoPing Enabled:

If the AutoPing feature is in use, the page will also display the current status, OK or Failed, for each AutoPing used, with a counter showing how many times the Action was triggered. Reset buttons for the Trigger counters are provided.

Heartbeat Enabled:

If the Heartbeat feature is enabled, the page will display the current status, OK or Fail of the Heartbeat, with a counter showing how many times the Action was triggered. Reset buttons for the Trigger counters are provided.

Navigation Buttons:

Refresh: Use the Refresh button to obtain the latest status of iBoot. Using your browser's refresh button can lead to inadvertent power switching. If an NTP server is being used, the time of the last refresh will be shown in the upper right corner.

Setup: To access the Setup page, the administrator credentials are required. When logged in as User, the challenge for Administrator credentials will be offered.

Logout: When you are finished with iBoot, click on Logout. A Goodbye page will be displayed. This page has a URL link to re-connect with the iBoot. The linkback URL is user settable. If no linkback is set, the hyperlink will be the unit's IP Address.
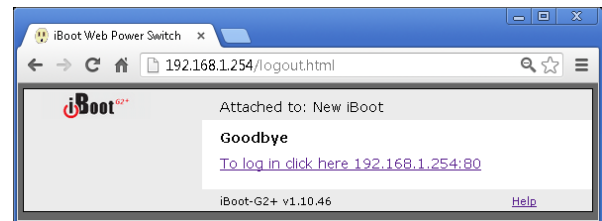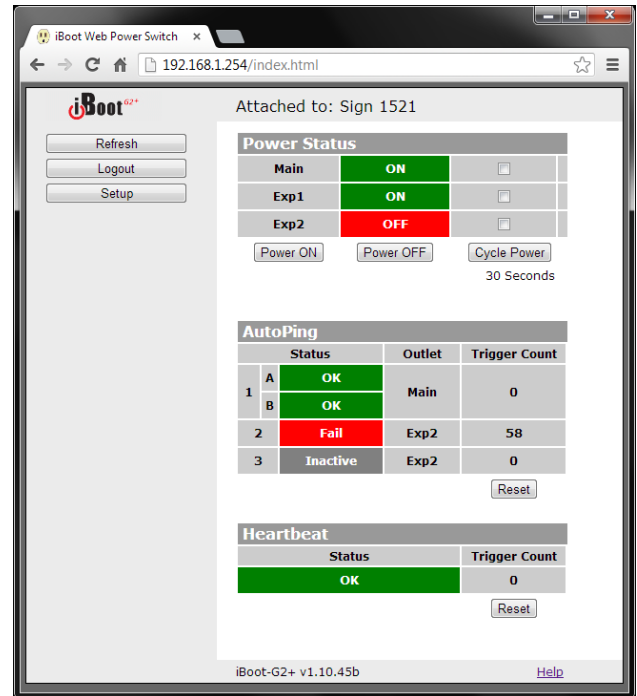
7. Web Setup

iBoot-G2S setup section consists of several pages. Access any page via the buttons on the left of the page. Each time a setting is changed click on the Save button for that page to save the changes before moving to the next page.

7.1. Device Settings

<u>Location ID:</u> Set a 20 Character name to be displayed on the top of the Home page. This assists in identifying which iBoot-G2S is being accessed.

<u>Cycle Time:</u> 0 to 999 seconds power cycle time. This is the length of time the power will be off during a reboot, or on during a power burst.

<u>Delay Time:</u> 0 to 999 seconds delay time. When powering up multiple devices, a delay can be set between each outlet.

<u>Initial State:</u> Each outlet can be set to the state it will assume when the iBoot-G2S is powered up or reset. The choices are: On, Off and Last, meaning the state it was in when the power was removed or reset commenced.

<u>Upgrade Enable:</u> Check this box to allow remote firmware upgrades of the iBoot-G2S. When this box is unchecked, firmware upgrades will not be allowed.

<u>Auto Logout:</u> This setting sets the automatic logout for inactivity on both the web and telnet users. It can be set from 0 to 99 minutes. 0 disables the Auto Logout feature.

⚠️ As the iBoot-G2S allows only one Web user logged in at any time, use caution when disabling the timeout feature, as it is possible to lock out other users by forgetting to logout. Closing the browser will not log the user out and will lock out web access. If you do become locked out, access the iBoot-G2S via Telnet and reboot the unit, or press the reset button.
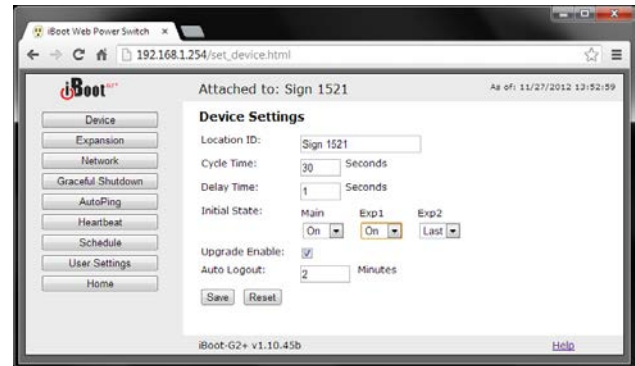
7.2. Expansion Settings

<u>Mode:</u> The iBoot-G2S has three modes of operation for the expansion, each with its own set of settings.

- Expansion: For use with the iBoot-EXP expansion units.

- Power Control: For use with external switches to provide manual power control.

- Independent I/O: Inputs and outputs are used without as status and control not associated with power outlets.
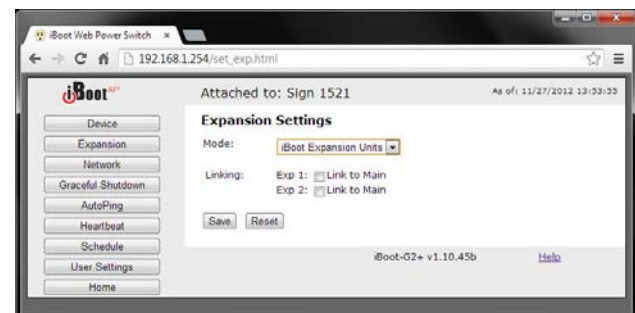
Features are dependent on which mode is selected

iBoot Expansion Units

Select Link to Main to have the status of the Expansion unit be identical to the Main outlet of iBoot-G2S . This is convenient if switching both power supplies of dual redundant powered devices.

Power Control

Each of the two inputs is independently set. Select the target outlet, main, Exp1 or Exp2 and the action desired with the input is Closed. The choices for action are:

- On   Turn the power Of
- Off   Turn the power Off
- Cycle   Change the power for the Cycle Time setting
- Toggle   Change the state of the power. From Off to On
            or On to Off, depending on current state.

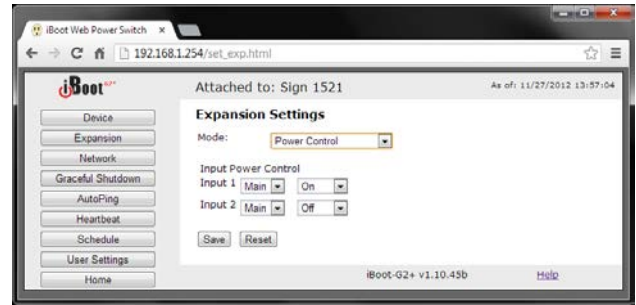The power is controlled when the input is connected to ground. When set for On or Off, holding the input to ground will lock the power in the selected position allowing for manual override of all other control options. By using both inputs, one set for On and the other for Off, you can use a three position switch to create an On – Remote – Off switch.
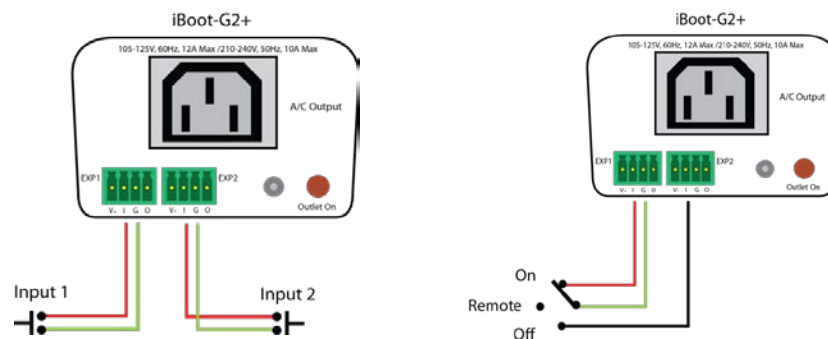
Input Connections to Switches for Power Control

Independent I/O:

Check Remote Control Enable to allow external devices to control via DxP protocol. Leave unchecked to prevent unwanted control via DxP. To allow the inputs of Exp1 and Exp2 to control additional devices via DxP Protocol, enter the IP address and relay number of the device to be controlled.
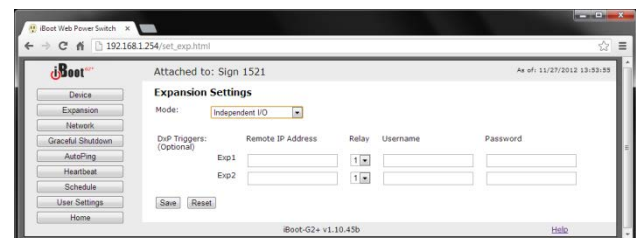
7.3. Network Settings

IP Mode: Select Static to set the IP address using the fields below, or DHCP to allow a DHCP server to set the IP Address.

IP address: Enter a static IP address. This will be automatically set if using DHCP

Subnet Mask: Enter the Subnet Mask. This will be automatically set if using DHCP

Gateway: Enter the Gateway. This will be automatically set if using DHCP

HTTP Port: This setting is used to allow access to iBoot-G2S on a port other than the Web standard Port 80. If the port is changed, you will need to identify the protocol and port number when you enter iBoot's IP address into your browser. If the new port is 8080 then use the URL would be http://192.168.1.254:8080.

Linkback URL: This setting allows control of the hotlink displayed on the Goodbye page. It allows use of the public IP address or DNS name instead of the internal IP Address of the iBoot-G2S, which is the default setting. If this setting is left blank, the hotlink will be the IP Address of the unit.

Note: If you set any HTTP Port other than Web standard 80, you must use the protocol prefix 'http://' before the IP address and port. When using Port 80, the prefix is not required.

Telnet Port: This setting is used to allow access to the iBoot-G2S via telnet by ports other than standard 23.

DxP Port: This setting is used to allow access to the iBoot-G2S via Dataprobe Exchange Protocol (DxP) via ports other than standard 9100.

Enable DxP Control: This setting enables external devices to control the iBoot-G2S via DxP protocol.

Enable DxP Query: This setting enables external devices to query the status of the iBoot-G2S via DxP protocol.

Enable Cloud Services: This setting enables the iBoot for iBoot Cloud Services (iBCS). iBCS allows the iBoot to be monitored and controlled from a web portal from any browser. It allows multiple iBoots to be managed from a single portal. For a complete description of iBCS and setup instructions, see Section 8.

> **Note:** All of the TCP/IP Settings require a reboot of the iBoot-G2S, after clicking Save. A Reboot button will appear at the bottom of the page. The new settings will not take effect until the unit is rebooted. Reboot will not affect the power position of the iBoot-G2S. Upon Clicking Reboot, the Goodbye page is displayed with a link to re-login.

7.4. Graceful Shutdown

The iBoot-G2S is capable of attempting a graceful shutdown of Windows based PCs and servers (XP and later) prior to performing a hard reboot or power down. Activate and control the performance of this feature on this page. Use of graceful shutdown requires installation of the iBoot Utility, which can be found at dataprobe.com/support/iboot.

Graceful Shutdown affects all modes of control of the iBoot-G2S, including the manual switches, when the expansion ports are used in Power Control mode.

For each of the three controllable outlets set;

Enabled or Disabled checkbox.

IP Address. Enter the IP Address of the target system.

Username and Password. Enter a username and password exactly as entered when installing the iBoot Utility.

Hard Shutdown Delay. Enter the time, in seconds for the iBoot to wait for the graceful shutdown to complete. After this time, the iBoot will power down the selected outlet.

Hard Reboot Delay. Enter the time, in seconds or the iBoot to wait for a graceful reboot to occur. If the graceful reboot is successful within this time, the iBoot WILL NOT perform a hard reboot of the selected outlet. If a graceful shutdown is not detected, the iBoot WILL perform a hard power cycle of the outlet, as programmed.
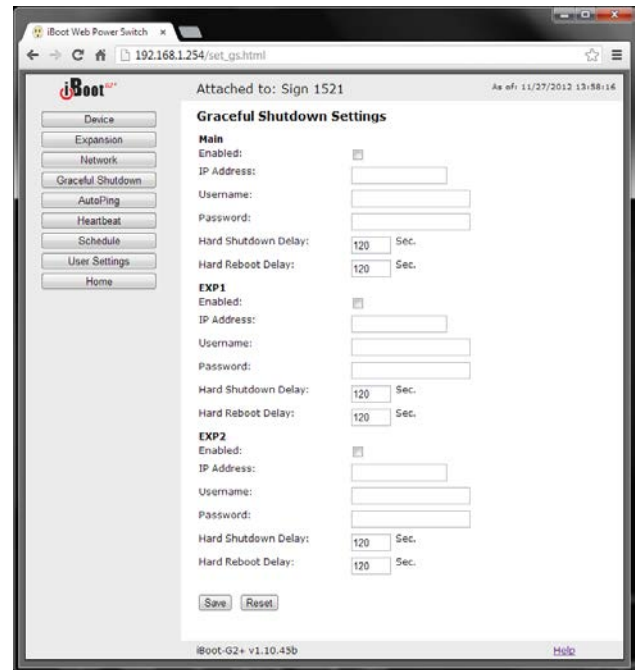
7.5. AutoPing

The AutoPing feature allows iBoot-G2S to automatically detect failed equipment and perform a timed reboot or other power control function (like turning on an indicator or siren). You set up to four IP addresses to be periodically pinged. When iBoot-G2S no longer detects a response from these addresses, the programmed power control function is actuated.

Three separate AutoPing functions are provided and act independently of each other. AutoPing 1 can use two IP Addresses, which can be AND or OR linked so that both (AND) or either (OR) need to fail in order to take the selected action.

Examples:

Use AutoPing as server monitor: iBoot-G2S is installed with the device it monitors and automatically reboots if there is no response. Ideal for: Kiosks & Servers

AutoPing

AutoPing - Service Verification

Use Auto-Ping as service monitor: iBoot-G2S is installed with the device to be rebooted, but pings a remote host to test the communication channel. Ideal for: DSL & Cable Modem Verification

iBoot-G2S monitors network device and powers up alarm or redundant system when there is no response Ideal for: Hot Standby Servers, Environmental Control, Alert for any Network Failure

iBoot-G2S supports three independent AutoPing channels, each controlling either the Main power, or either of the two Expansion ports. The first AutoPing channel can be programmed with two separate IP Addresses with logical AND / OR comparisons to determine the final action.

7.6. AutoPing Settings

IP Address Enter the IP address of the device to be pinged.

Ping Frequency: Enter 1 to 999 seconds. The ping will go out to the selected device this often.

Fail Count: Enter 1-999 times the ping needs to fail consecutively before the selected action is taken. When the fail count has been reached, the AutoPing action will be triggered.

A/B Logic: (AutoPing 1 only) Select from A Only, A AND B, A OR B. With AND, both AutoPings need to exceed their fail count to trigger the Action. With OR, the Action will be triggered if either AutoPing fails.

Control: Select Main for the internal power outlet, or Exp1, Exp2 for either of the two expansion ports.

Action: Select from

None	AutoPing will not take any action upon Fail.
Power On – Latch	Upon triggering, iBoot-G2S will power on and remain so until changed via the web, telnet, DxP, etc.
Power On – Follow	Upon triggering, iBoot-G2S will power on. When the ping response returns, iBoot-G2S will power off.
Power Off – Latch	Upon triggering, iBoot-G2S will power off and remain so until changed via the web, telnet, DxP, etc.
Power Off – Follow	Upon triggering, iBoot-G2S will power off. When the ping response returns, iBoot-G2S will power on.
Power Cycle Times	Upon triggering, iBoot-G2S will cycle the power. If Power Cycle does not result in the ping response the iBoot-G2S can cycle again. The number of times the iBoot-G2S will cycle is set by the **Times** setting. To have the iBoot cycle power 3 times to get the system to respond again, set the Times to 3.

Wait: This is the length of time the iBoot-G2S allows for a response to a ping.

With AutoPing operational, the main iBoot-G2S page will display the current status of this feature. The status will be OK to indicate that iBoot-G2S is receiving responses to the ping, or that the fail counter has not yet been exceeded.

If the fail count has been exceeded, the status will change to FAIL. The Trigger Counter indicates the number of times the AutoPing action has been triggered. A counter reset button is provided.

Note: All of the AutoPing Settings require a reboot of the iBoot-G2S, after clicking Save. A Reboot button will appear at the bottom of the page. The new settings will not take effect until the unit is rebooted. Reboot will not affect the power position of the iBoot-G2S. Upon Clicking Reboot, the Goodbye page is displayed with a link to re-login.

7.7.   Heartbeat

Like AutoPing, the Heartbeat monitor allows iBoot-G2S to automatically detect failures in critical devices. With the Heartbeat monitor enabled, iBoot-G2S will expect a message, either from the USB port or network at regular intervals. When it misses a user defined number of intervals, it will perform its programmed action.

Use the heartbeat to insure that you server is running. When the server crashes, it will be automatically rebooted.

The heartbeat can be generated in any of several ways;

- Using the iBoot Utility,

- A Windows .dll file is also available for use by Windows applications.

- The Heartbeat Protocol will allow developers to imbed this capability directly into their software products.

All of the above are available at dataprobe.com/support/iboot.
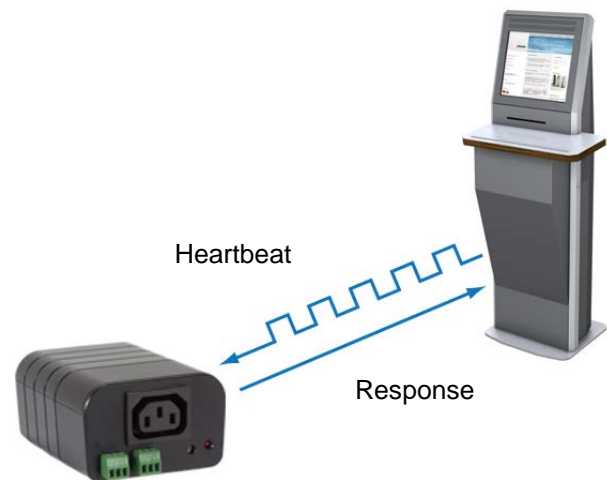
7.8.   Heartbeat Settings

Source : Select the source of the heartbeat, either USB, Network or None (heartbeat not used). When using the Network, enter the Port to expect the heartbeat. The default is 9100.

Frequency: Enter 1 to 999 seconds. If the heartbeat is not received within this time it will increment the counter.

Fail Counter: Enter the number of times (1-99) the heartbeat needs to fail before the selected action is taken.
When the fail counter is reached, the heartbeat action will be triggered.

Action: select from

None	Heartbeat not used
Power On – Latch	Upon triggering, iBoot-G2S will power on and remain so until changed via the web, ibootctl.exe or direct messaging.
Power On – Follow	Upon triggering, iBoot-G2S will power on. When the heartbeat returns, iBoot-G2Swill power off.
Power Off – Latch	Upon triggering, iBoot-G2S will power off and remain so until changed via the web, ibootctl.exe or direct messaging.
Power Off – Follow	Upon triggering, iBoot-G2S will power off. When the heartbeat response returns, iBoot-G2S will power on.
Power Cycle Times	Upon triggering, iBoot-G2S will cycle the power. If Power Cycle does not result in the heartbeat being received, the iBoot-G2S can cycle again. The number of times the iBoot-G2S will cycle is set by the **Times** setting. To have the iBoot cycle power 3 times to get the system to respond again, set the Times to 3.

Outlet: Select Main for the internal power outlet, or Exp1, Exp 2 for either of the two expansion ports.

7.9. Using Heartbeat Monitor

With Heartbeat operational, the main iBoot-G2S page will display the current status of this feature. The status will be OK to indicate that iBoot-G2S is receiving heartbeats, or that the fail counter has not yet been exceeded.

If the fail count has been exceeded, the status will change to Triggered. The Trigger Counter indicates the number of times the Heartbeat feature has been triggered. A counter reset button is provided when logging in with the System password.

7.10. Using the Heartbeat Program

The heartbeat program and instructions are available at http://dataprobe.com/support/iboot.html

7.11. Event Scheduling

iBoot-G2S can schedule up to eight reoccurring power events. Set the starting date and time, plus the action to be taken and any repeat cycle for each.

To enable the time scheduling function:

Enter an accessible Network Time Server and check the Enable box. A list of public time servers is available at http://www.ntp.org/ Set your local time zone relative to GMT.
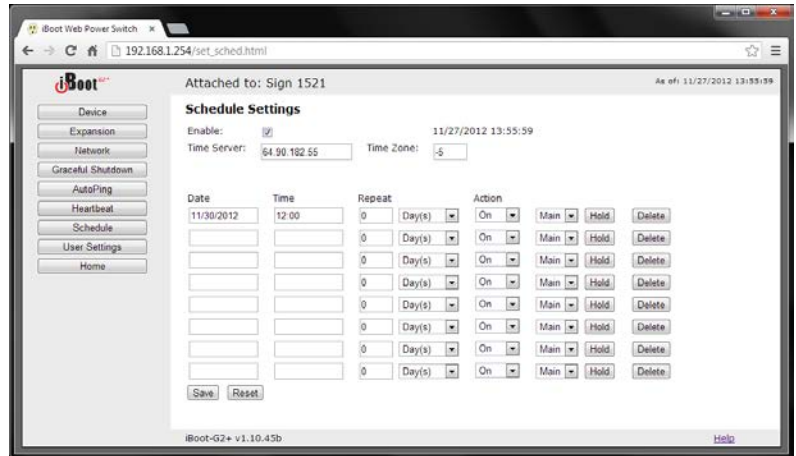
Once the time server is active, scheduled events can occur. Up to eight independent scheduled events can be programmed.

Date: Set the initial date for the event. The format for the date is mm/dd/yyyy.

Time: Set the initial time for the event. The format for the time is hh:mm with hours in 24 hour format.

Repeat: Set the repeat multiplier, if desired. Set the number from 0 to 999 and either Days, Hours, or Minutes. To have the schedule repeat every two days, set this number to 2.

Action: Set the event Action; On, Off or Cycle.

Outlet: Set the outlet to be controlled by the event. If Expansion units are linked to Main, controlling Main will also control the Expansion Unit.

Hold/Run: Click Hold to pause the scheduled event. Click Run to re-start the scheduled event.

Delete: Delete the scheduled event.

Click Save to save the current settings. Click Reset to delete any unwanted changes.

7.12. User Settings

The iBoot-G2S supports three modes of user and password operation.

Login Required: This mode supports both User and Admin users. Each user has a settable password.

Auto Login: This mode does not require a username of password for the User level operation. No login challenge will be required for any mode of operation, until any setup function is requested. The Admin username and password is required for any admin functions.
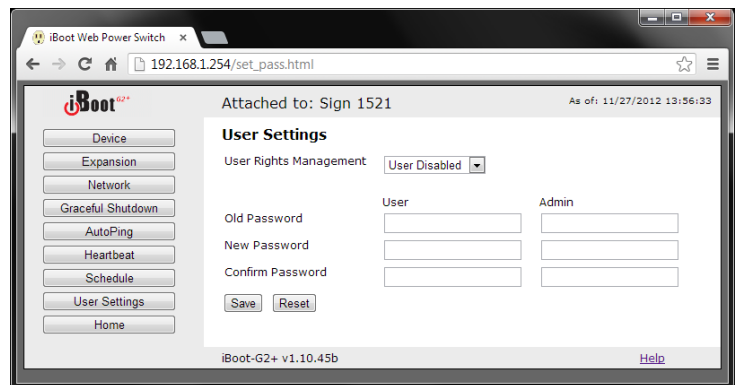
<u>User Disabled:</u> There is no User account. The Admin username and password will be required for operation and setup functions across all modes of operation. This is the factory default mode.

Two passwords are used by iBoot. In the Login Required mode, The User Password allows access to the control of iBoot, but not to the Setup functions. Clicking on the Setup button allows the Administrator to log in. Passwords can be up to 20 characters long and are case sensitive.

Enter the current password then the new password twice to confirm.

<u>Default Credentials</u>

Role	Username (fixed)	Password (user set)
Administrator	admin	admin
User	user	user

8. iBoot Cloud Service – BETA

iBoot Cloud Service (iBCS) allows customers with iBoot to access and control multiple iBoots in multiple locations from a single portal with a single sign-on.
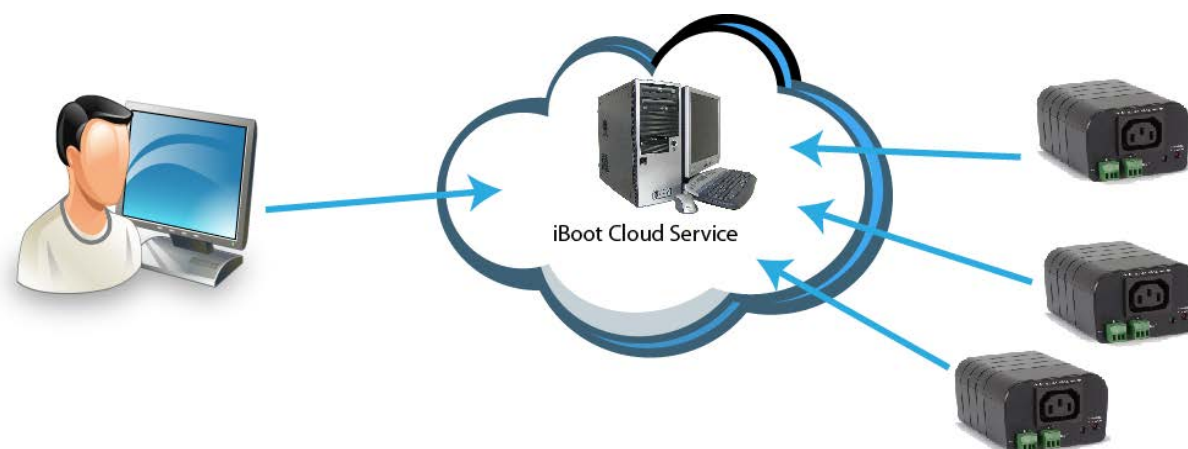
iBCS will not only make using iBoots easier, by consolidating all units into one sign-on and interface, it will also enhance the number of situations where iBoot can be deployed.

- Customers with Dynamic IP addressing will always be able to access their iBoot from any location.
- Customers that do not allow in-bound connections can access their iBoots.
- Service providers can manage multiple customer accounts with diverse security configurations

iBoot Cloud service is currently in development and is made available to our current users free of charge. Please note that as at this beta stage, service interruptions may occur or new versions of the iBoot firmware may be made available and necessary to keep current with the cloud development. The full Terms of Service of the iBoot Cloud Service is available here.

While the Cloud Service is in Beta stage, the firmware in the iBoot is fully tested and released by Dataprobe. If you do not enable the cloud capabilities of the iBoot, you can expect continuous and dependable operation.

8.1.   iBoot Cloud Users Forum

Dataprobe has established a special users' forum for iBoot Cloud Service Beta. Please use this forum to post any questions, comments and ideas about the iBoot Cloud Service. Registration is required to post to the forum. Find the iBoot Cloud Users Forum here.

8.2.   iBCS Setup & Operation

Use of the iBoot Cloud Services requires the iBoot to be configured to access the Internet. Please review the installation and configuration procedures to insure proper setup.

a. Establish Account with iBoot Cloud Server

- Visit http://iboot.co from your browser
- Click on Register
- Complete the information

- Confirm Registration by clicking on the link provided in the email.

b. Insure Proper iBoot-G2 Firmware

iBoot Cloud Service requires version iBoot-G2 Firmware version 1.21.99 or greater. Check the bottom of any web page of the iBoot for the firmware version. If needed, download and install the proper iBoot Firmware from http://dataprobe.com/support_iboot-g2.html and install as instructed in Section 11

c. Enable Cloud Services on iBoot

Log into the iBoot with Administrator rights

Go to the Network Setup page
Click on the checkbox Enable Cloud Services:

Within 30 seconds, an 8 character activation code will appear.

This code is also a hotlink to the Cloud Service.
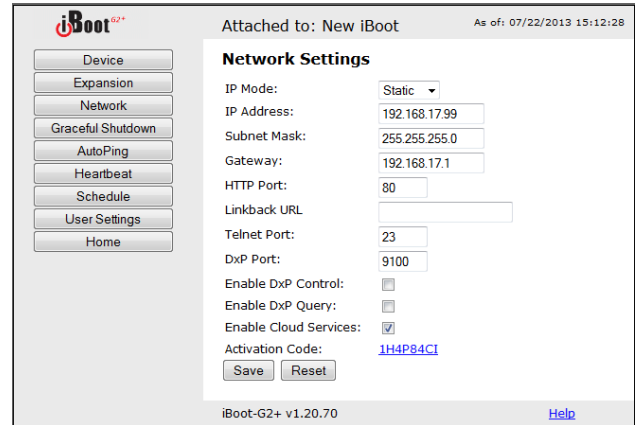
d. Register iBoot with Cloud Account

Click on the Activation code to register the iBoot with the Service.

You will be re-directed to the Service. Log-in with your account and the iBoot will be automatically registered with your account.

Alternatively, you can log in to the Service and click on Add Device and enter the activation code in the field provided.
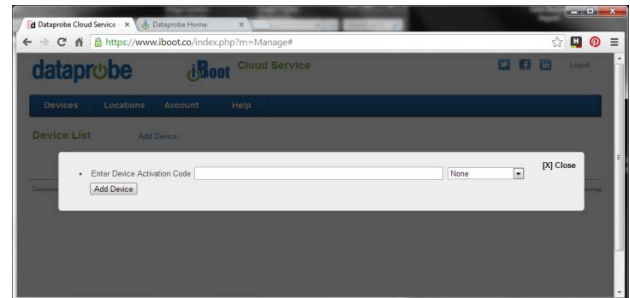
Congratulations. You are now on the cloud.
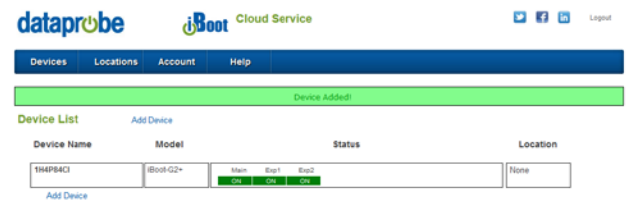
e. iBCS Main Page

The iBCS main web page provides a menu bar with the following options:

Devices: List all registered iBoot units, ordered by their Name. Click on any iBoot line to manage that unit.

Locations: Group all iBoots by location. Click on any location to display or hide all the iBoots at that location.

Account: Display and edit account information and obtain account access history.

Help: Links to the iBoot Cloud Forum and Dataprobe support pages.
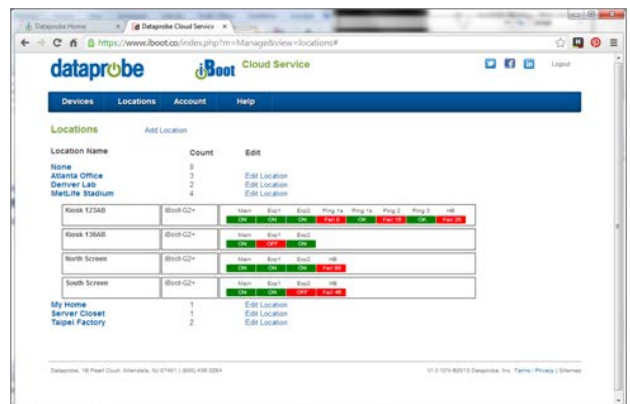
f. Control Power from the Cloud

The status screen will detail all the iBoots registered with the cloud. You can add locations and group iBoots by location.

Each iBoot displays the power status and AutoPing if configured.

Click on the box that holds the Activation Code for the device you just entered. A modal box will appear with options to rename the device, move the device to a defined location or delete the device.

Give the device a name, and Click Rename Device.

The remainder of the modal is very similar to the iBoot web page.

Select Power ON, Power OFF or Cycle Power.
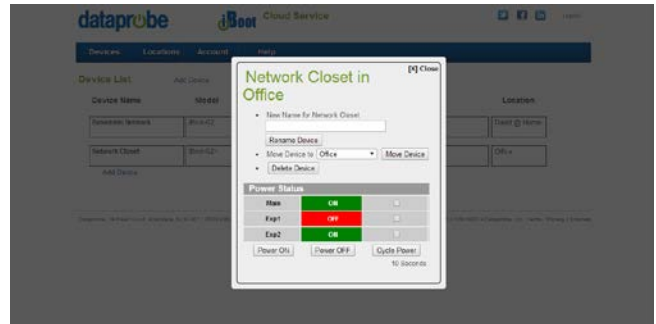
g. Assign Names and Locations

You can establish multiple locations and assign each iBoot to a location. You can also name each iBoot independently from the Device Name that is displayed on the iBoot web page. To add locations, click on the Locations button on the menu bar, and then click Add Location. Name the location and click the Add Location button.

9. Command Line Interface

The iBoot-G2S Command Line Interface (CLI) provides a text based method for communicating with the iBoot. The syntax of the CLI uses a basic Set (change a variable) and Get (retrieve a variable). The CLI is accessed either through the Telnet protocol, which requires a Telnet client program, or via USB which requires a serial communications program like Hyperterminal. Dataprobe also provides a simple terminal program (EZ Term) at http://dataprobe.com/support/iboot.html.

9.1. CLI Access

Via Telnet

Open the Telnet client and connect to the IP address set for the iBoot.

Via USB

Open the console client and connect to the COM port assigned to the iBoot-G2S. The communications parameters are: 9600bps. 8 data bits. No parity. 1 Stop bit. No Flow Control. Once the connection is made, send Enter.

The CLI uses the same security options as the web browser. See section 7.12 for an explanation of the options for user setup and security.

When connection is successful, the User> prompt is displayed. Enter user or admin and press Enter. The prompt will change to Password>. Enter the admin or user password and press Enter. The prompt will change to iBoot>. This indicates successful login. Enter commands as needed. When done, enter the logout command.

9.2. iBoot-G2S CLI Syntax

Command	Description	Factory Default
Control Commands	These commands are used to monitor and control the outlet.	
set <main | exp1 | exp2> <on | off | cycle>	This command controls the main outlet, Exp1 or Exp2 For Exp1 and Exp2; on = Closed , off = Open	

get outlets
get status
	This command returns the current status of the main and expansion outlets. The response to this command is determined by the expansion mode setting.
	
	If iBoot-Exp or Power Control mode:
	
	```Main Outlet: On```
	```Exp 1: On L (L indicated Locked to Main)```
	```Exp 2: Off```
	
	If Independent I/O mode:
	
	```Main Outlet: On```
	
	```Exp1:```
	``` Input: Open```
	``` Output: Closed```
	
	```Exp2:```
	``` Input: Open```
	``` Output: Open```	

Device Commands	Set commands are available to the administrator only	
set location <20 char. max> get location	This command is used to set the iBoot-G2's location ID. Get returns the current setting	New Boot
set cycle <1-999> get cycle	This command sets the cycle time in seconds Get returns the current setting	5
set delay <0-999> get delay	This command sets the delay time in seconds Get returns the current setting	1
set timeout <0-99> get timeout	This command sets the auto logout time in minutes Get returns the current setting	2
set <main |exp1	exp2> initial state <on | off | last> get initial state	This command sets the initial state of the outlet when the iBoot-G2 is initially powered up	Last
set upgrade enable <yes | no>	Enables or disables the ability to upload new firmware to the iBoot-G2.	no
login	Prompts for admin credentials when logged in as user	
logout	Terminates the session	
reboot	This command reboots the iBoot-G2.	

Graceful Shutdown Commands	Set commands are available to the administrator only	
Get gsd	This command returns all the current settings for Graceful Shutdown	
set gsd <main | exp1 | exp2> enabled <yes | no>	This command enables or disables the shutdown delay process.	no
set gsd <main | exp1 | exp2> ipaddress <dotted decimal>	This command is used to set IP address of the target system for graceful shutdown.	
set gsd <main | exp1 | exp2> username <20 char. max>	This command sets username of the target system	
set gsd <main | exp1 | exp2> password <20 char. max>	This command sets the password of the target system	
set gsd <main | exp1 | exp2> shutdowndelay <0-999>	This command sets the shutdown delay in seconds	
set gsd <main | exp1 | exp2> rebootdelay <0-999>	This command sets the reboot delay in seconds	

Expansion Commands	These commands are only available to the administrator.	

get expansion	This command displays the current settings of the expansion ports. The response to this command is determined by the expansion mode setting.
	
	If iBoot-Exp or Power Control modes:
	
	``
	Link
	Exp 1: Yes
	Exp 2: No
	``
	
	If Independent I/O mode:
	
	``
	Output
	Exp1:
	  IP Address: 192.168.1.202
	  Relay: 2
	Exp2:
	  IP Address: 192.168.1.203
	  Relay: 3
	``	

set expansion mode <exp | io | power>	This command sets the mode for the expansion ports to iBoot-Expansion or External I/O or Power Control	exp
set expansion <exp1 | exp2> link <yes |no>	This command sets the Exp1 or Exp2 to be linked to the main outlet for simultaneous control. This command takes effect only when expansion mode is iBoot-Expansion.	no
set expansion <exp1 | exp2> ipaddress <dotted decimal>	This command sets the IP address to send input status information via DxP protocol to. This command takes effect only when expansion mode is io.	
set expansion <exp1 | exp2> relay <1-8>	This command sets the DxP command relay number to be controlled by input changes from Exp1 or Exp2. This command takes effect only when expansion mode is io.	Exp1: 2 Exp 2: 3
set <exp1|exp2> username <20 char>	This command sets the DxP command username. This command takes effect only when expansion mode is io.	
set <exp1|exp2> password <20 char>	This command sets the DxP command password. This command takes effect only when expansion mode is io.	

Network Commands	All set commands require a reboot before they take effect. These commands are only available to the administrator.	
get network	This command will return all the network settings as shown below: ``` Mode: Static IP Addres: 192.168.1.190 Subnet: 255.255.255.0 Gateway: 192.168.1.1 HTTP Port: 80 Linkback URL: 192.168.1.190 Telnet Port: 23 Heartbeat Port: 9100 DxP Port: 9100 DxP Control: Enabled DxP Query: Enabled Timeout: 22 ```	
set ipmode <static | dhcp>	This command sets the IP Address setting mode. Static mode locks the address as set, dhcp mode allows DHCP server to assign address.	
set ipaddress <dotted decimal>	This command is used to set the iBoot-G2's ip address.	192.168.1.254
set subnet <dotted decimal>	This command is used to set the iBoot-G2's subnet mask.	255.255.255.0
set gateway <dotted decimal>	This command is used to set the Gateway	192.168.1.1
set http port <0-65535>	This command sets the port that the iBoot-G2's web server listens for incoming connections on. When set to 0 the web server is disabled.	80
set telnet port <0-65535>	This command sets the port that the iBoot-G2's Telnet server listens for incoming connections on. When set to 0 the Telnet server is disabled	23
set heartbeat port <0-65535>	This command sets the port for the heartbeat protocol. The heartbeat uses UDP and can be the same port number as DxP, which is TCP	9100
set dxp port <0-65535>	This command sets the port that the iBoot-G2's DxP protocol service listens for incoming connections on. When set to 0 the Protocol service is disabled. Note: At least one of the above MUST NOT be 0. The CLI will protect against all 3 from being set to 0.	9100
set dxp control <enable/disable>	This command allows the main and expansion ports to be controlled using Dataprobe Exchange Protocol (DxP) commands.	Disabled
set dxp query <enabled/disable>	This command allows the status of the main and expansion ports to be queried using DxP	Enabled
set linkback <url>	This command sets the linkback URL displayed on the logout page.	192.168.1.254
set time server <dotted decimal>	This command is used to set the IP Address of a network time server.	69.90.182.55
set timeout <0-999>	This command sets the automatic network timeout in minutes.	2

Autoping Commands	These commands require a reboot before they will take effect. These commands are available to the administrator only.	
get autoping	This command returns all of the AutoPing settings as shown below. ``` Autoping 1 A B Status Trigger Count IP Address: 123.12.123.12 0.0.0.0 OK 0 Frequency: 1 10 Fail Count: 1 3 Logic: A And B Action: None Cycle: 1 Outlet: Main Wait: 2 Autoping 2 Status Trigger Count IP Address: 0.0.0.0 OK 0 Frequency: 10 Fail Count: 3 Action: None Cycle: 1 Outlet: Exp1 Wait: 2 Autoping 3 Status Trigger Count IP Address: 0.0.0.0 OK 0 Frequency: 10 Fail Count: 3 Action: None Cycle: 1 Outlet: Exp2 Wait: 2 ```	
set autoping <1a | 1b | 2 | 3> ipaddress <dotted decimal>	This command is used to set the IP address of AutoPing 1 or AutoPing 2	0.0.0.0
set autoping <1a | 1b | 2 | 3> frequency <1-999>	This command is used to set the frequency, in seconds (how often the iBoot-G2S sends the ping) for each of the AutoPings.	10
set autoping <1a | 1b | 2 | 3> failcount <1-999>	This command is used to set the number of consecutive failures the AutoPings must detect before the AutoPing considers the pinged device to be failed.	3
set autoping 1 logic <a | and | or>	Sets logic for AutoPing 1. A = A Only, and = A and B, or = A or B.	A and B
Set autoping <1 | 2 | 3> outlet <main | exp1 | exp2>	This command sets the outlet that the AutoPing will trigger.	Main
set autoping <1 | 2 | 3> action <none | on-latch | on-follow | off-latch | off-follow | cycle>	This command is used to set the action that the iBoot-G2S will perform when the AutoPing triggers.	None
set autoping <1 | 2 | 3> cycle <0-999>	This command sets the maximum number of power cycles when the AutoPing triggers. 0 = Unlimited	1
set autoping <1 | 2 | 3> wait <1-999>	This command sets the time, in seconds for the device to respond to a ping.	2

Heartbeat Commands	These commands are only available to the administrator.	
get heartbeat	This command displays the heartbeat settings ``` Status Trigger Count Source: None OK 0 Frequency: 10 Fail Count: 3 Action: None Outlet: Main ```	
set heartbeat source <none | usb | network>	This command sets the source for the heartbeat. Either USB or Network	None
set heartbeat port <1-65535>	This command sets the port for the heartbeat protocol. The heartbeat uses UDP and can be the same port number as DxP, which is TCP	9100
set heartbeat frequency <1-999>	This command is used to set the frequency, in seconds. How often the iBoot-G2S expects the heartbeat	10
set heartbeat failcount <1-999>	This command is used to set the number of consecutive failures the heartbeat must detect before the iBoot-G2S considers the device to be failed.	3
set heartbeat action <none | on-latch | on-follow | off-latch | off-follow | cycle>	This command is used to set the action that the iBoot-G2S will perform when the heartbeat detector triggers.	None
set heartbeat cycle <1-999>	This command sets the maximum number of power cycles when the heartbeat triggers	1
set heartbeat outlet <main | exp1 | exp2>	This command sets the outlet that the heartbeat will trigger.	Main

User Commands	These commands are only available to the administrator.	
set user account <yes | no>	This command sets whether or not a user account is used. If <n> only the administrator account is active	n
set login required <yes | no>	This command sets whether or not a login is required for user level operation. A login is always required for admin functions.	y
set password <user | admin> <old> <new> <repeat>	This command is used to set the password of either the user or administrator.	user admin

Event Commands	These commands are only available to the administrator.	
get events	This command displays all scheduled events as shown below. Example: ``` Date Time Repeat Action Outlet 1. 12/17/2012 16:30 every 0 Day(s) Off Main Run 2. 12/18/2012 04:00 every 1 Day(s) Cycle Exp1 Run 3. 12/17/2012 14:45 every 0 Day(s) On Main Hold 4. every 0 Day(s) On Main Run 5. every 0 Day(s) On Main Run 6. every 0 Day(s) On Main Run 7. every 0 Day(s) On Main Run 8. every 0 Day(s) On Main Run ```	
set time server <dotted decimal>	This command is used to set the IP Address of a network time server.	69.90.182.55
set timezone <-12 – 12>	This command sets the time zone offset for the iBoot location.	-5
set time enable <yes | no>	This command enables or disables the use of the time server and scheduled events. **Note:** When Adding new events through the CLI. Set this to no to prevent unintended power switching	No
get time	Displays the current time and time server (when enabled) ``` Current Time: 16:10:41 01/27/2010 Server: 64.90.182.55 Time Zone: -4 ```	
set event <1-8> <run | hold>	This command is used to all the event to run, or put the event on hold	run
set event <1-8> date <mm/dd/yyyy>	This command is used to set the scheduled action's start date.	
set event <1-8> time <hh:mm>	This command is used to set the time the scheduled action will occur in 24 hour format.	
set event <1-8> repeat < minute | hour | day>	This command is used to set the increments for repeating scheduled actions	
set event <1-8> mult <0-999>	This command sets how often the event will repeat, the number of increments (as set by the command above) before the next event.	
set event <1-8> action <on | off | cycle >	This command is used to set the scheduled action.	
del event <1-8>	This command deletes the scheduled action.	

Prompts	The CLI will use the following prompts:	
User >	This prompts the user to enter his user name (user or admin).	
Password >	This prompts the user to enter his password.	
iBoot >	This is the prompt that will be displayed after the user has successfully logged in.	
iBoot Reboot Required >	This is the prompt that will be displayed whenever there have been changes made that require a reboot. This prompt will remain the active prompt until the iBoot-G2S has been rebooted.	

10. DxP Protocol

iBoot-G2S supports the Dataprobe Exchange Protocol (DxP) for inter device communications and to allow software developers to integrate Dataprobe product into custom applications. Through the DxP protocol, the developer can:

- Turn on and off power to the Main and Expansion Outlets or External Outputs
- Pulse the power on or off to any outlet, for a specified amount of time
- Read the status of the Main and Expansion Outlets or External Inputs

The DxP Protocol, as well as example code and scripts in a variety of languages are available at http://dataprobe.com/support/iboot/

11. Firmware Upgrades

The iBoot-G2S can be field upgraded. Find the latest version or special purpose versions at http://dataprobe.com/support/iboot.html

⚠ Upgrading the firmware with a minor upgrade (i.e. 1.01.xx to 1.01.yy) will not alter the user defined settings. Major upgrades may or may not reset the iBoot-G2S to factory defaults. Check the release notes for the upgrade before making changes to you iBoot-G2S.

1) Insure that the Upgrade Enable checkbox is checked in the Network Setup web page of the iBoot-G2S

2) Run the Device Management Utility, available at the link above. If the iBoot-G2S you would like to upgrade is not visible in the list box, either

> Select Device | Discover from the menu to locate iBoot-G2S units on the local network, or
> Select Device | Add from the menu to add the IP address of the iBoot-G2S.

> Once the device is displayed in the list, highlight it

3) Select Manage | Upgrade Firmware

Enter User Name admin and the Password for the Administrator.

Enter the filename of the firmware, or click Browse and find the file of the firmware file to be used. iBoot-G2S firmware uses the extension **.g2u** If you don't see any files of that type, make sure the 'Files of type' box is set for iBoot-G2 or All Files.

Click OK when all the details are entered.

4) The upload will begin, and a progress bar will be displayed.

5) When the firmware upload is completed, the iBoot-G2S will automatically reset and be ready for use.
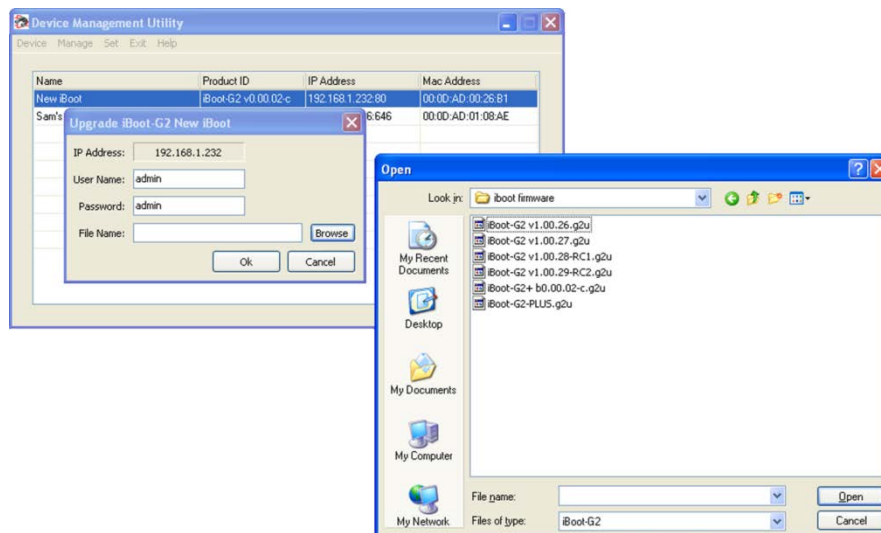
12. Troubleshooting

The iBoot-G2S has a recessed pushbutton switch in the event the unit is not performing as expected. Use the pushbutton as follows:

Action	Result
Momentary	Soft Reset. Will not change outlet status.
5 Seconds push	Reset to Factory Defaults. Hold the button in until the Outlet LED is blinking, then release.
Hold in while and Power up the iBoot	Recovery Mode. Allows upload of new firmware to the current IP Address. Will recover to the Factory default IP Address 192.168.1.254 if the database has been corrupted.
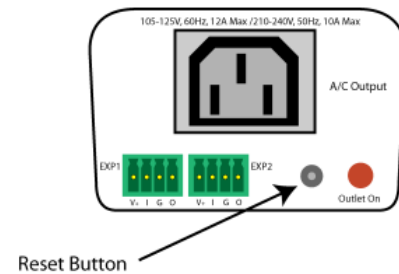
13. Specifications

13.1. Physical

Height	2.0" 60mm		Weight	8.6 oz 244g
Width	3.2" 82mm		MTBF	320,000 hours
Depth	4.2" 107mm		Temperature	0 – 50 degrees C

13.2. AC

Input	IEC 320 C14
Input Cord	16AWGX3C 10A 250 UL/CSA/VDE Rated (1.25mm2X3C)
Voltage Range	Auto Sensing 105-240 VAC
Switched Receptacle	IEC 320 C13
Capacity	12 A Max at 105-125 VAC, 10 A Max at 210-240 VAC

13.3. Expansion Ports

Power	V+	Power Out	This is +12 VDC power out from the iBoot-G2S Maximum current 100 mA
Feedback	I	Input	Input for status signals. Dry Contact input or Open Collector.
Ground	G	Ground	Signal Ground for Input and Output
Command	O	Output	2N3904 NPN Transistor. 100 mA Maximum

13.4. Compliance

UL/cUL	UL60950 Listed I.T.E File No. E225914
CE	Directives 89/336/EEC, 92/31/EEC and 93/68/EEC EN 60950: 3rd Edition EN 55022: 1998 Class B
FCC	Part 15 Class B

13.5. Communications

Dual 10/100 Unshielded Twisted Pair Ethernet Jacks.
IP Addressed, DHCP assigned or Static
Internal HTTP Web Server
Telnet Server
USB: Com port 9600bps. 8 data bits. No parity. 1 Stop bit. No Flow Control.

14. Technical Support and Warranty

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship for a period of **Three Years** from the date of initial purchase. If the product should prove defective within that period, Seller will repair or replace the product, at its sole discretion. Repairs may be made with new or refurbished components and replacements may be new or refurbished at the Sellers sole discretion. Repaired or replaced units shall be warrantied for the balance of the original warranty, or 90 days, whichever is greater.

If Purchased from Dataprobe Inc.; Service under this Warranty is obtained by shipping the product (with all charges prepaid) to the address below. Seller will pay return shipping charges within the United States. Call Dataprobe Technical Service to receive a Return Materials Authorization (RMA) Number prior to sending any equipment back for repair. Include all cables, power supplies, accessories and proof of purchase with shipment.

If purchased from an Authorized Dataprobe Reseller; Service under this Warranty is obtained by contacting your Authorized Dataprobe Reseller.

THIS WARRANTY DOES NOT APPLY TO NORMAL WEAR OR TO DAMAGE RESULTING FROM ACCIDENT, MISUSE, ABUSE OR NEGLECT. SELLER MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY EXPRESSLY SET FORTH HEREIN. EXCEPT TO THE EXTENT PROHIBITED BY LAW, ALL IMPLIED WARRANTIES, INCLUDING ALL WARRANTIES OF MERCHANT ABILITY OR FITNESS FOR ANY PURPOSE ARE LIMITED TO THE WARRANTY PERIOD SET FORTH ABOVE; AND THIS WARRANTY EXPRESSLY EXCLUDES ALL INCIDENTAL AND CONSEQUENTIAL DAMAGES.

Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from jurisdictions to jurisdiction.

WARNING: The individual user should take care to determine prior to use whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, the manufacturer makes no representation or warranty as to the suitability of fitness for any specific application.

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