HiQ net audioarchitect™

SIMPLE PAGING SYSTEM APPLICATION GUIDE

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This design has a number of unique features including:

- Single paging station using push-to-talk [PTT] microphone
- 12 button keypad for zone selection
- LED status feedback for operator
- Scalable design from 1 – 999 zones

This system employs a Soundweb London paging matrix controlled with a push-to-talk microphone and a twelve-button keypad connected to Soundweb London GPIO Control Ports.

This design is based around the Dante-compatible Soundweb London BLU-806 from BSS Audio so that it can be scaled to 999 output zones. If CobraNet compatibility is required a BLU-800 would be employed and if the project requires fewer zones, a BLU-160 or even a BLU-100 could be used instead.

The key to this design is in the Logic circuit within the Soundweb London BLU-806. The circuit needs to accomplish several tasks:

- Store three consecutive momentary decimal inputs to create a value of 001 – 999
- Recall the numbered Soundweb London Parameter Preset based on a defined trigger (the # key) to change the microphone router
- Reset the router upon releasing the push-to-talk switch on the microphone

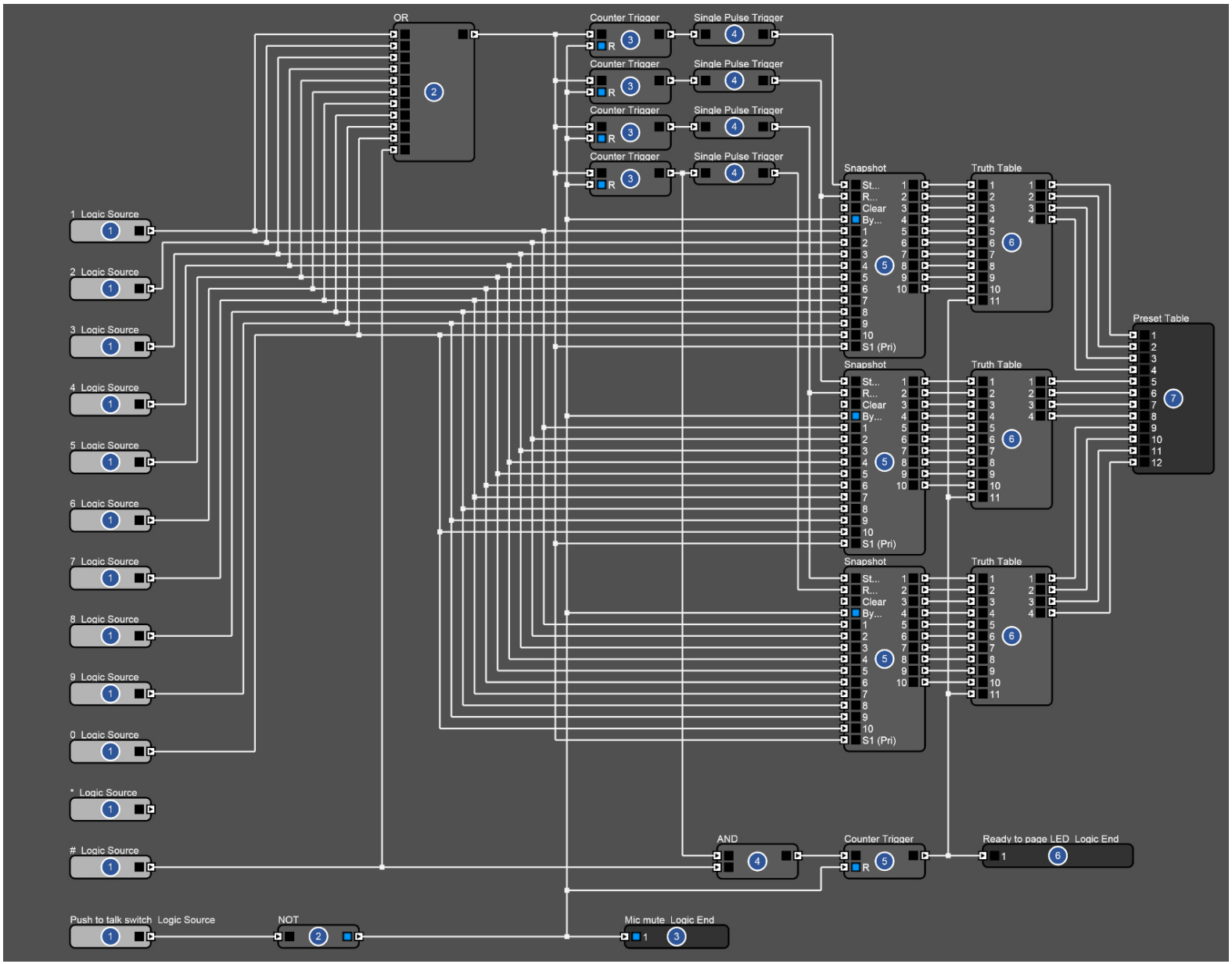
From the keypad, Buttons 0 – 9 and # are connected to the Soundweb London BLU-806 GPIO Control Port inputs. The microphone push-to-talk switch is connected to the last remaining control input. These Control Port inputs are assigned to twelve Logic Source objects within the device's Logic Configuration with a Direct Action. This means as the Control Port input goes high (when the switch is closed) the Logic Source will also go high.

The first action of the operator is to unlock the circuit by pressing the push-to-talk switch on the microphone. This is run through a Logic NOT object to invert the signal. In turn, this sets the Reset [R] on all the Counter Triggers low and unmutes the paging microphone. This is achieved with a Logic Link between the Logic End object and the Mute button in the Gain object of the Audio Configuration.

The second part of the Logic circuit is the Counter. There are several was to create a count within a Soundweb London Logic Configuration – here four individual Counter Triggers work best. The Counter Triggers are used to control the Logic Snapshots that are storing the numbers in the order they are pressed. Each Counter has its count property set to its position in the count; the first one is 1, the second is 2 and so on.

A Logic OR object sums the outputs of the 0 – 9 and # Logic Sources and is fed to each Counter Trigger. Every time a button is pressed it will drive the input on the counters. The outputs from the four counters are used to control the Store [S] and Recall [R] inputs on the three Snapshot objects as the count progresses.

LOGIC CONFIGURATION



DSP CONFIGURATION

The audio configuration is very straightforward. There is some standard dynamics processing for tuning the microphone for maximum intelligibility, and a Gain processing object for mute and level control. This feeds a Matrix Router that is controlled via Soundweb London Parameter Presets to route the page microphone to the desired output. The Dante output object is used to send the page signal to additional BLU-806 devices when creating a system with more zones.

A single output Crossover is on each output to provide gain and mute points as well as some high and low pass filters commonly required in distributed audio systems. In a smaller system, additional processing such as output EQ could be added to the device as DSP resource demands are reduced.