

UNVERIFIED: NO WARRANTY EXPRESSED OR IMPLIED
LETHAL VOLTAGES AND HIGH VOLTAGES : SHOCK HAZARD
USE AT YOUR OWN RISK
FOR EDUCATIONAL PURPOSES ONLY

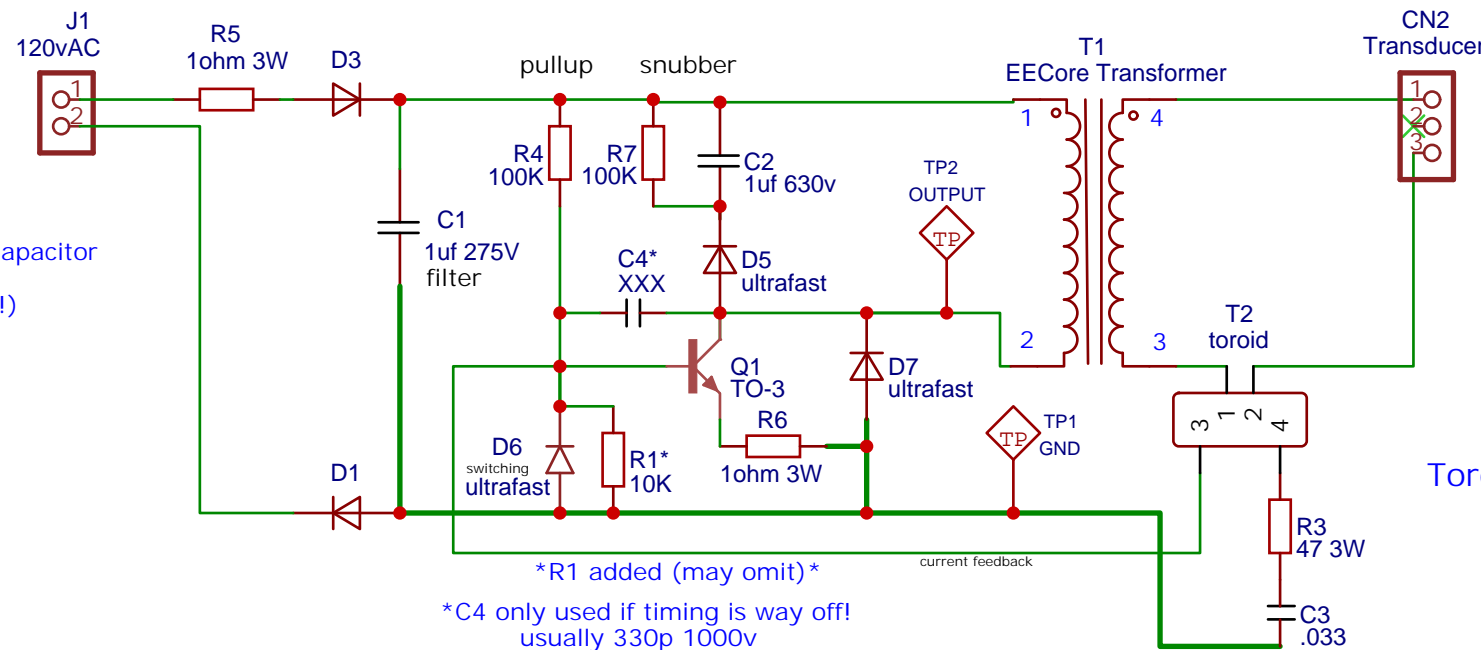
Transformer= P: 65Turns/S: 80Turns 1gap
some factory boards have 120Turns or 130Turns on the secondary- depending on the model.
(custom-wound by SonixIV using Litz Wire)

ONLY 120vAC !!!

EMI/RFI Filtered 120vAC IN

do not use 220vAC!

each PBC had a Halfwave Rectifier and Filter Capacitor
(check Filter PCB for bad solder connections!)

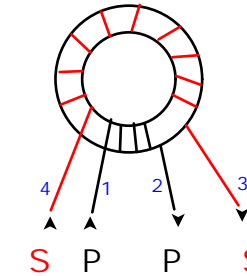


to 60KHz Transducer
(check for cracked or detached transducers!)

Oscilloscope connected to TP1 & TP2

***WARNING: ***
Use ISOLATION TRANSFORMER on OSCILLOSCOPE !!!
325 to 450 volts peak-to-peak
approx: 16.2uSec 50% duty cycle = 61.7KHz
(each transducer will be slightly different)

Toroid= P: 4Turns/S: 11Turns
22ga Solid Strand Wire



Q1 compatible subs:

NTE386
NTE389
MJ16018

*R3 24ohms in some units
to correct timing

Custom-made Aluminum Angled Bracket used as HeatSink for Transistor Q1

(***MUST use Mica Insulator and Heatsink Grease!!!***)

most common failures on original board:
Q1 shorted
R5 , R6 Open
check all diodes for shorts
T1 Transformer not properly secured or siliconed

CAUTION:
Used ONLY in older units- pre 2007

NOTES AND IMPROVEMENTS:

- **obsolete components removed.
- **Changed values of R4,R7 from 56K ohms to 100K ohms
- **components rearranged on circuit board to improve layout and reliability
(original layout caused ARCHING between rectifier diodes and burnt the circuit board!!!)

TITLE: SIV300004 Replacement Sonix IV Ultrasonic Generator V1		REV: C
Company: (C)2023 LSSteele		Sheet: 1/1
Date: (C)2023-03-27 Drawn By: LSSteele		