

Installing the ExtremeWireless TS-524 Switch and TW-5xx WallPlate

Overview of the TS-524 and TW-5xx WallPlate

The TW-5xx Series Wired/Wireless WallPlate is designed for multi-tenant buildings such as hotels, healthcare facilities, apartments, and dormitory housing. The TW-5xx is designed to leverage the in-building telephone wiring to deploy Ethernet and wireless LAN networks without the effort and expense of re-wiring with structured cabling.

This Quick Reference guide applies to:

TS-524 (P/N TS-0524-WR),

TW-522 (P/N TW-0522-67030-US, -EU, -WR),

TW-511 (P/N TW-0511-60010-US, -EU, -WR), and TW-510 (P/N TW-0510-WR).



Warning: Only qualified personnel should perform installation procedures.

- Read all installation instructions and site survey reports, and verify correct equipment installation before installing this equipment.
- Remove jewelry and watches before installing this equipment.
- Verify proper wiring and grounding for each installation location.
- Verify there is adequate ventilation around the device, and that ambient temperatures meet equipment operation specifications (0° to 40°C / 32° to 104°F except TW-522 which is 0° to 35°C / 32° to 95°F).

TS-524 and TW-5xx Specifications

Table 1 Specifications

Wireless Interface	TW-511: Single radio; 802.11a/b/g/n; 2.4GHz or 5GHz TW-522: Dual radio; 802.11a/b/g/n/ac; 2.4GHz and 5GHz
LAN Ethernet port	2 x IEEE 802.3 10/100MB auto-sensing via RJ45
Uplink UTP	1 x VDSL2 via RJ11
Pass through phone port	Filtered RJ11 port
Medium	DSSS, OFDM, MIMO
Network Standards	802.11a/b/g/n, 802.11i, 802.11-2007, 802.11ac (TW-522 only)
Data rates	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS 0-15, up to 300Mbps 802.11ac: MCS 0-9, up to 400Mbps (TW-522 only)
Operating frequencies*	2.4GHz: 2400 to 2483.5MHz 5GHz: 5150 to 5250MHz, 5725 to 5850MHz
Transmit power settings*	1 to 20dBm in 1dBm increments
Antenna configuration	Two internal omni-directional, 1x2 or 2x2 MIMO operation 3dBi peak @ 2.4GHz, 5dBi @ 5GHz

*Operating frequencies and transmit power settings depend on national regulatory limits.

Table 2 Specifications

TS-524 VLANs	802.1 Q tagged VLANs, access or trunk
TS-524 Management	Telnet, SSH, HTTPS, or serial console
TS-524 Uplink ports	2 x IEEE 802.3 10/100/1000MB auto-sensing via RJ45
TS-524 UTP ports	1 x RJ21 for PBX connection, 1 x RJ21 for downstream VDSL2

Installing In-line Filters

The TW-5xx Wallplate features a built-in Plain Old Telephone Service (POTS) and Line Power filter for the desk phone. Install an in-line filter on all other phone jacks that will have a phone connected.

The terminated filter has a clipped RJ11 connector. This is purposely done to comply with EN60950 requirements. Use a small flat blade screwdriver to lift the tab if attempting to remove the filter.

Figure 1 In-line terminated filter



If installing a filter on a bathroom phone, use the unterminated filter. Remove the bathroom wall plate and terminate the filter in the wall box using wire beans.

Figure 2 In-line unterminated filter



Installing the TW-5xx WallPlate

- 1 Loosen the screws on the existing wall plate to create a gap of 6mm (1/4 in).
- 2 Attach the mounting adapter using the keyhole slots.

Figure 3 Installing the WallPlate



- 3 Tighten the screws until the mounting adapter is securely attached.



Caution: Do not over tighten.

- 4 Connect the supplied 10cm cable between the TW-5xx bottom mounted RJ11 jack and the existing RJ11 jack.
- 5 Hook the bottom tabs on the mounting adapter to the TW-5xx. Rotate and snap the TW-5xx onto the adapter.

Network Configuration (TS-524)

The following will enable all ports and configure one wireless LAN:

Log in to the system using Telnet, SSH, HTTP, or Serial Console using the default username and password:

Username: **admin**

Password: **admin123**

Enter the following commands:

```
config
password admin <enter your new password>
country-code <xx = your country>
hostname <enter your hostname>
interface vlan1 ip-address 192.168.1.1/24
wlan Guest
exit
```

```
int dsl1-24 no shutdown
```

```
int radio1-24.1
```

```
channel 6
```

```
power 18
```

```
wlan Guest
```

```
no shutdown
```

```
exit
```

Enabling Line Power

Line power should be enabled after the filters and TW-5xx WallPlate have been installed. Line power is safe for use with telephony equipment but it will ring the phones if the filters are not installed first.

To enable line power, enter the following commands into the CLI:

```
interface dsl1-24 line-power
```

```
write memory
```

Regulatory and Compliance Information

This guide applies to Model Numbers: TS-524, TW-510, TW-511, and TW-522.

All Extreme devices are designed to be compliant with rules and regulations in locations where they are sold and will be labeled as required.

Local language translations are available at the following website:

www.extremenetworks.com/support/

Any changes or modifications to Extreme equipment, not expressly approved by Extreme, could void the user's authority to operate the equipment. When Extreme Networks devices are professionally installed, the Radio Frequency Output Power will not exceed the maximum allowable limit for the country of operation.

Antennas: Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could cause damage and may violate regulations.

Radio Modules

The TW-511 contains an approved radio module. This module is identified below: 802.11 a/b/g/n WLAN, Type: TW-5

Wireless Device Country Approvals

Regulatory markings, subject to certification, are applied to the device signifying the radio(s) is/are approved for use in the following countries: United States, Canada, Japan, China, S. Korea, Australia, and Europe.

Please refer to the Declaration of Conformity (DoC) for details of other country markings. This is available at: www.extremenetworks.com



Note: Europe includes, Austria, Belgium, Bulgaria, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.



Caution: Operation of the device without regulatory approval is illegal.

Country Selection

Select only the country in which you are using the device. Any other selection will make the operation of this device illegal. The US version of the Access Point will operate only if US country code is selected. The US version will be sold / used in the US protectorates: American Samoa, Guam, Northern Marianas, Puerto Rico, US Virgin Islands.

Frequency of Operation – FCC and IC

5 GHz Only

The use in the UNII (Unlicensed National Information Infrastructure) band 1 (5150-5250 MHz) is restricted to Indoor Use Only; any other use will make the operation of this device illegal.

Industry Canada Notice:



Caution: The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-Channel mobile satellite systems. High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

Avertissement:

Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bands 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

2.4 GHz Only

The available channels for 802.11bg operation in the US are Channels 1 to 11. The range of channels is limited by firmware.

Health and Safety Recommendations

This section contains notices that are intended to protect your personal safety and prevent damage to the equipment.

TS-524 Only



Warning: For installation only in a Restricted Access Location by trained service personnel.



Warning: Equipment must be connected to an earthed mains socket-outlet.



Warning: To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.



Warning: Voltages present which are above TNV-3 (POTS) limits. A cover must be installed over the punch down blocks with a HV (High Voltage) warning label (supplied).

The maximum operating ambient temperature is 40 degrees Celsius. When installing the Switch in an equipment rack, consider the following potential hazards:

- Elevated Operating Ambient Temperature - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient. Therefore consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (T_{ma}).
- Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on over current protection and supply wiring.
- Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

Product designed to be used below 2000 meters altitude.

仅适用于海拔2000米以下地区安全使用

TW-510, TW-511 and TW-522

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- 1 Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
- 2 Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- 3 Do not use the telephone to report a gas leak in the vicinity of the leak.

Warnings for the use of Wireless Devices



Warning: Please observe all warning notices with regard to the usage of wireless devices.

Potentially Hazardous Atmospheres – Fixed Installations

You are reminded of the need to observe restrictions on the use of radio devices in fuel depots, chemical plants etc. and areas where the air contains chemicals or particles (such as grain, dust, or metal powders).

Safety in Hospitals

Wireless devices transmit radio frequency energy and may affect medical electrical equipment. When installed adjacent to other equipment, it is advised to verify that the adjacent equipment is not adversely affected.

Pacemakers

Pacemaker manufacturers recommended that a minimum of 15cm (6 inches) be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Persons with Pacemakers:

- Should ALWAYS keep the device more than 15cm (6 inches) from their pacemaker when turned ON.
- Should not carry the device in a breast pocket.
- Should use the ear furthest from the pacemaker to minimize the potential for interference.
- If you have any reason to suspect that interference is taking place, turn OFF your device.

Other Medical Devices

Please consult your physician or the manufacturer of the medical device, to determine if the operation of your wireless product may interfere with the medical device.

The use of 5 GHz WLAN's, for use in the US , have the following restrictions

- Notched Band 5.60 - 5.65 GHz

Radio Frequency Interference Requirements - Canada

This Class A digital apparatus complies with Canadian ICES-003.

Radio Transmitters - (TW-511 and TW-522 Only)

For RLAN Devices:

The use of 5 GHz RLAN's, for use in Canada, have the following restrictions:

- Restricted Band 5.60 - 5.65 GHz

L'utilisation de RLAN de 5 GHz, pour utilisation au Canada est soumise aux restrictions suivantes:

- Bande Restreinte de 5,60 à 5,65 GHz

This device complies with RSS 210 of Industry Canada. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Label Marking: The Term "IC:" before the radio certification only signifies that Industry Canada technical specifications were met.

- 2 When this product has reached the end of its serviceable life, it cannot be disposed of as unsorted municipal waste. It must be collected and treated separately.
- 3 It has been determined by the European Parliament that there are potential negative effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.
- 4 It is the users' responsibility to utilize the available collection system to ensure WEEE is properly treated. For information about the available collection system, please contact Extreme Customer Support at 353 61 705500 (Ireland).

TURKISH WEEE Statement of Compliance

EEE Yönetmeliğine Uygundur

Japan (VCCI) - Voluntary Control Council for Interference

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

Chinese Warning Statement for Class A ITE

警告

此为A级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对干扰采取切实可行的措施。

Other Countries

Australia

Use of 5GHz RLAN's in Australia is restricted in the following band 5.50 – 5.65GHz.

Brazil

Declarações Regulamentares para TW-511 - Brazil

Nota: A marca de certificação se aplica ao Transceptor, modelo TW-511. Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Para maiores informações sobre ANATEL consulte o site: www.anatel.gov.br

Mexico

Restrict Frequency Range to: 2.450 - 2.4835 GHz.

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

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www.extremenetworks.com/support/



European Waste Electrical and Electronic Equipment (WEEE) Notice



In accordance with Directive 2012/19/EU of the European Parliament on waste electrical and electronic equipment (WEEE):

- 1 The symbol above indicates that separate collection of electrical and electronic equipment is required.

Extreme Wireless™ WiNG™ Access Points

Quick Reference