

## **WARNING! - Please Read this Information Carefully:**

The project described in these pages utilizes **POTENTIALLY FATAL HIGH VOLTAGES**. If you are in any way unfamiliar with high voltage circuits or are uncomfortable working around high voltages, **PLEASE DO NOT RISK YOUR LIFE BY BUILDING THEM**. Seek help from a competent technician before building any unfamiliar electronics circuit. While efforts are made to ensure accuracy of these circuits, no guarantee is provided, of any kind!

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## **NOTICE! - This document represents a project that is in the PRELIMINARY, or BETA TEST phase.**

This project is intended for **experienced builders only** at this phase. It may contain errors on the documents, or in the design itself. Once this project has been successfully prototyped and tested this notice will be removed and it will be released for construction. Should you find an error on the documents, please notify the Project Coordinator so that the documents may be corrected.

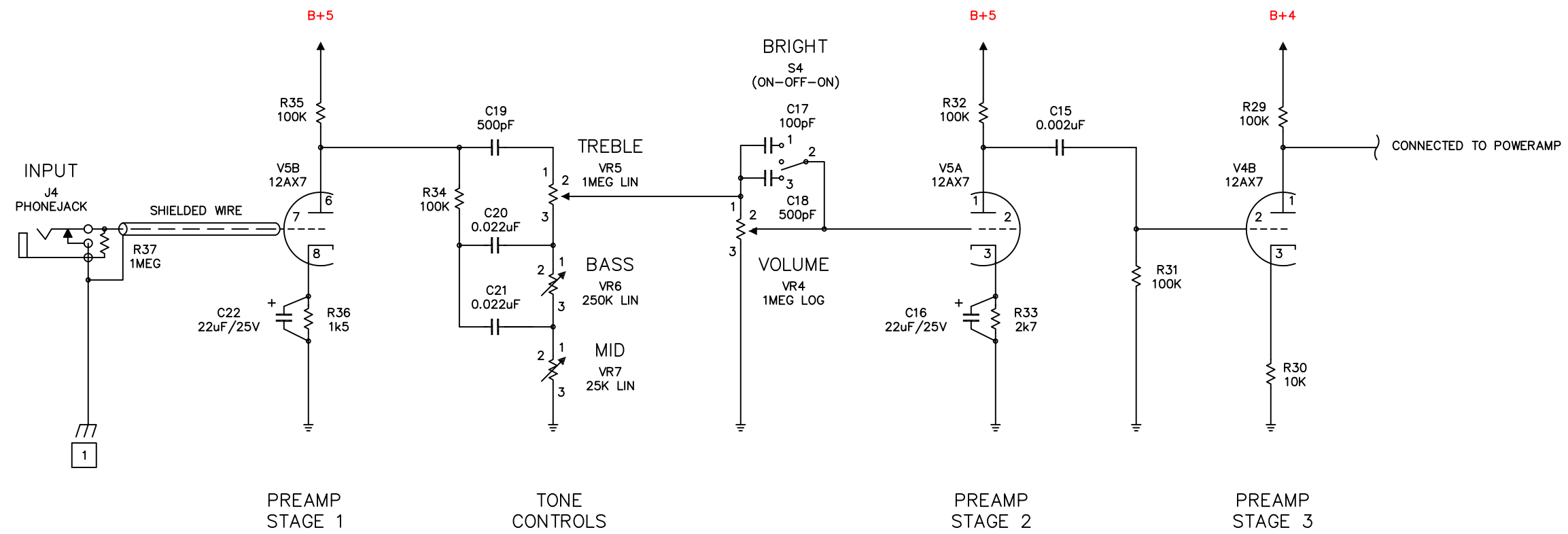
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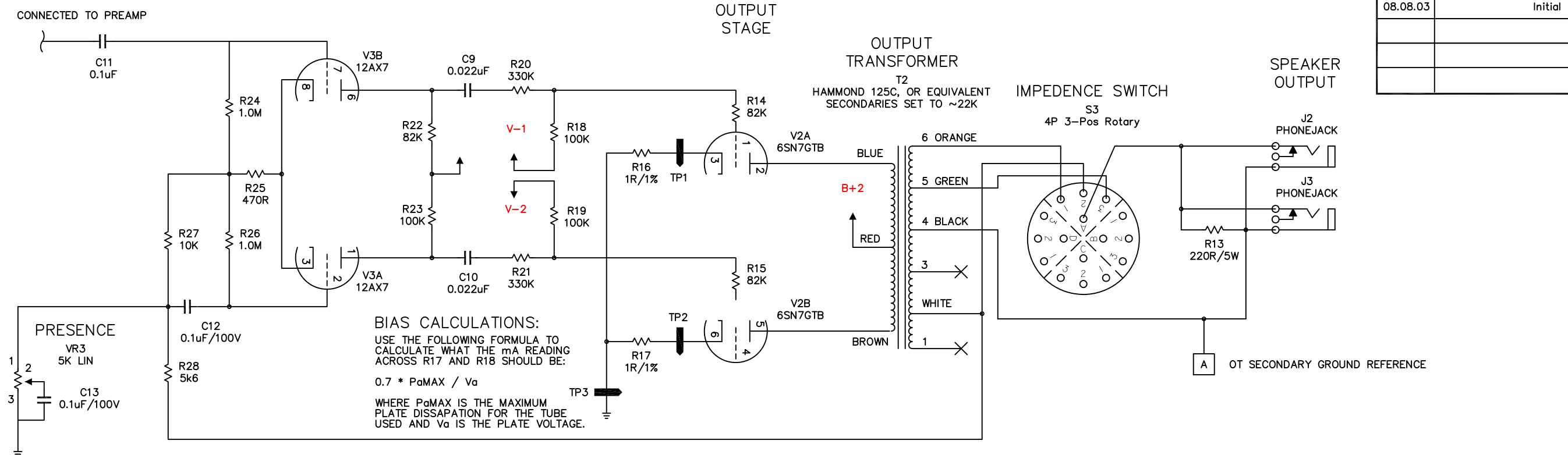
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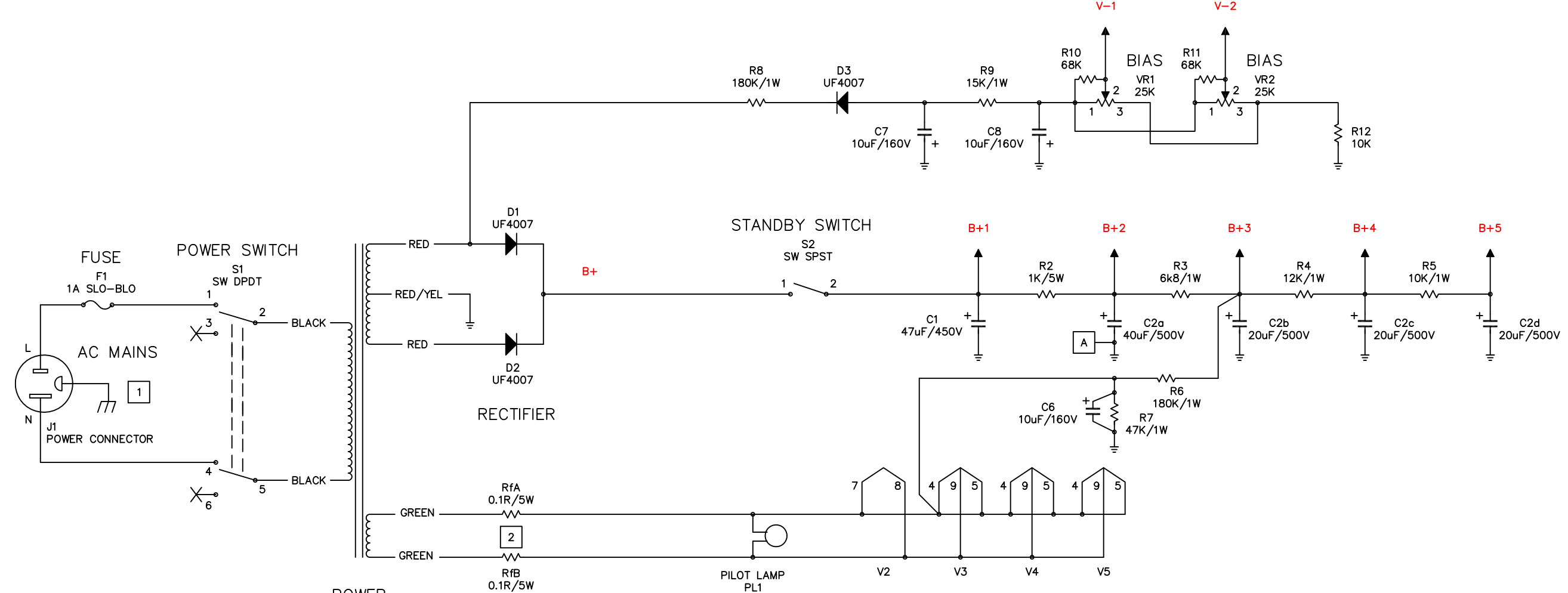
Revision	Description
08.08.03	Initial Design



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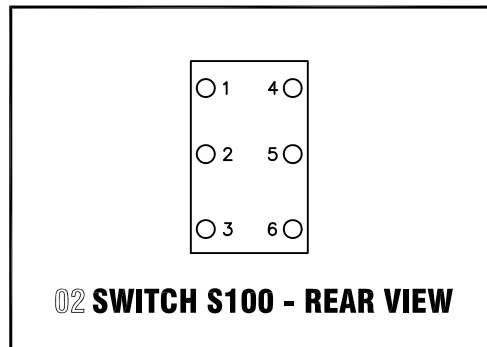
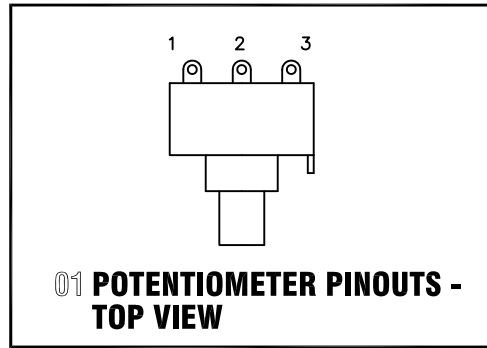


**BIAS CALCULATIONS:**  
 USE THE FOLLOWING FORMULA TO  
 CALCULATE WHAT THE mA READING  
 ACROSS R17 AND R18 SHOULD BE:  
 $0.7 * P_{aMAX} / V_a$   
 WHERE  $P_{aMAX}$  IS THE MAXIMUM  
 PLATE DISSIPATION FOR THE TUBE  
 USED AND  $V_a$  IS THE PLATE VOLTAGE.




**POWER TRANSFORMER**  
 T1  
 HAMMOND 269JX, OR EQUIVALENT  
 250-0-250 @ 65mA  
 6.3V @ 2.5A

Revision	Description
08.08.03	Initial Design



GENERAL NOTES:

1. ALL RESISTORS 1/2W MINIMUM UNLESS OTHERWISE NOTED.
2. ALL COUPLING CAPACITORS 400V OR GREATER.
3. VOLTAGE READINGS ARE THOSE TAKEN WITH MY TUBE SET. THE USE OF DIFFERENT TUBE SETS WILL ALTER THE READINGS.
4. THE  SYMBOL REPRESENTS SHIELDED CABLE.

CONSTRUCTION NOTES:

- 1 THIS IS A GROUND CONNECTION TO THE CHASSIS. THE MAINS SAFETY CONNECTION SHOULD BE MADE AS CLOSE AS POSSIBLE TO THE POINT WHERE AC ENTERS THE CHASSIS. THE CIRCUIT CONNECTION SHOULD BE MADE AS CLOSE AS POSSIBLE TO THE INPUT JACK. IDEALLY, THE JACK ITSELF SHOULD BE USED AS THE CONNECTION POINT BY NOT ISOLATING IT FROM THE CHASSIS.
- 2 THESE TWO 0.1R/5W RESISTORS ARE OPTIONAL, AND ARE NEEDED ONLY WHEN YOUR MAINS VOLTAGES ARE GREATER THAN THAT WHICH THE POWER TRANSFORMER WAS WOUND FOR. THE VALUES SHOWN SHOULD BE CORRECT FOR A 115V PT USED WITH 120V MAINS. THE PURPOSE OF THESE TWO RESISTORS IS TO INSURE THAT THE FILAMENT VOLTAGE STAYS WITHIN +/- 10% OF 6.3VAC.

VOLTAGE READING NOTES:

1. THE VOLTAGE READINGS ON THIS SCHEMATIC ARE SIMULATED BASED ON THE USE OF A HAMMOND 269JX WITH 120V MAINS.
2. DIFFERENT TUBES DRAW DIFFERENT AMOUNTS OF CURRENT, NO TWO ARE ALIKE UNLESS THEY ARE MATCHED. THE AMOUNT OF CURRENT DRAWN BY ALL THE TUBES IN THE AMP WILL AFFECT VOLTAGE READINGS THROUGHOUT THE AMP.