**AudioBit model V1**

Transistors:

**2SA1943 – 4 pieces**

**2SC5200 – 4 pieces**

**2SA1015 – 6 pieces**

**TIP41C – 6 pieces**

**TIP42C – 4 pieces**

**BC327 – 2 pieces**

**BC337 – 2 pieces**

Resistors:

**0.47 ohms – 5W – 4 pieces**

**6.8 ohms – 1W – 4 pieces**

**10 ohms – 1W – 4 pieces**

**27 ohms – 1W – 2 pieces**

**56 ohms – 1 / 2W – 2 pieces**

**100 ohms – 1W – 4 pieces**

**270 ohms – 1 / 2W – 2 pieces**

**330 ohms – 1 / 2W – 2 pieces**

**510 ohms – 1/2W – 1 pieces**

**820 ohms – 1 / 2W – 2 pieces**

**1k – 1 / 2W - 4 pieces**

**4.7k - 1/2W - 4 pieces**

**10k – 1 / 2W – 10 pieces**

**18k – 1 / 2W – 4 pieces**

Capacitors:

**3.3nf (ceramic) – 2 pieces**

**10nF 100V – 2 pieces**

**33nF 100V – 4 pieces**

**100nF 100v – 4 pieces**

**330nF 100V – 4 pieces**

**470nF 100V – 2 pieces**

**2.2uF 100v – 2 pieces**

**47uF 63v – 2 pieces**

**4700uF 63V – 2 pieces**

**10.000uF 63v – 2 pieces**

Others:

**Diode 1N4004 – 8 pieces**

**3 uH coil - 2 coils of 10 turns with 1/4 copper core 18.**

**7A 34x34V transformer – 1 pieces**

* Power supply must be at least 6A and rectifier diodes should be rated 10A.
* Filter capacitors of minimum 4700uF can be used.
* Transformer must have -34V+34V with respect to ground.

**Technical/Service Specifications**

Power output: 72W RMS per channel @ 8 Ω (stereo) 34V@4.2A

Frequency response: 20Hz - 30kHz

Damping Factor: 80

Signal to noise ratio: 100dB

Total Harmonic Distortion: 0.07% (1V@1kHz, 18W@ 8 Ω)

Speaker load impedance: 4-16Ω

Preamp has no gain, only boosts high-low and control volume

Bias voltage must be ~14.5mV ->30mA, don’t forget to heat up the heatsink and measure again, then adjust back(usually voltage goes up when is hot)

Protection pot must be turned to transistor emitor, for 20V protection, if you plan to use all the power(meaning you use a bigger transformer), you can do that by connecting a speaker(at least 200W rms) in parallel to a dummy load smaller in resistance than the speaker. Turn up the volume until distortion appears(i suggest using ear plugs) , turn pot until desired voltage and no distortion.

In order to have as close to zero V at output we must turn pot until we get close or max 30mV.

I recommend using a big heatsink(at least 7-800gr), if not at least install a 92mm fan.

For shield you can use galvanized sheet around the preamp, if it catches parasitic frequencies.

For the transformer hum, i recommend getting a shielded transformer, you can also twist all the cables that come from and go to the transformer.

**Test stage/ Practical and endourance**

Tested output power, with 20V sinus at 150Hz, at an 8ohm load, sound is cristal clear, the power obtained is about ~45W, almost burned the loudspeakers.

Tested output power by a variety of songs, rock, pop, clasical, sound is cristal clear, transformer seems to handle the power demand quite good.

Tested output hum by increasing the volume to 75% with no input, the hum seems to have the same amplitude as there is no input, which is very good.