

CDSVAN

DOLV Digital Interpreter Console



Operating instructions

V 1.3

Printed in Germany

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You will find further information about our products on the internet at:

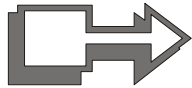
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Operating instructions BGE-DOLV-1.2.DOC

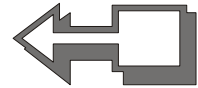


CAUTION

**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:

Never operate equipment near heat sources such as heating radiators etc.

Connecting cables - avoid trip-traps

Liquids - avoid penetration of liquids into the housing

Warning: Never expose equipment to rain or humidity.

Please also be 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 meanings of the symbols and fonts used in this manual are as follows:



Indicates an important note, if not minded, the functionality of the unit, the security of your data, or your health are put at risk.



Supplementary information, remarks, and tips follow this symbol.



Text, which follows this symbol, describes activities that must be performed in the order shown.

Texts in bolded letters require your special attention.

Important remarks

Safety

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before further operation.

Installation

Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place exposed to direct sunlight, excessive dust or humidity, mechanical vibration or shock.

To avoid moisture condensations do not install the unit where the temperature may rise rapidly.

Cleaning

To keep the cabinet in its original condition, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use organic solvents such as thinners or abrasive cleaners since these will damage the cabinet.

Repacking

Save the original shipping carton and packing material; they will become handy if you ever have to ship the unit.

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 BRÄHLERICS. We recommend you to use this system for long-term protection and care.

General

Please keep this manual together with the DOLV. If you pass on the unit to other parties, please include this manual.



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



This product conforms to the rules of the following European regulations:
89/336/EWG

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



The warranty invalidates, if you damage the device by improper use.

The DOLV Interpreter Console

Thank you for choosing an interpreter console from Brähler ICS.

The DOLV is a digital interpreter console for simultaneous interpretation purposes. It corresponds to the international standards and was developed for a good handling in narrow collaboration with different interpreter's organizations.

Within the CDSVAN conference system it works with up to 31 selectable interpretation channels and offers an outstanding digital audio quality.

The interpreter console basic set-up is managed by the CDSVAN-Software. The settings can be changed individually by the operator.

The central control and set-up features of the CDSVAN software, combined with the ergonomic design of all control parts of the interpreter console give the interpreter a comfortable and effective working environment.

The large LC-Display is the visual information interface for the interpreter during the conference.

During work breaks the built-in loudspeaker helps the interpreter to follow the conference comfortably.



Please read this manual carefully, to get access to all features of the DOLV interpreter console.



Included in delivery

1 Data connection cable - CAT5 shielded, 5m

Accessories

TM58/6 Conference Microphone (01.0560)

TM58/6-500 Conference Microphone, 500mm (01.0561)

TM58/6S Conference Microphone, silver painted (01.0562)

TM58/6-2S Conference Microphone with 2 goosenecks (01.0560.S2)

K45/7 Conference Headphone (03.0280)

K45/16 Dynamic Headphone, with 1.5m cable (03.0290)

PMX60 Dynamic Conference Headphone with neckband (03.5501)

K24/18 Interpreter Headset (03.5520)

HS394 Lightweight Interpreter Headset (03.5530)

HS460 Professional Interpreter Headset (03.5540)

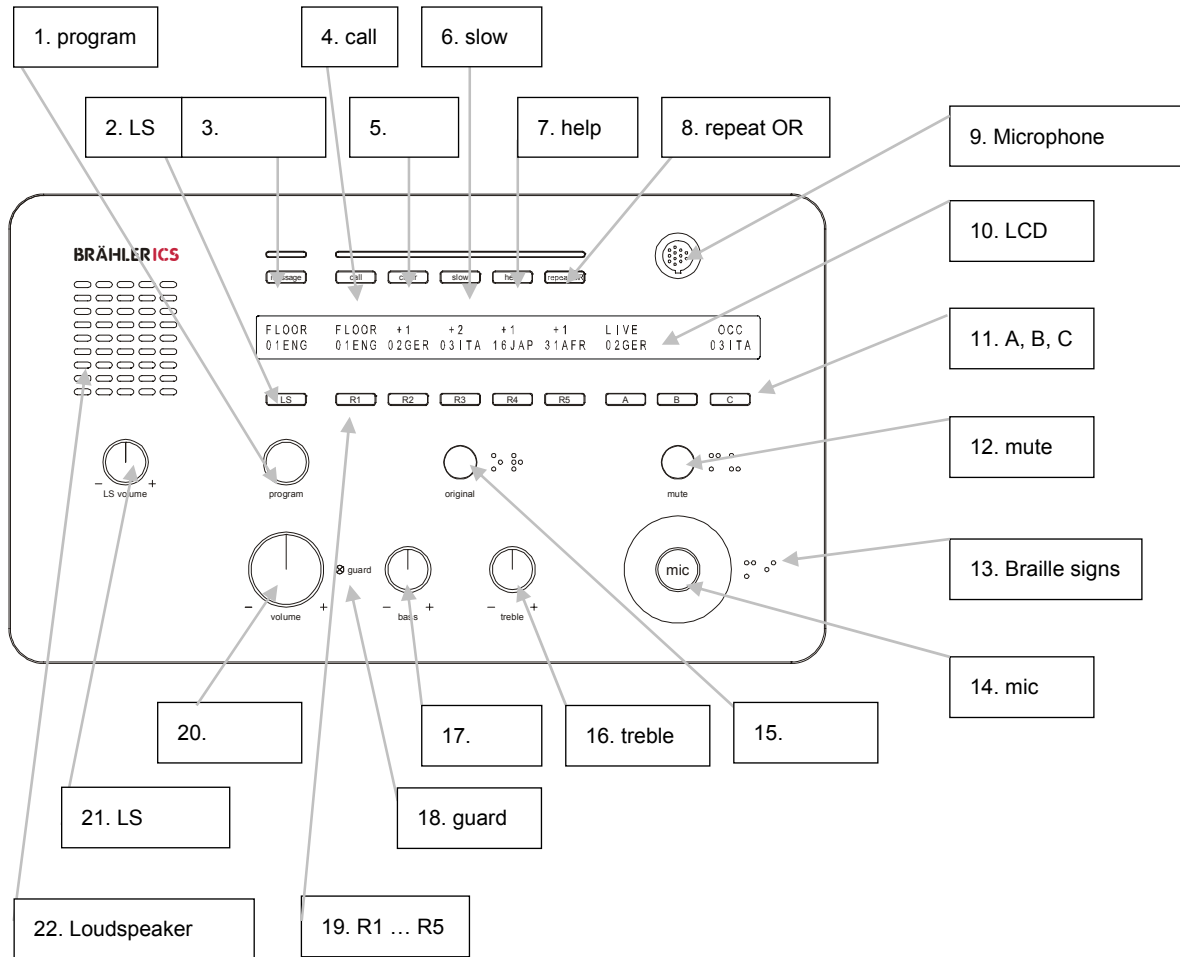
Data cable CAT5, shielded (EIA/TIA 568B), different lengths

System components

CDSVAN-SW	Audio processing software
DSP6/EDAT	DSP Card with 6 digital sound processors and EDAT I/O plate
DOLV	Digital Interpreter Console for up to 32 channels
PV9	Digital Chairman's Unit
DV9	Digital Delegates' Unit
DDV9	Dual Digital Delegates' Unit for two delegates
PSU04	Power Supply Unit for up to 4 lines of interpreter consoles/ delegate units
PSU01MA	Power Supply for 1 line of interpreter consoles/ delegate units
PSU01SL	Additional Power Supply for interpreter consoles/ delegate units
B8	AD/DA Interface 8 channels
MotorMixer	Remote Mixer with 8 motorised faders
RSP8V	Digital Distribution Amplifier
MSI8V	INFRACOM [®] Infrared Transmitter
IRad	INFRACOM [®] Infrared Radiator
IRX	INFRACOM [®] Infrared Receiver

User controls, indications and connections

The interpreter console DOLV has been designed for straightforward use without complex introduction. All buttons and control keys are labelled on the unit; the settings are shown on a large LC-Display.



1. program

Endless rotary knob to alter channel assignment of the push buttons LS, R1... R5 and A, B

Press either LS, R1 ... R5 or A/B and turn the rotary knob “program” clockwise to move channel up and counter clockwise to move channel down.

Changes are shown by display indication.

2. LS

Select a language channel with the rotary knob “program” while pushing the button.

Button is illuminated yellow when loudspeaker is active.

3. message

To show messages for the interpreter on the display.

With green indication light above the button.

4. call

To call the technician/operator.

With green indication light above the button.

LCD indication: CALL -> OPERATOR

5. chair

To call the chairperson.

With green indication light above the button.

LCD indication: CALL -> CHAIRPERSON

6. slow

to activate an external indication (e.g. on the speakers desk) to ask the delegate to speak slower.

With green indication light above the button.

7. help

to activate an external indication (e.g. on the operators desk) to ask for assistance.

With green indication light above the button.

8. repeat OR

to repeat the last seconds of the floor/original channel. (adjustable by software)

With green indication light above the button.

9. Microphone connector socket

Use this socket for connection of the microphone TM58/6.



If you use a microphone, a headphone must be used instead of a headset.

10. LC- Display

The backlit LCD with 2x56 characters is the interpreter's visual interface during the conference. The display announcements can vary according to configuration. In the following you see some typical examples.

After switching on the power supply (PSU01MA / PSU04) the following diagnosis menu (status) will be shown:

DOLV (PCBs) in the **middle** of one line:

```
ID : 2 5 5   SW : ↓↑   HW : ↓↑   PW : █   CH : 0 8
ADL 0 4   V 0 1 . 0 6 - 0 5   0 9 M a y 0 7   0 6 C 1 k
```

DOLV (PCBs) Desk at the **end** of one line:

```
ID : 2 5 5   SW : ↓↑   HW : ↓↑   PW : █   CH : 0 8
ADL 0 4   V 0 1 . 0 6 - 0 5   0 9 M a y 0 7   0 6 C 1 k
```

ID: Number of the interpreter console. The number can be changed:
Press and hold the service button S1 on the backside.
Then turn the program switch to the left or to the right to the selected number.
The new number will be stored after releasing the service button S1 (see page 15).



Existing IDs in the current line will be skipped to avoid double unit numbers.

sw: Software status. **O.K.:** ↓↑.

Details:


- ↓↑ The console is not able to get any polling from the CDSVAN software. Happens shortly after reset of the console. If this display does not change to "O.K.", downlink is not correct. Possible reason: CDSVAN software not started or cable defective.
- ↓↑ The console got the polling but will not be polled for itself. Also happens shortly after the reset of the console. If this display does not change to „ O.K. “, uplink is not correct in direction to the PSU01MA / PSU04. Possible reason: cable plugged into "next" instead of "previous" connector.
- ↓↑ **O.K.:** The console is polled by the software.
- ↓⊕ The console is able to identify a polling but not able to answer at the moment. The communication was once there. There may be a fault on the uplink in direction to the PSU01MA / PSU04 (cable?).

HW: Hardware status.

- O.K.:** ⊕↑ (Console at the end of a line or only 1 console) Automatic termination is set.
- O.K.:** ↓↑ (Console in the middle of the line)

Details:

- ↓ EDAT-fault on the downlink from the previous console or from the PSU01MA / PSU04 to the console.
- ↓ Downlink from the PSU01MA / PSU04 to the console: Okay.
- ⊕ Downlink from the PSU01MA / PSU04 to the console: Okay. Termination active (last console in the line).
- ⊕ EDAT-fault on the uplink from next console. This is correct for the last unit in line. Attention! Does not regard to the direction from the console to the PSU01MA / PSU04! This can not be queried from the console.
- ↑ Uplink from next console to this console: Okay.

PW: Powerstatus of the console. **O.K.:** 

 Power supply is okay > 27V.

 Power supply faulty < 27V.

CH: Number of the language channels.



If question marks are displayed on the LCD the controller is not able to get a digital clock from the system. A reason may be that no EDAT signal is coming from the previous console or from the PSU01MA /PSU04.

Version strings

ADL04 Name of the software

v01.06 Version of the software

-05 Version of the FPGA. Due to cable problems this may not be read. Then a question mark is shown.

09May07 Date of the software

06C1k CPU-Speed, 06Clk okay

After approx. 5 sec. the display will change to the **operation mode** shown as below:

FLOOR / FLOOR FLOOR FLOOR FLOOR FLOOR - - - - -	- - - - -



With pressing the service button S1 (see page 15) it is possible to get back to the diagnosis menu. This menu will be shown as long as the button is pressed.



Occupied channels (OCC) are blocked and cannot be selected by other interpreter consoles.

Display symbols

General

01ENG Number and abbreviation of the selected language according to ISO639-2

FLOOR Monitoring channel of the loudspeaker (original)

Incoming channels R1 ... R5

Symbols for interpretation quality of the languages

FLOOR Language is not translated (original)

+1 Language is translated once

+2 Language is translated twice

+3 Language is translated three times

Outgoing channels A, B

LIVE Outgoing channel is enabled

OCC Outgoing channel is occupied

MUTE Outgoing channel is muted

11. A, B, C

to select output channel.

The current adjusted language will be indicated with the corresponding abbreviation (ISO639).

LCD indication: LIVE above the language abbreviation in the LCD.

12. mute

To mute the microphone.

As long as the button is pressed, the microphone is muted (mic button and ring-shaped indicator will switch off).

The selected channel remains occupied.

LCD indication (above selected channel): MUTE

Button is illuminated yellow when occupied.

13. Braille signs

The buttons “mic”, “mute” and “original” are provided with Braille signs “mi”, “mu” and “or”.

14. mic

To switching the microphone on/off.

Button and microphone ring is illuminated red when active.

15. original

For monitoring the original signal (floor).

Button is illuminated yellow when active.

16. treble

For adjusting the headphone treble level.

17. bass

For adjusting the headphone bass level.

18. guard

Red LED to indicate excessive headphone sound level.

19. R1 ... R5

For selection of a relay channel.

The assignment of the buttons R1... R5 can be changed with the rotary knob “program” while pressing the corresponding relay channel button.

Display indication for selected channel.

Button is illuminated yellow when active.

20. volume

For adjusting the headphone volume level.

21. LS volume

For volume adjustment of the built-in loudspeaker.

22. Built-in loudspeaker

for monitoring a selectable language channel.

Loudspeaker is always on. To switch off turn the rotary knob “LS volume” to minimum Position (-).



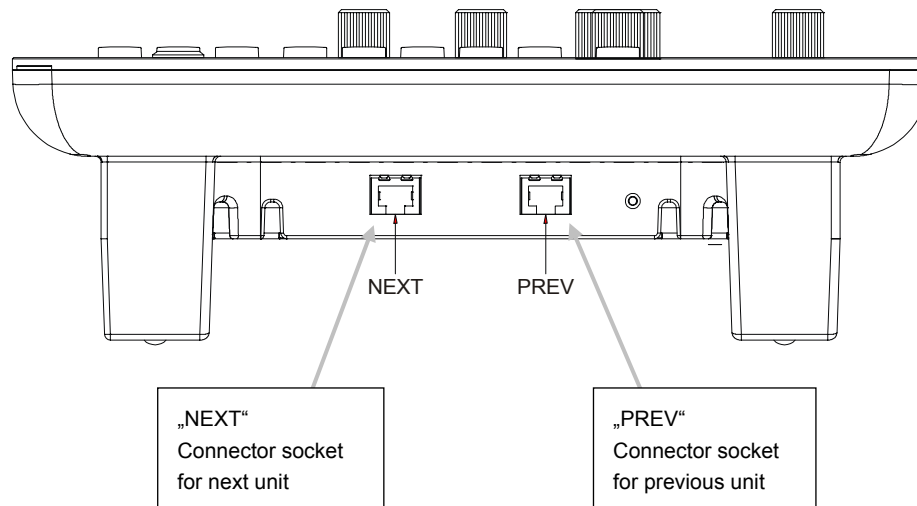
Loudspeaker is automatically muted when a microphone in the booth becomes live.

Cable connection

The interpreter console is connected with one single CAT5 cable to the system (power supply). All data, power and audio information is transported via this cable.

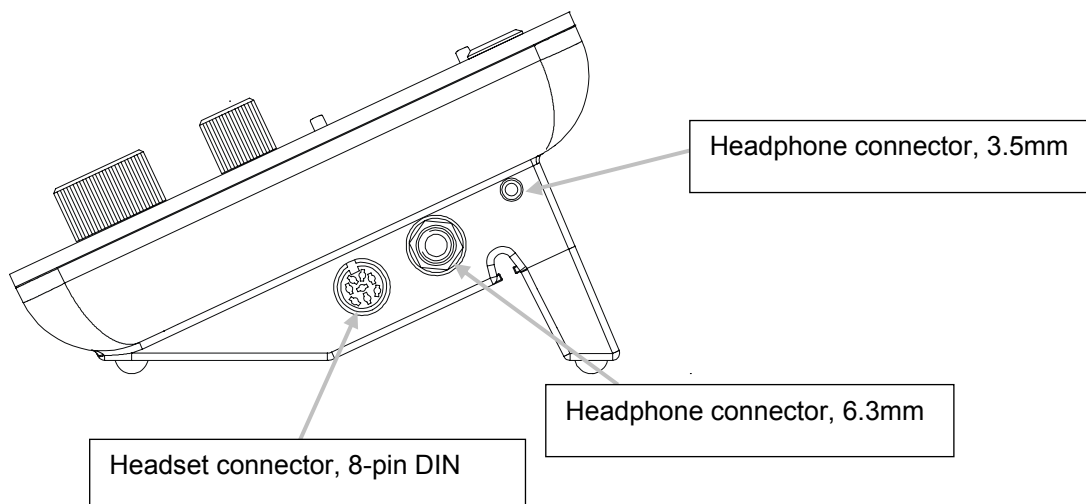
To connect the interpreter console to the system a cable has to be connected between the power-supply output and the **“previous”** socket of the unit.

Further interpreter units have to be connected to the **“next”** socket (Daisy Chain).



The cable specification has to match the EIA/TIA 568 B standard (shielded CAT5 with RJ45, AWG26).


Headphone / Headset connection



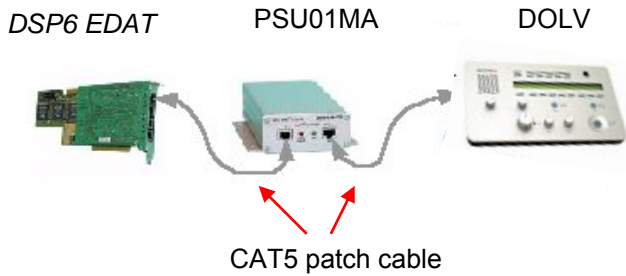
Hardware setup

The interpreter console DOLV/E is connected to the system via CAT5 cable. Additional interpreter consoles are connected with "Daisy Chain" method.

The first interpreter console is connected to a power supply unit (PSU01MA/PSU04), which is connected to the DSP6 EDAT card.

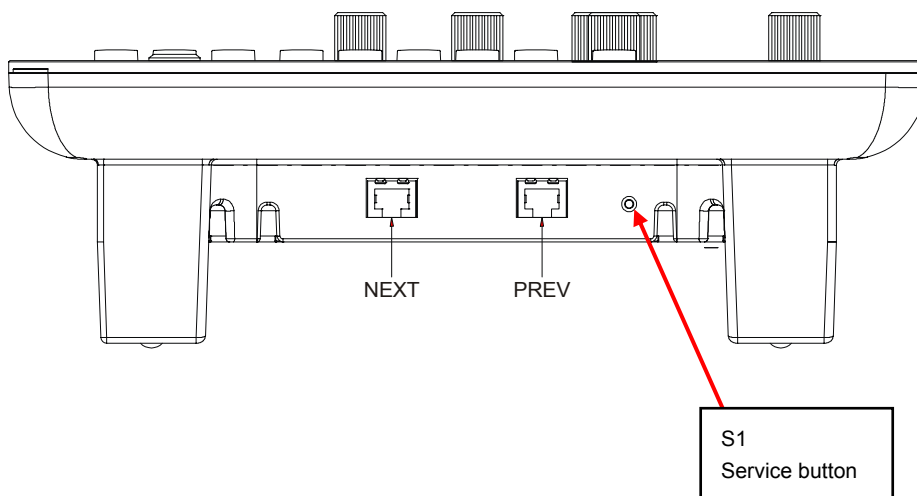
 Max. 7 languages and 14 DOLV units are possible in one line!


Connection example



Service button

For service purposes.



 To change the ID-number of the console:
Press and hold the service button S1 on the backside.

The diagnosis menu will be shown.
Then turn the program switch to the left or to the right to the selected number.
The new number will be stored after releasing the button S1.

Software setup

Please refer to the CDSServer/CDSConsole manual for this purpose.

Appendix

Technical data

Complies with international standard IEC914 and IEC2603.2

Connector sockets

- Connector socket for headphone, 3.5mm (mono)
- Connector socket for headphone, 6.3mm (mono)
- Connector socket for headset, 8-pin, DIN
- Connector socket for microphone TM58/6, Minicon
- Connector socket "PREV" for connection of previous unit/power supply, RJ45
- Connector socket "NEXT" for connection of next unit, RJ45

Digital Audio

- Sample rate 32, 44.1 and 48kHz
- Resolution up to 24 BIT

Loudspeaker

High quality loudspeaker with volume control, 8 Ω

- Nominal power handling 2w
- Peak power handling 5w
- Frequency response (-8 dB) 150-20.000Hz

LC-Display

- 2x56 characters, backlit

Power supply

- 48V/DC via CAT5 cabling

Housing




Impact resistant plastic, black

Aluminium front plate, silver anodized

W x H x D: (305x90x175) mm

Weight: 1.5 kg

Troubleshooting table

Error description	Error cause	Error solution
Display is not working (no power on console)	CAT5 cabling incorrect PSUxx (power supply) is not/not correct connected to power	Check the CAT5 cabling to the unit Check the cabling of the PSUxx
Display shows "HW:  (EDAT-Fault)	EDAT-Fault on the downlink from the previous console or from PSUxx to the console or project has not been wired correctly	Check the CAT5 cabling PSUxx - > PREVIOUS -> NEXT Check project wiring
Display shows "SW: 	Downlink problem	CDSVAN software not started or cable defective
Display shows "SW: 	Uplink problem	CAT5 Cabling (PREV/NEXT) mixed up or defective Check the CAT5 cabling PSUxx - > PREVIOUS -> NEXT
Display shows no language signs	Console is not configured in the Config settings	Check the configuration in the CDSServer config settings (refer to the CDSServer Manual)
"Crackling" noise coming from the incorporated loudspeaker	Wrong "short/long" settings	Check "short/long" settings at software and power supply unit (PSUxx)
Loudspeakers of other consoles are not muted, when a microphone is activated in a common booth	The interpreter booth configuration is not proper set	Check the interpreter booth configuration with the CDSServer CONFIG (refer to the CDSServer Manual)

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Repair details	
Equipment:/serial no./code:	
Fault description:	
Date of first usage:	Date of delivery:
Delivery note no.:	Invoice no.:
Company, customer:	
Person to contact:	Telephone no.:
	E-mail:
Comments:	
Date, company seal, signature of customer:	

Dear Customer,

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. Please contact us before you return equipment for repair in order to find the most efficient way of sending. **A detailed fault description will reduce cost and period of repair.**

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

Remarks for Non-EU customers:

Please add to each return a delivery note or a proforma invoice, addressed to Brähler ICS AG, Königswinter, with following statements:

- Reason for return (repair or credit note)Exact declaration of the goods, exact no. of pieces, article no. / model, serial no.
- Price which was invoiced by us, better our invoice no. with date

Return shipments from Non-EU countries have to be sent **always by air freight** to Cologne airport, to the attention of:

Calenberg Oversea Logistics

Mr. Meregalli / Mr. Meininghaus
 Welser Str. 8
 51449 Köln
 Phone: +49 (0)2203 3592-838

Please do **not** ship with FedEx, UPS, DHL, TNT, Post, etc., because those services do not process returns, but only imports !!!
 Any return shipments by a.m. courier services will be rejected by Brähler ICS.

Block diagram

General overview of CDSVAN components

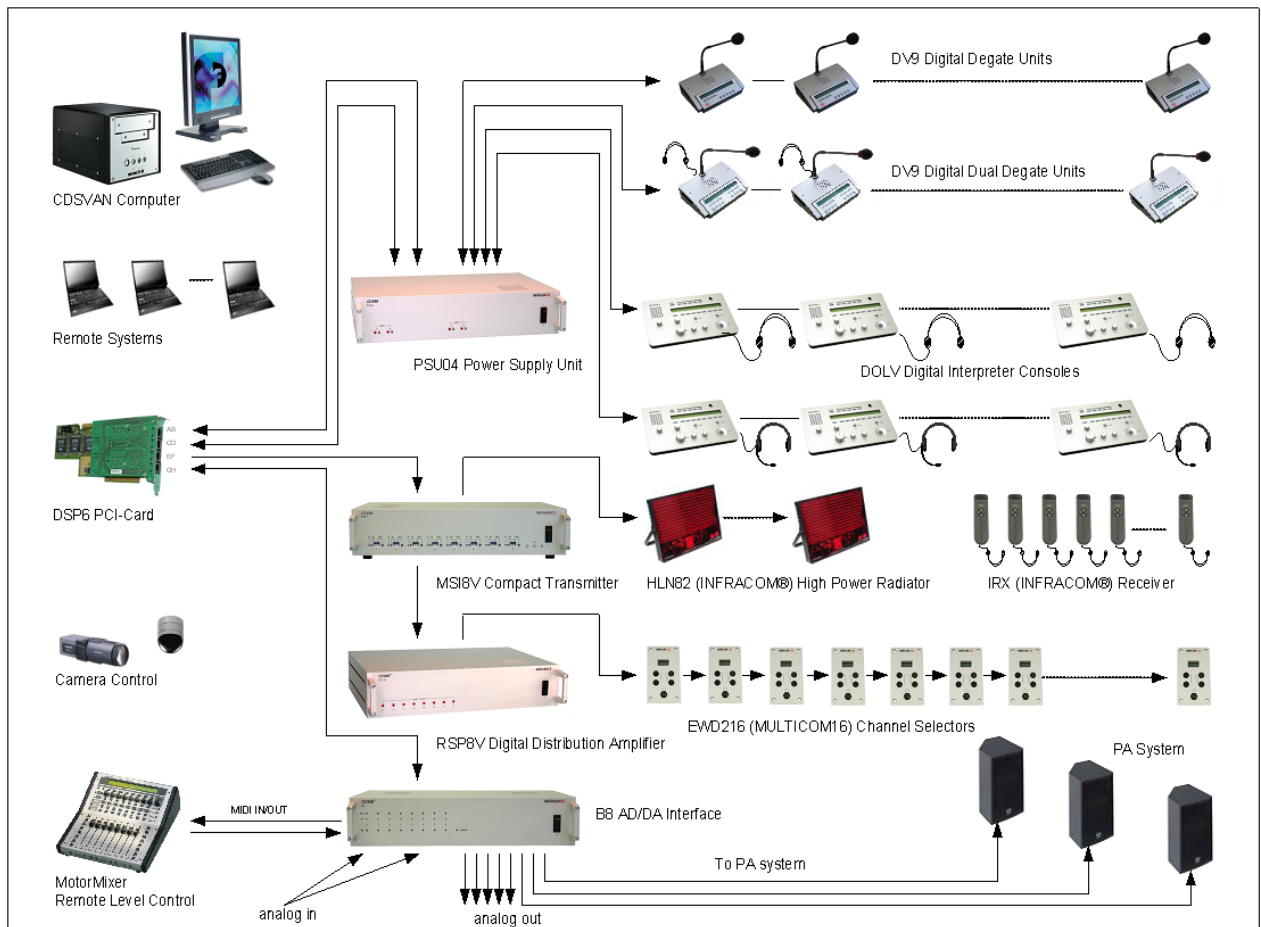


Table of language signs (ISO639-1, ISO639-2)

Language name	DOLV/E 639-1 CAP	DOLV/E 639-1	DOLV 639-2 CAP	DOLV 639-2
Abkhazian	AB	ab	ABK	abk
Afar	AA	aa	AAR	aar
Afrikaans	AF	af	AFR	afr
Akan	AK	ak	AKA	aka
Albanian	SQ	sq	ALB	alb/sqi
Amharic	AM	am	AMH	amh
Arabic	AR	ar	ARA	ara
Aragonese	AN	an	ARG	arg
Armenian	HY	hy	ARM	arm/hye
Assamese	AS	as	ASM	asm
Avaric	AV	av	AVA	ava
Avestan	AE	ae	AVE	ave
Aymara	AY	ay	AYM	aym
Azerbaijani	AZ	az	AZE	aze
Bambara	BM	bm	BAM	bam
Bashkir	BA	ba	BAK	bak
Basque	EU	eu	BAQ	baq/eus
Belarusian	BE	be	BEL	bel
Bengali	BN	bn	BEN	ben
Bihari	BH	bh	BIH	bih
Bislama	BI	bi	BIS	bis
Bosnian	BS	bs	BOS	bos
Breton	BR	br	BRE	bre
Bulgarian	BG	bg	BUL	bul
Burmese	MY	my	MYA	bur/mya
Catalan	CA	ca	CAT	cat
Chamorro	CH	ch	CHA	cha
Chechen	CE	ce	CHE	che
Chichewa	NY	ny	NYA	nya
Chinese	ZH	zh	CHI	chi/zho
Church Slavic		cu	CHU	chu
Chuvash	CV	cv	CHV	chv
Cornish	KW	kw	COR	cor
Corsican	CO	co	COS	cos
Cree	CR	cr	CRE	cre
Croatian	HR	hr	HRV	scr/hrv
Czech	CS	cs	CZE	cze/ces
Danish	DA	da	DAN	dan
Divehi	DV	dv	DIV	div
Dutch	NL	nl	DUT	dut/nld

Language name	DOLV/E 639-1 CAP	DOLV/E 639-1	DOLV 639-2 CAP	DOLV 639-2
Dzongkha	DZ	dz	DZO	dzo
English	EN	en	ENG	eng
Esperanto	EO	eo	EPO	epo
Estonian	ET	et	EST	est
Ewe	EE	ee	EWE	ewe
Faroese	FO	fo	FAO	fao
Fijian	FJ	fj	FIJ	fij
Finnish	FI	fi	FIN	fin
French	FR	fr	FRE	fre/fra
Fulah	FF	ff	FUL	ful
Galician	GL	gl	GLG	glg
Ganda	LG	lg	LUG	lug
Georgian	KA	ka	GEO	geo/kat
German	DE	de	GER	ger/deu
Greek	EL	el	GRE	gre/ell
Guaraní	GN	gn	GRN	grn
Gujarati	GU	gu	GUJ	guj
Haitian	HT	ht	HAT	hat
Hausa	HA	ha	HAU	hau
Hebrew	HE	he	HEB	heb
Herero	HZ	hz	HER	her
Hindi	HI	hi	HIN	hin
Hiri Motu	HO	ho	HMO	hmo
Hungarian	HU	hu	HUN	hun
Icelandic	IS	is	ICL	ice/isl
Ido	IO	io	IDO	ido
Igbo	IG	ig	IBO	ibo
Indonesian	ID	id	IND	ind
Interlingua (International Auxiliary Language Association)	IA	ia	INA	ina
Interlingue	IE	ie	ILE	ile
Inuktitut	IU	iu	IKU	iku
Inupiaq	IK	ik	IPK	ipk
Irish	GA	ga	GLE	gle
Italian	IT	it	ITA	ita
Japanese	JA	ja	JPN	jpn
Javanese	JV	lv	JAV	jav
Kalaallisut	KL	kl	KAL	kal
Kannada	KN	kn	KANN	kan

Language name	DOLV/E 639-1 CAP	DOLV/E 639-1	DOLV 639-2 CAP	DOLV 639-2
Kanuri	KR	kr	KAU	kau
Kashmiri	KS	ks	KAS	kas
Kazakh	KK	kk	KAZ	kaz
Khmer	KM	km	KHM	khm
Kikuyu	KI	ki	KIK	kik
Kinyarwanda	RW	rw	KIN	kin
Kirghiz	KY	ky	KIR	kir
Kirundi	RN	rn	RUN	run
Komi	KV	kv	KOM	kom
Kongo	KG	kg	KON	kon
Korean	LO	ko	KOR	kor
Kuanyama	KJ	kj	KUA	kua
Kurdish	KU	ku	KUR	kur
Lao	LO	lo	LAO	lao
Latin	LA	la	LAT	lat
Latvian	LV	lv	LAV	lav
Limburgish	LI	li	LIM	lim
Lingala	LN	ln	LIN	lin
Lithuanian	IT	lt	LIT	lit
Luba-Katanga	LU	lu	LUB	lub
Luxembourgish	LB	lb	LTZ	ltz
Macedonian	MK	mk	MKD	mac/mkd
Malagasy	MG	mg	MLG	mlg
Malay	MS	ms	MAY	may/msa
Malayalam	ML	ml	MAL	mal
Maltese	MT	mt	MLT	mlt
Manx	GV	gv	GLV	glv
Māori	MI	mi	MRI	mao/mri
Marathi	MR	mr	MAR	mar
Marshallese	MH	mh	MAH	mah
Moldavian	MO	mo	MOL	mol
Mongolian	MN	mn	MON	mon
Nauru	NA	na	NAU	nau
Navajo	NV	nv	NAV	nav
Ndonga	NG	ng	NDO	ndo
Nepali	NE	ne	NEP	nep
North Ndebele	ND	nd	NDE	nde
Northern Sami	SE	se	SME	sme
Norwegian	NO	no	NOR	nor
Norwegian Bokmål	NB	nb	NOB	nob

Language name	DOLV/E 639-1 CAP	DOLV/E 639-1	DOLV 639-2 CAP	DOLV 639-2
Norwegian Nynorsk	NN	nn	NNO	nno
Occitan	OC	oc	OCI	oci
Ojibwa	OJ	oj	OJI	oji
Oriya	OR	or	ORI	ori
Oromo	OM	om	ORM	orm
Ossetian	OS	os	OSS	oss
Pāli	PI	pi	PLI	pli
Panjabi	PA	pa	PAN	pan
Pashto	PS	ps	PUS	pus
Persian	FA	fa	PER	per/fas
Polish	PL	pl	POL	pol
Portuguese	PT	pt	POR	por
Quechua	QU	qu	QUE	que
Raeto-Romance	RM	rm	ROH	roh
Romanian	RO	ro	RUM	rum/ron
Russian	RU	ru	RUS	rus
Samoan	SM	sm	SMO	smo
Sango	SG	sg	SAG	sag
Sanskrit	SA	sa	SAN	san
Sardinian	SC	sc	SRD	srd
Scottish Gaelic	GD	gd	GLA	gla
Serbian	SR	sr	SCC	scc/srp
Serbo-Croatian	SH	sh	--	--
Shona	SN	sn	SNA	sna
Sichuan Yi	II	ii	III	iii
Sindhi	SD	sd	SND	snd
Sinhalese	SI	si	SIN	sin
Slovak	SK	sk	SLO	slo/slk
Slovenian	SL	sl	SLV	slv
Somali	SO	so	SOM	som
South Ndebele	NR	nr	NBL	nbl
Southern Sotho	ST	st	SOT	sot
Spanish	ES	es	SPA	spa
Sundanese	SU	su	SUN	sun
Swahili	SW	sw	SWA	swa
Swati	SS	ss	SSW	ssw
Swedish	SV	sv	SWE	swe
Tagalog	TL	tl	TGL	tgl
Tahitian	TY	ty	TAH	tah
Tajik	TG	tg	TGK	tgk

Language name	DOLV/E 639-1 CAP	DOLV/E 639-1	DOLV 639-2 CAP	DOLV 639-2
Tamil	TA	ta	TAM	tam
Tatar	TT	tt	TAT	tat
Telugu	TE	te	TEL	tel
Thai	TH	th	THA	tha
Tibetan	BO	bo	TIB	tib/bod
Tigrinya	TI	ti	TIR	tir
Tonga	TO	to	TON	ton
Tsonga	TS	ts	TSO	tso
Tswana	TN	tn	TSN	tsn
Turkish	TR	tr	TUR	tur
Turkmen	TK	tk	TUK	tuk
Twi	TW	tw	TWI	twi
Uighur	UG	ug	UIG	uig
Ukrainian	UK	uk	UKR	ukr
Urdu	UR	ur	URD	urd
Uzbek	ZU	uz	UZB	uzb
Venda	VE	ve	VEN	ven
Vietnamese	VI	vi	VIE	vie
Volapük	VO	vo	VOL	vol
Walloon	WA	wa	WLN	wln
Welsh	CY	cy	WEL	wel/cym
Western Frisian	FY	fy	FRY	fry
Wolof	WO	wo	WOL	wol
Xhosa	XH	xh	XHO	xho
Yiddish	YI	yi	YID	yid
Yoruba	YO	yo	YOR	yor
Zhuang	ZA	za	ZHA	zha
Zulu	ZU	zu	ZUL	zul

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