Dynalink

ADSL Router + WLAN Access Point

Supplement for Wireless Operation and Setup

RTA300W

NOTE: *This supplement only concerns the wireless operation of the RTA300W. Please refer to the Quick Setup Guide for all other topics.*

1 Introduction

A Wireless Local Area Network (WLAN) serves the same purposes as a conventional wired Ethernet network (LAN). On a Wireless LAN computers are linked together by radio waves.

The RTA300W is your Internet access point and it is also your WLAN access point. It provides sharing of network resources including Internet access among wireless clients and wired clients. The RTA300W complies to the IEEE 802.11b standard, ensuring connectivity among all wireless clients that meet the same standard irrespective of vendors.

1.1 The RTA300W can be set up for two types of network configurations

1. An infrastructure network
   The RTA300W is attached to an existing Ethernet network via one of its Ethernet ports. In an infrastructure network, the RTA300W connects wireless clients to a wired network. This enables the wireless clients to share all available resources including Internet access and peripherals on the wired network.

2. A stand-alone wireless network
   This is a computer network free of wired clients connected via Ethernet cables. The RTA300W acts as a relay station for all wireless clients. It enables information transfer among wireless stations within its coverage area. Its relay capability can be utilised to effectively double the communication distance between two wireless stations.

1.2 Wireless Privacy

Privacy is an important issue with wireless communication. The RTA300W provides the following functions for access control and security:

1. Service Set ID (SSID). This is a user specified name that uniquely identifies a wireless domain. All wireless clients that need to associate with your RTA300W must be set with identical SSID.
2. Association control (or MAC address filtering). The user can determine which wireless clients are authorised to associate with the RTA300W by registering the client's unique MAC address on the RTA300W.
3. Wired Equivalent Privacy (WEP) is an authentication algorithm that protects users from eavesdropping. When enabled, all wireless stations and your RTA300W always transmit data encrypted using a key of your choice. The receiving station will use the same key for decryption. Receiving station will use the same key for decryption.

2 Setup wireless networking

The wireless function of your RTA300W is activated by default. The WLAN light comes on indicating the wireless interface is ready. By default, Association Control and WEP encryption are disabled.

STEP 1

Initially connect the RTA300W to a computer (or network) via the Ethernet port to configure for wireless operation. Start your web browser. Enter the RTA300W's IP address (default **http://192.168.1.1**). You will be prompted to enter the RTA300W's administrative user name and password. By default, the user name and password are both **admin**.

STEP 2

Go to **Configuration** - **WLAN** - **Basic Setup**. It is strongly recommended that you use a SSID of your choice. Next pick a desired channel. There are 14 channels available. Wireless clients will scan and settle on the same channel as the RTA300W.

STEP 3

Decide if you want to use Association Control and/or WEP encryption. Follow the next section for setting up these functions. We strongly recommend at least enabling Association Control to restrict unauthorized wireless clients from accessing your network.

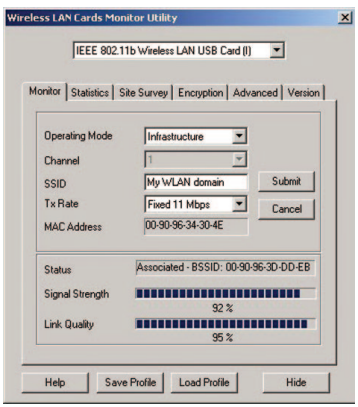
STEP 4

Setup wireless client stations according to the vendor's instructions. Select **infrastructure** for associating with a wireless access point. Do not use *adhoc* (or peer-to-peer) mode. Check that every wireless client has an identical SSID to the RTA300W. You should see the wireless client using the same channel as the RTA300W. If not, pick the correct channel on the wireless client manually according to the vendor's instructions.

STEP 5

To verify that a wireless station is associated with the RTA300W, go to the router control panel and then **Status** - **Wireless Client**. The table will display the MAC address of every wireless client that associates with the RTA300W.

E.g. If you are using a Dynalink wireless client Run the Monitor Utility. Select **Infrastructure** and enter the correct SSID. Click Submit to take effect. Channel is selected automatically according to the setting of the RTA300W.

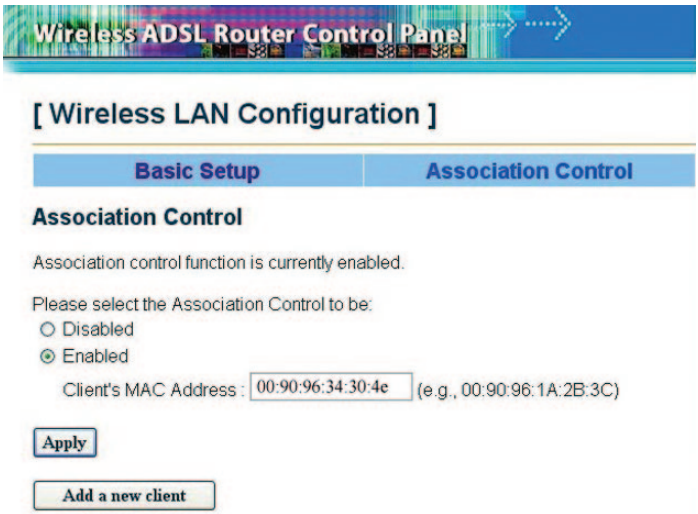


3 *Setup access control & encryption (optional)*

ASSOCIATION CONTROL

By default every client having the same SSID is capable of connecting to the RTA300W. Association control is used for blocking access from unauthorised clients.

Go to the router control panel. Then **Configuration** - **WLAN** - **Association Control**. **Enable** Association Control and enter the MAC address of every authorised client as illustrated. Each pair of digits must be separated by a **":"**. Click Apply.

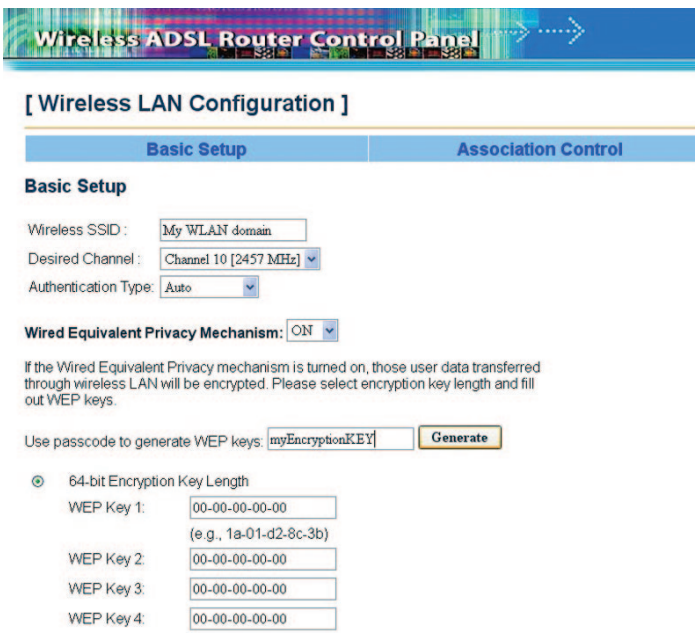


E.g. If you are using a Dynalink wireless client
The unique MAC address is printed on a label affixed to the product. Alternatively read off the MAC address by running the Monitor Utility as shown in Step 5 of Section 2.

WEP ENCRYPTION

Go to **Configuration** - **WLAN** - **Basic Setup**.

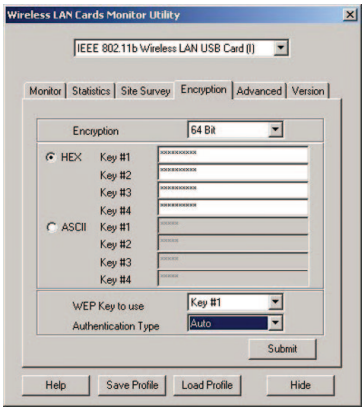
1. In the **Wired Equivalent Privacy Mechanism** field select **ON**.
2. Select either **64-bit** or **128-bit** encryption.
3. Enter the WEP keys of your choice in the **Key1-4** fields. WEP keys must comprise of hexadecimal characters (0-9 and a-f) and must contain 10 characters for 64-bit WEP Keys or 26 characters for 128-bit WEP keys. Each pair of digits must be separated by a "-". Alternatively, enter a string of your choice into **Use passcode to generate WEP keys**. This method saves the user from filling in the key table.
4. In the Default Transmission Key field, select one of the four keys to encrypt data.



5. On every wireless client, follow the vendor's instructions to setup WEP encryption on the client station. The encryption table must match the settings of the RTA300W. Failing that the client will be unable to communicate to the network.

When WEP is set all stations transmit data encrypted using the Default Key. The key number 1, 2, 3 or 4 is also transmitted. The receiving station will use the key number to determine which key to use for decryption. If the key value does not match with that of the transmitting station, decryption will fail.

E.g. If you are using a Dynalink wireless client
Run the **Monitor Utility**. Go to **Encryption**. Select the correct key length 64 /128 Bit to match the RTA300W setting. Click on HEX and copy the values of all keys displayed from the RTA300W into the corresponding fields. Check that the **WEP Key to use** number matches the **Default transmission key** on the RTA300W.



4 Troubleshooting

Cannot establish a wireless link to the RTA300W

- Check that the WLAN light on the front panel of the RTA300W is on.
- Make sure the RTA300W and wireless clients are configured with the same SSID.
- If Association Control is enabled, check that the client's MAC address has been entered into the list of authorised clients on the RTA300W.
- If WEP is turned on, make sure all wireless stations are using the same encryption algorithm and the same WEP key table as the RTA300W.

How to find the MAC addresses of my wireless clients

- If the wireless client has not been installed, follow the vendor's instructions to find the device's MAC address. Usually it is printed on a label affixed to the device.
- If the wireless client is already installed on the computer, an alternative is to go to the DOS (Command) prompt and type **ipconfig /all.** The MAC address is shown under **physical address** as a group of 6 double digits.

Radio interference

- Other wireless devices and appliances on site may share the same 2.4 GHz band. If undesirable effects are observed, trying switching the RTA300W to a different channel. Alternatively, switch the other devices to use a different channel.

Warranty

Dynalink warrants this product against defects in materials and workmanship for a period of twelve months from the original date of purchase. We will, at our discretion, repair or replace the faulty unit, free of charge, provided it is returned to us with proof of purchase from an authorised dealer within the warranty period. Return delivery after repair will be paid for by Dynalink. We reserve the right not to repair or replace goods that:

- have been mishandled, abused or not installed according to the guidelines as outlined in the instructions.
- have been subjected to a power surge from other equipment or other external factors.
- have been altered or modified.

Help

Always check that your hardware is installed correctly. Check our web site for the latest information and troubleshooting guide. If you have difficulties, contact Dynalink Technical Support for issues relating to installation and operation.

If possible, visit Dynalink's on-line support area at:

New Zealand www.dynalink.co.nz/support
Australia www.dynalink.com.au/support

Contact Dynalink's Technical Support:

New Zealand
Phone 0800 653 962
Fax 0800 503 962
(Monday-Friday: 8:30am-7:30pm)

Australia
Phone 1800 653 962
Fax 1800 063 962
(Monday-Friday: 8:30am-5:30pm)