



## HD24613 In-Wall Access Point Installation & Frequency Planning

### Installation:

1. When installing multiple In-Wall Access Points within the same location the integrator should perform a proper site survey of the location before deploying these units. This includes making notes of the building construction material (i.e. wood frame vs. concrete homes, drywall vs. plaster), obstructions (i.e. concrete, metal, mirrors, tinted glass, walls, etc), and any additional devices that may operate within the same frequency (i.e. 2.4 GHz cordless phones, microwave ovens, etc.), also the approximate area of desired coverage (in square feet).
2. Plan the installation with the In-Wall Access Point's output power and capabilities in mind as part of the deployment. Each unit is capable of providing WiFi for approximately 1500 – 2500 sq. feet (dependent upon the construction material of the location and placement of the unit).
3. Plan your network layout for access to each unit with administrative management for each unit. Be sure to change the default user name and password for each access point.
4. Plan your WiFi coverage by using wireless utility software (i.e. Netstumbler, IStumbler, EZ WiFi Radar) and your laptop to gauge the signal strength of available wireless signals in your area.

### Networking and Configuration:

5. Always configure one unit at a time. This allows you to log into each device and program accordingly without interference from additional units. This step also helps to avoid an IP conflict (since all units ship with the same default IP address →192.168.100.1).
6. Obtain a list of useable IP addresses to assign each unit in order to configure the device (and for management purposes).
7. Use unique static IP addresses that are within the network IP range that you are making the device a part of. For example, if your network were a 192.168.0.XXX network, you would have to configure the units to match the IP scheme in all octets (i.e. sample IP addressing for an install with (4) HD24613 units →192.168.0.220, 192.168.0.221, 192.168.0.222, 192.168.0.223, etc).

TIP: Try to use IP addresses that are outside of the DHCP range of addresses since you do not want your In-Wall Access Point to have an IP address conflict with another device on the network.

8. Use the same subnet mask that your network is on. To find this information you may need to look into your network connection properties.



Channel/Frequency Selection:

9. When programming the unit from the Web Based Configuration Utility software built into the device, select the “Advanced Setup” option → select “IEEE 802.11” → “Communication” → “Channel Number”, and select a channel/frequency that is NOT the same as all other In-Wall Access Point.
10. Try to use available channels not currently used by other devices. It is recommended to use the (3) non-overlapping channels (Channels 1, 6, and 11) for the best data rates and to avoid interference with other units.
11. Units installed within close proximity should use the alternating frequency plan:
  - a) Access Point 1 → Channel 1 (or 2412 MHz)
  - b) Access Point 2 → Channel 6 (or 2437 MHz)
  - c) Access Point 3 → Channel 11 (or 2462 MHz)

Repeat Channel Cycling by spacing units out and avoiding installations of units with the same channel within the same area/location of others.

- d) Access Point 4 → Channel 1
- e) Access Point 5 → Channel 6
- f) Access Point 6 → Channel 11

Note: You may need to use other frequencies within the 2.4 GHz band for optimal results (i.e. Channels 1,2,3,4,5,6,7,8,9,10,11).

12. If you wish to create a large roaming network for end users (laptops, desktops, wireless tablets, PDAs, mobile devices, etc.) within the building structure (i.e. large residential home or business) but do not wish to have to set up multiple wireless profiles in their PCs, it is recommended that a single SSID be used. Please make sure that the SSID is the same on all units, and a DIFFERENT channel is programmed into each unit.
13. It is important to understand that these units are quite powerful and may need to be scaled down in power for close installations (i.e. hotel, motel, dormitory, apartment installations). You can access the “Transmit Power” setting by following the flow chart - select the “Advanced Setup” option → select “IEEE 802.11” → “Communication” → “Transmit Power”

TIP: There are five (5) power settings that range from High to Low, and will directly affect the coverage area. Lower power settings are used for close installations, as well as for limiting the area of WiFi coverage that you require.

14. If the Access Points that are installed are achieving a very high (or saturated) signal, there may be interference. Make sure that you have different channels programmed into each device. If the signal is too high, and the unit experiences interference, you may have to reset the unit to its default settings as it will shut off (due to the built in link integrity software).