

## ALIGNMENT PROCEDURE

Gentner Audio Prism M-101 controller card

### PREPARATIONS

- A) Connect audio oscillator to test chassis input
- B) Connect rear end of R347 on motherboard THROUGH 2.2K to +15V.
- C) Connect rear end of R346 on motherboard THROUGH 2.2K to GND.  
B) & C) defeat input buffer
- D) Put M101 card for adjustment in MID-BAND position.

### PROCEDURE

- 1) Remove U5 (CD4016)
- 2) Remove R3
- 3) Short pins 1 & 2 of the U5 socket (Compress).
- 4) Put 20K 10 turn pot in R3 position, with audio voltmeter connected to right-hand end.
- 5) Turn R1 & R2 fully CCW.
- 6) Set oscillator to 1 kHz, 0 dBm, 600 ohm source impedance.
- 7) Measure level at right end of 20K ten turn pot and set INPUT pot to get 0 dBm (re .775 volts)
- 8) Turn R1 fully CW.
- 9) Set 20K 10 turn pot to achieve 24 dB of attenuation.
- 10) Remove 20K 10 turn pot and measure its resistance. If it is within the range from 7.5K to 20K solder in the next higher value of 5% resistor. If it is outside this range, replace the VacTrol cell and return to step 3.
- 11) Back off R1 for -22 dB on voltmeter.
- 12) Move short on U5 socket to pins 3 & 4 (Expand).
- 13) Adjust R2 for -2 db on voltmeter.
- 14) Move short back to 1 & 2 (Compress), trim R1 for -22 dB on voltmeter.
- 15) Move short back to 3 & 4 (Expand), trim R2 for -2 dB on voltmeter.
- 16) Repeat 14) & 15) until both readings are within 0.1 dB of specification.
- 17) Move short to pins 10 & 11 (Quiescent).
- 18) Verify level of -dB, (+ or -) 1 dB.

The LEDs are telling you where you are in the (approximately) 20 dB range of the vactrol cell. As the vactrol cell ages, its operating point moves. The Prism circuitry compensates for that quite nicely within each individual band, but the only problem is that the operating range of the combined four bands is reduced by the 'skew' in the vactrol cells. . . in other words, if one card is a couple of dB UP from the center of the range and another is a couple of dB DOWN from the center of the range, you'll have a reduced useful dynamic range by 4 dB when compared with a unit that has the cards properly adjusted.

As long as there is at least one LED lit at the bottom, and at least one LED out at the top, the spectral performance of the unit is not affected. This only affects the performance of a stereo pair when a band in one channel 'bottoms out' or 'tops out' and the other one does not.

The cards are identical, so the easiest thing to do is to move the cards around so that you have matching skew in the left and right channels of each band, as closely as possible.

Card adjustment requires an external 'jig', comprising a few toggle switches and a flat cable to a dip plug that plugs into the socket where the quad analog switch plugs in.

The following modifications were suggested to Tom Osenkowsky by Texar/Gentner:

If you wish a denser sound without artifacts you can try quickening the

attack/release time by lifting one end of several capacitors.

1) Remove top cover. Refer to the Motherboard MB schematic sheet 2 of 2. Locate capacitors C316, C331, C317, C332, C318, C319 and C334. These connect to pin 8 of each M101 board. Lift one end of each capacitor.

2) Refer to the M101 schematic. Locate the Vactec photocontroller. Note R3 in series with the cell. If R3 is not 20K Ohms (most are 9.1K or 10K) place an additional resistor to make the total near 20K. Exact value is not critical. This will increase the operating range making the unit less prone to audio overload by high audio input levels.