

AirRouter setup for WAP using master DHCP server mbs 7-13-2013 Wireless Access Point for notebooks, tablets, smart phones

Connecting a Wireless Client to the AirRouter;

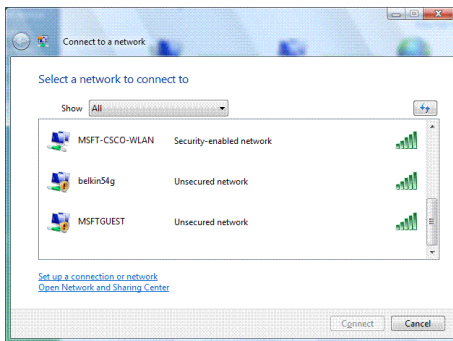
Windows

1. Go to *Connect to Network*.

--**Windows 7** Right-click on the *Network* icon.

--**Windows Vista** Go to **Start > Connect To**.

--**Windows XP** Right-click the *Wireless Network* icon in the *System Tray* (lower right corner of the screen) and then click **View Available Wireless Networks**.



2. Select the wireless network (SSID) **fmhii** and then click **Connect**.

3. Type the passphrase **XXXXXXXXXX** and click **OK** or **Connect**.

4. Launch your web browser to begin browsing the web.

Mac

1. Click the *AirPort* icon in the menu bar (top left side of the screen).

2. Select the wireless network (SSID) **fmhii**

3. Type the passphrase **XXXXXXXXXX** and click **OK**.

4. Once connected the *AirPort* icon will change from gray to solid black. The number of black lines indicates the signal strength. Launch your web browser to begin browsing the web.

Let's power on your **iPhone** and start here:

1) Tap Settings icon on Home screen of iPhone.



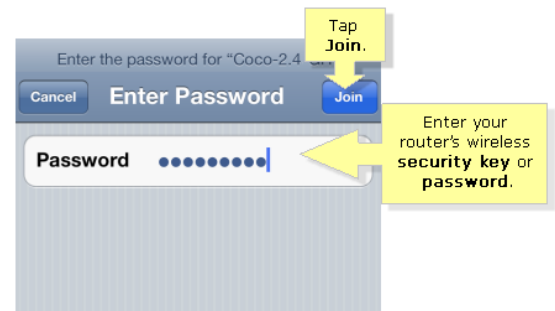
2) After that tap on Wi-Fi icon.



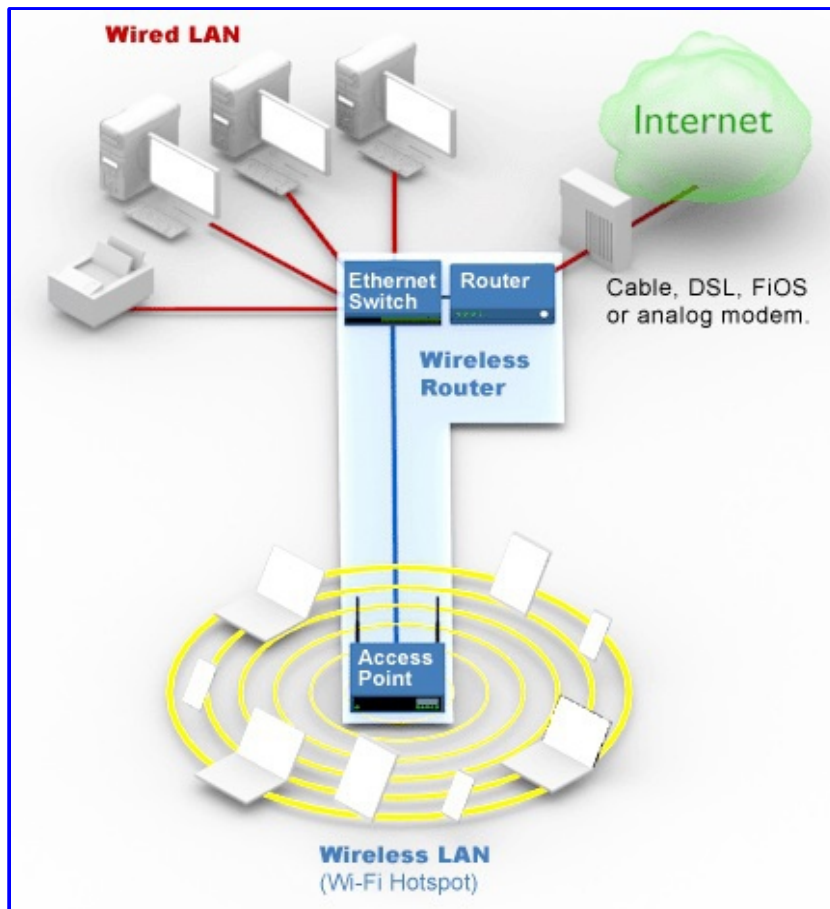
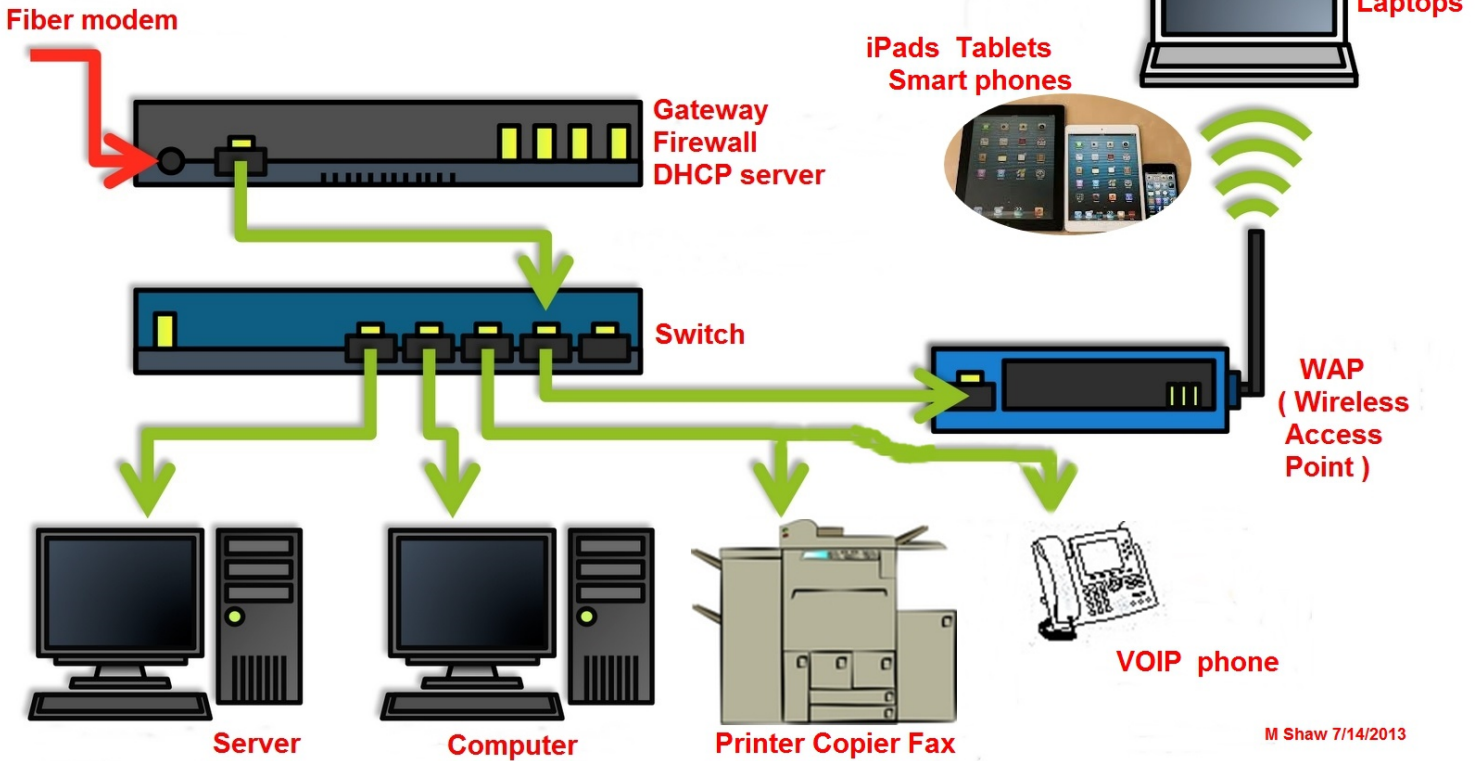
3) Proceed to select the wireless network



Note: Make sure the Wi-Fi feature of iPhone is ON



Wireless devices get IP address from DHCP server



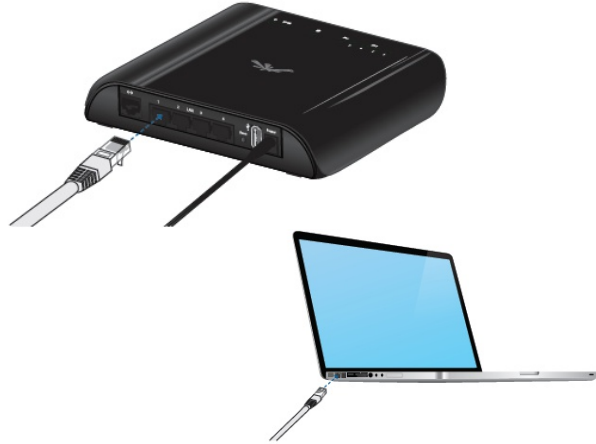
AirRouter setup:
DHCP from
Network Server

M. Shaw 7/14/2013

Initial Hardware Installation

To install the AirRouter, *ping first: 192.168.1.20* and / or perform the following steps:

1. Connect the power adapter to the port labeled **Power** on the AirRouter. Connect the other end to of the power adapter to a power outlet.
2. Connect an Ethernet cable to **Ethernet port 1**.



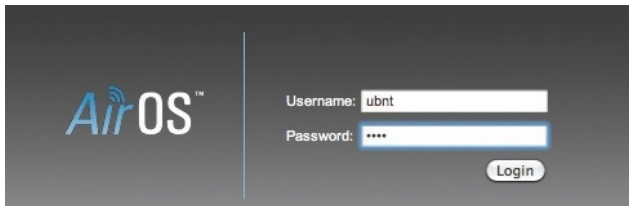
3. Connect the other end of the Ethernet cable to your computer.

4. Launch your Web browser and type **http://192.168.1.1** in the address field and press enter (PC) or return (Mac).



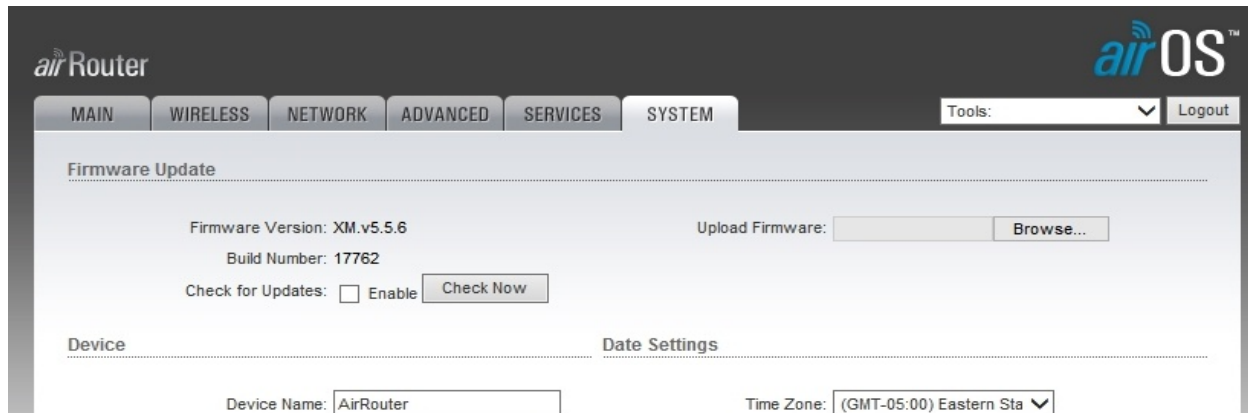
Note: Your computer needs to be on the 192.168.1.x subnet. If you have DHCP enabled on your Ethernet adapter, it should receive an address automatically. If not, you will need to set a static IP address in the 192.168.1.2 - 192.168.1.254 range.

5. The login screen will appear. Enter **ubnt** in the *Username* and *Password* fields and click **Login**.



6. System Tab: check firmware is same as downloaded or if not browse and update

Check ubnt.com and download the latest firmware. AirMax tab, scroll to the bottom of the page and click download software. Choose any airMax device as they all use the same software. Latest AirOS version on web 7-5-2013 XM-v5.5.6.build17762



7. Wireless Tab: choose, Access Point
type in your ssid

Channel width: choose 20 Mhz

Security: choose none for now to get it working, verify all settings, and operation.

Hit Change button and apply - reboots in 10 seconds

The screenshot displays the AirRouter web interface, specifically the 'Wireless' configuration tab. The browser address bar shows the URL 'https://192.168.1.24'. The page title is 'air Router' and the logo 'airOS™' is visible in the top right. The navigation menu includes 'MAIN', 'WIRELESS', 'NETWORK', 'ADVANCED', 'SERVICES', and 'SYSTEM'. The 'Basic Wireless Settings' section contains the following configurations:

- Wireless Mode: Access Point
- WDS (Transparent Bridge Mode): Enable
- SSID: fmhii Hide SSID
- Country Code: United States
- IEEE 802.11 Mode: B/G/N mixed
- Channel Width: 20 MHz
- Channel Shifting: Disable
- Frequency, MHz: Auto
- Extension Channel: None
- Frequency List, MHz: Enable
- Auto Adjust to EIRP Limit: Enable
- Output Power: 20 dBm
- Data Rate Module: Default
- Max TX Rate, Mbps: MCS 7 - 65 Automatic

The 'Wireless Security' section shows:

- Security: none
- RADIUS MAC Authentication: Enable
- MAC ACL: Enable

A red text overlay on the right side of the settings area reads: **AirRouter Wireless Tab - fmhii WAP w no security setup**. A 'Change' button is located at the bottom right of the settings area. The footer includes a 'GENUINE PRODUCT' logo and the copyright notice '© Copyright 2006-2013 Ubiquiti Networks, Inc.' The browser status bar at the bottom right shows '100%' zoom.

8. Network Tab if more Ubiquiti devices than change default
192.168.1.20 to something else like 192.168.1.24

Network Mode: **Bridge**

Static 192.168.1.24 Netmask 255.255.255.0

Gateway 192.168.1.1 Primary DNS 192.168.1.1 Secondary DNS 192.168.1.1
(or other appropriate addresses – check with network engineer if questions)

Hit Change button and apply - reboots in 10 seconds

The screenshot shows a web browser window displaying the AirRouter configuration page. The browser's address bar shows the URL https://192.168.1.24. The page title is "[AirRouter] - Network". The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The browser's toolbar shows a search box, Logins, and various icons for Amex, AmazonStoreCard, ATIC login, FMHII, FIFMH, ROC Foru, News, and Weather. The AirRouter interface has a navigation menu with tabs for MAIN, WIRELESS, NETWORK, ADVANCED, SERVICES, and SYSTEM. The NETWORK tab is selected. The page title is "air Router" and the logo "airOS™" is in the top right. The page has a "Tools:" dropdown and a "Logout" button. The main content area is divided into sections: "Network Role" with "Network Mode" set to "Bridge" and "Disable Network" set to "None"; "Configuration Mode" with "Configuration Mode" set to "Simple"; and "Management Network Settings" with "Management IP Address" set to "Static", "IP Address" set to "192.168.1.24", "Netmask" set to "255.255.255.0", "Gateway IP" set to "192.168.1.1", "Primary DNS IP" set to "192.168.1.1", "Secondary DNS IP" set to "192.168.1.1", "MTU" set to "1500", and checkboxes for "Management VLAN", "Auto IP Aliasing", and "STP" all set to "Disable". A "Change" button is at the bottom right. A red text overlay on the right side of the page reads "AirRouter Network Tab - fmhii WAP". At the bottom left is a "GENUINE PRODUCT" logo, and at the bottom right is the copyright notice "© Copyright 2006-2013 Ubiquiti Networks, Inc."

Wireless Tab with security example uncheck the Show box with new password
Hit Change button and apply - reboots in 10 seconds

The screenshot shows a web browser window displaying the AirRouter configuration page. The browser's address bar shows the URL `https://192.168.1.24`. The page title is "[AirRouter] - Wireless". The browser's address bar also shows a "Cert..." warning. The browser's menu bar includes "File", "Edit", "View", "Favorites", "Tools", and "Help". The browser's toolbar includes "RoboForm", "Search", "Logins", "192.168.1.24 fmhii AirRouter...", "mark@mark-i...", "Save", "Generate", and "Sync". The browser's bookmarks bar includes "Amex", "AmazonStoreCard", "ATC login", "FMHII", "F I F M H", "ROC Foru", "News", "Weather", "MidFL ROC", "FLAROC", and "FLAROC EC".

The AirRouter web interface has a navigation menu with tabs: "MAIN", "WIRELESS", "NETWORK", "ADVANCED", "SERVICES", and "SYSTEM". The "WIRELESS" tab is selected. The page title is "air Router" and the logo "airOS™" is in the top right. The "Tools:" dropdown is set to "Tools:" and the "Logout" button is visible.

The "Basic Wireless Settings" section includes the following options:

- Wireless Mode: Access Point
- WDS (Transparent Bridge Mode): Enable
- SSID: fmhii Hide SSID
- Country Code: United States
- IEEE 802.11 Mode: B/G/N mixed
- Channel Width: 20 MHz
- Channel Shifting: Disable
- Frequency, MHz: Auto
- Extension Channel: None
- Frequency List, MHz: Enable
- Auto Adjust to EIRP Limit: Enable
- Output Power: 20 dBm
- Data Rate Module: Default
- Max TX Rate, Mbps: MCS 7 - 65 Automatic

The "Wireless Security" section includes the following options:

- Security: WPA2
- WPA Authentication: PSK
- WPA Preshared Key: fmhirocks Show
- MAC ACL: Enable

A "Change" button is located at the bottom right of the settings area.

A red text overlay on the right side of the page reads: "AirRouter Wireless Tab fmhii WAP with WPA2 security".

At the bottom of the page, there is a "GENUINE PRODUCT" logo and a copyright notice: "© Copyright 2006-2013 Ubiquiti Networks, Inc." The browser's status bar shows "100%" zoom.

Advanced Tab

The screenshot shows a web browser window displaying the AirRouter configuration page. The browser's address bar shows the URL `https://192.168.1.24`. The page title is "[AirRouter] - Advan...". The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The browser's toolbar shows a search box, Logins, and various icons for Amex, AmazonStoreCard, ATIC login, FMHII, FIFMH, ROC Foru, News, and Weather. The AirRouter interface has a navigation menu with tabs for MAIN, WIRELESS, NETWORK, ADVANCED, SERVICES, and SYSTEM. The "ADVANCED" tab is selected. The page title is "airRouter" and the logo "airOS™" is in the top right. The "Tools:" dropdown is set to "Tools:" and there is a "Logout" button. The "Advanced Wireless Settings" section includes: RTS Threshold: 2346, Off; Distance: 0.4 miles (0.6 km), Auto Adjust; Aggregation: 32 Frames, 50000 Bytes, Enable; Multicast Data: Allow All; Multicast Enhancement: Enable; Installer EIRP Control: Enable; Extra Reporting: Enable; Client Isolation: Enable; Sensitivity Threshold, dBm: -96, Off. The "Advanced Ethernet Settings" section includes: LAN0 Speed: Auto; LAN1 Speed: Auto. A "Change" button is at the bottom right. A "GENUINE PRODUCT" logo is at the bottom left. The copyright notice is "© Copyright 2006-2013 Ubiquiti Networks, Inc." The browser's status bar shows "100%".

**AirRouter
Advanced Tab -
fmhii WAP**

Services Tab

The screenshot shows the AirRouter web interface with the 'SERVICES' tab selected. The interface includes a navigation menu at the top with options like MAIN, WIRELESS, NETWORK, ADVANCED, SERVICES, and SYSTEM. Below the menu, there are several configuration sections:

- Ping Watchdog:** Includes checkboxes for 'Enable', input fields for 'IP Address To Ping', 'Ping Interval' (300 seconds), 'Startup Delay' (300 seconds), 'Failure Count To Reboot' (3), and a 'Save Support Info' checkbox.
- SNMP Agent:** Includes checkboxes for 'Enable', an input field for 'SNMP Community' (public), and input fields for 'Contact' and 'Location'.
- Web Server:** Includes checkboxes for 'Web Server' and 'Secure Connection (HTTPS)', input fields for 'Secure Server Port' (443), 'Server Port' (80), and 'Session Timeout' (15 minutes).
- SSH Server:** Includes checkboxes for 'SSH Server' and 'Password Authentication', an input field for 'Server Port' (22), and an 'Authorized Keys' button.
- Telnet Server:** Includes checkboxes for 'Telnet Server' and an input field for 'Server Port' (23).
- NTP Client:** Includes checkboxes for 'NTP Client' and an input field for 'NTP Server' (0.ubnt.pool.ntp.org).
- Dynamic DNS:** Includes checkboxes for 'Dynamic DNS', input fields for 'Host Name', 'Username', and 'Password', and a 'Show' checkbox.
- System Log:** Includes checkboxes for 'System Log' and 'Remote Log', an input field for 'Remote Log IP Address', and an input field for 'Remote Log Port' (514).
- Device Discovery:** This section is partially visible at the bottom of the page.

A large red watermark is centered on the page, reading: **AirRouter Services Tab - fmhii WAP**

Systems Tab

The screenshot shows a web browser window displaying the AirRouter configuration page. The browser's address bar shows the URL <https://192.168.1.24>. The page title is "[AirRouter] - System". The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The browser's toolbar shows a search box, Logins, and several bookmarks including Amex, AmazonStoreCard, ATIC login, FMHII, FIFMH, ROC Foru, News, and Weather. The AirRouter interface has a navigation menu with tabs for MAIN, WIRELESS, NETWORK, ADVANCED, SERVICES, and SYSTEM. The SYSTEM tab is active, and the page title is "air OS". The page content is organized into several sections:

- Firmware Update:** Shows Firmware Version: XM.v5.5.6, Build Number: 17762, and an option to Check for Updates.
- Device:** Shows Device Name: AirRouter and Interface Language: English.
- Date Settings:** Shows Time Zone: (GMT-05:00) Eastern Sta, Startup Date: Enable, and Startup Date: 07/11/2013.
- System Accounts:** Shows Administrator Username: ubnt and Read-Only Account: Enable.
- Miscellaneous:** Shows Reset Button: Enable and airMAX Technology Features: Enable.
- Location:** Shows Latitude and Longitude input fields.
- Device Maintenance:** Shows Reboot Device: Reboot... and Support Info: Download... buttons.
- Configuration Management:** Shows Back Up Configuration: Download..., Upload Configuration: Browse..., and Reset to Factory Defaults: Reset... buttons.

A red watermark "AirRouter System Tab - fmhii WAP" is overlaid on the right side of the page. The browser's status bar at the bottom shows 100% zoom.

Systems Tab Tools (pull down) Site Survey

The screenshot shows the AirRouter web interface in Internet Explorer. The main page is titled 'air Router' and has a navigation menu with tabs: MAIN, WIRELESS, NETWORK, ADVANCED, SERVICES, and SYSTEM. A 'Tools:' dropdown menu is open, with a blue arrow pointing to it. Below the navigation is a 'Firmware Update' section with fields for 'Firmware Version: XM.v5.5.6' and 'Build Number: 17762', and an 'Upload Firmware:' section with a 'Browse...' button. A 'Logout' button is also visible.

Overlaid on the bottom is a 'Site Survey' window. The URL is 'https://192.168.1.24/survey.cgi?mode=tool'. It shows a 'Certificate error' and a list of scanned frequencies: 2.412GHz, 2.417GHz, 2.422GHz, 2.427GHz, 2.432GHz, 2.437GHz, 2.442GHz, 2.447GHz, 2.452GHz, 2.457GHz, 2.462GHz. Below this is a table with the following data:

MAC Address	SSID	Device Name	Encryption	Signal / Noise, dBm	Frequency, GHz	Channel
00:0F:66:75:61:50	MarkShaw		NONE	-70 / -92	2.437	6
00:27:22:CE:34:D8	MarkS	UBNT	NONE	-65 / -92	2.462	11

A 'Scan' button is located at the bottom right of the survey window. At the bottom of the entire screenshot, the text 'AirRouter Tools - Site Survey - fmhii WAP' is written in red.

Main Tab

The screenshot shows the AirRouter web interface in a browser window. The browser address bar shows the URL <https://192.168.1.24>. The page title is "[AirRouter] - Main". The browser's address bar contains several bookmarks: Amex, AmazonStoreCard, ATIC login, FMHII, F I F M H, ROC Foru, News, and Weather. The AirRouter interface has a navigation menu with tabs: MAIN, WIRELESS, NETWORK, ADVANCED, SERVICES, and SYSTEM. The "Tools" dropdown is set to "Tools:" and there is a "Logout" button. The "Status" section displays the following information:

Device Name: AirRouter	AP MAC: DC:9F:DB:06:69:EC
Network Mode: Bridge	Connections: 1
Wireless Mode: Access Point	Noise Floor: -93 dBm
SSID: fmhii	Transmit CCQ: 100 %
Security: none	airMAX: Disabled
Version: v5.5.6	
Uptime: 00:32:26	
Date: 2013-07-12 12:47:52	
Channel/Frequency: 1 / 2412 MHz	
Channel Width: 20 MHz	
Distance: 0.4 miles (0.6 km)	
TX/RX Chains: 1X1	
WLAN0 MAC: DC:9F:DB:06:69:EC	
LAN0 MAC: DC:9F:DB:07:69:EC	
LAN1 MAC: DE:9F:DB:07:69:EC	
LAN0 / LAN1: 100Mbps-Full / Unplugged	

The "Monitor" section includes links for [Throughput](#), [Stations](#), [Interfaces](#), [ARP Table](#), [Bridge Table](#), [Routes](#), and [Log](#). There are two line graphs showing throughput in kbps:

- WLAN0:** RX: 347bps, TX: 678bps. The graph shows a peak in TX around 16 kbps and RX around 14 kbps.
- LAN0:** RX: 4.00kbps, TX: 11.3kbps. The graph shows a peak in TX around 28 kbps and RX around 10 kbps.

A "Refresh" button is located below the LAN0 graph. At the bottom of the page, there is a "GENUINE PRODUCT" logo and a copyright notice: "© Copyright 2006-2013 Ubiquiti Networks, Inc." The browser zoom level is set to 100%.

**AirRouter Main Tab - fmhii
WAP (Wireless Access Point)**

Main Tab

AirRouter Main Tab - Monitor - Stations - fmhii WAP

Show's who is connected

The screenshot shows the AirRouter web interface with the 'Monitor' tab selected. The interface includes a navigation menu (MAIN, WIRELESS, NETWORK, ADVANCED, SERVICES, SYSTEM) and a 'Status' section with various device details. Below the status is a 'Monitor' section with a table of connected stations. The table has columns for Station MAC, Device Name, Signal / Noise, dBm, TX/RX, Mbps, CCQ, %, Connection Time, Last IP, and Action. A single station is listed with MAC D0:DF:9A:FB:38:76, IP 192.168.1.112, and a 'kick' action. A 'Refresh' button is located below the table. Red text and blue arrows point to the 'Monitor' tab, the table, and the 'kick' button.

Station MAC	Device Name	Signal / Noise, dBm	TX/RX, Mbps	CCQ, %	Connection Time	Last IP	Action
D0:DF:9A:FB:38:76		-35 / -93	65 / 65	100	00:00:36	192.168.1.112	kick

Main Tab Monitor - Stations double click station MAC for station information

AirRouter Main Tab - Monitor - Stations - fmhii WAP

Show's wh

AirRouter Main Tab - Monitor - Stations - double click station MAC fmhii WAP

Station Info: D0:DF:9A:FB:38:76 - Windows Internet Explorer

Station	D0:DF:9A:FB:38:76	[1]
Device Name:		Negotiated Rate
Connection Time: 00:08:08		MCS0
Signal Strength: -35 dBm		MCS1
Noise Floor: -93 dBm		MCS2
CCQ: 100%		MCS3
Last IP: 192.168.1.112		MCS4
TX/RX Rate: 1.0 Mbps / 65.0 Mbps		MCS5
TX/RX Bit Rate: 0.00 bps / 0.00 bps		MCS6
TX/RX Packets: 878 / 801		MCS7
TX/RX Packet Rate, pps: 0 / 0		
Bytes Transmitted: 948648 (926.41 kBytes)		
Bytes Received: 100193 (97.84 kBytes)		