

SPECIFICATIONS

ATTACK TIME - (TIME REQUIRED FOR GAIN TO INCREASE FROM -60 dB TO -1 dB AFTER THE APPLICATION OF A CONTROL SIGNAL WHOSE LEVEL EXCEEDS THRESHOLD) LESS THAN 20 MICROSECONDS.

RELEASE TIME - (TIME REQUIRED FOR GAIN TO DECREASE BY 30 dB AFTER REMOVAL OF A CONTROL SIGNAL) VARIABLE FROM 50 MILLISECONDS TO 6 SECONDS.

ACTIVE EXPANSION RATIO - 2:1 FROM 0 dB to 15 dB EXPANSION, INCREASING TO 4:1 AT 60 dB EXPANSION.

THRESHOLD OF EXPANSION - (MAGNITUDE OF CONTROL SIGNAL IN dBm REQUIRED TO CAUSE KEPEX TO REACH UNITY GAIN) VARIABLE FROM -35 dBm to +20 dBm.

INSERTION LOSS - 0 dB, INTERNAL ADJUSTMENT PROVIDES UP TO 20 dB GAIN.

FREQUENCY RESPONSE - ± 1 dB, 20 Hz to 40 KHz.

DISTORTION - LESS THAN 0.5% THD UNDER NORMAL OPERATING CONDITIONS. (MEASURED DISTORTION MAY EXCEED THIS FIGURE IF VERY SHORT RELEASE TIMES ARE USED. THE DESIGN ALLOWS OPERATION IN THIS REGION IN ORDER TO TAKE ADVANTAGE OF THE SPECIAL EFFECTS PRODUCED BY SUCH OPERATION.)

SIGNAL TO NOISE RATIO - MINIMUM 85 dB BELOW RATED OUTPUT.

INPUT IMPEDANCE - 3,000 OHMS IN NORMAL EXPANSION MODE.

OUTPUT IMPEDANCE - 600 OHMS (EMITTER FOLLOWER)

MAXIMUM INPUT AND OUTPUT LEVELS - +17 dBm.

POWER REQUIREMENTS - +24 VDC AT 75 mA
+100 VDC AT 3 mA
NEGATIVE GROUND

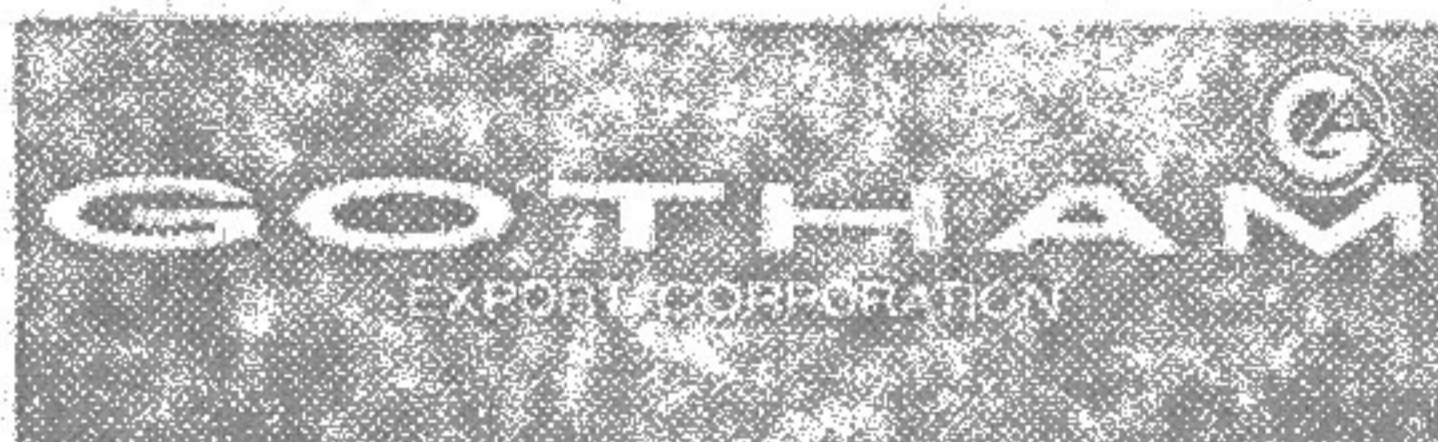
————— SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE —————



ALLISON RESEARCH, INC.
2817 ERICA PLACE
NASHVILLE, TENN. 37204

Dial (615) "ALLISON"

Exclusive export agent:



741 Washington St., New York, NY 10014

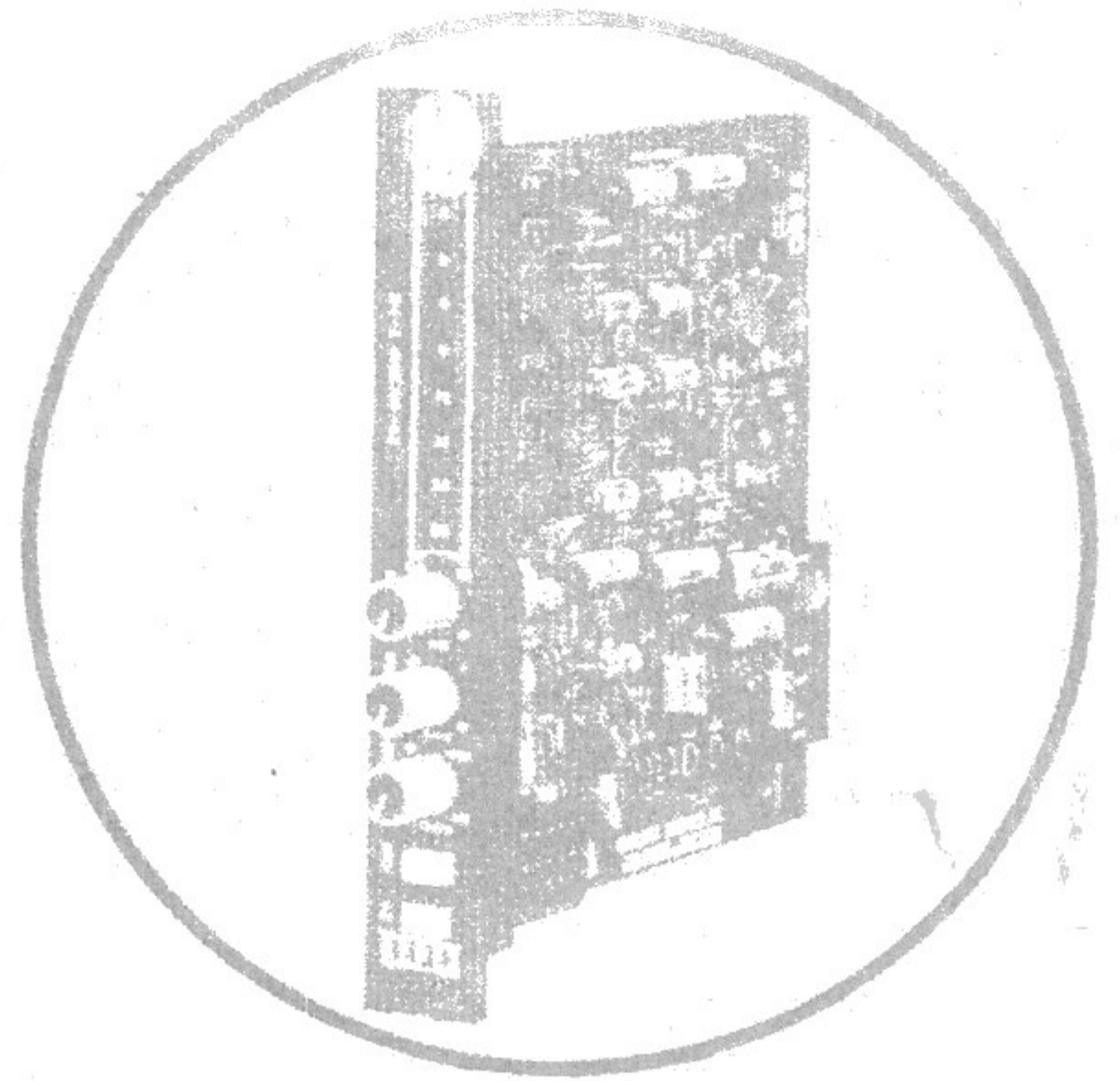
(212) 741-7411

Telex: 12-9269 GOTHAM NYK

Cables: TELAUDIO NEWYORK

KEPEX™

Model 500



IN TODAY'S MULTITRACK STUDIO, NOISE MEANS MORE THAN THE TAPE HISS AND HUM, PRINT-THROUGH, INTERTRACK LEAKAGE (THROUGH INSUFFICIENT INSTRUMENT ISOLATION, OR A LEAKY BOARD, OR WHATEVER), AIR CONDITIONER RUMBLE, OUTSIDE TRAFFIC NOISE, OR ANY OTHER LOW LEVEL INTERFERENCE WITH PURE VIRGIN SIGNAL CAN BE REDUCED OR ELIMINATED WITH KEPEX. TRY IT TO DRY UP A REVERBERANT ROOM. FILM SOUND OPERATIONS USE KEPEX TO DISAPPEAR UNBLIMPED CAMERAS AND PASSING AIRPLANES. TV STATIONS USE KEPEX TO AUTOMATICALLY KILL UNUSED OPEN MIKES. RADIO STATIONS FIND KEPEX A HANDY TOOL IN THEIR PRODUCTION ROOMS.

KEPEX IS A WIDE BAND, LOW DISTORTION GAIN EXPANDER THAT CAN BE ADJUSTED TO ABSORB THE LOW LEVEL NOISES THAT YOU DECIDE ARE OBJECTIONABLE. INPUT SIGNALS GREATER THAN THRESHOLD LEVEL WILL RAISE THE GAIN OF KEPEX TO 0 DB (UNITY GAIN), AND SIGNALS BELOW THRESHOLD (THE SIGNALS THAT YOU DECIDE ARE "NOISE") WILL BE ATTENUATED BY THE AMOUNT SET ON THE RANGE CONTROL (UP TO 60 DB ATTENUATION). RELEASE TIME (TIME FOR GAIN TO DECREASE AFTER REMOVAL OF INPUT SIGNAL GREATER THAN THRESHOLD) IS ADJUSTABLE FROM .50 MILLISECONDS TO 6 SECONDS.

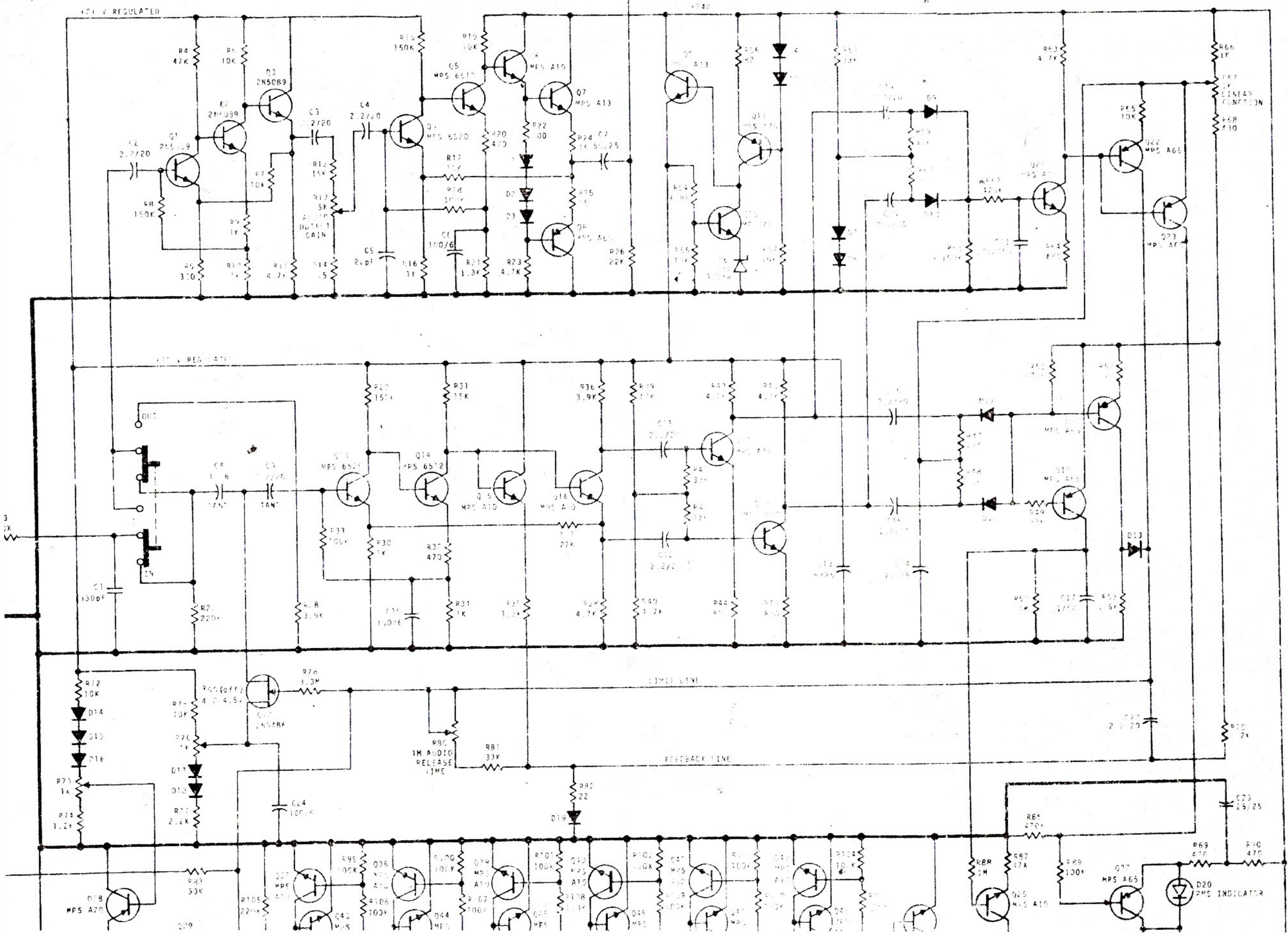
GAIN IS NORMALLY CONTROLLED AS A FUNCTION OF THE LEVEL OF THE INPUT SIGNAL, BUT AN EXTERIOR KEY INPUT IS PROVIDED WHICH CAN CONTROL THE GAIN WITH A SECOND INDEPENDENT AUDIO SIGNAL. THIS FEATURE ALLOWS SOME FAR OUT CONTROL FOR CREATING STEREO EFFECTS AND ELECTRONIC MUSIC SYNTHESIS.

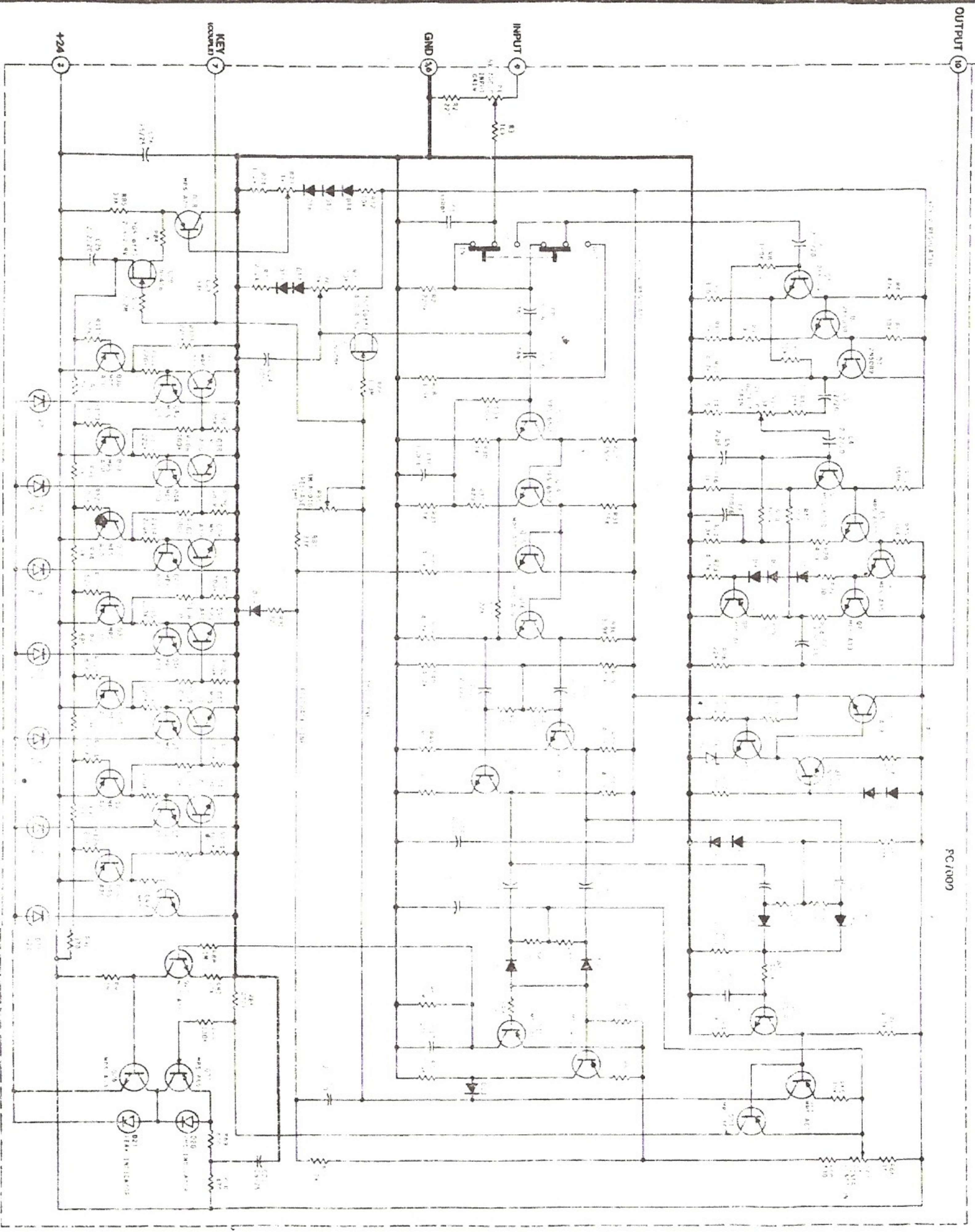
PLUS, A UNIQUE GAIN REDUCTION METER PROVIDES INSTANTANEOUS VISUAL MONITORING OF WHAT KEPEX IS DOING.

THE KEPEX 500 IS A PRINTED CIRCUIT MODULE AND IS DESIGNED FOR MOUNTING IN EITHER THE CM-001 SINGLE CHANNEL CASE OR THE RM-160 MULTI-TRACK RACK MOUNTING CASE.

GAIN BRAIN

PC7000





GAIN-BRAIN Schematic Diagram

TRIM ADJUSTMENTS

Trimpots R73 and R76 serve to zero the meter circuit and trim the IN/OUT gain, respectively. An audio signal generator and an AC VTVM are required to perform these adjustments. For both adjustments connect the signal generator to the input of the GAIN BRAIN to be adjusted. Set the frequency to 1kHz and the input level to -10dBm. Place IN/OUT switch in OUT position. Set controls and proceed as follows:

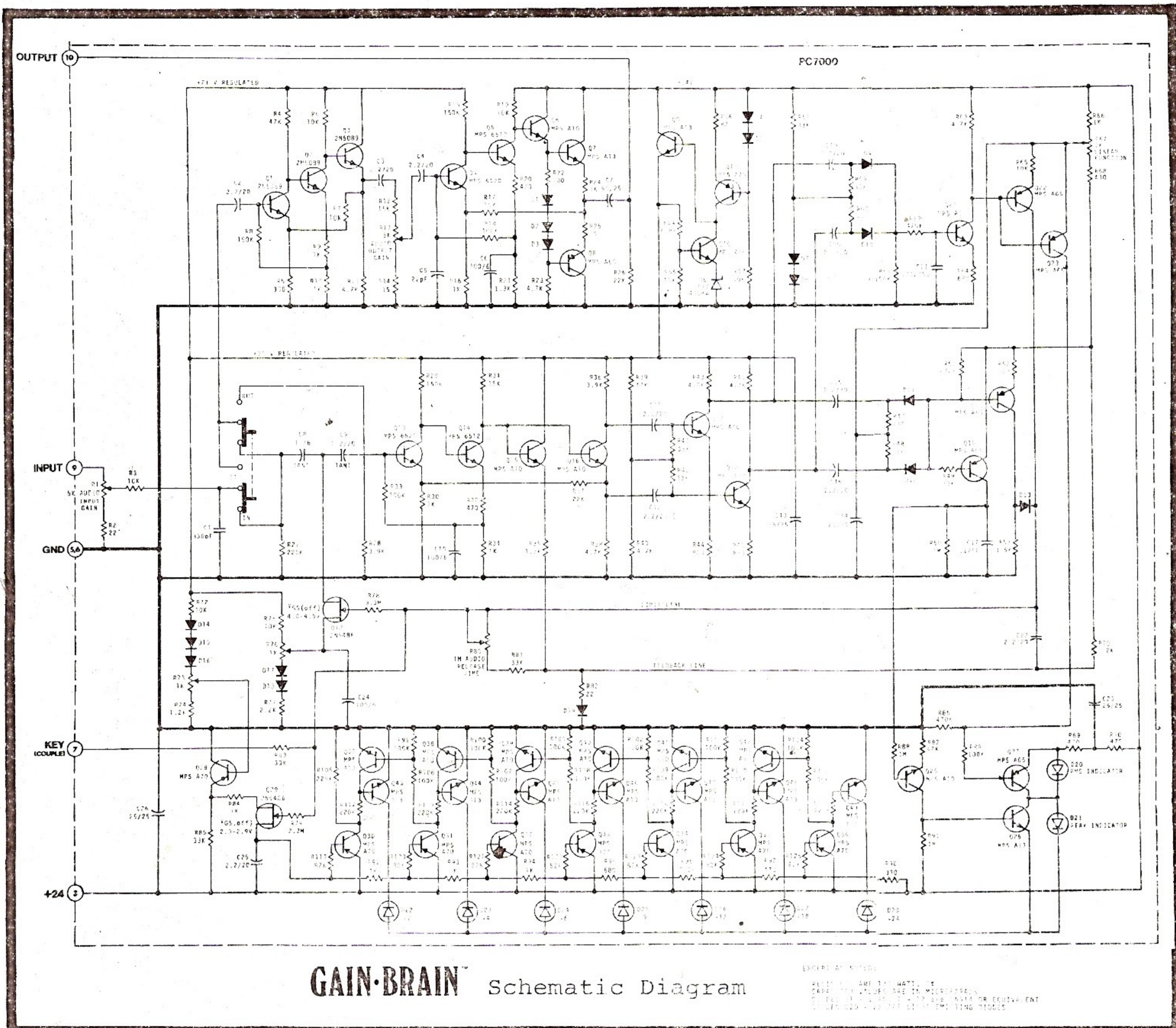
IN/OUT GAIN ADJUST

1. FUNCTION - PEAK (Full CCW)
2. RELEASE - .05 sec (Full CCW)
3. OUTPUT - Maximum (Full CW)
4. INPUT - Adjust to obtain +5dBm output.

Switch IN/OUT to IN position and adjust R76 to obtain +5dBm output. Properly adjusted, there should be no difference in output when in either the IN or OUT positions, when GAIN BRAIN is not limiting.

METER ZERO ADJUST

1. FUNCTION - PEAK (Full CCW)
2. RELEASE - .05 sec (Full CCW)
3. OUTPUT - Maximum (Full CW)
4. INPUT - Increase INPUT control from minimum (full CCW) until output from GAIN BRAIN just stops increasing. At this point peak limiting is happening and the output level should be between +10dBm and +12dBm.
5. Decrease OUTPUT control to obtain 0dBm output.
6. Switch IN/OUT to OUT position.
7. Decrease INPUT control to obtain 0dBm output.
8. Switch IN/OUT to IN.
9. Connect VTVM to input of GAIN BRAIN and increase signal generator level 2dB (from -10dBm to -8dBm).
10. At this point the -2 meter lamp should light. If not, adjust R73 until it just comes on. The meter is now zeroed.



TRIM ADJUSTMENTS

Trimpots R73 and R76 serve to zero the meter circuit and trim the IN/OUT gain, respectively. An audio signal generator and an AC VTVM are required to perform these adjustments. For both adjustments connect the signal generator to the input of the GAIN BRAIN to be adjusted. Set the frequency to 1kHz and the input level to -10dBm. Place IN/OUT switch in OUT position. Set controls and proceed as follows:

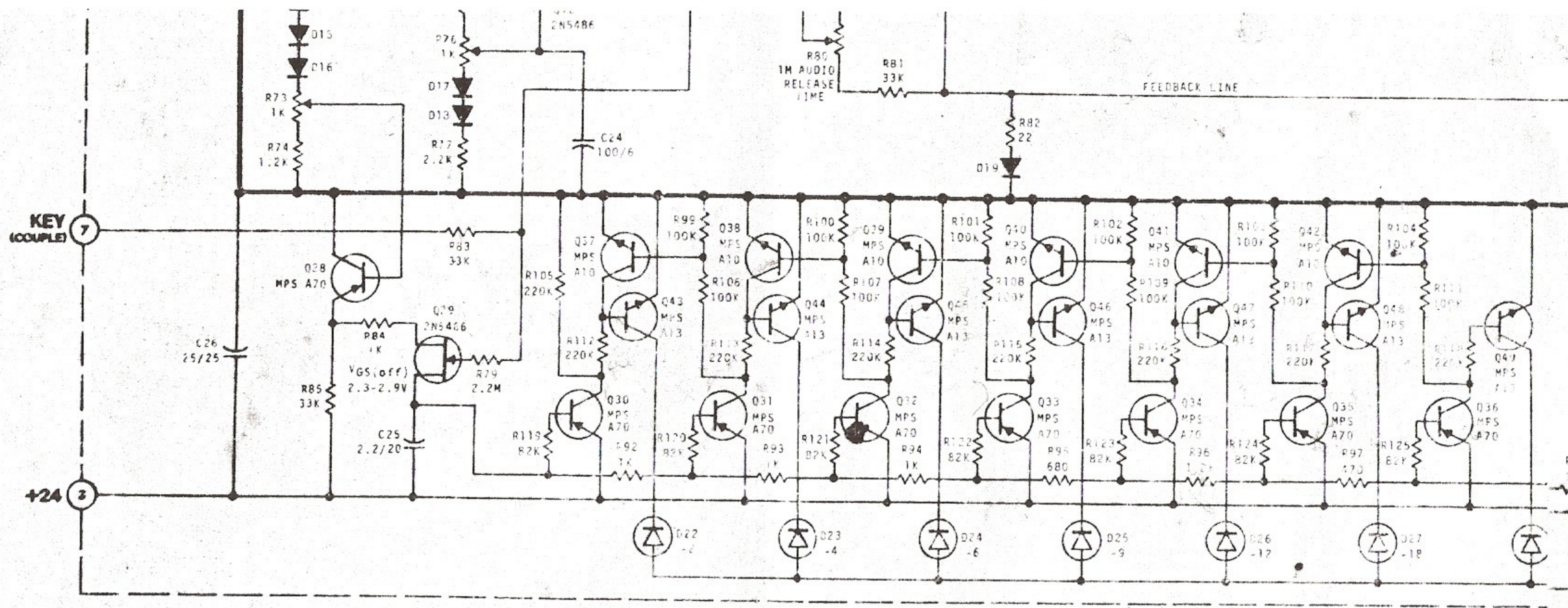
IN/OUT GAIN ADJUST

1. FUNCTION - PEAK (full CCW)
2. RELEASE - .05 sec (full CCW)
3. OUTPUT - Maximum (full CW)
4. INPUT - Adjust to obtain +5dBm output.

Switch IN/OUT to IN position and adjust R76 to obtain +5dBm output. Properly adjusted, there should be no difference in output when in either the IN or OUT positions, when GAIN BRAIN is not limiting.

METER ZERO ADJUST

1. FUNCTION - PEAK (full CCW)
2. RELEASE - .05 sec (full CCW)
3. OUTPUT - Maximum (full CW)
4. INPUT - Increase INPUT control from minimum (full CCW) until output from GAIN BRAIN just stops increasing. At this point peak limiting is happening and the output level should be between +10dBm and +12dBm.
5. Decrease OUTPUT control to obtain 0dBm output.
6. Switch IN/OUT to OUT position.
7. Decrease INPUT control to obtain 0dBm output.
8. Switch IN/OUT to IN.
9. Connect VTVM to input of GAIN BRAIN and increase signal generator level 2dB (from -10dBm to -8dBm).
10. At this point the -2 meter lamp should light. If not, adjust R73 until it just comes on. The meter is now zeroed.



GAIN-BRAIN™ Schematic Diagram

EXCEPT AS NOTED:

RESISTORS ARE 1%
CAPACITOR VALUES
DIPDES D1 - 5 AM
DIPDES D20 - 28

TRIM ADJUSTMENTS

Trimpots R73 and R76 serve to zero the meter circuit and trim the IN/OUT gain, re-
nal generator and an AC VTVM are required to perform these adjustments. For both
signal generator to the input of the GAIN BRAIN to be adjusted. Set the frequenc
level to -10dBm. Place IN/OUT switch in OUT position. Set controls and proceed

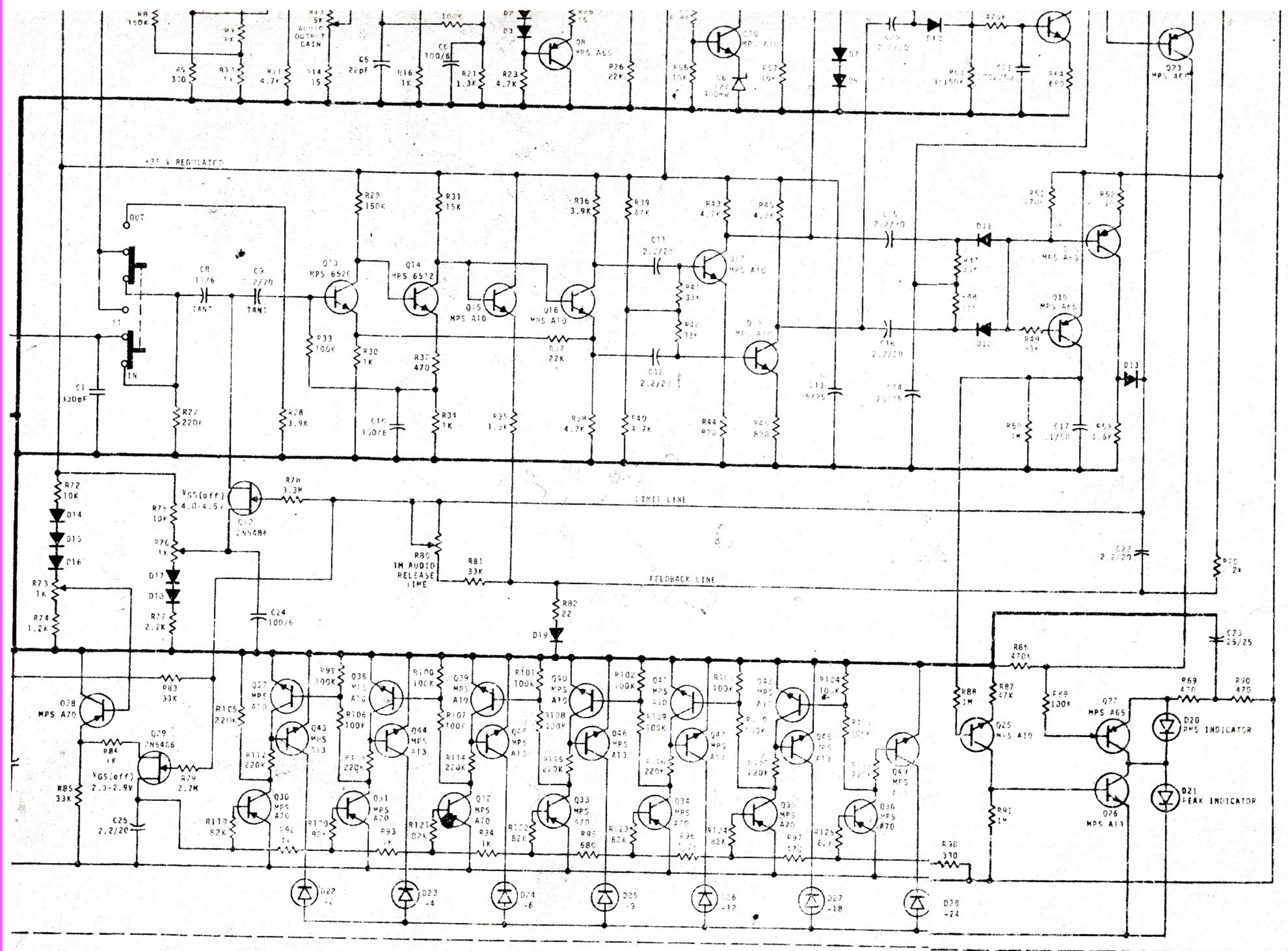
IN/OUT GAIN ADJUST

1. FUNCTION - PEAK (full CCW)
2. RELEASE - .05 sec (full CCW)
3. OUTPUT - Maximum (full CW)
4. INPUT - Adjust to obtain +5dBm output.

Switch IN/OUT to IN position and adjust R76 to ob-
tain +5dBm output. Properly adjusted, there should
be no difference in output when in either the IN or
OUT positions, when GAIN BRAIN is not limiting.

METER

1. FUNCTION - PEAK (fu
2. RELEASE - .05 sec (
3. OUTPUT - Maximum (f
4. INPUT - Increase IN
(full CCW) until output
increasing. At this po
ing and the output leve
and +12dBm.
5. Decrease OUTPUT con
6. Switch IN/OUT to OU
7. Decrease INPUT cont
8. Switch IN/OUT to IN



GAIN·BRAIN™ Schematic Diagram

EXCEPT AS NOTED:

RESISTORS ARE 1/4 WATT, Ω
 CAPACITOR VALUES ARE IN MICROFARADS
 DIODES D1 - 5 AND 7 - 17 ARE 1N514 OR EQUIVALENT
 DIODES D20 - 28 ARE APS LIGHT EMITTING DIODES