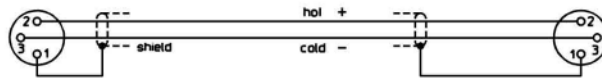
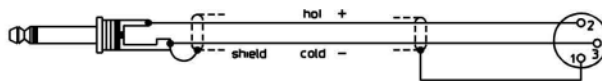


MIC INPUT



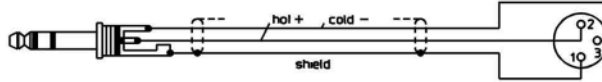
balanced connection of microphones

All phone jack in/outputs of the PSX



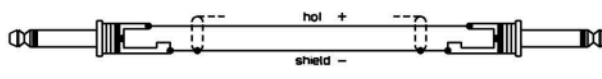
**unbalanced**  
external equipment with XLR-type in/output jacks  
**balanced**

Channel Insert Main Insert



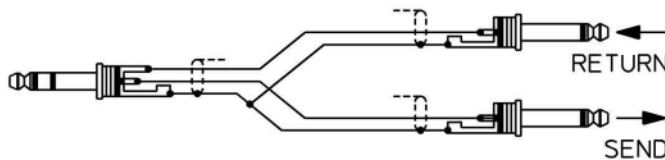
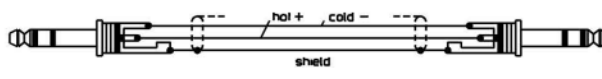
Direct OUT via INSERT, uninterrupted signal path

All phone jack in/outputs of the PSX



**unbalanced**  
external equipment with XLR-type in/output jacks  
**balanced**

Channel Insert Main Insert



Y-type cable for the connection of external FX units and signal processors with phone jacks

**NIEHOFF**  
High Tech Sound & Light

Verkoop en onderhoud van professionele geluid- en lichtsystemen.

Venweg 13, Denekamp, tel. 0541-351 451, [www.niehoff.nl](http://www.niehoff.nl)



Aansluitschema 72 polige multikonnekter

kanaal	XLR			XLR			kanaal
	3	2	1	1	2	3	
2	61	49	37	25	13	1	1
4	62	50	38	26	14	2	3
6	63	51	39	27	15	3	5
8	64	52	40	28	16	4	7
10	65	53	41	29	17	5	9
12	66	54	42	30	18	6	11
14	67	55	43	31	19	7	13
16	68	56	44	32	20	8	15
18	69	57	45	33	21	9	17
20	70	58	46	34	22	10	19
22	71	59	47	35	23	11	21
24	72	60	48	36	24	12	23



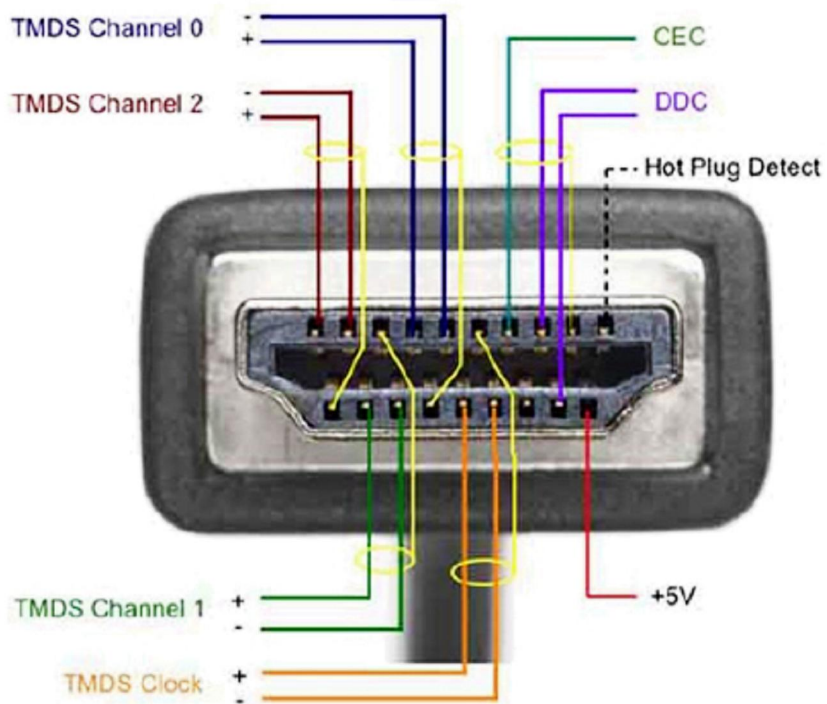
Venweg 13, Denekamp, tel. 0541-351 451, [www.niehoff.nl](http://www.niehoff.nl)

Aansluitschema 108 polige multikonnektoer

kanaal	XLR			XLR			kanaal
	3	2	1	1	2	3	
2	91	73	55	37	19	1	1
4	92	74	56	38	20	2	3
6	93	75	57	39	21	3	5
8	94	76	58	40	22	4	7
10	95	77	59	41	23	5	9
12	96	78	60	42	24	6	11
14	97	79	61	43	25	7	13
16	98	80	62	44	26	8	15
18	99	81	63	45	27	9	17
20	100	82	64	46	28	10	19
22	101	83	65	47	29	11	21
24	102	84	66	48	30	12	23
26	103	85	67	49	31	13	25
28	104	86	68	50	32	14	27
30	105	87	69	51	33	15	29
32	106	88	70	52	34	16	31
34	107	89	71	53	35	17	33
36	108	90	72	54	36	18	35

## HDMI

- Pin 1,2 en 3: Data 2 (respectievelijk +, afscherming, -)
- Pin 4,5 en 6: Data 1 (respectievelijk +, afscherming, -)
- Pin 7,8 en 9: Data 0 (respectievelijk +, afscherming, -)
- Pin 10,11 en 12: Kloksignaal (respectievelijk +, afscherming, -)
- Pin 13: CEC: Consumer Electronics Control
- Pin 14: gereserveerd (niet aangesloten)
- Pin 15 en 16: HDCP data (respectievelijk SCL en SDA)
- Pin 17 : DDC/CEC afscherming
- Pin 18 : +5 V voeding
- Pin 19 : Hot Plug Detect



# DVI

## Connector

### Pin-nummers (Poort-basis)

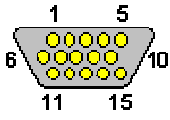
1	2	3	4	5	6	7	8	C1	C2
9	10	11	12	13	14	15	16	C5	
17	18	19	20	21	22	23	24	C3	C4

### Pintoewijzingen

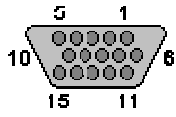
Pin	Naam	Functie
1	TMDS Data 2-	Digitaal rood - (Link 1)
2	TMDS Data 2+	Digitaal rood + (Link 1)
3	TMDS Data 2/4 schild	
4	TMDS Data 4-	Digitaal groen - (Link 2)
5	TMDS Data 4+	Digitaal groen + (Link 2)
6	DDC klok	
7	DDC data	
8	Analoge Verticale Sync	
9	TMDS Data 1-	Digitaal groen - (Link 1)
10	TMDS Data 1+	Digitaal groen + (Link 1)
11	TMDS Data 1/3 schild	
12	TMDS Data 3-	Digitaal blauw - (Link 2)
13	TMDS Data 3+	Digitaal blauw + (Link 2)
14	+5V	Stroomvoorziening voor monitor in stand-by
15	GND (Aarding)	Aarding voor Pin 14 en analoge sync
16	Hot Plug Detect	
17	TMDS data 0-	Digitaal blauw - (Link 1) and digital sync
18	TMDS data 0+	Digitaal blauw + (Link 1) and digital sync
19	TMDS data 0/5 schild	
20	TMDS data 5-	Digitaal rood - (Link 2)
21	TMDS data 5+	Digitaal rood + (Link 2)
22	TMDS klokschild	
23	TMDS clock+	Digitale klok + (Links 1 and 2)
24	TMDS clock-	Digitale klok - (Links 1 and 2)
C1	Analoog Rood	
C2	Analoog Groen	
C3	Analoog Blauw	
C4	Analoge Horizontale Sync	
C5	Analoge GND	Aarding voor RGB signalen

## Scart aansluitschema





15 pin highdensity D-SUB male connector at the monitor cable



15 pin highdensity D-SUB female connector at the videocard

Nearly all modern PC graphics cards use the same 15 pin VGA connector that the original IBM VGA card used. VGA=Video Graphics adapter or Video Graphics Array.

There are at least four versions of the VGA connector, which are the three-row 15 pin DE-15 (also called mini sub D15) in original and DDC2 pinouts, a less featureful and far less common 9-pin VGA, and a Mini-VGA used for laptops. The image and below table are the newer 15-pin VGA VESA DDC2 connector pinout.

VGA connector pinout:

Pin	Name	Dir	Description
1	RED	→	Red Video (75 ohm, 0.7 V p-p)
2	GREEN	→	Green Video (75 ohm, 0.7 V p-p)
3	BLUE	→	Blue Video (75 ohm, 0.7 V p-p)
4	ID2	←	Monitor ID Bit 2
5	GND	—	Ground
6	RGND	—	Red Ground
7	GGND	—	Green Ground
8	BGND	—	Blue Ground
9	KEY	-	Key (No pin)
10	SGND	—	Sync Ground
11	ID0	←	Monitor ID Bit 0
12	ID1 or SDA	←	Monitor ID Bit 1
13	HSYNC or CSYNC	→	Horizontal Sync (or Composite Sync)
14	VSYNC	→	Vertical Sync
15	ID3 or SCL	←	Monitor ID Bit 3

Note: Direction is Computer relative Monitor. All VGA pinout signals except R, G, B are TTL level signals.

**Kramer Kabel C-GM/GM-xx (1 connector afknippen):**

**Dunne rode (samen met gele in seal) is Horizontaal.**

**Dunne witte (samen met zwarte in seal) is Vertikaal.**

**Kramer C-GM-XL prefab 1 x aangegoten connector en 1 x open eind:**

**Rood, Groen, Blauw, Geel, Zwart = RGBHV (Geel is Horizontaal, Zwart is Vertikaal)**

**Zwarte 'single wire' ader met label 'Pin 12' is SDA**

**Bruine 'single wire' ader met label 'Pin 15' is SCL**

## VGA pinout : monitor ID detection pin assignments

4	11	12	
ID2	ID0	ID1	
n/c	n/c	n/c	no monitor
n/c	n/c	GND	Mono monitor which does not support 1024x768
n/c	GND	n/c	Color monitor which does not support 1024x768
GND	GND	n/c	Color monitor which supports 1024x768

GND means connected to ground

n/c means that the pin is not connected anywhere

This monitor type detection is becoming more and more obsolete nowadays. New VGA plug-and-play monitors communicate with the computer according to VESA DDC standard.

## VGA VESA DDC

VESA Display Data Channel is a method for integrating digital interface to VGA connector so as to enable the monitor and graphics card to communicate. There are two different levels of DDC: DDC1 and DDC2.

## VGA DDC1

DDC1 allows the monitor to tell it's parameters to the computer. The following VGA card connector pins have to be changed to allow DDC1 functions:

VGA pin	new function
9	Optional +5V output from graphics card
12	Data from display
14	Standard vertical sync signal which works also as data clock
15	Monitor ID3

When the VGA graphics card detects data on data-line it starts to read the data coming from the monitor synchronous to vertical sync pulse. Vertical sync pulse frequency can be increased up to 25 KHz for the time of the data transfer if a DDC1 compliant monitor is found (be sure not to send those high frequencies to non DDC1 monitors!).

## VGA DDC2

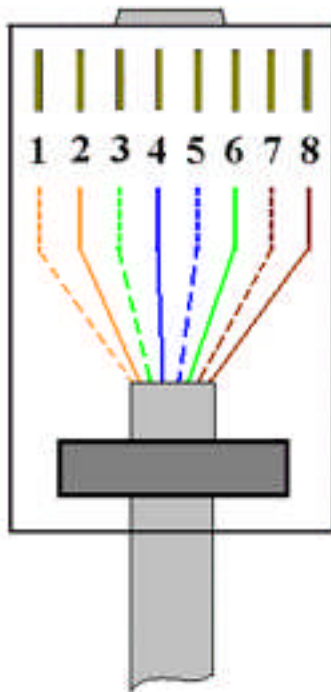
DDC2 allows bidirectional communication: monitor can tell it's parameters and the computer can adjust monitor settings. The bidirectional data bus is a synchronous data bus similar to Access Bus and is based on I2C technology. The following pins on VGA pinout have to be changed to enable DDC2 to work:

VGA pin	new function
9	Optional +5V output from graphics card
12	Bidirectional data line (SDA)
15	Data clock (SLC)

The signals in the data bus are standard I2C signals. The computer provides 15 kohm pullup for the SDA and SLC lines. Monitor must provide 47 kohm pull-up on SCLK line.



# RJ45 UTP Cableplugs



Contactzijde stekker  
(veerclip achterkant)

## Aansluitschema voor

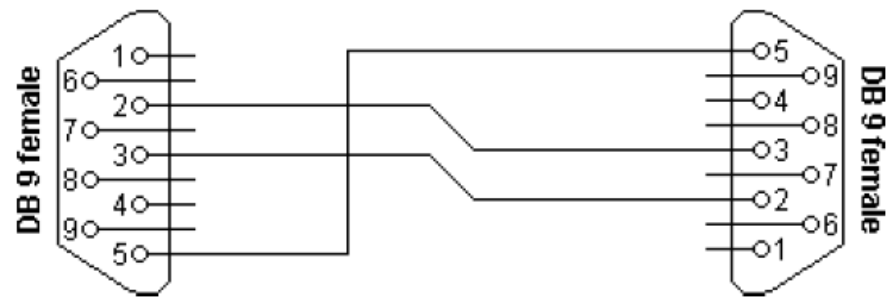
Normale kabel  
(beide stekkers)

Kruiskabel  
(1 van de stekkers)

1	wit/oranje	-----	1	wit/groen	-----
2	oranje	-----	2	groen	-----
3	wit/groen	-----	3	wit/oranje	-----
4	blauw	-----	4	blauw	-----
5	wit/blauw	-----	5	wit/blauw	-----
6	groen	-----	6	oranje	-----
7	wit/bruin	-----	7	wit/bruin	-----
8	bruin	-----	8	bruin	-----



## Eenvoudige RS232 nulmodem zonder handshaking



Connector 1	Functie
2	Rx ← Tx
3	Tx → Rx
5	Ground