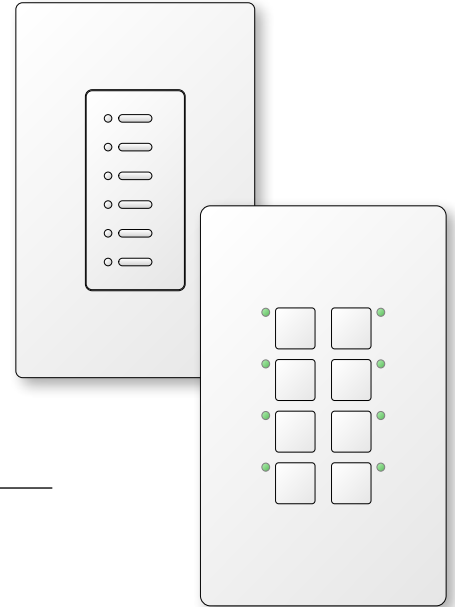## Overview

The CueStation 5-Wire network is one of three different network topologies available for CueStations. It allows up to 50 CueStations to be wired in a daisy-chained manner using specialized 5-conductor button station cabling. The 5-Wire network carries power on 2 conductors, data on another conductor pair, and also carries a grounded shield.

Both the Mystique and Ultra families of CueStations are available with 5-Wire network technology. Use with the ST-HUB CueStation Network Hub to power and control 5-Wire CueStations and/or to interface with a CueServer system.
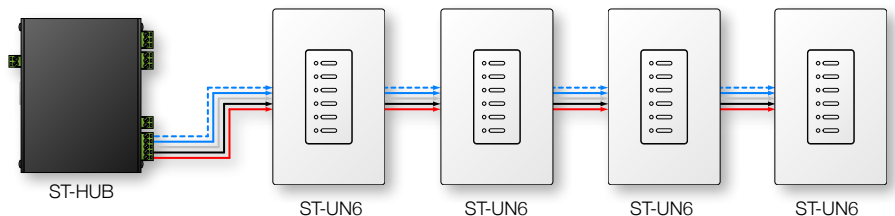
Features

- Long distance, high-performance 5 conductor button station network
- Stations are wired in a strict daisy-chain (serial) manner
- Individually controllable RGB indicator for each button can display 7 colors, 4 brightnesses and 6 flashing patterns
- Maximum of 50 stations on a single 5-wire network
- Maximum cable distance to farthest station is 4000 feet (1.2km)
- Requires 5-conductor multi-cable (Belden 1502, AMX AXLINK-P or similar)
- Uses CueStation Hub as power and signal controller interface
- Interfaces with CueServer via CueStation Hub

Wiring

- The 5-Wire CueStation Bus uses a 5-conductor multi-cable to carry both power and data to and from each station location.
- Power is carried on the cable's 18AWG conductors (Red/Black).
- Data is carried on the cable's 22AWG pair (Blue/White).
- The cable's 24AWG drain wire is used as a common reference for the data pair.

ST-HUB   ST-UN6   ST-UN6   ST-UN6   ST-UN6

NOTE: Use of inferior cable types (especially CAT5/6) may seriously degrade performance, especially on longer cable runs.
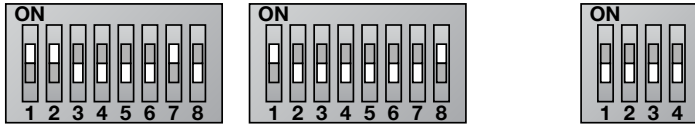
Catalog #:	Project:
Prepared by:	**Date:**

Configuration

Every station connected to a Hub must be assigned a unique station address from 1 through 64. Also, the number of physical buttons on the station must be properly selected. These assignments are made by setting DIP Switches on the back of the station.

View the DIP Switches so that the writing on the switches is upright, with the word "ON" in the top left corner. There are two banks of 8 switches and one bank of 4 switches. The bank of 8 on the left side are the **option switches**. The bank of 8 on the right side are the **address switches**. The bank of 4 are the termination switches.

| Option Switches | Address Switches | Termination Switches |

Option Switches	1	2	3	4	5	6	7	8
Number of Buttons on Station								
1-Button Station			ON	OFF	OFF			
2-Button Station			OFF	ON	OFF			
3-Button Station			ON	ON	OFF			
4-Button Station			OFF	OFF	ON			
6-Button Station			OFF	ON	ON			
8-Button Station			OFF	OFF	OFF			
Reserved Switches Must Be As Specified								
Reserved	ON	ON				OFF	ON	OFF

The station address is set using a binary combination of seven dip switches. The table below shows the value of each switch when set to the ON position. To set a station to Station 1, switch 1 should be ON and switches 2-7 should be OFF. To set a station to Station 37, switches 1, 3 & 6 should be ON and switches 2, 4, 5 & 7 should be OFF.

Address Switches	1	2	3	4	5	6	7	8
Station Address								
Binary Station Address	+1	+2	+4	+8	+16	+32	+64	
Protocol								
CueServer Protocol								ON

The last station in the series must have a RS-485 termination switch turned on. It is switch #3 on the Termination Switches' bank. Switches #1, 2 and 4 should always be off.

5-Wire CueStation Bus Wiring

The table below shows the connection between CueStation hub and the 5-Wire station.

CueStation Hub	5-Wire Station
V+	~ (polarity free)
V-	~ (polarity free)
S	GND
B	D-
A	D+

Setting LED Colors

The color and intensity of each individual LED on a 2-Wire station are controlled remotely. *See the CueStation Hub Hardware and Installation Guide for more information*

Ordering

5-Wire Digital CueStation:
ST- *(series)* N *(buttons)* - *(color)* - *(indicators)*

(series)
M   Mystique Series
U   Ultra Series

(buttons)
1   1 Button (Mystique Only)
2   2 Button (Mystique or Ultra)
3   3 Button (Mystique Only)
4   4 Button (Mystique or Ultra)
6   6 Button (Ultra Only)
8   8 Button (Mystique Only)

(color)
CW   White
CB   Black
CI   Ivory
CA   Light Almond

(indicators)
RGB   RGB LEDs
NL   No LEDs

Part Number Examples:
ST-MN8-CW-RGB
    Mystique 5-Wire 8-Button Station White with RGB Indicators

ST-UN6-CB-RGB
    Ultra 5-Wire 6-Button Station Black with RGB Indicators

ST-UN2-CA-NL
    Ultra 5-Wire 2-Button Station Light Almond with No Indicators

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