

## 1. Summary

Wurlitzer Organ 4100BD reverb module - part of Selectra-Tone function.

### Components

Transistors	Texas Instruments TO5 metal, Wurlitzer part numbers, pnp TO5 3x 650859-3                      date code 350 1x 651236                          date code 350
Tank	Two continuous springs. send coil DCR=560R; receive coil DCR=580R
CAPs	Sprague Transi-lytic datecodes 6339, 6342, 6352 Good-all datecode 6336
Resistors	IRC 5W with datecode 6342

### Dating:

Parts indicate early-mid 1964 manufacture. Schematic for 4100 range of organs with Jan 1964 date.

### Aim and Issues:

Set up for stand-alone use as an in-line pedal/effect.

132V supply changed to 24Vdc regulated supply with 6k8 5W paralleled with 100R, and 22k 2W paralleled with 270R. 24V supply current of 22mA.

Tank coils with likely 5k $\Omega$  send and receive impedances (based on DCRs). No information on delay or reverb times.

All e-caps were dry and needed to be replaced.

Input signal taken through decoupling cap. Output stage emitter vibrato input taken to ground with 470R (as per Vibrato off switch).

Dry signal has no HF roll-off.

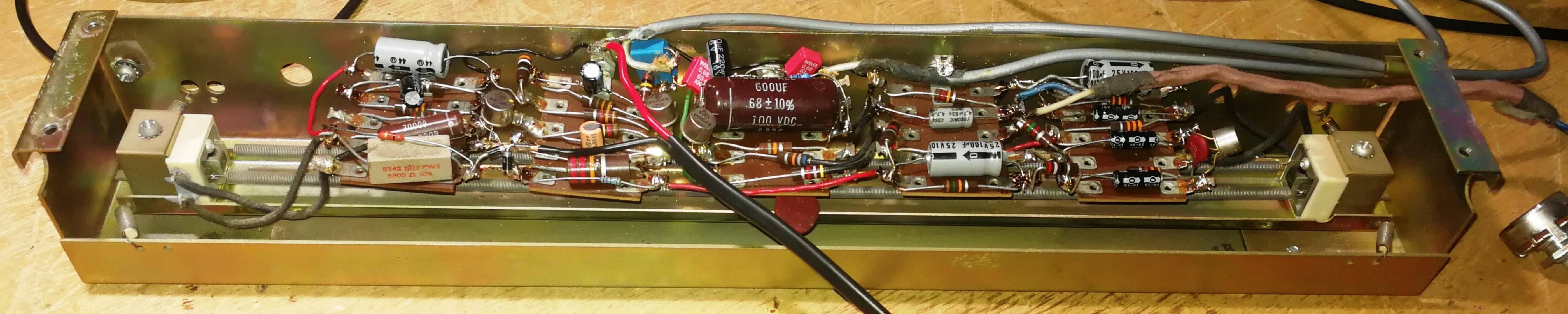
TR2 has no over-voltage protection.

### Performance:

All transistor stages with nominal centre-point biasing of collectors, so no changes made to resistors. Reverb send coil driver TR2 collector at 14V due to 7.8Vdc drop across coil from 14mA idle bias.

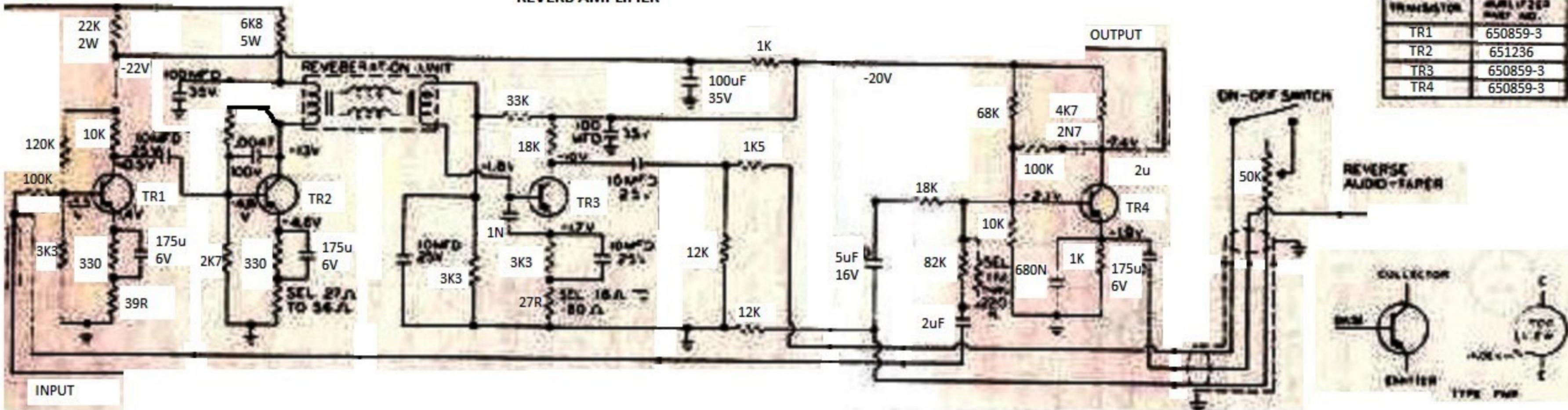
Input stage TR1 voltage gain x2.8. Input dry path to TR4 output voltage gain x0.76. Wet signal only output 2HD below about 3% for input signal level to 200mVrms, increasing to 7% for 600mVin, and 18% for 1.2Vin (where coil drive HD was abt 3.7%).

Dry signal frequency response -3dB at 40Hz, and flat to 90kHz. Wet signal spectrum to drive coil with -3dB at 35Hz, mid-band +3dB peak at 2kHz, -3dB at 10kHz. Wet signal path 50k pot provides about 12dB variation.

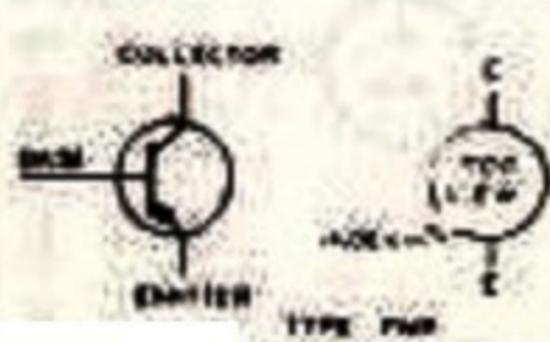


-122V

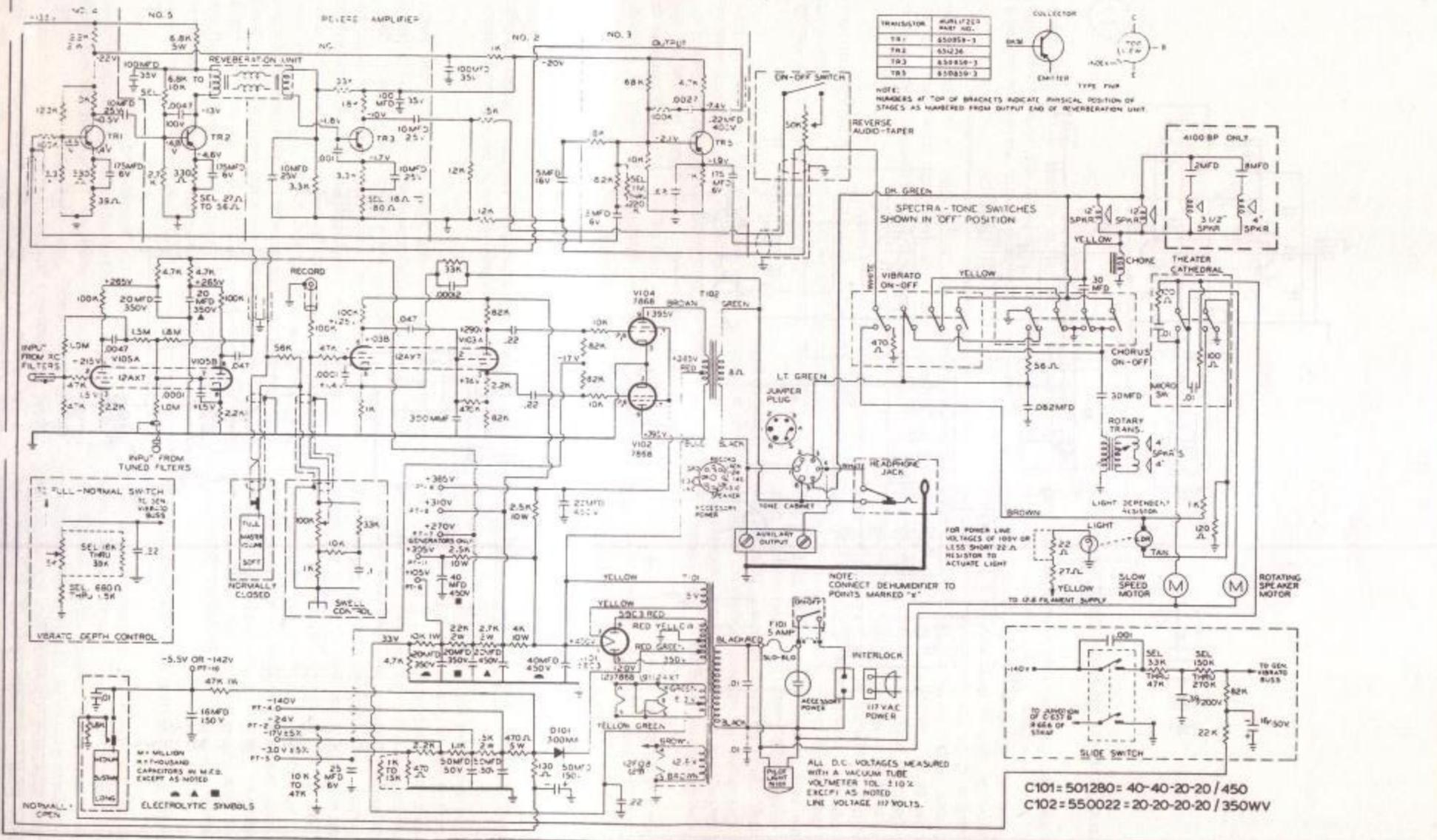
# REVERB AMPLIFIER



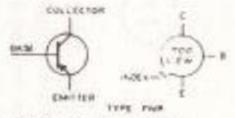
TRANSISTOR	AMPLIFIED PART NO.
TR1	650859-3
TR2	651236
TR3	650859-3
TR4	650859-3



# SOUND SYSTEM AND SPECTRA-TONE



TRANSISTOR	AMPLIFIED PART NO.
TR1	650859-3
TR2	650226
TR3	650456-3
TR5	650850-3



NOTE: NUMBERS AT TOP OF BRACKETS INDICATE PHYSICAL POSITION OF STAGES AS NUMBERED FROM OUTPUT END OF REVERBERATION UNIT.

REVERSE AUDIO-TAPER

SPECTRA-TONE SWITCHES SHOWN IN 'OFF' POSITION

NOTE: CONNECT DEHUMIDIFIER TO POINTS MARKED "x"

ALL D.C. VOLTAGES MEASURED WITH A VACUUM TUBE VOLTMETER 10X 2 EXCEPT AS NOTED LINE VOLTAGE 117 VOLTS.

C101 = 501280 = 40-40-20-20 / 450  
 C102 = 550022 = 20-20-20-20 / 350WV

**THE WURLITZER COMPANY** DE KALB DIVISION - DE KALB, ILLINOIS  
**MODEL 4100 BP - 4100BD - 4150BD - 4102 BD ORGAN**  
 TITLE SOUND SYSTEM AND SPECTRA-TONE SCHEMATIC PART No. 652209S-E-16  
 STARTING SERIAL No. 665159-704766-728044-803532 ISSUE 2 DATE 5/1/64