SWITCH X – THE BASICS

The Switch X implements a new way to improve sound and picture by blocking broadcast packet noise from your network from reaching your audio gear. This new method requires some thought and careful implementation to gain the benefits of this new method.

This guide will make it easy. It is _VERY IMPORTANT_ to read this whole guide before purchasing or hooking up a Switch X to be sure to get the full benefits and understand how to deploy and use it. This is a basic guide and more technical info is online

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The switch X has features to vastly lower packet noise and jitter that originates from your network that pollutes your audio/video streams and induces jitter in your gear. EVERY device on your WHOLE house network broadcasts various packets that are vital to running your house network. These packets are sent to EVERY device on the system including your audio gear. This barrage of broadcast packets is forcefully injected into your audio streaming and then picked up by your audio devices where the network chip, bus and cpu of your NAS and Streaming DAC pause and examine these packets. These packets cause jitter in the stream itself and cause jitter in your audio device network interface & CPU.

The Switch X provides a island free of the distractions of city life on your main house network. It does this by creating a isolated remote island cut off from the world. The island has internet but is isolated from the rest of your house network. Devices on the island cannot talk to the house network and all the noise from the house network is blocked. In tech terms it is a NATed space with its own DHCP.

This is critical in audio streaming as only audio packets should be on the audio networking

The Switch X has 2 banks of ports and these have very different uses

ALL ports have the hardware magic like dejittered SFP, CPU and busses. Highly regulated voltages and signals. Extremely low noise Ethernet and SFP signals and low phase noise clocks.

Ports 1-4 are a traditional switch. You may have a switch now you are swapping out. You can use these ports as you would any traditional switch.

Ports 5-8 are the special clean isolated island in its own world apart

Because the island is its own world, it will need its own wifi access point. Not a router or a repeater, but a dedicated access point. Help is available to select this. You will also dedicate a iPad to this for audio use.

The Switch X is VERY flexible in what type of interfaces it uses. It can use optical, Ethernet or a DAC – Direct Attach Cable. SFP modules will need to be picked for your implementation. Help is available to pick these with our experience in which modules sound best.

Always use 1 Gbps SFP modules if you hook to a 1Gbps or less device. Only use a 10Gbps SFP+ module if you hook to a 10Gbps device.

SWITCH X – HOOK UP

NEVER PLUG YOUR HOME NETWORK INTO PORTS 5-8 !
ALWAYS PLUG YOUR HOME NETWORK INTO PORT 4

A typical system is pictured below.
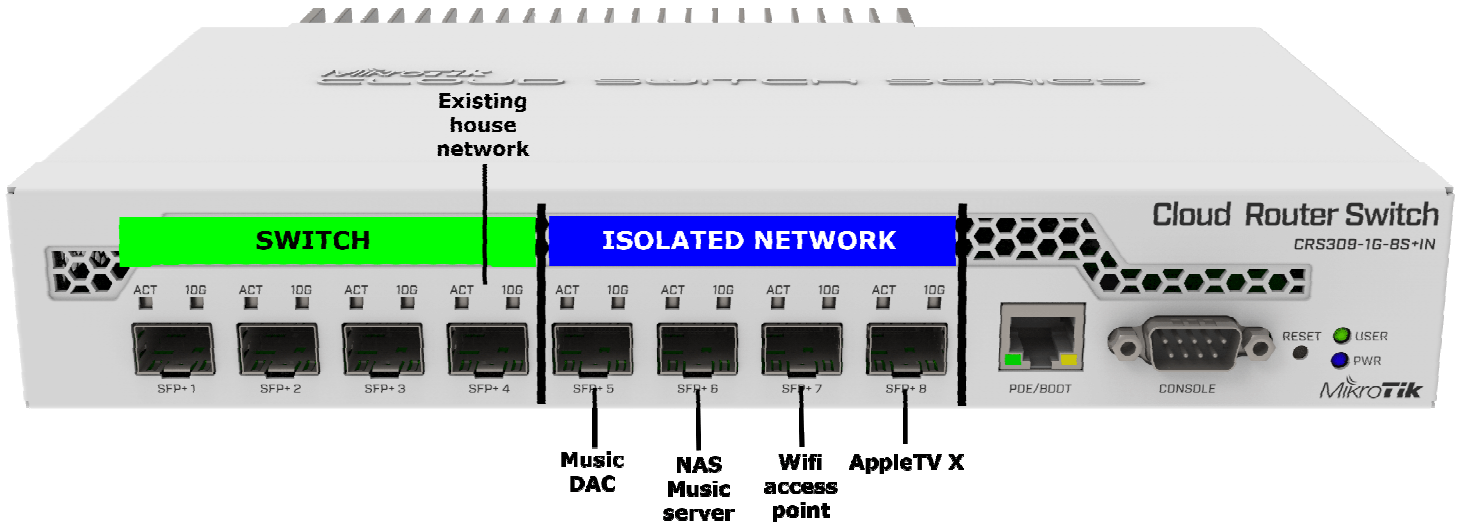
There are MANY ways to utilize/deploy the Switch X. The above is just one example. The number of switch ports and isolated ports can be configured for example. Its possible to have 1 switch port and 7 isolated ports.

The unit has a ground terminal on the back. This should be hooked to your grounding system. The system is supplied with a basic power cord and very basic feet. These should be upgraded to your needs.

Some notes.

While the switch ports can all sustain 10Gbps throughput on ports 1-4, the feed from the switch side to the isolated network goes thru filtering and this filtering restricts the top speeds to about 1Gbps.

Always use the SFP module that matches your connected device speed. So if the device is 1Gbps, use a SFP 1Gbps module. Only use 2.5/5/10Gbps modules if you are hooking to a 10Gbps device.

The ETH port on the right side is hooked to the isolated network and can be used. It may, or may not, be as good as a SFP module based Ethernet connector

The switch X is based on a Mikrotik CRS309-1G-8S+ and uses Router OS. This is a VAST and EXTREMELY configurable router/switch operating system that is highly complex. We cannot provide assistance or warranty if you configure it yourself, however we are available to help with configuration or to help a IT pro implement this in your system.