HaSoTec

Frame Grabber

FG-30/ FG-31/ FG-32 / FG-33/ FG-34/ FG-35

Hardware

Contents

2.1 Video connector and feature connector of the FG-35

Pin	Description	Function	Remarks
1	Reserved1	Reserved	
2	Reseverd3	Reserved	
3	Reserved5	Reserved	
4	Reserved7	Reserved	
5	GND	Power - Ground	
6	XLDC	I/O	Parallel Feature connector P12
7	XDIN	I/O	Parallel Feature connector P12
8	PORTA	GP- User I/O	Parallel Feature connector P12
9	PORTB	VS- Vertical Sync	Parallel Feature connector P12
10	IAC1	Video - IN	
11	IAC2	Video - IN	
12	IAY0	Video - IN	Parallel Feature connector P3
13	IAY1	Video - IN	
14	IAY2	Video - IN	Parallel Feature connector P3
15	IAC0	Video - IN	Parallel Feature connector P3
16	GND	Power - Ground	
17	Reserved2	Reserved	
18	Reserved4	Reserved	
19	Reserved6	Reserved	
20	Reserved8	Reserved	
21	Reserved9	Reserved	
22	NC		
23	NC		
24	FC1	User I/O	Parallel Feature connector P12
25	reserved 20	reserved 20	
26	reserved 21	reserved 21	
27	GND	Power - Ground	
28	SLW	IIC	SCLK - Clock
29	SAW	IIC	SDAT - Data
30	VCCX	Power - 3.3 Volt	
31	12P	Power - 12 Volt	

32	GND	Power - Ground	
33	VCC	Power - 5 Volt	
34	GND	Power - Ground	
35	GND	Power - Ground	
36	GND	Power - Ground	
37	GND	Power - Ground	
38	GND	Power - Ground	
39	GND	Power - Ground	
40	GND	Power - Ground	
41	NC		
42	NC		
43	GND	Power - Ground	
44	GND	Power - Ground	

male, placed at card holder

44- pin SUB-D Connector,

15 O O O O O O O O O O O O O O O 1
30 O O O O O O O O O O O O O O O 16
44 O O O O O O O O O O O O O O O 31

Look at solder side of male connector

10- pol internal feature connector P12

Pin	Bez	Function	Comment
1	VCCX	Power - 3.3 Volt	
2	GND	Power - Ground	
3	FC1	User I/O	Parallel SUB-D 44pol
4	PORTA	GP- User I/O	Parallel SUB-D 44pol
5	XDIN	I/O	Parallel SUB-D 44pol
6	PORTB	VS- Vertical Sync	Parallel SUB-D 44pol
7	XLDC	I/O	Parallel SUB-D 44pol
8	SAW	IIC	SDAT - Data
9	GND	Power - Ground	SCLK - Clock
10	SLW	IIC	SCLK - Clock

6 pol feature connector for video signal

Pin	Bez	Function	Comment
1	GND	Power - Ground	
2	IAY0	Video - IN	Parallel SUB-D 44pol
3	GND	Power - Ground	
4	IAC0	Video - IN	Parallel SUB-D 44pol
5	GND	Power - Ground	
6	IAY2	Video - IN	Parallel SUB-D 44pol

2.2.1. Video Connector FG-34

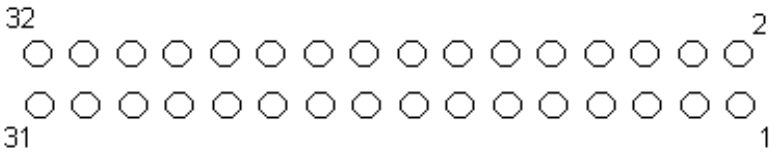
This table shows the pinout of the 15-pol Sub- D connector.
The differences between FG-34 and FG-32 are only slight and concern only video inputs.

Pin Nr.	Signal	Fun. 37	Function	I/O	Comment
1	VCC		5 V		
2	GND		GND		
3	E6 Y3	cx=5 cx=4	Input CVBS E4 Input S2 Y/C: C	I	parallel to Mini-Din--connector (Hosiden)
4	E4 Y2	cx=8 cx=7	Input CVBS E6 Input S3 Y/C: C	I	
5	E2 Y1	cx=2 cx=1	Input CVBS E2 Input S1 Y/C: C	I	
6	GND		GND		
7	User 1		User Input	I/O	look at driver Function 57
8	E1 C1	cx=3 cx=4	Input CVBS E3 Input S2 Y/C: Y	I	parallel to Mini-Din-Connector (Hosiden)

9	E5 C3	cx=6 cx=7	Input CVBS E5 Input S3 Y/C: Y	I	
10	E3 C2	cx=0 cx=1	Input CVBS E1 Input S1 Y/C: Y	I	parallel to Cinch connector
11	12 V		12V optional 200mA	pwr	add Jumper
12	GND		GND		
13	Res.		reserved	--	no connection
14	Res.		reserved	--	no connection
15	Res.		reserved	--	no connection

2.2.2. Feature connector FG-34

Nine input bits can be read with function 57 (value of IN1...9 will be returned in dx) and written with function 65. If I/O pins are used as inputs, function 65 must send 0 to this bit position.



1, 2, 31	-	5V Vcc	6	-	IN5
3, 4, 29, 30	-	GND	8	-	IN6
5	-	IN1	10	-	IN7
7	-	IN2	12	-	IN8
9	-	IN3	32	-	IN9
11	-	IN4	13...28	-	reserved

2.3. Video Connector FG-33

Pin numbers labeled drectly on the connectors may not be valid. Please use the

pin numbers according to wire color shown here.

Pin Nr.	Signal	Function	Comment
1	grey	Ground connection	GND
2	white red	supply voltage FG-33: 3.3V DC max 50mA	VCC
3	white	User I/O bit, function 57	User 2
4	pink	Reserved 1	not connected
5	light green	Reserved 2	not connected
6	brown white	Reserved 3	not connected
7	green	Reserved 4	not connected
8	violet	Reserved 5	not connected
9	yellow	User I/O bit, siehe Fkt. 57	User 1
10	black/ white	black or white Cinch connector, Mini-Din: Chrominance	Input 3:Composite 2 Input 2:Y/C: C
11	orange	Chrominance 2, Composite 4	Input 6:Composite 4 Input 5: Y/C C
12	blue	Red Cinch connector, Mini- Din: Luminance	Input 1 Composite 1 Input 2 Y/C: Y
13	red	Chrominance 3, Composite 6	Input 9:Composite 6 Input 8:Y/C: C

14	black	Luminance 2, Composite 3	Input 4:Composite 3 Input 5:Y/C: Y
15	brown	Luminance 3, Composite 5	Input 7:Composite 5 Input 8:Y/C: Y

This 15-pol connector is the same type as is used in FG-30-II. All pins have the same function. The only difference is that the supply voltage is 3,3 Volts instead of 5V.

2.4. Video Connector FG-32

HaSoTec Frame Grabber FG-32 has a Cinch connector, one Mini-Din-Connector (S-Video) and one 15pol. SUB-D-Connector for connecting up to 6 video sources.

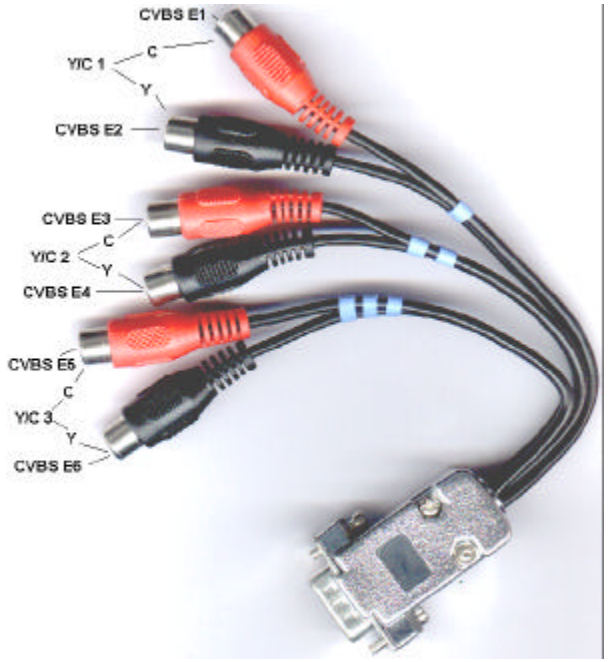
Cinch connector : Input E1
Mini-Din: Input Y/C E3/E4, if the S-Video image is not correct, you must cross E4 and E3 of the connecting cable or use the 15 pol. Sub-D- cable.

Below is the pinout of the 15 pol. SUB-D connector:
(corrected in Version 4.12 und expanded in V. 4.19)

Pin Nr.	Signal	Fkt. 37	Function	I/O	Comment
1	VCC		5 V		
2	GND		GND		
3	E6 Y3	cx=8 cx=7	Input CVBS E6 Input S3 Y/C: Y	I	
4	E4 Y2	cx=5 cx=4	Input CVBS E4 Input S2 Y/C: Y	I	parallel to Mini-Din connector
5	E2 Y1	cx=2 cx=1	Input CVBS E2 Input S1 Y/C: Y	I	
6	GND		GND		
7	User 1		User Input	I/O	use driver Function 57
8	E1 C1	cx=0 cx=1	Input CVBS E1 Input S1 Y/C: C	I	parallel to Cinch connector
9	E5 C3	cx=6 cx=7	Input CVBS E5 Input S3 Y/C: C	I	
10	E3 C2	cx=3 cx=4	Input CVBS E3 Input S2 Y/C: C	I	parallel to Mini-Din-connector

11	12 V		12V optional 200mA	pwr	add Jumper
12	GND		GND		
13	Res.		Reserved	--	no connection
14	Res.		Reserved	--	no connection
15	Res.		Reserved	--	no connection

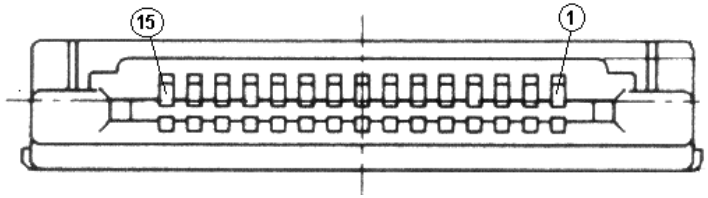
The cable illustrated below is available as an option:



2.5. Video Connector FG-30-Hirose

The Video Connector of the old PC-Card FG30-version is a 15 pol connector. This connector is different from the Berg version and does not fit FG-30-II.
Up to 6 CVBS- or 3 S-Video sources can be connected to this card. There are additional I/O bits programmable with function 57

View nto the contacts of the connector:



This pinout is only valid for Hirose connectors, not for FG-30-II

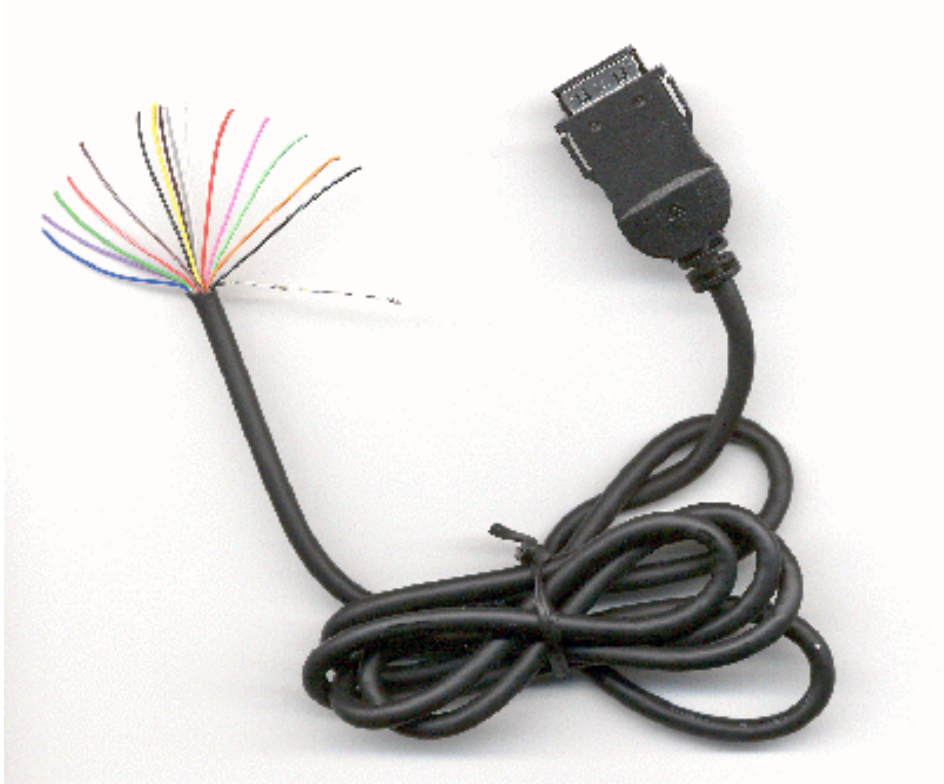
Pin Nr.	Signal	Function	I/O	Comment
1	GND	Ground		
2	C1	Input 1, Input 2 Y/C: C	I	red Cinch connector
3	C2	Input 4, Input 5 Y/C: C	I	

4	Res. A	Reserviert A	NC	
5	User 0	User Output pin, max. Eine TTL Last	O	Function 57
6	Res. D	Reserviert D	---	no connection
7	Res. C	Reserviert C	---	no connection
8	GND	Ground		
9	C3	Input 7 Input 8 Y/C: C	I	
10	Y2	Input 6 Input 5 Y/C: Y	I	
11	User 1	User I/O pin	I/O	DriverFunction 57, must have pull up resistor 10K against VCC
12	User 2	User I/O pin	I/O	Function 57, 10K resistor against VCC
13	Y1	Input 3 Input 2 Y/C: Y	I	black or white Cinch connector
14	Y3	Input 9 Input 8 Y/C: Y	I	
15	5P	5 Volt DC	O	max. 50 mA

2.6. Video connector FG-30-II Berg

FG-30-II has various cable options. One cable is a common shielded 15 pol cable:

1. 15 pol cable open ends, length 80...100cm.
This cable is required if more than two composite signals or more than one S-Video signal or a Trigger signal and other I/Os have to



be connected.

This pinout is only valid for the FG-30-II (Berg connector)
Pin numbers labeled drectly on the connectors may not be valid. Please use the pin numbers according to the wire color shown here.

1	grey	Ground connection	GND
2	white red	supply voltage FG-30-II: 5V	VCC
3	white	User I/O bit, function 57	User 2
4	pink	Reserved 1	not connected
5	light green	Reserved 2	not connected
6	brown white	Reserved 3	not connected
7	green	Reserved 4	not connected
8	violet	Reserved 5	not connected
9	yellow	User I/O bit, siehe Fkt. 57	User 1
10	black/ white	black or white Cinch connector, Mini-Din: Chrominance	Input 3:Composite 2 Input 2:Y/C: C
11	orange	Chrominance 2, Composite 4	Input 6:Composite 4 Input 5: Y/C C
12	blue	Red Cinch connector, Mini- Din: Luminance	Input 1 Composite 1 Input 2 Y/C: Y
13	red	Chrominance 3, Composite 6	Input 9:Composite 6 Input 8:Y/C: C
14	black	Luminance 2, Composite 3	Input 4:Composite 3 Input 5:Y/C: Y

15	brown	Luminance 3, Composite 5	Input 7:Composite 5 Input 8:Y/C: Y

2. The S-Video cable set has a 15 pol Berg connector with female Mini-Din connector and Mini-Din-connector to 1xCinch (sometimes 2x Cinch as shown).

The first cable allows a direct connection of an S-Video Y/C signal

when the software switches to Input 2. The second cable allows you to connect composite sources as with the standard cable. The second cable is no longer a part of the S-Video cable set. Please use the standard cable instead.