

High-Voltage Microphone Amplifier & Power Supply



HMA5000

Product Focus

For extra headroom

Every musician and engineer expects clarity, transparency, very low distortion, and above all, an extremely wide dynamic range. The answer is the DPA HMA5000 and DPA high-voltage microphones!

A regular 48 V Phantom power system sets a limit when it comes to handling high sound pressure levels. The higher a voltage supplied to the microphone's built-in preamplifier, the higher an output it can handle from the capsule without clipping. If you increase the supply voltage of the preamplifier to about three times the voltage of the Phantom power, you will increase the headroom of the preamplifier with approx. 10 dB.

Furthermore, as DPA has developed a technology using pre-polarised microphone capsules with a high polarisation voltage (more than 190 V), the microphones are not dependent on the Phantom power for polarising the condenser back-plate. With this big capacitor it is possible to have a large distance between the diaphragm and the back-plate to handle extremely high sound pressure levels and preserving a high sensitivity at the same time.

HMA5000, High Quality Mic Amp

With the HMA5000 and one of our high-voltage microphones (DPA 4003, 4004, 4012, 4016 or 4041-S/T2), you have the most serious signal path from sound source directly to track. With an impressive frequency range from 10 Hz to 100 kHz (+0 dB/-1 dB) and an extremely wide dynamic range of up to 140 dB, the HMA5000 carries the clean and undistorted microphone pickup through the amplification link without any disturbance - the finest challenge for a mic amp.

The HMA5000 is designed for use close to the microphone(s) to keep microphone cables as short as possible. It therefore has an extremely compact, simple and rugged chassis design.

Apart from being a 2-channel microphone amplifier with unsurpassed specs, the HMA5000 is an extremely comprehensive microphone power supply unit with 130 V for the high-voltage microphone preamplifiers, 190 V for polarising the 4041 capsule and 6 V for heater voltage in the 4041-T2 tube microphone. The gain range is from -20 dB to +30 dB by individual switches per channel. Also the phase can be reversed on both channels individually.

With the DPA HTP4000 converter, the HMA5000 can also be used with ordinary 48 V Phantom powered microphones.

With endless dynamics and subtle resolution, the HMA5000 is the mic amp your DPA microphones deserve!

Difference between high and conventional powering methods for the Standard Microphones 4003, 4006, and 4006-TL which use the same microphone capsule:

| | DPA 4003 | DPA 4006 | DPA 4006-TL |
|--|-------------------------|------------------------|------------------------------------|
| Powering method | 130 V via HMA5000 | 48 V Phantom power | 48 V Phantom power |
| Output stage design | Balanced from HMA5000 | Transformer balanced | Transformerless impedance balanced |
| Output level | Line level from HMA5000 | Microphone level | Microphone level |
| Sensitivity | 40 mV/Pa | 10 mV/Pa | 40 mV/Pa |
| Frequency Range | 10 Hz - 20 kHz (±2 dB) | 20 Hz - 20 kHz (±2 dB) | 10 Hz - 20 kHz (±2 dB) |
| Dynamic Range | | | |
| (from equivalent self-noise to 1% THD) | 120 dB | 120 dB | 120 dB |
| Headroom before clipping | 19 dB | 8 dB | 8 dB |
| Maximum SPL handling | 154 dB SPL peak | 143 dB SPL peak | 143 dB SPL peak |

Specifications



HMA5000

Dimensions (l x w x h): 200 x 133 x 52 mm (7.9 x 5.2 x 2.1 in)

Weight: 1.9 kg/4.1 lb

Frequency Range: 10 Hz to 100 kHz (+0 dB/-1 dB) (Resistive Load)

Dynamic Range: > 120 dB

No. of channels: 2

Crosstalk attenuation: >90 dB (20 Hz to 20 kHz) (No Load) (Vo = 10 V)

Gain: +30 dB, +20 dB, +10 dB, 0 dB, -10 dB, -20 dB (±0.5 dB)

Equivalent input noise level A-weighted Pin 1-2 and pin 1-3

| | | | | | | |
|--------------|--------|--------|------|-------|-------|-------|
| Gain setting | -20 dB | -10 dB | 0 dB | 10 dB | 20 dB | 30 dB |
|--------------|--------|--------|------|-------|-------|-------|

| | | | | | | |
|-----------------|---------|---------|----------|----------|----------|----------|
| Eqv. inp. noise | -92 dBu | -99 dBu | -115 dBu | -123 dBu | -128 dBu | -129 dBu |
|-----------------|---------|---------|----------|----------|----------|----------|

Cable drive capability: Up to 300 m (984 ft) (Cable 100 pF/m)

Max input peak voltage: 0.5 V (+30 dB); 1.6 V (+20 dB); 5 V (+10 dB); 16 V (0 dB); 50 V (-10 dB); 160 V (-20 dB)

Max output peak voltage: 32 V peak (15 V for single ended operation)

Input impedance: 30 kOhm (with HTP4000: 5 kOhm)

Output impedance: 40 Ohm each output (80 Ohm balanced)

Total Harmonic Distortion (THD) in %: <0.01 from 30 Hz to 30 kHz

Max output current: 2 x 55 mA

Max output DC offset: ±20 mV

Min load impedance: 600 Ohm

Input connector: Modified 7-pin female XLR-connector

Output connector: Standard 3-pin male XLR-connector

Operating temperature range: -10° C to +55° C (+14 to 131° F)

Mains voltage: 100 VAC - 127 VAC and 200 VAC - 240 VAC, 50 Hz and 60 Hz

Power consumption: Maximum 15 W



The HMA5000 sounds clean and vivid and has a rich, full-bodied timbre.