

DreamPlug User Guide

GTI-2010.12.10

Thank you for purchasing our DreamPlug – **The Power to Innovate!**

This is running at 2.4GHz yet using less than 10W power consumption. This little palm-sized powerhouse can handle all your biggest tasks while still saving about 96% on energy costs when compared to the average 175 Watt desktop computer. You can customize your Plug to work in almost any industry - Cloud Computing, Home / Industrial Automation, Security/Surveillance, Medical Monitoring and Data Capture , High End Audio Systems. Network Storage and monitoring , VoIP and IPPBX, Smart Grid /Mesh . You can never have enough storage, not to mention fast access to all that data. That's why we have provided Wi-Fi, Bluetooth, Gigabit Ethernet, USB 2.0 and eSATA connection options to the Server line of products. as the AUDIO INTERFACE, the dreamplug can play the music or others data from this port to the external speaker or others devices.in a word, Go ahead give us what you got, we can take it.

Package contents

	DreamPlug Content List		Remark
1	DreamPlug	1 unit	
2	Detachable AC-DC Power Supply Unit	1 pc	
3	Detachable DC-DC Power Cable	1 pc	
4	Detachable AC Slider	1 pc	
5	Detachable AC Power Cord Adaptor	1 pc	
6	AC power Cord	1 pc	
7	Protective Slide Cover for DreamPlug	1 pc	
8	Protective Slide Cover for Power Supply Unit	1 pc	
9	Ethernet Cable	1 pc	
10	Warranty Card	1 pc	
11	Quick Reference Guide	1 pc	
12	External JTAG Debug Module	No	Optional item. Not included

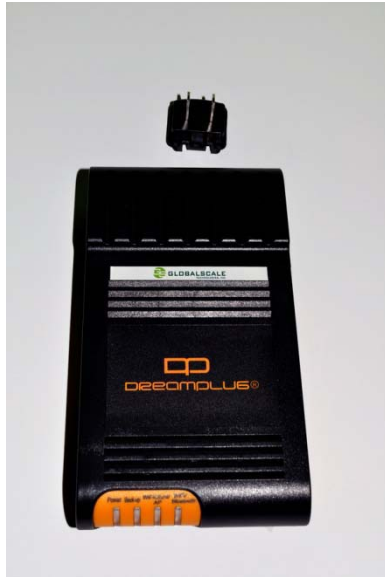
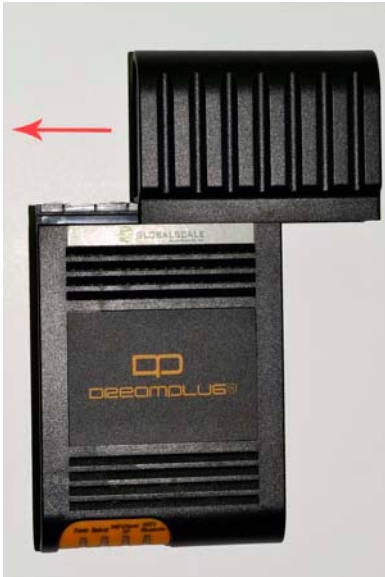
Note 1: All files will be available download: <https://www.globalscaletechnologies.com/t-downloads.aspx>

Note 2: JTAG debug module is sold separately. It's highly recommended for you to purchase this module to use in programming and debugging.

Note3: This device has been integrated with internal antenna, no external antenna is needed. for more details of the antenna ,please refer to the EUT Photo in the test report.

A. FOR INITIAL USE

1. To be used as a Plug Computer:



2. To Be Used as a “Desk Top” Computer.

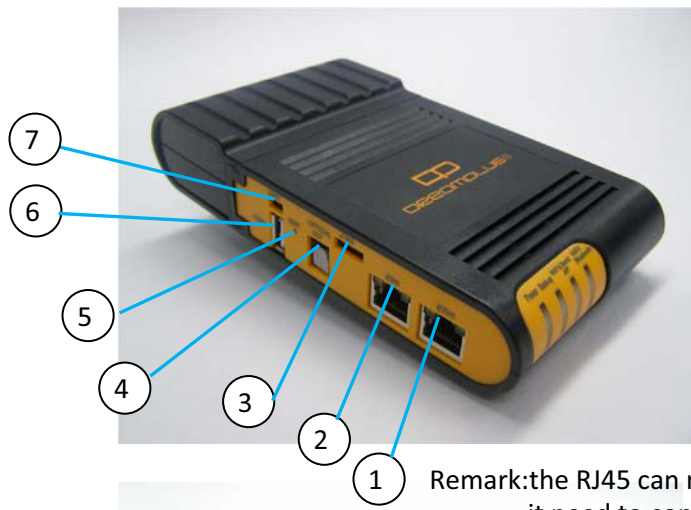




3. To Have the “DreamPlug” Wall Mounted.



B. DreamPlug Server appearance and connecting ports



Remark:the RJ45 can not work when direct connect to the computer it need to connect through the router then work.



Ports description- DreamPlug Server

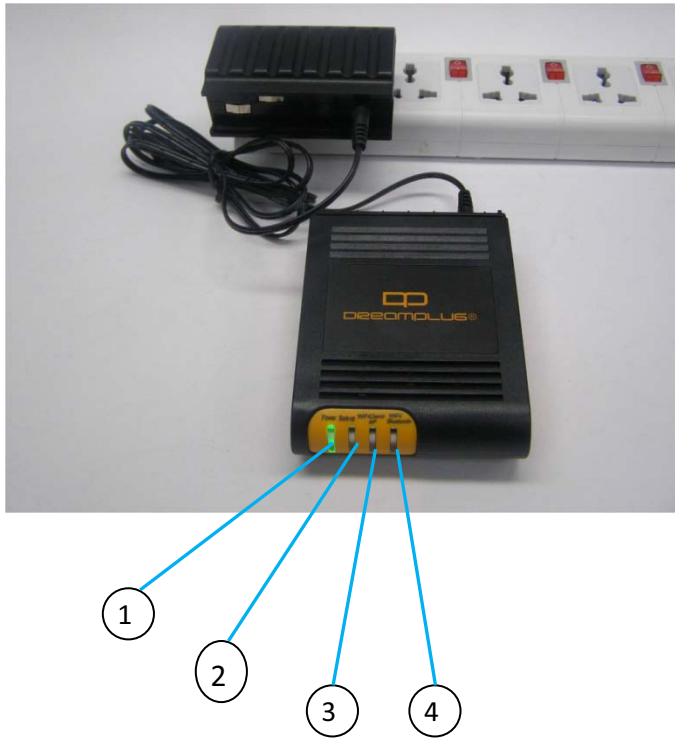
	Connection port	Description	Remark	Use
1	RJ45 #1	Gigabit Ethernet port 1	CAT5e or CAT6 cable	Connect to internet to read the data from the USB
2	RJ45 #2	Gigabit Ethernet port 2	CAT5e or CAT6 cable	Connect to internet to read the data from the USB
3	JTAG port	Debug interface	For JTAG board connection only	
4	Optical out	S/PDIF digital audio out		Digital audio optical out
5	Reset button	System reset		
6	USB port #1	USB 2.0 high speed host		USB device storage
7	UART port	Debug interface	For JTAG board connection only	
8	USB port #2	USB 2.0 high speed host		USB device storage
9	eSATA	eSATA port		Hard drive storage
10	SD	Secure Disk card slot	for user expansion/ application	
11	Head Phone	Analog audio out		Analog audio headphone out
12	Mic in	Analog microphone in		Sound recording

Remark: the USB port just for the storage read,the user can read the data through the USB port which connect the storage devices.for example,U disk.it can't use when direct connect to the computer.

The Audio Interface:when plug the audio devices,can export out the audio signal from this port. For example,the device play the music,which read the data from the momery.the audio interface connet to the speaker,and will be a audio signal from this port.

Ports description- DreamPlug Server

C. LED indication



D. LED indication table

	LED	Color/ Pattern	Description
1	Power on LED	Solid green	Upon power on, this LED lights up
2	WiFi AP mode	Solid blue	WiFi will go into AP mode as default after boot up
3	WiFi Client mode	Solid green	Light up when change to client mode by user
4	Bluetooth	Blinking blue	Bluetooth will be on as default after boot up

E. Connect to JTAG board

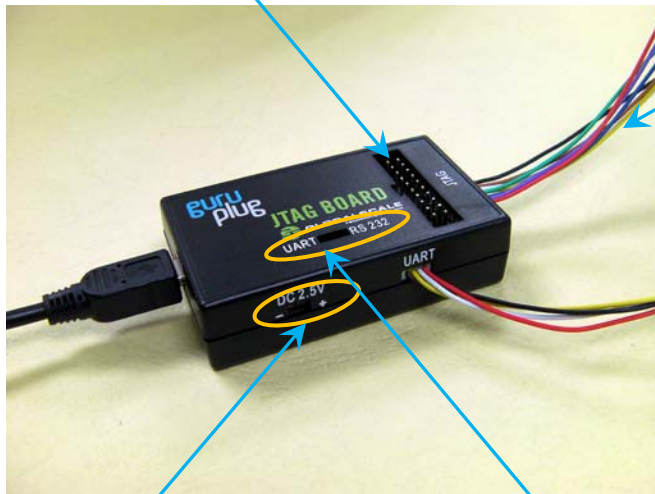
1. Connect 4 pin UART cable

2. Connect 8 pin JTAG cable

3. Connect Mini USB cable here.
The other end to computer's
USB port.



This is the standard 20pin JTAG connector which has the same pin signals as 8 pin cable



This DC 2.5V is for Dream Plug CPU
e-fuse programming only, do not use it
for other purpose.

Normally, this switch (or jumper wire)
should be on the left side for UART
selection

F. Tools and files you need to start debugging

1. Prepare one PC with Fedora 9 (or Fedora 11) Linux operating system
2. Download and install the following tools and utilities

	File name	Description	Where to get it
1.	Minicom	Used as Board console	Re-Install command: yum install minicom note 1: Fedora9 has a built-in minicom
2.	Ftdi_sio.ko	FTDI device driver module for Linux	http://www.globalscaletechnologies.com/t-downloads.aspx
3.	Ftdi_sio.ko	FTDI device driver module for Linux	http://www.globalscaletechnologies.com/t-downloads.aspx

3. Setup minicom

minicom -s

Set the Configure properties as follows:

Bits per sec field to *115200*

Data bits to 8

Parity to *None*

Stop bit to 1

Flow Control to *None*

```

+-----+
| A -   Serial Device       : /dev/ttyUSB1
| B -   Lockfile Location   : /var/lock
| C -   Callin Program      :
| D -   Callout Program     :
| E -   Bps/Par/Bits        : 115200 8N1
| F -   Hardware Flow Control : No
| G -   Software Flow Control : No
|
|   Change which setting? █
+-----+
| Screen and keyboard
| Save setup as dfl
| Save setup as..
| Exit
| Exit from Minicom
+-----+
    
```

G. Basic procedures for debugging

1. Connect cables as illustrated in section D.
2. Run terminal program on Linux PC.
3. Type in # minicom -o marvell
4. Power on the DreamPlug Server.

Normally , you will see messages on screen as below:

U-Boot 2010.06-02334-g8f495d9-dirty (Dec 21 2010 - 15:27:37)

Marvell-GuruPlug

SoC: Kirkwood 88F6281_A0

DRAM: 256M

```
SF: Detected MX25L3205D with page size 256, total 4 MiB
*** Warning - bad CRC, using default environment
In:  serial
Out: serial
Err: serial
Net:  egiga0, egiga1
88E1121 Initialized on egiga0
88E1121 Initialized on egiga1
Hit any key to stop autoboot:  0
```

You can press any key to stop auto-boot when you see the boot delay timer is counting down.

After entering the uboot prompt, you can also change the uboot environment variables such as boot delay time, lpaddr, serverip and so on.

If no key has been pressed to interrupt the uboot, it will continue running to the login screen where it urges you to input the login name and password, here is the default login information.

Login : [root](#)

Password: [nosoup4u](#)

```
Debian GNU/Linux 5.0 sheevaplug-debian ttyS0
sheevaplug-debian login: root
Password:
Last login: Wed Dec 22 08:46:31 UTC 2010 on ttyS0
Linux sheevaplug-debian 2.6.32-00007-g56678ec #1 PREEMPT Mon Feb 8 03:49:55 PST1

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
sheevaplug-debian:~# █
```

Now, you have the full control right of it.

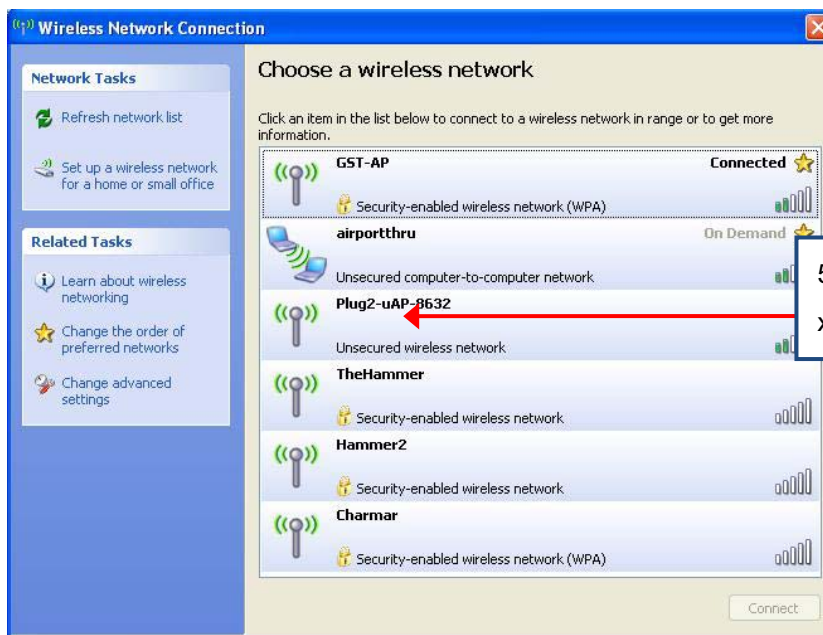
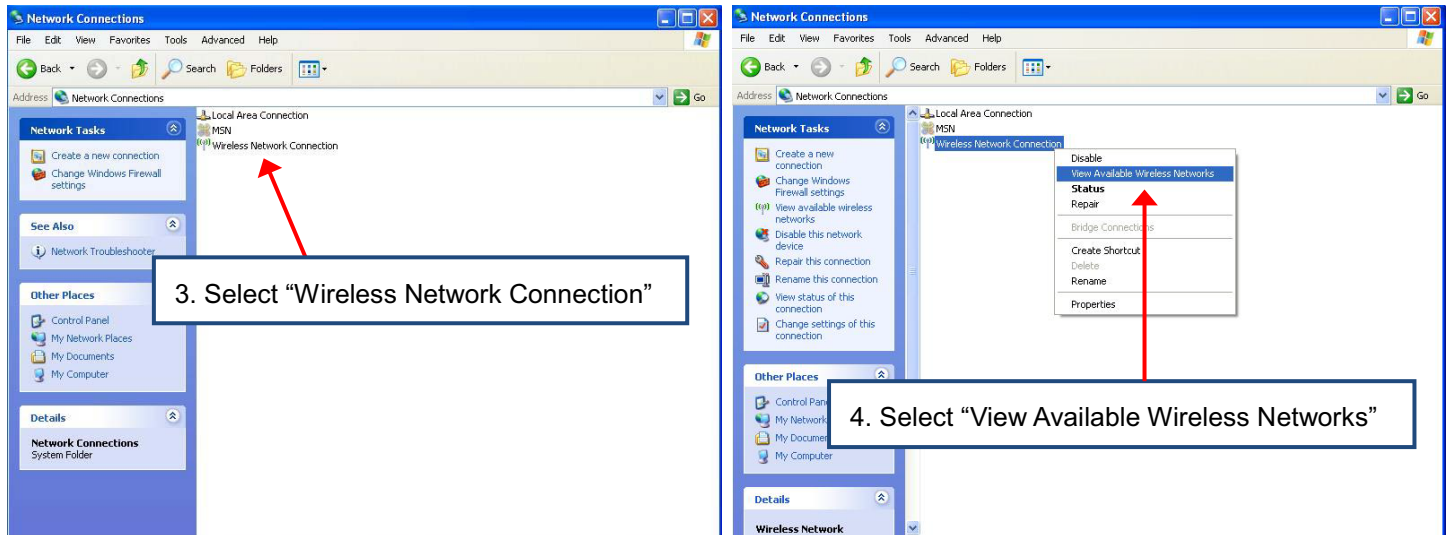
H. Wi-Fi / Bluetooth

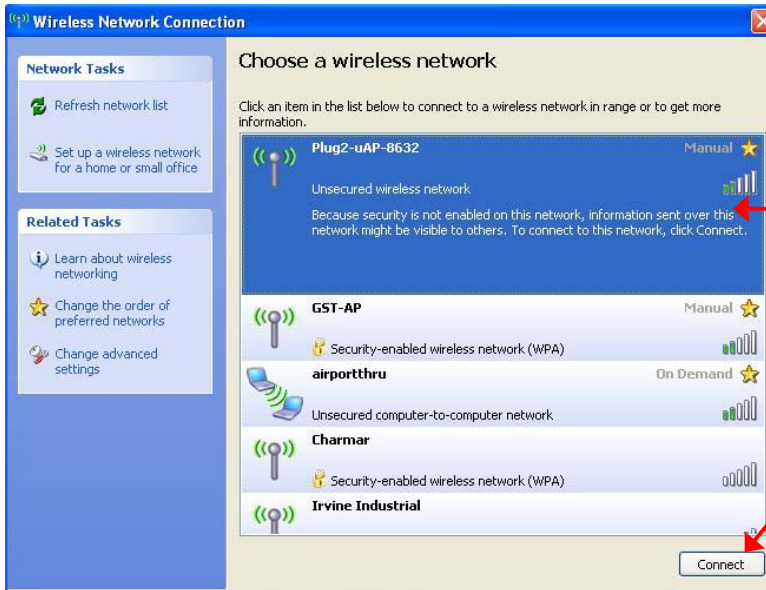
DreamPlug Server has a built-in WiFi module which is compliance with 8.2.11 b/g standard and Bluetooth 2.1 + Enhanced data rate (EDR).

The WiFi works as both client and AP mode but only one at a time.

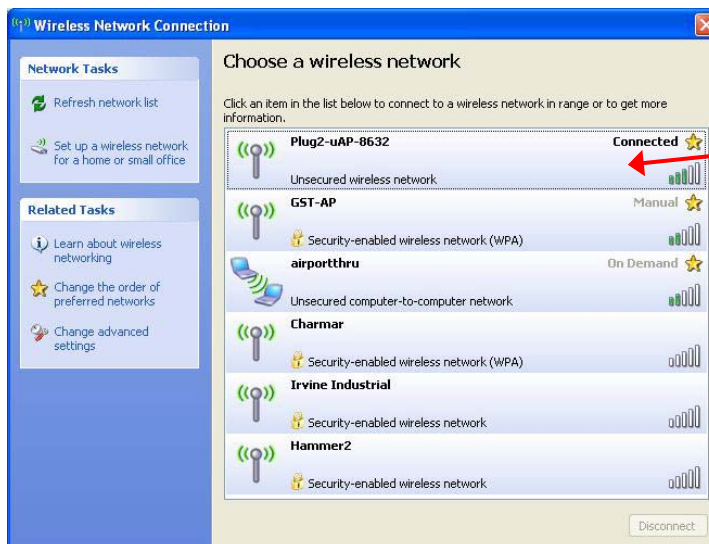
The default mode is AP mode every time when it powers on and can be switched to client mode manually by entering the setup page, please follow the procedures below to set-up the functionalities for WiFi and Bluetooth.

1. Prepare a Bluetooth earphone and one computer installed with Wi-Fi Lan card, here we use computer with Windows XP operating system for example.
2. Go to “Network Connections”





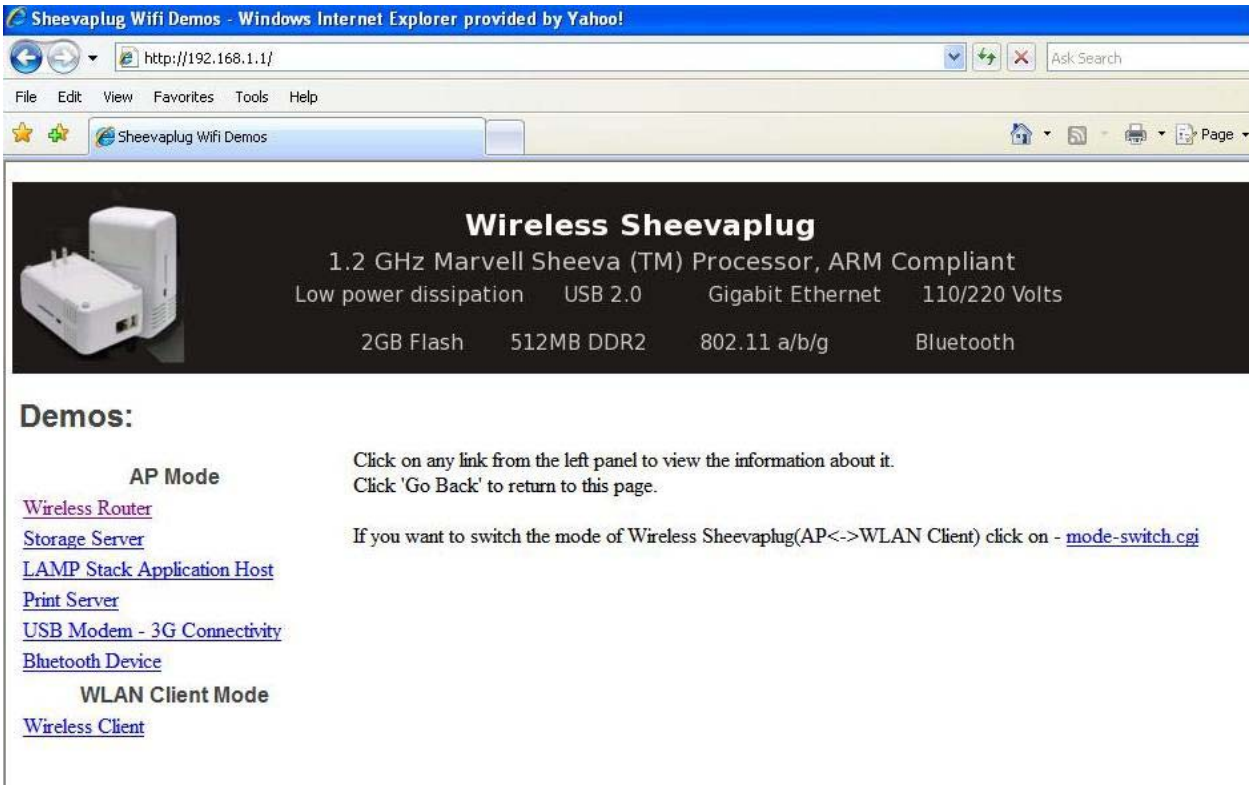
6. Choose one and click here to connect.



7. Connected

8. Open internet browser, enter address: 192.168.1.1, you will see the web page as below.

This is the setup page for this DreamPlug Server, please follow the instruction and link on the page for configuration.



I. Download sites

To download the files for Dreamuplug server, please visit:

<http://www.globalscaletechnologies.com/t-downloads.aspx>

Other useful resource links are:

<http://www.plugcomputer.org/>

<http://plugcomputer.org/plugwiki/index.php/GuruPlug>

the bluetooth and wifi module uses the same module, and the same antenna, when using the bluetooth, the wifi will not work and the same as the wifi, when using the wifi, the bluetooth will not work.

FCC NOTE:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum separation distance of 20cm between the radiator and your body. Use only the supplied antenna.