

## IMPORTANT!

This Guide refers to the following Products:



Please Refer To Page 3  
For Full List Of WDS  
Capable Devices

## A Guide To Wireless Bridging (WDS)

Please read the following carefully;

### Synopsis:

The following Guide is designed to give you an understanding of what is meant by the terms 'Wireless Bridge' and 'WDS'.

This Guide will also provides a graphical overview as to which Belkin Devices support this feature, and then go on to explain how this feature is activated and configured.

### Requirements:

In order to complete the steps as outlined in this Guide and set up a functioning Wireless Bridge you will need the following equipment as a basic minimum;

- At least 2 of the Devices listed on Page 3
- At least one PC with either LAN or WLAN working

This is the minimum required to configure and test the Wireless Bridge to ensure that it is functioning correctly. The amount of equipment required thereafter is dependent on the individual Network requirements.

## A Guide To Wireless Bridging (WDS)

A 'Wireless Bridge' is the name commonly given to the relationship that is formed (wirelessly) between two 'Infrastructure Devices such as Access Points and Routers. The primary function of a 'Wireless Bridge' is to extend the range of an existing Wireless Local Area Network (WLAN).

Wireless Bridging is based on the Wireless Distribution System (WDS) which allows you to make a completely wireless infrastructure. Normally, Access Points must be hardwired to an Ethernet-based LAN. In this way the Access Points allow for a 'wireless' connection to be made to the 'wired' network.

The WDS feature allows Infrastructure Devices such as Access Points and Routers to be 'wirelessly' connected to one another. This feature is normally used in large, open areas such as warehouses where wiring might be restricted or not cost effective, and in some larger home environments.

Wirelessly Bridging multiple Devices that have all been configured to use the same SSID (Service Set Identifier or Wireless Network Name) will allow in effect 'Roaming' for your Wireless Client Adapters. When they are out of range of one device they will automatically connect to another stronger signal.

Wireless Bridges are a very practical, easy, and in most cases inexpensive way to connect two different Ethernet LANs together or extend the range of existing Wireless Networks. They are quick to set up and relatively easy to configure.

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### Note:

The WDS feature is not completely specified in IEEE or WiFi standards. Therefore interoperability between 802.11 products of different Vendors is not guaranteed.

We can only recommend and advise on setting up a Wireless Bridge between the Belkin Devices listed on the following page.

Please take care to note the Version of the Hardware as well as the Model Number as this may change the nature of the devices compatibility with WDS.

The WPA encryption type is not supported over a Wireless Bridge and in such instances WEP is the compatible encryption type.

## Wireless Bridging (WDS) Compatible Devices



**F5D7130 v.1\***



**F5D7130 v.2**



**F5D7230 v.1\***



**F5D7230 v.2**



**F5D7230 v.4\***



**F5D7230 v.6**



**F5D7231 v.1xxx\*\***



**F5D7231 v.2xxx\*\***



**F5D7231-4P\*\***



**F5D7235\*\***



**F5D7632 v.3 & 4**



**F5D7632 v.5 & 6**



**F5D7633\*\***



**F5D9630 v.3**



**F5D9630 v.4**

• Ensure Unit is updated to latest Firmware Version available

\*\* Ensure Unit is updated to latest Firmware Version where applicable and that 125 HSM Mode is disabled.

## Configuring Your Device To Enable Wireless Bridging

All the Devices listed on the previous page offer the option for 'Wireless Bridge' in the Menu of the User Interface, under the heading 'Wireless'. Once selected you will see a page similar to that listed below;

### Wireless > Wireless bridge

Wireless Bridging or Wireless Distribution System (WDS) is used to connect Wireless Routers and Access points together to extend a network.

- 1) Wireless channels must match between Router and AP.
- 2) Security settings (WEP) must match between Router and AP.
- 3) If MAC filtering is enabled, user must be sure to add the WLAN MAC address(es) of the Router/AP in order to allow communication with each other.

**Enable Wireless Bridging.** (enabling this feature allows other Access Points to connect to this Access Point.) **Default is enabled**

**Enable ONLY specific Access Points to connect.** (Enter Wireless MAC Address of AP to connect to. If this Item is not checked, any AP can connect. Note: when connecting APs, at least one needs to call out the MAC address of the other. Hint: the MAC Address can be found using a site survey on a wireless client card.)

|     |                      |   |                      |   |                      |   |                      |   |                      |   |                      |
|-----|----------------------|---|----------------------|---|----------------------|---|----------------------|---|----------------------|---|----------------------|
| AP1 | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> |
| AP2 | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> |
| AP3 | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> |
| AP4 | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> | : | <input type="text"/> |

**Disable ability for Wireless CLIENTS to connect.** (This feature should only be used when the AP is used exclusively to connect wirelessly to other APs.)

Clear Changes

Apply Changes

Please note the restrictions outlined on this page including the need to have all your Wireless Devices using the same Wireless Channel (1-13) and the same Encryption Key. The only supported Encryption Type is WEP.

To enable Wireless Bridging simply tick the first two boxes shown above, 'Enable Wireless Bridging' and 'Enable Only Specific Access Points To Connect'

You will then need to manually enter details regarding the Device you wish to 'bridge' with.

The Wireless Networking Device that you are wishing to ‘bridge’ with has a unique ‘WLAN MAC Address’ that needs to be located (see Product Label) and entered into the Interface of the device being used to set up the ‘bridge’ as shown in the example below.

Please ensure that the WLAN MAC Address from the Product Label is used, and not the LAN MAC Address which is also to be found there.

**Enable Wireless Bridging.** (enabling this feature allows other Access Points to connect to this Access Point.) **Default is enabled**

**Enable ONLY specific Access Points to connect.** (Enter Wireless MAC Address of AP to connect to. If this Item is not checked, any AP can connect. Note: when connecting APs, at least one needs to call out the MAC address of the other. Hint: the MAC Address can be found using a site survey on a wireless client card.)

|            |                                 |   |                                 |   |                                 |   |                                 |   |                                 |   |                                 |
|------------|---------------------------------|---|---------------------------------|---|---------------------------------|---|---------------------------------|---|---------------------------------|---|---------------------------------|
| <b>AP1</b> | <input type="text" value="00"/> | : | <input type="text" value="11"/> | : | <input type="text" value="50"/> | : | <input type="text" value="12"/> | : | <input type="text" value="34"/> | : | <input type="text" value="56"/> |
| <b>AP2</b> | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            |
| <b>AP3</b> | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            |
| <b>AP4</b> | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            | : | <input type="text"/>            |

Once the WLAN MAC Address of the ‘Bridge’ Device has been entered and the new settings applied, the ‘Wireless Bridge’ should be functioning, and a Wireless connection should now be possible between the two devices.

The connection can be tested by either ‘Pinging’ one device from the other or by opening the User Interface of the newly bridged Device. A Device restart may be required.

Please note that the F5D7633 is configured in much the same way but the relevant page of the User Interface looks somewhat different and the MAC Address is entered as shown below;

**Bridge Mode:**

**Remote Bridges MAC Address:**

|                                                |                      |
|------------------------------------------------|----------------------|
| <input type="text" value="00:11:50:12:34:56"/> | <input type="text"/> |
| <input type="text"/>                           | <input type="text"/> |

The F5D7633 also offers an ‘Auto’ discovery option under ‘Wireless Bridge’ which will essentially display a list of Devices on the same Wireless Channel as your main Device that you can choose from. Their MAC Addresses will all be shown and all you have to do is select the ones you’d like to bridge with by ticking the appropriate boxes.