

Tech Note - Dynamic Pairing For Cinema Applications

By leveraging the Dynamic Pairing feature within a Q-SYS Core design it is possible to hot-swap a failed amplifier or any other hardware peripheral. This could remove the need to have a Q-SYS proficient technician perform the swap and remove the need for any laptop PC during the procedure.

Part 1 – Network Pre-Configuration

A few things need to be configured on the network side before the Dynamic Pairing feature can properly work.

DHCP – A DHCP server must be present on the QLAN network. The purpose of this will be to automatically allocate IP addresses to out-of-the-box replacement peripherals. Some higher grade Layer 3 managed network switches can host a DHCP server internally (DGS-3120). Alternatively, many wireless access points (WAPs) can take on the role of a DHCP server or a small Raspberry PI running ISC-DHCP could live on the QLAN network.

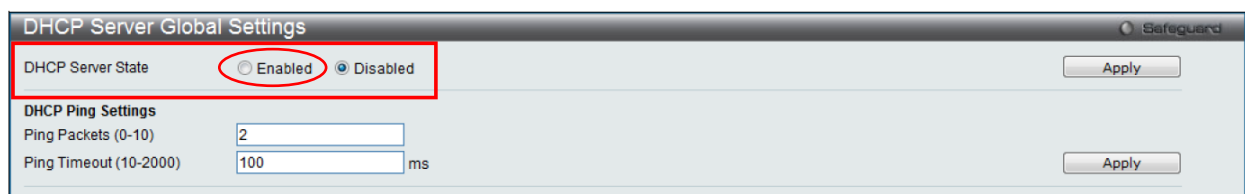
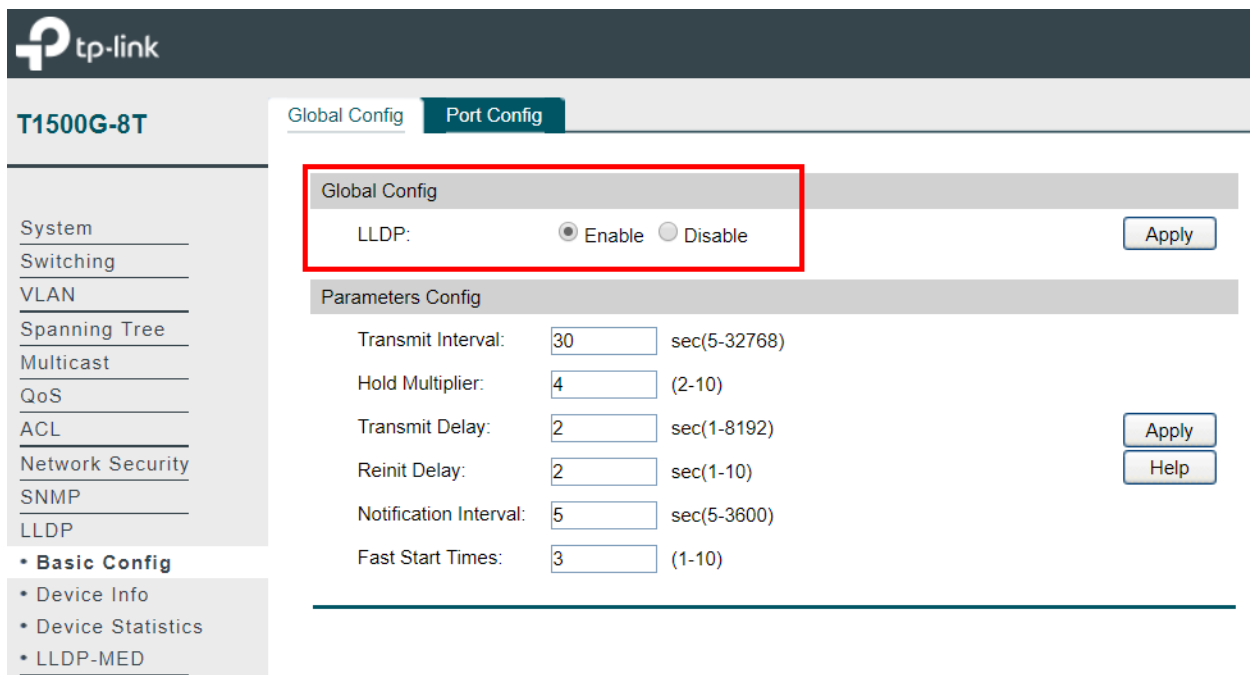


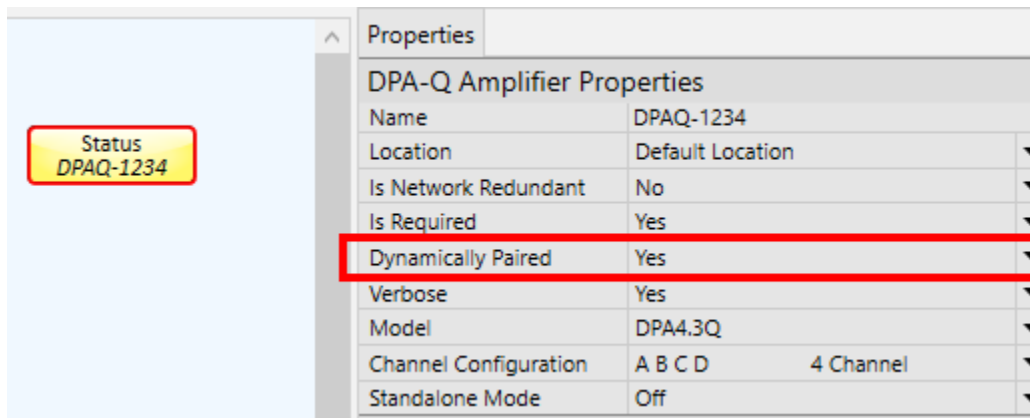
Figure 9-11 DHCP Server Global Settings Window

LLDP – LLDP must be enabled on the QLAN network switch. This will allow the switch to advertise the identities of each of its Ethernet ports.

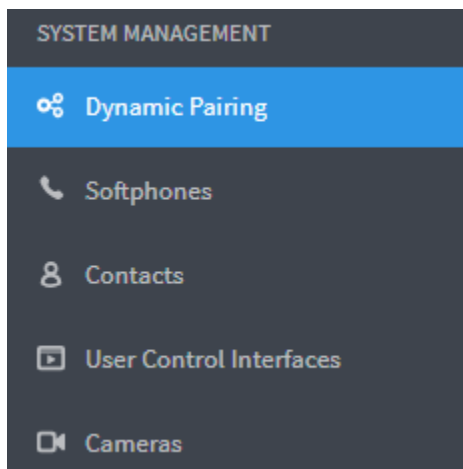


Part 2 – QSYS Design Setup

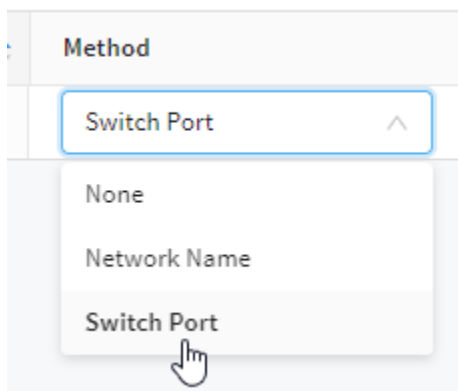
1 .Within the Q-SYS Design in the properties menu set each amplifier or peripheral.



2. Navigate to the Core Manger (formerly QSYS Configurator) -> System Management -> Dynamic Pairing.



3. In the top right are of the menu select **Edit**. Change the Method type to Switch port.



4. In the Pairing Drop down select the unique identifier coming from the switch port. If nothing populates return to the LLPD section of Part 1 – network Pre-Configuration. Once you have selected a **Switch Port** for pairing, Q-SYS will always look for matching hardware plugged into that specific switch port to pair with the virtual component in your design.

Part 3 – Test

You can now do a pin-hole factory reset on any peripheral that has been configured for Dynamic Pairing. This will be a simulation of a hot-swap in the case of a device failure. After about 20seconds the amp will return to its previous mode of operation. The only user interaction that is required is to press the Power button to take it out of the Safety Standby (blue).

