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no shutdown Connect the supplied 10cm cable between the TW-51x bottom mounted RJ11 jack and the existing RJ11 jack. Hook the bottom tabs on the mounting adapter to the TW-51x. Rotate and snap the TW-51x onto the adapter.



**CAUTION** Do not over tighten

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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





TS-524 Switch and TW-5xx WallPlate Installation Guide password admin <enter your new password> Network Configuration (TS-524) Enter the following commands: usemame and password: Password: motorola Username: admin config situations buildings such as hotels, healthcare facilities, apartments, and dormitory housing. The TW-51x is designed to leverage the in-building telephone wiring to deploy Ethernet and wireless LAN networks without the effort and expense of re-wiring Loosen the screws on the existing wall plate to create a gap of 6mm (1/4 in). Attach the mounting adapter using the keyhole slots. **Document Conventions** with structured cabling. This installation guide applies to TS-524 (P/N TS-0524-WR), TW-511 (P/N TW-0511-60010-US, -EU, -WR), and TW-510 (P/N TW-0510-WR). Introduction he following graphical alerts are used in this document to indicate notable he Motorola TW-51x Series Wired/Wireless WallPlate is designed for multi-tenant-Tighten the screws until the mounting adapter is securely attached **NOTE** Tips, hints, or special requirements that you should take note of oss or equipment malfunction **CAUTION** Care is required. Disregarding a caution can result in data

Installing the TW-51x WallPlate

TS-524 and TW-5xx Specifications

Wireless Interface

LAN Ethernet port

 $2 \times IEEE 802.3 \ 10/100MB \ auto-sensing via RJ-45$ Single radio; 802.11a/b/g/n; 2.4GHz or 5GHz

Pass through phone port

Filtered RJ11 port

1 x RJ11 UTP, VDSL2

DSSS, OFDM, MIMO

Uplink UTP

Standards Medium

802.11a, 802.11b, 802.11g, 802.11n draft 2.0, 802.11i, 802.11-2007

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 to 15 up to 300Mbps

-- Z

filter for the desk phone. Install an in-line filter on all other phone jacks that will have a phone

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.

The TW-5x Wallplate features a built-in Plain Old Telephone Setvice (POTS) and Line Power

Installing In-line Filters

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

Serial Console Connection	Default IP Address
Speed: 19200	192.168.1.3
Data Bits: 8	
Parity: None	
Stop Bit: 1	
Flow Control: None	

Log in to the system using Telnet, SSH, HTTP, or Serial Console using the default

interface vlan1 ip-address 192.168.1.1/24 nostname <*enter your hostname>* country-code <xx = your country> wlan Guest

int ds11-24 no shutdown int radio1-24.

wlan Guest channel 6 power 18







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http://www.motorolasolutions.com

installed. Line power is safe for use with telephony equipment but it will ring the Line power should be enabled after the filters and TW-51x WallPlate have been phones if the filters are not installed first.

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

interface ds11-24 line-power

### Regulatory Information

This device is approved under Motorola Solutions, Inc.

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

http://www.motorolasolutions.com/support.
Any changes or modifications to Motorola Solutions equipment, not expressly approved by Motorola Solutions. Solutions, could void the user's authority to operate the equipment. When Motorola Solutions 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: Motorola Solutions, Inc. 802.11 a/b/g/n WLAN, Type: TW-5

## Wireless Device Country Approvals (TW-511 only)

Please refer to the Declaration of Conformity (DoC) for details of other country markings. This is available at Regulatory markings, subject to certification, are applied to the device signifying the radiols) is/are approved or use in the following countries: United States, Canada, Japan, China, S. Korea, Australia, and Europe.

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.

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MOTOROLA Verify there is adequate ventilation around the device, and that ambient temperatures meet equipment operation specifications (0° to 40° Celsius / 32° to 104° Fahrenheit). Verify proper wiring and grounding for each installation location Remove jewelry and watches before installing this equipment





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Read all installation instructions and site survey reports, and verify correct equipment

installation before installing this equipment

This equipment should only be installed by qualified professional installers

personal injury or equipment damage.

WARNING! Indicates a condition or procedure that could result in

Warnings

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

TS-524 uplink ports TS-524 management

 $2\,x$  IEEE 802.3 10/100/1000MB auto-sensing RJ-45

1 x RJ21 for PBX connection, 1 x RJ21 for downstream VDSL2

TS-524 UTP ports

VLANs

Antenna configuration

3dBi peak @ 2.4GHz

Two internal omni-directional, 1x2 or 2x2 MIMO operation

802.1 Q tagged VLANS, access or trunk

Telnet, SSH, HTTPS, Serial Console

Transmit power settings\*

Operating frequencies\*

5GHz: 5150 to 5250MHz, 5725 to 5850MHz

1dBm to 20dBm, in 1dBm increments

2.4GHz: 2400 to 2483.5MHz



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 selectied. The US version will be sold / used in the US protectorates: American Samoa, Guam, Northern Marianas, Puerto Rico, US Virgin Islands. Country Selection

### 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 Statement:

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 dispositive fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une de réduire les risques de brouillage préjudiciable aux systèmes de satellites utilisation à l'intérieur afin de réduire 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 802.11 b/g operation in the US are Channels 1 to 11. The range of channels is limited by firmware.

### Health and Safety Recommendations

### General Safety Warnings

TS-524 Only

For installation only in a Restricted Access Location by trained service personnel. WARNING: Equipment must be connected to an earthed mains socket-outlet. WARNING:

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).

WARNING: The maximum operating ambient temperature is 40 degrees Celcius. 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 (Tmra).

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 overcurrent 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

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 and TW-511 Wallplates

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:

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 Use of Wireless Devices

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 DFF 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.



### RF Exposure Guidelines (TW-511 Only)

### Reducing RF Exposure - Use Properly

Only operate this device in accordance with the instructions supplied.

International (TW-511 Only)

The device complies with internationally recognized standards covering human exposure to electromagnetic fields from radio devices. For information on "International" human exposure to electromagnetic fields refer to the Motorola Declaration of Conformity (DoC) at

For further information on the safety of RF energy from wireless devices - see http://www.motorolasolutions.com,

### y.motorolasolutions.com/index.php/ourapproach/wirelesscommhealth EU (TW-511 Only)

To comply with EU RF exposure requirements, antennas that are mounted externally at remote locations or operating near users at stand-alone desktop of similar configurations must operate with a minimum separation distance of 20 cm from all persons. Remote and Standalone Antenna Configurations

### US and Canada (TW-511 Only)

### Co-located statement

To comply with FCC RF exposure compliance requirement, the antenna used for this transmitter must not be co-located or operating in conjunction with any other transmitter/antenna except those already approved in this filling.

## Remote and Standalone Antenna Confiugrations

To comply with FCC RF exposure requirements, antennas that are mounted externally at remote locations or operating near users at stand-alone desktop of similar configurations must operate with a minimum separation distance of 20 cm from all persons.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the PCC rules. These limits are designed to provide reasonable protection against parmitul interference when the equipment is operated in commercial environment. This equipment generates, uses, and can radiate radiol requency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Radio Frequency Interference Requirements - FCC

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## Radio Transmitters (Part 15) - (TW-511 Only)

This device complies with Part 15 of the FCC Rules. 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.

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 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 undestried operation.

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

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



WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. The use of 2.46Hz RLANs, for use through the EEA, have the following restrictions:

• Maximum radiated transmit power of 100 mW EIRP in the frequency range 2.400 -2.4835 GHz.

• Italy requires a user license for outside usage.

• Statement of Compliance for Wireless Devices (TW-511 Only)

Statement of Compiliance for Non-Wireless Devices (TS-524 and TW-510)

Motorola hereby declares that this device is in compliance with all the applicable Directives, 2004/108/EC and 2006/95/EC. A Declaration of Conformity may be obtained from Motorola hereby declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A Declaration of Conformity may be obtained from



## Waste Electrical and Electronic Equipment (WEEE)

**English:** For EU Customers: All products at the end of their life must be returned to Motorola for recycling. For information on how to return product, please go to: http://www.motorola.com/recycling/weee.

Français: Clients de l'Union Européenne: Tous les produits en fin de cycle de vie doivent être retoumés à Motorola pour recyclage. Pour de plus amples informations sur le retour de produits, consultez : http://www.motorola.com/recycling/weee.

**Españoi:** Para clientes en la Unión Europea; todos los productos deberán entregarse a Motorola al final de su ciclo de vida para que sean reciclados. Si desea más información sobre cómo devolver un producto, visite: http:/

Bulgarish: За клиснти от Е.С. След края на полезния им живот всички продукти трябва да се връщат на Motorola за рециклиране. За информация относно връщането на продукти, моля отпатете на адрес: http://www.motorola.com/recycling/weee.

Deutsch: Für Kunden innerhelb der EU: Alle Produkte müssen am Ende ihrer Lebensdauer zum Recycling an Motorola zurückgesendt werden. Informationen zur Rücksendung von Produkten finden Sie unter http://

**Italiano:** per i clienti dell'UE: tutti i prodotti che sono giunti al termine del rispettivo ciclo di vita devono essere restituiti a Motorola al fine di consentirne il riciclaggio. Per informazioni sulle modalità di restituzione, visitare il seguente sito Web: http://www.motorola.com/recycling/weee.

Português: Para clientes da UE: todos os produtos no fim de vida devem ser devolvidos à Motorola para reciclagem. Para obter informações sobre como devolver o produto, visite: http://www.motorola.com/ recycling/weee.

**Nederlands:** Voor klanten in de EU: alle producten dienen aan het einde van hun levensduur naar Motorola te worden teruggezonden voor recycling. Raadpleeg http://www.motorola.com/recycling/weee voor meer informatie over het terugzenden van producten.

**Polski**: Klienci z obszaru Unii Europejskiej: Produkty wycofane z eksploatacji nale*zy* zwróciæ do firmy Motorola w celu ich utylizacji. Informacje na temat zwrotu produktów znajduj¹ siê na stronie internetowej http:// www.motorola.com/recycling/weee.

Eesti: EL klientidele: kõik tooted tuleb nende eluea lõppedes tagastada taaskasutamise eesmärgil Motorola'ile. Čeština: Pro zákazniky z EU: Všechny produkty je nutné po skonèení jejich životnosti vrátit spoleėnosti Motorola k recyklaci. Informace o způsobu vrácení produktu najdete na webové stránce: http://www.motorola.com/recycling/weee. Lisainformatsiooni saamiseks toote tagastamise kohta külastage palun aadressi: http://www.motorola.com/

Magyar: Az EU-ban vásárlóknak. Minden tönkrement terméket a Motorola vállalathoz kell eljuttatni újrahasznosítás céljából. A termék visszajuttatásának módjával kapcsolatos tudnivalókért látogasson el a http://www.motorola.com/recycling/weee weboldalra.

Suomi: Asiakkaat Euroopan unionin alueella: Kaikki tuotteet on palautettava kierrätettäväksi Motorola-yhtiöör kun tuotetta ei enää käytetä. Lisätietoja tuotteen palauttamisesta on osoitteessa http://www.motorola.com/ **Svenska:** För kunder inom EU: Alla produkter som uppnått sin livslängd måste retumeras till Motorola för återvinning. Information om hur du retumerar produkten finns på http://www.motorola.com/recycling/weee. recycling/weee.

**Dansk:** Til kunder i EU: Alle produkter skal returneres til Motorola til recirkulering, når de er udtjent. Læs oplysningerne om returnering af produkter på: http://www.motorola.com/recycling/weee.

Ελληνικά: Για πελάτες στην Ε.Ε.: Όλα τα προϊόντα, στο τέλος της διάρκειας ζωής τους, πρέπει να επιστρέφονται στην Motorola για ανακύκλωση. Για περισσότερες πληροφορίες σχετικά με την επιστροφή ενός προϊόντος, επισκεφθείτε τη διεύθυνση http:// www.motorola.com/recycling/weee στο Διαδίκτυο.

Matti: Ghal kiijenti fI-UE: iI-prodotti kollha li jkunu waslu fI-ahhar tal-hajja ta' I-uzu taghhom, indu jigu rritornati ghand Motorola ghar-riciklagg. Ghal aktar taghrif dwar kif ghandek tirritorna I-prodott, jekk joghgbok zur: http://www.motorola.com/recycling/weee.

Românesc: Pentru clienții din UE: Toate produsele, la sfârșitul duratei lor de funcționare, trebuie returnate la Motorola pentru reciclare. Pentru informații despre returnarea produsului accesați: http://www.motorola.com/recycling/weee. Slovenski: Za kupce v EU: vsi izdelki se morajo po poteku življenjske dobe vrniti podjetju Motorola za reciklažo Za informacije o vra?ilu izdelka obiš?ite: http://www.motorola.com/recycling/weee.

životnosti vrátené spoločnosti Motorola na recykláciu. Bližšie informácie o vrátení výrobkov Slovenčina: Pre zákazníkov z krajín EU: Všetky výrobky musia byť po uplynutí doby ich nájdete na. http://www.motorola.com/recycling/weee.

**Lietuvių**: ES vartotojams: visi gaminiai, pasibaigus jų eksploatacijos laikui, turi būti gražinti utilizuoti į kompanija "Motorola". Daugiau informacijos, kaip grąžinti gaminį, rasite: http://www.motorola.com/recycling/weee. **Latviešu:** ES klientiem: visi produkti pēc to kalpošanas mūža beigām ir jānogādā atpakaļ Motorola otrreizējai pārstrādei. Lai iegūtu informāojiu par produktu nogādāšanu Motorola, lūdzu, skatiet: http://www.motorola.com/recycling/weee.

**Türkçe:** AB Müşterileri için: Kullanım süresi dolan tüm ürünler geri dönüştürme için Motorola'ya iade edilmelidir. Ürünlerin nasıl iade edileceği hakkında bilgi için lütfen şu adresi ziyaret edin: http://www.motorola.com/recycling/weee.

## Turkish WEEE Statement of Compliance

EEE Yönetmeliğine Uygundur

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## lapan (VCCI) - Voluntary Control Council for Interference

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 VCCI-A 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 対策を講ずるよう要求されることがあります。

## Chinese Warning Statement for Class A ITE

此为A级产品,在生活环境中,该产品可能会造成无形电干扰。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

of 5 GHz RLAN's in Australia is restricted in the following band 5.50 - 5.65GHz Use of 5 **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: <a href="https://www.anatel.gov.br">www.anatel.gov.br</a>.

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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## **Motorola Solutions Support Center**

If you have a problem with your equipment, contact support for your region. Contact information is available at: <a href="http://www.motoroli">http://www.motoroli</a>

When contacting Motorola Solutions support, please provide the following information:

- Serial number of the unit
- Model number or product name
- Software type and version number

limits set forth in support agreements. If you purchased your product from a Motorola Solutions business partner, contact that business partner for support. Motorola Solutions responds to calls by e-mail, telephone, or fax within the time

**Customer Support Web Sites** 

The Motorola Solutions Support Central Web site, located at: http://supportcentral.motorolasolutions.com/

provides information and online assistance including developer tools, software downloads, product manuals and online repair requests.

Manuals

http://supportcentral.motorolasolutions.com/support/product/manuals.do

General Information

Obtain additional information by contacting Motorola Solutions at:

Telephone (North America): 1-800-722-6234

Telephone (International): +1-631-738-5200

Website: http://www.motorolasolutions.com

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