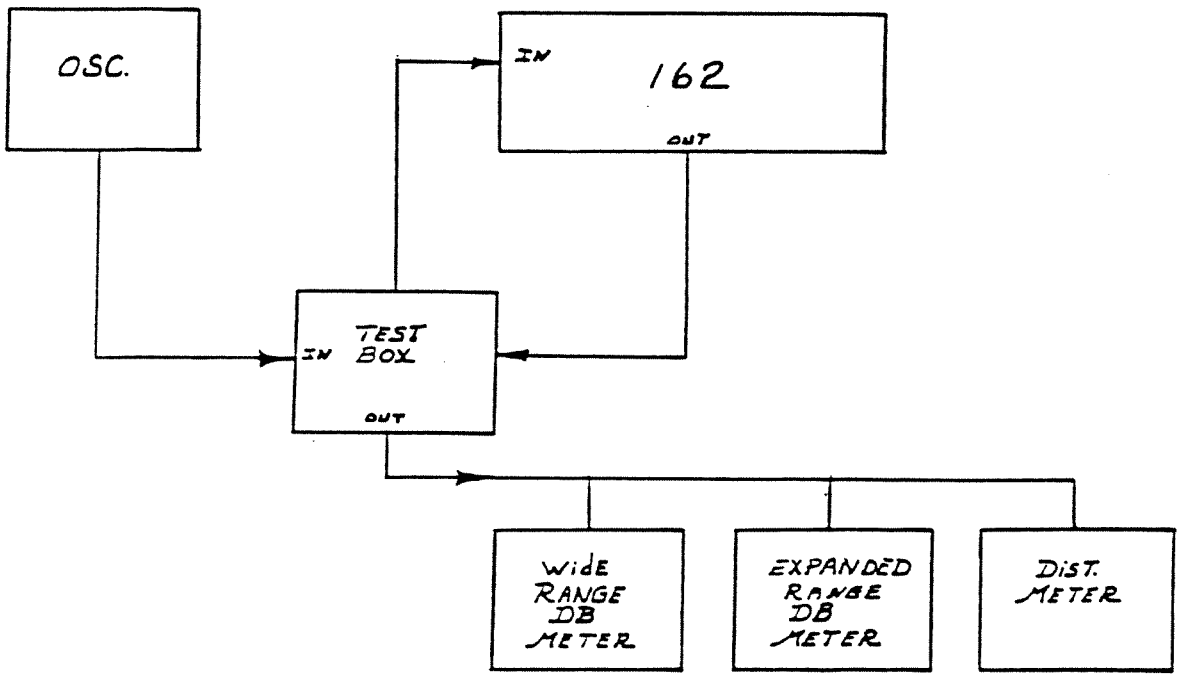
INITIAL FACTORY TEST AND ALIGNMENT PROCEDURES

DBX MODEL 162

TEST EQUIPMENT REQUIRED:

Quantity	ITEM	MFG. TYPE OR EQUIVALENT
1	Signal Oscillator	Kron-Hite 4200
1	Digital Multimeter	Dana 3300
1	Oscilloscope	Any (covering audio range)
1	Wide Range dB Meter	DBX SK-C-1026, HP427
1	Harmonic Distortion Meter	DBX SK-B-1070, Heath IM58 or IM5258 HP330, GR1500, 1900
1	± 3 dB Meter (Cal. Ref. 1 Volt)	DBX SK-C-1071
1	Test Unit	DBX Model 162
1	Test Adaptor (optional)	DBX TA-162
1	Tone Burst Generator	GR1396 B, DBX #260247
3	Phono-to-Phono Shielded Cables	
2	Input/Output Phono Shielded Cables	

162 TEST SET-UP



1) Power Supply Adjust:

1.1) Measure the voltage at pin 7 of the PC 7 connector, and adjust R21 for +15 volts ± .01 volts. Measure the voltage at pin 8 of the same connector. Must measure between - 14.85 to - 15.15 volts.

2) Dual RMS Calibration:

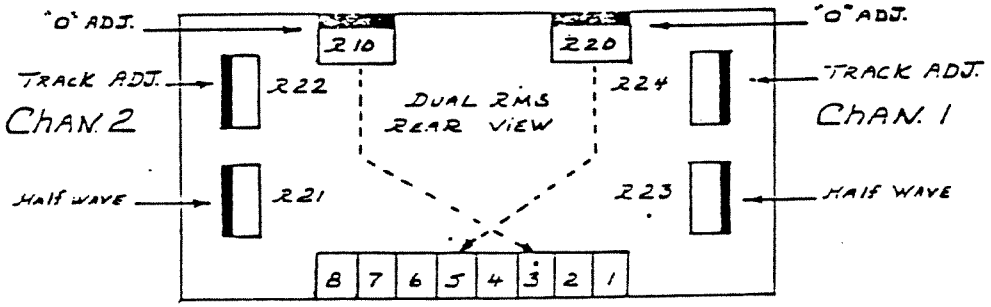
In the following procedure, anything written in double parenthesis (( )) concerns channel 2.

2.1) Apply 1.0 VRMS @ 1 khz to both channels, measure the voltage on the minus side of C28 ((minus side of C26)). Adjust R20 ((R10)) for " 0 " volts ± .001 volts . (with switch set for input mode)

2.2) Monitor the half wave rectified signal at the junction of R13 and R14 ((junction of R3 and R4)) of the dual RMS module. Step the oscillator to -60 db and adjust R23((R21)) if necessary, for a half wave.

2.3) Short the oscillator and adjust R24 ((R22)) for a DC voltage of +.430 volts. (Re-adjust R23((R21)) if required).

2.4) Measure "pin 3 " on both VCA'S, reading must be within ± .030 vdc. (If not, adjust R18 on VCA).

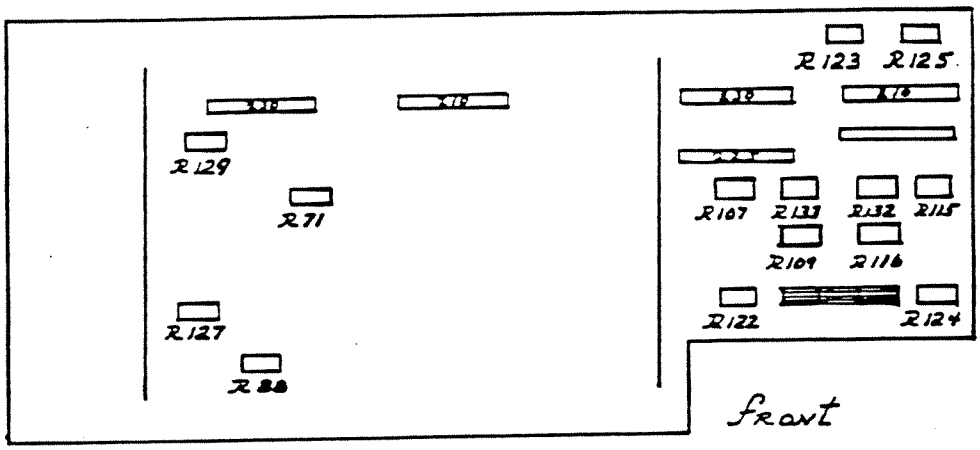


2.5) Repeat steps 2.1 thru 2.3 until the Dual RMS tracks as follows:

-10 db	-.060 vdc	(± .001)
0 db	+.000 vdc	(.000)
-10 db	+.060 vdc	(±.001)
-20 db	+.120 vdc	(±.002)
-30 db	+.180 vdc	(±.003)
-40 db	+.240 vdc	(±.004)
-50 db	+.300 vdc	(±.012)
-60 db	+.360 vdc	(±.024)
Shorted	+.430 vdc	(+.425 to +.480)

6.3) Turn power off and adjust the mechanical zeroes of M1 and M2. Turn power back on.

Control Location Diagram



6.4) Mode switch " input ". Apply 1 VRMS @ 1 khz to " both" channels. Adjust R124 (R122) for odb on M1 (M2).

6.5) Step oscillator from - 30 db to + 10 db. Adjust R115 (R107) so that M1 (M2) track properly from - 30 to + 10 db.

7) C.M.R.:

7.1) Set mode switch (F.P.) to " output". Set compression control to " ∞ " . Apply 1 VRMS @ 1 khz to " both " channels. Step oscillator to - 30 db and adjust threshold control until both LEDS go out.

7.2) Step oscillator to + 10 db and adjust front panel gain control for a convenient reading on M1 (M2). Step oscillator to - 30db and adjust R132 (R133) for minimum change on M1 (M2), from previously set reading.

8) Gain Change M1:

8.1) Apply 1 VRMS @ 1 khz to " both "channels. Set compression control to " 1 ". Place mode switch to " gain change" adjust R124 to obtain a "0" db reading on M1.

8.2) Place mode switch to " input". Adjust R125 (R.P.) for "0" db on M1.

11) Output Gain Check:

11.1) Apply 1.00 VRMS at 1 khz to "both" channels. Place mode switch to " output". Set compression control to " 1 ". Set front panel gain control to "0". M1 and M2 should both read "0" as well as the external meters.

11.2) Set front panel gain control fully clockwise. M1 and M2 must read +20db. Check external meter both channels (± 1db)

11.3) Set front panel gain control fully counter-clockwise. M1 and M2 must read -20 db. Check external meter both channels (± 1db)

12) Compression Check:

12.1) Apply 1.00 VRMS at 1khz to " both " channels. Set mode switch to " output". Set compression control to "∞ ". Monitor channel 1 on the external meter. Step oscillator to -30 db and adjust the threshold control so that both LEDS are off. Note reading on the meters. Step oscillator to +10 db. Neither M1 or M2 or the external meter should change, more than ± 1db.

12.2) Repeat step(12.1) while monitoring channel 2 on the external meters.

12.3) Set compression to "4". While still monitoring channel 2 on the external meters, step oscillator to -30 db and adjust the front panel gain control for a convenient reading on the external meter. E.G. -30 db. Step oscillator to +10 db. Reading should change 10db adjust R88, if necessary.

12.4) After R88 is properly adjusted, step oscillator from -30 db to +10 db in 10 db steps. External meter should vary in 2.5 db steps.

12.5) Set threshold fully CW, apply 1.0 VRMS at 1KHz to both channels. Vary compression pot. Should be no change noted on external meters.

13) Distortion Adjustment:

13.1) Apply 1.00 VRMS at 100hz to "both" channels. Place mode switch to " output ". Place compression control to "∞ ". Set front panel gain control fully clockwise. Monitor channel 1 and adjust the threshold control for a reading of "0" on the external meter. Adjust the pot on the channel 1 VCA for minimum distortion. Must be less than .1%.

13.2) Repeat step (13.1) while monitoring channel 2 and adjust the pot on the channel 2 VCA.

18) Ground Compensation:

18.1) Apply 1.00 VRMS at 1khz t o "both" channels. Set U.U.T. for unity gain on the external meters. Place ground comp. switch to " GROUND COMP.". The external meter must read less than -40db. Perform this step for "both" channels. Return ground comp. switch to its normal position. ((Low side of DBM'S must be ungrounded for this test)).

19) Output Level:

19.1) Apply +10dbv at 1khz to "both" channels. Set compression control to "1". Monitor the output to the scope with an AC DVM.

19.2) Place the 600/10K switch to 10K. Adjust the front panel gain control until clipping is observed. Must occur at over 15.46 VRMS.

19.3) Place the switch to 600. Adjust front panel gain control until clipping is observed. Must occur at over 12.28 VRMS.

19.4) Perform steps (19.1) thru (19.4) on both channel 1 and channel 2.

19.5) Place 600/10K switch to the 10K position.

20) Quad Coupler Test:

20.1) Master Position

1) Connect the connector from the Quad Coupler Test Box to the Jones connector on the rear of U.U.T. Note that both "PLUS" and "MINUS" LED'S are lit. Monitor the output of the test box with a D.V.M. apply 1.00 VRMS at 1khz to"BOTH" channels. Set "THRESHOLD" fully CCW. Set "COMPRESSION" to "1". Place mode switch to "OUTPUT". Place "MASTER/SLAVE" switch to "MASTER".
2) Place test box to position #1. D.V.M. should read -.018± .002 VDC.
3) Place test box to position #2. D.V.M. should read 0± .1VDC.
4) Place test box to position #3. Vary the front panel gain control to fully CW D.V.M. should vary from > +1VDC to > -1VDC.
5) Place test box to position #4. D.V.M. should read 0 ± .1VDC.
6) Place test box in position #5 D,V.M. should read 0±.002 VDC. Rotate "COMPRESSION" fully CW. D.V.M. should read> -.2 VDC.
7) Place test box in position #6. D.V.M. should read 0± 1 VDC.

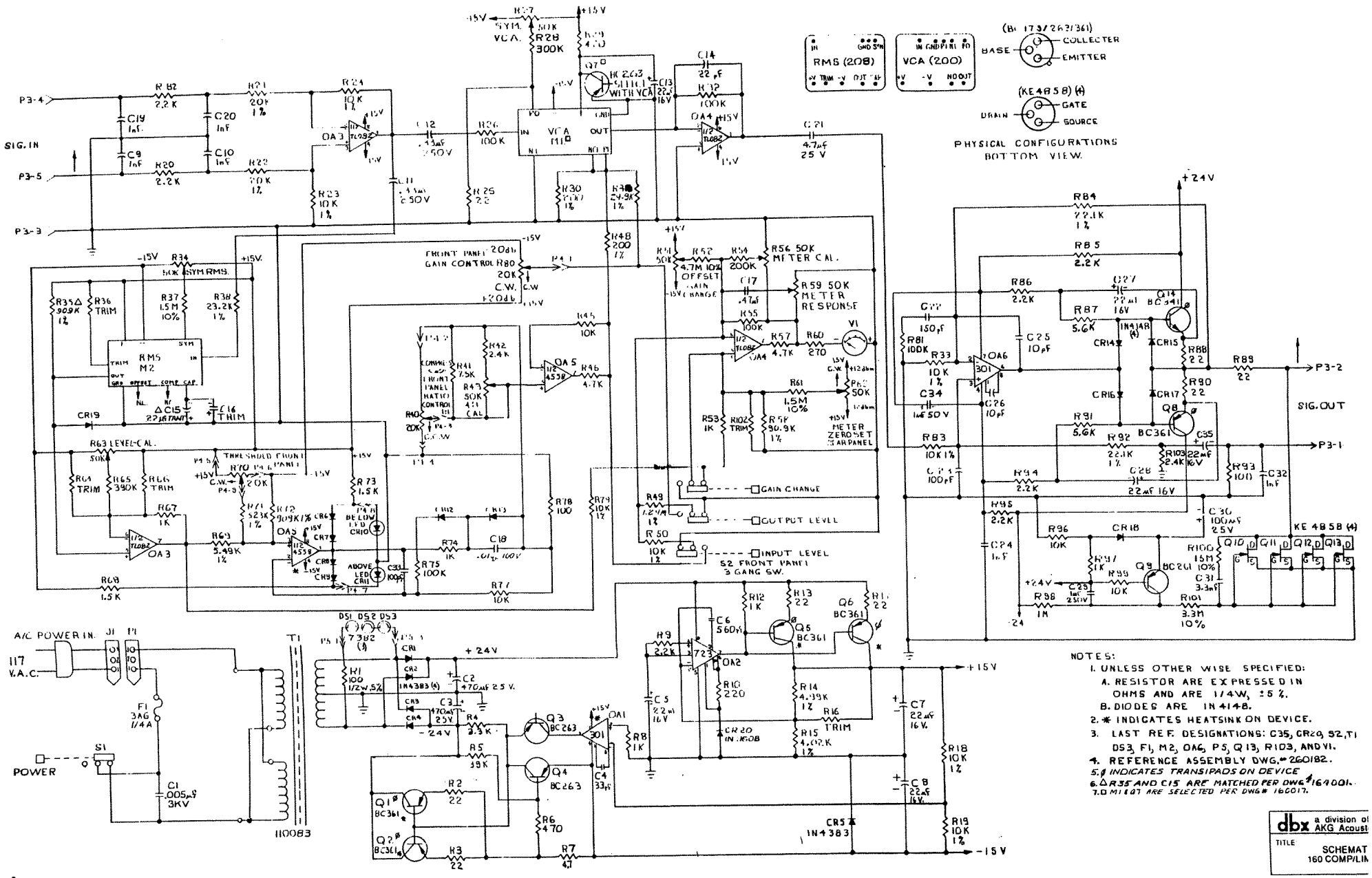
23) Seal Potentiometers:

23.1) Seal all pots except R125 and R123.

23.2) Install tie wraps to secure all modules.

24) Burn-In:

24.1) Place burn-in racks with appropriate input power applied. (120 or 240 volts.)


RMS (208)
VCA (200)
(BC 173/263/361)
COLLECTER
BASE
EMITTER
(KE4858) (4)
DRAIN
GATE
SOURCE
PHYSICAL CONFIGURATIONS
BOTTOM VIEW.
SIG. IN
P3-4
P3-5
P3-3
SYM. VCA.
FRONT PANEL 20dB GAIN CONTROL
METER CAL.
METER RESPONSE
METER ZERO SET (REAR PANEL)
GAIN CHANGE
OUTPUT LEVEL
INPUT LEVEL
52 FRONT PANEL 3 GANG SW.
SIG. OUT
P3-2
P3-1
+24V
+15V
-15V
-24V
A/C POWER IN.
117 V.A.C.
POWER
110083
NOTES:
1. UNLESS OTHER WISE SPECIFIED:
A. RESISTOR ARE EXPRESSED IN OHMS AND ARE 1/4W, ±5%.
B. DIODES ARE IN4148.
2. * INDICATES HEATSINK ON DEVICE.
3. LAST REF. DESIGNATIONS: C35, CR20, S2, T1 DS3, F1, M2, OA6, P5, Q13, R103, AND V1.
4. REFERENCE ASSEMBLY DWG.# 260182.
5. ◊ INDICATES TRANSIPADS ON DEVICE
6. △ R35 AND C15 ARE MATCHED PER DWG# 164001.
7. □ MI 807 ARE SELECTED PER DWG# 160017.
dbx a division of AKG Acoust
TITLE
SCHEMAT
160 COMP/LIM