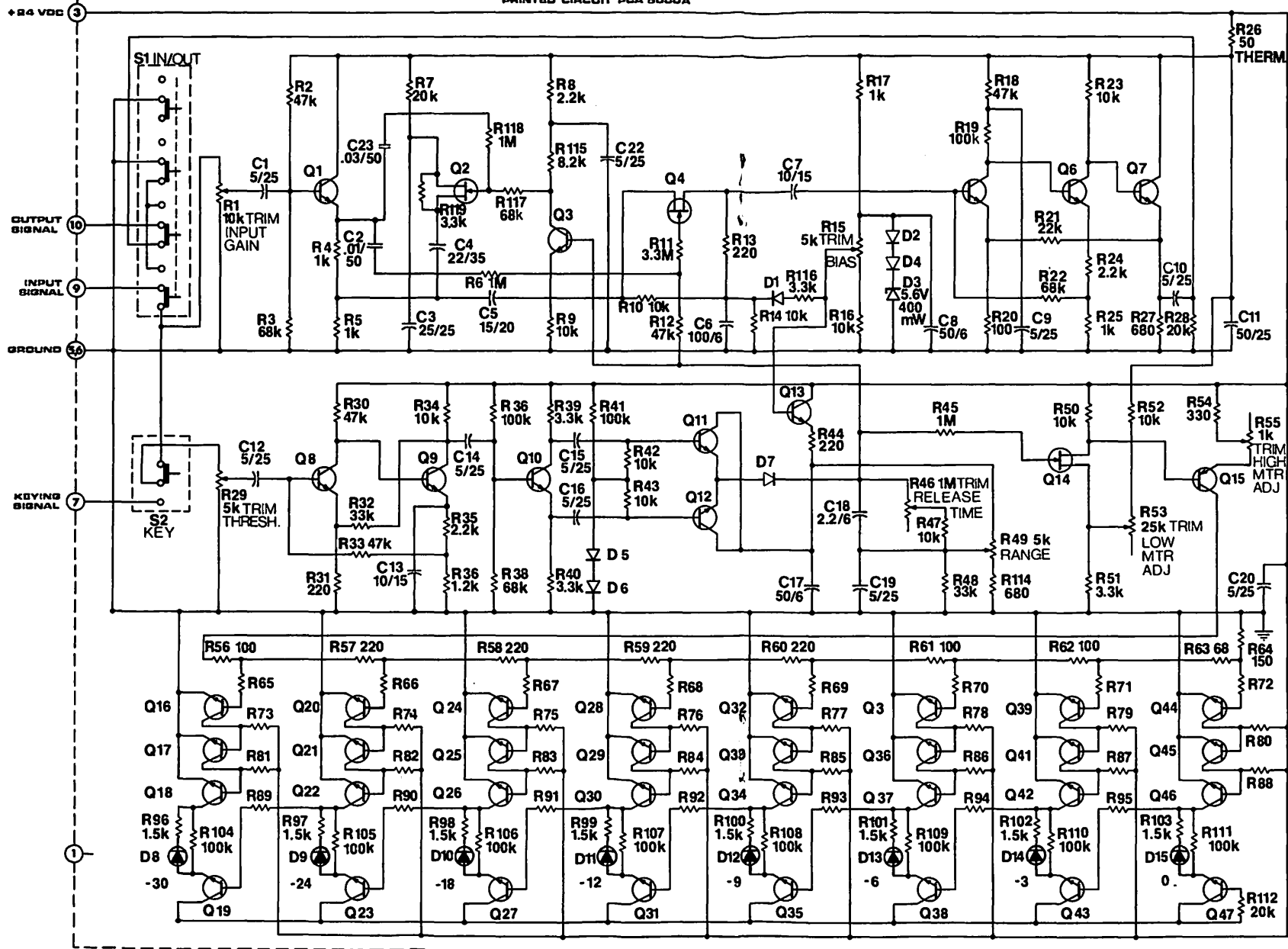


PRINTED CIRCUIT PGA 5000A



- Notes:
1. All resistances are in ohms, +5% $\frac{1}{2}$ watt.
 2. All capacitance values are in microfarads.
 3. S1 shown in IN position.
 4. S2 shown in normal position.
 5. R65-R95 are 20K ohms.
 6. Q2, Q4, and Q14 are specially matched FET's 2N5486 available from Allison Research.
 7. Q1, Q3, Q6, Q10, Q11, Q12, Q16, Q20, Q24, Q28, Q32, Q36, Q40 and Q44 are MPS A13.
 8. Q8, Q9, Q13, Q17, Q21, Q25, Q29, Q33, Q37, Q41 and Q45 are MPS A10.
 9. Q5 is MPS 6520, Q15 is MPS A70.
 10. Q18, Q19, Q22, Q23, Q26, Q27, Q30, Q31, Q34, Q35, Q38, Q39, Q42, Q43, Q46 and Q47 are MPS L01.
 11. C4, C5 and C18 are tantalum capacitors.
 12. R29, R46, R49 and R51 are audio taper.
 13. D8-D15 are LED's HP 5082-4850.



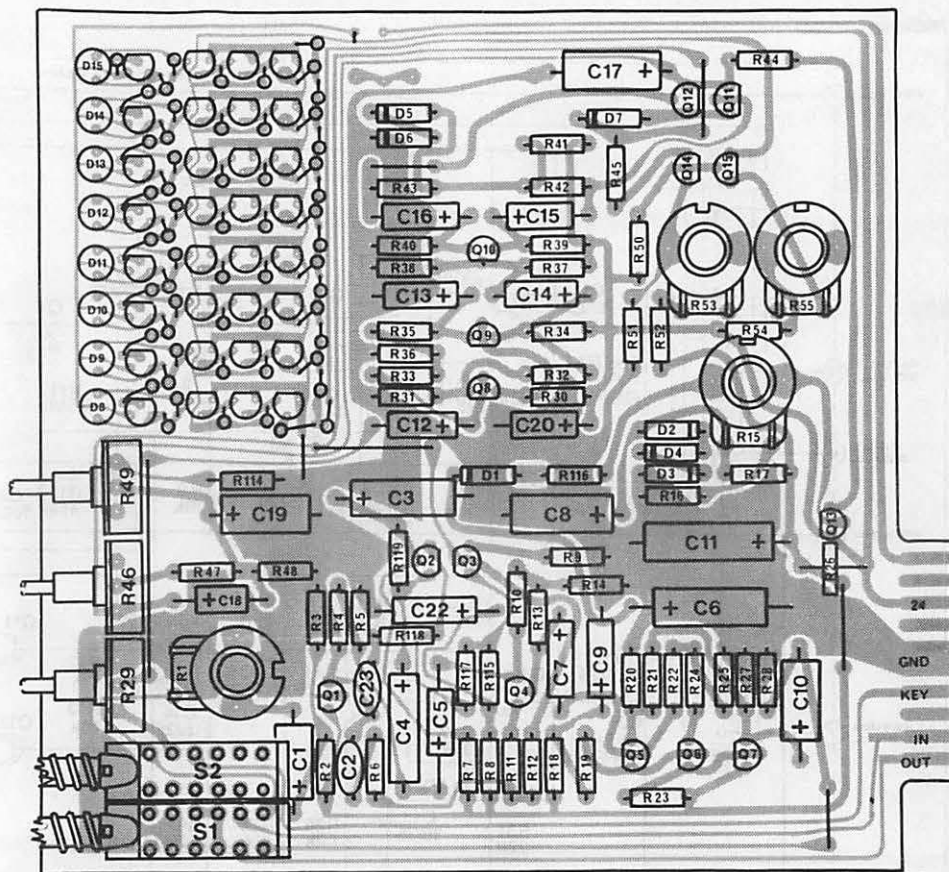
Now that you've got a KEPEX, what are you going to do with it? Noise reduction (Tape Hiss, Print-through, Hum, Leakage, Background Noise), "Presence" improvement (Reduction of Room Reverberation), and Electronic Effects are within the scope of KEPEX's capabilities. Control settings are dependent on the desired effect and the nature of the program material. Best results are obtained by inspired experimentation, keeping in mind the effects of the controls:

① **METER**... NOT A CONTROL, THE METER INDICATES THE INSTANTANEOUS GAIN OF KEPEX. IT IS CALIBRATED IN MINUS dB.

② **RANGE CONTROL**... ADJUSTS MAXIMUM REDUCTION OF GAIN WHEN SIGNAL LEVEL IS BELOW THRESHOLD. IN OPERATION THE GAIN OF KEPEX WILL RIDE UP AND DOWN WITH THE INPUT LEVEL BETWEEN MINIMUM AND UNITY GAIN. MAXIMUM GAIN REDUCTION IS 60dB.

③ **THRESHOLD CONTROL**... DETERMINES THE LEVEL OF INPUT SIGNAL REQUIRED TO INCREASE THE GAIN FROM ITS MINIMUM VALUE TO WITHIN -1dB OF UNITY GAIN. HERE IS WHERE YOU SEPARATE THE SIGNAL FROM THE NOISE. IN NOISE REDUCTION APPLICATIONS THE THRESHOLD IS SET AS CLOSE AS POSSIBLE TO THE LOWEST LEVEL OF SIGNAL DESIRED TO BE PRESERVED, SO THAT LOWER LEVEL MATERIAL (THE NOISE) IS ATTENUATED. THIS RULE-OF-THUMB IS OFTEN BROKEN TO GOOD ADVANTAGE BY LIBERAL USE OF THE CONTROL LABELED:

④ **RELEASE**... ADJUSTS THE TIME FOR THE GAIN TO RETURN TO THE MINIMUM VALUE AFTER THE SIGNAL DROPS BELOW THRESHOLD. RANGE OF ADJUSTMENT IS FROM 50 MILLISECONDS TO 5 SECONDS. A WORD OF WARNING AND A TIP TO THE CURIOUS; SHORT RELEASE TIMES WITH LOW FREQUENCY PROGRAM MATERIAL CAUSE SEVERE DISTORTION AS THE GAIN OF KEPEX RIDES UP AND DOWN



COMPONENT PLACEMENT, KEPEX 500 P.C. MODULE

