

## STL-IP Bi-directional communication

Typically the customer is using two separate unidirectional TCP connections; one for each direction (TCP-Out on Tx and TCP-in on Rx).

I would strongly recommend changing this to a single bi-directional connection.

This can be done by:

- on unit ONE selecting TCP-In on the Tx channel and setting the Rx channel to "Use audio from Tx"
- on unit TWO - Tx channel to be set to TCP-Out and it's Rx channel also to "Use audio from Tx".
- Now both directions of audio will use the same TCP network connection. Of course you can still use completely different audio settings for each direction.

The reason we recommend this setup is that it is more reliable and uses less bandwidth. The primary reason for this is that all the additional TCP protocol information will now be embedded in the returning audio frames. With two separate connections all protocol information will be sent back on its own, requiring additional frame headers and connection info. By embedding it in the audio (which is only possible on a truly bi-directional connection) there is no need for the additional frame headers and info.

Another benefit of setting up the units this way is that only one unit will need to know the IP address of the other. The other unit will be waiting for an incoming connection and automatically send the audio back to the unit that initiated the connection. This allows you to place the "listening" unit at a location with a fixed IP address, while the "initiating" unit can be on a dynamic IP address.

After upgrading both units you could also use our new bi-directional UDP mode instead of TCP. This new mode has even less network overhead than its TCP counterpart since UDP frame headers are smaller than TCP frame headers.