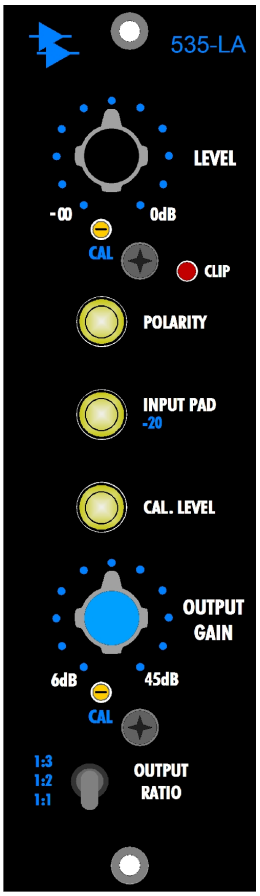
535-LA Line Amplifier

Operator's Manual



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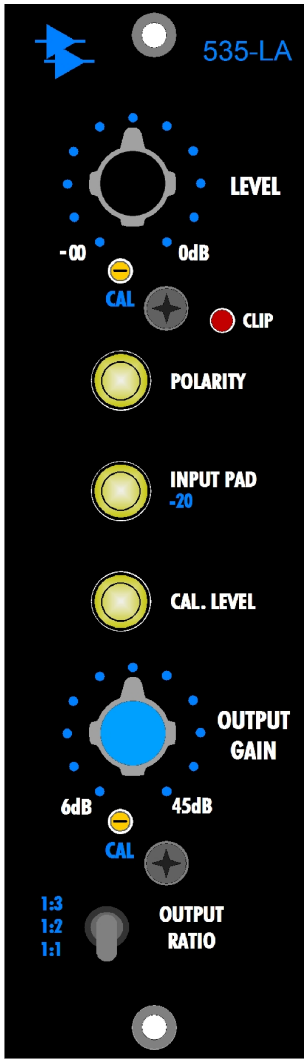
Features

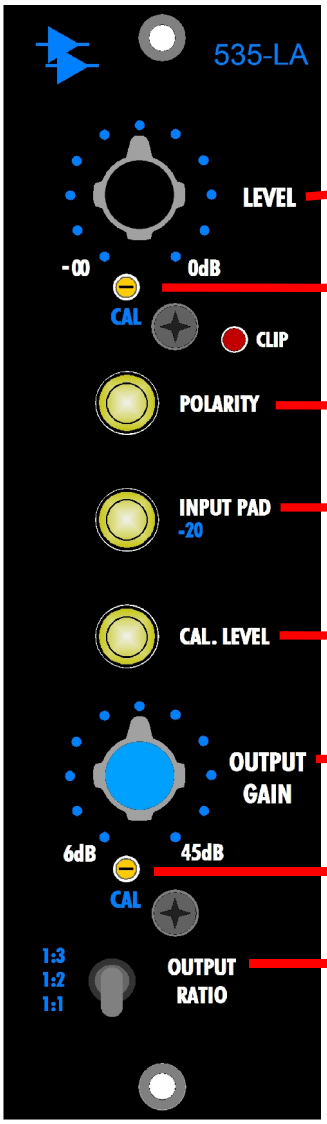
- Continuously variable detented input level trim
- Polarity button
- 20 dB input pad
- Calibrated Level mode
- Output ratio selector
- Clip LED indicator
- Continuously variable output gain
- Audio circuit uses the famous 2510 and 2520 op-amps
- Traditional API fully discrete circuit design



Modeled after APIs highly prized console-based 325 booster cards, the 535 can both **amplify and attenuate** incoming and outgoing signals for ultimate flexibility all while providing APIs trademark API warmth and tone. The 535 is useful anywhere signal levels need adjusting such as inputs from keyboards, audio playback devices, or from mic preamps or audio processing devices that do not have their own level control. The 535 excels at adding warmth to digital signals such as DAW outputs, and features **an LED clip indicator**.

The 535-LA also includes a **balanced input**, a **polarity switch**, a **20db pad** for incoming signal attenuation and a **three position toggle switch,** which allows for different output gain levels from the transformer. This is designed to drive long balanced lines with low distortion just as the 325 booster card does. **Output gain range** is from **6dB to 45dB**. The 535 utilizes the discrete **2510 and 2520 op amps** along with APIs proprietary transformers to create the unique, warm and reliable sound that API users expect. Like all API products, the 535-LA features APIs industry standard 5 year warranty.

535 Line Amplifier Controls



LEVEL- Continuously variable 31 position detented input level trim

LEVEL CAL. - Provides level calibration when in CAL LEVEL mode

POLARITY - Inverts polarity of the input signal

INPUT PAD - 20 dB input pad

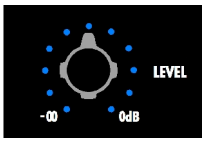
CAL. LEVEL - Bypasses LEVEL and OUTPUT GAIN knobs and engages CAL trimmers

OUTPUT GAIN - Sets the OUTPUT GAIN

GAIN CAL. - Provides output gain calibration when in CAL LEVEL mode

OUTPUT RATIO - Output ratio toggle switch

LEVEL



LEVEL: Sets the input level of the 535 LA

- 31-position detented level adjustment.
- The level knob behaves much like a fader, with 0dB unity gain at the fully clockwise position and –inf. in the counter clockwise position.

CLIP LED INDICATOR

CLIP LED INDICATOR:

- The Clip light is shared between both the input and output amplifier stages. If either stage is being overdriven, the indicator illuminates.

POLARITY

POLARITY:

- Inverts the polarity of the input signal

INPUT PAD

INPUT PAD:

- An input pad button is provided, padding the input signal by 20 dB just before the input differential amplifier stage.

CALIBRATED LEVEL

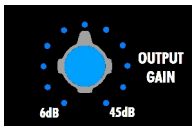
CALIBRATED LEVEL BUTTON:

- When the CAL. LEVEL button is engaged, the input LEVEL and OUTPUT GAIN front panel controls are bypassed and the calibrated level trims are used to set the LEVEL and OUTPUT GAIN.
- When in this mode, the OUTPUT RATIO is set according to the internal output ratio jumper (see OUTPUT RATIO).

CALIBRATED LEVEL TRIM:

- From the factory, the 535-LA is preset to provide unity gain operation when in the CAL. LEVEL mode. Although this is suitable for most applications, calibration trims have been provided on the front panel for easy level and gain adjustment within the CAL. LEVEL mode.
- The calibrated levels are set by adjusting the multi-turn CAL trimmers located below the LEVEL and OUTPUT GAIN knobs.
- To avoid damage, be careful not to turn the trimmers beyond their adjustment range(s). The trimmers have a 200 cycle lifetime.
- CAL level adjustment ranges are -inf dB to 0dB for the input level trim and 4dB to 45dB for the output gain trim.

OUTPUT GAIN



OUTPUT GAIN: Sets the output amplifier gain of the 535-LA

- The continuously variable control knob can be set from 6dB (fully counterclockwise) to 45dB (fully clockwise).

OUTPUT RATIO

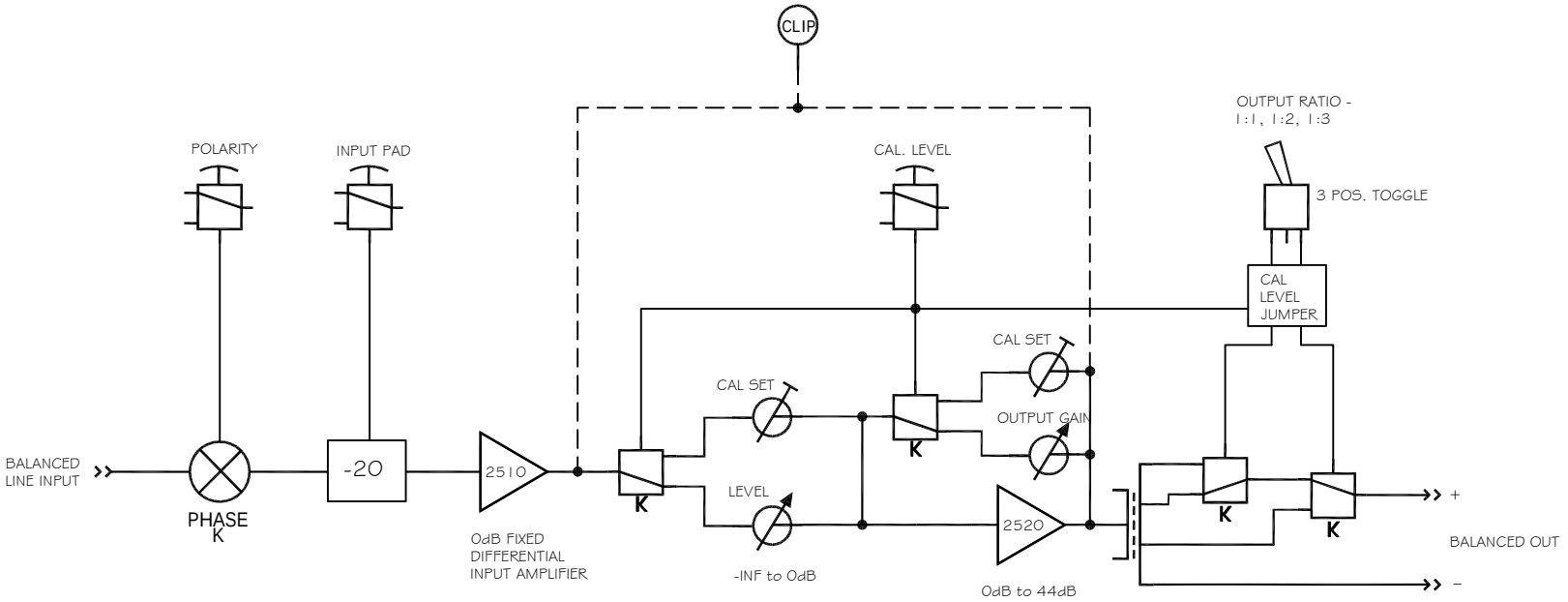
OUTPUT RATIO: A three-position toggle switch sets the output transformer wiring configuration.

- When in normal mode, the available front panel settings are 1:1, 1:2 or 1:3.
- When in CAL. LEVEL mode, this setting is defined by the position of the "CAL. LEVEL RATIO" jumper on the printed circuit board assembly. The factory jumper location is 1:1 but can be changed to 1:2, 1:3 or front panel setting.

SPECIFICATIONS

Frequency Response:	-0, +0.2, 30Hz-20kHz
THD+N:	.006% at factory CAL Level setting (+4dBu)
Noise floor:	-85dBu at factory CAL Level setting
Gain Range:	-inf. to 53dB
Maximum Input level:	+32 dBu, balanced (with PAD)
Maximum Output level:	+32 dBu MAX, balanced (1kHz)
Input Impedance:	Greater than 20,000 ohms, ~4,000 ohms w/ pad
Output Impedance:	Less than 75 ohms

Block Diagram



Block Symbol Legend