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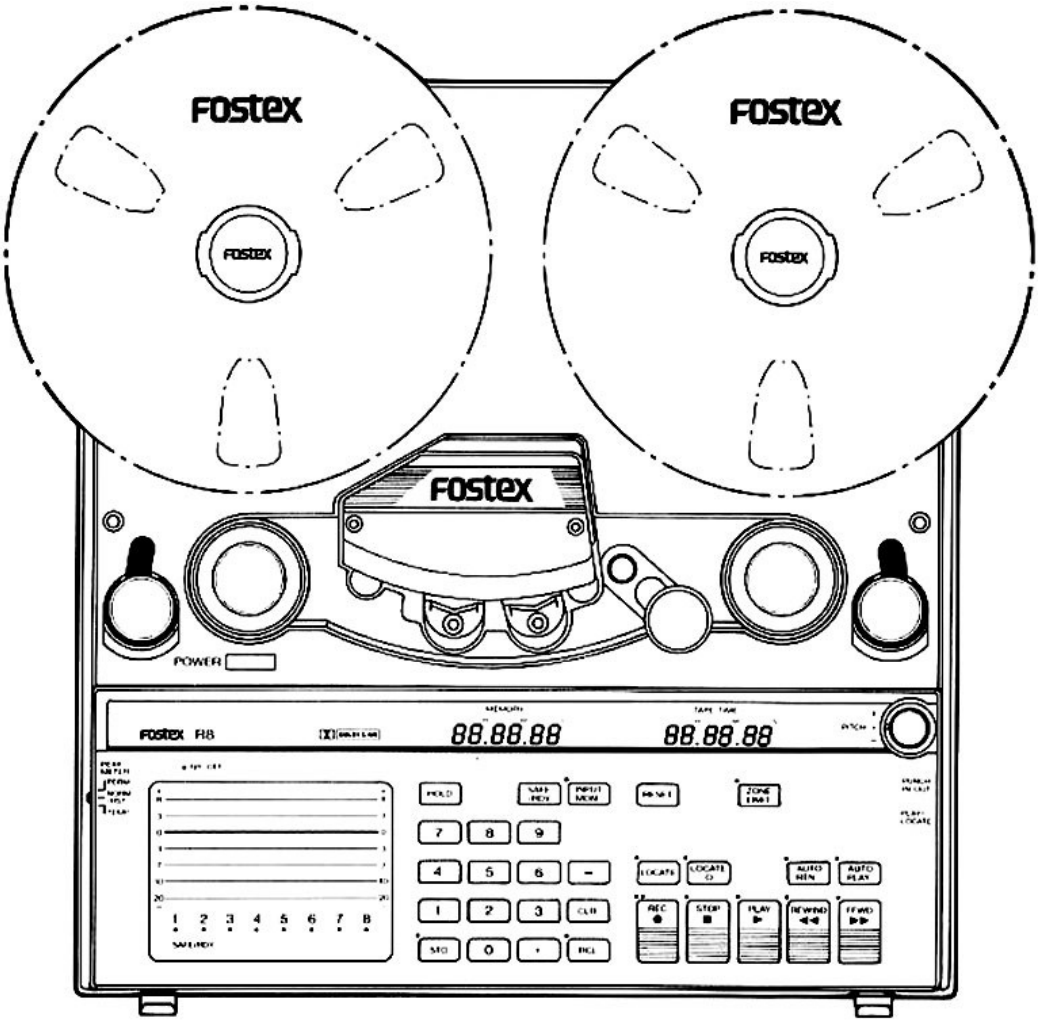
Quick summary of Fostex R8:

Page:



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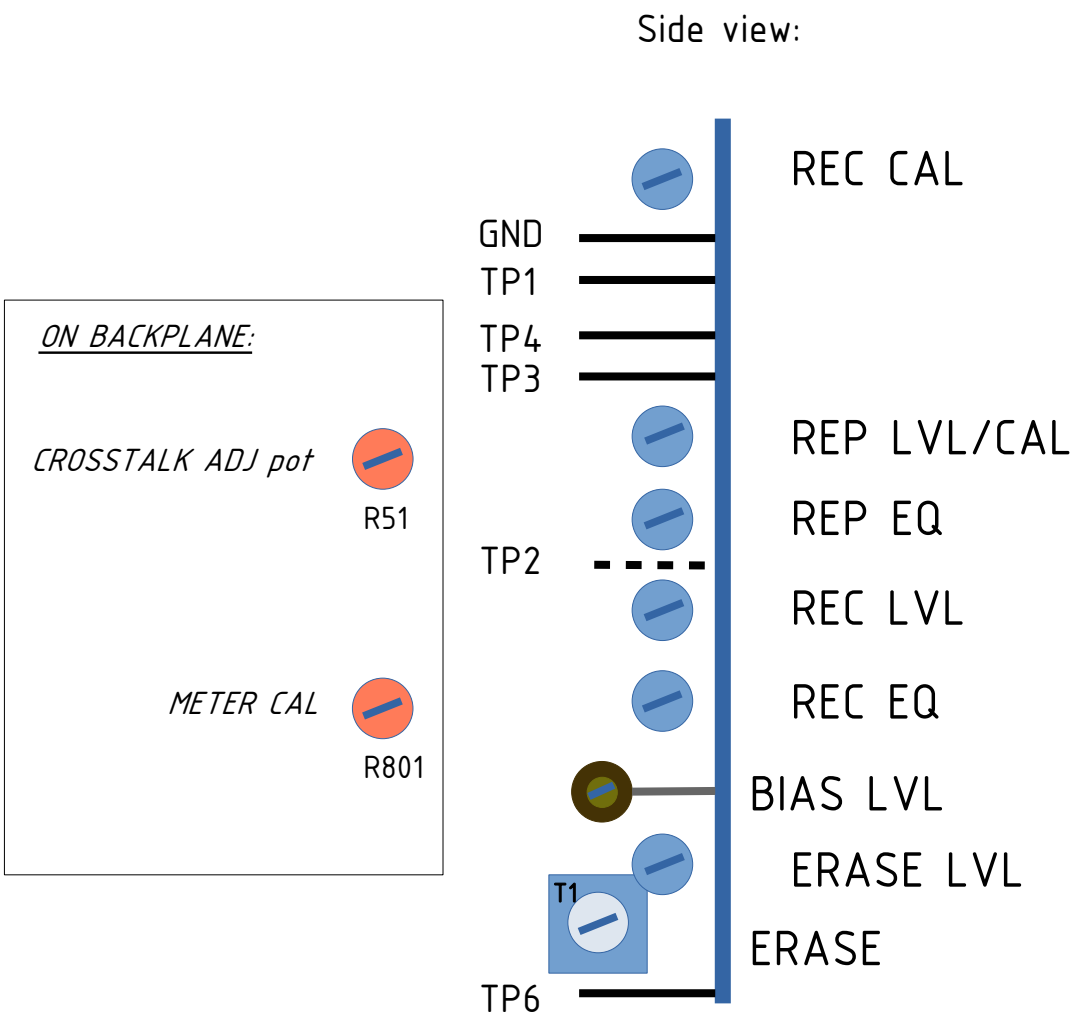
Fostex R8 REC/REP AMP location of pots



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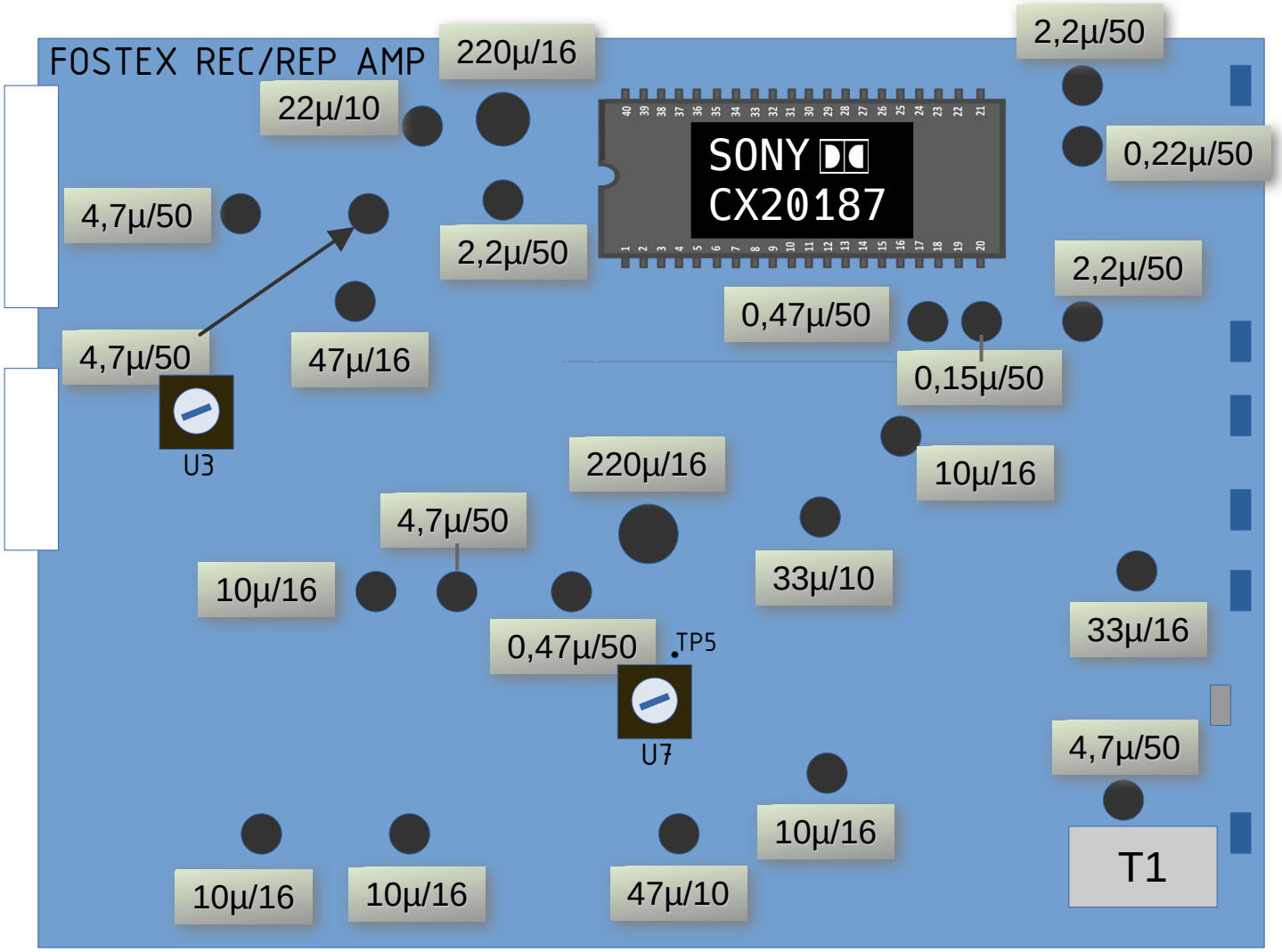
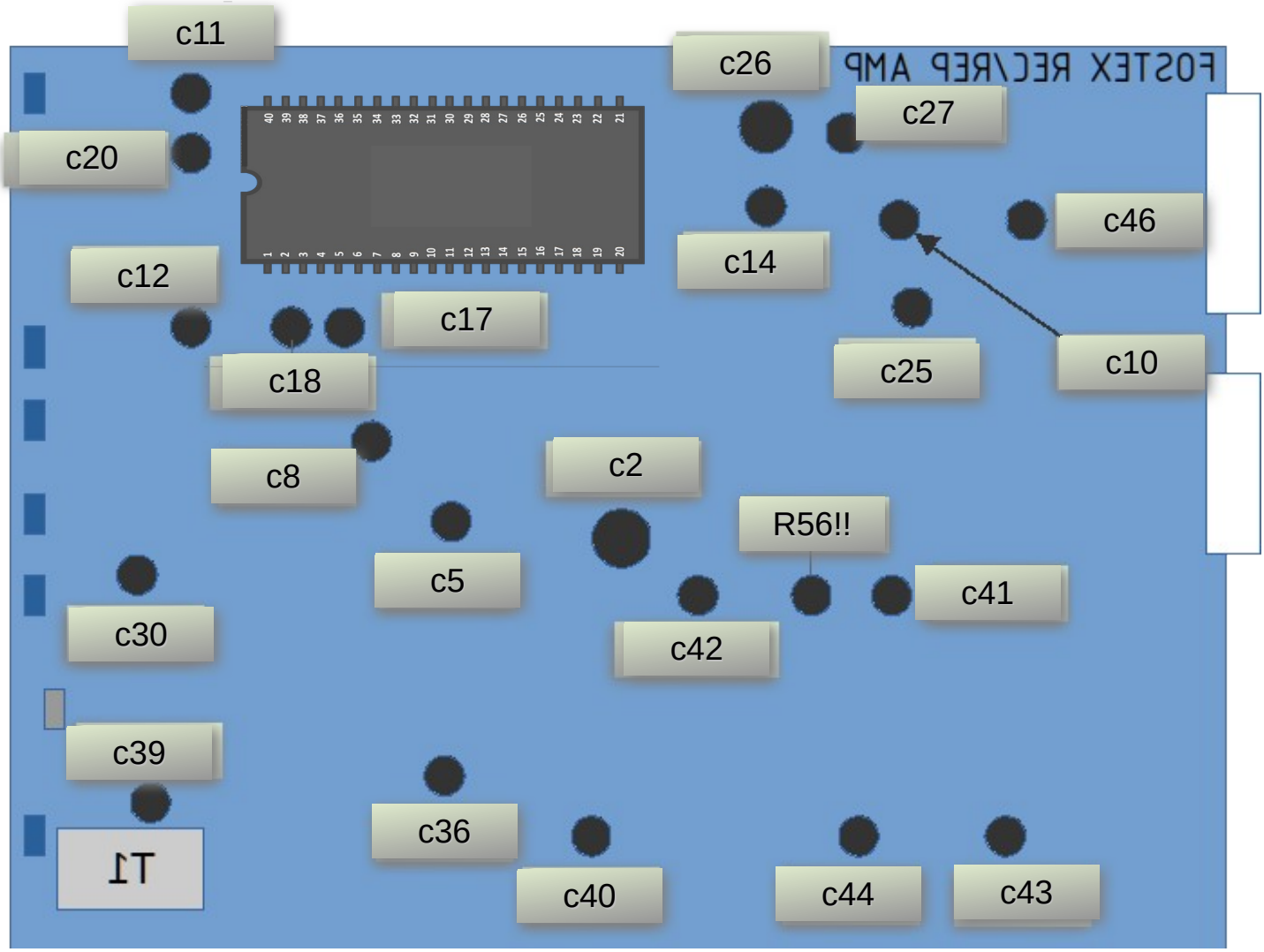
Fostex R8 REC/REP AMP PCB location of electrolitic caps



Cap./volt	#
0,15/50	1
0,22/50	1
0,47/50	2
2,2/50	3
4,7/50	4
10/16	5
22/10	1
33/16	2
47/16	2
220/16	2
Total	**23**

Some voltages in this list are higher rated to reduce the number of capacitors needed. The above diagram shows original values as found.

Fostex R8 REC/REP AMP location of electrolitic caps reverse side PCB



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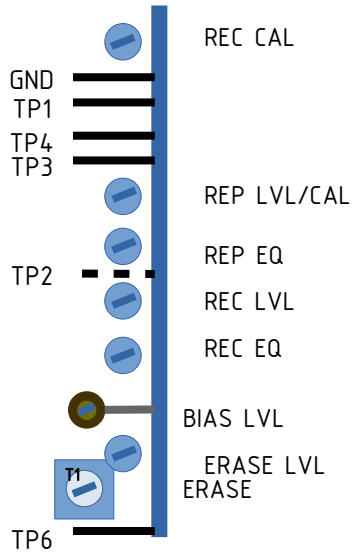
Fostex R8 Calibration instructions



0 dB referenced to **320 nWb/m** of tape flux.
Line input: **-10 dBV** (**316 mV**) impedance 30 kΩ or higher, unbalanced
Line output: **-10 dBV** (**316 mV**) load impedance 10 kΩ or higher, unbalanced

Execute in given order!

1. Input level and meter calibration: (4.3.2)
- Dolby off / Input Monitor on
- 1 kHz -10 dBV 316 mV on input
- adjust **REC CAL** so that **TP4 = 245 mV** (-12.2 dBV)
- check output is 316 mV (-10 dBV ±1 dB)
- set meter display to Fine
- adjust **METER CAL** on backplane for 0dB LED
- repeat for all tracks

2. Reproduce level calibration: (4.3.3)
- play calibration tape, reference level section
- adjust **REP CAL** so **TP4 245 mV** (-12,2 dBV)
- check output is **316 mV** (-10 dBV ±1 dB)
- check meter reading **0 dB** ±1 dB
- repeat for all tracks

3. Reproduce frequency response calibration: (4.3.4)
- playback frequency response part
- adjust **REP EQ for** frequency response **45-18 kHz** ±3 dB

4. Bias leakage check reproduce: (4.3.5)†
- connect scope to **TP2**
- put track 1 on reproduce and track 2 in record mode
- check bias leakage at **TP2 < 280 mV** p-p (-20 dBV)
- if it is higher, then adjust **U3*** for minimum value
- repeat for next track (track 2 repr & track 3 record)

* U3 is small coil located on REC/REP PCB closest to connectors – see prev page

5. Bias leakage check record:†
- connect scope to **TP5** (in the middle of the card)
- put track 1 in record mode
- check bias leakage at **TP5 < 1.1 V** p-p (-10 dBV)
- if it is higher, then adjust **U7**** for minimum value
- put cards in slot 8 for easy access

** U7 is small coil located on REC/REP PCB, see diagram on page 3

6. Erase current adjustment: (4.3.6)
- put track in record mode, only the one track to test
- connect oscilloscope to **TP6**
- set core of **T1** so that voltage at TP6 reaches peak level
- then adjust **ERASE LEVEL** so **TP6=90 mV** p-p (-30 dBV)

7. Bias current adjustment: (4.3.7)
- put all 8 tracks in record mode
- connect oscilloscope to **TP1**
- set **BIAS LVL** to ~**300 mV** p-p over the peak point

8. Record level calibration: (4.3.8)
- apply 1 kHz -10 dBV (**316 mV**) on input jack
- connect meter at output
- depress **RECORD TRACK1** button, then depress **RECORD** and **PLAY** buttons to put tr. 1 in record mode
- track 1 is now in record mode and meter will indicate input level regardless of position of **INPUT MON** button
- check if meter reads 0 dB ±1 dB
- after recording tone, rewind and check output level (input mon must be at **INDIV**)
- check output level is -10 dBV ±1 dB (**316 mV**)
- if not, adjust **REC LVL**
- repeat for all tracks

9. Overall frequency response: (4.3.9)
- apply signals 45-18 kHz **316** mV (-10 dBV) to input jack
- record and playback the tape
- check frequency response in ref. to 1 kHz ±3 dB
- correct by slight rotation of **REQ EQ**
- **dolby C on**
- apply signals 250-14 kHz at **32** mV (-30 dBV)
- record and playback the tape
- check frequency response between 250-10 kHz ±3 dB and ±5 dB @ 14 kHz
- correct by slight rotation of **REQ EQ** and repeat

10. Overall S/N measurement: (4.3.10)
- dolby C **on**
- apply 1 kHz 316 mV -10 dBV on input and record tape
- keep tape running, unplug input and record to tape
- playback no-signal section against the 1 kHz reference level
- calculate the difference and add 10 dB
- specification: 78 dB weighted, 60 dB unweighted

11. THD measurement: (4.3.11)
- dolby C **on**
- record 1 kHz 316 mV (-10 dBV) and playback tape
- measure output on distortion meter
- specification: THD <1%
- if not, demagnetize head, check bias trap and record level
- if not correct still, redo procedure 4.3.7, 4.3.8 and 4.3.9

12. Erasure measurement: (4.3.12)
- dolby C **off**
- apply 1 kHz 0 dBV 1V and record large section on tape
- rewind and record over small section without signal applied
- apply 1 kHz bandpass filter to output and meter
- level ration between 1k Hz and no-signal section is the erase figure
- should be >**70 dB**
- if not, increase erase current by 10% (4.3.6)
- monitor on scope and do not let erase current waveform deteriorate!

13. Sync crosstalk check and adjustment: (4.3.13)
- dolby C **off**
- apply 20-20 kHz 316 mV -10 dBV signal to input jack2
- press REC and PLAY and select track2 so that track2 records
- monitor output1
- should be ←30 dBV @ 1 kHz and ←10 dBV at worst point
- if not, adjust R51 CROSSTALK ADJ pot on connector PCB
- first adjust roughly for minimum @1 kHz
- then adjustwithin spec @ 20-20 kHz
- and so on: tr.3 to tr.2 is pot R52, tr.4 to tr.3 is pot R53, etc

†) difficult step

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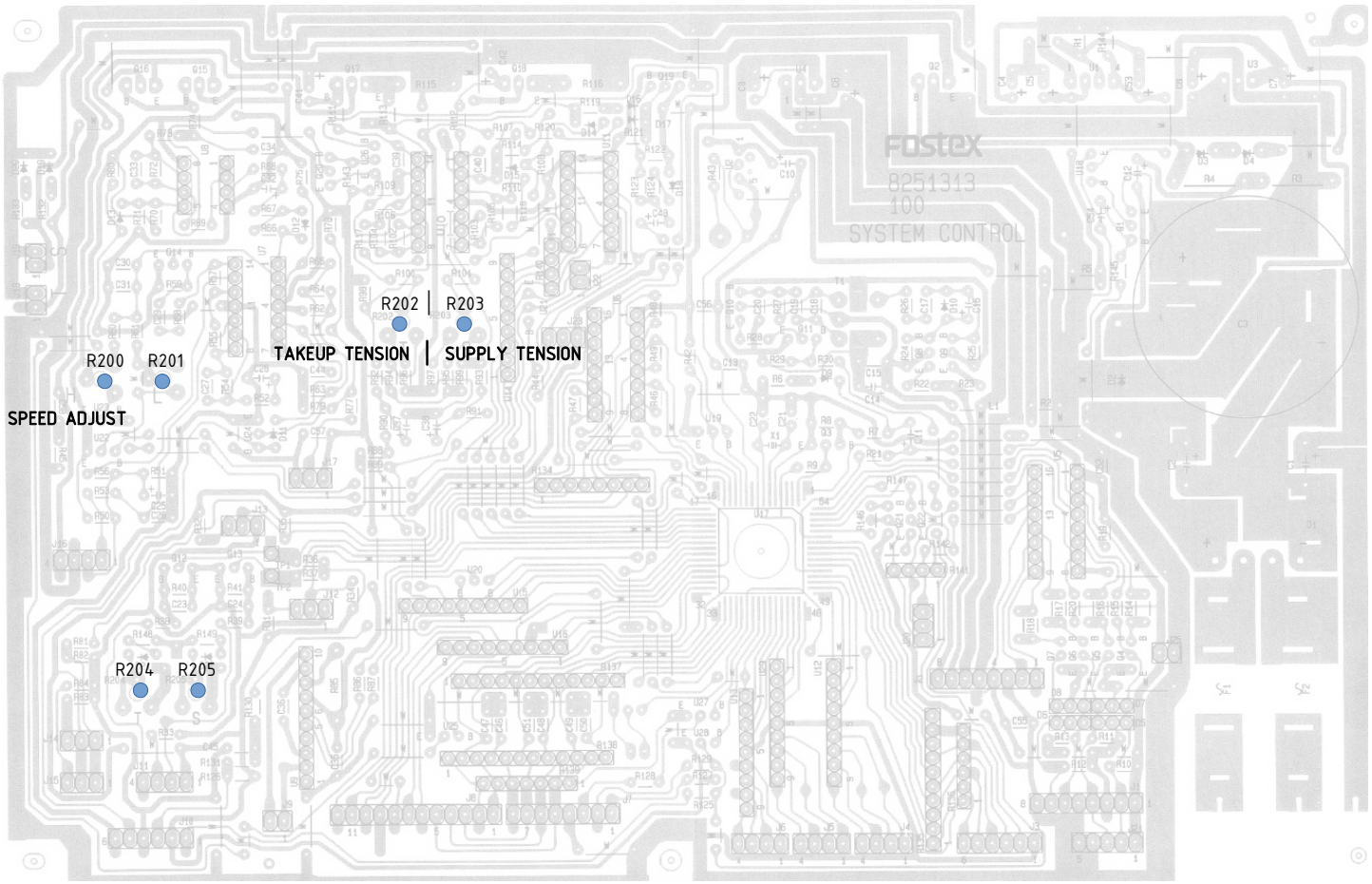
System Control Board: location of adjustments (backside of deck)



General Tips and Tricks and usage hacks:

- To set a memory point, choose between either:
- use keyboard: **CLR + *EnterTimeLocation* + STO + memory slot key [0-9]**
- use current tape location: **HOLD + STO + memory slot key [0-9]**

- You can then set a loop between 2 memory points:
- enter 2 memory points with hyphen, like **1-5,** and press **STO**
- press **AUTO RTN** and press **AUTO PLAY** (make sure both lights are on)
- press **PLAY.** The tape will loop between the 2 points

- Meter high senitivity setting: press button above keyboard connector [in=high sensitivity]

- Hold **REWIND** or **F FWD** button for slower winding

- To arm a track:
- press **SAFE/RDY.** A 't' will display
- press channel number to arm, or press again to disarm
- or input **'1-5'** to arm tracks 1 through 5
- to reset all tracks press **CLR**