

300Mbps Wireless-N Access Point/Repeater

WFREPEAT300N



*actual product may vary from photos

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Introduction

The WFREPEAT300N 300Mbps Wireless-N WiFi Access Point and Repeater has two selectable modes for extending the range of existing wireless networks or adding wireless capabilities to a non-wireless network. Using a wall plug design, this allows for convenient or hidden placement anywhere there is an available AC outlet. As a wireless repeater, the effective range of any 802.11n WiFi network can be increased, while still providing up to 300Mbps of data bandwidth. This WiFi signal booster can help eliminate dead spots and provide a stronger signal in areas with obstructions that can reduce the range of a wireless signal. The WiFi range extender is also backward compatible with 802.11b/802.11g networks. As a wireless access point (AP), any non-wireless router can be given wireless-N capabilities. Built in wireless security (WEP/WPA/WPA2) will help to keep the network private. Backed by a StarTech.com 2-year warranty and free lifetime technical support.

Packaging Contents

- 1x Wireless-N Repeater
- 1x RJ45 Ethernet Cable
- 3x Interchangeable Wall Socket Plug (NA/UK/EU)
- 1x Instruction Manual

System Requirements

- Available AC electrical outlet

Repeater Mode:

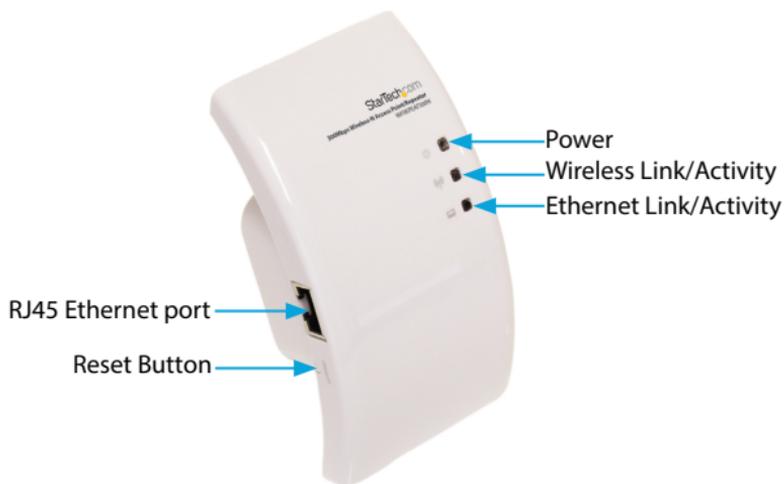
- IEEE 802.11B or G or N compliant wireless access point (AP)

Access Point Mode:

- IEEE 802.3i/802.3u (10/100 Mbps) compliant network router
- RJ45 terminated UTP Ethernet cable

Diagram

Front



Back



Installation

Repeater Mode Setup:

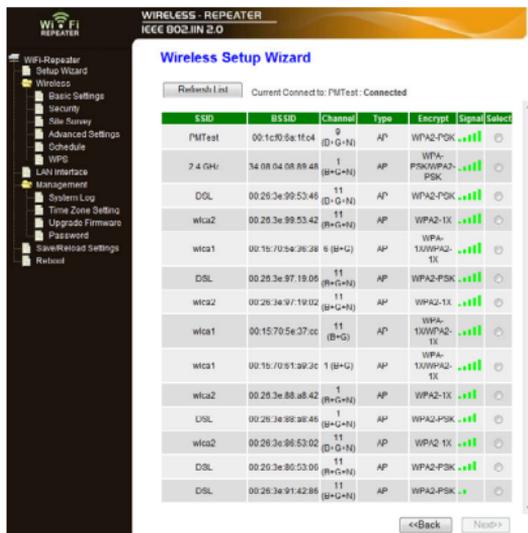
1. Connect the Repeater to an available AC electrical outlet.
2. Wired Setup: Connect an RJ45 Ethernet cable from the Repeater to your computer.
Wireless Setup: Connect to the wireless network 'WiFi-Repeater'.
3. The default IP address on the Repeater is 192.168.10.1; configure your computer to a matching network address (192.168.10.x, where 'x' is between 2~255) with subnet set to 255.255.255.0 and gateway to 192.168.10.1.
4. Open a web browser window and enter 192.168.10.1 into the address bar. This will bring up the login prompt for the Repeater. The default user name and password are 'admin' (without quotes).
5. From the main menu on the left side of the web interface, click the 'Setup Wizard' link followed by the 'Wireless Repeater Mode (Station) option. Click 'Next' to continue.



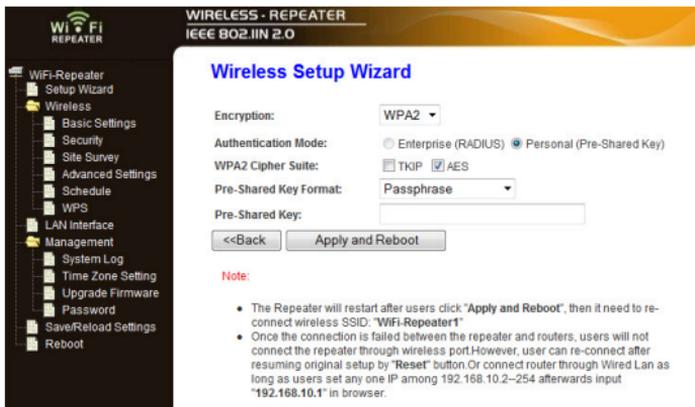
6. The next screen will list some basic configuration information, so click the 'Repeater – OneKey Setting' button to continue, followed by the 'Wireless Network Selection' button.



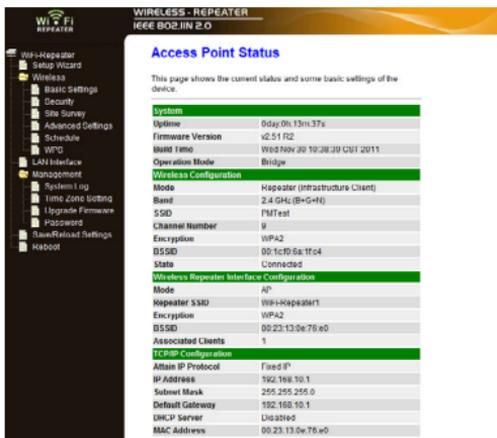
7. The next screen will display a list of detected wireless networks. Click the 'Refresh List' button to rescan. Select the desired wireless network and then click the 'Next' button.



8. Wireless encryption settings will be automatically detected and listed on the following screen. If the wireless network has a password, then enter this into the 'Pre-Shared Key' field. You should not need to change any other settings on this screen. Click 'Apply and Reboot' and you will receive a confirmation prompt. Click 'OK' to proceed.



9. After the unit has rebooted, the configuration settings/status will be listed. Confirm that the Mode has been set and the correct network name (SSID) is listed and connected to.



The screenshot shows the web interface of a wireless repeater. The left sidebar contains a navigation menu with categories like 'Wireless', 'LAN Interface', and 'Management'. The main content area is titled 'WIRELESS REPEATER' and '1000 BOE.IN 2.0'. The page is titled 'Access Point Status' and includes a brief description: 'This page shows the current status and some basic settings of the device.' The settings are organized into sections: System, Wireless Configuration, Wireless Repeater Interface Configuration, and TCP/IP Configuration.

System	
Uptime	0day 0h 13m 37s
Firmware Version	v2.11.02
Build Date	Wed Nov 20 10:28:20 CST 2011
Operation Mode	Bridge

Wireless Configuration	
Mode	Repeater (Infrastructure Client)
Band	2.4 GHz (80MHz)
SSID	FWTest
Channel Number	9
Encryption	WPA2
BSSID	00:1c:d0:8a:1f:c4
State	Connected

Wireless Repeater Interface Configuration	
Mode	AP
Repeater SSID	WR-1000eapn1
Encryption	WPA2
BSSID	00:23:13:0e:76:e0
Associated Clients	1

TCP/IP Configuration	
Assign IP Protocol	Fixed IP
IP Address	192.168.10.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.10.1
DHCP Server	Disabled
MAC Address	00:23:13:0e:76:e0

Access Point Mode Setup:

1. Connect the Repeater to an available AC electrical outlet.
2. **Wired Setup:** Connect an RJ45 Ethernet cable from the Repeater to your computer.
Wireless Setup: Connect to the wireless network 'WiFi-Repeater'.
3. The default IP address on the Repeater is 192.168.10.1; configure your computer to a matching network address (192.168.10.x, where 'x' is between 2~255) with subnet set to 255.255.255.0 and default gateway to 192.168.10.1.
4. Open a web browser window and enter 192.168.10.1 into the address bar. This will bring up the login prompt for the Repeater. The default user name and password are 'admin' (without quotes).
5. From the main menu of the Repeater Wireless configuration utility, click the 'Setup Wizard' link followed by the 'Standard Wireless AP Mode' option. Click 'Next' to continue.



6. The next screen will list some basic information. Click the 'AP - OneKey Setting' button to proceed.



7. The Repeater will automatically pre-configure itself with default information and then reboot. If there are multiple wireless networks or a problem occurs with the automatic setup, Advanced Configuration may be required. Otherwise the setup is complete.

Note: Further instruction on Advanced Configuration settings for this device are available on the following pages, if desired.

The screenshot shows the web interface for a WiFi Repeater. The top navigation bar includes the product name 'WIRELESS - REPEATER' and the standard 'IEEE 802.11N 2.0'. A left-hand sidebar contains a tree view of configuration options: WiFi-Repeater, Setup Wizard, Wireless (Basic Settings, Security, Site Survey, Advanced Settings, Schedule, WPS), LAN Interface, Management (System Log, Time Zone Setting, Upgrade Firmware, Password, Save/Reload Settings, Reboot). The main content area is titled 'Access Point Status' and contains a table of system and configuration details.

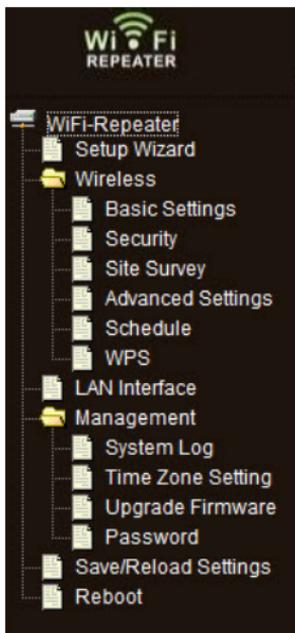
System	
Uptime	0day 0h:14m:49s
Firmware Version	v2.51 R2
Build Time	Wed Nov 30 10:38:39 CST 2011
Operation Mode	Bridge
Wireless Configuration	
Mode	AP
Band	2.4 GHz (B+G+N)
SSID	WiFi-Repeater
Channel Number	11
Encryption	WPA2
BSSID	00:23:13:0e:76:e0
Associated Clients	0
TCP/IP Configuration	
Attain IP Protocol	Fixed IP
IP Address	192.168.10.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.10.1
DHCP Server	Disabled
MAC Address	00:23:13:0e:76:e0

8. Once the device is configured, close your browser and connect an RJ45 Ethernet cable from the Repeater unit to your switch/router (disconnect from the computer if you used the Wired Setup in Step 2).

Advanced Configuration

Advanced configuration options for the Repeater can be accessed via the web interface.

1. Connect an RJ45 Ethernet cable from the Repeater to your computer.
2. The default IP address on the Repeater is 192.168.10.1; configure your computer to a matching network address (192.168.10.x, where 'x' is between 2~255) with subnet set to 255.255.255.0 and default gateway to 192.168.10.1.
3. Open a web browser window and enter 192.168.10.1 into the address bar. This will bring up the login prompt for the Repeater. The default user name and password are '**admin**' (without quotes).



Wireless

Click the link for 'Wireless' on the main menu, followed by 'Basic Settings'. This will present the basic wireless configuration options for the current mode and also allow for manually changing the Mode type. Other options are available on the main menu, such as encryption settings (Security), list of detected WiFi networks (Site Survey), time of use scheduling (Schedule) and WiFi Protected Setup (WPS).

Wi-Fi Protected Setup

This page allows you to change the setting for WPS (Wi-Fi Protected Setup). Using this feature could let your wireless client automatically synchronize its setting and connect to the Access Point in a minute without any hassle.

Disable WPS

Repeater Client

Self PIN Number: 00296884

PIN Configuration:

Push Button Configuration:

Repeater AP:

WPS Status: Configured UnConfigured

Push Button Configuration:

Client PIN Number:

Current Key Info:

Authentication	Encryption	Key
WPA2 PSK	AES	pmtest12

Wireless Advanced Settings

These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Access Point.

Fragment Threshold: 2346 (256-2346)

RTS Threshold: 2347 (0-2347)

Beacon Interval: 100 (20-1024 ms)

Preamble Type: Long Preamble Short Preamble

IAPP: Enabled Disabled

Protection: Enabled Disabled

Aggregation: Enabled Disabled

Short GI: Enabled Disabled

WLAN Partition: Enabled Disabled

STBC: Enabled Disabled

20/40MHz Coexist: Enabled Disabled

RF Output Power: 100% 70% 50% 35% 15%

Wireless Security Setup

This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.

Select SSID: Root Client - PMTest

Encryption: WPA2

802.1x Authentication:

Authentication Mode: Enterprise (RADIUS) Personal (Pre-Shared Key)

WPA2 Cipher Suite: TKIP AES

Pre-Shared Key Format: Passphrase

Pre-Shared Key: ●●●●●●●●

Wireless Cont'd

Wireless Basic Settings

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters.

Disable Wireless LAN Interface

Mode:

Network Type:

SSID of Connect to: Connected

Enable Universal Repeater Mode (Acting as AP and client simultaneously)

SSID of Extended Interface:

Band:

Channel Width:

Control Sideband:

Channel Number:

Broadcast SSID:

WMM:

Data Rate:

Associated Clients:

Enable Mac Clone (Single Ethernet Client)

Wireless Site Survey

This page provides tool to scan the wireless network. If any Access Point or SSID is found, you should choose to connect if available when Repeater mode is enabled. Select on this list the radio network you would like to extend.

Refresh List									
Current Connect to: PMTTest Connected									
SSID	BSSID	Channel	Type	Extnd	Signal	Client			
PMTTest	00:10:62:1f:04	9 (B-G-N)	AP	WPA2-PSK	...	...	
2.4 GHz	34:0E:34:0E:39:48	1 (B-G-N)	AP	PSK/WPA2-PSK	...	...	
wla2	00:26:3e:99:53:48	11 (B-G-N)	AP	WPA2-1X	...	...	
DGL	00:20:3e:99:53:48	11 (B-G-N)	AP	WPA2-PSK	...	...	
wla1	00:15:70:56:38:38	9 (B-G)	AP	WPA-100/WPA2-1X	...	...	
wla1	00:15:70:56:37:02	11 (B-G)	AP	WPA-100/WPA2-1X	...	...	
DGL	00:26:3e:97:19:08	11 (B-G-N)	AP	WPA2-PSK	...	...	
wla2	00:20:3e:97:19:02	11 (B-G-N)	AP	WPA2-1X	...	...	
wla1	00:15:70:61:39:3c	1 (B-G)	AP	WPA-100/WPA2-1X	...	...	
wla2	00:20:3e:99:53:92	11 (B-G-N)	AP	WPA2-1X	...	...	
DGL	00:26:3e:98:53:98	1 (B-G-N)	AP	WPA2-PSK	...	...	
DGL	00:20:3e:98:53:98	11 (B-G-N)	AP	WPA2-PSK	...	...	
wla2	00:26:3e:88:38:42	1 (B-G-N)	AP	WPA2-1X	...	...	
default	00:13:8f:7a:90:49	9 (B-G)	AP	WEP	...	...	

Wireless Schedule

This page allows you setup the wireless schedule rule. Please do not forget to configure system time before enable this feature.

Enable Wireless Schedule

Enable	Day	From	To
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)
<input type="checkbox"/>	Sun	00 (hour) 00 (min)	00 (hour) 00 (min)

LAN Interface

The 'LAN Interface' options allow for configuration of settings for the LAN port (RJ45), when used in Access Point mode. The Unit's IP address, DHCP settings and other related settings can be customized to match your needs.

LAN Interface Setup

This page is used to configure the parameters for local area network which connects to the LAN port of your Access Point. Here you may change the setting for IP address, subnet mask, DHCP, etc..

IP Address:	<input type="text" value="192.168.10.1"/>
Subnet Mask:	<input type="text" value="255.255.255.0"/>
Default Gateway:	<input type="text" value="192.168.10.1"/>
DHCP:	<input type="text" value="Disabled"/>
DHCP Client Range:	<input type="text" value="192.168.10.100"/> - <input type="text" value="192.168.10.200"/> <input type="button" value="Show Client"/>
Static DHCP:	<input type="button" value="Set Static DHCP"/>
Domain Name:	<input type="text" value="Repeater"/>
802.1d Spanning Tree:	<input type="text" value="Disabled"/>
Clone MAC Address:	<input type="text" value="000000000000"/>
<input type="button" value="Apply Changes"/> <input type="button" value="Reset"/>	

Management

The 'Management' sections contain settings for various administrative functions for the unit. An important section to note is the 'Password' screen. It is recommended that the default password for the Unit be changed before you finish configuration. To prevent unauthorized access, please update the user name and password.

Upgrade Firmware

This page allows you upgrade the Access Point firmware to new version. Please note, do not power off the device during the upload because it may crash the system.

Firmware Version:	v2.51 R2
Select File:	<input type="text"/> <input type="button" value="Browse..."/>
<input type="button" value="Upload"/> <input type="button" value="Reset"/>	

System Log

This page can be used to set remote log server and show the system log.

<input type="checkbox"/> Enable Log	<input type="checkbox"/> wireless	<input type="checkbox"/> OUS
<input type="checkbox"/> system all	Log Server IP Address: <input type="text"/>	
<input type="checkbox"/> Enable Remote Log		
<input type="button" value="Apply Changes"/>		
<div style="border: 1px solid gray; height: 100px; width: 100%;"></div>		
<input type="button" value="Refresh"/>	<input type="button" value="Clear"/>	

Time Zone Setting

You can maintain the system time by synchronizing with a public time server over the Internet.

Current Time:	Yr: 2011 Mon 11 Day 30 Hr 10 Mn 47 Sec 33
<input type="button" value="Copy Computer Time"/>	
Time Zone Select:	(GMT-05:00)Eastern Time (US & Canada)
<input type="checkbox"/> Enable NTP client update	
<input type="checkbox"/> Automatically Adjust Daylight Saving	
NTP server:	<input type="text" value="192.5.41.41 - North America"/> <input type="button" value="(Manual IP Setting)"/>
<input type="button" value="Apply Change"/> <input type="button" value="Reset"/> <input type="button" value="Refresh"/>	

Password Setup

This page is used to set the account to access the web server of Access Point. Empty user name and password will disable the protection.

User Name:	<input type="text"/>
New Password:	<input type="text"/>
Confirmed Password:	<input type="text"/>
<input type="button" value="Apply Changes"/> <input type="button" value="Reset"/>	

Save/Reload Settings

The current settings for the unit can be saved to a file on your computer and reloaded onto the Repeater at any time. The Repeater can be reset to factory defaults from this screen, by clicking the 'Reset' button. The Repeater can also be reset to factory defaults by pressing and holding the 'Reset' button, located next to the RJ45 port, for 10 seconds.

Save/Reload Settings

This page allows you save current settings to a file or reload the settings from the file which was saved previously. Besides, you could reset the current configuration to factory default.

Save Settings to File:

Load Settings from File:

Reset Settings to Default:

Reboot

This provides a remote method of soft restarting the Unit.

Specifications

Supported Wireless Standards	IEEE 802.11b/g/n
Chipset ID	Realtek RTL8196C
Connectors	1 x RJ45 Ethernet female
LEDs	1 x Power 1 x Wireless Link/Activity 1 x Ethernet Link/Activity
Antenna Configuration	2x2:2 (TxR:S)
Antenna Type	2dBi (internal)
Wireless Frequency Range	2.4 GHz ~ 2.485 GHz
Wireless Bandwidth	20/40MHz
Wireless Encryption Supported	WEP, WPA, WPA2
Maximum Wireless Distance	300m (950ft)
Maximum Data Transfer Rate	802.11n: 300 Mbps 802.11g: 54 Mbps 802.11b: 11 Mbps RJ45 Ethernet: 10/100 Mbps
Enclosure Material	Plastic
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-40°C ~ 70°C (-40°F ~ 158°F)
Humidity	10% ~ 90% RH
Dimensions	100.0mm x 60.0mm x 50.0mm
Weight	120g

Technical Support

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Warranty Information

This product is backed by a two year warranty.

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