Stasis 2020 Build Notes

1. What is switch "T" for?

   Thermostat – Normally Closed (NC)

   2. TH1 = 2K - is this NTC or PTC and I assume should be attached to the output stage heatsink?

   Classic thermistor - resistance goes down as temp goes up [NTC type]

   3. What are recommended +/- DC rails to build a Stasis 2 or 3?

   30V to about 60V, I think.

   4. Any recommended subs for the 2SA1381 and 2SC3503 - I would say the KSA/KSC types will be fine or perhaps the newer Toshiba TTA004B and TTC004B types?

   Something nice that fits. I recall using KSC2690 and KSA1220 (that's what I used)

   5. P1 adjusts output offset I assume?

   Yes

   6. P2 adjusts output transistor bias I assume?

   Yes. Maximum resistance on first start up

   7. What is recommended bias per output transistor (Stasis 2 or 3)?

   Whatever settles in to 50 degrees C on the top of the sinks operated for an hour with the cover on

   8. For single ended input - I assume one simply grounds the -IN input?

   Yes

   9. What are C9 and C10 values?

   680 pF was the value for Stasis 2 and 3 - it's on the schematic and those parts are only to drive cascode outputs - not used on later models.

   10. What are R23 and R24 values?

   Typical 1K 3W

11. What are R25 to R28 values?

Typical 1.5K 3W

12. What are C7 and C8 values?

10 to 100 uF

13.What are D3 and D4 types?

1N4004 or higher current for flyback protection.

2.

ZM: with regards to SK170 “accuracy needed, GR will do”

ZM: Q9 is bias generator for bipolar OS and driving modulation for same

everything right from Out badge on FE schm is for voltage biasing of "outer" output transistors .....
Papa just forgot to label "+C" and "-C" on schematic, while they're clearly visible on pcb

Questions: A couple of more questions Nelson to help any member wanting to build a classic.

1. Any preference from your point of view on TO3 output devices, either MJ15022/023 or MJ21193/94?
2. What is the ideal Idss for Toshiba 2SK170BL for the input JFets?
3. For those JFets, what is the minimum matching accuracy you would want to see?
4. For the NO thermostat, will a 75 degC NO type mounted near top of output stage heatsink suffice?
5. For the 2K NTC thermistor also mounted to the heatsink, do you have a recommended brand / part number for this?
6. For an output stage to do 50watts per channel say, what is recommended minimum amount of uF per rail per channel for the PSU?

ZM answers: 1. I don't care for difference
2. even GR will do; Iq per Jfet is (Vbe/150R)/2, so 2mA-ish
3. per Idss 0.5mA difference still acceptable, 0.3mA good
4. put it in between/near outputs, if 75C
5. whatever fancy you ..... small cap-looking ones, or those with mounting eyelet
6.50W means 35Vdc-ish rails; say that 33mF is a minimum per channel, per rail

MJW21193/94 are TO247 package but not available until April

ZM: 35VDC gives about 50 WPC – wants 33,000mfd per rail

Dual 400VA transformers are OK – but WRH used dual 300VA

ZM notes in post #232: few minor important changes from Pa's schm (post #1) - no output signal return from OS to FE, thus protection diodes and Boucherot cell are placed on OS pcb; price is small - separate wire from PSU central GND point must be wired to OS pcb

GR grade is fine for JFETs 6 - 8 Idss

ZM's board has 2SK2145 on back to use instead of k170 – paralleling the 2 FETs in each K2145 package (SMD)

Outputs: I used SA1386/SC3519. A1294/C3263 and A2223/C6145 also should work

680pF SMD on back of OS boards is size 1206

Ground from P_Gnd on FE board and GND on OS both need to be wired to star ground on PSU.