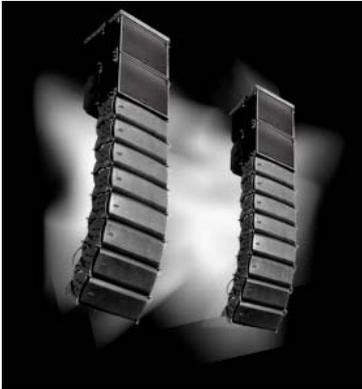


Amping for actively separated sound-systems



When it comes to selecting amplifiers for an actively separated sound-system, there are two different philosophies we would like to present here. Both versions have their own advantages and disadvantages so that it is necessary to take a closer look at the requirements for every use and how to find a good economic and technically sound solution.

We call these two philosophies „Stereo-Setup“ and „Mono-Setup“, because in the stereo-setup, the individual signal paths (hi, mid, bass) of the left and right loudspeaker are amplified by one amplifier each. For the mono-setup, each loudspeaker side has its own amplifier, sometimes even its own system controller. The mono-setup is especially suitable for sound-systems not always being operated in the same configuration, e. g. Line-Arrays with more or less loudspeakers depending on the depth and general size of the audience area. Furthermore, mono-setups can also be operated individually as smaller systems in stereo-setup. The stereo-setup is suitable for permanent installations and for systems with always almost the same configuration.

An example:

How to choose the power amplifiers for a PSSO Compack Line-Array with the following components:

16x PSSO CLA-228 top (60 watts RMS each for treble and 300 watts RMS for the mids, impedance 16 ohms)

4x PSSO CLA-115 subwoofer (500 watts RMS each, impedance 8 ohms)

8x PSSO CLA-118 floor-subwoofer (800 watts RMS each, impedance 8 ohms)



Available power amplifiers:

PSSO HP-1400 (2x 700 watts RMS, impedance 4 Ohm)

PSSO HP-2400 (2x 1400 watts RMS, impedance 4 Ohm)

PSSO HP-3200 (2x 1600 watts RMS, impedance 4 Ohm)

The easiest decision is amping the subwoofers. One HP-3200 is enough power for four CLA-118 which totals two amps. Depending on the floor position, the amplifier channels can be assigned individually. The CLA-115 subwoofers need one or two HP-2400 power amps depending on the philosophy. Theoretically, all four subs can be amped by only one power amplifier in the stereo-setup. In the mono-setup, every channel of two power amps is connected with one loudspeaker which provides higher operational safety.

Amping the hi/mid speakers CLA-228 is comparable: two HP-1400 and HP-2400 for hi and mid, every power amplifier powering four tops on the left and right side. As an alternative, using four HP-2400 with one channel for hi and one channel for mid. In case of one channel amplifier damage, only half of the hi and mid of one side would fail, in case of complete amplifier damage half of the hi and mid of one side. As a comparison: if one amplifier fails in stereo-setup, one signal path fails partly on both sides.



The required amplifiers at a glance:

Stereo-setup:

- 2x PSSO HP-1400 (hi)
- 3x PSSO HP-2400 (mid and subs)
- 2x PSSO HP-3200 (floor-sub)
- 1x controller PSSO DXO-48
- 1-2x amplifier rack

Mono-setup:

- 6x PSSO HP-2400 (hi, mid and subs)
- 2x PSSO HP-3200 (floor-sub)
- 1-2x controller PSSO DXO-48
- 2x amplifier rack

Clearly, stereo-setup can make do with one amplifier less and saves some money because smaller amplifier models can be used.

The advantages of both setups at a glance:

The advantages of one setup are also the disadvantages of the other setup

Stereo-Setup:

Advantages:

- lower price
- less need for room in the warehouse and during transportation
- less power requirements at the event

Mono-Setup:

Advantages:

- less failure in case of amplifier failure
- modular setup and using several smaller sound-systems at a time
- shorter cables from the power amps to the loudspeakers