

IRIS/Artel Utah-200 Router Wiring and Configuration

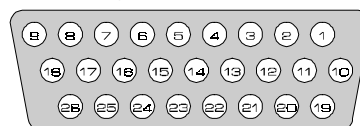
This document outlines wiring for the connectors on the Utah-200 router which are supported under IRIS Technologies software.

Digital Video Connectors: for Utah-200 units configured with digital video planes, the router uses standard BNC connectors for serial digital connection. The connectors are all labeled for input or output and the signal number. The input connectors all use internal 75Ω termination.

The recommended cable for digital video is Belden 8281, and should not exceed 1,000 feet in length.

The “Mon” connectors on video planes are unused in the IRIS configuration, and should be left alone.

Analog Audio Connectors: for Utah-200 units configured with analog audio planes, the router uses special high-density connectors for the analog audio inputs and outputs, where eight inputs or outputs are wired to a single sub-miniature DBHD-26 connector. The pin numbers for a connector are shown to the right; the connections are shown in the table below.



Pin	Assignment	Pin	Assignment	Pin	Assignment
1	Signal 1/9/17/25 +	10	Ground / AC	19	Ground
2	Signal 2/10/18/26 +	11	Signal 1/9/17/25 –	20	Ground
3	Signal 3/11/19/27 +	12	Signal 2/10/18/26 –	21	Ground
4	Signal 4/12/20/28 +	13	Signal 3/11/19/27 –	22	Ground
5	Signal 5/13/21/29 +	14	Signal 4/12/20/28 –	23	Ground
6	Signal 6/14/22/30 +	15	Signal 5/13/21/29 –	24	Ground
7	Signal 7/15/23/31 +	16	Signal 6/14/22/30 –	25	Ground
8	Signal 8/16/24/32 +	17	Signal 7/15/23/31 –	26	Ground
9	Ground / AC	18	Signal 8/16/24/32 –		

Input and output connectors are wired almost identically. The only difference is that for inputs, pins 9 and 10 are capacitively coupled connections to ground, available as alternate ground connections to break ground loops on problematic inputs. On outputs, these connectors are simple ground connections, just like pins 19–26.

Each audio connector on the back of the router is labeled for input or output, the signal plane (if there is more than one), and the range of input or output numbers: 1–8, 9–16, 17–24, 25–32.

The inputs are, by default, *not* terminated. Internal 600Ω termination may be applied, as described later in this document.

The recommended cable for analog audio is Belden 8451 (twisted pair). There is not a specific length limit.

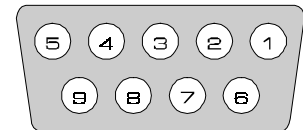
The “Mon” connectors on audio planes are unused in the IRIS configuration, and should be left alone.

House Sync Connector: the Utah-200 provides an analog video sync input, if you would like switching to always occur during a vertical interval. Note that this is *not* a digital video signal.

Connect your house sync input to one of the BNC connectors labeled “sync.” Continue the chain to the next unit requiring house sync by using the other connector, or end the chain with a 75Ω terminator (this signal is *not* internally terminated).

Serial Connectors: the Utah-200 can be controlled by either RS-232 or RS-422 interfaces. Both interfaces use the common DB-9 female connector. As shipped from IRIS, both connectors are active and configured for 9600 baud operation.

The RS-232 connector has the standard pin assignment of IBM-compatible DB-9 adapters. A straight serial cable (male to female) is provided with units intended for RS-232 use; this cable is sold in computer stores as a “serial extension cable” (or sometimes as a 9-pin “monitor extension cable”).



The RS-422 connector has a special pin assignment, as listed in the table below.

Pin	Assignment	Pin	Assignment	Pin	Assignment
1	Ground	4	Ground	7	RS-422 TX–
2	RS-422 TX+	5	<i>no connection</i>	8	RS-422 RX+
3	RS-422 RX–	6	Ground	9	Ground

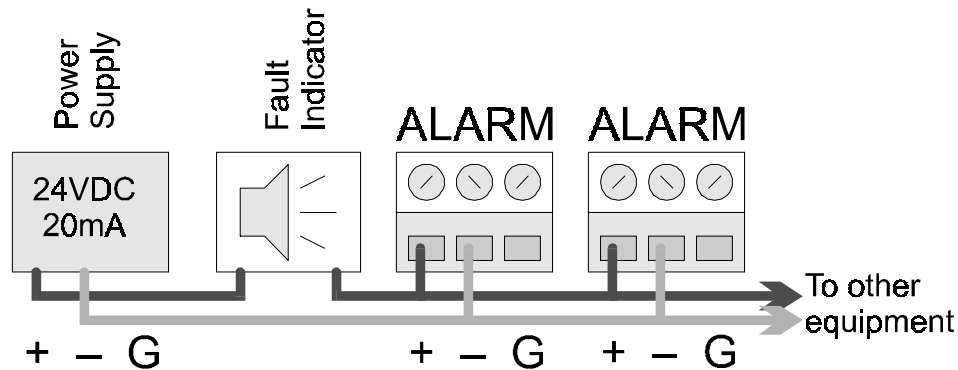
If you are making a cable using the standard IRIS RS-422 adapter, you would cut off the RJ-11 jack from the end and connect the following wires:

Converter	Wire Color	Router Pin	Converter	Wire Color	Router Pin
TD(A)	white	3	RD(B)	green	2
TD(B)	blue	8	GND	black	1,4,6,9
RD(A)	red	7	+12VDC	yellow	<i>no connect</i>

Of course, if you are using some other RS-422 converter or wiring, your specific connections will be different.

Alarm Connector: the Utah-200 provides an alarm connector which conforms to the SMPTE 269M standard. The connector is a set of screw terminals; the meaning of each pin is clearly marked on the back of the router case.

You can connect a power supply—up to 24VDC, limited to 20mA current—and an appropriate fault indicator to the router by wiring the positive side of the power supply to the fault indicator, the negative side to the “-” pin of the alarm connector, and an additional connection from the “+” pin of the alarm connector to the fault indicator. Any number of units may be paralleled on the same alarm circuit.



Even if you have a unit with redundant power supplies or redundant CPU cards, wiring the alarm circuit is still an excellent idea, as there is no obvious failure when the unit switches to a redundant module.

Additional Connectors: the “Ethernet” connector on the Utah-200 is unimplemented and should be left alone.

The “UNet” and “MX Bus” connectors are normally terminated; the correct termination connectors for these are provided with the router. The exception is when you have additional Utah-200 units slaved to the main unit, in which case the units are joined together with the MX Bus, and only the last unit is terminated (to fill the unused MX Bus connector).

All “Mon” connectors are unimplemented in the IRIS version, and should be left alone.

DIP Switches: please leave these alone. The switches are set properly before leaving IRIS, and should not be modified without instruction from IRIS technical support personnel.

For the 16x16 video/left/right configuration, *all* switches should be in the “off” position *except* switch 4 on the lower “right audio” switch bank, and switch 5 on the lower “left audio” switch bank.

Audio Termination: the Utah-200 provides optional 600Ω termination for analog audio inputs. This termination may be added by the customer, by following this procedure:

1. Remove power to the Utah-200.
2. Unscrew and remove the front panel.
3. For each audio crosspoint matrix you wish to terminate, remove the audio circuit boards. Audio boards are installed in positions corresponding to the audio

connector blocks on the back, and do *not* have a DB-9 connector on the front. Carefully remove the audio card from its slot, noting the position where it was installed.

4. There is a set of two-pin headers located in a line toward the front of the audio card, labeled "JP17" through "JP32." Add a shorting block (provided with the router) to each header such that the two pins are covered by one block. (If you are only terminating *some* inputs, note that JP17 corresponds to input 1 or 17, JP18 corresponds to input 2 or 18, and so on.)
5. Reinstall the audio card(s) in the router.
6. Replace and tighten the front panel.
7. Apply power to the unit.

It is important that proper grounding and anti-static procedures be observed while removing, handling and reinstalling the audio boards.

Contact IRIS Technologies technical support if you have questions about this procedure.