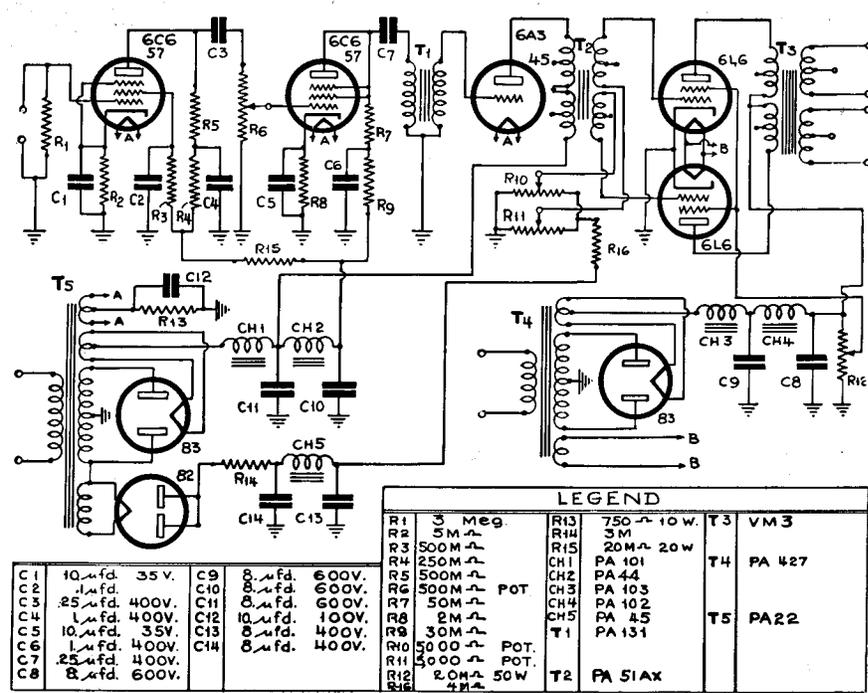


LEGEND	
C1	10 μfd. 25V.
C2	1 μfd. 400V.
C3	1 μfd. 400V.
C4	.25 μfd. 400V.
C5	10 μfd. 25V.
C6	1 μfd. 400V.
C7	.25 μfd. 400V.
C8	16 μfd. 450V.
C9	16 μfd. 450V.
C10	5 Meg
R1	5M
R2	500M
R3	500M
R4	500M
R5	250M
R6	500M POT.
R7	2,500
R8	50 M
R9	25M
CH1	PA-44
CH2	PA-44
J1	SINGLE CKT. OPEN
T1	PA 140
T2	PA 21

Fig. 11—Pre-Amplifier

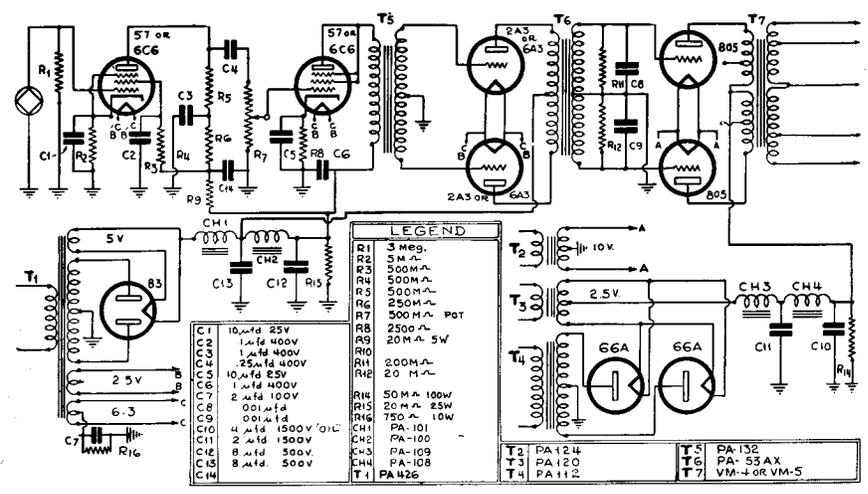
This simple resistance coupled pre-amplifier is designed for use with crystal microphones. It may be used with other types of microphones by incorporating the proper type of input transformer. The T-1 output transformer shown has secondary impedances of 200 or 500 ohms.



LEGEND	
R1	5 Meg
R2	5M
R3	500M
R4	250M
R5	500M
R6	500M POT.
R7	500M
R8	2M
R9	30M
R10	500M POT.
R11	500M POT.
R12	20M
R13	5M
R14	50M
R15	750
R16	10W.
CH1	PA 101
CH2	PA 44
CH3	PA 103
CH4	PA 102
CH5	PA 45
T1	PA 131
T2	PA 51AX
T3	VM 3
T4	PA 427
T5	PA 22

Fig. 12—40-60 Watt Modulator Unit

The simplicity and low cost of this modulator is made possible through the use of the 6L6 beam power tube which has a high power sensitivity and very high power output. The 6A3 or 2A3 driver tube is preferable, as a driving tube having low plate resistance is very important. This amplifier will operate directly from a crystal microphone and is capable of modulating 100% the 120 watts AC input to a class C RF stage. If less power than 60 watts is required, the 6L6's can be operated self bias which eliminates the bias rectifier and also permits the use of a 6C6 triode or similar tube as the driver. Under this operating condition, 40 watts of audio is available. The self bias operating condition is most usual because of the simplicity, reduced cost and stability of operation.



LEGEND	
R1	5 Meg
R2	5M
R3	500M
R4	500M
R5	500M
R6	500M
R7	500M POT.
R8	250M
R9	20M
R10	50M
R11	50M
R12	50M
R13	50M
R14	50M
R15	50M
R16	50M
CH1	PA-101
CH2	PA-101
CH3	PA-109
CH4	PA-108
CH5	PA-426
T1	PA 124
T2	PA 120
T3	PA 112
T4	PA 120
T5	PA 132
T6	PA 53AX
T7	VM-4 or VM-5

Fig. 13—300 Watt Modulator

This audio amplifier will modulate 100% the 600 watt DC input to a class C RF stage. The four stages of amplification provide sufficient gain for use with high level crystal microphones. The 2A3's are operated self bias as they have sufficient driving power in this method of operation to fully excite the zero bias 805 tubes. Due to elimination of fixed bias on both driver and output stage, this modulator becomes quite simple and inexpensive. The condensers and resistors shown in the grid circuit of the 805's are intended to nullify any tendency for grid oscillation.