



Greg Hanks Design
Hand Crafted Technology

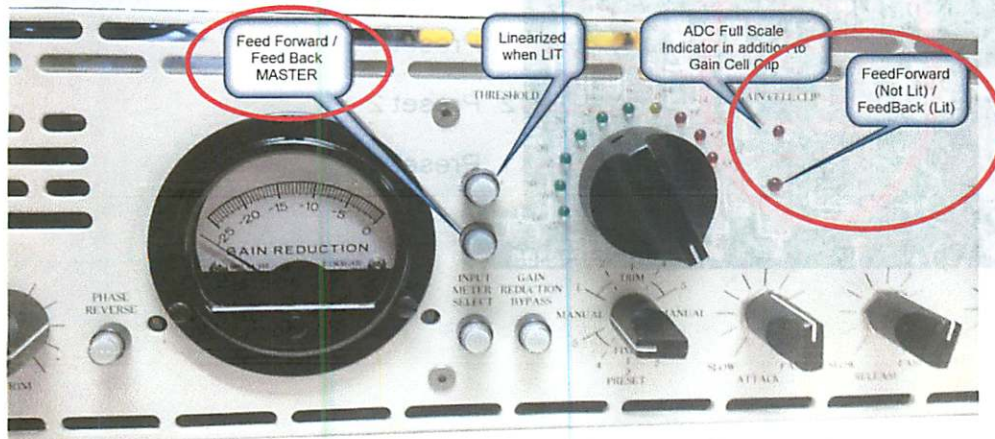
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BA-AD and other changes: Addendum

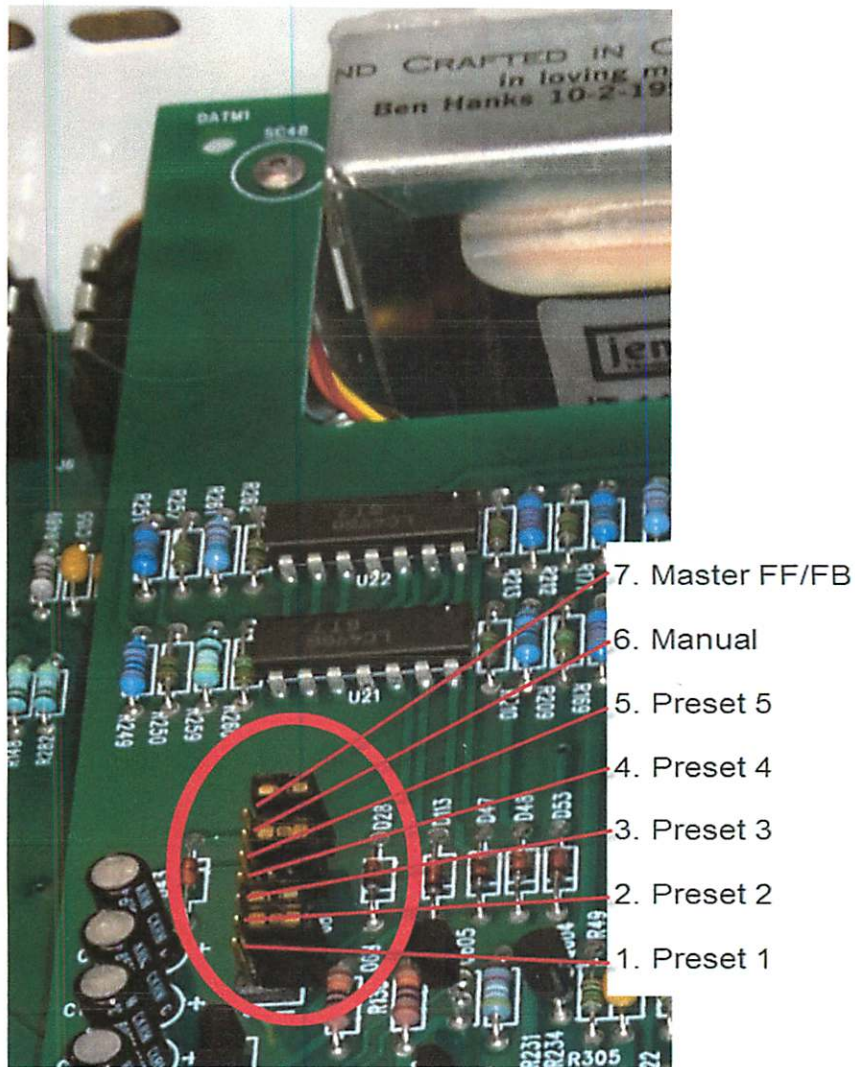
Changes Being Addressed:

1. Feed Forward / Feed Back Selection and Indication
 - a. Master FF/FB Switch
2. Linearized Mode
 - a. Linearizer Selector
3. Analog to Digital Converter

Feed Forward / Feed Back



Default operation of the unit is FeedForward. Feedback mode is selected with jumpers on the Gain Control PCB, or the front panel Master FF/FB selector (See Above). The jumpers affect manual and preset modes. (See Below) The last position allows for the addition of a MASTER FF (FeedForward) / FB (FeedBack) mode switch. The jumpers in the picture are all set on the right side pin only. When the jumper is in this position, the mode is Feed Forward. When the jumper covers both pins, the mode is FeedBack and the front panel LED will light. In Feed Back mode the threshold will change, and the limiting metering scale will no longer be accurate. The Ratio will become much greater and the output trim will affect the threshold. The sonic results make it worth while to investigate.



Linearized Mode

The BA AD 660 was originally designed as a MIC PRE. The Limiter/Compressor was added to the circuitry to contain the signal from the preamp within 'normal' equipment specification. People liked the sound of the compressor and started using it to bring out inner details... Sometimes that leads to trouble.

I've struggled with this issue for years. Two ways to deal with it;

1. User Education
2. Circuitry architectural modification

We are addressing in both ways..

WHEN THE BIG DOG BARKS!!

Splutter.... Phfft... thump... DAMN.

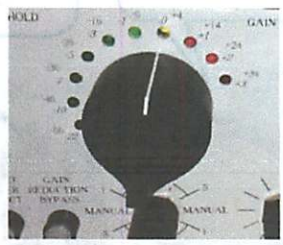
This occurs when **the input sensitivity is too high** (Not enough gain) and the threshold control is turned ***too far to the left.***

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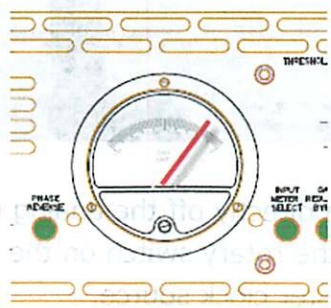
QUICK SETUP INSTRUCTIONS

(CUT TO THE CHASE / PART TWO)

1. Set Threshold control to Twelve Thirty



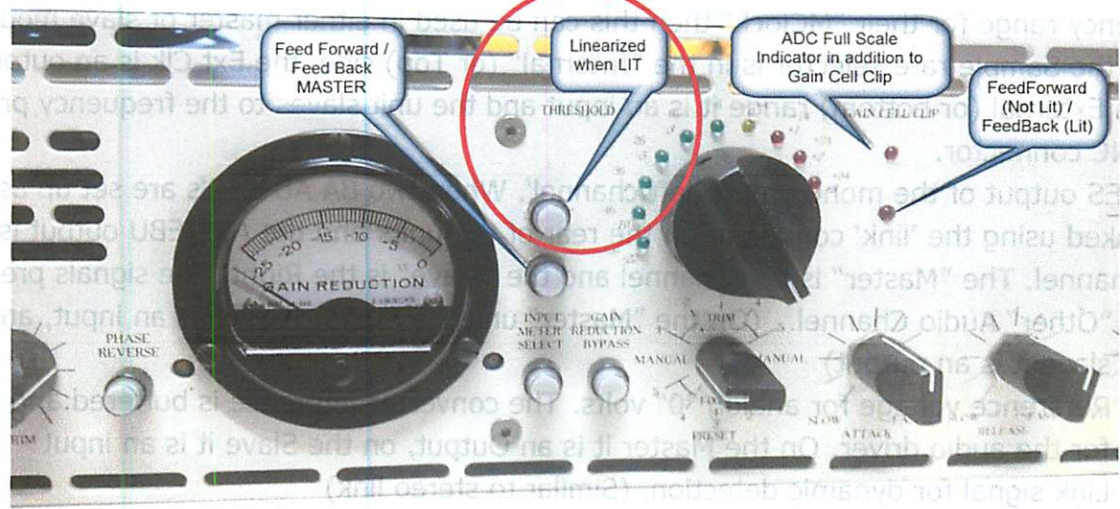
2. Set INPUT SELECT AND TRIM to obtain an average limiting amount of -5 db.



3. Set Output Gain Makeup so that the Yellow LED (0 +4) lights brightly on the average signal.

OR

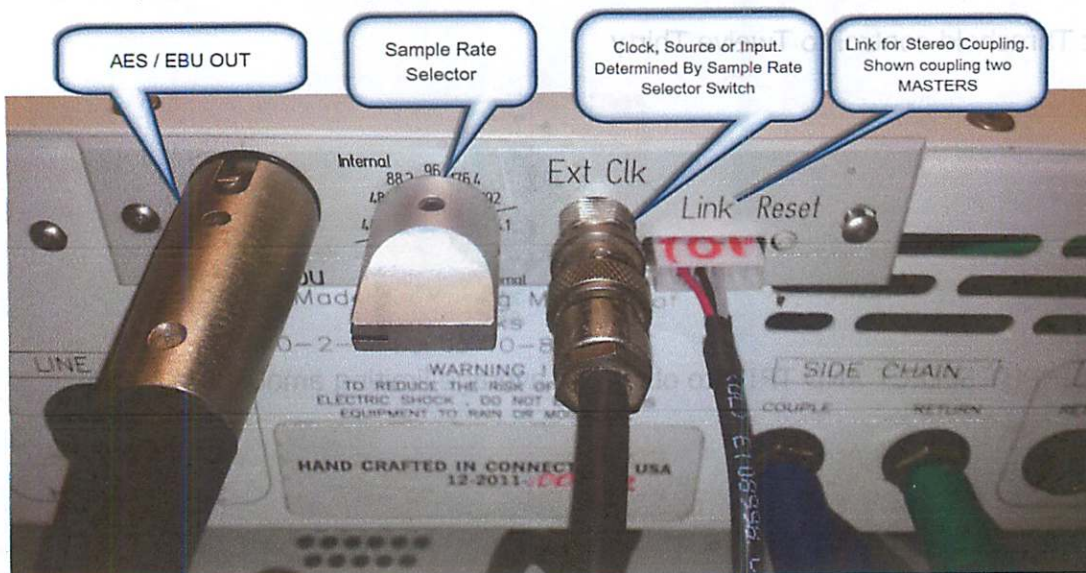
4. Depress the top button (Linearize) on the front panel... this engages the 'Linearized' Mode



5. Set Threshold to Crush as desired.

Analog to Digital Converter

This is a new addition to the BA-660 turning it into the BA AD-660. The purpose is, like the compressor section, to enable the dynamic range to be accessible to the rest of the world.



The input to the converter is taken directly off the analog output of the BA.

The sample rates are selected by the rotary switch on the rear.

This device is intended to be a master clock source.

The Output of the Analog to digital converter is AES/EBU compatible.

The master clock that drives the sample rate is 22,579,200 or 24,576,000 Hz and accurate to 50 parts per million. Drift is within that same range. Jitter is less than 800 femtoseconds (.8 ps). This clock appears on the rear of the unit as Ext Clk. When used with other devices that use the same frequency range for their "MClock" then this can be used in either master or slave mode.

When the Sample rate selector is in the "Internal" (or Top) side, the Ext Clk is an output. When on the External (or bottom) range it is an input and the unit slaves to the frequency presented at the BNC connector.

The AES output of the mono unit is 'left channel'. When two BA AD-660's are set up as a pair they are linked using the 'link' connector on the rear of the units and the AES/EBU output is traditional two channel. The "Master" is Left channel and the "Slave" is the Right. The signals present are;

1. "Other" Audio Channel... (On the "Master" unit the Audio channel is an input, and on the slave it is an output)
2. Reference voltage for analog "0" volts. The converter reference is buffered and provided for the audio driver. On the Master it is an Output, on the Slave it is an input
3. Link signal for dynamic detection, (Similar to stereo link)

Internal selection for Low Cut filter, Dual mono operation and Classic Low Pass Filter are provided. Contact me for details on use.