



Using Axia Nodes with Ethernet Radios

Applies to Node Software v2.3.2a and higher

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There are several changes and additions to Axia Audio Nodes software beginning with v2.3.2a designed to simplify the operation of STLs and audio snakes using Axia nodes in conjunction with Ethernet Radios.

These additions include:

- STL Slave and STL Snake modes on Clock Master Priority options
- IP Low Rate is now set as the default receive Clock mode in the LW Clock Mode options field. (Note that this setting only defines the RECEIVE type of stream. It does not change the clock stream type when the node is acting as the Master Clock. We recommend that you do not change this setting.)
- A Standard Stream Buffering option, which is set to 100ms as default. (Note that this setting should not be adjusted unless advised otherwise by Axia Technical Support.)
- A "Master/Sync" confidence tally is added to the Router Selector Node display.

Using Axia Audio Nodes as snakes or STLs

Note that the setup options described below require that Node Software v2.3.2a or higher *must* be installed to work correctly.

OPTION 1 - Using two nodes back to back without an Ethernet switch

In this scenario, the clock sync mode will set the Clock Rate to a Low Rate sync packet regardless of the Livewire Clock Mode setting. This enables a more stable SYNC mode, eliminating the need for an Ethernet switch between the nodes handling QOS of the clock sync signal.

Navigate to the "QOS" web pages of the Audio Nodes you'll be using. Determine which one will be the master and which the slave, and set the new "STL Snake" and "STL Slave" clock priority modes to the appropriate values.

Typically, you will set the Clock Master Priority option on the Node located in the studio to "7 (Always Master) STL Snake". The Node on the remote end of the link should be set to "0 - (Always Slave) STL".

All stream types must be set to Standard streams. Leave Standard Stream buffering at 100ms (the default setting).

OPTION 2 - Connecting a "remote" Audio Node to an existing Axia network using Ethernet Radio

If you are using Studio Engines and/or existing nodes connected to an Ethernet switch, then these instructions assume that you have a current Livewire Network and are adding a node at a remote location connected via an IP radio. You must maintain the high rate Master clock sync packets for these



devices in order for all nodes to sync properly. This is especially important for the well-being of the Axia Studio Mix Engines.

In this case, you will need to have at least ONE Audio Node on the main Livewire network designated as the MASTER CLOCK and running version 2.3.2a software. It should be set to a higher priority than all other nodes running earlier software versions. We recommend choosing "7 - (Always Master)". Do *not* select "7 - (Always Master) STL Snake" for this application.

The remote node at the receive end of the Ethernet radio should likewise be running v2.3.2a software. Its clock setting should be "0 - (Always Slave) STL".

Deep Tech: A node running version 2.2.0, when operating as the current Clock Master, will generate two clock streams: a High rate and a Low rate clock sync. Nodes running version 2.1.x and earlier do not have this dual clock feature and require the High rate sync to operate as well.

Streams sent to the "remote" node should all be STANDARD streams. Leave Standard Stream buffering at 100ms (the default setting) on the receiving node.

IP Radio Settings and Recommendations:

Settings on your Ethernet radios will have to be tweaked as needed. Unfortunately, due to the large number of Ethernet radios on the market, we are unable to make specific recommendations on which radio to choose, or their exact optimal settings.

Some Quality of Service options may assist or hinder the operation of the radio for multicast UDP data packets. This may involve turning ON or OFF some or all the "smarts" within the radio. User experience will differ from model to model. We suggest that you contact your radio's manufacturer for additional support on the operation of the radios in this mode. For the purposes of passing Livewire streams reliably, we desire that the IP radios behave as much as possible like a simple piece of CAT6 cable, with minimal latency.

Questions on the operation of the Axia Audio Nodes can be emailed to Axia support at support@axiaaudio.com.