DMXI
digital, modular KVM-extender, Cable length < 10km (app. 6 1/4 miles), resolution up to 1280x1024/75Hz

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Dear customer,

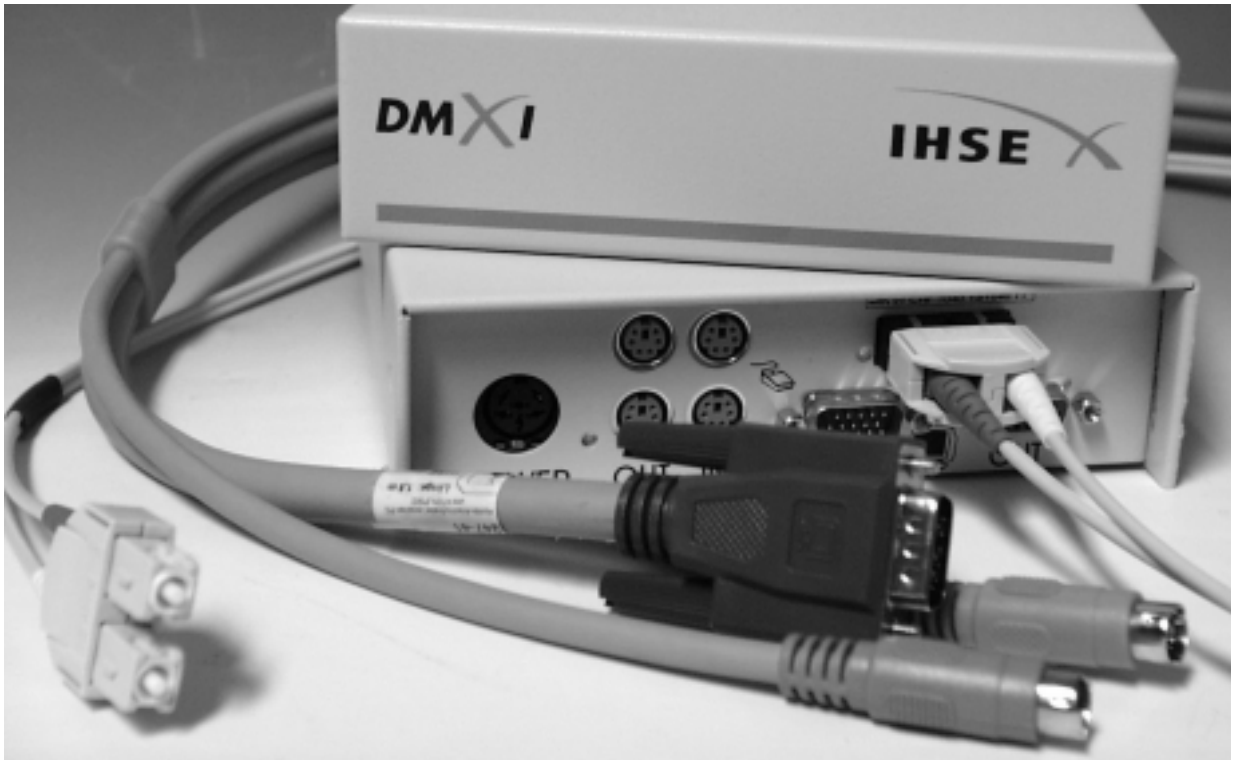
congratulations to purchase the DMXI KVM-extender. This product corresponds to the ultimate requisitions for quality and technics. If you still have problems with your device, please refer to your sales office.

Please read this manual before installing and operating the units. Please record the serial number, the date of purchase and your sales office in the space below. The serial number is located on the rear side of the units. These data would be important, if you ever need to repair one of the parts. Retain this Owners Manual in a safe place for future reference.

Serial number . . . . . .

Date of purchase . . . . . .

Sales office . . . . . .



Introduction

Note: This manual describes several, different products. There may be connectors or parts described, which are not installed in your unit. See page 29/32, to find the matching interfaces for your device. A list of available devices you may find on page 42

According to the increased requirements of the computer users, regarding the screen quality, the new DMXI - Digital Modular Xtender of IHSE is an appropriate solution to fit their requirements. Depending on the type of device, you can connect monitors with a resolution of up to 1280x1024 pixels. You can use PS2 Mouse and Keyboard, SUN Keyboard/Mouse or USB Devices. The high dense packing of the electronic components allow, to mount this in a slim, tight housing, which can be placed on the table, as well as mounted at a wall as well as stacked in a 19" Housing. Bridging the distance with a Cat5 cable (used with a 10BaseT network), you can bridge at least 100m (app. 330ft). Using only 2 fibers of a fiber optical cable (i.e. FOIRL from fiber networking or Fiber To The Desk, ...) you can bridge 200m (app. 650ft) with a 62.5 micron fiber and up to 400m (app. 1310ft) with a 50 micron fiber. If you use single mode fibers/devices, you can extend the distance up to 10km (app 6 1/4 miles) without any reboosting! Using fiber devices, you do not only have the advantage of extended cable length, but your line is also absolutely inaffected by electromagnetic interferences (EMI). You have electromagnetic protection against lightnings and overvoltage. And last but not least, it is absolutely sure against any spy attack.

The external power supply has to be connected at the plug terminal on the outside of both interface boxes. It is a selfadapting AC/DC converter, using any voltage in the range between 90 and 240 Volts at 50 or 60 Hz. For industrial users there are devices with 9..28VDC available

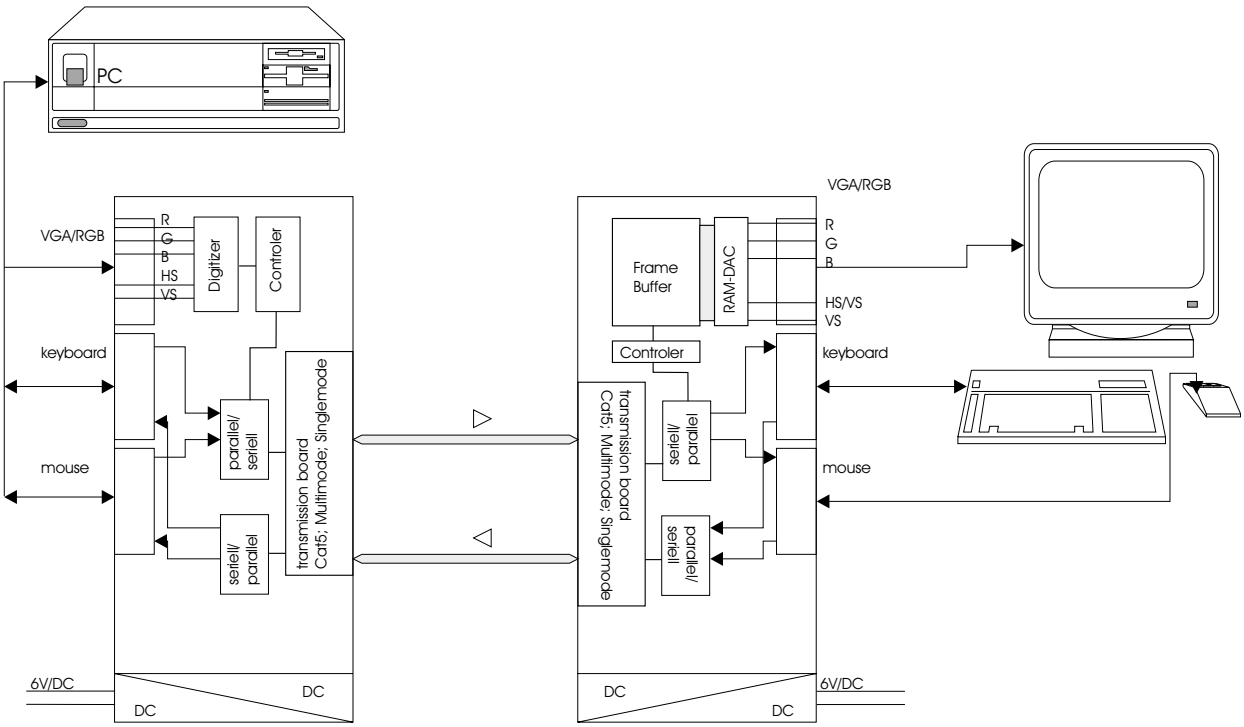


fig.: 2 - schematic installation arrangement

Specifications

Power supply

Voltage	:	p.s.u.: 90..240VAC-0,5A-47..63Hz/6VDC-2000 mA	
Power required	:	local interface	app. 6 W
		remote interface without keyboard	app. 6 W
		remote interface with keyboard	app. 7,2 W

Interface (depending on type of device)

monitor	:	VGA (res.: 1280x1024, plug&play not supported) 13Bit/24Bit Color Depth, depending on operating mode
keyboard	:	IBM PS2 (power consumption <100mA)
mouse	:	IBM PS2
keyboard/mouse	:	SUN compatible
USB	:	USB 1.1 compatible (**NO** CD-Writer!)

maximum length of interconnection cable (without reboost)

Cat5	:	100m (app. 330 ft)
62.5µm/50µm Multimode	:	200m@62,5µ (app. 650 ft) / 400m@50µ (app. 1310 ft)
9µm Singlemode	:	10km (app. 6 1/4 miles)

Dimensions

Weight	:	app. 1,0 kg
Length/width/hight	:	app. 149 x170 x 44mm
Temperature range	:	running: app. 10°C ... 45°C storage: app. -5°C ... 55°C
Humidity	:	max. 80% - non condensing

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Highlights

Automatic DPA Adjustment: Staring with rev. 1.10, all units have the 'Automatic DPA Adjustment' (see also page 39). Now the units are self adapting to the screen parameters under mostly all circumstances. Only in few cases you need to adapt manually. Naturally, the posibility to store the detected, optimal setting for the actual reolutions stays available. This is a nice feature, if you use the extender on several (switched) computers, because then, immediately after switching, you get a sharp, clear picture.

13Bit/24Bit Color Depth: Restricted by the data transfer rate, the screen data have to be transmitted in a staggered (interlaced) mode. This is visible (only if large areas on the screen are changing) in a form of vertical stripes. Reducing the color depth to 13Bit (You may see differences to 24Bit in only some few applications), the interlace can be reduced dramatically. Up to 1024x768@60Hz there is no interlace! (1:1), above only 1:2 instead of 1:4. **Attention**: This is **NOT** the setting of your VGA card! This is independend from the transmission!

optical elements (Multimode)

The used multimode transceivers are Class 1 laser products. They comply with IEC 825-1 and FD 21 CFR 1040.10 and 1040.11. To meet laser saftey requirements the transceivers shall be operated within the maximum ratings.

Caution

The use of optical instruments with this product will increase eye hazards! All adjustments have been made at the factory prior to shipment of the device. No maintenance or alteration to the device is required.
Tampering with or modifying the performance of the device will result in voided product warranty.

Usage restrictions

The optical ports of the modules must be terminated with a optical connector or with a dust plug.

Note
Failure to adhere to the above restrictions could result in a modification that is considered an act of "manufactoring," and will require, under law, recertification of the modified product with the U.S. Food and Drug Administration (ref. 21 CFR 1040.10 (i)).

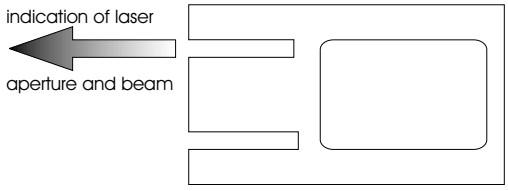
Laser Data

Wavelength	850 nm
Total output power (as defined by IEC: 50mm aperture at 10cm distance)	<400µW
Total output power (as defined by FDA: 7mm aperture at 20cm distance)	<70µW
Beam divergence	12°

Required labels

FDA	IEC
Complies with 21 CFR 1040.10 and 1040.11	Class 1 Laser Product

Laser emission



Transmitter Electro-Optical Characteristics (typical)

Launched Power (Average) into multimode fiber 50µm or 62.5 µm diameter	-5 dBm (-9,5 dBm min)
Center Wavelength	850 nm

Receiver Electro-Optical Characteristics (typical)

Sensitivity (Average Power)	-20 dBm (-17dBm max)

optical elements (Singlemode)

The used singlemode transceivers are Class 1 laser products. They comply with IEC 60825-1 and FDA 21 CFR 1040.10 and 1040.11. To meet laser saftey requirements the transceivers shall be operated within the absolute maximum ratings.

Caution

The use of optical instruments with this product will increase eye hazards! All adjustments have been made at the factory prior to shipment of the device. No maintenance or alteration to the device is required.
Tampering with or modifying the performance of the device will result in voided product warranty.

Usage restrictions

The optical ports of the modules must be terminated with a optical connector or with a dust plug.

Note
Failure to adhere to the above restrictions could result in a modification that is considered an act of “manufactoring,” and will require, under law, recertification of the modified product with the U.S. Food and Drug Administration (ref. 21 CFR 1040.10 (i)).

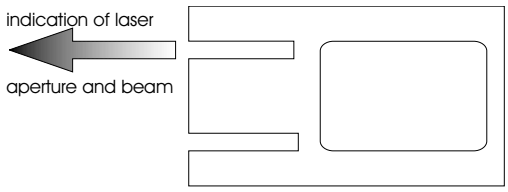
Laser Data

Wavelength	1300 nm
Total output power (as defined by IEC: 50mm aperture at 10cm distance)	<2000µW
Total output power (as defined by FDA: 7mm aperture at 20cm distance)	<180µW
Beam divergence	4°

Required labels

FDA	IEC
Complies with 21 CFR 1040.10 and 1040.11	Class 1 Laser Product

Laser emission



Transmitter Electro-Optical Characteristics (typical)

Launched Power (Average) into singlemode fiber 9µm diameter	-3 dBm (-11 dBm min)
Center Wavelength	1300 nm

Receiver Electro-Optical Characteristics (typical)

Sensitivity (Average Power)	-22 dBm (-20dBm max)

Connecting cables and power supply

Connecting cables

Cat5 Modules: S/UTP (Cat5) cable acc. to EIA/TIA 56A or TSB 36 or Digital STP 17-03170. Four pairs AWG 24. Pinout acc. EIA/TIA 568A (10BaseT)

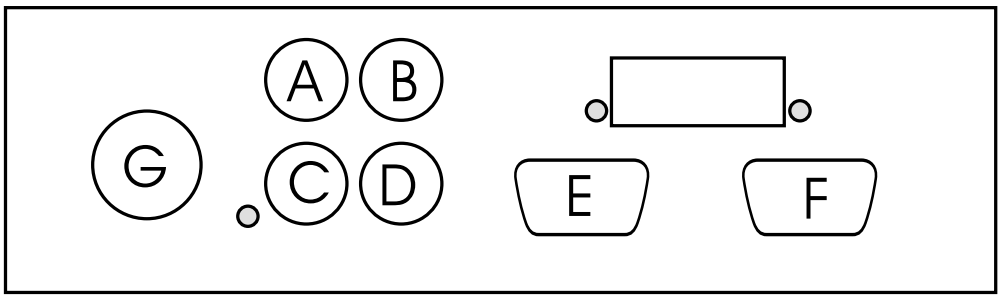
Multimode Modules: Two fibers 50µm or 62.5µm. E.g. I-V(ZN)H 2G50 (Inhouse patchcable) or I-V(ZN)HH 2G62,5 (Inhouse Breakout cable) or I/AD(ZN)H 4G50 (inhouse OR outdoor Breakout cable, stress resistant) or A/DQ(ZN)B2Y 4G62,5 (outdoor cable, stress resistant with protection against animal biting) All notations acc. VDE specification

Singlemode Modules: Two fibers 9µm. E.g. I-V(ZN)H 2E9 (Inhouse patchcable) or I-V(ZN)HH 2E9 (Inhouse Breakout cable) or I/AD(ZN)H 4E9 (inhouse OR outdoor Breakout cable, stress resistant) or A/DQ(ZN)B2Y 4G9 (outdoor cable, stress resistant with protection against animal biting) All notations acc. VDE specification

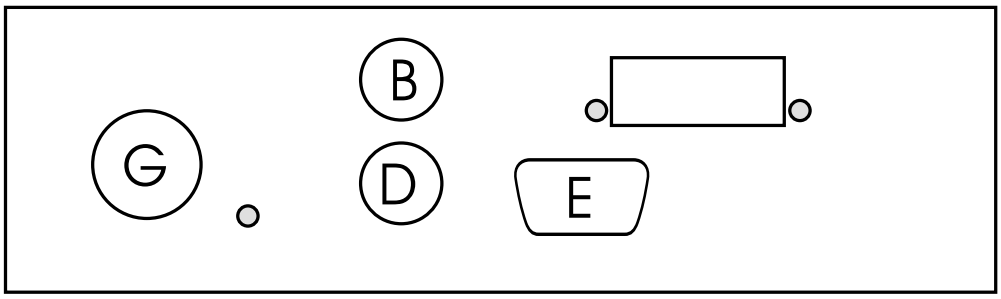
Power Supply Socket
At the plug terminal on the outside of both interface boxes a direct current power supply with 6 V/DC has to be connected. We recommend to use our suggested p.s.u. because GND and EARTH shouln't be connected. Please mount near to the devices ferrite rings in the DC line, to protect against electromagnetic interferences.

Plug connectors of the local interface

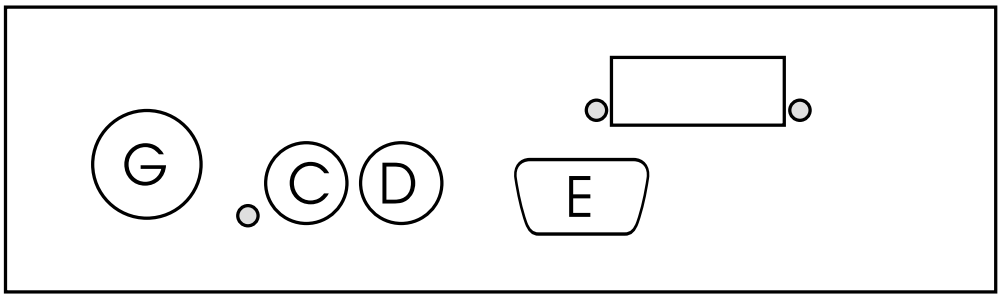
location of connectors at local unit PS2 type with local access:



location of connectors at local unit PS2 type without local access:



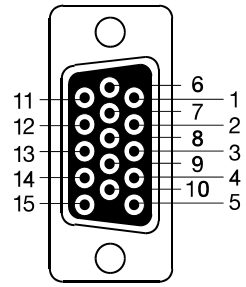
location of connectors at local unit SUN type:



connector	PS2 w/ local access	PS2 w/o local access	SUN
A	MOUSE OUT		
B	MOUSE IN	MOUSE IN	
C	KEYBOARD OUT		KEYB/MOUSE IN
D	KEYB IN/PRG	KEYB IN/PRG	PRG
E	VGA IN	VGA IN	VGA IN
F	VGA OUT		
G	POWER	POWER	POWER

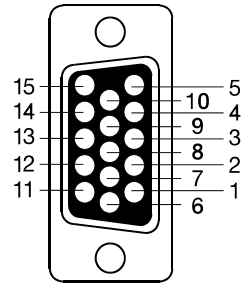
pinout local connectors

(depends on type of device!)



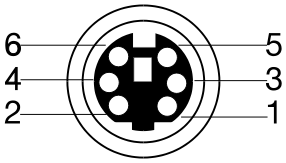
VGA IN
HD15 male

1-	red signal	6-	red GND	11-	n.c.
2-	green sinal	7-	green GND	12-	n.c.
3-	blue signal	8-	blue GND	13-	HSYNC
4-	GND	9-	n.c.	14-	VSYNC
5-	SIPLEX* downstream	10-	GND	15	SIPLEX* upstream



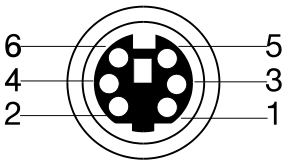
VGA OUT
HD15 female

1-	red signal	6-	red GND	11-	n.c.
2-	green sinal	7-	green GND	12-	n.c.
3-	blue signal	8-	blue GND	13-	HSYNC
4-	GND	9-	n.c.	14-	VSYNC
5-	GND	10-	GND	15	n.c.



MOUSE IN/OUT
6p miniDIN female

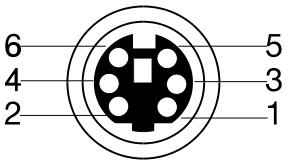
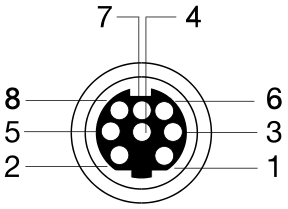
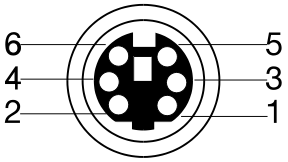
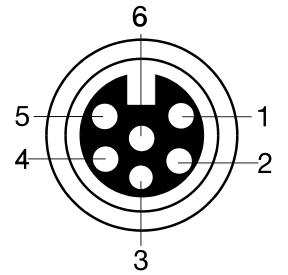
1-	MOUSE DATA	4-	monitor/+5V
2-	n.c.	5-	MOUSE CLCK
3-	GND	6-	n.c.



KEYB IN/PRG
6p miniDIN female

1-	KEYB DATA	4-	monitor/n.c.
2-	PRG OUTPUT	5-	KEYB CLCK
3-	GND	6-	PRG INPUT

* SIPLEX is a special protocol of INFRATEC Plus

 KEYBOARD OUT 6p miniDIN female	1- KEYB DATA 2- n.c. 3- GND	4- +5V 5- KEYB CLCK 6- n.c.	
 SUN KEYB/MOUSE	1- GND 2- GND 3- SUN Power ON 4- MOUSE IN	5- KEYB OUT 6- KEYB IN 7- KEYB Power ON 8- SUN Power ON	
 PRG (SUN ONLY) 6p miniDIN female	1- 2- PRG OUTPUT 3- GND	4- 5- 6- PRG INPUT	
 POWER 6p DIN female	1- GND 2- n.c. 3- GND	4- n.c. 5- +6V DC 6- Shield/Earth	SHELL Shield

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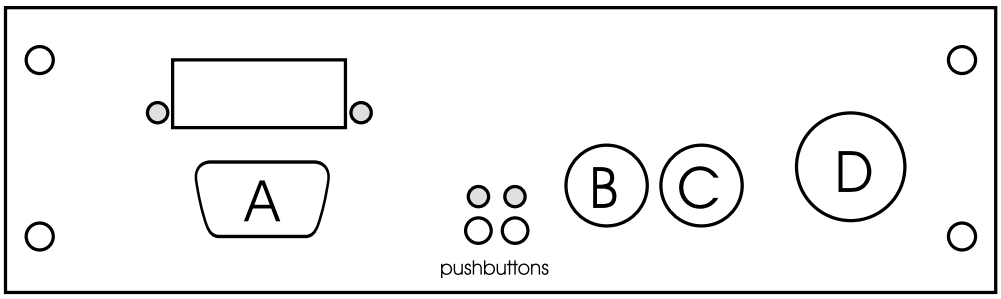
Plug connectors of the remote interface

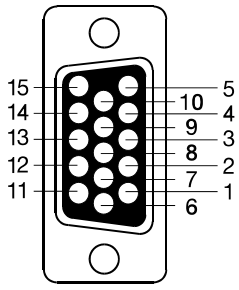
location of connectors at remote unit PS2 type and SUN type:



connector	PS2	SUN
A	VGA OUT	VGA OUT
B	MOUSE OUT	KEYB/MOUSE IN
C	KEYBOARD OUT/PRG	PRG
D	POWER	POWER

pinout remote connectors

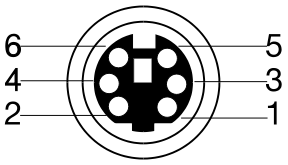
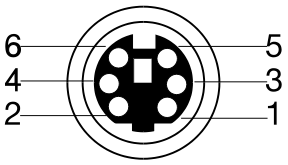
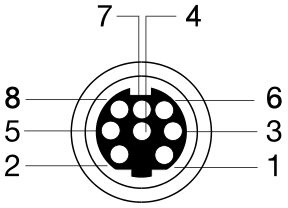
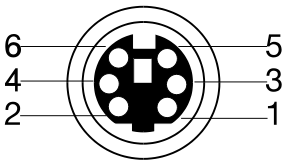
(depends on type of device!)



VGA OUT
HD15 female

1-	red signal	6-	red GND	11-	n.c.
2-	green sinal	7-	green GND	12-	n.c.
3-	blue signal	8-	blue GND	13-	HSYNC
4-	GND	9-	n.c.	14-	VSYNC
5-	SIPLEX* downstream	10-	GND	15	SIPLEX* upstream

* SIPLEX is a special protocol of INFRATEC Plus

 KEYB OUT/PRG 6p miniDIN female	1- KEYB DATA 2- PRG OUT 3- GND	4- +5V 5- KEYB CLCK 6- PRG IN	
 MOUSE OUT 6p miniDIN female	1- MOUSE DATA 2- n.c. 3- GND	4- +5V 5- MOUSE CLCK 6- n.c.	
 SUN KEYB/MOUSE	1- GND 2- GND 3- SUN Power ON 4- MOUSE IN	5- KEYB OUT 6- KEYB IN 7- KEYB Power ON 8- SUN Power ON	
 PRG (SUN ONLY) 6p miniDIN female	1- 2- PRG OUT 3- GND	4- 5- 6- PRG IN	

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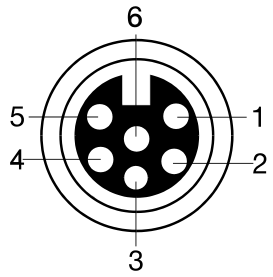
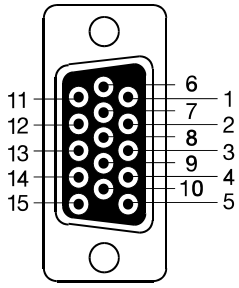
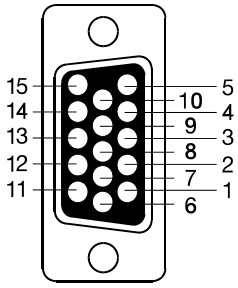
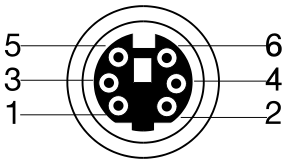
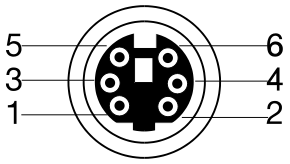
 POWER 6p DIN female	1- GND 2- n.c. 3- GND	4- n.c. 5- +6V DC 6- Shield/Earth	SHELL Shield

PC/local unit connecting cables

VGA connecting cable

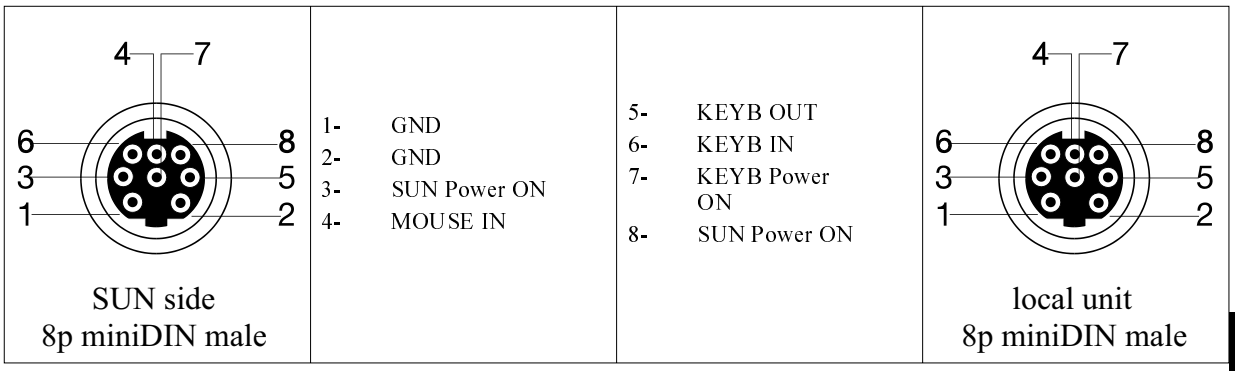
 PC side HD15 male	1- red signal 2- green sinal 3- blue signal 4- GND 5- SIPLEX* downstream 6- red GND 7- green GND 8- blue GND	9- n.c. 10- GND 11- n.c. 12- n.c. 13- HSYNC 14- VSYNC 15 SIPLEX* upstream	 local unit HD15 female

PS2 keyboard/mouse cable

 PC side 6p miniDIN male	1- KEYB/MOUSE DATA 2- 3- GND	4- +5V 5- KEYB/MOUSE CLCK 6-	 local unit 6p miniDIN male

* SIPLEX is a special protocol of INFRATEC Plus

SUN keyboard/mouse cable



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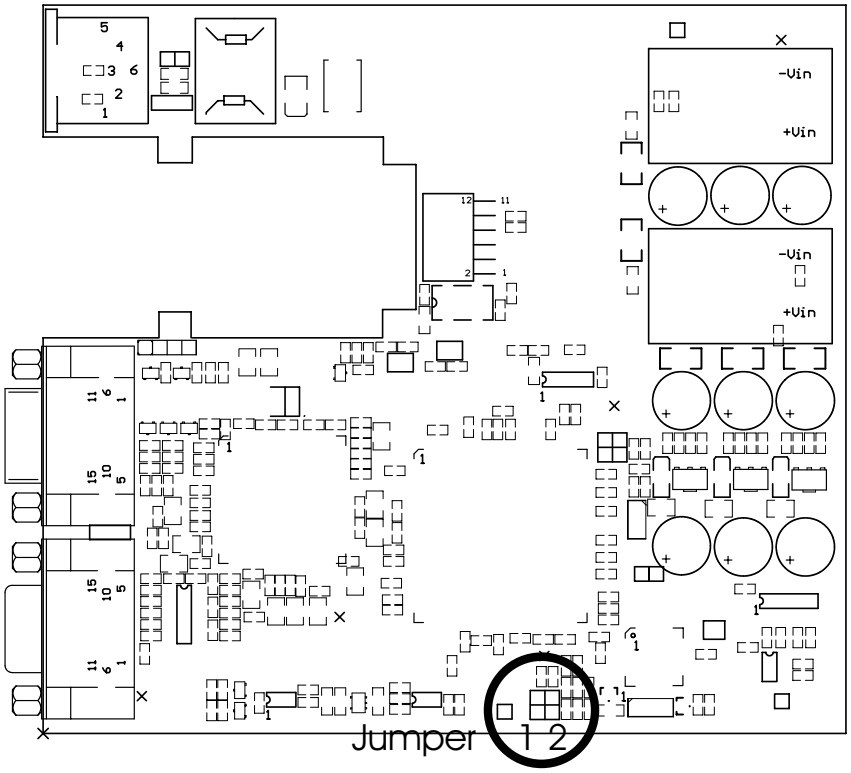
Location of the jumpers of the local interface

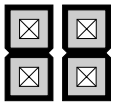
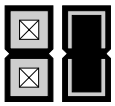
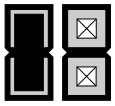
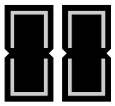


Control devices of the local interface

Unscrew the upper part of the casing. The jumpers are located on the board as shown in the figure above. Adjustable are:

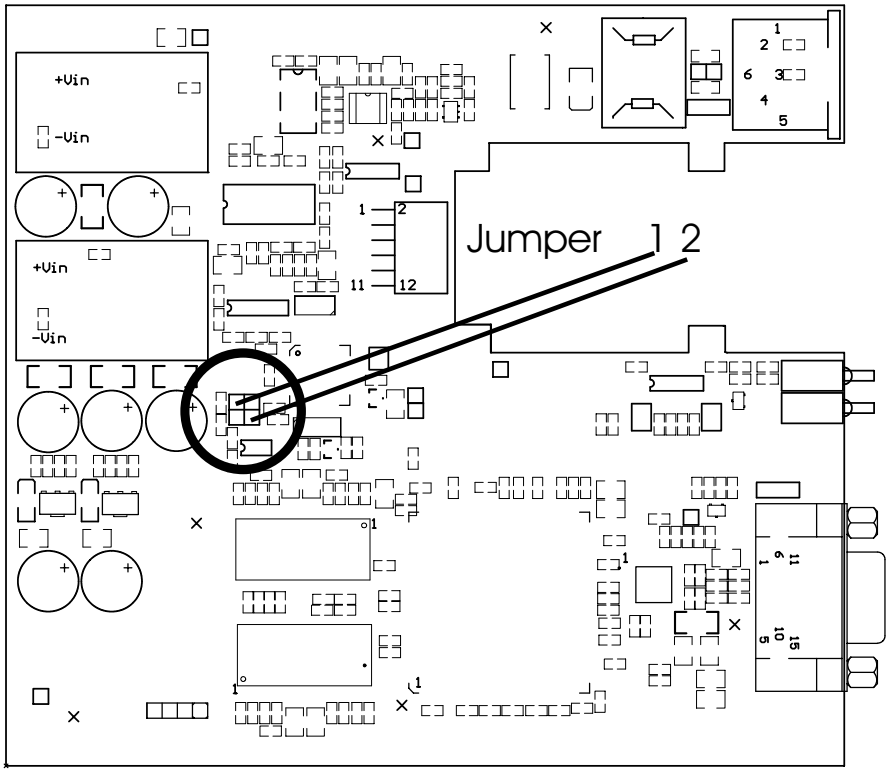
a) selection, whether to adjust the DPA offset automatically

b) selection, mode 13Bit-/24Bit- Color Depth

Jumper 1 2	automatic DPA-adjustment	Color Depth Mode
	**OFF**	**24 Bit**
	**OFF**	**13 Bit**
	**ON**	**24 Bit**
	**ON**	**13 Bit (factory setting)**

Attention!: Changing the Jumper Setting takes affect after the next power-on.

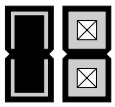
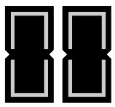
Location of the jumpers of the remote interface



Control devices of the local interface

Unscrew the upper part of the casing. The jumpers are located on the board as shown in the figure above. Adjustable is:

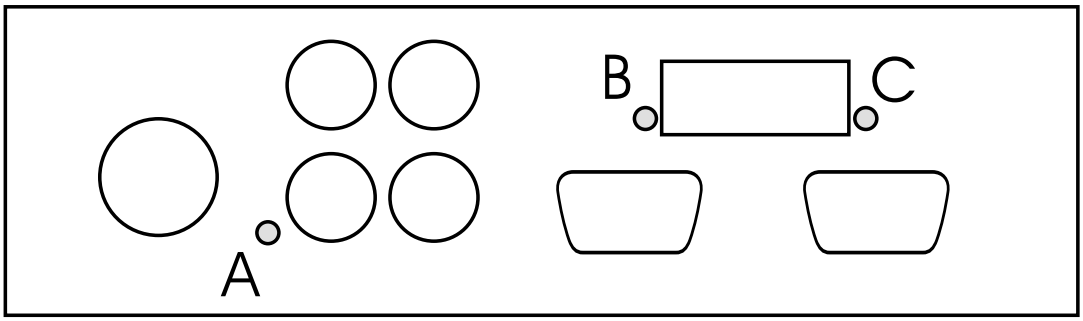
a) selection, mode 13Bit-/24Bit- Color Depth

Jumper 1 2	Color Depth Mode
	**24 Bit**
	**13 Bit (factory setting)**

Attention!: Changing the Jumper Setting takes affect after the next power-on.

Diagnostics

local unit



A only available on PS2 units with local access: when lighted: local key board/mouse is active

B (red LED)
off: no communication error
slow blinking: one or some few communication errors occu red during the last 60 minutes

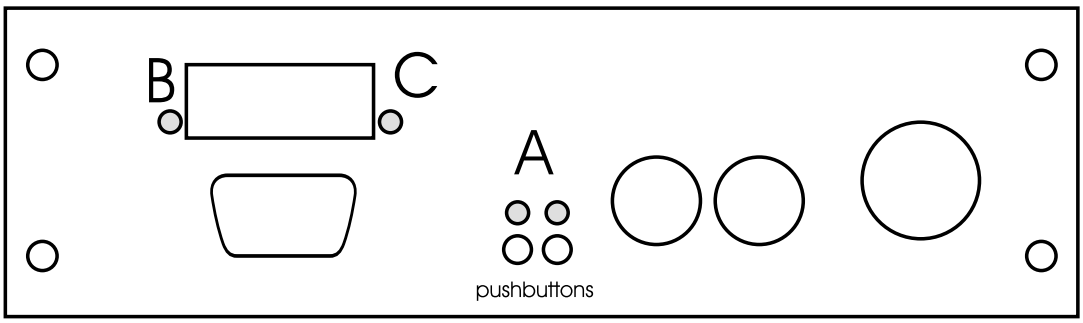
fast blinking	a lot of communication errors occu red during the last 60 minutes.

(60 minutes after the last communication error occured, the error counter is cleared automatically)

C (green LED)

continuosly illuminated:	power is on and link connection is locked
blinking:	fiber not connected or not OK

remote unit



A two LED's right up the two pushbuttons:
If both LED´s are on, the system has booted correctly.
If only one LED´s is on, it looks like you are using an unknown video-mode.

B (red LED)

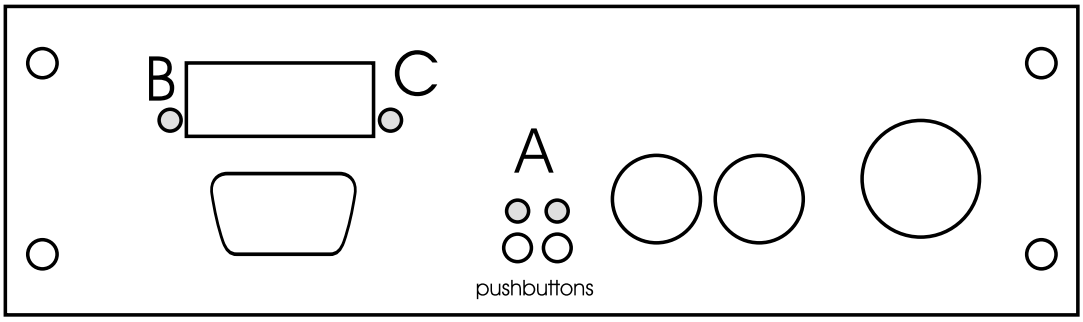
off:	no communication error
blinking:	communication errors occured

C (green LED)

continuosly illuminated:	power is on and link connection is locked
blinking:	fiber not connected or not OK

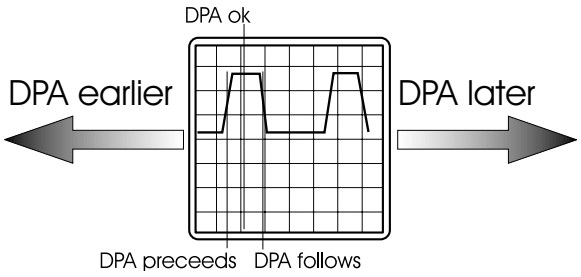
Control devices

remote unit



The only user access is, to adjust the DPA offset at the remote unit, using the two pushbuttons: Normally, the optimal DPA offset is found and adjusted by the unit automatically. Switching to another Video Mode it may take up to several seconds, to adjust to the proper setting.

If the automatic DPA adjustmend brings no sufficient result, the DPA offset may be adjusted and stored manually. It is also possible, to store the automatically adjusted setting for the actual Video Mode, so you have perfect adjutstment immediately after each Video Mode switching.



Digitizing the screen picture is done by reading the color value in the middle of each pixel. Depending on tolerances, the middle of a pixel may differ from PC to PC. Adjusting the DPA offset will move the point of digitizing to earlier or later, so it will be sampled in the middle of each pixel.

Pressing the left pushbutton, the position is moved to ‘earlier’
Pressing the right pushbutton, the position ist moved to ‘later’
Pressing both, the position is stored in the internal table for the actual resolution and the actual refresh rate.

System update / onboard programming

In some special cases, it might be necessary to update the firmware of the system. Normally this is to be done in the factory. Under some circumstances it might be possible, to do this by the customer. In this case, you will receive from our support a programming cable and software. Please follow the instruction of the program and the shipped brochure.

Addititional, technical information

VGA:Using VGA-signals, the color signals (R, G, B) are analog values in the range of 0...0.8Vpp. The synchronisation signals are TTL-signals with various polarities, depending on the monitor resolution. Due to the design of the units, they do not support “Plug&Play”
PS2-Keyboard:The keyboard interface is a bidirectional, synchronous serial interface . This interface is still the same as the AT-keyboard interface, only the connector is different.
PS2-Mouse: is the same interface like keyboard
SUN Keyboard/Mouse: This interface is a SUN specific interface. For further information, please refer to the manuals of this company

Supported Video Modes

	Visible Pixels		Clock Rates			interlace		interlace		interlace	
Name	Horiz	Vert	Horiz	Vert	Dot Clk	13Bit	24Bit	13Bit	24Bit	13Bit	24Bit
	Pixels	Lines	kHz	Hz	MHz	1,4GBit	1,4GBit	2,5GBit	2,5GBit	Cat5	Cat5
VESA	640	350	37,8	85	31,5	1:1	1:2	1:1	1:2	1:1	1:2
VGA	640	400	31,5	70	25,2	1:1	1:2	1:1	1:2	1:1	1:2
VESA	640	480	31,5	60	25,2	1:1	1:2	1:1	1:2	1:1	1:2
VGA	640	480	34,4	67	28,1	1:1	1:2	1:1	1:2	1:1	1:2
VGA	640	480	35,0	70	28,6	1:1	1:2	1:1	1:2	1:1	1:2
VESA	640	480	37,4	72	31,2	1:1	1:2	1:1	1:2	1:1	1:2
VESA	640	480	37,5	75	31,5	1:1	1:2	1:1	1:2	1:1	1:2
VESA	640	480	43,3	85	36,0	1:1	1:2	1:1	1:2	1:2	1:4
VGA	640	480	50,9	100	43,2	1:1	1:2	1:1	1:2	1:2	1:4
Text	720	400	31,4	70	28,3	1:1	1:2	1:1	1:2	1:1	1:2
VESA	720	400	37,9	85	35,5	1:1	1:2	1:1	1:2	1:2	1:4
VESA	800	600	35,0	56	35,8	1:1	1:2	1:1	1:2	1:2	1:4
VESA	800	600	37,7	60	39,8	1:1	1:2	1:1	1:2	1:2	1:4
SVGA	800	600	44,5	70	44,9	1:1	1:2	1:1	1:2	1:2	1:4
VESA	800	600	48,0	72	49,9	1:1	1:2	1:1	1:2	1:2	1:4
VESA	800	600	46,9	75	49,5	1:1	1:2	1:1	1:2	1:2	1:4
VESA	800	600	53,6	85	56,2	1:1	1:2	1:1	1:2	1:2	1:4
SVGA	800	600	63,6	100	68,2	1:1	1:2	1:1	1:2	1:2	1:4
SVGA	800	600	77,2	120	84,0	1:2	1:4	1:1	1:2		
MAC	832	624	50,0	75	57,6	1:1	1:2	1:1	1:2	1:2	1:4
VESA	1024	768	48,4	60	65,0	1:1	1:2	1:1	1:2	1:2	1:4
VESA	1024	768	56,4	70	74,9	1:2	1:4	1:1	1:2		
XGA	1024	768	58,0	72	74,6	1:2	1:4	1:1	1:2		
VESA	1024	768	60,0	75	78,7	1:2	1:4	1:1	1:2		
VESA	1024	768	68,7	85	94,5	1:2	1:4	1:1	1:2		
XGA	1024	768	72,9	90	100,3	1:2	1:4	1:1	1:2		
XGA	1024	768	81,4	100	113,0	1:2	1:4	1:1	1:2		
XGA	1152	864	53,7	60	81,6	1:2	1:4	1:1	1:2		
XGA	1152	864	63,0	70	96,8	1:2	1:4	1:1	1:2		
XGA	1152	864	64,9	72	99,6	1:2	1:4	1:1	1:2		
VESA	1152	864	67,5	75	108,0	1:2	1:4	1:1	1:2		
XGA	1152	864	77,1	85	119,7	1:2	1:4	1:1	1:2		
XGA	1280	720	44,8	60	74,5	1:2	1:4	1:1	1:2		
XGA	1280	720	52,5	70	89,0	1:2	1:4	1:1	1:2		
XGA	1280	720	54,1	72	91,7	1:2	1:4	1:1	1:2		
XGA	1280	720	56,4	75	95,7	1:2	1:4	1:1	1:2		
XGA	1280	720	64,3	85	110,0	1:2	1:4	1:1	1:2		
XGA	1280	720	76,3	100	131,8	1:2	1:4	1:2	1:4		
VESA	1280	960	60,0	60	108,0	1:2	1:4	1:1	1:2		
SXGA	1280	960	69,9	70	120,8	1:2	1:4	1:1	1:2		
SXGA	1280	960	72,1	72	124,5	1:2	1:4	1:1	1:2		
SXGA	1280	960	75,2	75	129,9	1:2	1:4	1:2	1:4		
VESA	1280	1024	64,0	60	108,0	1:2	1:4	1:1	1:2		
SXGA	1280	1024	74,6	70	128,9	1:2	1:4	1:2	1:4		
SXGA	1280	1024	76,8	72	132,8	1:2	1:4	1:2	1:4		
VESA	1280	1024	80,0	75	135,0	1:2	1:4	1:2	1:4		
SUN1	1024	768	61,2	76	83,2	1:2	1:4	1:1	1:2		
SUN2	1024	800	60,3	72	80,0	1:2	1:4	1:1	1:2		
SUN2	1024	800	71,1	85	93,9	1:2	1:4	1:1	1:2		
SUN3	1152	900	61,8	67	94,5	1:2	1:4	1:1	1:2		
SUN3	1152	900	71,2	76	107,1	1:2	1:4	1:1	1:2		
SUN	1280	800	64,3	76	100,8	1:2	1:4	1:1	1:2		
SUN4	1280	1024	71,5	67	116,7	1:2	1:4	1:1	1:2		
SUN4	1280	1024	81,0	76	134,8	1:2	1:4	1:2	1:4		

Access Switching (only devices with local access)

Using devices with local access, the signals of the connected graphic card is shown on the attached monitors of both, of the local interface and of the remote interface. a 'private'-function is not supported. The connected keyboards and mice can only be used mutual. Since there is a key pressed on one of the keyboards, the pressed key is sent to the PC and this station is active, means, the mouse is driven from this place. The switching can also be done by mouse access. Here you have to press both, the 'LeftMouseButton' and the 'RightMouseButton' simultaneous, this will not be sent to the PC. For switching without any PC-reaction, please use the mouse or a key like Alt, Ctrl or Shift without any additional keystroke.

Trouble-Shooting

Error	**possible source of error**
no picture	**damage of internal power-supply:** Is the LED 'C' at the local unit either illuminated or blinking and is the LED 'C' at the remote unit either illuminated or blinking ? • **internal error:** Is at least one of LED's 'A' at the remote unit lightened • **The fiber optical cable is not connected:** at transmitter, at receiver or at bothsides • **The fiber optical cable is wrong adapted:** The strand, connected to the local TX (left-hand connector) must run to the remote RX (right-hand connector) and vice versa. • **One ore more broken fibers:** ***Do NOT look into a fibers end directly, while it is connected to a local or remote unit! EYE HAZARD MAY OCCURE!*** Is LED 'C' at the local unit AND at the receiver unit illuminated? (NOT blinking!). Use a flashlight to check for broken fibers. • **Did you mount a cable with a wrong fiber type?** If you use your own (not delivered by us) fiber optical cable, please ensure, that you have used 50µ or 62.5µ fiber at a multimode device or a 9µ fiber at a singlemode device. Other fiber-types and poly-fibers are not supported. • **Do you use a NON VESA resolution on your PC?**: refer to table on page 18 for supported video modes. At the remote unit - is there only one of the two LED's 'A' burning?
horizontal jittering picture	**The DPA offset is misaligned:** Refer to page 39 for adjusting the DPA offset

Keyboard, mouse without function:

- **no picture:** see above (no picture) for trouble shooting
- **picture ok:** mouse model is not supported

Schedule of parts supplied

All devices come with local interface, remote interface, 2x international power supply unit and junction cable to PC

device type	transmission	parts no.
PS2 without local access	Cat5	K423-1S
PS2 without local access	Fiber Multimode	K421-1S
PS2 without local access	Fiber Singlemode	K422-1S
PS2 with local access	Cat5	K423-1W
PS2 with local access	Fiber Multimode	K421-1W
PS2 with local access	Fiber Singlemode	K422-1W
SUN without local access	Fiber Multimode	K425-1S
SUN without local access	Fiber Singlemode	K426-1S
USB without local access	Fiber Multimode	K429-1S
USB without local access	Fiber Singlemode	K430-1S

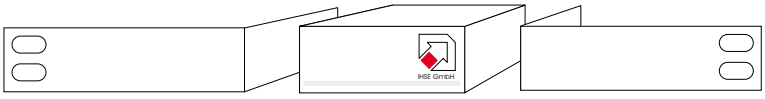
Order notation of spare parts/accessories not supplied

Power supply unit	:	90..240VAC/6VDC, 2000 mA	:	260-3E
Junction cable	:	Cat5 Simplex	:	402-0J
		fiber cable Multimode (Break-Out-cable 2x G50/125µ)	:	433-2M
		fiber cable Singlemode (Break-Out-cable 2x G9/125µ)	:	433-2S
confectioning	:	Cat5 including Cat5 plug	:	402-0A
		Multimode including SC plug connectors	:	251-2C
		Singlemode including SC plug connectors	:	251-2S
Connecting cable(ZIP-type) (PC to local box-KVM)	:	length = 1,8m (6ft)	:	247-41
		length = 3,0m (10ft)	:	247-42
Connecting cable		VGA (SUN), 1,8m	:	249-0K
Connecting cable		keyboard/mouse SUN, 1,8m	:	416-1J
Connecting cable		USB, 1,8m	:	247-U1
mounting angle (1 pair)		to mount by screws	:	285-2K
		to mount on profiles	:	286-2K
19”mounting kit		for 1 unit	:	433-1G
19”mounting kit		for 2 units	:	433-2G

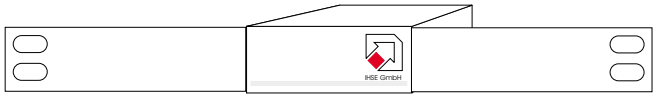
Special 19”-housings with matching devices are available. Please ask your dealer!

19” mounting of devices

Assembly

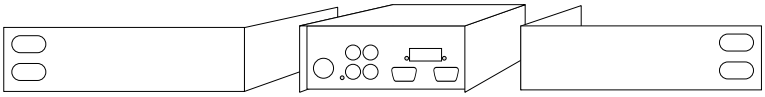


Assembled

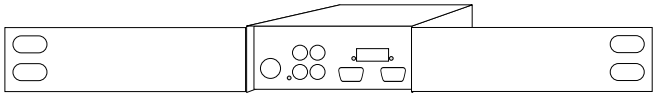


1 unit, cable access at the rear side

Assembly

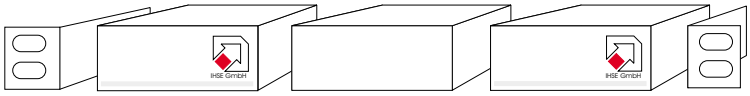


Assembled

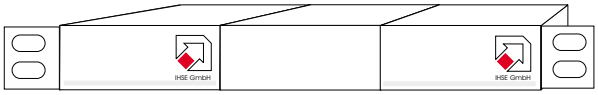


1 unit, cable access at the front side

Assembly

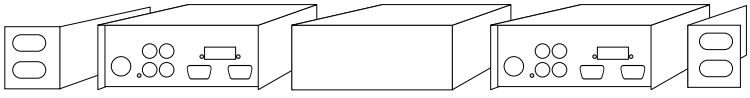


Assembled

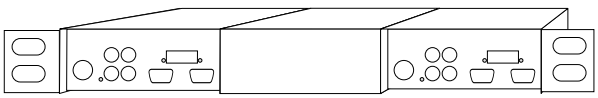


2 units, cable access at the rear side

Assembly



Assembled



2 units, cable access at the front side

CE-declaration of conformity

This is to certify that, when installed and used according to the instructions in this manual together with the specified cables and the maximum cable length <3m, the Units are shielded against the generation of radio interferences in accordance with the application of Council Directive 89/336/EEC as well as these standards:

EN 55022:	1998	class B
EN 55024:	1998	
IEC 61000-4-2:	1998	
IEC 61000-4-3:	1998	
IEC 61000-4-4:	1998	

The device was tested in a typical configuration with PC.

Oberteuringen, Friday, 19th April, 2002

The management

Disclaimer

While every precaution has been taken in the preparation of this manual, the manufactorer assumes no resposibility for errors or omissions. Neither does the manufacturer assume any liability for damages resulting from the use of the information contained herein. The manufacturer reserves the right to change the specifications, functions, or circuitry of the product without notice.

The manufacturer cannot accept liability for damage due to misuse of the product or due to other circumstances outside the manufacturer’s control. And the manufacturer will not be responsible for any loss, damage, or injury arising directly or indirectly from the use of this product.