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PROGRESSION - TWIN TUBE ACOUSTIC PREAMP



Thank you for choosing *Progression!*

Progression contains a power converter, which transforms the input voltage into 200 volts. It has no user serviceable parts other than the two 12AX7 tubes. Do not open the unit due to the possibility of an electric shock even if the unit is not powered up! In the event it would need to be serviced, please send it to K&K, thank you.

Progression is built for the acoustic musician who seeks an undistorted tone with the warm and crisp sound only a true tube circuit can provide. Unlike solid-state circuits, which tend to sound artificial if treble response is pushed, *Progression* can add a special elegant "mic-like" high-end shimmer and the warmth only a high voltage tube circuit can produce.

The *Twin Tube Progression* preamp features:

- Initial solid state stage with volume, gain, 3 band EQ and peak LED
- Final tube stage with Twin 12AX7 in- and output tubes, gain and presence controls
- Individual inputs for both stages or for tube stage only
- Phase shifting capability fully based within the tube circuitry
- Two outputs: 1/4" line and balanced XLR

Important General Information:

Tubes need a bit to warm up when switched on, it takes 20-30 seconds until you hear sound.

Tubes, by nature, distort a lot sooner than transistors do. For undistorted tube-sound, *Progression* needs a higher amplifier-master-volume compared to a solid state preamp. Most amps easily provide this extra headroom. In order to provide the truest tube sound possible, we purposely feed *Progression's* line output directly from the 12AX7 tubes without going through another solid state stage. To achieve a clean tone, set *Progression's* "TUBE STAGE GAIN" low enough to NOT distort and turn the master volume on your amp or the channel-gain/volume on the mixing board a little higher.

The "**Main IN**" input utilizes both, *Progression's* "Solid State" - and "Tube" stage. The two-stage design allows to perfectly pre-amplify and pre-EQ the signal of a transducer in the solid state stage and then feed the strong & noise-free signal into the tube circuit. This keeps the overall noise level low and permits us keeping the full frequency response throughout the entire tube stage without any limit in treble frequencies.

The "**Tube IN**" input bypasses the solid-state stage and connects directly into the tube stage. This input is only recommended if the musician uses a system with a designated preamp, like the Trinity Preamp, the Quantum Blender.

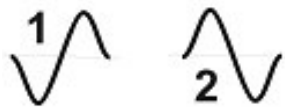
Progression's Outputs:

For the true tube enthusiast, the "LINE OUT" output carries the purest tube sound, because it feeds directly from the 12AX7 output tube. The "XLR Out" uses one additional solid state OP-amp in order to provide the balanced signal output.

How a Phase switch works:

Phase switches are usually marketed as a feedback-controlling device, but they accomplish more than just that.

What is phase? Phase determines at what point in time a sound-wave has it's peak or trough.



This picture shows 2 (basically identical) sine waves, but the wave on the right (2) is inverted in respect to the wave on the left (1). Interestingly, if these two sine-waves were played back simultaneously, they would completely cancel each other out and **no** sound would be heard. Out-of-phase guitar sound reproduction also suffers from phase cancellations.

Amplification systems, effect units, actually any electronic audio device may or may not invert the phase in respect to the signal which is send in. In most cases the manufacturers do not specify.

Every acoustic instrument projects (acoustic) sound waves in a certain phase. The phase that is projected from the amplified speaker source needs to be "in phase" with the acoustic instrument's own sound-waves or the result will not be optimal. An out-of-phase problem is indicated by early feedback, tinny-unbalanced sound which may be tolerable in some tone ranges (positions on the fretboard), worse in others, up to quite noticeable phase cancellations on some notes.

Progression's phase switch allows for instant correction of this problem.

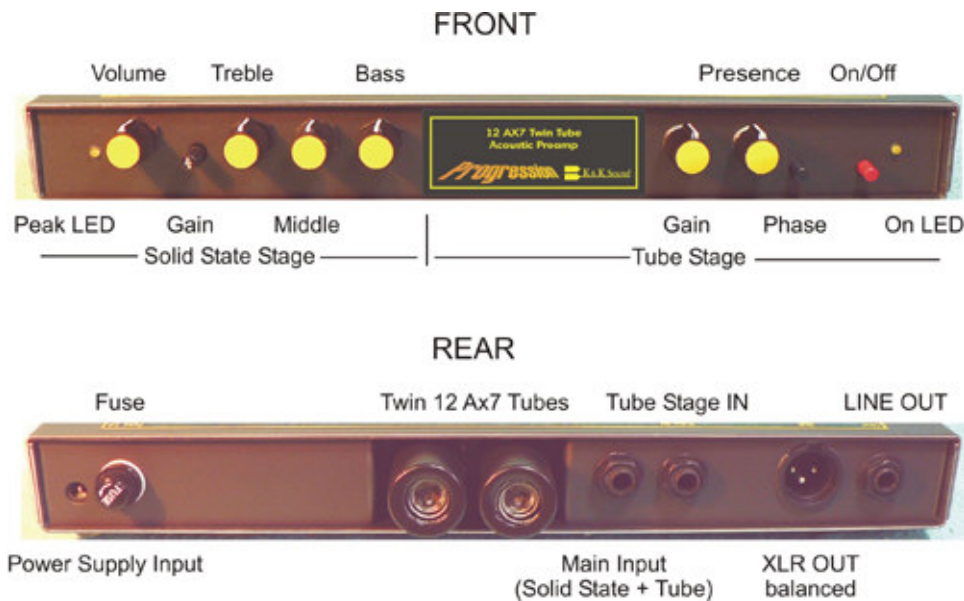
Play your instrument and flip the phase switch back and forth. You will experience a fuller, warmer and nicely balanced tone with less feedback one way. This is the correct phase switch setting. Keep in mind that it may be different with different amplification systems.

How to perfectly adjust *Progression* for a passive transducer (like Pure Western):

- Connect the instrument to *Progression's* "MAIN IN" (this uses solid state first stage plus final tube stage). Connect the "LINE OUT" or the "XLR OUT" to an amplification system/PA and set your amp to a low-medium volume for a start.
- TUBE STAGE: turn the "GAIN" all the way **down** and set the "PRESENCE" control to center. *Progression's* output volume is now turned off for pre-adjustment.
- SOLID STATE STAGE: turn the "VOLUME" **fully up** and set the 3 EQ's to center.
- Play your guitar the loudest level you **actually use** (not as hard as you ever could!!) and adjust the solid state's "GAIN" so that the "Peak LED" flashes sometimes. With a very weak input signal, the LED may not flash at all, even at highest gain setting. This is normal, in this case simply use the maximum available solid state "GAIN".
- Slowly raise the tube stage's "GAIN" until slight distortion is occurs when you play hard. Then turn back a bit for undistorted sound. The usable tube "GAIN" range will be only about ¼ turn, this is normal. (The rest of the tube "GAIN" range is only needed if you use the "TUBE IN" input.)
- Flip the phase switch to find the correct phase setting (see paragraph above).
- If you need higher overall volume, turn up the master volume on your amp or the channel-gain/volume on the mixing board.
- Boost or reduce "PRESENCE" with the tube stage's "PRESENCE" control. Turn fully right for maximum high-end "shimmer" or left for a mellower tone.
- You can finally apply EQ in the solid state stage. Turn left from center to cut - turn right to boost. Center is neutral.
- When a lot of EQ is used, the solid state stage's "GAIN" may need to be re-adjusted.

How to use *Progression* with an active system (like Trinity or PowerMix Systems):

- “Active” means that you already use one designated preamp or blender in your system. This maybe an internal or external unit (inside or outside of the instrument). You can of course still use *Progression’s* “MAIN IN” input, but this may actually make the signal path longer than it needs to be. We recommend to use your existing preamp/blender to substitute *Progression’s* solid state stage and plug directly into the “TUBE IN” input. Please keep in mind that you want to drive your existing preamp to maximum output level in order to send a strong signal into *Progression’s* tube stage. Solid state circuits by design have lower noise than tube circuits and you should take advantage of the signal-boost you get from them! If you, to any reason, cannot get enough signal-strength out of your existing preamp, it may be preferable to still use the “MAIN IN” input. *Progression’s* solid stage features extremely low noise. Test it both ways and see what you like better.
- Phase may need to be re-adjusted to compensate for an additional preamp stage.
- The Peak LED will not be active when the “TUBE IN” is used.
- The general adjustment procedure is the same as described in the above paragraph.



USE DESIGNATED EXTERNAL POWER SUPPLY ONLY!

Technical Data

- Frequency response: 20-20,000 Hz
- Inputs: Main In 1 Mega Ohm - Tube In 1.5 Mega Ohm
- Outputs: ¼" Line 1 K - XLR 100 Ohm
- Tubes: 2 x 12 AX7 EH
- EQ: bass 100 Hz highpass +/-20db, mid 1500Hz wideband +/-20db, treble 10KHz lowpass +/-20db
- Fuse: 1 amp slow
- Dimensions: 12 ½" wide x 4 ½" deep x 1 ½" high.
- Internal Voltage: 200 volt

Information

- *Progression* is powered by a designated external power supply (included).
- *Progression’s* tube section is hand-wired exclusively in the K&K custom shop. Hand-wiring is a quality hallmark with tube technology.
- Rack mount brackets available (not included).