

Video Interfaces

There are a number of video interfaces available on IRIS systems and video options. Most are standard interfaces using standard connectors. Table 40 on page 111 shows these connections and where they can be found.

Note that other than the Indy, systems do not include any video connectivity.

Chassis or Video Option	Inputs					Outputs					I/O
	Composite	S-Video (Y/C)	Component (Y, R-Y, B-Y)	CCIR 601 Serial	CCIR 601 Parallel	Composite	S-Video (Y/C)	Component (Y, R-Y, B-Y)	CCIR 601 Serial	CCIR 601 Parallel	SGI Digital Video
	RCA Phono	4 Pin mini-DIN	BNC	BNC	DB-25	RCA Phono	4 Pin mini-DIN	BNC	BNC	DB-25	100 Pin Hi-Den
Indy	1	1									1 ¹
Indigo Video	3	3				1	1				
Galileo	3	3	1	1 ²	1 ²	1	1	1	1 ²	1 ²	1
Indigo ² Video	3	3		1 ²	1 ²	1	1		1 ²	1 ²	1
Indy Video	2	1 ³				1	1				1 ⁴
Sirius	1	1	1	2	2	1	1	1	1	1	
Video Creator	1 (BNC)	1	1			1 (BNC)	1	1			
Video Framer		1	1		1		1	1		1	
CG3						1					

Table 40 External Video Connections on SGI Systems

1. This connection only implements the connections required for the IndyCam (i.e. input only).
2. Available only with the Digital Breakout Box (D-BOB) option.

Composite Input & Output

These signals comply with NTSC or PAL standards for composite video connections.

The connector type is an RCA phono style. The center conductor carries the signal itself and the outer conductor is used as a ground, or shield connection.

S-Video (Y/C) Input & Output

This signal format is identical to that used in the consumer video marketplace. The connectors used will either be the 4 Pin Mini-DIN type as used on consumer devices, or via individual BNC's

Connector Drawing

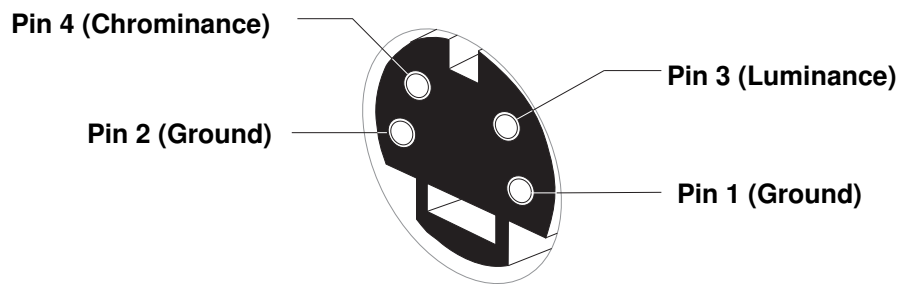


Figure 36 S-Video Connector

Pinout

Pin	Signal Name	Description
1	GND	Ground
2	GND	Ground
3	Y	Luminance
4	C	Chrominance

Table 41 S-Video Connector Pinout

Analog Breakout Box Connection

This connection contains several analog video signals that will be broken out in an external breakout box.

Connector Drawing

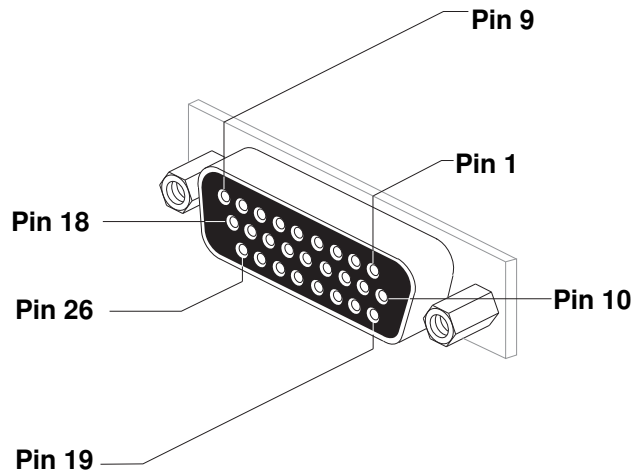


Figure 37 Analog Breakout Box Connector

Pinout

Pin	Signal Name	Description	Pin	Signal Name	Description
1	BOUT	Blue Output	14	GND	Ground
2	ROUT	Red Output	15	GND	Ground
3	CSYNC	Composite Sync Out	16	GND	Ground
4	YOUT	Luminance Output	17	GND	Ground
5	COUT	Chrominance Output	18	GND	Ground
6	YIN3	Luminance Input #3	19	GOUT	Green Output
7	CIN2	Chrominance Input #2	20	GND	Ground
8	CIN1	Chrominance Input #1	21	COMPOUT	Composite Video Output
9	YIN1	Luminance Input #1	22	GND	Ground
10	GND	Ground	23	CIN3	Chrominance Input #3
11	GND	Ground	24	GND	Ground
12	GND	Ground	25	YIN2	Luminance Input #2
13	GND	Ground	26	GND	Ground

Table 42 Analog Breakout Box Connection

Analog Component Video Input & Output

For this kind of connection, there are three signals - Y, R-Y and B-Y. Each signal is carried on an individual BNC connector where the center conductor carries the signal and the outer conductor is the ground, or shield.

CCIR 601 Serial Digital Video Input & Output

This connection is made via a BNC connector.

It complies with the CCIR 601 standard for digital video interfaces. For all options except Sirius Video it implements 8 bit digital video. The Sirius Video option is 10 bit digital video.

Frame Grab Output

This signal is currently unused.

Swap Ready Output

The Swap Ready signal is used to synchronize several graphics heads to make sure they don't swap graphics buffers until all graphics heads are ready to change.

This is most often used on systems with 2 or 3 graphics heads. One graphics head may have a more complex scene to render, thus taking more time than the other (simpler) scene. The Swap Ready signal is used to keep the 2 (or 3) screens in sync with each other.

The signal is a TTL level, open collector Input/Output. It is internally pulled up. All graphics heads drive/listen to this input. When a head is ready, it drives this signal high. Only when all heads have driven this pin high will it be high (ready to swap). Under no circumstances should this pin ever be terminated!

CCIR 601 Parallel Digital Video Input & Output

This connection is made via a DB-25 connector.

It complies with the CCIR 601 standard for digital video interfaces. For all options but the Sirius Video option it implements 8 bit digital video. The Sirius option uses all 10 bits.

Connector Drawing

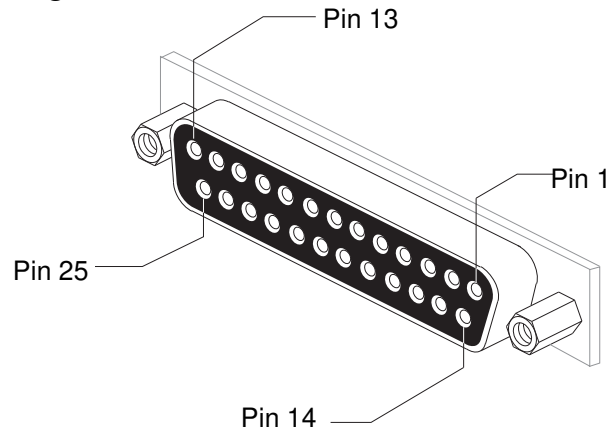


Figure 38 CCIR 601 Parallel Digital Video Connector

Pinout

Pin	Signal Name	Description
1	CLK	Clock
2	GND	Ground
3	DATA9	Data Bit 9 (MSB)
4	DATA8	Data Bit 8
5	DATA7	Data Bit 7
6	DATA6	Data Bit 6
7	DATA5	Data Bit 5
8	DATA4	Data Bit 4
9	DATA3	Data Bit 3
10	DATA2	Data Bit 2
11	DATA1	Data Bit 1
12	DATA0	Data Bit 0
13	SHEILD	Cable Sheild Connection

Pin	Signal Name	Description
14	CLK RET	Clock Return
15	GND	Ground
16	DATA9 RET	Data 9 Return
17	DATA8 RET	Data 8 Return
18	DATA7 RET	Data 7 Return
19	DATA6 RET	Data 6 Return
20	DATA5 RET	Data 5 Return
21	DATA4 RET	Data 4 Return
22	DATA3 RET	Data 3 Return
23	DATA2 RET	Data 2 Return
24	DATA1 RET	Data 1 Return
25	DATA0 RET	Data 0 Return

Table 43 CCIR 601 Parallel Digital Video Connector Pinout

SGI Digital Video Interface

The SGI Digital Video Interface is one connector that incorporates two digital video ports. One port is input only, while the other can be used for either input or output. The connector is a high density, 60 pin connector.

This protocol for this interface is similar, but not exactly the same as, the CCIR 601 Parallel Digital Video interface. For more detailed information on this interface, consult the SGI Digital Video Specification.

Connector Drawing

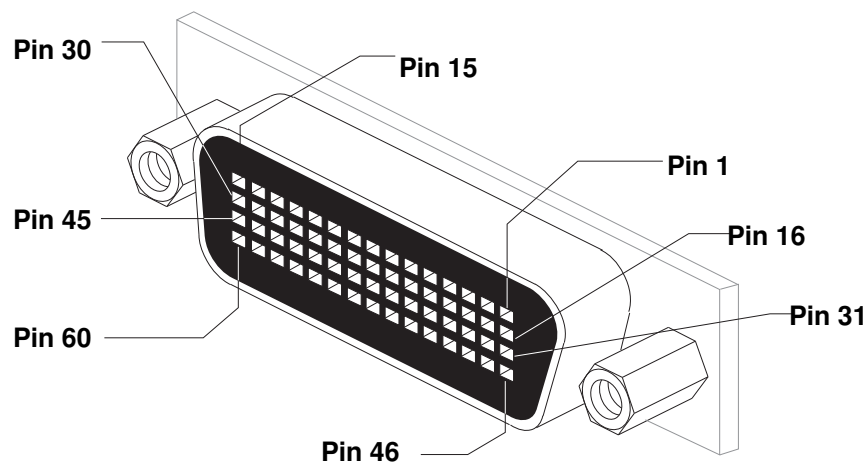


Figure 39 SGI Digital Video Connector

Pinout

Table 44, “ SGI Digital Video Connector Pinout”, on page 117, shows the pinout for the SGI Digital Video Interface. The pins shown lightly shaded are those pins available at the IndyCam connector. The IndyCam connector does not support the second, input/output channel, of the Digital Video Interface.

Pin #	Signal Name	I/O
1	XDATAIO.0	I/O
2	XDATAIO.0_RET	I/O
3	XDATAIO.1	I/O
4	XDATAIO.1_RET	I/O
5	XDATAIO.2	I/O
6	XDATAIO.2_RET	I/O
7	SDA_SEND	O
8	DIR_SEND	O
9	SCL_SEND	O
10	$\overline{\text{TRIGIN_RET}}$	I
11	$\overline{\text{TRIGIN}}$	I
12	$\overline{\text{XCLKIN_RET}}$	I
13	$\overline{\text{XCLKIN}}$	I
14	<i>SPAREBIN_RET</i>	I
15	<i>SPAREBIN</i>	I
16	XDATAIO.3	I/O
17	XDATAIO.3_RET	I/O
18	XDATAIO.4	I/O
19	XDATAIO.4_RET	I/O
20	XDATAIO.5	I/O
21	XDATAIO.5_RET	I/O
22	+12V_SEND	O
23	+5V_SEND	O
24	-12V_SEND	O
25	<i>SPAREAIN_RET</i>	I
26	<i>SPAREAIN</i>	I
27	XDATAIN.7_RET	I
28	XDATAIN.7	I
29	XDATAIN.6_RET	I
30	XDATAIN.6	I

Pin #	Signal Name	I/O
31	XDATAIN.3	I
32	XDATAIN.3_RET	I
33	XDATAIN.4	I
34	XDATAIN.4_RET	I
35	XDATAIN.5	I
36	XDATAIN.5_RET	I
37	+12V_REC	I
38	+5V_REC	I
39	-12V_REC	I
40	<i>SPAREAIO_RET</i>	I/O
41	<i>SPAREAIO</i>	I/O
42	XDATAIO.7_RET	I/O
43	XDATAIO.7	I/O
44	XDATAIO.6_RET	I/O
45	XDATAIO.6	I/O
46	XDATAIN.0	I
47	XDATAIN.0_RET	I
48	XDATAIN.1	I
49	XDATAIN.1_RET	I
50	XDATAIN.2	I
51	XDATAIN.2_RET	I
52	SDA_REC	I
53	DIR_REC	I
54	SCL_REC	I
55	$\overline{\text{TRIGOUT_RET}}$	O
56	$\overline{\text{TRIGOUT}}$	O
57	$\overline{\text{XCLKIO_RET}}$	I/O
58	$\overline{\text{XCLKIO}}$	I/O
59	<i>SPAREBIO_RET</i>	I/O
60	<i>SPAREBIO</i>	I/O

Table 44 SGI Digital Video Connector Pinout