

Wi-Fi Tutorial

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What is Wi-Fi? Connect Anytime, Anywhere

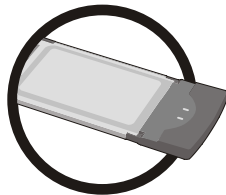
Wi-Fi or Wireless Fidelity is an established world-wide networking standard which incorporates the use of radio waves to link computers and other network devices together. All TRENDnet wireless products meet these standards to provide seamless connectivity with compatible products. TRENDnet offers a complete wireless LAN solution that allows users to experience freedom and flexibility in a wire-free environment.

- Allows you to instantly create a home or office network without running cables
- Allows you to share high-speed Internet wirelessly
- Listen to streaming audio and view video
- Synchronize and uplink mobile devices

Basic Wi-Fi Products

PC cards transform your laptop into a wireless communication station anywhere there is a Wi-Fi signal. Share files, an Internet connection, or other network devices wirelessly. The software utility used is responsible for managing different wireless profiles as well as establishing the wireless connection.

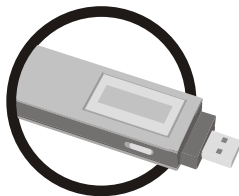
TEW-601PC



- Provide wireless connectivity to laptop computers
- Hot-Swappable
- Built-in Antenna
- Slim and Sleek form factor for Portability

Universal Serial Bus (USB) adapters provide wireless connectivity through USB ports on your system. USB ports are widely adopted technology and available in virtually all PCs, making hardware installation quick and easy.

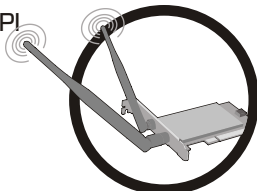
TEW-509UB



- Easy Installation
- Plug-n-Play
- USB - Widely Adopted Standard
- Flexible Installation with Desktop or Laptop

PCI adapters empower your desktop to conduct wireless communication. The standard Peripheral Component Interconnect (PCI) interface allows you to upgrade your PC to a wireless workstation in a matter of minutes. Make your desktop PC the center of your digital home with wireless technology.

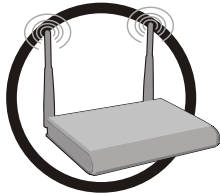
TEW-603PI



- Upgradeable Antenna
- Robust and Reliable Communication
- Interoperable with World-wide Industry Standards
- Secure and Tamper-proof installation

Routers provide the all-in-one wireless networking solution. Share your single broadband account among multiple client workstations and allow multiple computers access to the Internet simultaneously. Routers also bridge the gap between wired and wireless communications with an integrated multi-port switch. Moreover, routers come with a built-in firewall, protecting users from malicious attacks.

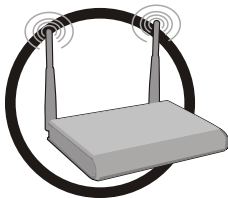
TEW-611BRP



- Ideal for home or small office environments
- Compatible with ADSL or Cable Modems
- Supports multiple operating systems
- Firewall Protection for unauthorized access
- Support for Special Online Gaming Applications

Access Points are an essential requirement for the Wi-Fi enabled network. They extend your wireless coverage throughout your home or office. In addition, access points ensure reliable data communication to surrounding wireless devices.

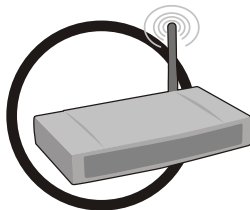
TEW-610APB



- Protects wireless communication with data encryption
- Extends wired network
- Expands wireless coverage
- Transparent bridging between wired and wireless networks
- Provides concurrent wireless access

Print servers are designed to conveniently share your printers between network computers. They provide the flexibility of printing virtually anywhere within the wired or Wi-Fi enabled network. With centralized Print Servers, you can replace inefficient host-based printing solutions.

TEW-P21G



- Broad Printer Support
- Compact and Stand-alone
- Wide Operating System Support
- Built-in wireless data security

IP cameras are stand-alone surveillance systems that provide remote monitoring for personal or business applications. They deliver real-time video images to your network or through the Internet. The freedom to choose between multiple recording methods provides advanced functionality and configurability to any network application.

TV-IP300W



- View Multiple Cameras Simultaneously
- Supports Common Internet Connection Types
- Indoor/Outdoor applications
- Wired or Wireless Security
- Adjustable Video Settings
- Detachable Antennas

Wi-Fi Standards and Benefits

IEEE 802.11 is an IEEE (Institute of Electrical and Electronic Engineers) standard that specifies wireless communications via 2.4GHz at speeds of 1~2Mbps. This standard was ratified in 1997 with the release of several different wireless products, but it wasn't until IEEE 802.11b came that the people started to see the benefits of wireless technology.

IEEE 802.11b was ratified in 1999 and produced the speed required for efficient wireless Internet access. With its 11Mbps speed enhancement and larger wireless coverage the wireless era began. It is the most widely adopted and available Wi-Fi standard in the market today.

IEEE 802.11g was ratified in 2003 but was widely adopted before standardization. Some larger corporations like Cisco held off with product releases until standardization was complete. 802.11g now boosts wireless speeds to 54Mbps enabling faster file sharing and more efficient wireless communications.

IEEE 802.11a was ratified in 1999 but products weren't seen until 2001. 802.11a was the first wireless technology that featured 54Mbps of throughput. Instead of the 2.4GHz frequency, 802.11a used the 5GHz frequency band to avoid interference with the numerous amounts of 2.4GHz devices that overpopulated the market. At first release, 802.11a showed minimal success due to the short range of coverage and international regulations, but in response, the wireless industry improved on the technology until it held performance characteristics more related to 802.11b.

Wi-Fi Standards

	802.11b	802.11a	802.11g	802.11n
Year Standardized	1999	1999	2003	Projected 2006
Frequency	2.4 GHz	5 GHz	2.4GHz	2.4 GHz
Wireless Speeds	11Mbps	54Mbps	54Mbps	250Mbps+
Real World Speeds	4~6 Mbps	15~22Mbps	15~22Mbps	At Least 100Mbps
Indoor Range	30~50 Meters	30~50 Meters	30~50 Meters	150 Meters+
Interoperable Standards	802.11g	N/A	802.11b	802.11b/g
Advantages	Interoperable With 802.11g Inexpensive	Reduced Wi-Fi Interference More Non-Overlapping Channels	Interoperable With 802.11b High Speed Wireless Data Communication	Incremental Increase In Speed and Coverage
Ideal Solution For	Home Users Connecting To The Internet Wirelessly	Home/Office Users Experiencing Interference With Existing 802.11b/g Wireless Networks	Home/Office Users Needing Faster Local Network Access For Multimedia Applications	N/A
HotSpots Available	Yes	No	Yes	N/A

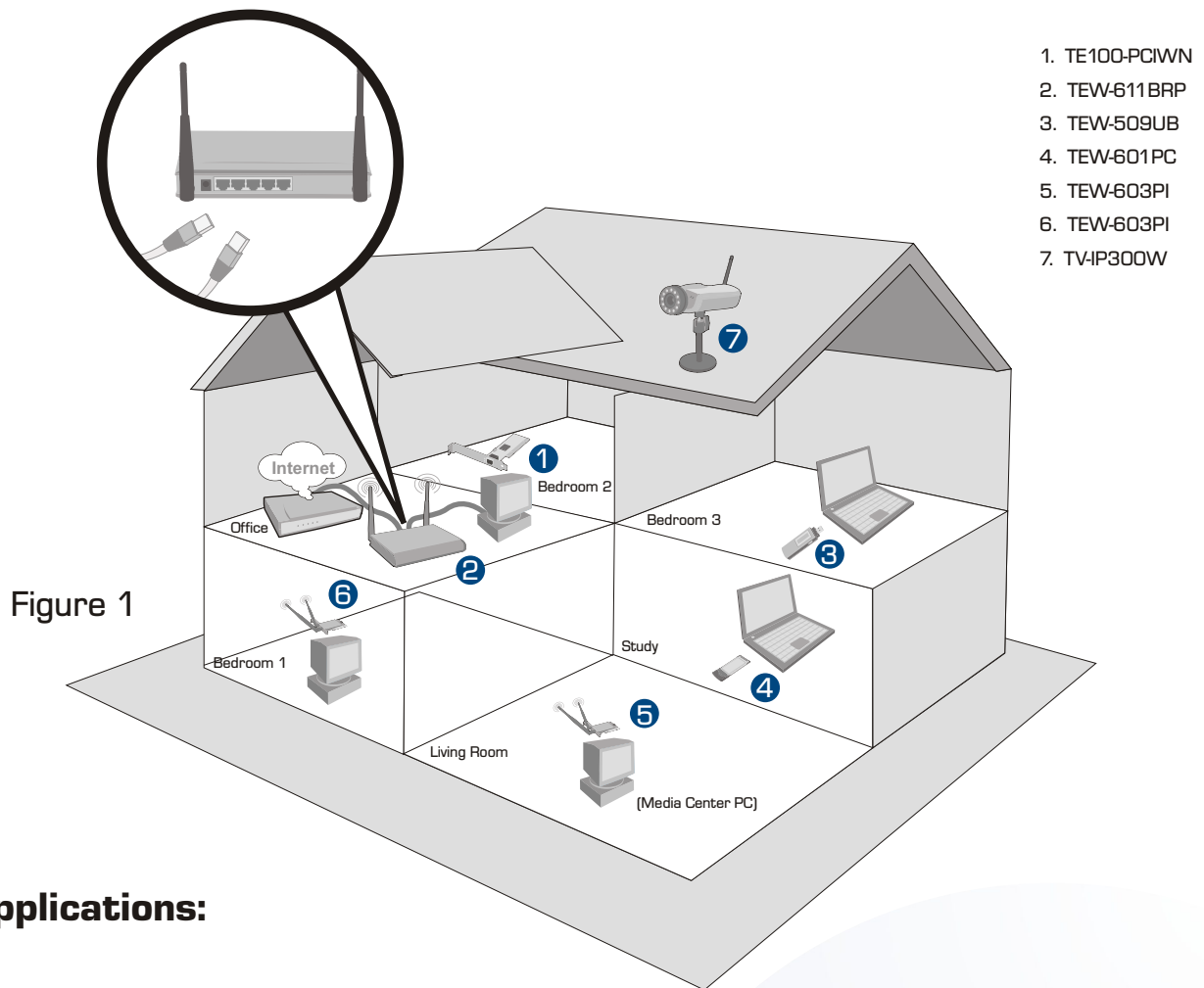
Range and Speed Enhancements

In addition to the IEEE 802.11 standards you often find range and speed enhancement technologies referred to as MIMO, XR and Super G. MIMO is a term classifying all products that utilize the special Multiple Input Multiple Output Antenna implementations. The technology uses multiple antennas to increase the range and speed performance of your wireless signal. With MIMO technology the user can get up to 800% more coverage than regular 802.11g. XR stands for eXtended Range and increases the range of your wireless signal by increasing the sensitivity of the wireless client and router. And finally, Super G is a product family that supports 108Mbps speed enhancement features. Super G MIMO, Super AG and regular Super G all have the ability of using Turbo Mode to connect at 108Mbps speeds.

Security Features

Protecting your data over a wireless network is important to businesses and home users alike. It is important to ALWAYS set-up your wireless connection with some level of protection. The most common security is WEP (Wired Equivalent Protocol) and allows a user to set a password of different lengths to secure your network. It adds some security, but a savvy hacker can easily break the encryption. As a result, WPA (Wi-Fi Protected Access) was created and offers a higher level of security than WEP by combining authentication and encryption. Regardless of the security you choose, remember all of the computers must use the same password or pre-shared key to be on the network. For more information on the security visit the glossary at the end of the tutorial.

Set-up Guide



1. TE100-PC1WN
2. TEW-611BRP
3. TEW-509UB
4. TEW-601PC
5. TEW-603PI
6. TEW-603PI
7. TVIP300W

Wi-Fi Applications:

HOME:

Imagine sharing an Internet connection anywhere in your home without drilling holes or managing network cables. Imagine placing a network device anywhere in your home for your family and friends to easily access and share. Now think Wi-Fi.

TRENDnet would like to offer a few basic home applications to suit your needs. See Figure 1 above to get a picture of how TRENDnet Wi-Fi products can be configured in the home.

Share an Internet Connection

One purpose of having a wireless home network is to share an Internet connection. Because households typically have one broadband connection, only one computer can have access to the World Wide Web. If you wanted to have another computer to access the Internet, you could consider purchasing another broadband connection from your ISP. However, broadband lines are expensive, and if you consider the monthly payments for each broadband line you purchase, the costs are overwhelming. Thankfully, wireless routers provide a cost efficient solution to share one broadband Internet connection. By connecting your broadband line to a wireless router, several computers can connect to the Internet simultaneously without incurring additional costs. Installation is greatly simplified because you don't need extra cables to connect additional computers to the router. The wireless router sends out a radio signal that connects other wireless clients to the Internet.

Share Printers

You can also share a printer or other network resources wirelessly. Have one computer connected to your wireless router, install a printer on the same computer and enable print sharing. Now anyone in your wireless network can print Word documents, spread sheets, pictures, or any other file. You can also share disk space over your wireless network by sharing a hard drive with wireless clients. If wireless clients run out of disk space, they can simply store pictures, music, video, or any file on shared hard drives within the wireless LAN.

MOBILE ROAD WARRIOR:

In the age of information technology, experts conclude that Wi-Fi technology is an unstoppable trend that influences the market of future products. Cellular phones which are normally used for voice applications have transformed into data processors, accessing sports highlights, headline news, and email from family and friends. Hot Spots are locations that offer wireless Internet access and are widely available in places such as coffee houses or airports, delivering continuous connectivity to thousands of mobile travelers world-wide (see Figure 2).

Since all wireless hot spots conform to industry standards, you can immediately get wireless connectivity to the Internet. Simply install the wireless utility, insert your adapter into your laptop, and allow your adapter to locate an available wireless connection. Roam freely from location to location and continue to work with a cup of coffee while you wait for your flight's departure.

You can also share files directly with other mobile road warriors. Exchange Word documents, pictures, eBusiness Cards, and other files with family and business partners, and share them securely. The wireless configuration utility offers standard encryption methods to transfer files between wireless clients to safely deliver sensitive data to exclusive users.

The demand to connect at anytime and at any location continues to grow, and the market has responded by providing a variety of wireless products to get each consumer connected. TRENDnet desires to connect you personally to the world of wireless technology by unveiling the benefits of mobile computing. Let TRENDnet empower you to be a competent, mobile road warrior.

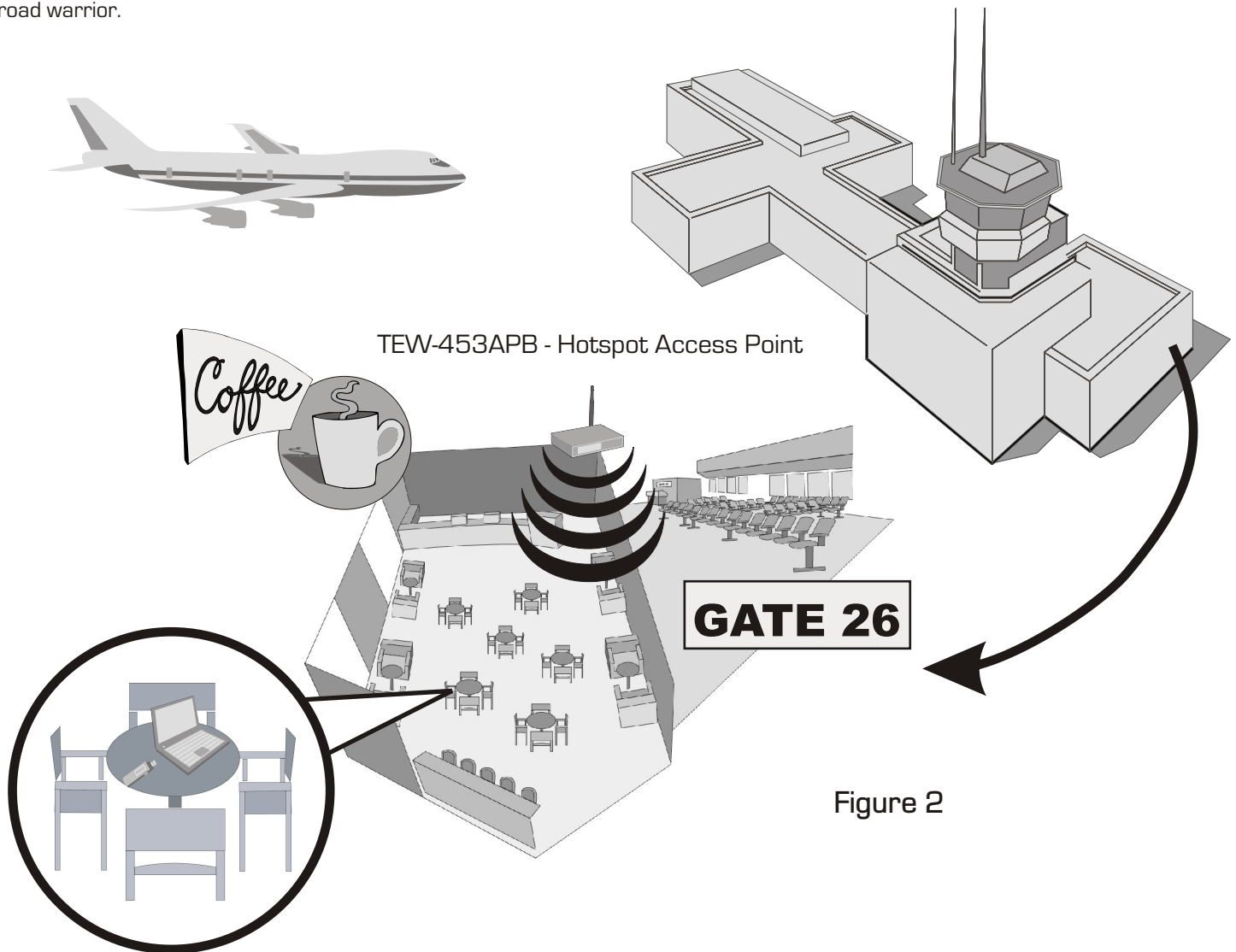


Figure 2

TEW-509UB - Locate & Connect to Wi-Fi Hotspots

OFFICE:

Ergonomics and efficiency have always been the primary factors for accomplishing any task. Whether you are writing a formal report or structuring a task schedule for product management, accessing or storing resources in an organized fashion makes complex tasks a whole lot simpler.

Free-Up Work Space

That is why Wi-Fi technology is perfect for office applications. With wireless technology, you can move network devices at any location, centralizing accessibility for you and other users. If there is a need for rearrangement like moving a worker at a different location, such a move provides very minimal hassle because a wireless PC does not require a wired network connection. By using a wireless infrastructure for your office, you will gain flexibility in positioning network devices and also improve productivity in your office.

Increase Productivity





You can start improving productivity by centralizing access to your office's printers. Normally, offices like to keep two or more printers just in case one printer runs out of toner or breaks down. If one printer fails, the user can simply switch to another printer and print out the document. However, would every user know the location of each printer? Shared printers are normally connected to another user's workstation, but not every user will know which workstation has the shared printer. This will cause a user to call other users and ask whether or not they know the location of a specific shared printer. This cycle could go on indefinitely until the user finds the printer's location, but during the search, a lot of productivity has been lost. What solution does TRENDnet provide to centralize the location of a network printer?

TRENDnet offers a whole product line of wireless network print servers that allow you to place your printer at any location. Simply connect your printers into a print server and configure the print server to communicate with your wireless access point or router. By allowing your print server to wirelessly communicate, you can assign a designated area for printers at one centralized location. If a printer fails, any user can simply switch to the next printer and go to the same location to access printed documents. You do not have to worry about which printer is connected to what workstation. All printers are installed in one location. All users can access documents at one location. Productivity improves because users do not have to call other users for printer locations, and accessibility improves because printers are ergonomically positioned for central access.





(TRENDnet Wi-Fi Product Line Continued on next page)

TRENDnet Wi-Fi Product Line





Wireless - PC Adapters (Laptop)

PC Adapters	Wi-Fi Standards	Wi-Fi Speed	Security	OS Compatibility	Speed / Range Enhancement	Indoor Range	Standout Features
 TEW-601PC	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS WPA2	Windows 2000/XP (SP1/SP2)/2003 Server	Super G / MIMO	100~150 Meters	MIMO Allows Users To Avoid Wireless Interference, Providing Superior Wi-Fi Coverage
 TEW-501PC	IEEE 802.11a IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 2000/XP (SP1/SP2)/2003 Server	Super AG / XR	50~100 Meters	Support For IEEE 802.11a & Super AG 108Mbps Speeds
 TEW-441PC	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	Super G / XR	30~50 Meters	Detachable Antenna Allows For External Antenna Applications
 TEW-421PC	IEEE 802.11b IEEE 802.11g	54Mbps	WEP WPA	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	N/A	30~50 Meters	Detachable Antenna Allows For External Antenna Applications






Wireless - USB Adapters (Laptop or Desktop)

USB Adapters	Wi-Fi Standards	Wi-Fi Speed	Security	OS Compatibility	Speed / Range Enhancement	Indoor Range	Standout Features
 TEW-509UB	IEEE 802.11a IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS WPA2	Windows 2000/XP (SP1/SP2)/2003 Server	Super AG / XR	100~150 Meters	Hotspot Locator With LCD Display Locate IEEE 802.11a/b/g Networks Rechargeable Battery Via USB 2.0 Port
 TEW-504UB	IEEE 802.11a IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 2000/XP (SP1/SP2)/2003 Server	Super AG / XR	50~100 Meters	Support For IEEE 802.11a & Super AG 108Mbps Speeds
 TEW-444UB	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	Super G / XR	50~100 Meters	Software Diagnostic Utilities
 TEW-429UB	IEEE 802.11b IEEE 802.11g	54Mbps	WEP WPA WPA RADIUS	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	N/A	30~50 Meters	Hotspot Locator With LCD Display Locate IEEE 802.11b/g Networks Rechargeable Battery Via USB 2.0 Port

Wireless - PCI Adapters (Desktops)

PCI Adapters	Wi-Fi Standards	Wi-Fi Speed	Security	OS Compatibility	Speed / Range Enhancement	Indoor Range	Standout Features
 TEW-603PI	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS WPA2	Windows 2000/XP (SP1/SP2)/2003 Server	Super G / MIMO	100~150 Meters	MIMO Allows Users To Avoid Wireless Interference, Providing Superior Wi-Fi Coverage
 TEW-503PI	IEEE 802.11a IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 2000/XP (SP1/SP2)/2003 Server	Super AG / XR	50~100 Meters	Support For IEEE 802.11a & Super AG 108Mbps Speeds
 TEW-443PI	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	Super G / XR	50~100 Meters	Detachable Antenna Allows For External Antenna Applications
 TEW-423PI	IEEE 802.11b IEEE 802.11g	54Mbps	WEP WPA	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	N/A	30~50 Meters	Detachable Antenna Allows For External Antenna Applications







Wireless - Access Point (Extend Wi-Fi Coverage)

Access Points	Wi-Fi Standards	Wi-Fi Speed	Security	OS Compatibility	Speed / Range Enhancement	WDS	Bridge	Client AP	Indoor Range	Standout Features	Picture Guided Installation
 TEW-610APB	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS WPA2	Windows 95/98/NT/2000/XP Linux and Mac OS	Super G / MIMO	Yes	No	No	100~150 Meters	MIMO Access Point Featuring WDS	Yes
 TEW-510APB	IEEE 802.11a IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 95/98/NT/2000/XP Linux and Mac OS	Super AG / XR	Yes	No	Yes	50~100 Meters	Wireless Client Isolation For Added Privacy Supports The 5GHz Frequency Band Reducing Environmental Noise	Yes
 TEW-453APB	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 95/98/NT/2000/XP Linux and Mac OS	Super G / XR	Yes	Yes	Yes	50~100 Meters	HotSpot Capable Simultaneous Access Point/Bridge Functionality	Yes
 TEW-450APB	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 95/98/NT/2000/XP Linux and Mac OS	Super G / XR	Yes	Yes	Yes	50~100 Meters	AP Client Mode Allows Users To Connect Non- Wireless Devices To The Wireless Network (e.g. XBOX, PS2, Game Cube)	Yes
 TEW-430APB	IEEE 802.11b IEEE 802.11g	54Mbps	WEP WPA WPA RADIUS	Windows 95/98/NT/2000/XP Linux and Mac OS	N/A	Yes	No	No	30~50 meters	Lockable Configuration Adding Enhanced Security	Yes





Wireless - Routers (Share the Internet)

Routers	Wi-Fi Standards	Wi-Fi Speed	Security	OS Compatibility	Speed / Range Enhancement	WDS	Bridge	Client AP	Indoor Range	Standout Features	Picture Guided Installation
 TEW-611BRP	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS WPA2	Windows 95/98/NT/2000/XP Linux and Mac OS	Super G / MIMO	Yes	No	No	100~150 Meters	Wi-Fi On/Off Switch QoS - Like Configurations Pre-Configured Gaming Configurations	Yes
 TEW-511BRP	IEEE 802.11a IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 95/98/NT/2000/XP Linux and Mac OS	Super AG / XR	No	No	No	50~100 Meters	QoS Flow Control	Yes
 TEW-452BRP	IEEE 802.11b IEEE 802.11g	54Mbps 108Mbps	WEP WPA WPA RADIUS	Windows 95/98/NT/2000/XP Linux and Mac OS	Super G / XR	No	No	No	50~100 Meters	Attack Alerts Via Email	Yes
 TEW-435BRM	IEEE 802.11b IEEE 802.11g	54Mbps	WEP WPA	Windows 95/98/NT/2000/XP Linux and Mac OS	N/A	No	No	No	30~50 Meters	Built-in ADSL Modem	Yes
 TEW-432BRP	IEEE 802.11b IEEE 802.11g	54Mbps	WEP WPA WPA RADIUS	Windows 95/98/NT/2000/XP Linux and Mac OS	N/A	No	No	No	30~50 Meters	IP Filter For Controlled Network Access	Yes
 TEW-431BRP	IEEE 802.11b IEEE 802.11g	54Mbps	WEP WPA	Windows 95/98/NT/2000/XP Linux and Mac OS	N/A	No	No	No	30~50 Meters	URL Filter For Controlled Internet Access	Yes

Wireless - Print Servers (Share Your Printers)

Print Servers	Wi-Fi Standards	Wi-Fi Speed	Security	OS Compatibility	Indoor Range	Picture Guided Installation	Current Applications
 TEW-P1PG	IEEE 802.11b IEEE 802.11g	54Mbps	WEP WPA	Windows 95/98(SE)/ME/NT/2000 /XP/2003 Netware 5.x NDPS LPR Remote Printing (TCP/IP) HP-UX Unix, Sun OS, Solaris, SCO Unix, AIX Unixware, Linux & Mac OS (AppleTalk)	30~50 Meters	Yes	Home/Office Users Sharing A Single Parrallel Printer
 TEW-P1UG	IEEE 802.11b IEEE 802.11g	54Mbps	WEP WPA	Windows 95/98(SE)/ME/NT/2000 /XP/2003 Netware 5.x NDPS LPR Remote Printing (TCP/IP) HP-UX Unix, Sun OS, Solaris, SCO Unix, AIX Unixware, Linux & Mac OS (AppleTalk)	30~50 Meters	Yes	Home/Office Users Sharing A Single USB Printer
 TEW-P21G	IEEE 802.11g IEEE 802.11b	54Mbps	WEP WPA	Windows 95/98(SE)/ME/NT/2000 /XP/2003 Netware 5.x NDPS LPR Remote Printing (TCP/IP) HP-UX Unix, Sun OS, Solaris, SCO Unix, AIX Unixware, Linux & Mac OS (AppleTalk)	30~50 Meters	Yes	Home/Office Users Sharing Two Parrallel And A Single USB Printer
 TEW-PS1U	IEEE 802.11b	11Mbps	WEP	Windows 95/98(SE)/ME/NT/2000 /XP/2003 Netware 5.x NDPS LPR Remote Printing (TCP/IP) HP-UX Unix, Sun OS, Solaris, SCO Unix, AIX Unixware, Linux & Mac OS (AppleTalk)	30~50 Meters	Yes	Home/Office Users Sharing A Single USB Printer
 TEW-P1P	IEEE 802.11b	11Mbps	WEP	Windows 95/98(SE)/ME/NT/2000 /XP/2003 Netware 5.x NDPS LPR Remote Printing (TCP/IP) HP-UX Unix, Sun OS, Solaris, SCO Unix, AIX Unixware, Linux & Mac OS (AppleTalk)	30~50 Meters	Yes	Home/Office Users Sharing A Single Parrallel Printer
 TEW-P1U1P	IEEE 802.11b	11Mbps	WEP	Windows 95/98(SE)/ME/NT/2000 /XP/2003 Netware 5.x NDPS LPR Remote Printing (TCP/IP) HP-UX Unix, Sun OS, Solaris, SCO Unix, AIX Unixware, Linux & Mac OS (AppleTalk)	30~50 Meters	Yes	Home/Office Users Sharing One USB And One Parrallel Printer

Wireless - Internet Cameras [Monitor your home or office remotely]

Internet Cameras	Wi-Fi Standards	Wi-Fi Speed	OS Compatibility	Indoor Range	Outdoor Range	Standout Features	Picture Guided Installation	Security	Current Applications
 TV-IP400W	IEEE 802.11b IEEE 802.11g	54Mbps	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	30~50 Meters	100 Meters	Pan/Tilt/Digital Zoom Capabilities	Yes	WEP WPA- PSK(Wen's Checking)	Office/Business Surveillance & Monitoring Home Users Monitoring Children
 TV-IP300W	IEEE 802.11b IEEE 802.11g	54Mbps	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	30~50 Meters	100 Meters	Day/Night Operation Via Night vision LEDs	Yes	WEP	Home/Office Users Needing An All-In-One Solution Monitoring Day & Night Scenarios
 TV-IP200W	IEEE 802.11b	11Mbps	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	30~50 Meters	100 Meters	View & Monitor 16 Cameras Simultaneously On A Single PC	Yes	WEP	Home/Office Users Needing To Monitor More Than 4 Locations
 TV-IP100W	IEEE 802.11b	11Mbps	Windows 98(SE)/ME/2000/XP (SP1/SP2)/2003 Server	30~50 Meters	100 Meters	Small Form Factor For Inconspicuous Installation	Yes	WEP	Home/Office Everyday Monitoring

Glossary

Term	Definition
Access Point	An access point is a bridging device for connecting a wired and wireless network together. Access points are typically wireless routers or stand-alone devices that plug into an Ethernet hub, switch, or router.
Ad-Hoc Mode	Ad-Hoc Mode is also referred to as a "peer to peer" wireless network. By enabling ad-hoc mode in the wireless client utility, wireless PC's can communicate directly with one another without having to go through an access point.
Authentication	Determines a user's identity, as well as determining what a user is authorized to access, e.g. a financial database or a support knowledgebase. The most common form of authentication is user name and password, although this also provides the lowest level of security.
Bridging	Bridging is a dedicated wireless link between two or more access points. This wireless link is made when an access point takes the MAC address of the other access point and vice versa.
CCK	CCK (Complimentary Code Keying) is a modulation scheme used with wireless networks (WLANs) that employ the IEEE 802.11b specification. A network using CCK can transfer more data per unit time for a given signal bandwidth than a network using the Barker code, because CCK makes more efficient use of the bit sequences.
dBi	The decibel units used to calculate the gain of an antenna.
DBPSK	DBPSK (Differential Binary Phase Shift Keying) is a modulation technique used by IEEE 802.11-compliant wireless LANs for transmission at 1 Mbps.
DQPSK	DQPSK (Differential Quadrature Phase Shift Keying) is a modulation technique used by IEEE 802.11-compliant wireless LANs for transmission at 2 Mbps.
DSSS	DSSS (Direct-Sequence Spread Spectrum) is a transmission technology used in WLAN (wireless LAN) transmissions where a data signal at the sending station is combined with a higher data rate bit sequence, or chipping code, that divides the user data according to a spreading ratio. The chipping code is a redundant bit pattern for each bit that is transmitted, which increases the signal's resistance to interference. If one or more bits in the pattern are damaged during transmission, the original data can be recovered due to the redundancy of the transmission.
Encryption	Encryption prevents any non-authorized party from reading or changing data. The level of protection provided by encryption is determined by an encryption algorithm.
Gain	An increase in signal power, voltage, or current by an amplifier, expressed as the ratio of output to input.
HotSpot	A Hotspot provides the same functionality as an Access Point, but has added capabilities such as VLAN (Virtual Local Area Network) and multiple SSID broadcasting.
IEEE	IEEE (Institute of Electrical and Electronic Engineers) is an organization that sets system transmission standards. Most products that conform to the IEEE standard assure customers that products will be compatible with other vendor products.
Infrastructure Mode	Infrastructure Mode allows PC's to communicate with one another through the use of an access point. Each laptop or desktop wireless client adapter communicates with the access point, which can in turn provide access to the corporate network or Internet.

Glossary (Continued)

Term	Definition
MIMO	MIMO (Multiple Input Multiple Output) is an antenna technology that uses multiple antennas to minimize errors and optimize data speed.
OFDM	OFDM (Orthogonal Frequency Division Multiplexing) splits the radio signal into multiple smaller sub-signals that are then transmitted simultaneously at different frequencies to the receiver. As a result, large amounts of digital data are transferred over a radio wave. OFDM also reduces the amount of crosstalk in signal transmissions.
Packet	A unit of data sent across a network. When a large block of data is to be sent over a network, it is broken up into several packets, sent, and reassembled at the other end. Packets often include checksum codes to detect transmission errors. The exact layout of an individual packet is determined by the protocol being used.
Repeater	A device (e.g. wireless access point) used in wireless networks to extend wireless coverage by strengthening or repeating Wi-Fi signals.
Reverse SMA	Reverse SMA (also known as Reverse Polarity SMA) is like an SMA connector, but the internal sex is reversed. For example, in a connector where a male pin would normally be present a female receptacle is found.
SMA	SMA (Sub-miniature Type A) is a commonly used RF/Microwave connector. It's standard design interconnects to 12.4 GHz.
SSID	A SSID (Service Set Identifier) is a 32-character alphanumeric key that uniquely identifies a wireless LAN. It is often referred to as the "Network Name". It is used to keep unauthorized wireless equipment from accessing your LAN. To communicate, wireless devices on the same network must be configured with the same SSID.
Turbo Mode	Turbo Mode allows an access point to transmit wireless signals at 108Mbps.
WEP	WEP (Wired Equivalent Protocol) is a security protocol used to encrypt data transmitted over a wireless network. WEP has three settings: Off (no security), 64-bit (weak security), 128-bit (a bit better security). WEP uses four encryption keys that can be changed periodically to make traffic more difficult to intercept. All devices on the network must use the same encryption (keys).
WPA	WPA (Wi-Fi Protected Access) is a higher level of security than WEP that combines encryption and authentication to create an unbreakable level of protection. A WPA-PSK (WPA Pre-shared Key) is set up on each network device, so that packets sent over a wireless network are encrypted using TKIP (Temporal Key Integrity Protocol).
XR	XR (eXtended Range) allows a wireless access point to provide better wireless coverage, eliminating indoor dead spots.