



Service Documents

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Vertraulich! Nur für autorisierte Servicetechniker!
Nicht zur Weitergabe an Dritte freigegeben!

A.C.T.O.R

DX 112A

SAT

Note!

The components used in this product - particularly parts affecting safety as well as speakers and transformers - were developed and manufactured to certain specifications. Please use original spare parts only to ensure the product remains fully functional and safe.

Achtung!

Die in diesem Produkt verwendeten Komponenten, insbesondere sicherheitsrelevante Teile, Lautsprecher und Transformatoren wurden nach spezifischen Vorgaben entwickelt und gefertigt. Bitte benutzen Sie ausschließlich Original-Ersatzteile – nur so ist die volle Funktionalität und Sicherheit gewährleistet.



TECHNICAL SERVICE:

Stamer Musikanlagen GmbH • Magdeburger Str. 8 • 66606 St.Wendel • Germany
Music & Sales P.E. GmbH • Leipziger Str. 3 • 66606 St.Wendel • Germany



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Welcome to the HK AUDIO family!

Thank you for choosing an HK AUDIO product.

ACTOR DX consists of two ADX 112 A mid/high units loaded with a 12" woofer, 1.4" driver and a DDO™ system controller, two ADX 115 A Sub subwoofers with an onboard 1,000 W RMS Class D power amp, and two ADX 115 Sub B subwoofers, the passive complement to the Sub A bin.

You don't have to worry about tweaking frequencies and finessing levels, all you have to do is set up the system components, connect the signal-carrying cables and the power cords, and you're ready to roll.

An HK AUDIO® active system is made up of more than just two active cabinets; it is an end-to-end sound reinforcement solution consisting of subwoofers, mid/high units and meticulously matched electronic circuitry.

Our engineers developed new technologies to satisfy the stringent requirements of such an advanced system. With its unique and sophisticated features, every active HK AUDIO® sound reinforcement system stands out in the crowd of far more basic active cabinets.

All the best from the HK AUDIO team; enjoy your ACTOR DX system!

Warranty

Register your ACTOR DX using the enclosed warranty card to extend your warranty to five years free of charge!

Use the convenient **online registration** option at www.hkaudio.com.

If you are unable to register online, please fill out the enclosed warranty card completely and mail or fax it to us. The registration is only valid if the warranty registration card is filled out and returned to HK AUDIO® or the device is registered via the Internet within 30 days of the date of purchase.

We are also interested in learning where our devices are used and by whom. This information will help us design future products. Your information is of course protected by privacy laws.

Thank you!

HK AUDIO®
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Unique features for premium performance



Digital amping

– for enhanced efficiency and dynamics

With an extremely high efficiency rating topping the 90% mark, Class D digital power amps are substantially smaller, lighter, and more compact than comparable conventional amps. The reduced thermal load on components enhances reliability, while the far faster slew rate and higher attenuation factor audibly enhance the speed and accuracy of the system's dynamic response.



DDO™ Controller technology

The DDO™ Controller compensates for varying response of components such as low-frequency, midrange and high-frequency speakers, power amps, crossovers and so forth to forge a homogenous system with uniform dynamics and a sonic image with sharply defined contours.



DuoTilt™

– making the most of sonic energy

The novel DuoTilt™ pole mount allows sound energy to be utilized far more efficiently. DuoTilt™ offers 7.5° and 15° angles of tilt, enabling perfect mid/high unit-to-audience alignment. Troublesome ceiling reflections are minimized, making the sound clearer, tighter, and more focused.



Easy Setup and Handling

– for less pre-gig stress

Like all HK AUDIO Active Systems, ACTOR DX was designed as a cohesive system consisting of perfectly matched components. Painstaking effort was invested in ensuring ACTOR DX can be transported easily and set up quickly. Handling and EQing couldn't be any easier, with no complicated and time-consuming tweaking challenges to master.



ADX 112 A



ADX 115 Sub A



ADX 115 Sub B

1 ACTOR DX System Components

ADX 112 A Mid/High Unit

These enclosures are loaded with one 12" HK AUDIO Custom speaker and one 1.4" compression driver with a 60° x 40° CD horn. Delivering 600 W RMS, the Class D power amp is housed in a separate chamber along with the DDO™ Controller.

ADX 115 Sub A Subwoofer

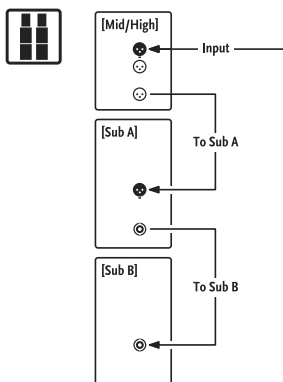
The ACTOR DX A Sub's housing is split up into two chambers. The front chamber serves as the speaker cabinet for the 15" front-loaded loudspeaker, which has a power handling capacity of 500 W RMS and a nominal impedance of 8 ohms. The power amp is housed in a separate compartment at the rear of the cabinet.

ADX 115 Sub B Subwoofer

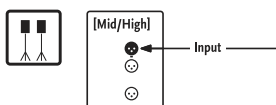
The housings and speakers of the ADX 115 Sub Bs and Sub A are identical. The Sub B is the passive version of the Sub A.

2 Transport

To transport the system, simply set the subwoofers on their casters and place the mid/high units onto the subwoofers with the foam rubber grille side facing down. Use original HK AUDIO covers to get your system ready to handle the rigors of the road. Padded and protected against moisture, your ACTOR DX system is sure to serve you well for a long time to come.



Standard system connections



Connections for full-range setup

3 Setup and Cable Connections

3.1 The Standard ACTOR DX System

The standard system comprises two ACTOR DX 112 A mid/high units, two ADX 115 Sub A subwoofers and two ADX 115 Sub B subwoofers.

Always connect ACTOR DX starting at the top and working your way down (refer to the diagram on the rear panel of ACTOR DX components)! This may seem unusual if you are accustomed to working with active systems where signals are routed via paralleled pass-through jacks, which would allow connections to be made in any sequence. ACTOR DX, in contrast, features the DDO™ System Controller housed in the ADX 112 A mid/high unit. This controller lets you determine basic settings such as the system configuration, the mid/high unit's level and the subwoofer's level right on the mid/high unit. DDO™ then routes signals from the mid/high unit to Sub A.

Note: Always connect cords in the correct sequence. Never connect a cord carrying a signal from a mixer directly to Sub A because this bypasses the DDO™ system controller! Always connect signal sources to the "master" system input located on ACTOR DX mid/high units!

3.2 ACTOR DX Full-range Setup

The full-range setup comprises two ACTOR DX 112 A mid/high units.

Select the appropriate system configuration on the system controller's control panel. In full-range mode, the subwoofer output (DDO™ controlled) is disabled to prevent handling errors.

3.3 ACTOR DX Club Set

The club set comprises two ACTOR DX 112 A mid/high units and two ADX 115 Sub A bins.

3.4 Dual ACTOR DX System



The dual system comprises four ACTOR ADX 112 A mid/high units, four ADX 115 Sub A bins and four ADX 115 B Sub bins.

Connect cables from top to bottom as described above. Plug a microphone cord into the first mid/high unit's THROUGH port to route the mixer signal to the second ACTOR DX stack. Ensure XLR connectors are wired as follows: 1= ground, 2= +, 3= -

3.5 Flying ACTOR ADX 112 A Mid/High Units

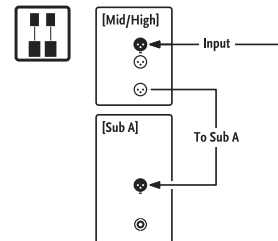
Use the HK AUDIO rigging frame to fly ACTOR DX mid/high units. To attach the frame, remove the countersunk M10 hex head bolts from the side panels. Bolt the rigging frame's brackets to the enclosure. Set the mid/high unit's inclination to the desired angle by loosening the knobs on the sides and firmly hand-tightening them again. The serrated plastic washers hold the mid/high unit in place.

Note: For reasons of safety, use tested and certified load-securing devices only (for example, half-couplers, TV spigots, brackets, and so forth)!

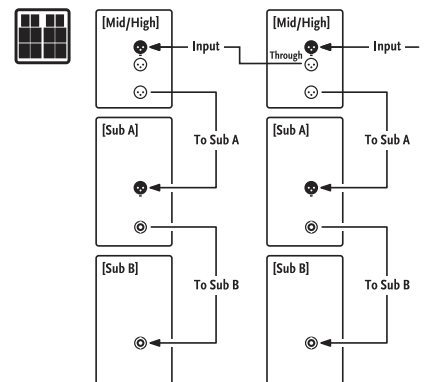
Ensure wall and pole mounts are designed to handle the load (an ACTOR ADX 112 A weighs 30 kg).

3.6 Using the ACTOR DX Tilt Unit

Using the optional tilt unit couldn't be easier: Proceed as if mounting the enclosure on a pole. Set the ACTOR DX tilt unit with the bottom plate facing down on the upper subwoofer and then set the ACTOR mid/high unit on it so the tilt unit's rod is inserted into one of the two holes (7.5° or 15°).



Club set connections



Dual system connections



ACTOR ADX 112 A with rigging bracket

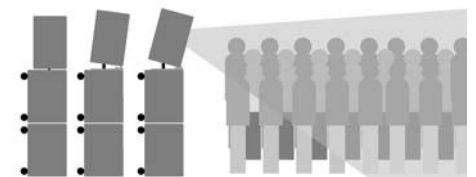
Question

Can I connect speakers other than an ACTOR DX mid/high unit to an ACTOR DX Sub A or Sub B subwoofer?

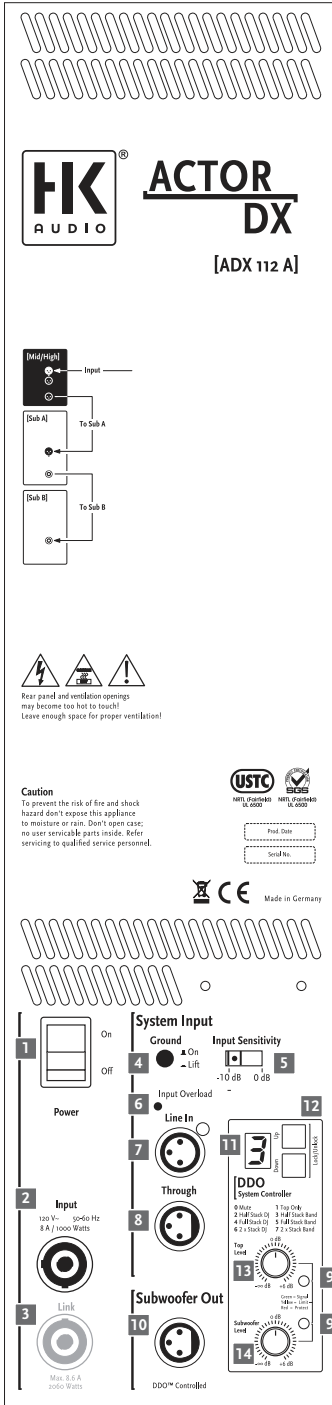
Answer

The system components are acoustically matched

for optimum audio performance and may be operated in the indicated configuration only. Using other mid/high units can degrade the sound and damage the power amp (e.g. the Sub A's). Sub A's nominal impedance is 4 ohms, and impedance may not fall short of this value. Connect no more than one Sub B to Sub A's speaker out.



The ACTOR DX tilt unit in action



ACTOR ADX 112 A

4 Connections and Control Features

4.1 ACTOR ADX 112 A

1 Power Switch

Handling: This is the on/off switch for the active system. When engaged, the system controller's display lights up orange. Always switch the ACTOR DX active system on last, that is, after powering up all other components, and switch it off first before powering down all other connected devices.

2 Mains Input

Connecting cords: Use the factory-included Powercon cable to connect this socket to a wall receptacle. **Caution!** Make sure the local mains voltage matches the voltage specified on the device. If you connect the system to the wrong mains voltage, you may destroy the ACTOR DX system's electronic components.

3 Link (only 220-240 V version)

Connecting cords: The Powercon Link socket is wired in parallel to the Mains Input. Connect other load consumers (for example, another ACTOR DX mid/high unit or an ACTOR DX Sub A bin) to it.

Heads up: The Powercon Link socket can handle loads up to 8.6 A and 2060 W (at 230 volts). This means you can use it to power up to but no more than two additional ACTOR DX components.

Note: Always switch on ACTOR DX components one after another to prevent a sudden spike in the venue's power supply. Otherwise the power surge may cause the house circuit breaker to trip.

4 Ground

Ground lift button for separating the signal and chassis ground in the event of humming noises. In the event of low-frequency hum, engage the Ground Lift switch. The ground circuit is severed when this button is pressed. If this doesn't solve the problem, check all cords connected to ACTOR DX as well as all signal cables routed to the mixing console for damage (see also Tips and Tricks).

5 Input Sensitivity

This selector matches the preamp's input sensitivity to the mixer's output signal level.

Engage this switch to select either -10 dB (for example, for unbalanced 1/4" jacks and consumer level devices) or +0 dB (for example, for balanced XLR ports and professional mixers).

Recommendation: Select +0 dB when using a professional-grade mixer sporting balanced outputs. This lets you take advantage of console faders' full control range and helps prevent overloads. Opt for -10 dB A when using a console with a lower output level (unbalanced 1/4" output).

6 Input Overload

This LED lights up when the input level is too high and the entire system (preamp and controller) is being overdriven. Not only does this result in unpleasant distortion, it can also harm the system's components. If the red LED lights up, reduce the level (volume) at the mixer!

7 Line In

Connecting cords: Connect cords carrying signals from your mixer (master left/right, line out, or a similar circuit) to the balanced inputs using a mic cord equipped with XLR connectors. Ensure XLR connectors are wired as follows: 1= ground, 2= +, 3= -.

8 Through

Connecting cords: Use this parallel output to route the incoming line signal to other components (for example, to additional ACTOR DX mid/high units) via XLR cords.

9 Limiter LEDs

These are the active system's "rev counters," serving to indicate the limiter's operating status.

10 Subwoofer Output

Connecting cords: Use this output to send the subwoofer signal from the DDO™ controller to an ACTOR ADX 115 Sub A via an XLR cord. Ensure XLR connectors are wired as follows: 1= ground, 2= +, 3= -.

11 Display

Read-out: The numeric display indicates the currently selected system configuration.

0 Mute

- 1 Top only 1 mid/high unit Full-range mode
- 2 Half Stack DJ 1 mid/high unit, 1 Sub A
- 3 Half Stack Band 1 mid/high unit, 1 Sub A
- 4 Full Stack DJ 1 mid/high unit, 1 Sub A+ Sub B
- 5 Full Stack Band 1 mid/high unit, 1 Sub A+ Sub B
- 6 Dual Stack DJ 2 mid/high units, 2 Sub A+ Sub B
- 7 Dual Stack Band 2 mid/high units, 2 Sub A + Sub B

- L Locked buttons are disabled
- U Unlocked buttons are enabled

12 Up/Down Buttons

Use these buttons to select system configurations.

Operation: To enable the buttons, press Up and Down simultaneously and hold for about one to two seconds. The letter U (for unlocked) appears briefly in the display. Now you can press Up and/or Down to select the desired setup (see the table above). The buttons are automatically disabled soon thereafter. The letter L (locked) appears briefly in the display.

13 Top Level

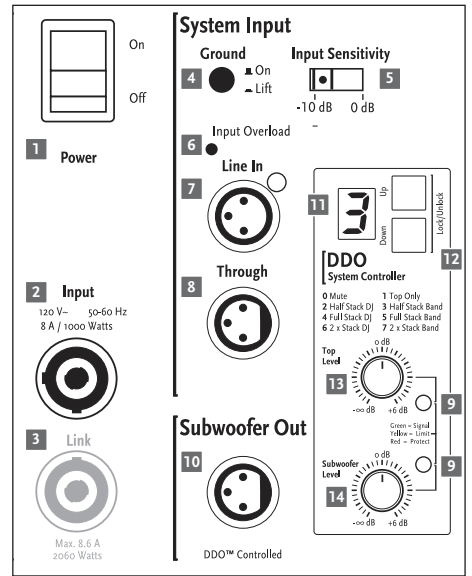
Operation: Use this knob to determine the volume of the mid/high unit. The standard setting is 0 dB at the 12 o'clock position. This means the level is neither boosted nor cut.

14 Subwoofer Level

Operation: When the knob is set to the 12 o'clock position, the subwoofer's and the mid/high unit's respective volumes are matched, ensuring bass and mid/high ranges are rendered in balanced musical proportion. If desired, twist the Subwoofer Level knob to the left to decrease and to the right to increase the subwoofer's level by up to 6 dB. Tip: If necessary or desired, use the Subwoofer Level knob to boost or cut bass frequencies below 100 Hz rather than resorting to the mixer's master EQ.

15 Rigging Points

Attach the ACTOR DX rigging frame here to fly the mid/high unit from a truss or similar suspension device.



ACTOR ADX 112 A control features

More about limiter LEDs

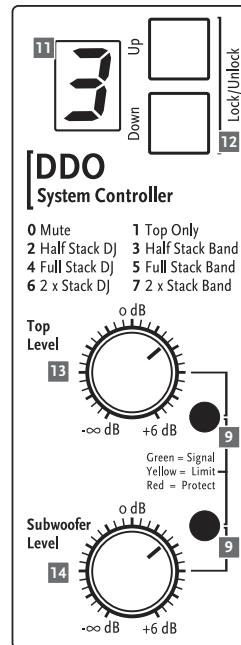
A dedicated LED indicates the limiter status for the mid/high-range signal path and the subwoofer circuit, respectively.

What do the lights mean?

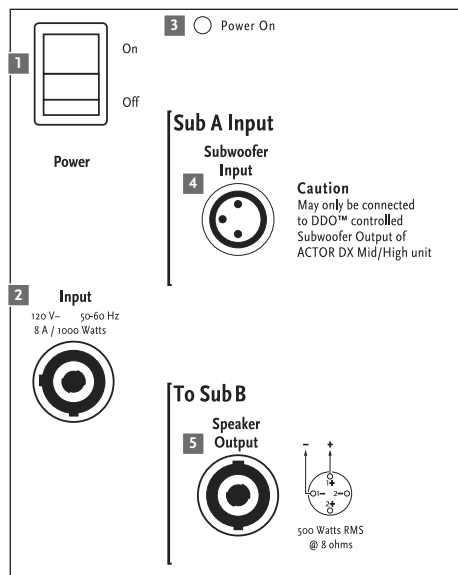
The green LED indicates that the given input is receiving a signal. As long as the LED lights up green, the system is operating at low-to-medium levels, with plenty of headroom available for the

power amps. Yellow indicates that the system is being pushed close to its threshold. The yellow LED may flash at regular intervals, but it may not illuminate continuously. If it does this, back off the volume on your mixer.

If the LED constantly lights up red, there is a problem in the power amp and the system will shut down. In this case, have a qualified service technician check the device.



Control features of the ACTOR DX system controller



Control features of the ACTOR DX 115 Sub A

4.2 ACTOR DX 115 Sub A

1 Power Switch

Operation: This is the on/off switch for the active system. When engaged, the Power On LED lights up red. Always switch the ACTOR DX active system on last, that is, after powering up all other components, and switch it off first before powering down all other connected devices.

2 Mains Input

Connecting cords: Use the factory-included Power-cord to connect this socket to a wall receptacle. Caution! Make sure the local mains voltage matches the voltage specified on the device. If you connect the system to the wrong mains voltage, you may destroy the ACTOR DX system's electronic components.

3 Power On LED

This LED lights up when the Power switch is set to ON and the system is connected to a mains power supply.

4 Subwoofer Input

Connecting cords: To patch the signal from the DDO™ controller to a Sub A bin, plug one end of a mic cord equipped with XLR connectors into the mid/high unit's Subwoofer output and the other into the Subwoofer Input. Ensure XLR connectors are wired as follows: 1= ground, 2= +, 3= -.

Note: Never patch the mixer's line and/or master signal directly into Sub A's Subwoofer Input. This bypasses the system's controller, crossover, equalization and protection circuitry, risking serious damage to the subwoofer. Read chapter 3, Setup and Cable Connections, for more on this.

5 To Sub B Speaker Output

Connecting cords: Use this parallel Speakon® output to connect a passive ACTOR DX B Sub bin.

Note: Be sure to twist the Speakon™ connectors clockwise until they lock in place! You must first disengage the safety catch before you can unplug the connector. To do this, pull the bayonet catch towards the cord. Pin assignments are pin 1+ = +, pin 1- = -.

Feel free to use a four-core cable if you wish, though pin 2+ and 2- remain unused, of course.

4.3 ACTOR DX 115 Sub B

6 Sub B In

Connecting cords: Connect the Speakon® input to the ADX 115 Sub A bin's Speaker Output using a suitable loudspeaker cord.

5 Tips and Tricks

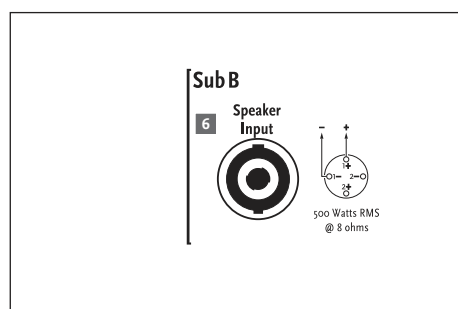
Do not expose electronic circuitry to moisture! When you set the system up outdoors, be sure to protect it against rain. Keep soft drinks, beer and all other liquids well away from the cabinets to protect their electronic components from short circuits.

Ensure that the ducts on the enclosures' rear panels are free of dirt and the devices are ventilated properly. Otherwise, electronic components may overheat and suffer damage.

ACTOR DX delivers optimum sound, so you should provide it with optimum input signals! Noise such as humming is generally caused by defective cables, the wrong type of cords, or unbalanced signals routed into the mixing console. Check all signal and mains cables.

Prevent distortion! Not only is it unpleasant to your audience's ears, it also endangers your equipment. Make sure all components that are connected directly and indirectly to ACTOR DX have sufficient power ratings, and that they don't distort because they're running at their respective limits. Provide an undistorted signal to the system that doesn't have to be cleaned up by backing off the Gain knob.

Avoid ground loops! You may encounter a ground loop when the mixer is grounded via a mains cord which isn't connected to the same mains circuit as ACTOR DX. To prevent this problem, always connect the ACTOR DX system and the mixing console to the same electrical circuit (same phase!). If your equip-



Control features of the ACTOR DX 115 Sub B

ment hums despite this precaution, the Ground Lift switch can be a great help.

CAUTION: Never tape over the plug's ground terminal—this endangers lives!

6 ACTOR DX Accessories

HK AUDIO ACTOR DX Tilt-Unit

Designed to hold the ACTOR DX mid/high unit, the tilt unit is placed on the subwoofer, with the DuoTilt™ fitting offering a choice of 7.5° or 15° angles.

HK AUDIO Dust Covers for ACTOR DX

This set comprises subwoofer and satellite covers. Extremely tear resistant, water repellent and thickly padded, these covers afford lasting protection for the ACTOR DX system during transport.

HK AUDIO ACTOR DX Rigging Frame

Easy-to-mount U bracket for attaching half-couplers, TV spigots and clamps.

To learn more about original HK AUDIO accessories, talk to your HK AUDIO dealer or visit www.hkaudio.com.

7 Troubleshooting

The Power On LED or display does not light up red when switched on.

- 1 Check if the power cord is plugged into the Mains Input.
- 2 Check if the mains power supply is providing current.
- 3 Check if the house circuit breaker has tripped.

The Power On LED lights up red, but the cabinets produce no sound.

- 1 Check the cords connected to the inputs.
- 2 Check if the signal sources (mixer, keyboard, CD player, etc.) are on.

- 3 Are the Gain knobs turned up?
- 4 Check the speaker cords for damage.
- 5 Check if the Speakon™ connectors are locked (twisted to the right). An electrical connection is established only if their locking mechanism engages.

The subwoofer's low frequency output is weak.

- 1 Check the setting of the Subwoofer Level knob. Set Sub A's volume to the desired level using the Subwoofer Level.
- 2 Check if the system configuration "Top Only" is selected on the system controller. This mutes the subwoofers.

The signal sounds distorted.

- 1 Check the LED displays on your mixer. Ensure they are not constantly in the red. If necessary, back off the volume at the mixer.
- 2 If the LED displays on your mixer are in the green, but the sound is still distorted, back off the Level knobs on the ACTOR ADX 112 A enclosures.
- 3 Observe the Input Overload indicator and the Limiter LEDs on the ACTOR DX mid/high units' control panels. It is acceptable for these to flash yellow from time to time, but under no circumstances may the yellow LEDs illuminate continuously. If they do, turn down the Level knobs. Check also the Input Sensitivity setting. If the signal is saturated, set it to +0 dB.

Annoying hum

- 1 Check the cords connecting the signal source to ACTOR DX. Replace damaged cords.
- 2 If you cannot pinpoint the cause of the humming, engage Ground Lift. This should remedy the problem in most cases.

8 Technical Specifications

ACTOR ADX 112 A

Connections:	1x XLR Line In 1x XLR Line Through 1x XLR Subwoofer Output
Line In:	XLR female (pin 1= Ground; 2= +, 3= -)
Input:	Electronically balanced & floating
Input impedance:	20 k ohms
Sensitivity:	Switchable from -10 dB to 0 dB (= +4 dBu)
Max. input level:	+22 dBu
Frequency response +/- 3dB:1)	80 Hz – 19 kHz full-range mode 130 Hz – 19 kHz Stop-only mode
Axial sensitivity 1W@1m:2)	106 dB
Maximum SPL @1m: 2)	129 dB @ 10% THD
Mid/high-range amplifier:	1x 600 W RMS/ Class D
Active protective circuits:	DDO™ Controller Multiband Limiter, Subsonic Filter
Midrange speaker:	12"
Tweeter/ driver:	1.4"
Directivity:	60° x 40° CD horn
Crossover frequency:	950 Hz, 12 dB/octave
Pole mount:	HK AUDIO DuoTilt™, 36 mm, 7.5°, 15°
Rigging points:	4 M10 threaded bushings for attaching an optional rigging bracket
Accessories:	ACTOR DX Tilt-Unit, 7.5°, 15°
Dimensions (WxDxH):	39 cm x 65 cm x 42 cm 15 1/4" x 25 5/8" x 16 1/2"
Weight:	32 kg/ 70.6 lbs.
General electrical data:	
Protection class 1 (protectively earthed)	
Max. current consumption:	4.4 A (230 V) 8 A (120 V) 8 A (100 V)
Max. power consumption:	1000 VA
Mains voltage range:	+/- 10%
Ambient temperature range:	-10° C to +35° C
Internal fuses:	T8A

1) Via active crossover

2) All measurements taken under half-space conditions

ACTOR ADX 115 Sub A

Connections:	1x XLR Subwoofer Input 1x XLR Subwoofer Through 1x Speakon® Parallel Out
Subwoofer Input:	XLR female (pin 1= Ground; 2= +, 3= -)
Input:	Electronically balanced & floating
Input impedance:	20 k ohms
Sensitivity:	+10 dBu (turned all the way up)
Max. input level:	+22 dBu
Frequency response +/- 3dB: 1)	48 Hz – 130 Hz
Axial sensitivity 1W@1m: 2)	104 dB
Maximum SPL @1m: 2)	126 dB @ 10% THD
Subwoofer amplifier:	1x 1,000 W RMS / Class D
Active protective circuits:	DDO™ Controller, Multiband Limiter, Subsonic Filter
Woofers:	15"
Pole mount:	M20 thread base plate
Castors	Four 100 mm castors on the rear panel
Dimensions (WxHxD):	48 cm x 65 cm x 66 cm incl. castors 18 7/8" x 25 5/8" x 26"
Weight:	36.6 kg/ 80.0 lbs.

General electrical data:

Protection class 1 (protectively earthed)	
Max. current consumption:	13 A (230 V) 8 A (120 V) 8 A (100 V)
Max. power consumption:	1000 VA
Mains voltage range:	+/- 10%
Ambient temperature range:	-10° C to +35° C
Internal fuses:	T8A

ACTOR ADX 115 Sub B

Connections:	1x Speakon® Input
Nominal power handling:	500 W RMS/ 8 ohms
Frequency response +/- 3dB: 1)	48 Hz – 130 Hz
Axial sensitivity t 1W@1m: *)	104 dB
Maximum SPL @1m: *)	126 dB @ 10% THD
Woofers:	15"
Pole mount:	-
Castors	Four 100 mm castors on the rear panel
Dimensions (WxHxD):	48 cm x 65 cm x 66 cm incl. castors 18 7/8" x 25 5/8" x 26"
Weight:	33.7 kg/ 74.3 lbs.

This is to certify that

HK AUDIO® ACTOR DX

complies with the provisions of the Directive of the Council of the European Communities on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Directive 89/336/EEC) and the low voltage Directive (73/23/EEC).
This declaration of conformity of the European Communities is the result of an examination carried out by the Quality Assurance Department of STAMER GmbH in accordance with European Standards EN 50081-1, EN 50082-1 and EN 60065 for low voltage, as laid down in Article 10 of the EMC Directive.

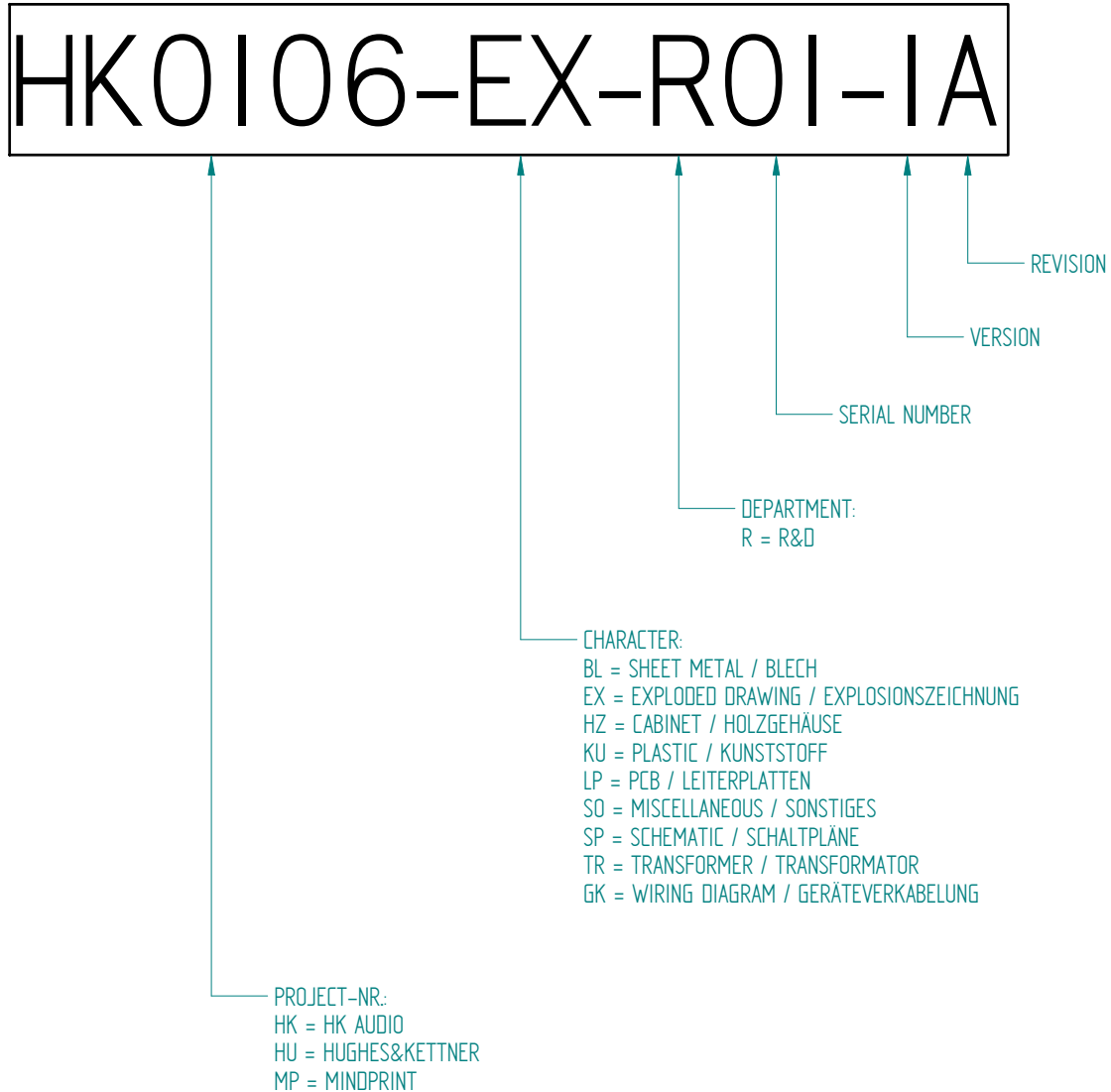

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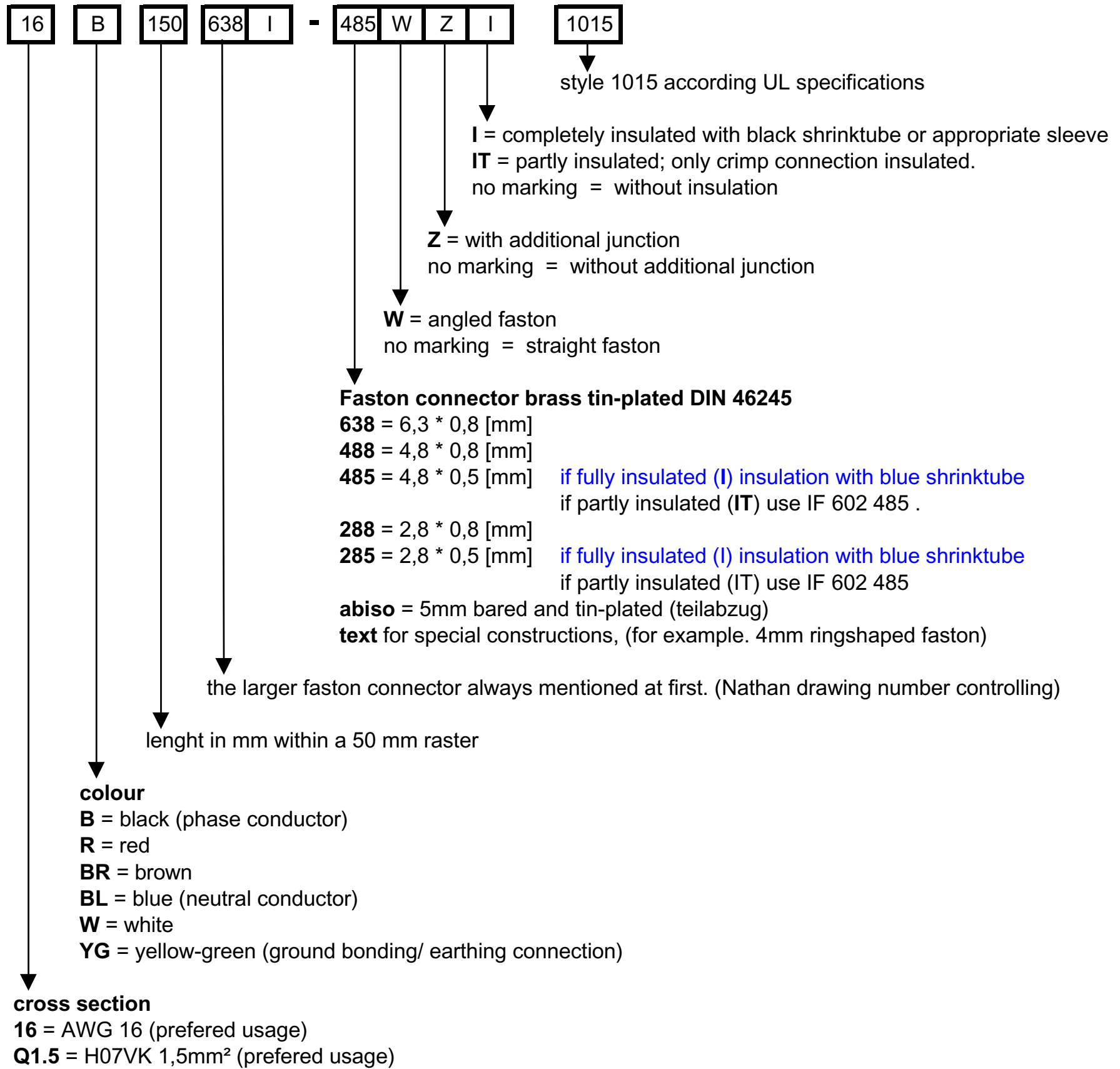
Lothar Stamer Dipl.Ing.
Managing Director
St.Wendel, 04/15/05

* Stamer Musikanlagen manufactures exclusively for HK AUDIO®.

DRAWING-NUMBERS EXAMPLE



Standard for single wire confection.



wire designation:

P + lfd Nr. = AWG single wire black, red, blue, brown or white

E + lfd Nr. = AWG single wire green- yellow

L + lfd Nr. = twisted AWG double wire, length specification always in twisted condition

FQL + lfd Nr. = crossover wiring H07VK

Regarding special wirings like wiring harness or similar, drawings will be prepared and appropriate drawing numbers will be stored in the article archive.



Service Documents

HK1104

A.C.T.O.R

DX 112A

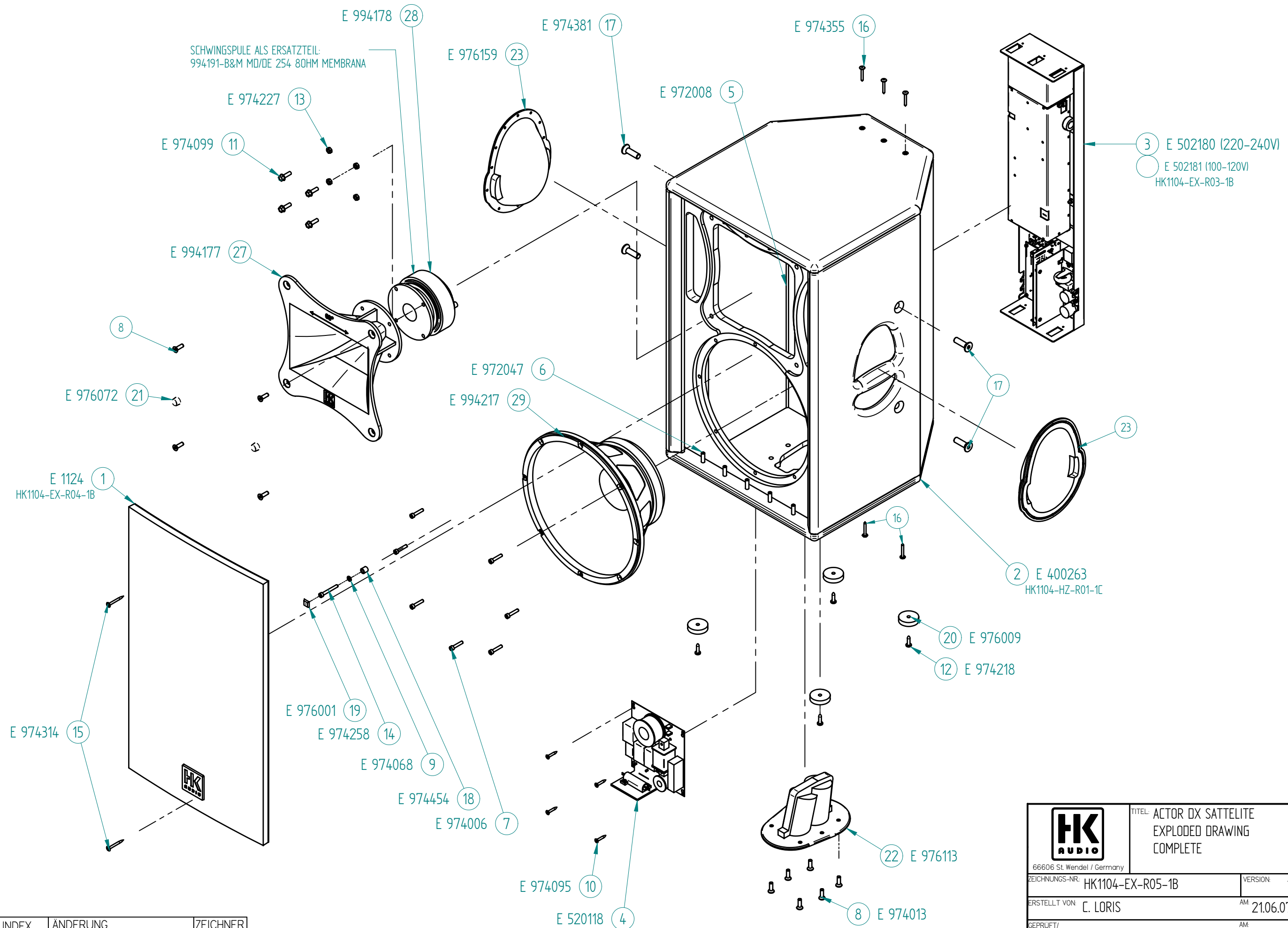
Satellite

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TECHNICAL SERVICE:

Stamer Musikanlagen GmbH • Magdeburger Str. 8 • 66606 St.Wendel • Germany
Music & Sales P.E. GmbH • Leipziger Str. 3 • 66606 St.Wendel • Germany




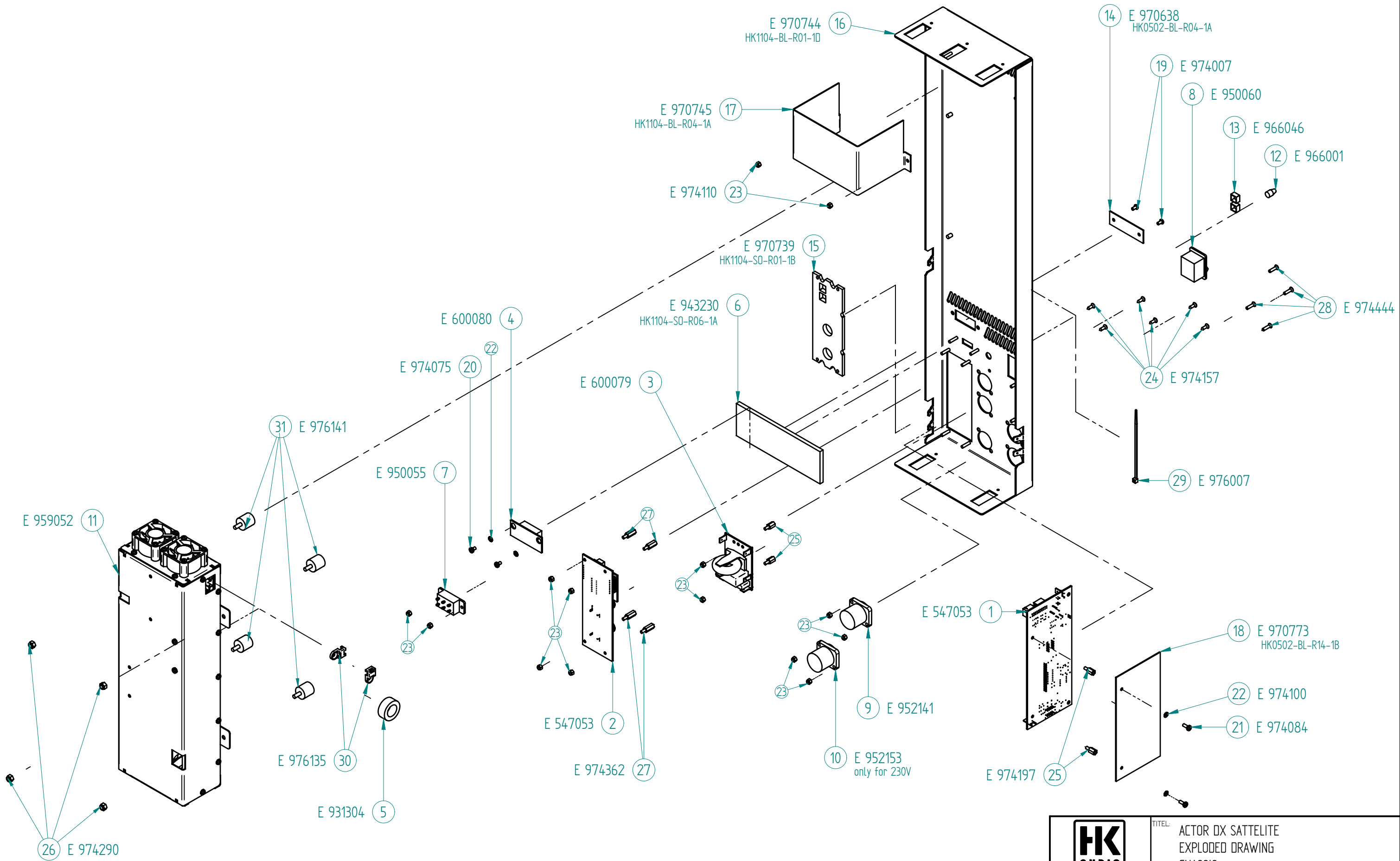
INDEX	ÄNDERUNG	ZEICHNER
1B-210607	update for service manual	C. Loris

	TITEL: ACTOR DX SATTELITE EXPLODED DRAWING COMPLETE		
	66606 St. Wendel / Germany		
ZEICHNUNGS-NR. HK1104-EX-R05-1B	VERSION 1	REVISION B	
ERSTELLT VON: C. LORIS	AM 21.06.07	BLATT: 1	
GEPRÜFT/ FREIGEgeben VON:	AM	2 BLÄTTER	
WERKSTOFF:	OBERFLÄCHE:		
DATEINAME: HK1104-EX-R05-1B-GESAMT-TOP			


pos. no.	part-no. 1	part-no. 2	description	Beschreibung	quantity
1	1124		front grille Actor DX sattelite	Frontgitter Actor DX Top	1
2	400263		wooden cabinet, ACTOR DX Top	Holzgeh. ACTOR DX Top	1
3	502180 (220-240V)	502181 (100-120V)	chassis Actor DX sattelite	Chassis Actor DX Top	1
4	520118		crossover Actor DX sat	Freqw. Actor DX Top	1
5	972008		damping wool	Dämmwolle Hochbauschvlies	1
6	972047		PE-foam tube	PE-Schaumstoff-Röhrchen	10
7	974006		hexagon socket head cap screw, M5x25, black	Inbusschraube M5 x 25sw	7
8	974013		hexagon socket countersunk head screw, M6x20, black	Inbussenkschraube M6x20 sw	10
9	974068		washer, form A, D=5.3mm, zinc plated	Unterleg-Scheibe 5,3 vz	1
10	974095		ABC-Spax S, countersunk head, Pozidrive, 4x35, black	Spax Senkkopf, 4*35 sw	4
11	974099		Mechanical locking screw, TENSILOCK W151, M6x20	Sperrzahnschraube M 6*20 vz, Tensilock W151	4
12	974218		ABC-Spax-S chipboard screw, panhead Z, 5x20, black	Pan Head-Z ABC-Spax sw 5*20	4
13	974227		hexagon nut, class 8, M6, zinc plated	Sechskantmutter M6 vz	4
14	974258		hexagon socket head cap screw, M5x40, black	Inbusschraube M5 x 40 sw	1
15	974314		ABC-Spax-S screws for backwall, 4x40, black	Rückwandschraube, 4*40 sw	2
16	974355		cross recessed panhead tapping screw with collar, 3.9x30, black	Blechschr. KFR-Kopf 3,9* 30 sw	5
17	974381		hexagon socket countersunk head screw, M10x35, black	Inbussenkschraube M10x35 sw	4
18	974454		plastic PCB spacer, 6.2x10x10, Polyamid black	Dist.Hülse PE 6,2*10*10[mm]	1
19	976001		rubber foot square, self-adhesive, black	Gummifuss quadr. selbstkleb. sw	1
20	976009		rubber foot D38*H11 [mm]	Gummifuss D38*H11 [mm]	4
21	976072		rubber bumper D=15/13 H=10	Gummi Bumper D=15/13 H=10	2
22	976113		flange for speaker stand, plastic, DuoTilt	Ständerflansch, Kunst., zweifach	1
23	976159		plastic dish Premium One	Griffinnenschale Premium One	2
24*	982037		sealing tape 2x6mm	Iso-Zell-Band fadenvers. 2*6mm	2,42 lfdm
25*	986015		foam glue, Jowatac	Schaumstoffklebstoff Jowatac	xxx
26*	988165		1k polyurethane glue, 310mltrs. tube	Polyurethan 1-K Kleber, 310ml Kartusche	xxx
27	994177		Horn 10HR drehbar 60°x40° 1,4"	Horn 10HR drehbar 60°x40° 1,4"	1
28	994178		B&C DE250-14-8, 1,4" HF compression driver	B&C DE254 80hm	1
29	994217		SICA LP 312.75/1800 WT 8 Ohms	SICA LP 312.75/1800 WT 8 Ohms	1

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1B-210607	update for service manual	C. Loris

	TITEL: ACTOR DX SATTELITE EXPLODED DRAWING COMPLETE		
	<small>66606 St. Wendel / Germany</small>		
ZEICHNUNGS-NR.: HK1104-EX-R05-1B	VERSION: 1	REVISION: B	
ERSTELLT VON: C. LORIS	AM: 21.06.07	BLATT: 2	
GEPRÜFT/ FREIGEgeben VON:	AM:	2 BLÄTTER	
WERKSTOFF:	OBERFLÄCHE:		
DATEINAME: HK1104-EX-R05-1B-GESAMT-TOP			




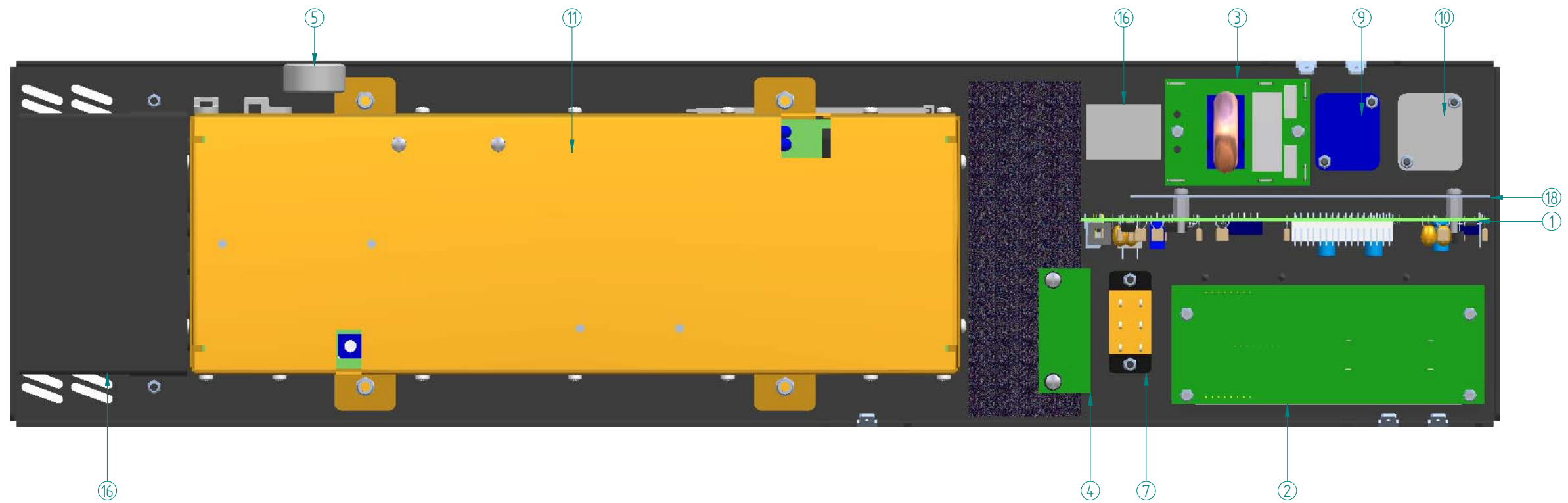
INDEX	ÄNDERUNG	ZEICHNER
1B-200607	update for service manual	C. Loris

	TITEL: ACTOR DX SATTELITE EXPLODED DRAWING CHASSIS		
	<small>66606 St. Wendel / Germany</small>		
ZEICHNUNGS-NR. HK1104-EX-R03-1B	VERSION 1	REVISION B	
ERSTELLT VON: C. LORIS	AM 20.06.07	BLATT: 1	
GEPRÜFT/ FREIGEgeben VON:	AM	3 BLÄTTER	
WERKSTOFF:	OBERFLÄCHE:		
DATEINAME: HK1104-EX-R03-1B-CHASSIS-TOP			


pos. no.	part-no. 1	description	Beschreibung	quantity	pos. no.	part-no. 1	description	Beschreibung	quantity
1	547053	Actor DX Top Mainboard	Actor DX Top Mainboard	1	20	974075	cross recessed panhead screw, M3x5, zinc plated	Linsenschraube M3x5 vz	2
2	547053	ADX112A Displayboard Assembly (part of mainboard)	ADX112A, Bedienpanel Baugruppe (Teil von Mainboard)	1	21	974084	cross recessed panhead screw, M3x8, zinc plated	Linsenschraube M3 x 8 vz	2
3	600079	mains filter, DEACON / ACTOR	Netzfilter Deacon 230-100V	1	22	974100	toothed lock washer, D=3,2, AZ, black zinc plated	Fächer-Scheibe az, 3,2 sw vz	4
4	600080	60 Interfaceboard Deacon	60 Interfaceboard Deacon	1	23	974110	self locking hexagon nut with plastic insert, M3, zinc plated	Stopmutter M3 vz	14
5	931304	ferrite teroid core, 25x15x12	Ferritring, geschlossen 25x15x12	1	24	974157	cross recessed raised countersunk tapping screw, 2.9x9.5, black	Blechschr. Senk-Li 2,9*9,5 sw	6
6	943230	dust filter, ACTOR DX "R06"	Staubschutz, ACTOR DX "R06"	1	25	974197	hexagon PCB spacer, type B, M3x8, zinc plated	Dist. Bol Innen/Außengew. M3*8 vz	4
7	950055	Slide Switch 2xum T22205B	Schiebeschalter 2xum T22205B	1	26	974290	self locking hexagon nut with plastic insert, M4, zinc plated	Stopmutter M4 vz	4
8	950060	hi-inrush, mains rocker switch, C13150VB	Netzschalter gross C1350VB	1	27	974362	hexagon PCB spacer, type B, M3x12, zinc plated	Dist. Bol Innen/Außengew. M3*12 vz	4
9	952141	mains inlet PowerCon	Netzbuchse Power Con Inlet	1	28	974444	cross recessed raised countersunk screw, M3x12, black	Linsensenkschraube M3*12 sw	4
10	952153	mains outlet PowerCon	Netzbuchse Power Con Outlet	1	29	976007	cable tie 2,5x100 (mm)	Kabelbinder natur 2,5x100 (mm)	9
11	959052	PWM power amp 100-230Volt	PWM Endstufe 100-230Volt	1	30	976135	socket for cable tie	Schraubsocket	2
12	966001	knob round/conical. grey	Knopf-Taster rund/kon. grau	1	31	976141	rubberbuffer 15x15 B	Gummipuffer GM-Puffer 15x15 B	4
13	966046	plunger type key top, 9*9, B32-1210	Knopf-Taster 9*9 B32-1210	2	32*	982044	sealing tape 2x15mm	Iso-Zell-Band fadenvers. 2*15mm	0,15 lfdm
14	970638	sheet metal Deacon cover panel	Blech Deacon Abdeckplatte	1	33*	986002	foam glue, Simalfa	Schaumstoffklebstoff Simalfa	xxx
15	970739	Plexiglas ACTOR DX Top	Plexiglas ACTOR DX Top	1	34*	988206	pre-cut part transfer tape 1573	Transferbandzuschnitt 1573	0,20 lfm
16	970744	Sheet Metal Chassis, ACTOR DX Top	Blech Chassis Actor DX Top	1					
17	970745	ACTOR DX, sheet metal air guide	Blech Actor DX Lüftungskanal	1					
18	970773	DEACON / ACTOR insulation plate	DEACON Blech Isolierplatte	1					
19	974007	hexagon socket oval head screw, M3x6, black	Linsenschr.m.Innens. M3*6 sw	2					

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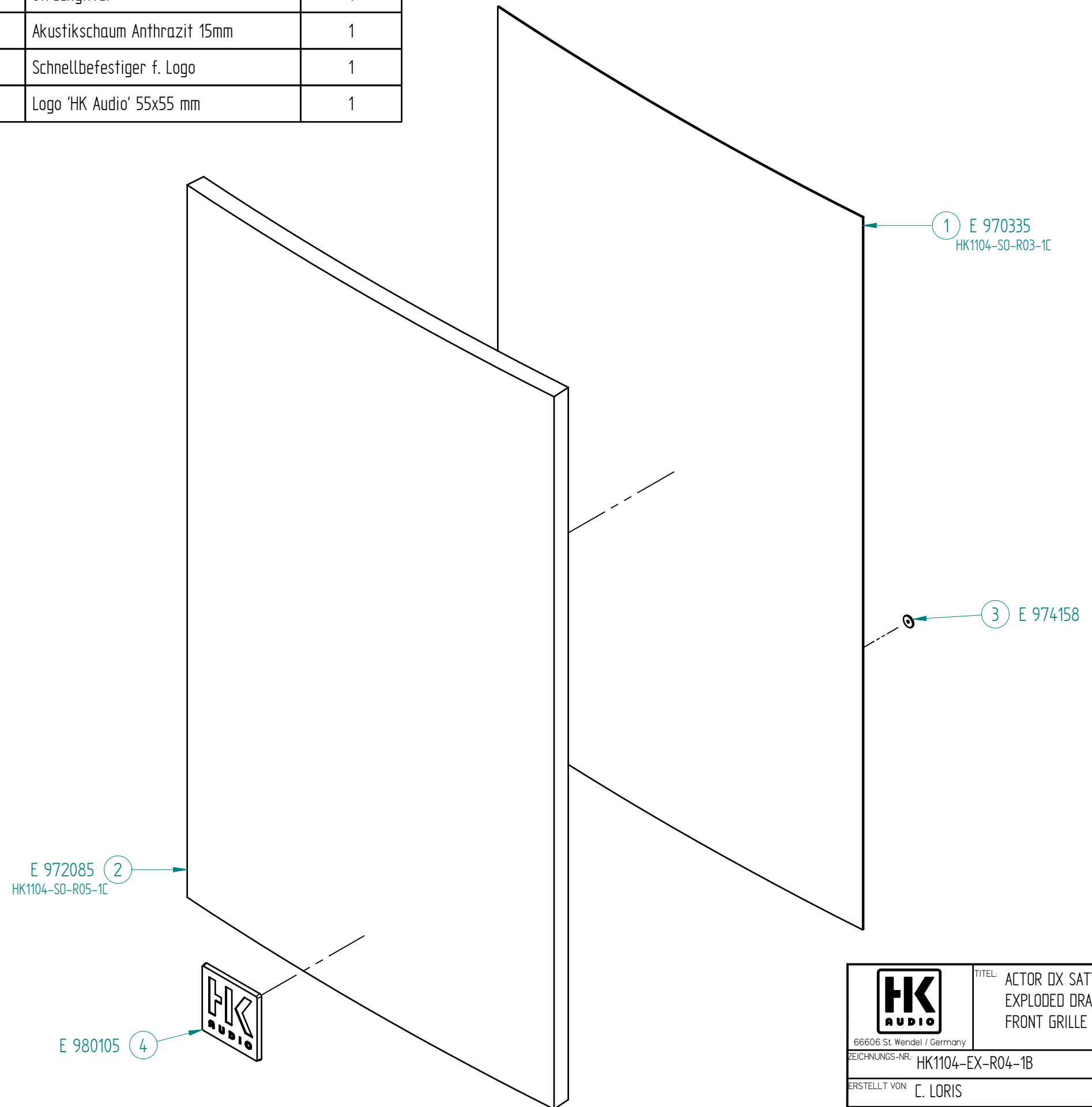
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	66606 St. Wendel / Germany	
ZEICHNUNGS-NR. HK1104-EX-R03-1B	VERSION 1	REVISION B
ERSTELLT VON: C. LORIS	AM 20.06.07	BLATT: 2
GEPRÜFT/ FREIGEgeben VON:	AM	3 BLÄTTER
WERKSTOFF:	OBERFLÄCHE:	
DATEINAME: HK1104-EX-R03-1B-CHASSIS-TOP		




INDEX	ÄNDERUNG	ZEICHNER
1B-200607	update for service manual	C. Loris

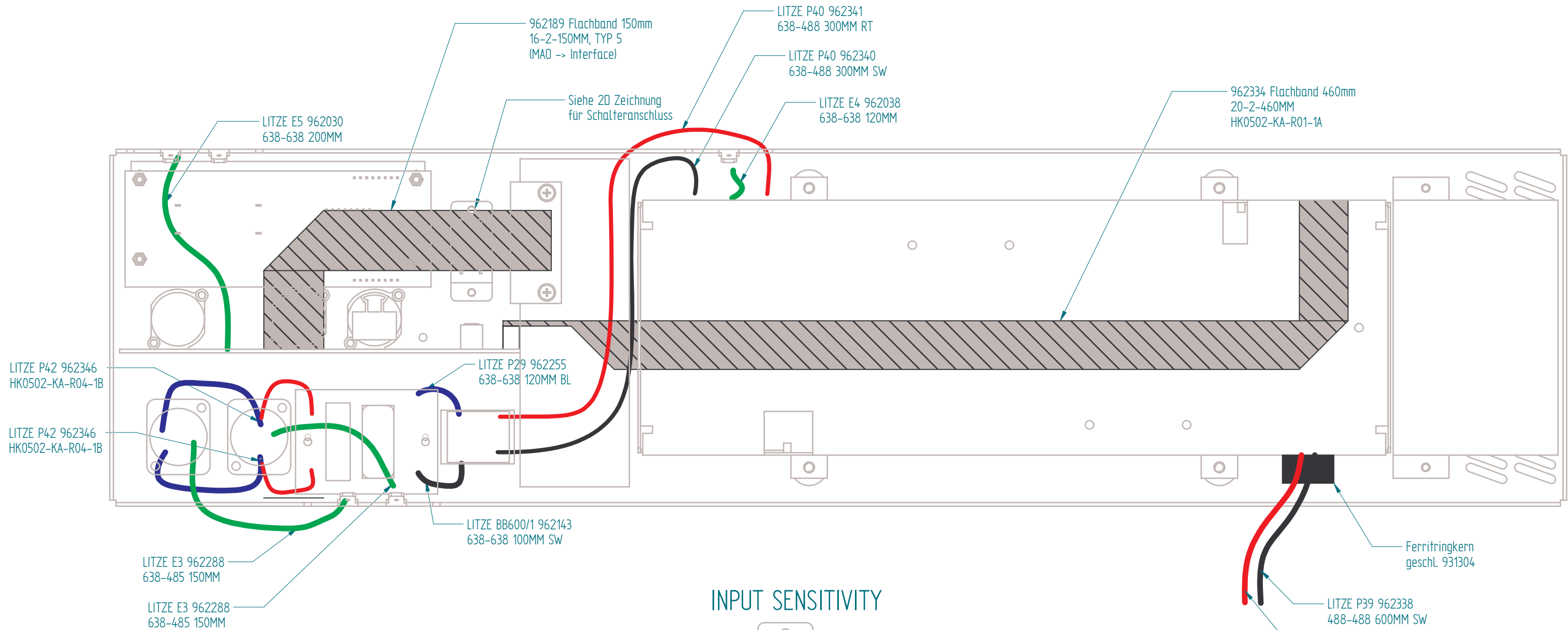
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	<small>66606 St. Wendel / Germany</small>		
ZEICHNUNGS-NR. HK1104-EX-R03-1B	VERSION 1	REVISION B	
ERSTELLT VON: C. LORIS	AM 20.06.07	BLATT: 3	
GEPRÜFT/ FREIGEgeben VON:	AM	3 BLÄTTER	
WERKSTOFF:	OBERFLÄCHE:		
DATEINAME: HK1104-EX-R03-1B-CHASSIS-TOP			

pos. no.	part-no. 1	description	Beschreibung	quantity
1	970335	sheet metal front grille	Streckgitter	1
2	972085	acoustic foam anthracite 15mm	Akustikschaum Anthrazit 15mm	1
3	974158	snapon retaining ring (for logo)	Schnellbefestiger f. Logo	1
4	980105	logo 'HK Audio' 55x55 mm	Logo 'HK Audio' 55x55 mm	1

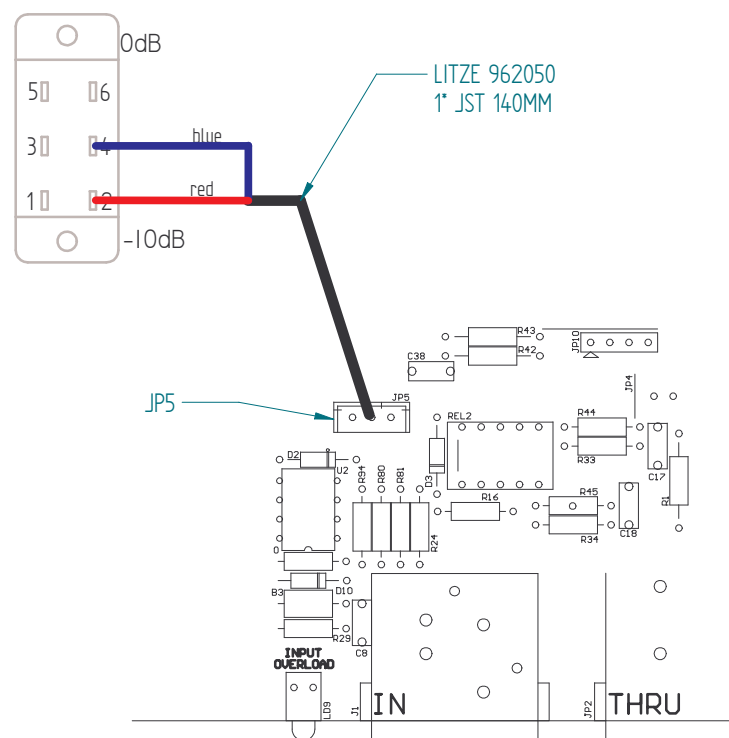


INDEX	ÄNDERUNG	ZEICHNER
1B-200607	update for service manual	C. Loris

	TITEL: ACTOR DX SATTELITE EXPLODED DRAWING FRONT GRILLE		
	<small>66606 St. Wendel / Germany</small>		
ZEICHNUNGS-NR. HK1104-EX-R04-1B	VERSION 1	REVISION B	
ERSTELLT VON: C. LORIS	AM 20.06.07	BLATT: 1	
GEPRÜFT/ FREIGEgeben VON:	AM	1 BLÄTTER	
WERKSTOFF:	OBERFLÄCHE:		
DATEINAME: HK1104-EX-R04-1B-FRONTGITTER-TOP			

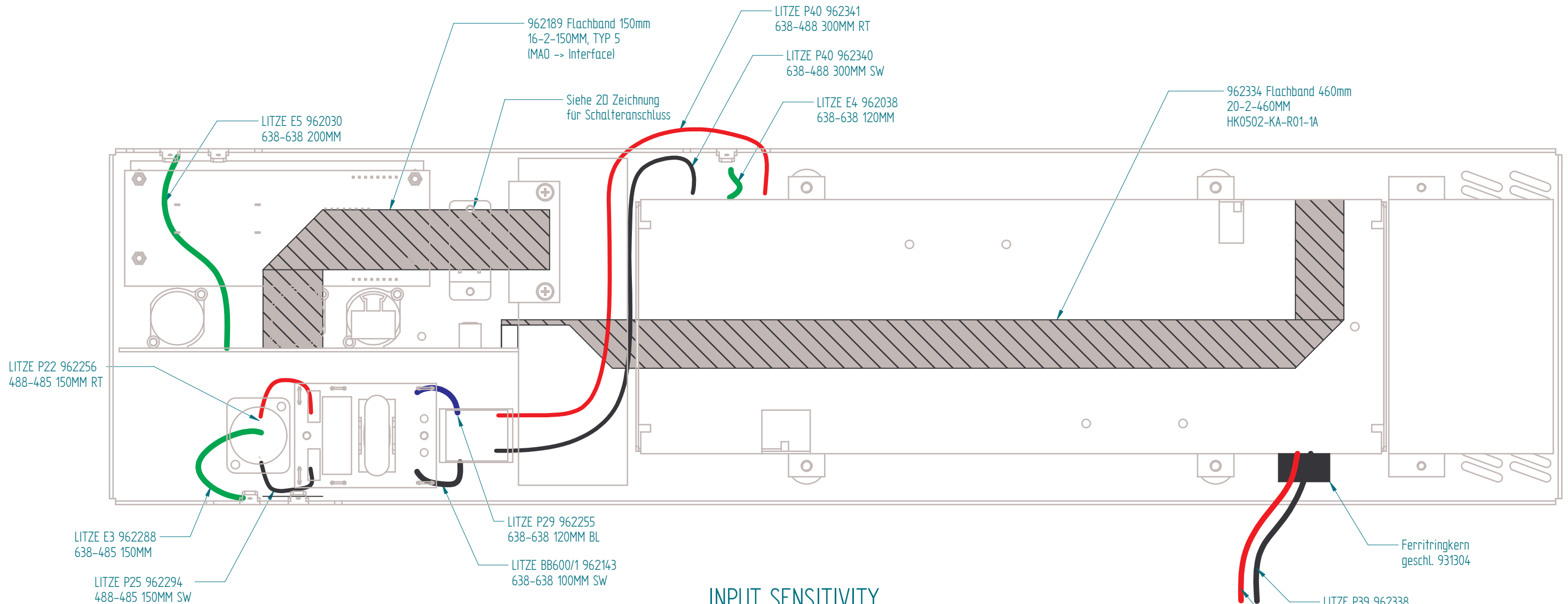


INPUT SENSITIVITY

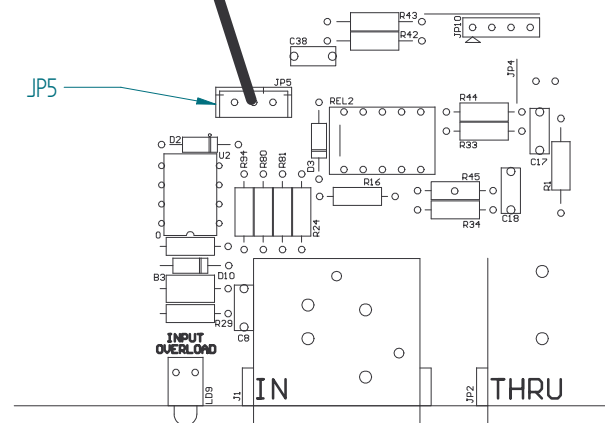
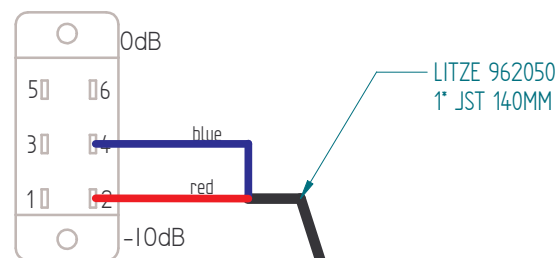


INDEX	ÄNDERUNG	ZEICHNER
IB	Erdungslitzen korrigiert	M. Bohlender
IC	Litzen zur FQW korrigiert auf sw/rt	M. Bohlender
ID	Verkabelung Sens. Schalter korrigiert	M. Bohlender

	TITEL: HK1104 - A.C.T.O.R. DX Verkabelungsplan TOP		
	66606 St. Wendel / Germany		
ZEICHNUNGS-NR.: HK1104-GK-R01-1D	VERSION: 1	REVISION: 0	
ERSTELLT VON: Michael Bohlender	AM: 22.06.2005	BLATT: 1	
GEPRÜFT/ FREIGEgeben VON: Michael Bohlender	AM: 22.06.2005	1 BLÄTTER	
WERKSTOFF:	OBERFLÄCHE:		
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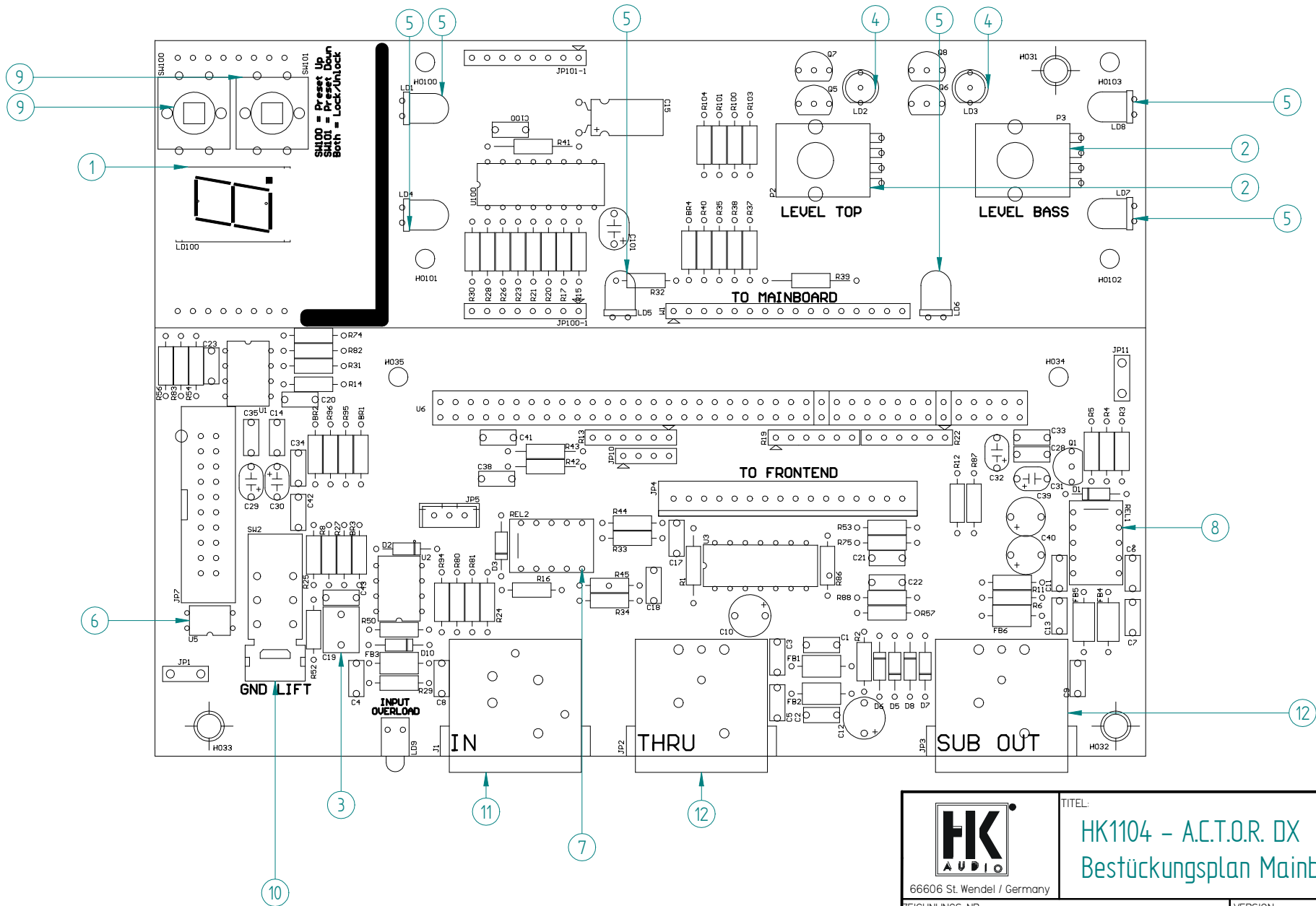


INPUT SENSITIVITY




INDEX	ÄNDERUNG	ZEICHNER

	TITEL: HK1104 - A.C.T.O.R. DX Verkabelungsplan TOP 120V		
	<small>66606 St. Wendel / Germany</small>		
ZEICHNUNGS-NR.: HK1104-GK-R03-1A	VERSION: 1	REVISION: A	
ERSTELLT VON: Michael Bohlender	AM 12.09.2005	BLATT: 1	
GEPRÜFT/ FREIGEgeben VON: Michael Bohlender	AM 12.09.2005	1 BLÄTTER	
WERKSTOFF:	OBERFLÄCHE:		
DATEINAME: HK1104-GK-R03-1A-VerkabelungTOP-120V			



INDEX	ÄNDERUNG	ZEICHNER


		TITEL: HK1104 - A.C.T.O.R. DX Bestückungsplan Mainboard	
		66606 St. Wendel / Germany	
ZEICHNUNGS-NR:	HK1104-LP-R01-1D	VERSION: 1	REVISION: 0
ERSTELLT VON:	Michael Bohlender	AM: 22.06.2005	BLATT: 1
GEPRÜFT/ FREIGEgeben VON:	Michael Bohlender	AM: 22.06.2005	2 BLÄTTER
WERKSTOFF:	FR4, zweiseitig, 1,6mm	OBERFLÄCHE: HAL, Lötstop zweiseitig	
DATEINAME:	HK1104-LP-R01-1D-Bestueckung		

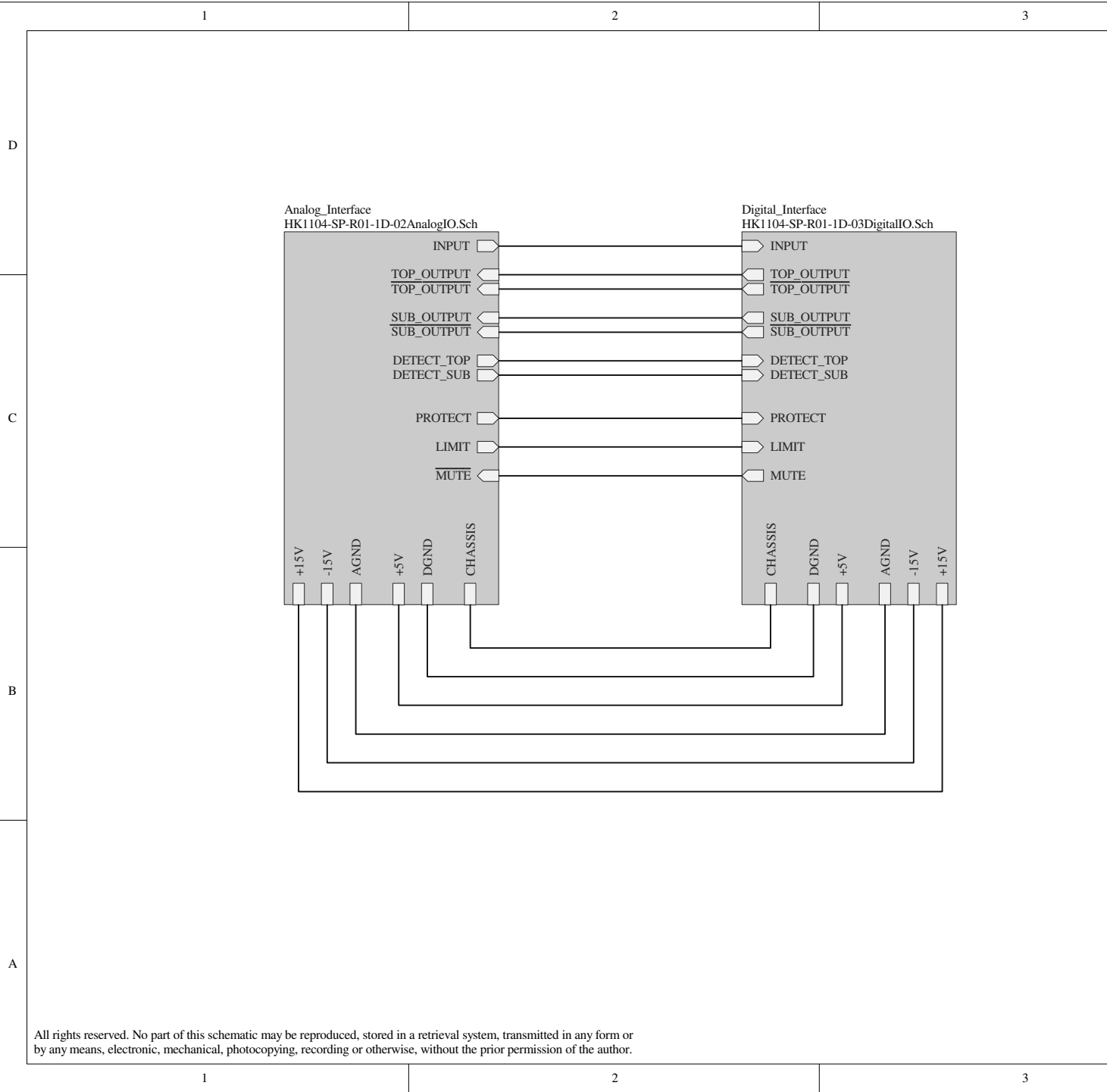
Bill of Material for: HK1104-SP-R01-1D

Project: HK-Audio ACTOR DX
 Project Number: HK1104
 Assembly: Mainboard Topteil

Pos	Part No.	Designators	Description	Bezeichnung	Specification	Supplier / Model	Quantity
1	836004	LD100	Surface mount LED display	7_Segmentdispl. orange SMD14mm	SMT 0.56" single digit, com. anode, VR=5V, VF=2V, IF=10mA, LD=610/601nm	Kingbright: KP5A56-106	1
2	914082	P2, P3	Insulated shaft potentiometer, RK11, vertical	Poti B10K lin mono CC RK11	RK11, single unit, 10kOhm, lin. (B), Tol=20%, D-shaft, CenterClick, L=15mm	TAlpha: RV110F-40-15A-B10K-0C	2
3	918029	C19	MKT capacitor 5%, RM5	MKT Kondensator 5%, RM5	C=47nF, Vdc=250V, Tol=5%, MKT, RM5	BC: 2222 370 36473	1
4	936027	LD2, LD3	LED 5mm DUO red/green	LED 5mm DUO rot/grün	LED 5mm DUO rot/grün	Kingbright L-59 EGW	2
5	936044	LD1, LD4, LD5, LD6, LD7, LD8	oval LED 5.2mm	oval LED 5.2mm	d=3,8x5mm, 610nm, Iv=1100mcd, angle=50°x100°	SunLED: XLMO20DLSDLCR	6
6	940066	U5	standard optocoupler	Single-Optokoppler	LTV817, Vce=35V, Vrdiode=6V, If=10mA, Delay=3us, Viso=5000Vrms	LiteOn: LTV-817	1
7	946009	REL2	miniature relay	miniature relais	TQ2-12V, Kleinrelais 2-pol, print, VAC 125A: 0.5A, VDC 30: 1A, Un=12V, R=1028R, In=11.7mA	NAIS: TQ2-12V	1
8	946009	REL1	miniature relay	miniature relais	TQ2-12V, Kleinrelais 2-pol, print, VAC 125A: 0.5A, VDC 30: 1A, Un=12V, R=1028R, In=11.7mA	NAIS: TQ2-12V	1
9	950021	SW100, SW101	tactile push button with projected plunger	Taster Tact-Switch	TACT switch, 12*12mm, H=7.3mm, Imax=50mA, Vmax=24Vdc, OF=2.55N, SPST-NO	OMRON: B3F-4055	2
10	950069	SW2	TONELUCK push switch 2*UM(2 Poles) PBN-S2A3.5Nil-A-Ag	TONELUCK Druckschalter 2*UM(2 Poles) PBN-S2A3.5Nil-A-Ag	push switch, 2*UM (2 Poles), self lock, silver contacts plating, straight terminal	TONELUCK No.: PBN-S2A3.5Nil-A-Ag	1
11	952284	J1	XLR jack female print 90°, Neutrik	XLR Buchse weiblich print 90°, Neutrik	XLR-Bu. 3pol female Wprn B-Serie	Neutrik: NC3FBH2	1
12	952285	JP3, JP2	XLR jack male print 90°	XLR Buchse männlich print 90°	XLR-Bu. 3pol male Wprn B-Serie	Neutrik: NC3MBH	2


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 66606 St. Wendel / Germany	TITEL:	
	HK1104 - A.C.T.O.R. DX Bestückungsplan Mainboard	
ZEICHNUNGS-NR.	HK1104-LP-R01-1D	VERSION 1 REVISION 0
ERSTELLT VON	Michael Bohlender	AM 22.06.2005 BLATT: 2
GEPRÜFT/FREIGEgeben VON	Michael Bohlender	AM 22.06.2005 2 BLÄTTER
WERKSTOFF:	FR4, zweiseitig, 1,6mm	OBERFLÄCHE: HAL, Lötstop zweiseitig
DATEINAME:	HK1104-LP-R01-1D-Bestueckung	

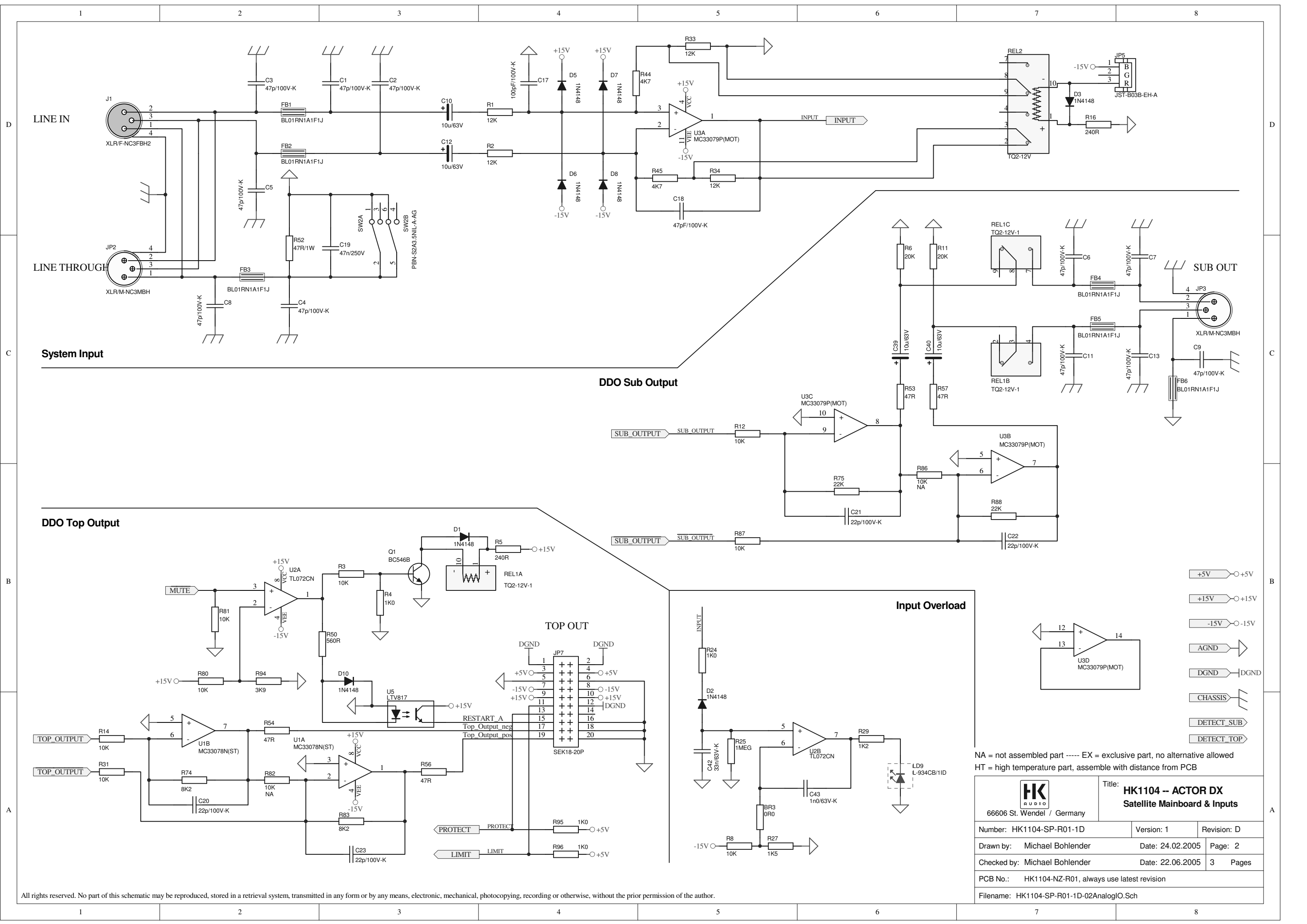


Date	Modification	Revision	Name
24.02.2005	1st draft published to EPA	1A	M. Bohlender
07.03.2005	Signal LED's TOP/BASS assignment changed	1B	M. Bohlender
	R8 to -15V, R27=1k5, C42=33nK, R29=1k2		
	BR5, BR6 = NA, BR7 changed to R12a (10k)		
	BR2, R10, R12, R7, R9, C36, C37, R82 = NA		
	R75, R88, R83 = 22k, C39/C40 = 10u/63V Elko		
	BR7 added parallel to C37, R32/R39=1k5/1W		
	R31, R86a NA removed		
02.05.2005	R1/R2 = 12k, R44/R45 = 4k7, R33/R34 = 12k	1C	M. Bohlender
	R74/R83 = 8k2, C24/C25 set to NA		
22.06.2005	LM324 and peripheral components removed	1D	M. Bohlender
	Relais circuit added for sensitivity setting		
	filter stage for unbalanced sub output removed		

NA = not assembled part ----- EX = exclusive part, no alternative allowed
 HT = high temperature part, assemble with distance from PCB

 66606 St. Wendel / Germany	Title: HK1104 -- ACTOR DX Satellite Mainboard & Inputs		
	Number: HK1104-SP-R01-1D	Version: 1	Revision: D
Drawn by: Michael Bohlender	Date: 24.02.2005	Page: 1	
Checked by: Michael Bohlender	Date: 22.06.2005	3 Pages	
PCB No.: HK1104-NZ-R01, always use latest revision			
Filename: HK1104-SP-R01-1D-01Main.Sch			

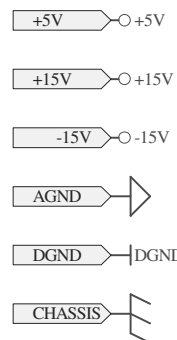
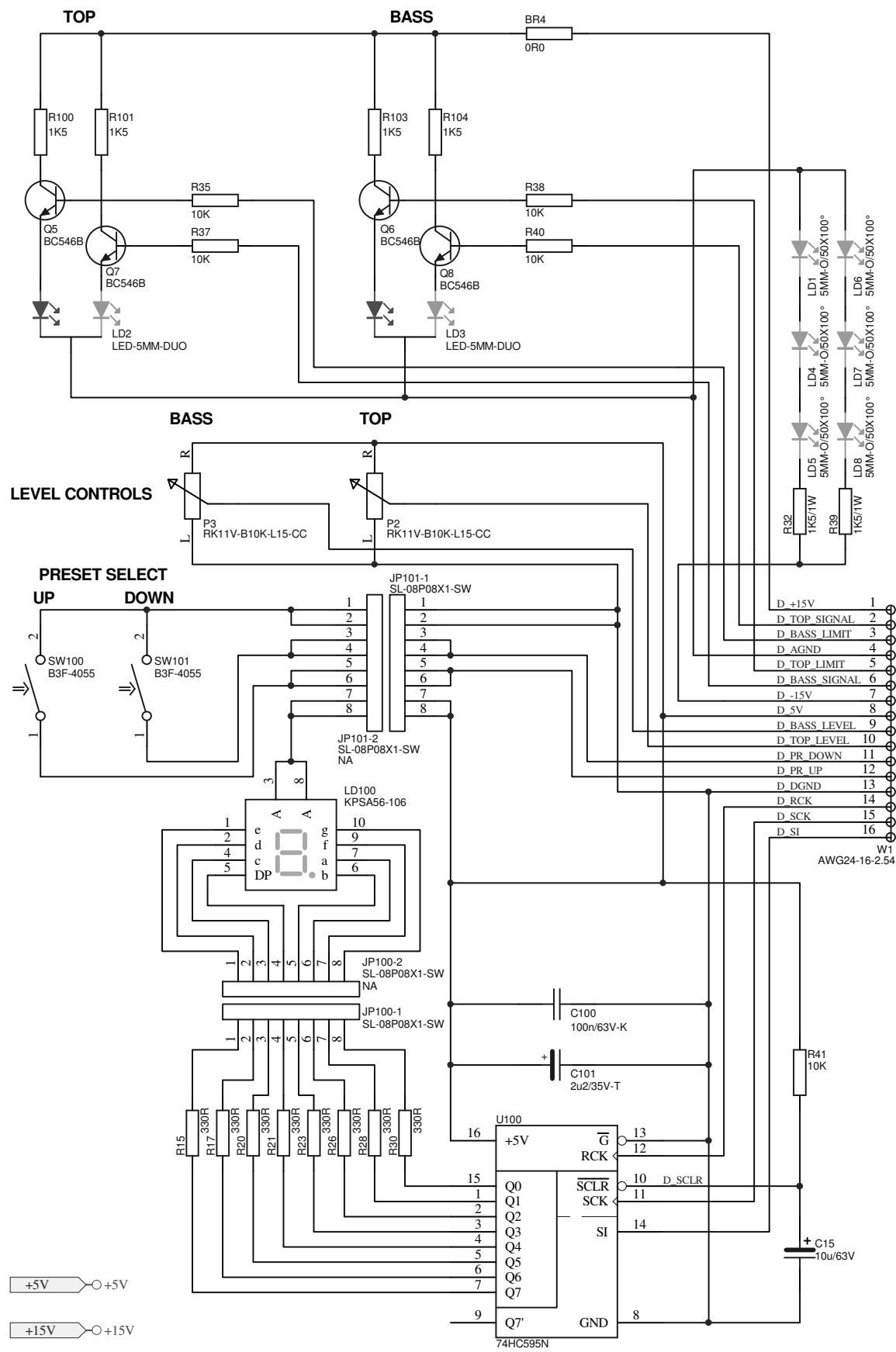
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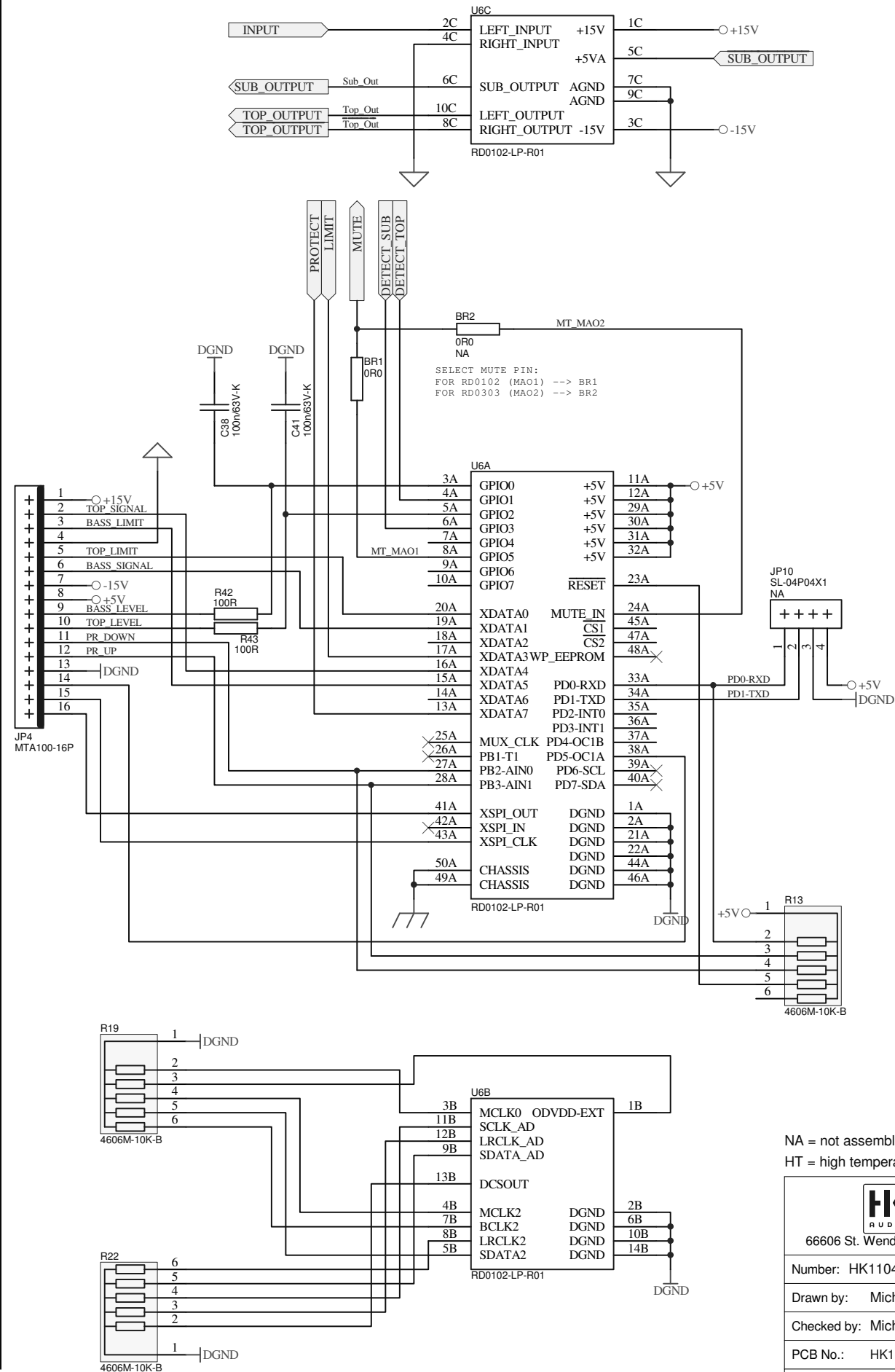
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66606 St. Wendel / Germany			
Number: HK1104-SP-R01-1D	Version: 1	Revision: D	
Drawn by: Michael Bohlender	Date: 24.02.2005	Page: 2	
Checked by: Michael Bohlender	Date: 22.06.2005	3 Pages	
PCB No.: HK1104-NZ-R01, always use latest revision			
Filename: HK1104-SP-R01-1D-02AnalogIO.Sch			

Display and Control Board

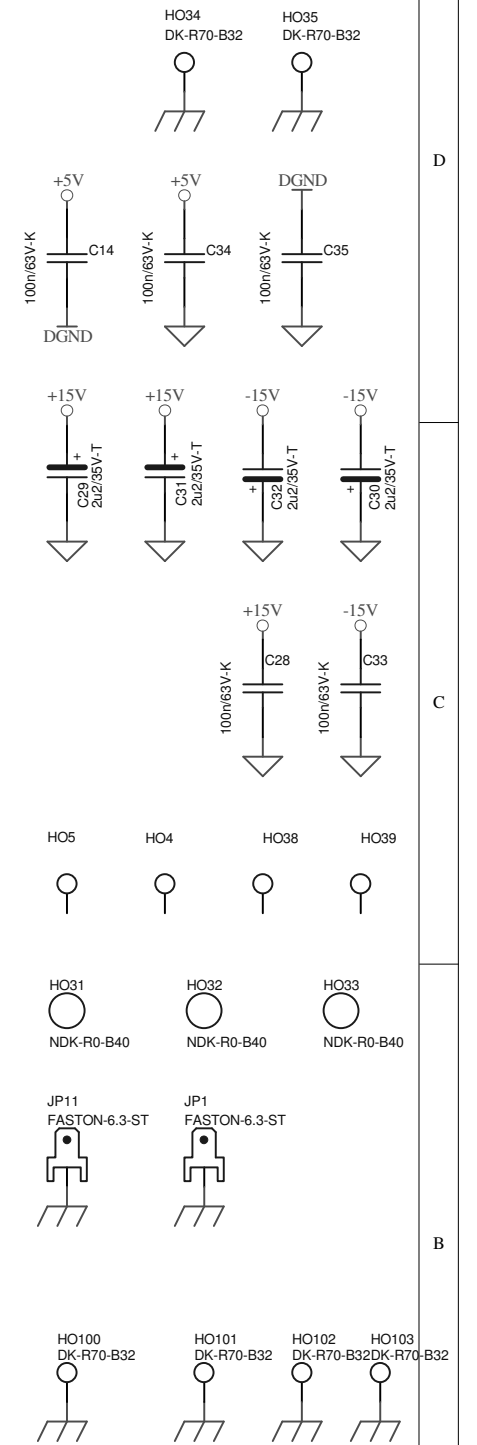


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Digital Mainboard Section



Mechanics / Ref-Points / Filtering



NA = not assembled part ----- EX = exclusive part, no alternative allowed
HT = high temperature part, assemble with distance from PCB

		Title: HK1104 -- ACTOR DX	
		Satellite Mainboard & Inputs	
66606 St. Wendel / Germany			
Number: HK1104-SP-R01-1D	Version: 1	Revision: D	
Drawn by: Michael Bohlender	Date: 24.02.2005	Page: 3	
Checked by: Michael Bohlender	Date: 22.06.2005	3 Pages	
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Filename: HK1104-SP-R01-1D-03DigitalIO.Sch			