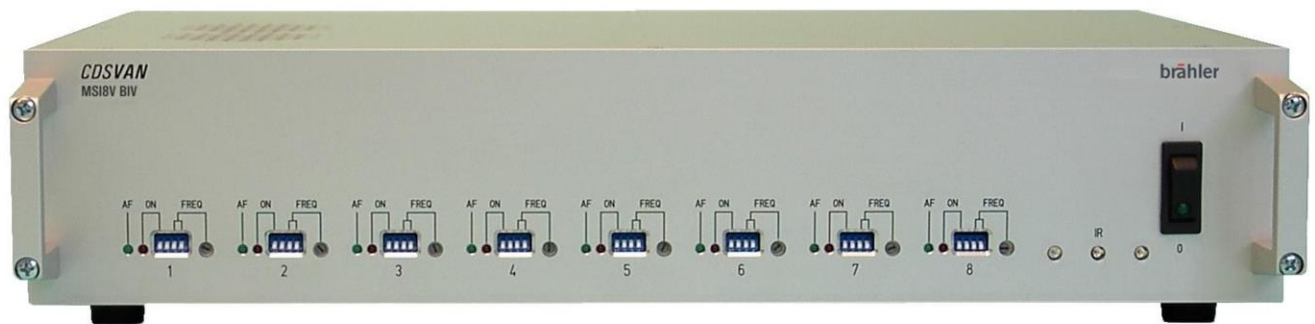


## ***CDSVAN*** *Digital Conference Management System*

### **MSI8V B IV Digital Transmitter for band IV**



## **Operating instructions**

Rev 1.3

Printed in Germany

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Operating instructions CDSVAN, BGE-MSI8V-BIV (1.x).doc

## Safety instructions

### CAUTION

#### DANGER OF ELECTRIC SHOCK DO NOT OPEN DEVICES

Do not open housing with mains cable connected.

Maintenance operations may only be executed by qualified personnel.

Our equipment and installations have been built and tested according to the latest state of the art. Under normal conditions, they do not require any special maintenance.

However, please be aware of the following:

secure and stable position of the installation

sufficient ventilation - never operate equipment near heat sources such as heating radiators etc.

power connection - install all power cables to avoid damaging

connecting cables - avoid trip-traps

liquids - avoid penetration of liquids into the housing

exclusively operate equipment via wall sockets that are connected to ground according to the relevant specifications and regulations

**Warning: Never expose equipment to rain or humidity**

Please be also aware of the fact that rough handling of the equipment, such as strong bumps or vibrations, may result in damages. Inappropriate handling and storage, i.e. handling and storage not in conformity with the operating instructions, may as well lead to equipment damages.



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## About this manual

### Symbols

The following symbols and fonts are used in this manual:



Indicates an important note, which has to be followed to guarantee that the functions of the unit, the security of any data or your health are not put at risk



Indicates additional information, remarks and tips



Describes activities that must be performed in the shown order

**Words in bold letters** require your special attention.

## Important remarks

### For customers in the EU and in the USA

Our equipment has been tested and complies with the requirement of the CE test. This guarantees the protection against harmful interferences, when the equipment is operating in a commercial environment. If the unit is not properly installed to this user manual it may cause radio interferences. Any changes or modifications not explicitly approved in this manual could void your authority to operate this equipment.

### For customers in the United Kingdom

The wires in the main lead are colored in accordance to the following codes:

Green-and-yellow:	Earth
Blue:	Neutral
Brown	Live

If the colors of the wires in the mains lead of this unit are not corresponding with the colored markings of the terminals in your plug, so please proceed as follows:

The green-and-yellow wire must be connected to the plug terminal marked with the letter E, with the safety earth symbol or with green-and-yellow colour. The blue wire must be connected to the terminal marked with the letter N or with black colour. The brown wire must be connected to the terminal marked with the letter L or with red colour.

**The equipment must be connected to earth!**

## Safety

Check that the operating voltage of the unit is identical with the voltage of your local mains power. If a voltage conversion is required, consult your BRÄHLER ICS dealer or qualified personnel.

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before it will be used again. Unplug the unit from the wall outlet or set the Main Power switch to OFF if it is not used for several days. To disconnect the cord, pull it out holding the plug. Never pull the cord itself.

## Installation

Allow adequate air circulation to prevent internal heat accumulation. Do not place the unit on a surface (rugs, blankets, etc.) that may block the ventilation holes.

Do not install the unit in locations near heat sources such as radiators or air ducts, nor in places exposed to direct sunlight, excessive dust or humidity, mechanical vibration or shock.

To avoid condensation do not install the unit where the temperature may increase rapidly.

## Cleaning

To keep the surface of the housing in a proper condition, periodically clean it with a soft cloth. Large staining may be removed with a cloth lightly dampened with a mild detergent. Never use organic solvents such as thinners or abrasive cleaners since these might damage the surface.

## Repacking

Save the original shipping box and packing material. For maximum protection, re-pack the unit as originally packed from the factory.

If not supplied with the equipment, a complete transportation and storage box system is available from BRÄHLER ICS. We recommend using this system for long-term protection and care.

## General

Please keep this manual together with the CDSVAN Compact Transmitter MSI8V Band IV. If you hand on the units to third parties, please include this manual.



Please read the manual carefully, taking special care when you see this symbol as it indicates important information!



This product is conforming to the rules of the following European directive:  
2004/108/EG

Council directive to the alignment of the rules of rights of all member states about the electromagnetic compatibility, modified through RL 91/263/EWG, 92/31/EWG and 93/68/EWG of the council. Further information is available on request.



The warranty will expire, if you cause defectives through inappropriate use or handling of the unit.

### Important information



The unit should not be used at the maximum volume setting. Adjust the volume to a more suitable level.

High sound pressure levels will damage your hearing!



## Overview

The Compact Transmitter MSI8V BAND IV is used within the CDSVAN Conference System for transmission of 8 audio channels by infrared light.

## System function

The audio signals are converted into frequency modulated infrared light and then transmitted by means of INFRACOM Radiators IRad, which are directly connected to the MSI8V BAND IV. The original (OR) and up to 7 other languages can be simultaneously transmitted on different carrier frequencies by narrowband frequency modulation.

Infrared radiators transmit the information carried by the audio channels in the form of frequency-modulated infrared light. The transmitted signals are received by the INFRACOM Receiver IRX BAND II/IV and can be monitored by headphones. Receivers can be moved at will anywhere within the area that is fully illuminated by the radiators. They can be switched to receive up to 32 channels.

With miniature-switches on the front panel the frequency band can be chosen and the channels can be switched ON or OFF. With a rotating switch it is possible to assign up to 32 transmission channels.

3 infrared transmitter diodes on the front panel allow monitoring for the technician without radiators.

LEDs on the front panel are indicating the operation mode: channel ON (red) and audio signal available (green).

## Use

In combination with the digital conference management system CDSVAN, the system can provide the best possible communication facilities for organized events that need to use several languages.

Each and every participant (a term often used is "delegate") can use the microphone system to speak, and what he or she says will be translated simultaneously so that other delegates will be able to listen to it in one of the several languages. This technique permits direct communication in several languages even at very large scale events.

It is a simple matter to set up the INFRACOM system in such a way that it is protected against eaves-dropping from outside. Since all information is transmitted in the form of light waves, it is possible to use opaque material as necessary to limit the area to which it is to be transmitted. Dark curtains drawn across windows, for instance, are enough to shield a room reliably from the outside world.

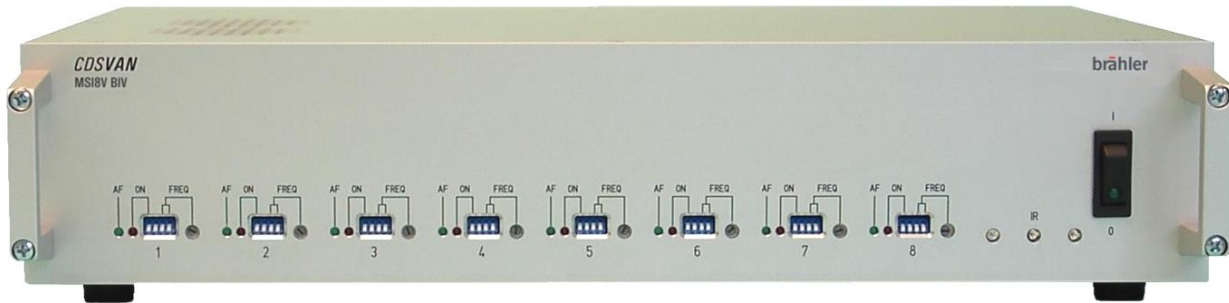
Although the CDSVAN system is most commonly used in combination with an INFRACOM interpretation system and microphone-management system it is also possible to use it for other purposes.

During organized events, for instance, it is possible to use infrared light to transmit information to individual participants wearing receivers without disturbing anyone else present.

Another example might be museums applications. There it is possible to provide information on individual exhibits by means of infrared light radiated only to a limited area in front of the particular exhibit. Visitors listen to the information with receivers and headphones.

## Compact transmitter MSI8V BAND IV

### Front View



The front of the MSI8V compact transmitter is equipped with:

- power switch with green Einschaltkontrollleuchte
- 8 green LEDs (AF) to display "Audio available"
- 8 red LEDs (ON) to indicate "channel on"
- 8 DIP switches for setting the frequency band
- 8 rotary switches for channel selection
- 3 emitting diodes for test mode (allowing the technician listening without radiator)

### Rear View



The Compact Transmitter MSI8V B IV has the following sockets on the rear side:

- VAN-IN (RJ45 socket) for connecting to the CDSVAN PC (Computer)
- VAN-LINK (RJ45 socket) for cascading (Audio) with a second MSI8V B IV
- LINE-OUT: eight sockets for audio recording
- RF-LINK: socket for cascading (RF) with further MSI8V BAND IV
- RADIATORS / IR-LINE: 2 x BNC sockets for connecting distribution SV/BNC-IV.
- Mains power connector.



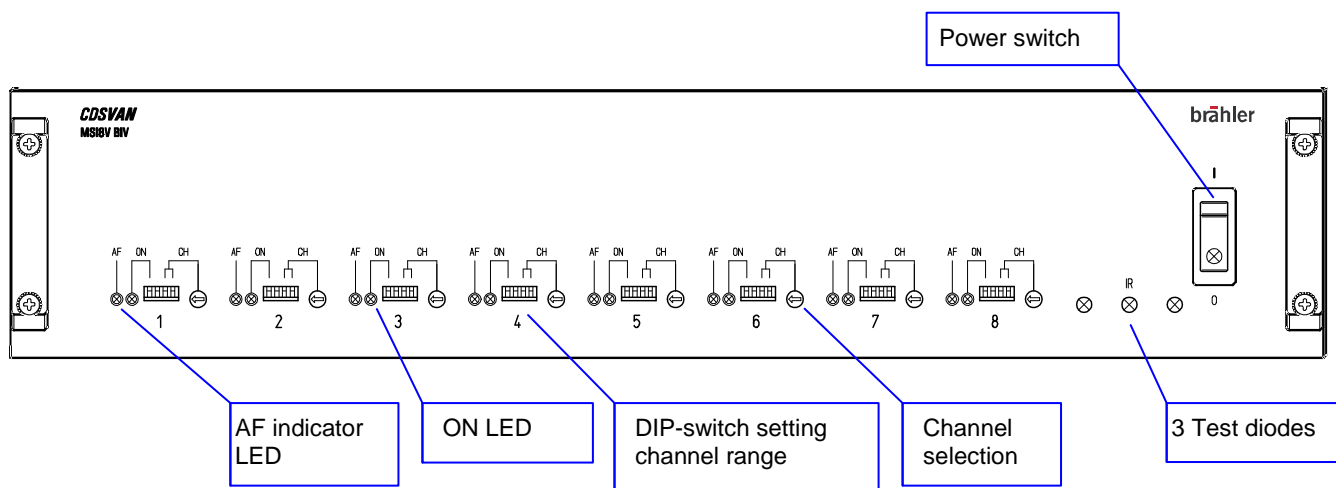
Wiring the radiators in band IV you must be aware of the following: Due to the higher carrier frequencies the BNC cables to the radiators must have the same length. Using two radiators in a row, the highest distance should not be greater than a meter. Otherwise, there will be overlaps or extermination.

## Controls on the front site

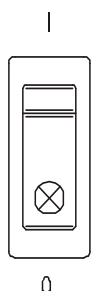


The Compact Transmitter has an ex-works mains voltage setting of 90 - 250 Volts by 50 – 60 Hz. If there is another voltage range you must not connect this equipment.

In connecting the system, special attention is to be paid to ensure that all cables are installed in cable ducts or that they are fixed by cable clamps or adhesive tape in such a way that there is no danger of somebody tripping over them.



### Power Switch



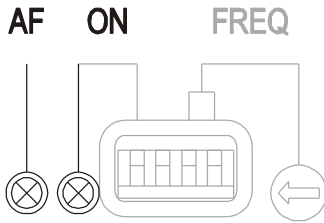
Turn on or off the device with the power switch. The switch has a green light showing widely visible the status.

### Infrared test diodes



Three transmitting test diodes allow testing the receivers at a maximum distance of 3 meters between the test-LEDs and the receiver.

## LED AF/ON



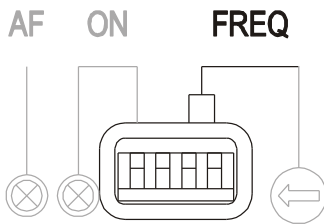
AF: This LED indicates a signal on this output (for example line 1).

ON: This LED represents the ON-status of the corresponding output channel.

**Remark:** Not used channels should be switch off to increase the IR power.

ON- and OFF-status is set with the left DIP-switch.

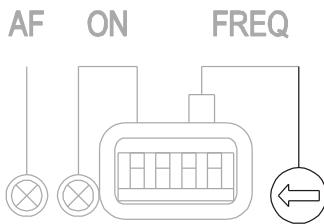
## Frequency band setting



DIP switch for setting the frequency band.

With the DIP switches 3 +4 you can enter the desired frequency band, see chapter starting up

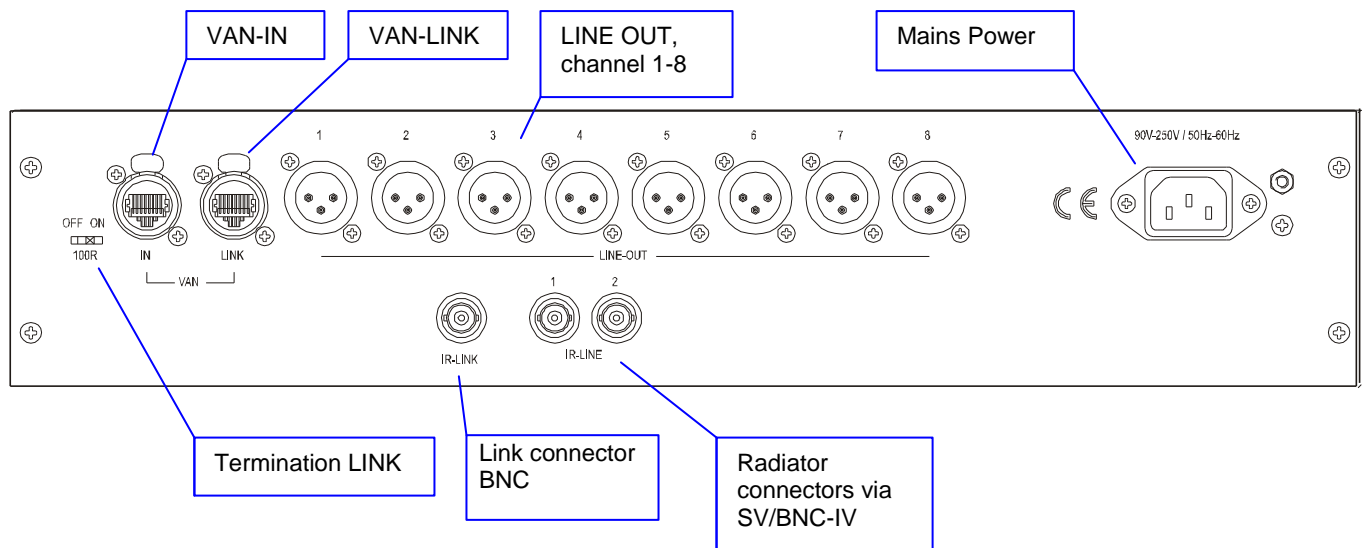
## Rotary channel selector switch



Switch for channel selection.

Depending on the chosen frequency band (DIP switch 3 +4) you can set the channel, see chapter starting up

## Controls on the rear panel



## Termination LINK

OFF ON



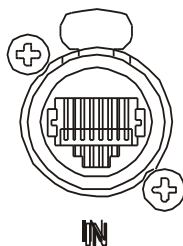
100R

Termination of the LINK socket via DIP switch:

ON: LINK socket not used (open)

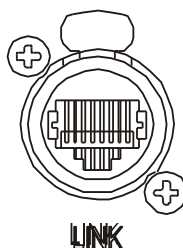
OFF: LINK socket connected with another Compact Transmitter MSI8V BAND IV

## Connecting the VAN-IN socket



RJ45 for the connection to the CDSVAN-PC (transmission of the channels)

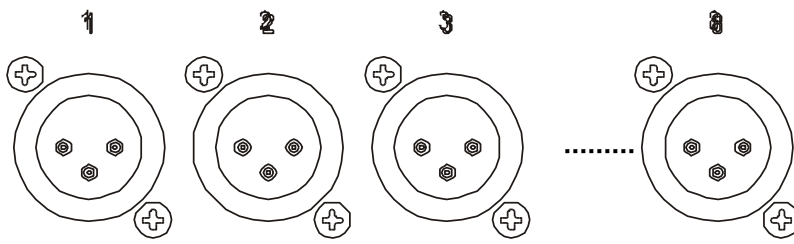
## Connecting the VAN-LINK socket



Within a 16 channel system (1+15) the LINK socket can be used to transmit the channels 8 – 15 to the next MSI8V BAND IV.

In this case the RF-Link socket (next page) also should be connected between the 2 MSI8V BAND IV.

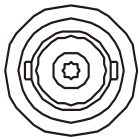
## Connecting LINE-OUT sockets



Eight XLR LINE-OUT connectors (male):

All eight channels fed into the MSI8V B IV from the CDSVAN system via CAT5 are available at these connectors, e.g. for audio distribution or recording purposes.

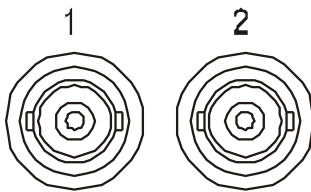
## Connecting RF-LINK socket



BNC socket for cascading further Compact Transmitter MSI8V / BAND IV. To manage more Outputs you can extend the system to more outputs.

IR-LINK

## Connecting radiator sockets



IR-LINE

IR-LINE 1 and 2: BNC sockets for connecting INFRACOM® video distributors SV/BNC-IV.

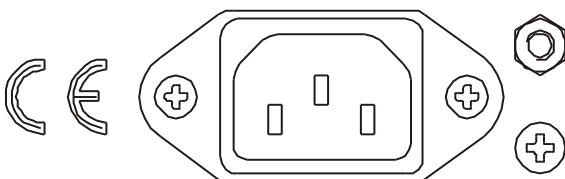


Wiring the radiators in band IV you must be aware of the following: Due to the higher carrier frequencies the BNC cables to the radiators must have the same length. Using two radiators in a row, the highest distance should not be greater than a meter. Otherwise, there will be overlaps or extermination.

If there are more radiators needed we recommend the use of an active distributor SV/BNC. Our planning department will be glad to help you.

## Connecting mains power

90V-250V / 50Hz-60Hz



Connect the delivered cable with this socket to ensure the proper working of the Compact Transmitter.

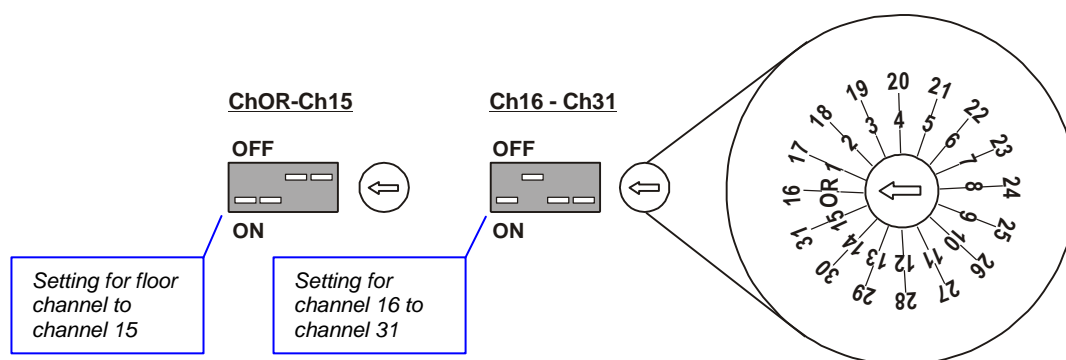
## Starting up



The power supply is turned on via the power switch on the front side of the Compact Transmitter MSI8V B IV.




Using the Compact Transmitter the first time it is necessary to adjust the provided channels. This procedure will allocate the transmitter frequencies to the respective channels.

For adjusting this allocation refer to the following figure. The scheme is enclosed with the Compact Transmitter as a separate sticker which may be adhering to the front panel.



The setting for the floor channel to channel 15 is shown on the left figure above. The allocated channel setting is done with the rotary switch.

The setting for channel 16 to channel 31 is shown on the right figure above.

<i>Examples:</i>	 <i>Channel 2</i>	 <i>Channel 24</i>	 <i>Channel 30</i>
------------------	---	--	---

The left DIP-switch will activate the corresponding channel. Left DIP switch to ON means channel is active.

Once the CDSVAN system has been properly started up and checked, there is usually no need for any further intervention from the operator.

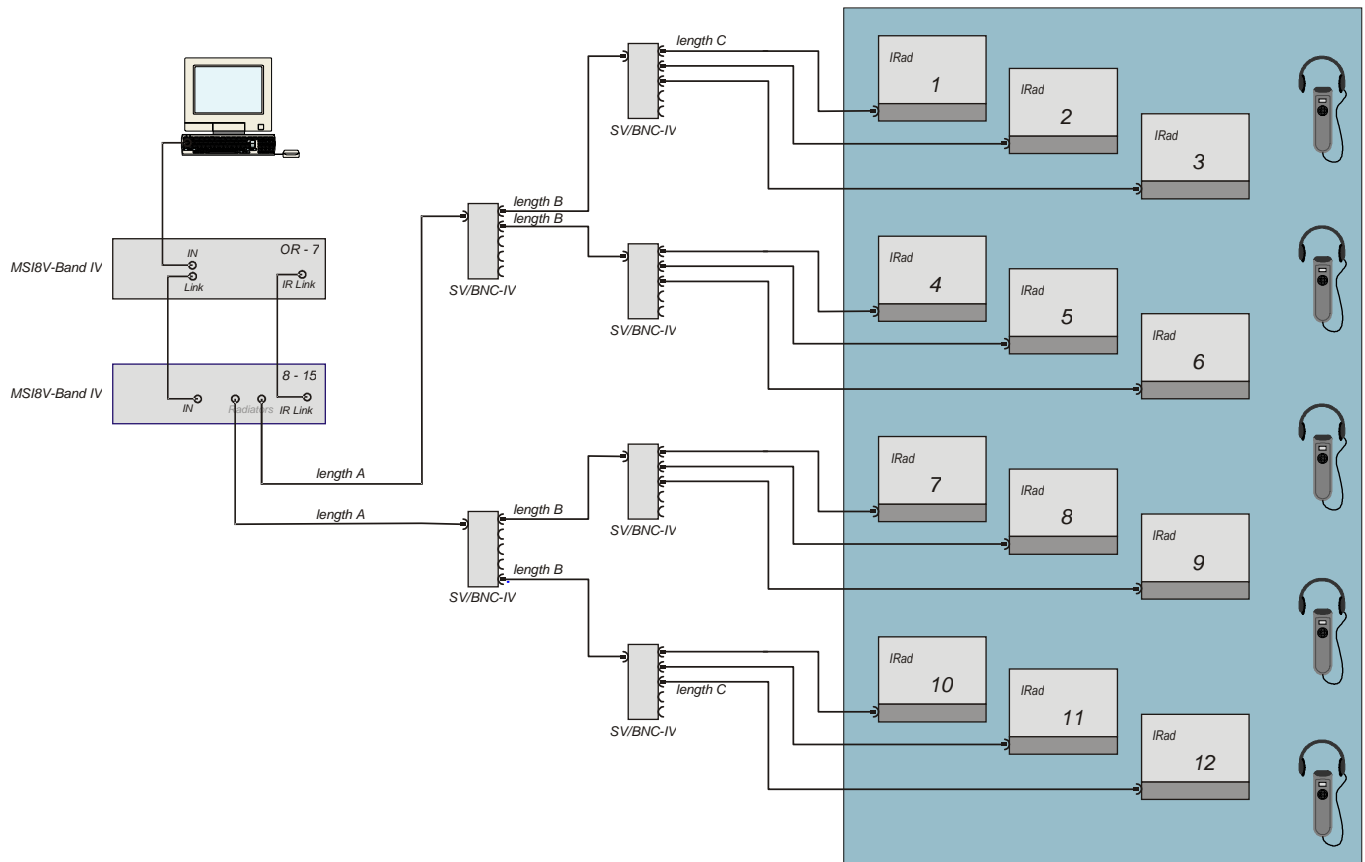
All levels are set and stored within the CDSVAN software environment.

Most of the work involved with audio distribution should have been completed during the preselection of channels and system start-up

## Applications

In the following you see some examples in form of a block diagram:

Wiring diagram for 12 radiators



### Application 1

This diagram shows a complete wiring for a 16 channel (OR + 15) interpreter system. Monitoring part is the Receiver IRX (Band II/IV) together with the IR-Radiator IRad.

### CDSVAN System Components

- CDSVAN PC: Including CDSVAN Software and DSP Hardware
- MSI8V B IV: BAND IV Compact Transmitter
- IRad: High Power Radiator
- IRX: BAND II/IV receiver for up to 32 channels

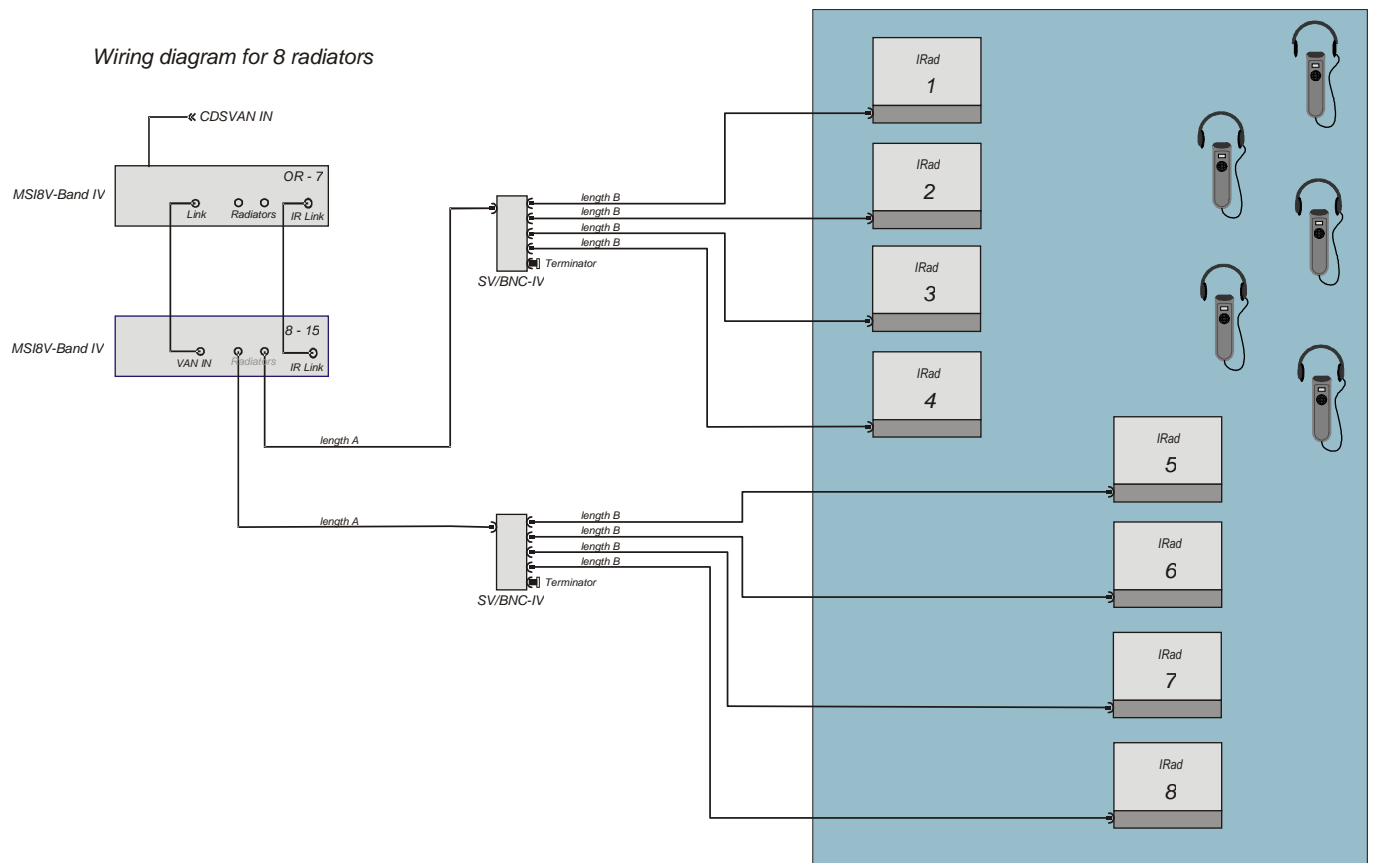


Please note that the lines of the radiators **MUST NOT** differ in length (length A = length A; length B = length B, etc.)

Please note also that all open lines of the distributor SV/BNC have to be terminated (50 Ohm resistor). The radiators have a switch for line termination.



The next diagram (Application 2) shows the wiring for an 8 radiator system:



## Application 2

Two Compact Transmitters MSI8V B IV are linked to one system (16 channels). The monitoring part consists of the Receiver IRX / BAND IV together with the IR-Radiator IRad.

### CDSVAN System Components

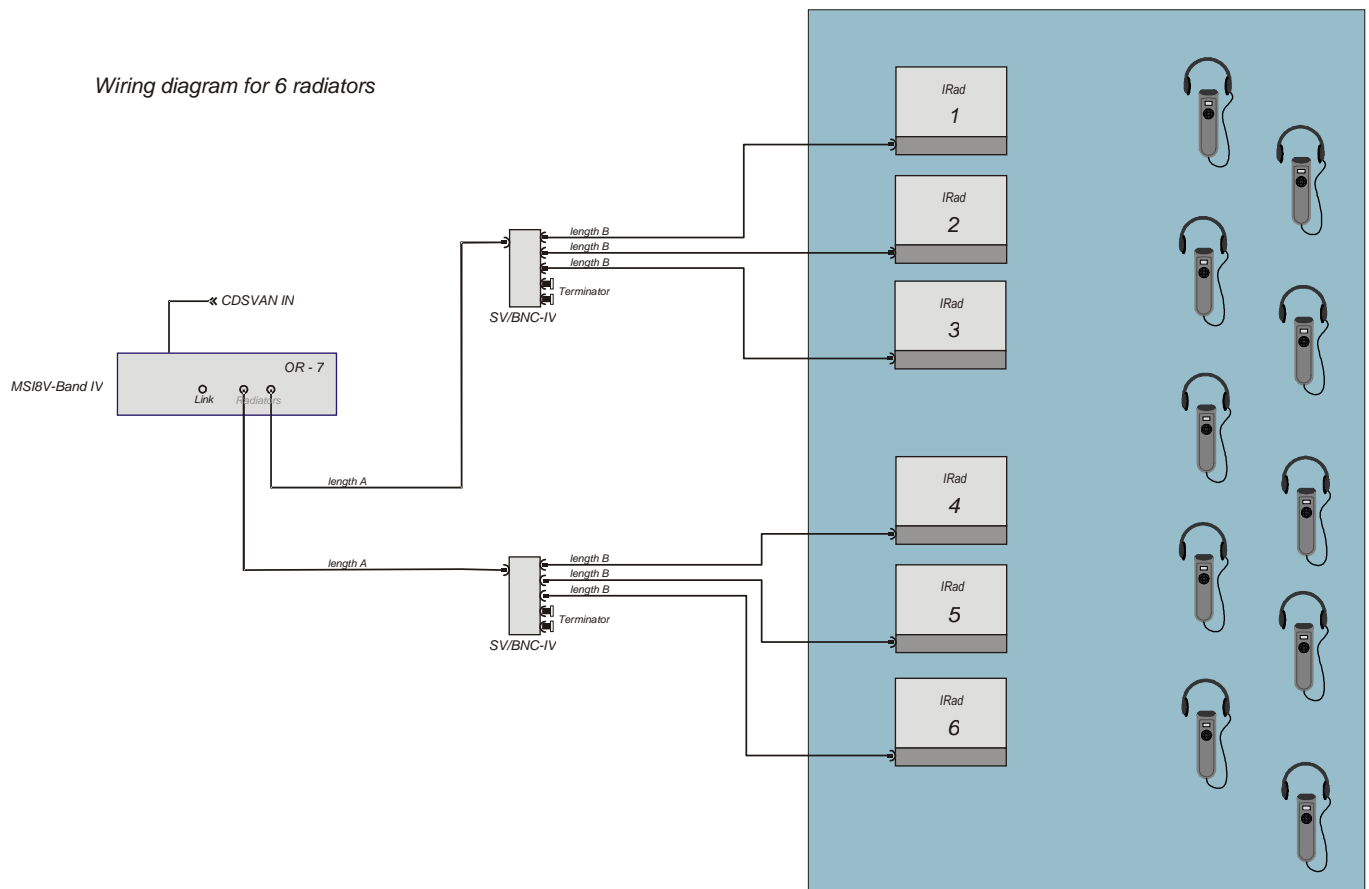
- CDSVAN PC: including CDSVAN Software and DSP Hardware
- MSI8V B IV: BAND IV Compact Transmitter
- IRad: High Power Radiator
- IRX: BAND II/IV receiver for up to 32 channels



Please note that the lines of the radiators **MUST NOT** differ in length.

Please note also that all open lines of the distributor SV/BNC-IV have to be terminated with 50 Ohm resistor. The radiators have a switch for line termination.

The next diagram (Application 3) shows the wiring for 6 radiators:



### Application 3

This diagram shows a wiring application for a 7 (OR + 6) channel system. Monitoring part is the Receiver IRX II/IV together with the IR-Radiator IRad.

### CDSVAN System Components

- CDSVAN PC: including CDSVAN Software and DSP Hardware
- MSI8V B IV: Compact Transmitter for band IV
- IRad: High Power Radiator
- IRX: BAND II/IV receiver for up to 32 channels



Please note that the lines of the radiators **MUST NOT** differ in length.

Please note also, that all open lines of the distributor SV/BNC-IV have to be terminated with 50 Ohm resistor. The radiators have a switch for line termination.

## Appendix

### Technical Data MSI8V Band IV

The unit is complying with the international standard IEC914.

#### Connections

- VAN-IN (1 x RJ45-socket) for connection to the CDSVAN-PC
- VAN-LINK (1 x RJ45-socket) for cascading (Audio) with a second MSI8V / BAND IV
- LINE-OUT (8 x XLR-plug) AF outputs for audio recording
- IR-LINE (2 x BNC-socket)
  - 1: Connection for up to 2 INFRACOM radiators IRad respectively distributor SV/BNC for more radiators
  - 2: Connection for up to 2 INFRACOM radiators IRad respectively distributor SV/BNC for more radiators
- IR-LINK (1 x BNC-socket) for cascading (RF) with further MSI8V / Band IV

#### Features

- Green lighted mains switch for power ON indication
- Red LEDs for channel switched ON
- Green LEDs for Audio available (AF)

#### Transmission frequency

- 1935kHz - 3175kHz (channel 31) in 40kHz steps
- Intermediate frequency: 455 kHz

#### Measurements

- Distortion: < 0.2%
- Signal-to-noise ratio: > 70dB
- Channel separation: > 60dB

#### Power Supply

- Mains power: (90 ... 250)VAC, (50 ... 60)Hz
- Power consumption: 40VA max

#### Housing

- 19", 2 HE, Aluminum, "silver" anodized
- W x H x D: (433 x 88 x 305)mm

#### Weight

- 4.6kg

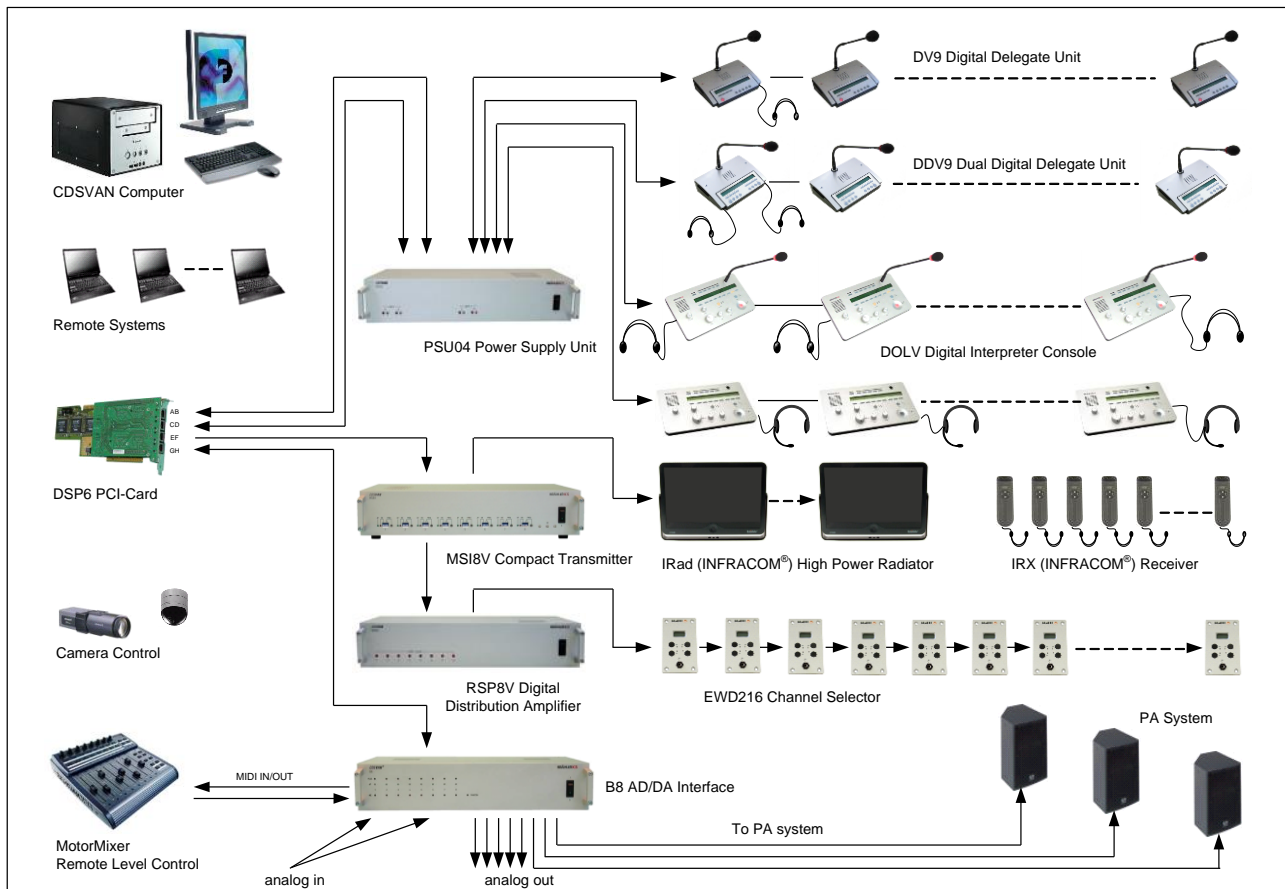
### Optional accessories

(not included in delivery)

- INFRACOM Radiator IRad
- INFRACOM Receiver IRX BAND II/IV
- CAT5 cable, shielded, different length available, according to Brähler specification
- BNC cable (50 Ohm) different length available
- Mounting brackets for rack assembly

## Block diagram

General overview of CDSVAN devices



## System Components

<b>CDSVAN pro</b>	Audio processing software
<b>DSP6/15 RJ45</b>	DSP Card with 6 or 15 digital sound processors and EDAT I/O plate
<b>DOLV</b>	Interpreter Console for up to 32 channels
<b>DV9</b>	Delegates' Unit
<b>DDV9</b>	Delegates' Unit for two delegates
<b>PSU04</b>	Power Supply Unit, up to 4 branches for interpreter consoles/ delegate units
<b>PSU01MA/SL</b>	Additional Power Supply for interpreter consoles/ delegate units
<b>B8</b>	AD/DA Interface 8 channels
<b>MotorMixer</b>	Remote Mixer with 8 motorized faders
<b>RSP8V</b>	Digital Distribution Amplifier
<b>MSI8V</b>	INFRACOM Infrared Transmitter (Band II)
<b>IRad</b>	INFRACOM Infrared Radiator
<b>IRX</b>	INFRACOM Infrared Receiver for band II and IV
<b>Cables</b>	CAT5, different length, according to Brähler specification

**Troubleshooting**

<b>Error description</b>	<b>Error cause</b>	<b>Error solution</b>
Switching on the system produces no POWER ON condition (green LAMP does not light up).	The main cable connector is not properly connected to the corresponding socket of the unit.  Connection cable possibly defective.  The power switch is not in the correct position.	Check if there is no connection to the mains power.  Replace a new mains cable.  Turn on the POWER ON switch.
No clear IR signal at the IRX / BAND IV receiver	2 or more channels switched to the same frequency	Check frequency setting on front panel and control signal using the test diodes
No audio: green "AF" LED does not light up	No INT (Interpreter) signal from the interpreter console	Check the DOLV setting



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## SERVICE FORM

Material return shipments for repair-, service-, or guaranty purposes please send to:  
BRÄHLER ICS AG, Auf der Alten Burg 6, 53639 Königswinter, Germany  
Phone +49 (0)2244 930-0, Fax +49 (0)2244 930-450

Dear customer,

Please ask our sales staff for the **RMA number** (*Return of Material Authorization*).

**Without RMA number a treatment is not possible!**

Please always include this service form, fully completed, with any complaint or repair wish you may have. Please note that only returns with the proper and complete paperwork can be dealt within time.

**A detailed fault description will reduce costs and period of repair.**

Please contact us before you return equipment in order to find the most efficient way of sending.

**RMA number:** \_\_\_\_\_

Article description: \_\_\_\_\_ Serial no.: \_\_\_\_\_ Code: \_\_\_\_\_

Delivery note no.: \_\_\_\_\_ Invoice no.: \_\_\_\_\_

Reason for return/Fault description:

---

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Company: \_\_\_\_\_

Contact person: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Notes/Comments:

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Transport damages have to be reported immediately to the responsible forwarding agent.

### Remarks for Non-EU customers:

Please always contact our sales staff to clarify the return procedure and the most efficient way of sending. In any case kindly add a proforma invoice, addressed to Brähler ICS AG, Königswinter with the following statements:

- reason for return (repair or credit note)
- exact declaration of the goods, exact no. of pieces, article no. / model, serial no.

Please be informed that we will reject any return shipment not arranged with our sales staff.

Notes



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