

2) Setting up wireless encryption

WL-500W provides a set of encryption and authentication methods to meet the different demands of home, SOHO, and enterprise users. Before setting up encryption and authentication for WL-500W, contact your network administrator for advice.

Quick Setup
 Wireless
 Interface
 Bridge
 Access Control
 RADIUS Setting
 Advanced

Click Wireless -> Interface to open the configuration page.

Wireless - Interface		
SSID:	default	
Channel:	Auto 🛩	
Wireless Mode:	Auto Protection	
Bandwidth:	40MHz 💙	
Authentication Method:	Open System or Shared Key 💌	
WPA Encryption:	TKIP	
WPA Pre-Shared Key:		
WEP Encryption:	None	
Passphrase:		
WEP Key 1 (10 or 26 hex digits):		
WEP Key 2 (10 or 26 hex digits):		
WEP Key 3 (10 or 26 hex digits):		
WEP Key 4 (10 or 26 hex digits):		

Note: For 802.11n performance, select 40MHz bandwidth. Channel option will

depend on the bandwidth that you select.

Encryption

The encryption modes supported by WL-500W are: WEP (64bits), WEP (128bits), TKIP, AES, and TKIP+AES.

WEP stands for Wired Equivalent Privacy, it uses 64bits or 128bits static keys to encrypt the data for wireless transmission. To setup WEP keys, set WEP Encryption to WEP-64bits or WEP-128bits, then manually type in four sets WEP Keys (10 hexadecimal digits for 64-bit key or 26 hexadecimal digits for 128-bit key). You can also let the system generate the keys by entering a Passphrase.

TKIP stands for Temporal Key Integrity Protocol. TKIP dynamically generates unique keys to encrypt every data packet in a wireless session.

AES stands for Advanced Encryption Standard. This solution offers stronger protection and increases the complexity of wireless encryption.

TKIP+AES is used when both WPA and WPA2 clients co-exist in the wireless network.

Authentication

The authentication methods supported by WL-500W include: Open, shared key, WPA-PSK, WPA, and Radius with 80.211x.

Open: This option disables authentication protection for wireless network. Under Open mode, any IEEE802.11b/g client can connect to your wireless network.

Shared: This mode uses the WEP keys currently in use for authentication.

WPA/WPA2 and WPA-PSK/WPA2-PSK: WPA stands for WiFi-Protected Access. WPA provides two security modes: WPA for enterprise network, and WPA-PSK for home and SOHO users. For enterprise network, WPA uses the already existing RADIUS server for authentication; for home and SOHO user, it provides Pre-Shared Key (PSK) for user identification. The Pre-Shared Key consists of 8 to 64 characters.

Radius with 802.1X: Similar with WPA, this solution also uses RADIUS server for authentication. The difference lays on the encryption methods: WPA adopts TKIP or AES encryption methods, while Radius with 802.1X does not provide encryption.

When authentication and encryption are set, click **Finish** to save the settings and restart the wireless router.

3) Setting up virtual server in your LAN

Virtual server is a Network Address Translation (NAT) function which turns a computer within a LAN into a server by allowing data packets of certain service, such as HTTP, from Internet.



- Click Virtual Server in NAT Setting folder to open the NAT configuration page.
- Select Yes to enable virtual server. For example, if host 192.168.1.100 is the FTP server that the user will access, it means all packets from Internet with destination port as 21 are to be directed to the host. Set Well-known Application to FTP. Port range to 21, Local IP to the host IP, Local Port to 21, Protocol to TCP.
- 3. Click Finish.
- Click Save & Restart to restart the wireless router and activate the settings.







4) Setting up virtual DMZ in your LAN

To expose an internal host to the Internet and make all services provided by this host available to outside users, enable Virtual DMZ function to open all ports of the host. This function is useful when the host plays multiple roles such as HTTP server and FTP server. However, in doing this, your network becomes less secure.

1.	Click Virtual DMZ in the NAT	Setting menu.	 NAT Setting Port Trigger Virtual Server Virtual DMZ Anternet Firewall 		
2.	Enter the IP address of the host and click Finish .	NAT Setting - Virtual DMZ Virtual DMZ allows you to expose one computer to Internet, so that all the inbounds packets will be redirected to the computer you set. It is useful while you run some applications that use uncertained incoming ports. Please use it carefully.			
		IP Address of Exposed Station:	192.168.1.100		
3.	Click Save & Restart to restart the wireless router and activate the settings.	Save & Restart Save&Restart will save all setting you have changed Please click SaveRestart button to continue. Save&Resta	to ASUS Wireless Router and restart it. at		

5) Setting up DDNS

DNS enables host who uses static IP address to associate with a domain name; for dynamic IP users, they can also associate with a domain name via dynamic DNS (DDNS). DDNS requires registering and account-creating at DDNS service providers' website. The DDNS server updates your IP address information once you are assigned to a new IP address. Thus, the Internet user can always access your network.

1. Click Miscellaneous from IP Config folder.



 Select Yes to enable the DDNS service. If you do not have a DDNS account, click Free Trial to register for a trial account.

DDNS Setting				
Dynamic-DNS (DDNS) allows you to export your server to Internet with an unique name, even though you have no static IP address. Currently, serveral DDNS clients are embedded in WLS66gM. You can click Free Trial below to start with a free trial account.				
Enable the DDNS Client?	€ Yes C No			
Server:	WWW.DYNDNS.ORG			



 After clicking Free Trial, you are directed to the homepage of <u>www.DynDNS.</u> org, where you can register and apply for DDNS service.

Read the policy and select "I have read...".

 Enter your user name, e-mail address, password, then click Create Account.

- A message prompts out informing that your account has been created. An E-mail is sent to your mailbox. Open your mailbox and read the mail.
- You can find the activation letter in your E-mail box. Click the hyperlink.

- 7. The link directs you to a login page. Click **login**.
- Enter the user name and password then click Login.

g Dyn					Lost Passwood?	Sign Us New
	About	Services	Account	Support	News	
Account	Create A	acount				
ate Account	- Create A	ccount				
	Please complete	he form below to creat	e your account. You will	receive an e-mail con	taining instructions to	activate your account.
Password?	you do not follow	hese directions within	48 hours, you will need	to recreate your accou	int.	
	Acceptable Use Policy					
	Policy Last	odified: Nav 31,	2005			
1 ACCORDING FORMET AND ACCEPTANCE OF TERMS OF SERVICE						100
	All services provided by bynamic Network Services, Inc. ("SymBHS") as provided to you (the "NewSer") under the Terms and Conditions operating rules and policies are forth by SymBNS. The ANP comprises					

Username				
Jsemame account				
Your username will be used to login to your account and make changes.				
E-mail Address				
E-mail Address account@asus.com Confirm E-mail Address: account@asus.com				
The e-mail address proventer must be wait instructions to activity your account will be east to the e-mail address provided. You must take this address carrier. Any accounts with mode e-mail addresses are subject to removal without warning. We do not sell our fait to anyone. Read more about our <u>instancy policy</u> .				
Password				
Password				
The password you enter will be used to access your account. It must be more than 5 characters and cannot be your username.				

Account Created

Your account, account, has been created. Directions for activating your account have been sent account@asus.com. To complete egistration, please follow the directions that you will receive. You must complete these steps within 48 hours to complete your egistration.

ou should receive the confirmation e-mail within a few minutes. Please make certain that your sparn filtering allows messages from uppont@dyndns.com to be delivered. If you have not received this e-mail within an hour or so, request a <u>password reset</u>.

Following the instructions in the password reset e-mail will also confirm your new account. If you don't receive the password reset e-mail either, you should check with your e-mail provider to determine why you are not receiving these messages.

Your DynDMS user account 'account' has been created. You must visit the confirmation address below within 48 hours of the time this e-mail was sent to complete the account creation process.

Our basic service offerings are free, but they are supported by our premium services. See http://www.dyndns.com/services/ for a full listing of all of our available services.

To confirm your account, please go to the address below:

https://www.dyndns.com/account/confirm/hbNtkWZBNhJaYM4emvCrqA

Ac	count Confirmed
The ar	ccount "account "has been confirmed. You can no <mark>v login a</mark> nd start using your account.
We ha to serv subsc	we a system announcements mailing list you may wish to subscribe to - this list is used for notifications of new services, chang wices, and important system maintenance/status notifications. To subscribe, simply send an e-mail to <u>announce</u> - mba@lists.dymha.org

Login				
It is strong	y recommended that you visit this page <u>security</u> . You are not currently visiting this page securely.			
- Account Login	Usemame: account Password:			
"password" net given.				
Login				

- 9. After logging in, you can see this welcome message.
- 10. Select Services tab.

Logged In

You are currently logged in as: account (Logout)

🛞 DynDNS					Logged in User WL550gE Mr.Senices - Settings - Log Oct	
	About	Services	Account	Support	News	
Senices	Services					
DNS Services	Octifices					
Domain Registration	DynDNS provides a variety of services that help enhance your home or business Internet experience. We offer superior domain name					
Mail Services	services (DNS), high q services include free te	services (DKS), high quality domain management, world-class e-mail services, web redirection, and watwerk monitoring. All of our services include fee technical support by e-mail or phone where you speak to a highly trained engineer rather than a call center reading a script off a screen.				
Network Monitoring	a script off of a screen					
Web Redirection						
Account Upgrades	DNS Services					
Pricing	Contract DIS: - Our tapping DEG management tool for your own domain Sandard DIS: - Adv tapping DEG management tool for your own enversions Contract DIG: - And CE Sandard Sandard Houses Te Advances Sandard DIG: - And CE Sandard Sandard Houses Te Advances TapLings: - DEG research for those with static P advances TapLings: - DEG research for those and static P advances Domain Registration					
Domain Desistration - Register new domains Domain Tisasfer - Eccape poor quality bulk seliers						

11. Click Add Dynamic DNS Host .

My Account	Add Host Services	
My Services		
Account Upgrades	Dynamic DNS (2)	Add Dynamic DNS Host
MailHop Outbound	o jinainio onto (L)	
Recursive DNS	Static DNS (2)	Add Static DNS Host
SLA	WebHop (2)	Add WebHop
Premier Support	MyWebHop (2)	Add MyWebHop
My Zones	Network Monitoring (2)	Add Network Monitoring
Add Zone Services		
My Hosts		
Add Host Services		
Dynamic DNS		
Static DNS		
WebHop		
M/WebHop		
Network Monitoring		
Account Settings		
Billing		

12. Enter the host name then click **Add Host**.



 You can see this message when your hostname is successfully created.

Hostname Created				
The hostname you have requested has been created. The information now in the database and DNS system is:				
Hostname:	account.dyndns.org			
IP Address:	210.74.250.126			
Wildcard: N				
Mail Exchanger:	None			
Backup MX:	N			



14. Fill the account information into the DDNS setting fields of your wireless router.

DDNS Setting

Save & Restart

Dynamic-DNS (DDNS) allows you to export your server to Internet with an unique name, even though you have no static IP address. Currently, serveral DDNS clients are embedded in WJS56gM. You can click Free Trial below to start with a free trial account.

Enable the DDNS Client?	€ Yes ⊂ No			
Server:	WWW.DYNDNS.ORG	WWW.DYNDNS.ORG Free Tria		
User Name or E-mail Address:	account			
Password or DDNS Key:	•••••			
Host Name:	account.dyndns.org			
Enable wildcard?	C Yes [€] No	C Yes [€] No		
Update Manually:	Update			

15. Click Finish.

Restore Finish Ch. Apply

Save&Restart will save all setting you have changed to ASUS Wireless Router and restart it. Please click SaveRestart button to continue.

Save&Restart

- 16. Click **Save & Restart** to restart the wireless router and activate the settings.
- Verify whether DDNS is working. Click Start menu and select Run. Type cmd and click OK to open the CLI console.



18. Type ping account. dyndns.org (your DDNS domain name). If you can see the reply like what is shown in the right picture, DDNS is working correctly.

CAMURIDON/Clausters 201 and aver	
C: WINDOWSISSISTEM 521Cmd.exe	
Microsoft Windows XP [Version 5.1.2600] (C) Copyright 1985-2001 Microsoft Corp.	-
C:\Documents and Settings\Doc>ping account.dyndns.org	
Pinging account.dyndns.org [192.168.123.21] with 32 bytes of data:	
Reply from 192.168.123.21: bytes=32 time<1ms ITL=64	
Reply from 192.168.123.21: bytes=32 time<1ms ITL=64	
	-

Bandwidth Management
 Basic Config
 System Setup

6) Setting up Bandwidth Management

Bandwidth Management provides a mechanism to set up download and upload bandwidth based on IP address and port range. You can define the minimum bandwidth and the maximum bandwidth for host within your LAN, and thus control the traffic of you network. To set up upload bandwidth management, you need to set up the virtual server to allow the incoming packets of the specified services.

- 1. Click Basic Config page in Bandwidth Management folder.
- 2. Select **Yes** to enable Bandwidth Management function.

Bandwidth Management- Basic Cont	īg			
Bandwidth Management allows you to control the bandwidth for different applications.				
Enable Bandwidth Management?	€ Yes C No			

3. Download bandwidth

If you want to limit the download bandwidth of a host within a speed range (for example, between 100 to 200kbps), you need to fill in the host IP address, and the speeds (maximum: 200kbps; minimum: 100kbps). When the minimum speed is defined, the host can transmit data at the minimum speed regardless of the traffic conditions.

Do

a. To apply on all host an FTP download speed policy, leave the IP address field blank, input "20" in the Port field and define the speeds, then click Add.

IP Address	Port	Max.(kbps)	Min.(kbps)		
	20	100	50		
192.168.1.6		288	188	-	
		200	100	1	
		200	100		
		200	100		
		200	100		

b. To set up Web access download policy, input "80" in the Port field, define the speeds and click Add.

Download Policy L	_ist		(Add	Del	
IP Addre	ess Port	Max.(kbps)	Min.(kbps) 199			
192.16	8.1.6 20	200 100	100 50]		
]		

c. To set up download bandwidth policy of a certain service for a host, input the host IP address and the port number of the service, define the speeds and click Add.





d. To set up the download bandwidth policy for all hosts in your LAN, leave the IP addresses and the port fields blank; and define the speeds (the speeds are higher than download policies). Click Add to add the rule.

4. Upload stream

If you want to set up the upload traffic control policy (for example, to limit the upload bandwidth of port 2100 of 192.168.1.2 between 10 to 80kbps), you need to first set up the NAT policy to allow incoming packets.

a. Select **Yes** to enable Virtual Server function. In the Virtual Server List field, fill the port, and the IP address into the fields and press **Add**.

Download P	olicy List				Add	Del	
	IP Address	Port	Max.(kbps)	Min.(kbj	os)		
			500	288			
	192.168.1.6	28	200 100	100 50			
	192.168.1.100	80 3702	300 10	100			

Setting

🗟 Virtual Server

📑 Virtual DMZ

🛐 Internet Firewall

Apply

😂 Bandwidth Management

🕌 Basic Config

NAT Setting - Virtual Server To make services, like WWW, FTP, provided by a server in your local network accessible for outside users, you should specify a local IP address to the server. Then, add the IP address and network protocol type, port number, and name of the service in the following list. Based on the list, the gateway will forward service request from outside users to the corresponding local serve Enable Virtual Server? ● Yes ^C No Virtual Server List Add User Defined 💌 Well-Known Applications Local IP Local Port Protocol Description Port Range 2188 192.168.1.2 2188 TCP 🔻

Finish

b. Press Apply button.

c. Return to the Upload Policy List in Bandwidth Management setting page.

Restore

- d. Set the **Port** as "2100", **Max** (kbps) as "80", **Min.(kbps)** as "10", then click **Add**.
- e. When the settings are complete, press **Finish**.
- f. Click Save & Restart to restart the wireless router and activate the settings.

