Macintosh SIG

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AirPort (Wireless) Security

Terminology

Client - The computer used to access the wireless network.

Access Point - The AirPort Express/Extreme unit.

The difference between the AirPort Express and the AirPort Extreme:

- The *AirPort Express* supports *AirTunes* with an audio port for connecting to a stereo amplifier or powered-remote speakers and can share a USB printer.
- The *AirPort Extreme* has three wired Ethernet ports and can share a USB printer and/ or an external USB hard drive.

Security Objectives

- Prevent unauthorized access to the AirPort settings.
- Prevent access to the network by unauthorized persons.
- Prevent access to data being transmitted between the Client and the Access Point.

AirPort Configuration Utility

Go to:

/Applications/Utilities/AirPort Admin Utility.app



Figure 1, AirPort Utility

Click on Manual Setup



Figure 2, Summary

Click on Base Station

AirPort Extreme/Express (Setup) Password

	AirPort Internet Music Printers Advanced	Q Setting Name Find a setting
	Summary Base Station	Wireless Access Control
Rana Station and oth	AirPort Express Name:	Base Station e4cc7b
	-	Rase-Station-eloc7b.local Edit
	AirPort Express Password:	•••••
·	Verify Password:	
Base Station fb9bf4	21	Remember this password in my keychain
	Set time automatically:	•
	Allow setup over WAN	
		Options
	(?) Assist Me)	(Revert) (Update

Figure 3, Base Station

The AirPort Express/Extreme Name is the name that will show up when starting the *AirPort Admin Utility*.

- There are two passwords that we will set up.
 - The first is to control access to the AirPort setup. (The default password is *public*.)
 - The second is to control access to the wireless network and encrypt the wireless transmissions.
- On this screen enter the Password and the Verify Password.
- The password is case-sensitive.
- Uncheck: Allow setup over WAN.
- · Click on Update.
- · After the unit updates, click on: Wireless

000	AirPort Utility - Base Station fb9b	(4	
	💿 🙆 🚔 🔯	Q. Setting N	lame
16.1	AirPort Internet Printers Disks Advanced	Find a	setting
	Summary Base Station	Wireless Access Control)
Base Station fb9bf4	Wireless Mode:	Create a wireless network	•
	Wireless Network Name:	Apple Network fb9bf4	
		Allow this network to be ext	ended
	Radio Mode:	802.11a/n - 802.11b/g	+
	Radio Channel Selection:	Automatic	•
	Wireless Security:	WPA/WPA2 Personal	•
	Wireless Password:		9
	Verify Password:		
		temember this password in my	keychain
		Wireless Network Options	
	(?) Assist Ne	Revert	Update

Figure 4, Wireless

Encryption Key (access password)

• In the Wireless Security drop-down select WPA/WPA2 Personal.

- When the *Wireless Password:* input opens, enter the password to be used to access the network.
- This password is likewise case-sensitive.
- Anytime someone wishes to access your network, they will have to supply this password.
- The text of the password is also used as the encryption key to encrypt the data while is is transmitted between the Client and the Access Point.
- The longer the key (number of characters) the better the encryption (harder to crack).
- Click on Update.

For the really paranoid, there are two additional security measures:

- Create a *Closed Network*.
- Create an Access Control List.

Closed Network

A wireless-network Access Point continually broadcasts the Wireless Network Name.

When a wireless-equipped computer is within range of an Access Point, the Wireless Network Name will show up in the computer's network-configuration dialog.

From the Wireless dialog, click on: Wireless Network Options.

Click on Create a closed network.

Click on Done.

This will turn off the broadcast of the *Wireless Network Name*, effectively hiding the network.

The downside is that to join the network, a user must know the name of the network.

Access Control List (ACL)

Click on Access Control.

	Summary Base Stat	ion Wireless Access (Control
Ease Station fb9bf4	MAC Address Access Contr	rol: Timed Access	:
	Timed access specifies times and days that a address. The first item allows you to specify addresses that are not listed.	client can join the network based the default amount of access for a	on their wireless MAC ny wireless MAC
	Wireless MAC Address	Description	
	(default)	Unlimited	0
	00-14-51-85-FC-7F	PowerMac G5	
	00:25:48:33:43:D7	Sy's iPod	4
	00:25:48:33:43:D7 88:FF:61:E8:30:79	Sy's iPod Sy's iPhone	Ŭ
	00:25:48:33:43:D7 B8:FF:61:E8:30:79 00:30:65:1A:58:BA	Sy's iPod Sy's iPhone PowerMac G4	Ĭ
	00:25:48:33:43:D7 B8:FF.61:E8:30:79 00:30:65:1A:58:BA 00:01:E6:48:33:86	Sy's iPod Sy's iPhone PowerMac G4 HP JetDirect	
	00:25:48:33:43:D7 88:FF.61:E8:30:79 00:30:65:1A:58:8A 00:01:E6:48:33:86 00:23:6C:87:1D:68	Sy's iPod Sy's iPhone PowerMac G4 HP JetDirect MacBook	
	00:25:48:33:43:D7 88:FF.61:E8:30:79 00:30:65:1A:58:8A 00:01:E6:48:33:86 00:23:6C:87:1D:68 00:02:72:5A:42:34	Sy's iPod Sy's iPhone PowerMac G4 HP JetDirect MacBook CigaFast US8	Ĭ
	00:25:48:33:43:D7 88:FF.61:E8:30:79 00:30:65:1A:58:8A 00:01:E6:48:33:86 00:23:6C:87:1D:68 00:02:72:5A:42:34 00:03:C9:34:05:48	Sy's iPod Sy's iPhone PowerMac G4 HP JetDirect MacBook CigaFast US8 G3 PowerBook Bronze	ļ
	00:25:48:33:43:D7 88:FF.61:E8:30:79 00:30:65:1A:58:8A 00:01:E6:48:33:86 00:23:6C:87:1D:68 00:02:72:5A:42:34 00:03:C9:34:05:48 00:04:5A:0D:3C:91	Sy's iPod Sy's iPhone PowerMac G4 HP JetDirect MacBook CigaFast US8 G3 PowerBook Bronze LinkSys PC Card)

Figure 5, Access Control

With Access Control you can specify which computers can access your network.

Every network interface device has a unique Media Access Control (MAC) address.

To locate the MAC address of your computer:

- Open System Preferences.
- Click on Network.
- In the left pane click on AirPort.
- Click on Advanced.
- At the bottom of the dialog is the *AirPort ID* of the computer.

In the Access Control dialog, click on the "+" symbol.

In the Timed Access Control Setup Assistant, enter:

• The MAC Address, and

- The *Description* (the name of the computer, anything convenient).
- Enter the MAC address and name of any other computers that will access your network.

Click on Done.

To temporarily disable Access Control, set the MAC Address Access Control drop-down to: *Not Enabled*.

WiFi Hotspots

In order to access a secure -encrypted- network one would need the encryption key. In a business or location that offers free WiFi, they would have to give everybody the encryption key. Which defeats the purpose of the encryption.

Therefore, public Hotspots are NOT ENCRYPTED. Use a public Hotspot with caution.

Finally

Bear in mind that no security system is 100% safe. The best that we can hope for is to make it more difficult for someone to intrude on our system.

Manuals for Apple AirPort devices are here:

http://support.apple.com/manuals#airport

Apple *How To* tutorials are available here:

http://www.apple.com/findouthow/mac/

(Scroll down to Wireless in the left-hand column.)