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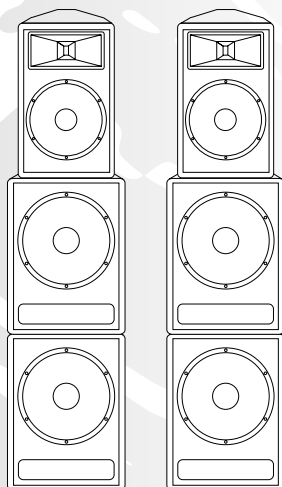
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# MANUAL

# ACTOR

SELF-POWERED PA SYSTEM

ENGLISH



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## WELCOME TO THE HK AUDIO FAMILY!

By choosing **ACTOR**, you have opted for a two-way active PA system that weds leading-edge technology to utmost ease of use. The **ACTOR** is a professional tool designed specifically to satisfy the needs of even the most demanding sound reinforcement applications. The system comprises two components, the **AT 112 A** top for mid/high-range frequencies and the **AT 115 SUB A** subwoofer for bottom end frequencies. The basic version of an **ACTOR** sound reinforcement system consists of four **AT 115 Sub A** subwoofers and two **AT 112 A** tops

All of the electronics required to operate any given cabinet are integrated right into it. The power amp, crossover, controller electronics, limiter and the Dynaclip circuitry - a special design that delivers massive bottom-end punch - share the same housing with the loudspeakers to form a self-contained unit. Since this arrangement makes long patch cords and passive components unnecessary, and the electronics features circuitry precision-tuned to the speakers, **ACTOR** delivers enhanced performance, excellent audio quality, fantastic pulse response, and great overload protection. With all the requisite components on board, every cabinet is an self-contained sound reinforcement unit that is easy to set up and connect - simply plug in the signal and mains cords and you're ready to roll without any further sound checking and tweaking.

### The ACTOR AT 112 A Mid/High-range Unit

Used on its own, the **ACTOR AT 112 A** mid/high-range unit is a full-fledged sound reinforcement module. Normally placed directly atop the bass bins, this cab is often called a top. This top can be operated in full-range mode where it reproduces the entire frequency range including the low frequencies for smaller gigs and rehearsals. When several tops are placed side by side on larger stages, the trapezoid-shaped housing assures a proper projection angle.

### The ACTOR AT 115 Sub A Bass Unit

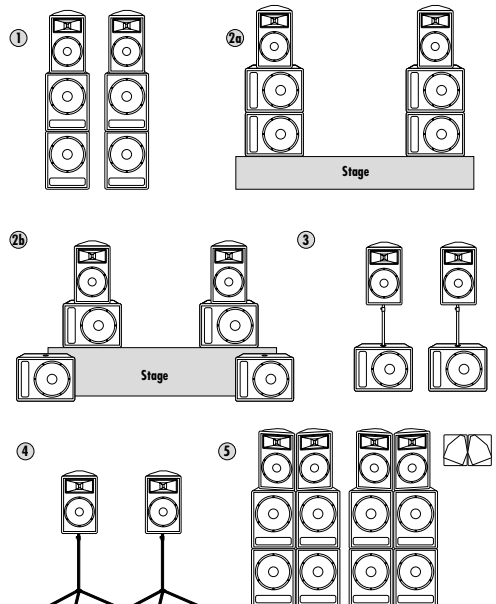
The **ACTOR AT 115 Sub A** bass unit - also a called subwoofer - not only provides the foundation for the **ACTOR** sound, it is also equipped with casters that make it easy to transport the tops, which can simply be strapped onto the bass bins. In addition, the housing features a mounting collar designed to take a mounting pole if you wish to position the tops at a higher level.



### Set Up

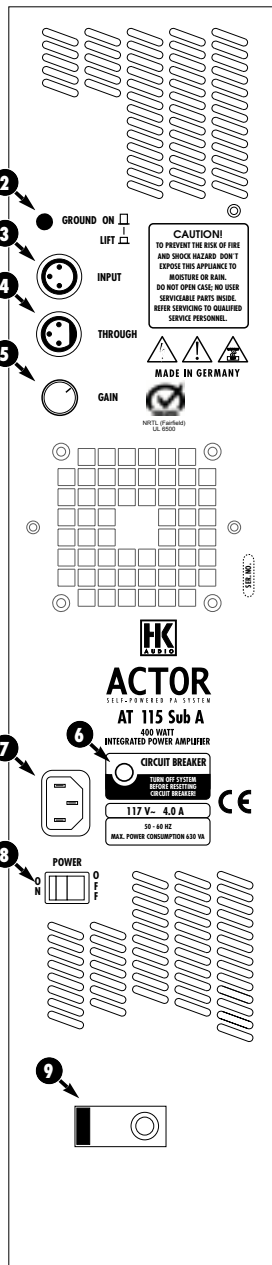
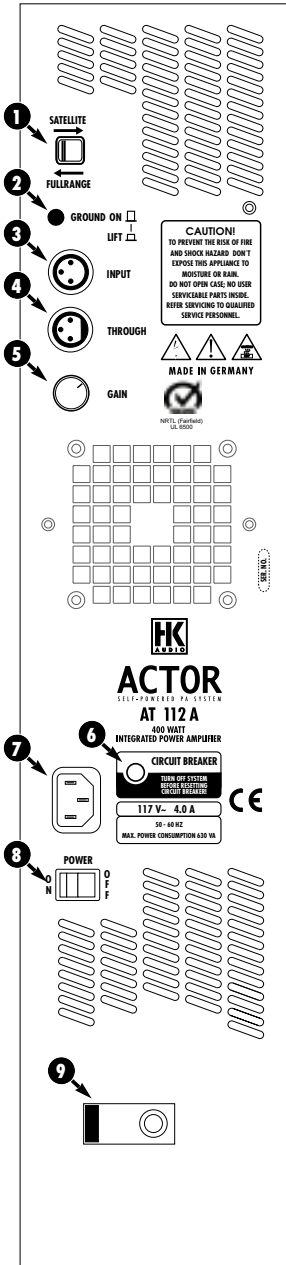
If you're planning to operate the system in its standard configuration, place one subwoofer vertically and the other subwoofer on top of the first. This set-up provides a stable base for the top and assures good directivity (see Ex. 1). If you're placing the **ACTOR** system on a fairly high stage, the bass bins can also be laid down horizontally on the stage - you may even place one bass cabinet on the ground in front of the stage (Ex. 2a and 2b). Incidentally, placing the subwoofer directly on the ground delivers an extra 3 dB. In smaller venues, you can set up a system with just one subwoofer and a top. In this case, you should place the subwoofer horizontally, i.e. lying rather than standing, and use an (optionally available) mounting pole to position the top at the proper height (Ex. 3). Both subwoofers and tops are equipped with mounting collars, making it easy, if desired, to operate the top as a stand-alone system when mounted on a speaker stand (Ex. 4).

When you're using two **ACTOR** systems for larger venues (e.g. tents or larger halls that hold audiences of 800 to 1,000) the trapezoid-shaped housing of the tops automatically assures a wider angle of projection when these are set up as depicted in Ex. 5.





## Control features AT 112 A/AT 115 Sub A:



### 1 LOWCUT

The Satellite/Full-range switch lets you set the system to the right operating mode when you are running it either with or without the ACTOR AT 115 Sub A subwoofer. When you're operating a system with AT115 Sub As, the switch should be set to "Satellite" to activate a low-cut filter that kicks in at 110 Hertz to filter low frequencies out. When you do not have AT115A subwoofers connected, you want the entire signal including the bass frequencies to pass through to the top, in which case you would set the switch to "Full-range".

### 2 GROUND

Ground-lift switch that separates the signal ground from the chassis ground in order to eliminate hum. Press this button to sever the ground circuit.

### 3 INPUT

Electronically balanced XLR socket designed to accept the output signal from the mixing console (LINE).

### 4 THROUGH

Parallel output used to route the LINE signal out, e.g. to other systems, individual components, monitor power amps, etc.

### 5 GAIN

This knob serves to match the power amp to the input signal level; use it to prevent distortion when the incoming signal level is too high.

### 6 CIRCUIT BREAKER

This automatic circuit breaker serves the same purpose as the standard fuses that you may be familiar with. If it trips, once you have identified the problem you can reset the circuit breaker by simply pressing it. Caution: Always switch the system off before you reset the circuit breaker (take a look at the mains power switch and make sure it is set to OFF)!

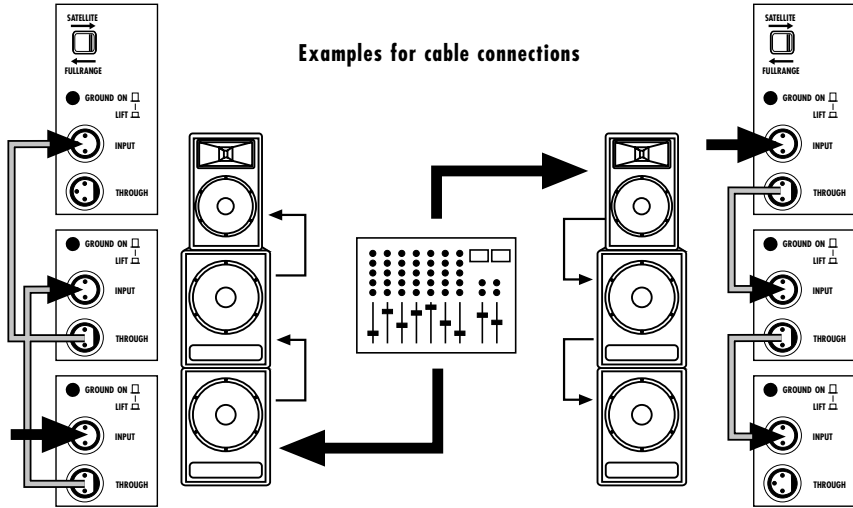
### 7 MAINS SOCKET

Use this socket to connect the ACTOR cabinet to an AC power supply via the included power cord.

### 8 "POWER" BUTTON

On/off button for the speaker cabinet. The light on the button glows red to indicate that the cabinet is powered up.

### 9 MAINS CORD CLEAT



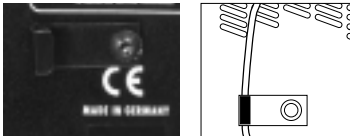
### Cable Connections

With the benefit of the **ACTOR** system's integrated design, it takes but a few minutes to connect cables. Before you get started, make sure that the mains switch is set to the OFF position.

Connect the cords that carry the signal coming from your mixer (from an output such as master left/right, line out, or similar circuit) to the balanced INPUT socket of any component. It doesn't matter which component - a subwoofer or top - you connect first. Using a standard XLR microphone cord, patch the signal from this first component's THROUGH output jack to the next component's INPUT. Connect all subsequent components in the same manner.

With this versatile arrangement, you can vary the number of the components freely without having to cope with problems related to compatibility, frequency separation and impedance. This means that you can effortlessly tailor the **ACTOR** system to satisfy whatever requirements the given venue may present.

Connect the power cable only after you have made absolutely sure that the local mains voltage matches the voltage specified on the device. If you connect the system to the wrong mains voltage, you can destroy the electronic components of the **ACTOR** system.



The metal bracket located below the mains socket is there to prevent the power cord from being pulled out accidentally. Feed the power cable through this mains cord cleat to assure the cable is relieved of undue tension. (see Figure 1). Make a habit of laying out cords so that they don't trip people up.

### Powering the System Up

Turn the GAIN knob on all cabinets all the way down by rotating them counterclockwise (to the far left). Make sure that all components of the system are connected properly and that all other connected components are switched on before you power the **ACTOR** system up. Not only should the mixer be switched on first, but also all signal sources connected to it, for example keyboards, instrument amps, effects, and so forth.

**In other words, be sure that the ACTOR cabinets are always the last components that you switch on! When you are shutting the system down, reverse the procedure: Always switch the ACTOR speaker cabinets off first! This will prevent loud pops and switching noises in the line from damaging the speakers.**



If you choose to operate the top without subwoofers, please check that you set the LOW CUT switch to "Full-range" so that the system reproduces the entire frequency range including the bass frequencies.



When you are operating the system in the standard set-up with the **ACTOR AT 115 Sub A** bass unit, this component amplifies the low-end frequencies, so be sure to set the LOW CUT switch to "Satellite."

Then turn the GAIN knobs on all cabinets all the way up by rotating them clockwise (to the far right).



## Adjusting Settings

If you encounter distortion or overdriven signals, check the signal sources and, if possible, turn down the output signal at those source devices. If the level of the signal routed to the **ACTOR** system cannot be reduced in this way, use the GAIN knobs to adjust the level to the power amps (see Tips and Tricks).

If you encounter low-frequency hum, activate the GROUND LIFT switches of the individual components. If this fails to take care of the problem, inspect the cables for damage and all of the signals that you have routed into the mixer to localize the problem (see Tips and Tricks).

## TIPS AND TRICKS

1. 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 or any other liquids well away from the cabinets to protect their electronic components. Liquids can kill electronics.
2. To assure proper ventilation, make sure that cabinets are placed a sufficient distance away from walls and aren't covered by curtains and the like. This is crucial to prevent the power amps from overheating.
3. **ACTOR** provides optimum sound, so you should provide it with optimum input signals! Hum 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, use DI boxes to balance unbalanced signals, and do everything you can to keep on-stage noise to a minimum.
4. Prevent distortion! Not only is it unpleasant to the ears of your audience, it can also cause costly damage to your equipment. Ensure that all components connected directly and indirectly to the **ACTOR** system have sufficient power ratings and will never generate distortion because they're being operated at their respective limits. Provide a strong and clean signal to the system that doesn't have to be cleaned up by backing off the GAIN knob.
5. Avoid ground loops! In spite of a balanced signal circuit, redundant ground circuits in a single audio system may generate annoying hum. For example, 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 the **ACTOR** system. To prevent this problem, always be sure to connect the cabinets (or more accurately, their power amps) and the mixing console to the same electrical circuit to ensure the same phase! If your equipment hums despite this precaution, the Ground Lift switch can be of help. **CAUTION: Never use electrician's tape or anything similar to cover the ground contact of the plug-this endangers lives!**

## TECHNICAL DATA

### AT 112 A:

#### Inputs / Outputs:

LINE IN L / R:	XLR female ( 1 = ground; 2 = +; 3 = - )
Input:	electronically balanced & floating
Input impedance:	47 kW
Sensitivity:	0 dB
Peak input level:	+ 24 dB
PARALLEL OUT L / R:	XLR male ( 1 = ground; 2 = +; 3 = - )

Speakers:	One 12" B&C Speaker, one 1" BMS driver, 60° x40° horn
Total nominal impedance:	8 ohms (passive)
Power output:	400 watts (active)
Sound pressure level 1W/1m:	102 dB (full-space), 108 dB (half-space)
Peak sound pressure level / 1m:	122 dB @ 3% THD (200 Hz - 5kHz average, full-space)
	126 dB @ 10% THD (200 Hz - 5 kHz average, full-space)
Directivity:	Horizontal: ± 30° ; 2kHz - 20 kHz
Vertical:	± 20° ; 3kHz - 20 kHz
Frequency response:	100 Hz - 20 kHz; ± 3 dB
Power amp:	20-24 kHz @ 320 watts / 8 Ohms
Crossover frequencies:	12°/1°: 1.3 kHz, 12 dB/octave
Low-cut:	(Sat/Full-range switch), 110 Hz, 24 dB/octave
Connectors:	XLR female input, XLR male through
Weight:	29 kg / 63.8 lbs.
Dimensions (WxHxD):	40 x 64 x 42 cm, 15.7" x 25.2" x 16.5"

### AT 115 SUB A:

#### Inputs / Outputs:

LINE IN L / R:	XLR female ( 1 = ground; 2 = +; 3 = - )
Input:	electronically balanced & floating
Input impedance:	47 kW
Sensitivity:	0 dB
Peak input level:	+ 24 dB
PARALLEL OUT L / R:	XLR male ( 1 = ground; 2 = +; 3 = - )

Speaker:	One 15" HK AUDIO custom woofer
Overall nominal impedance:	8 ohms (passive)
Power output:	400 watts (active)
Sound pressure level 1W/1m:	98 dB (full-space), 104 dB (half-space)
Peak sound pressure level / 1m:	121 dB @ 3% THD (40 Hz - 180 Hz average, full-space)
	126 dB @ 10% THD (40 Hz - 180 Hz average, full-space)
Frequency response:	40 Hz - 200 Hz
Power amp:	20 - 24 kHz @ 320 watts / 8 Ohms
Crossover:	110 Hz, 24 dB/octave
Connectors:	XLR female input, XLR male through
Weight:	35 kg / 77 lbs.
Dimensions (WxHxD):	47 x 64 x 54 cm (63 cm incl. wheels), 18.5" x 25.25" x 21.25" ( 25" incl. wheels)

### General electrical data:

Protection class 1 (protectively grounded/earthed)	
Mains voltage 230V:	Power fuse T 2A (AT 112A and AT 115 Sub A)
Mains voltage 117V:	Power fuse T 4A or SB 4A (AT 112A & AT 115 Sub A)
Mains voltage 100V:	Power fuse T 4A (AT 112A and AT 115 Sub A)

Max. current consumption:	2.7A @230 volts
Max. power consumption:	630VA
Mains voltage range:	+/- 10%
Ambient temperature range:	-10°C to + 60°C
Internal fuses:	Four T 4A's