

Rubicon SL Installation

The **Rubicon SL** console from Sierra Automated Systems is a Control Surface comprised of several independent modules housed in a common, passive, mainframe. The modules communicate to a 32KD using **CAT 5 wiring, RJ-45 connections**, T568B wiring standard on the Rubicon SL bottom panel. The wires typically punch down to blocks on the 32KD system side to either RIO chassis RS-485 ports or to DRC module RS-485 ports. The physical communication is via SAS standard RS-485 protocol, with 4 module slots per port (per wire pair). Therefore one RJ-45 connector (4 pair) supports up to a 16 slot Rubicon SL frame, and two RJ-45 connectors up to a 32 slot Rubicon SL frame.

The **Rubicon SL** is typically powered from an SAS **SPR-200** rack mounted power supply. Two supplies may be used to provide full redundancy. Each SPR-200 provides four 24 VDC power ports. A typical distribution is one port to Rubicon SL Console, one port to Rubicon Meter Pod and one port to RIOlink chassis. Sometimes a second RIO chassis is used in the control room to obtain additional I/O, and a power port is also provided for this. Any additional equipment will require additional power supplies.

The **Rubicon Meter Pod** is available in many configurations. Each Pod provides one or more **Audio Meters**, each displaying Average Audio Level (VU) with a bar and Peak Audio Level (PPM) with a dot. Each stereo Audio Level Meter requires one AES3 digital audio connection.

The meter pod also provides a **Clock** and/or **Timer**. The **Clock** is connected with a shielded twisted wire pair and may be connected to SMPTE or ESE data. Small header pluggable jumpers are located inside of the end panel to program the clock for differing standards. The clocks are shipped for SMPTE operation as standard (see page 3).

The **Timer** is controlled via dry contact inputs. The Timer is wired with a CAT 5 cable that is normally punched down to relay outputs from a RIO chassis.

The **Rubicon SL** also provides **connectors for external wiring of auxiliary button panels**, such as RSL-PB8, 8 programmable pushbuttons. These auxiliary button panels require 12VDC power and RS-485 data connections to the 32KD/RIO system. These general purpose panels are programmed separately from Rubicon SL console modules and are connected to their own RS-485 ports. Each RS-485 port (RIO or DRC) can communicate with up to four auxiliary panels. The Rubicon SL mainframe provides convenient power and data connectors to every second group of four slots (i.e. Slots 5-8, 13-16, etc.). One 12VDC power supply connects to a 9-pin Dsub and provides power to the four-slot group. One RJ-45 connector provides 4 pairs for RS-485 data, one pair per slot. If more than one auxiliary panel will be connected to an RS-485 port, the panels must be "addressed." Four different cables are available: A0, A1, A2, and A3. The A0 cable is the default, and the aux panel will communicate at the base address on the RS-485 port. The panel addressing is determined by jumpers on the mating DE-9 connector or by DIP Switch on the most recent panels.

The address assignments are:

A0:	no jumpers	DIP SW 1 OFF	SW 2 OFF
A1:	jump pin 1 to pin 6 only	DIP SW 1 ON	SW 2 OFF
A2:	jump pin 1 to pin 7 only	DIP SW 1 OFF	SW 2 ON
A3:	jump pin 1 to pin <u>6</u> and pin 7	DIP SW 1 ON	SW 2 ON

Rubicon SL Tub Wiring – RIO Link

Rubicon SL RJ-45, J17 to RIO Link RS485 J1501 (RJ21connector), RJ21 pinouts given; +,- Example given is typical only. Also see SAS Drawing 16BW1 for Krone, S-66 pinout.

RJ-45 (J17) located below Rubicon SL Slot 3:

<u>Rubicon SL Slot</u>	<u>RJ-45 pins</u>		<u>Krone/S-66 Block</u>		<u>RIO</u>
1-4	1,2 (WHT/ORG, ORG)	to	3,4	to	J1501 pins 27,2
5-8	3,6 (WHT/GRN, GRN)	to	5,6	to	J1501 pins 28,3
9-12	5,4 (WHT/BLU, BLU)	to	9,10	to	J1501 pins 30,5
13-16	7,8 (WHT/BRN, BRN)	to	11,12	to	J1501 pins 31,6

RJ-45 (J17) located below Rubicon SL Slot 19:

<u>Rubicon SL Slot</u>	<u>RJ-45 pins</u>		<u>Krone/S-66 Block</u>		<u>RIO</u>
17-20	1,2 (WHT/ORG, ORG)	to	15,16	to	J1501 pins 33,8
21-24	3,6 (WHT/GRN, GRN)	to	17,18	to	J1501 pins 34,9
25-28	5,4 (WHT/BLU, BLU)	to	21,22	to	J1501 pins 36,11
29-32	7,8 (WHT/BRN, BRN)	to	23,24	to	J1501 pins 37,12

Rubicon SL Tub Wiring – DRC-16 Module

Rubicon SL RJ-45, J17 to 32KD DRC-16E Module, Euro pinouts given; +,- Example given is typical only. Also see SAS Drawing 16BW1 for Krone, S-66 pinout.

RJ-45 (J17) located below Rubicon SL Slot 3:

<u>Rubicon SL Slot</u>	<u>RJ-45 pins</u>		<u>Krone/S-66 Block</u>		<u>DRC</u>
1-4	1,2 (WHT/ORG, ORG)	to	3,4	to	DRC Port 1 pins C1,B1
5-8	3,6 (WHT/GRN, GRN)	to	5,6	to	DRC Port 2 pins C2,B2
9-12	5,4 (WHT/BLU, BLU)	to	9,10	to	DRC Port 3 pins C3,B3
13-16	7,8 (WHT/BRN, BRN)	to	11,12	to	DRC Port 4 pins C4,B4

RJ-45 (J17) located below Rubicon SL Slot 19:

<u>Rubicon SL Slot</u>	<u>RJ-45 pins</u>		<u>Krone/S-66 Block</u>		<u>DRC</u>
17-20	1,2 (WHT/ORG, ORG)	to	15,16	to	DRC Port 5 pins C5,B5
21-24	3,6 (WHT/GRN, GRN)	to	17,18	to	DRC Port 6 pins C6,B6
25-28	5,4 (WHT/BLU, BLU)	to	21,22	to	DRC Port 7 pins C7,B7
29-32	7,8 (WHT/BRN, BRN)	to	23,24	to	DRC Port 8 pins C8,B8

Meter Pod Wiring

Meter Pod Internal Wiring

User Wiring

Meters 1 to 4, CAT 5, Blue

		RJ-45 Coupler pins	T-568B Color Standard
+, -			
Program (Meter 1)	WHT/BRN, BRN	1,2	WHT/ORG, ORG
Meter 2	WHT/ORG, ORG	3,6	WHT/GRN, GRN
Meter 3	WHT/GRN, GRN	5,4	WHT/BLU, BLU
Meter 4	WHT/BLU, BLU	7,8	WHT/BRN, BRN

Meter 5 (if provided), CAT 5, White

+, -			
Meter 5	WHT/BRN, BRN	1,2	WHT/ORG, ORG
Pairs 2,3 & 4 not used			

Timer Logic Inputs, CAT 5, Pink

GND, Logic In			
Stop	WHT/ORG, ORG	1,2	WHT/ORG, ORG
Start	WHT/GRN, GRN	3,6	WHT/GRN, GRN
Not used	WHT/BLU, BLU	5,4	WHT/BLU, BLU
Reset	WHT/BRN, BRN	7,8	WHT/BRN, BRN

Clock Input, Shielded pair, Red

+, - (Shield) RED, BLK (Shield) for SMPTE time code

NOTE: For ESE time code connect center conductor to BLK, Coaxial Shield to RED.

Torpey Clock; jumpers to select time code are accessible by removing side plate only.

Jumpers as follows, left to right:

J12

J11

J10 – X (Jumpered for SMPTE – standard)

J9

SMPTE – jumper J10, all others open

ESE TC89 – jumper J9, all others open

ESE TC90 – jumper J9 and J12, others open

For other options please see full Torpey manual, included on CD.

Rubicon SL Auxiliary Data Connections:

RJ-45 Connectors – Located every 8 slots on underside of SL Tub.

<i>RJ-45 pins</i>	<i>Slot</i>
+, -	
1,2 (WHT/ORG, ORG)	1 st slot of group
3,6 (WHT/GRN, GRN)	2 nd
5,4 (WHT/BLU, BLU)	3 rd
7,8 (WHT/BRN, BRN)	4 th

The RJ-45 located below slot 7 supplies serial data for Slots 5-8 (Group 1)
slot 15 supplies serial data for Slots 13-16 (Group 2)
slot 23 supplies serial data for Slots 21-24 (Group 3)
slot 31 supplies serial data for Slots 29-32 (Group 4)

Example:

For an aux button panel in Slot 15, use the RJ-45 located below slot 15, pins 5, 4 (WHT/BLU, BLU).

Rubicon SL Auxiliary Power:

DB9 Connector

Pin 3: +12V

Pin 2: GND

Pins 1, 4-9: No Connect

The DB9 located below slot 6 supplies power for auxiliary button panels in Slots 5-8
slot 14 supplies power for auxiliary button panels in Slots 13-16
slot 22 supplies power for auxiliary button panels in Slots 21-24
slot 30 supplies power for auxiliary button panels in Slots 29-32