

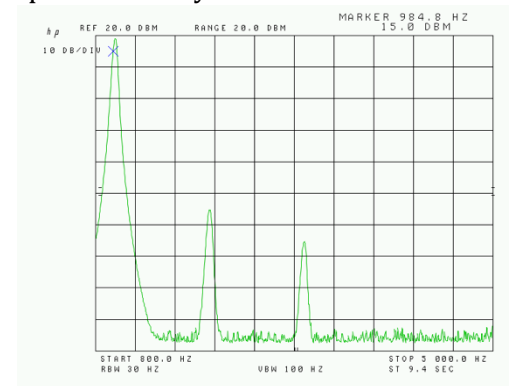
## Features

- Copper chassis with acrylic overlays
- Upsampling DAC with 1 USB, 2 optical, and 1 analog input
- Or 4 analog inputs
- I2V 128 step volume control
- Copper speaker jacks
- On / Off speaker switches
- Easy access bias control adjustments
- Separate resettable hour meters
- Magic Eye heater and high voltage on indicator
- Optional headphone jack
- Twist and lock sockets (model dependent)
- RGB screen displaying
  - Heater voltage
  - Bias voltage
  - Plate voltage
  - Source
  - Volume level
- Vibration reducing feet
- Spares and tooling
  - 1 spare set of tubes

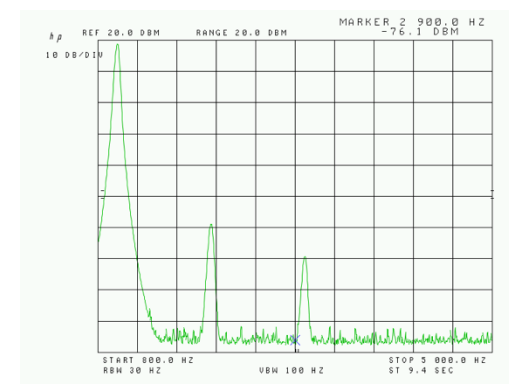
## Specifications

- 16 inches wide 10 inches deep 7 inches tall
- Weight 25 pounds
- 7 watts into 8 ohms at less than 1% distortion
- Distortion at 1 watt
  - 01A .13%
  - 2c22 .08%
- Sensitivity 350 millivolts
- AC noise level depends on the tube and ranges from 0.4 to 2 millivolts

Spectrum analysis 1 watt 01A



Spectrum analysis 1 watt 2c22



## Heritage line

Heritage amplifiers are built around hearing the sound of the tube caused by its harmonic signature. To that end all Heritage amplifiers are built on the same platform. Parts that are identical include:

- Plus and minus power supply
- 7 watt Class A Diamond Buffer
- Controls
- Input modules
- Feature set
- Magic Eye / Bias controls / hour meter board

Tube dependent modules share the same design but part values are adjusted for voltage and current requirements.

- Heater supplies
- High voltage supplies
- Current sources
- Fixed bias supply for the 45 and 300B

You can be assured that no matter what tube is chosen, the same dedication and care went into ensuring that noise levels are kept low and the sound of the tube shines through.

## Usage

- Before powering up the amp check the following:
  - All cables are connected (back)
  - Tubes are in place (top)
  - The speaker switches are in the off or out position (back)
  - If unsure about the bias set it to the middle position (top)
- The power switch is located in the back right corner up is on
- Start up first 50 seconds
  - Heater and bias voltages ramp up
  - There is no automated checking of voltages
  - MONITOR THE VOLTAGES
    - 01A - 4.5-5.1 Heater, 4.5 to 6 volt Bias
    - 2C22 - 5.8 to 6.2 Heater, 4.5 to 6 volt Bias
- 50 to 60 seconds
  - High voltage ramps up
  - Magic Eye lights
  - Green LEDs visible through sides indicating there is power in the power supply
  - There is no checking of voltages
  - MONITOR THE VOLTAGES
    - 01A - 85 to 115 High Voltage
    - 2C22 - 195 to 215 High Voltage
- 60 to 120 seconds
  - High voltage stabilizes
  - Automated voltage checking enabled
  - 01A
    - Heater 4.35 to 5.5 volts
    - Bias 3.5 to 8.5
    - High voltage 85 to 145 volts
  - 2C22
    - Heater 5.5 to 6.65 volts
    - Bias 3.5 to 7.3
    - High voltage 160 to 245 volts
- 120 seconds
  - Source and volume control unlocked
  - If the volume control is at minimum the voltages are displayed
  - Automated voltage checking remains on
  - Begin listening



## Setting the Bias

Heritage line amplifiers employ a constant current source for the plate voltage. If the plate current is held constant, by adjusting the Bias, what changes is the plate resistance. More Bias equals more plate voltage and a richer sound. But this can also mean a noisier tube.

A tube's plate resistance increases with age. This leads to increased high voltages. To compensate, adjust the Bias to a lower voltage.

The Bias adjustment is located on top under the check panel on the board that holds the Magic Eye and Hour meters. The little black buttons reset the hour meters.

To adjust the Bias.

- If necessary, remove the check plate and Magic Eye
- Turn the volume control to minimum
- No signal into the amp
- Turn the knobs to the left to decrease and the right to increase the bias and high voltages
- Monitor the high voltage
  - 01A target 100 to 110.
  - 2c22 target 200 to 215
- For best results check again after 1 hour. During startup the Bias and High Voltage will start on the low side and drift up as the tube warms, settling down after an hour. This is intentional to prolong the tube life.

## Heaters

The heater voltage has a slow ramp up. During startup the tube heater resistance is low and draws too much current. This causes the heater power supply to supply less voltage. As the tube warms up, the tube heater resistance increases and draws less current. The heater power supply responds by sending more voltage to the tube heater. Heaters can take up to an hour to settle down. This is intentional to prolong the tube life.

## Cautions Warranty

- Do not expose the amplifier to liquids or to temperature extremes as deemed by Swan Song Audio.
- Electromagnetic interference will affect the performance.
- Only headphone loads from 6 to 600 ohms are supported.
- Only speakers 6 to 16 ohms are supported.
- Electrostatic headphones are not supported.
- Keep the vent holes free of obstructions.
- Clean face plates with "Windex" and a micro cloth.
- Microfiber towel laid over the amp when not in use will help keep it dust free.
- The warranty period is 3 years from the date of purchase for manufacturing defects and not for wear and tear caused by usage or negligence, as deemed by Swan Song Audio.
- Other than the check plate, unless instructed, opening the unit voids the warranty.
- Violating the cautions voids the warranty.
- The unit can only be serviced by Swan Song Audio.
- Contact Swan Song Audio for service or any warranty questions.
- Repairs deemed by Swan Song Audio as outside the warranty will be handled by Swan Song Audio at the owner's expense.

