Inverter P.C. Board Filename: C372661.TXT
44C372661 G01

1.0 APPLICABLE DOCUMENTS
REF. ELEM. 44C321653 (REV. 6)
REF. ASSEMBLY 44C372661

2.0 EQUIPMENT

| SUPPLY | NOM. | TOL. | PINS |
|---|---|---|---|
| P50 | +50V | +/-1V | 3TB-A |
| VAR. (PS4) | 0-150V | | 3TB-D |
| COM | | | 3TB-B |

3.0 INITIAL SETUP

Preset pots as follows:
3.1 1P, 4P CW
3.2 2P, 3P CCW
3.3 Put jumper ITB in the "test" position.
3.4 Connect a 20K resistor across each of the following sets of points.

| FROM | TO |
|---|---|
| 2TB-A | 2TB-B |
| 2TB-D | 2TB-E |
| 2TB-G | 2TB-H |
| 2TB-K | 2TB-L |

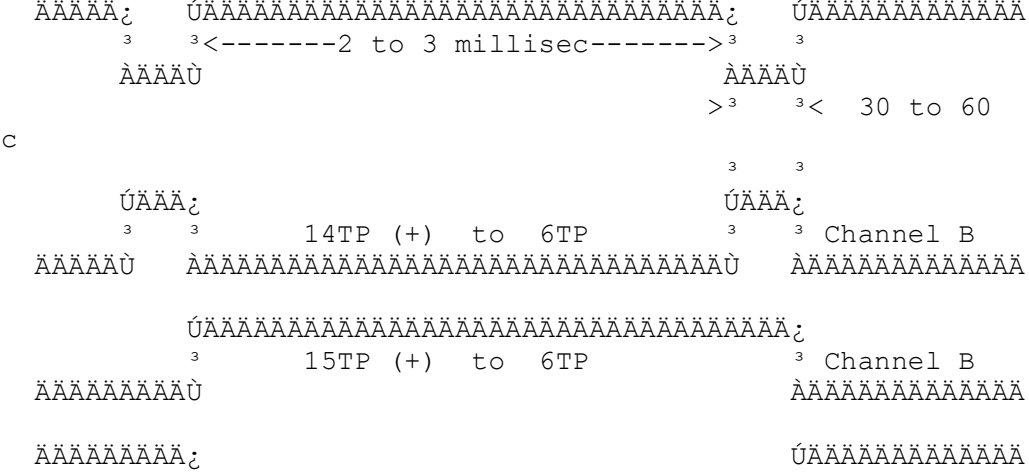
3.5 Unless otherwise indicated, Voltages are positive DC.

4.0 TEST

4.1 Apply Power. Variable supply should initially be set for 0 Volts.

4.2 Measure the following Voltages and Waveforms:

11TP (+) to 6TP Channel A



³ 7TP (+) to 6TP ³ Channel B
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³ 9TP (+) to 6TP ³ Channel B
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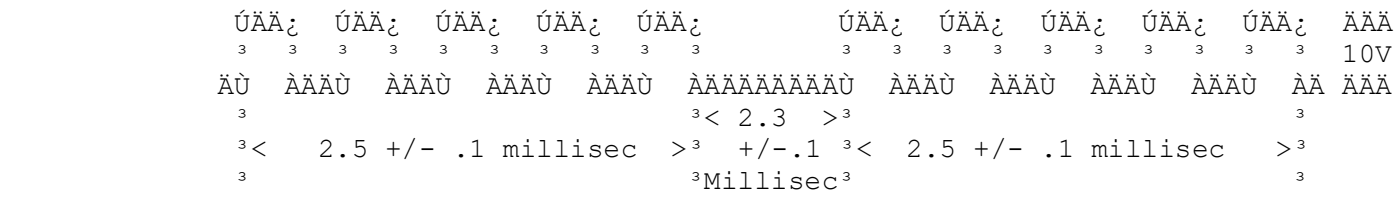
5TP (+) To 6TP(-) = 9.8 To 11.2 VDC *
8TP (+) To 6TP(-) = 9.8 To 11.2 VDC
10TP (+) To 6TP(-) = 9.8 To 11.2 VDC
16TP (+) To 6TP(-) = 9.8 To 11.2 VDC
21TP (+) To 6TP(-) = 9.8 To 11.2 VDC
22TP (+) To 6TP(-) = 9.8 To 11.2 VDC

4.3 Measure the Firing Pulses as follows using Oscilloscope.

| OUTPUT | REFERENCE | CONDITION |
|---|---|---|
| 2TB-B | 2TB-A | With Pulses |
| 2TB-E | 2TB-D | No Pulses |
| 2TB-H | 2TB-G | With Pulses |
| 2TB-L | 2TB-K | No Pulses |

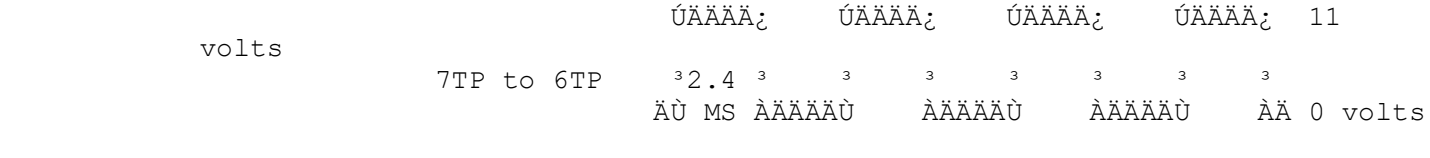



4.4 Slowly adjust Variable PS4 for 100 +/- 1Volt and then adjust 3P on the P.C. board CW until 16TP(+) to 6TP(-) goes from 10.5 +/- 0.7 VDC to Zero VDC.

4.5 Repeat Step D. Firing pulses shall occur at all four outputs.

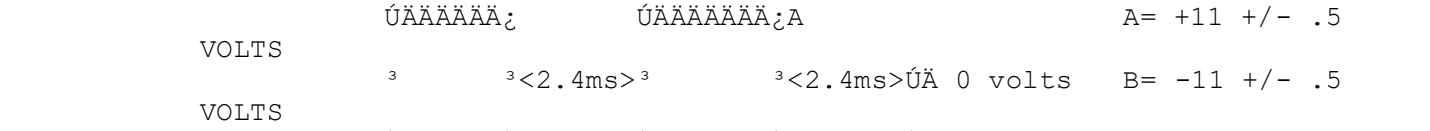
4.6 Lower PS4 (Variable) to 85.0 +/- .15V and then adjust 4P in the CCW direction until 16TP with respect 6TP goes from 0V to 10.5 +/- .7V. Verify the adjustments by adjusting PS4 until 16TP goes to 0V. This should occur at 100 +/- 1V. Then decrease PS4 until 16TP goes to 10.5V. This should occur at 85 +/-1V. Re-adjust 3P and 4P if necessary.

4.7A Increase PS4 to 100 +/-0.2VDC. Waveforms shall be as follows:




4.7B 8TP to 6TP Same as 7TP to 6TP (above)

4.7C SCOPE: CH.A to 7TP; CH.B to 9TP (Inverted); COM. to 6TP (Sum CH.A and CH.B Algebraically).




A= +11 +/- .5 VOLTS

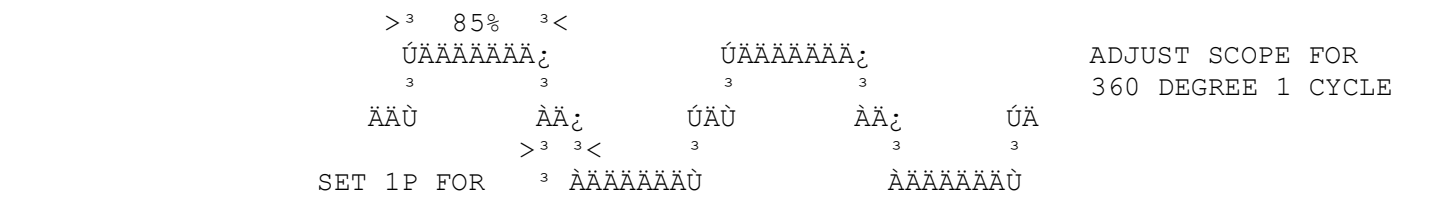
B= -11 +/- .5 VOLTS

C= A&B= 22+/- 1 VOLT

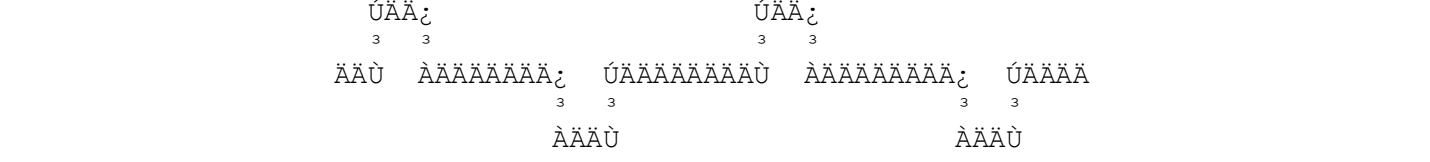
4.7D 8TP to 10TP Same as 7TP to 9TP (above)

4.8 Jumper 3TB-F To 3TB-D.

4.9 SCOPE: CH.A to 7TP; CH.B to 9TP (Inverted); COM. to 6TP (Sum CH.A and CH.B Algebraically). Adjust 1P CCW on the P.C. board for the point at which the waveform begins to phase back between 7TP - 9TP.




4.10 Adjust PS4 from 75 +/- .2VDC to 150 +/- .2VDC back to 75 +/- .2 VDC. Output 7TP to 9TP shall start out very narrow.



4.11 At 100 +/- .5 VDC they shall widen in a second or so to about 85% of a half cycle.

4.12 The pulse will narrow as the voltage is further increased.

4.13 As the voltage is decreased the pulse will widen to about 85% of a half cycle at 100 Volts and then narrow as the 75 Volt level is approached.

4.14 Remove the 3TB-F to 3TB-D jumper. Move jumper 1TB to "NORM".
4.15 Set PS4 to 101 +/- 0.5 VDC. Momentarily short 3TB-D to 3TB-H.

22TP = 0 VDC
19TP = 0 VDC
20TP = 9.8 To 11.2 VDC (No Pulses)
21TP = 9.8 To 11.2 VDC
17TP = 9.8 To 11.2 VDC
16TP = 9.8 To 11.2 VDC

4.16 Turn 2P CW.
4.17 Connect 3TB-H To 3TB-D

19TP = 9.8 To 11.2 VDC
20TP = Should have Positive going pulses about 35us pulse width about 2.4ms apart.
21TP = 9.8 To 11.2 VDC
17TP = 9.8 To 11.2 VDC
16TP = 9.8 To 11.2 VDC

4.18 Leave jumper on 3TB-D To 3TB-H.

4.19 Connect 3TB-F To 3TB-D.

19TP = 0 VDC
20TP = 9.8 To 11.2 VDC (No Pulses)
21TP = 9.8 To 11.2 VDC
17TP = 9.8 To 11.2 VDC
16TP = 9.8 To 11.2 VDC

4.20 Remove short from 3TB-F To 3TB-D.

4.21 Adjust PS4 from 101 VDC to 86 +/- 0.1 VDC.( Do not go below 85VDC. If you do, go back 101 VDC and then to 86 Volts).

4.22 Adjust 2P CCW until 21TP goes to 0. (To check setting momentarily connect 3TB-F To 3TB-D which will reset).

19TP = 9.8 To 11.2 VDC
20TP = Approximately 35us pulses 2.4ms apart.
17TP = 9.8 To 11.2 VDC
16TP = 9.8 To 11.2 VDC

4.23 Connect 3TB-F To 3TB-D.

19TP = 0 VDC
20TP = 9.8 To 11.2 VDC (No Pulses)
21TP = 9.8 To 11.2 VDC
17TP = 9.8 To 11.2 VDC
16TP = 9.8 To 11.2 VDC

4.24 Set PS4 to 84 Volts.

4.25 Remove 3TB-H To 3TB-D And 3TB-F To 3TB-D jumpers.

22TP = 9.8 To 11.2 VDC
19TP = 0 VDC
20TP = 9.8 To 11.2 VDC (NO PULSES)
21TP = 9.8 To 11.2 VDC
17TP = 0 VDC
16TP = 9.8 To 11.2 VDC

4.26 Increase PS4 to 101 +/- 0.5 VDC.

22TP = 0 VDC
19TP = 0 VDC
20TP = 9.8 To 11.2 VDC (NO PULSES)
21TP = 9.8 To 11.2 VDC
17TP = 0 VDC
16TP = 0 VDC

4.27 Jumper 3TB-H To 3TB-D.

22TP = 0 VDC
19TP = 9.8 To 11.2 VDC
20TP = Approximately 35us pulses 2.4 ms apart.
21tp = 0 VDC
17TP = 9.8 To 11.2 VDC
16TP = 9.8 To 11.2 VDC

4.28 Measure the following Pins to TP6.

| Chip Pin | |
|---|---|
| 7G - 15 | 9.8 To 11.2 VDC |
| 7G - 4 | 9.8 To 11.2 VDC |
| 4G - 10 | 0 |
| 4G - 11 | 0 |

4.29 Open or remove all inputs . Turn all Power Supplies to zero.

END OF TEST

| REV | INIT | DESCRIPTION OF FAILURE | DATE |
|---|---|---|---|
| 1 | JJW | RELEASED TO FLOOR (TI PREVIOUSLY WAS 277A3899) | 04-18-94 |
| 2 | AWE | CHANGED ORDER OF VIEWING WAVEFORMS IN STEP 4.7<br>CHANGED STEP 4.7B PHASING OF 8TP to 6TP;<br>CHANGED ORDER OF SETUP IN STEP 4.9;<br>ADDED NO PULSE REMARK TO STEPS 4.15 AND 4.19 | 08-09-94 |