FERCHILD

MODEL 660

SINGLE CHANNEL TUBE COMPRESSOR

AMERICAN HERITAGE



USER MANUAL

Heritage Audio

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INTRODUCTION

Thank you for choosing the **HERCHILD Model 660**. Heritage Audio is dedicated to bringing you ´the sound of yesterday for tomorrow´. We specialize in capturing that unique, enticing sound that everybody has fallen in love with. For years engineers, producers and musicians have been yearning for that classic vibe. Usually the only option is to search for old, used original equipment that is almost always in a questionable state of operation. This brings with it a whole lot of other issues, making the experience less than desirable. Not to mention the very high prices asked for this equipment, which makes them virtually unobtainable for the great majority. Now it´s possible to obtain that same sound with a brand new piece that will give you all the problem-free, heavy-duty use you´ll need for years of music making history.

Peter Rodriguez
CEO
Heritage Audio - Madrid, Spain

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TABLE OF CONTENTS

INTRODUCTION 2
CONTENTS 2
DESCRIPTION 3
GETTING STARTED 4
DC THRESHOLD SETTINGS 6
TIME CONSTANT SETTINGS 6
APPLICATIONS 7
SPECIFICATIONS 8
SIGNAL FLOW 8
TROUBLE SHOOTING 9
WARRANTY STATEMENT 10
REGISTRATION 10
RECALL SHEETS 11
RACKING OPTIONS 12



DESCRIPTION

The HERCHILD Model 660 is our newest release and one of the products we are proudest of. A tube-based audio compressor with a striking resemblance to one of the most famous compressors of all time, the Fairchild 660. After years of research, development and new designs we are finally ready to release this beast to the public. While making sure to capture all the lush sound and mystique of the original we were able to improve on several aspects and offer a more reliable, more durable, modern version that will last you for decades to come.

The HERCHILD Model 660 contains nothing less that 11 tubes and 5 transformers to achieve that indistinguishable, classic, triumphant sound that we all know and love. The original intention of the his historical compressor was to be used in the cutting of lacquer masters for vinyl albums, but it soon became an industry standard for getting that all enveloping sound that takes us to another level.
The Fairchild 660 is found on almost all of the classic releases in the 60´s and 70´s, defining the sound of a generation… or two.

The grandaddy of all tube-based compressors had a relatively limited amount produced, somewhere between 500 and 1,000 units. Therefore, some 60 years later there are only a small amount that remain today. There are even fewer that are totally usable as years have gone by since it´s late 1950´s introduction so many units aren´t exactly as they once were. Maintenance is obligatory on a high-end piece like this and unfortunately, too many of them have simply been neglected and aren´t up to their optimal specifications. This means an alternative is needed. And this is where the HERCHILD Model 660 comes in, to once again offer that magic that only this compressor design can.

Our HERCHILD Model 660 offers a couple of new and ever so helpful features. The user now has immediate access to the all important DC THRESHOLD.This control basically combines adjustments to the progressively developing curved RATIO and the KNEE simultaneously through 4 different settings varying from a gentle slope to a more pronounced and aggressive slope.This control really does put sound manipulation right at your finger tips as opposed to the original´s out of reach and inconvenient screw adjuster. The other main addition is something no modern day studio can be without, a side chain filter.With the SC FILTER on the HERCHILD Model 660 you have 4 different frequencies to choose from: 50, 100, 200 and 350 Hz. Using this feature you now have lots more control over just how much compression will be applied as you can make it less sensitive to the lower frequencies therefore allowing more compression where you need it and for the track to stay powerful.



Choose the correct voltage depending on the country where used. 110 V 0r 240 V. This is EXTREMELY important as a mistake here could be disastrous.



Do not open. No user serviceable parts inside. Risk of shock. Please do NOT open!

There is an extra fuse included in the fuse holder. If needed replace the blown fuse with this one. If the problem persists get in contact with your official repair service. Do NOT try to service it on your own.

Make sure to leave at least one unit of rack space above and below the unit to guarantee proper ventilation.

Tube replacement is possible from the outside. Opening the unit is not necessary and should not be done under any circumstance. Very high voltage inside!



Big changes in temperature can be detrimental to the tubes and is best to avoid.

FRONT



1-METER ADJUSTMENT SCREW: This is not meant to be user adjustable. We recommend not adjusting this and to contact an official repair service.

2-RED JEWEL INDICATOR LIGHT: Simply indicates that the equipment is ´On´.

3-POWER SWITCH: Turns the unit on or off.

4-ZERO ADJUSTMENT SCREW: Use this screw to set the meters to 0 dB on the VU meter when there is no compression happening. It is normal for this setting to drift for the first 30 minutes of operation.

5-BALANCE ADJUSTMENT SCREW: Use this screw to balance the circuit for optimum performance based on the particular set of tubes installed.

6-VU METER: Indicates GAIN REDUCTION.

7-METERING: Knob to choose the readout of the VU meter, either for adjusting the balance of the tubes or the gain reduction being applied.

8- INPUT GAIN CONTROL: This knob is used to control the amount of input gain applied. This is actually an attenuator that reduces the the input by up to -20 dB.

9- AC THRESHOLD: The threshold knob determines when the compression begins. It's used to decide when and how much gain reduction takes place. When in the fully counter-clockwise position, the HERCHILD Model 660 will not compress at all. As the threshold control is turned clockwise, the amount of compression will progressively increase.

10- DC THRESHOLD: Here you decide what kind of curve will be applied to the compression. It is similar to a knee and ratio effect combined. So at the most counter-clockwise position the HERCHILD Model 660 responds like a limiter with immediate and aggressive action happening as soon as the AC THRESHOLD is passed. While as you turn it clockwise more of gradual, progressive effect occurs until you have a very slight compression happening at all times.

11-TIME CONST: Here you have 6 options for the attack and release timings giving you combinations for fast and slow timings. (Please see the TIME CONSTANT Section for exact timings.)

12-SC FILTER: This is a side chain filter applied only to the control signal to decide if and where the HERCHILD Model 660 will be less sensitive to certain frequencies. There are 5 choices available: 50, 100, 200, 350 Hz and OFF.

REAR



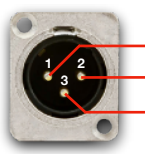
1-LINE INPUT: Female Gold Plated XLR Connector.

2-LINE OUTPUT: Male Gold Plated XLR Connector.

3-TUBES: (11) User changeable valves with easy access.

4-POWER INPUT: IEC standard power input connector.

5-VOLTAGE SELECTOR: Here you can select the correct voltage input according to the country you are in.

All XLRs are:	**MALE XLR**	**FEMALE XLR**
Pin 1: GND Pin 2: Hot Pin 3: Cold		



DC THRESHOLD SETTINGS



MEDIUM KNEE & PROGRESSIVE
HIGHER RATIO



MEDIUM KNEE & PROGRESSIVE
MEDIUM RATIO

The **HERCHILD Model 660**, just like the original, uses a progressively developing ratio curve so it is not possible to describe the ratio as 2:1, 10:1 or anything so exact.



HARD KNEE
HIGH RATIO (LIMITING)



SOFT KNEE FROM START &
CONSTANT PROGRESSIVE RATIO

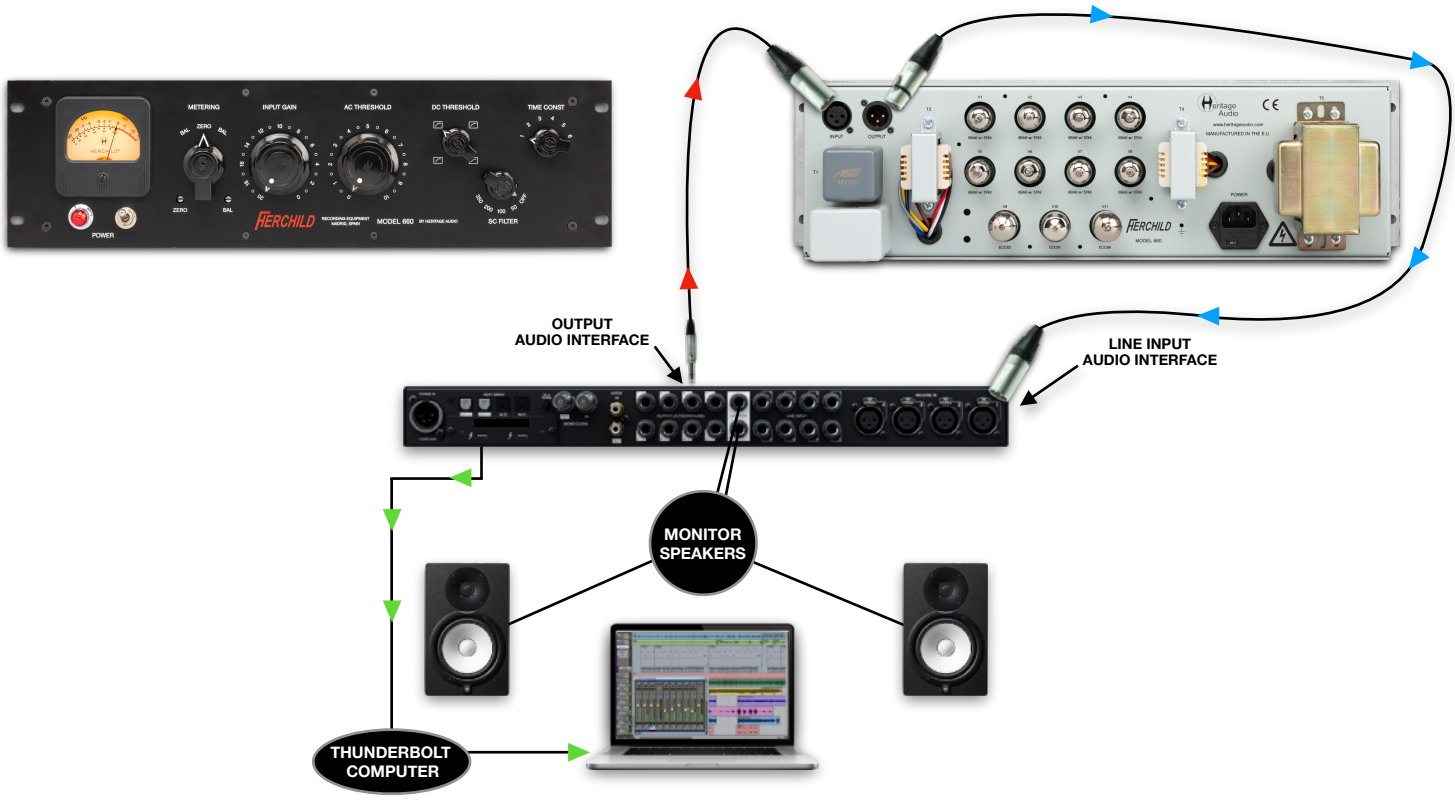
TIME CONSTANT SETTINGS



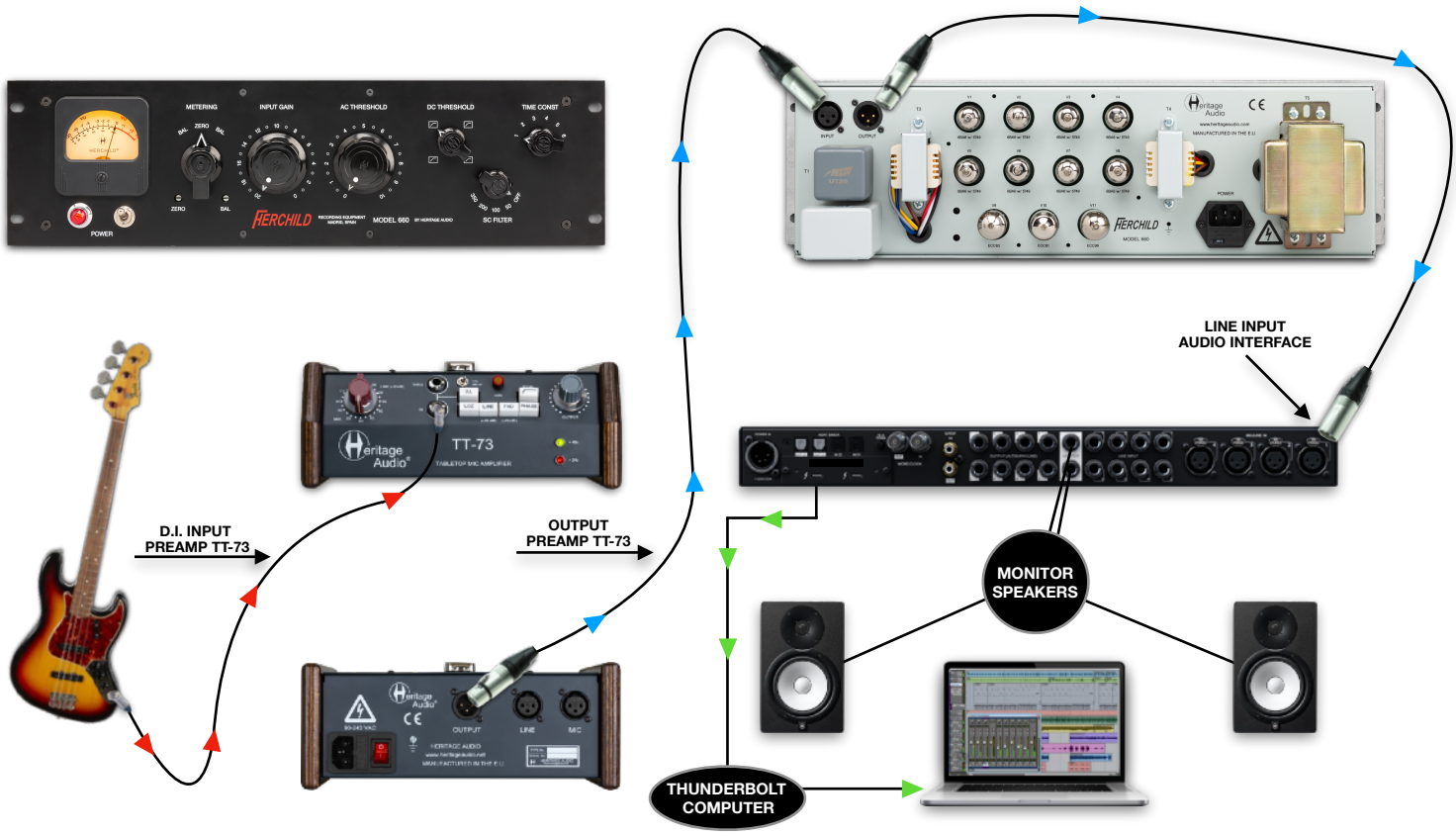
	ATTACK	RELEASE
1	.2 ms	.3 Seconds
2	.2 ms	.8 Seconds
3	.4 ms	2 Seconds
4	.4 ms	5 Seconds
5	.4 ms	2 Seconds for individual peaks 10 Seconds for multiple peaks
6	.2 ms	.3 Seconds for individual peaks 10 Seconds for multiple peaks 25 Seconds for consistently high program level

APPLICATIONS

VOICE TRACK INSERT



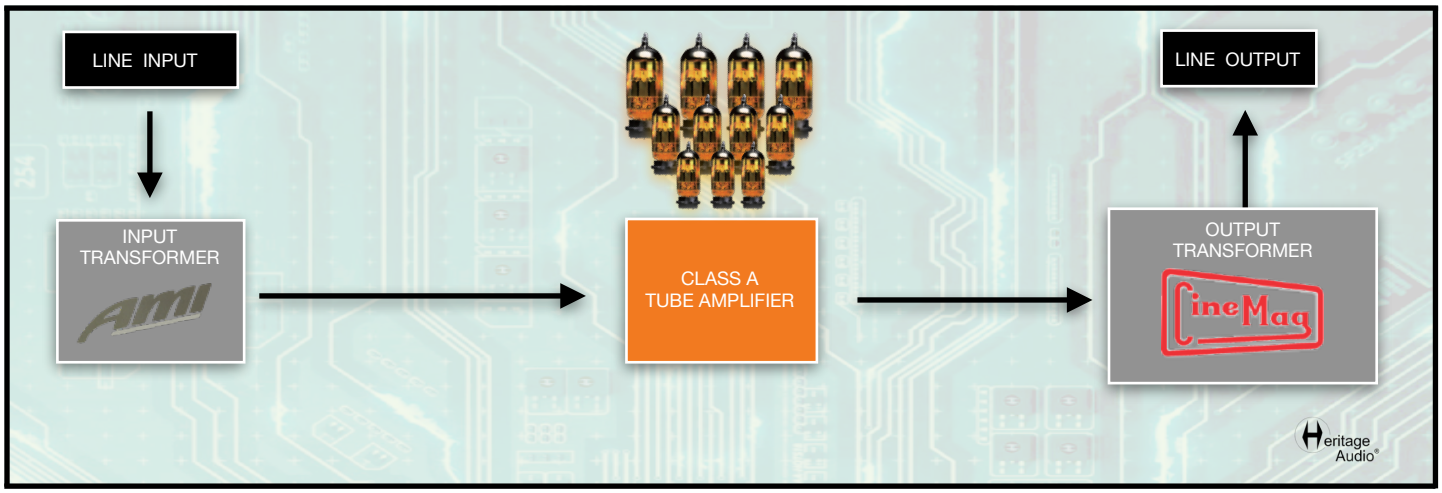
BASS RECORDING



SPECIFICATIONS

- **Gain:** Up to approx. 12 dB.
- **Input Impedance:** 2 KΩ.
- **Output Impedance:** 600 Ω.
- **Output Level:** +30 dBu clipping point.
- **Frequency Response:** 20 Hz to 20 kHz ±1 dB.
- **Signal To Noise Ratio:** 120 dB.
- **Self Noise:** Less than -82 dBu.
- **Harmonic Distortion:** Less than 1 % at any level up to +18 dBu output (no limiting).
- **Dimensions (W x H x L):** 482 mm x 134 mm *(3 Rack units)* x 200mm.
- **Weight:** 7,365 Kg

SIGNAL FLOW



TROUBLE SHOOTING





PROBLEMS	SOLUTIONS
There is almost no sound coming from the HERCHILD Model 660.	Make sure you have raised the **INPUT GAIN** to a sufficient level.
There doesn´t seem to be any compression taking place.	Make sure you have adjusted the **AC THRESHOLD** level to a reasonable setting.
I´m getting way too much compression for what I need.	Try lowering the **AC THRESHOLD**.
I´m still getting way too much compression for what I need.	Try adjusting the **SC FILTER** to make the HERCHILD Model 660 less sensitive to the lower frequencies.
The HERCHILD Model 660 does not seem to be reacting as it should.	Have you allowed the recommend 30 minutes for the unit to warm up?
The readings on the VU meter don´t seem to correspond with what is actually happening.	Sounds like it´s time for some calibrating.
The compression I am getting is altogether too aggressive for what I am looking for.	Try a different setting on the **DC THRESHOLD** to alter the Ratio/Knee.
The compression I am getting is still altogether too aggressive for what I am looking for.	Try a different setting on the **TIME CONST** selector to ease the attack and release controls. (See Time Constant Settings for exact timings).
The compressor seems to be heating up excessively.	Have you installed a blank rack panel above and below the unit to assure proper ventilation?

* For any further doubts or questions please get in contact with us at: support@heritageaudio.com

WARRANTY STATEMENT

LIMITED 2 YEAR WARRANTY

Heritage Audio HERCHILD Model 660 is warranted by Heritage Audio SL to be free from defects in materials and workmanship for the period of 2 years to the original purchaser. In the event of such defects, the product will be repaired without charge or, at our option, replaced with a new one if delivered to Heritage Audio prepaid, together with a copy of the sales slip or other proof of purchase date. The warranty excludes problems due to normal wear, abuse, shipping damage or failure to use the product in accordance with the specifications.

Heritage Audio shall not be liable for damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation or commercial loss or any other damages, whether incidental, consequential or otherwise.

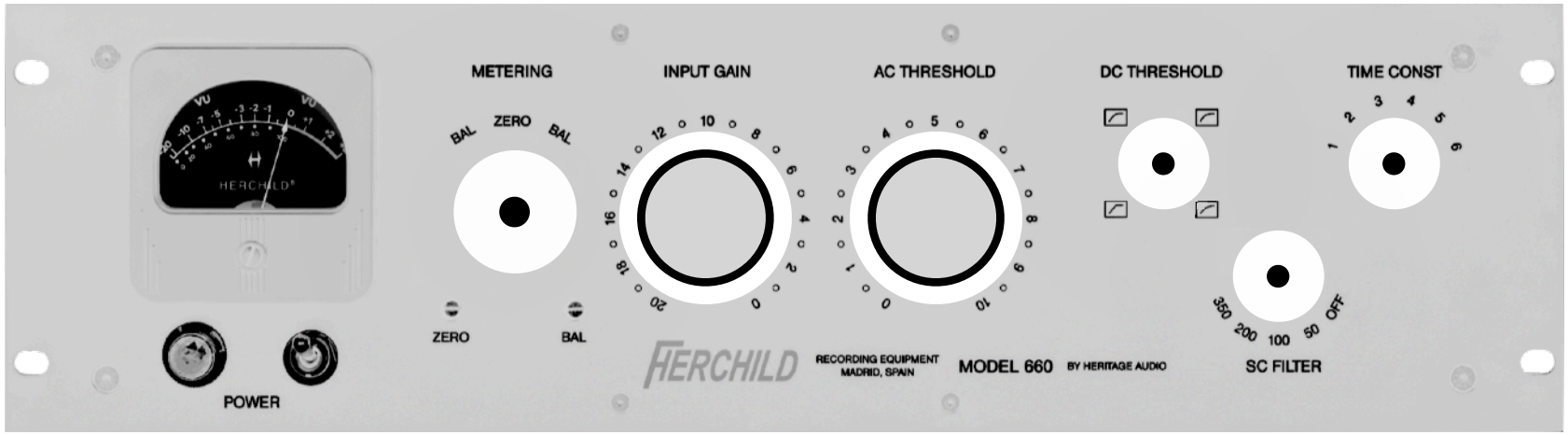
This warranty is not transferable.

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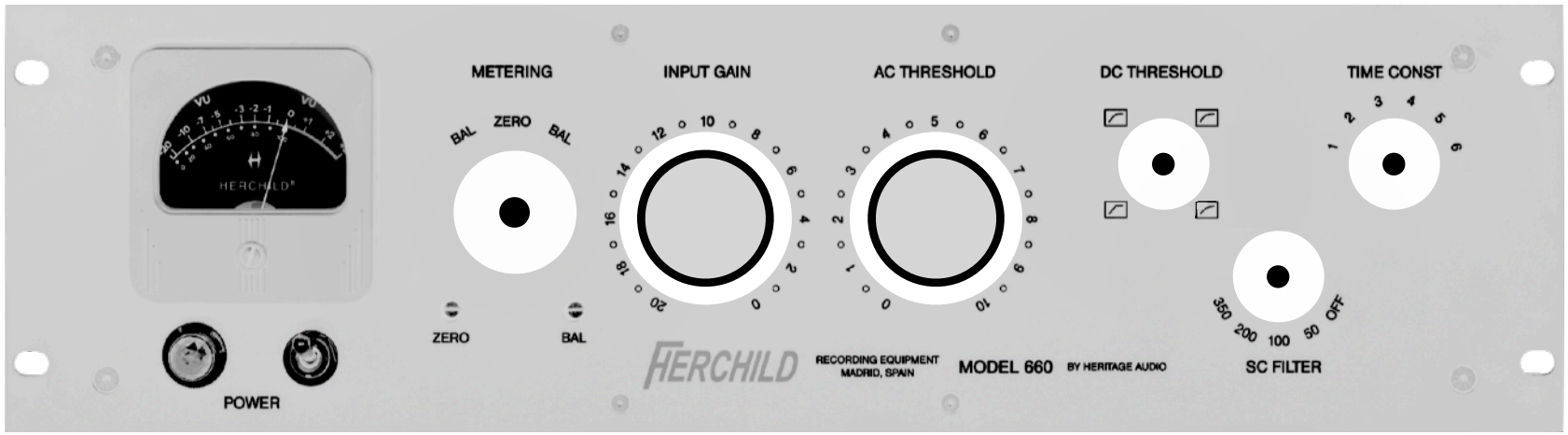
REGISTRATION

Please visit our website: https://heritageaudio.com/registration/



Session / Title: _____ Track: _____ Connected Equipment: _____

Date: _____ Instrument: _____ Notes: _____



Session / Title: _____ Track: _____ Connected Equipment: _____

Date: _____ Instrument: _____ Notes: _____

RACKING OPTIONS

While we strongly recommend leaving at least a full 1 unit of rack space above and below the HERCHILD, we have equipped it with additional racking holes to provide the option to reposition the unit to allow only 1/2 rack space.



Avoid at all costs! Your HERCHILD needs to breathe!
Never install anything directly above and below it.



Using the inner set of holes allows you to have 1 full rack unit of space above and below.



Using the outer set of holes allows you to have 1/2 rack unit of space above and below.



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