

THE AMPERITE HIGH IMPEDANCE -HIV- VELOCITY MICROPHONE - OUTPUT IMPEDANCE 2,000 OHMS - CONNECTS TO THE GRID OF THE FIRST AMPLIFIER TUBE FIG. 12.

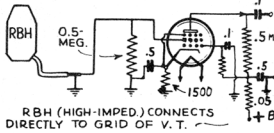
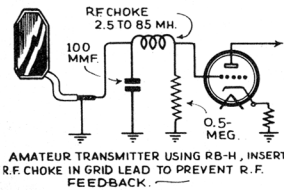


FIG. 12

ANY AMPLIFIER HAVING A GAIN OF 40 TO 70DB. WILL REQUIRE A 2 STAGE PRE-AMPLIFIER. FROM 70 TO 100 DB. A 1 STAGE PRE-AMP. AS SHOWN IN FIG.12. THE LATTER CAN EASILY BE ADDED TO ANY AMPLIFIER. WITH A MAIN AMPLIFIER HAVING A GAIN OF 110 DB OR MORE NO PRE-AMPLIFIER IS REQUIRED. SINCE THE INPUT TRANSFORMER IS OMITTED, THE COMPLETE AMPLIFIER FOR THE HIGH IMPEDANCE MICROPHONE CAN BE BUILT ON ONE CHASSIS.



AMATEUR TRANSMITTER USING RB-H, INSERT R.F. CHOKE IN GRID LEAD TO PREVENT R.F. FEEDBACK.

FIG. 13

CABLE LENGTH --- USING A LOW CAPACITY SINGLE CONDUCTOR SHIELDED CABLE - 1/8" BETWEEN SHIELD AND CONDUCTOR - THE LINE CAN BE 100' LONG. NO HUM WILL BE ENCOUNTERED FROM ORDINARY NEARBY A.C. ELECTRIC WIRES. FOR LONGER LINES, USE SPECIAL R.F. TRANSMISSION LINE.

AMATEUR TRANSMITTERS --- USING A HIGH IMPEDANCE VELOCITY IN CONNECTION WITH AMATEUR TRANSMITTERS ON LOCATIONS WHERE STRONG R.F. FIELDS ARE ENCOUNTERED - AN R.F. CHOKE AND BY-PASS CONDENSER SHOULD BE USED. FIG. 13.

HUM

IF HUM IS ENCOUNTERED WITH THE HIV, CHECK MICROPHONE CONNECTIONS - MAKE SURE SHIELD IS GROUNDED TO A GOOD GROUND - AND CENTER WIRE OF CABLE GOES TO GRID.

A HIGH PITCH HUM WILL SOMETIMES BE ENCOUNTERED WHEN AN INDUCTIVE LOAD -SUCH AS A VELOCITY MICROPHONE- IS FED INTO A SLIGHTLY UNSTABLE AMPLIFIER. REMEDY - PLACE .0001 MFD CONDENSER ACROSS AMPLIFIER INPUT - AT THE AMPLIFIER.

AUDIO OSCILLATION - NOT TO BE CONFUSED WITH HUM. DUE TO WEAK TUBES OR DEFECTIVE BY-PASS CONDENSER. CHECK CONDENSERS BY SHUNTING 8MFD ACROSS EACH CONDENSER IN AMPLIFIER.

TO DETERMINE IF HUM IS IN THE AMPLIFIER - SHORT THE INPUT AND TURN UP GAIN- NOTE IF HUM STILL PERSISTS

TO DETERMINE IF HUM IS BE'NG PICKED UP BY THE MIKE- ROTATE AND MOVE IT AROUND TO DIFFERENT POSITIONS. IF THE HUM DOES NOT CHANGE WITH POSITION THE HUM IS NOT BEING PICKED UP IN THE MICROPHONE ITSELF. CHECK GROUND AND PLUG CONNECTIONS VERY CAREFULLY.

LOW OUTPUT - CHECK PLUG AND GROUND CONNECTIONS VERY CAREFULLY.

FEEDBACK - THE HIV HAS A GREATER TENDENCY TO FEEDBACK THAN THE LOW IMPEDANCE VELOCITIES. REMEDY - SHUNT A 50,000 OHM RESISTOR ACROSS MICROPHONE LEADS. THE RESISTOR ATTENUATES THE FREQUENCIES ABOVE 8,000 CYCLES SLIGHTLY BUT DOES NOT HAVE A SHARP CUT OFF AS EXPERIENCED WHEN A CONDENSER IS USED.

PUSH PULL INPUT GRIDS - UPON REQUEST, THE AMPERITE HIGH IMPEDANCE VELOCITY MICROPHONE CAN BE SUPPLIED WITH 2CONDUCTOR SHIELDED CABLE FOR PUSH/PULL INPUT.

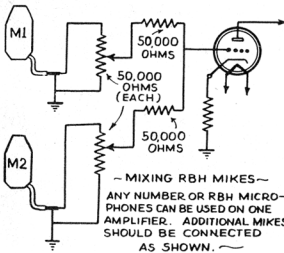


FIG. 14

~ MIXING RBH MIKES ~
ANY NUMBER OF RBH MICROPHONES CAN BE USED ON ONE AMPLIFIER. ADDITIONAL MIKES SHOULD BE CONNECTED AS SHOWN.

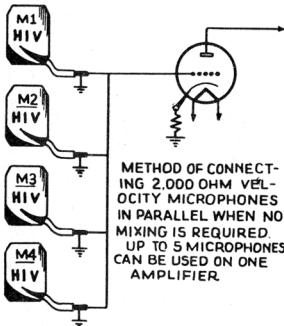


FIG. 14A

METHOD OF CONNECTING 2,000 OHM VELOCITY MICROPHONES IN PARALLEL WHEN NO MIXING IS REQUIRED UP TO 5 MICROPHONES CAN BE USED ON ONE AMPLIFIER.

MODEL RB-HB -- IN ORDER TO OBTAIN THE LEAST AMOUNT OF FEEDBACK WITH THE MODEL RB-HB, THE MICROPHONE SHOULD BE LOADED BY PLACING A 25,000 OHM -1 W. CARBON - RESISTOR ACROSS THE OUTPUT OF THE MIKE.

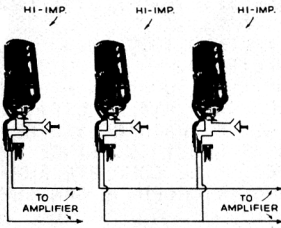


FIG. 16 A

FIG. 16 B

"TALKIE" AMPLIFIERS -- THE AMPERITE HIGH IMPEDANCE VELOCITY CAN BE CONNECTED DIRECTLY INTO "TALKIE" AMPLIFIERS WITHOUT ANY CHANGES. THE MICROPHONE IS CONNECTED ACROSS THE PHOTO ELECTRIC CELL SOCKET.

CONDENSER AND CRYSTAL MICROPHONES --- CAN BE REPLACED WITH THE AMPERITE HIGH IMPEDANCE VELOCITY MICROPHONE WITHOUT ANY CIRCUIT CHANGES.

MIXING --- HIGH IMPEDANCE MICROPHONES -- WITH OR WITHOUT SWITCHES CAN BE MIXED INTO ONE AMPLIFIER FIG. 14.

ORDINARY WIRE OR CARBON VOLUME CONTROLS ARE USED. THE SWITCHES CAN BE EITHER ACROSS -AS FURNISHED- OR IN SERIES WITH THE MICROPHONE LINE.

MULTIPLE HIGH IMPEDANCE MICROPHONES EQUIPPED WITH SWITCHES WITHOUT MIXING.

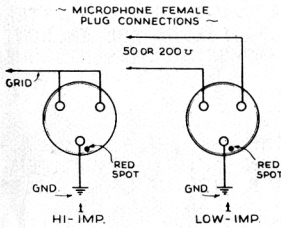


FIG. 17

ANY NUMBER UP TO 5 HIGH IMPEDANCE MICROPHONES WITH SWITCHES CAN BE USED WITH ONE AMPLIFIER. THE SWITCH CONNECTIONS ON THE STANDARD HIGH IMPEDANCE MICROPHONES ARE MADE SO THAT THE SWITCH SHORTS THE MICROPHONE, FIG 16A. WHEN IT IS REQUIRED TO USE A NUMBER OF HIGH IMPEDANCE MICROPHONES ON ONE AMPLIFIER AND USE SWITCHES ON EACH MICROPHONE, IT WILL BE NECESSARY TO CHANGE THE SWITCH CONNECTIONS SO THAT SWITCH OPENS THE MICROPHONE LEAD, FIG16B

THIS CAN BE DONE BY UNSOLDERING THE TWO WIRES ON BOTTOM LUG OF THE SWITCH - TAPING THEM TO PREVENT SHORTS, AND THEN UNSOLDERING THE RED WIRE OF THE SWITCH FROM THE TOP LUG AND SOLDER IT TO BOTTOM LUG.

PLUG CONNECTIONS FOR RBN TYPE MICROPHONES

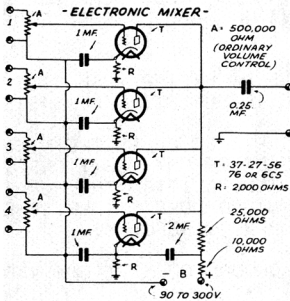


FIG. 18

THE PLUG CONNECTIONS FOR BOTH HIGH AND LOW IMPEDANCE TYPE MICROPHONES ARE SHOWN IN FIG. 17. MAKE SURE NOT TO GROUND EITHER SIDE OF THE LINE OF LOW IMPEDANCE MICROPHONES, ONLY THE SHIELD SHOULD BE GROUNDED. GROUNDING EITHER SIDE OF THE LINE WILL REDUCE THE VOLUME CONSIDERABLY AND DISTORT.

SWITCH CONNECTIONS

BOTH LOW AND HIGH IMPEDANCE MICROPHONES ARE SHIPPED FROM THE FACTORY WITH THE SWITCHES SHORTED ACROSS THE MICROPHONE LEADS FOR "OFF" POSITION.

THE SWITCH CAN BE MADE INOPERATIVE BY TAKING OFF THE NAME PLATE, UNSOLDERING AND TAPING THE WIRES CONNECTED TO ONE LUG ON THE SWITCH - DO NOT UNSOLDER THE TWO WIRES REMOVED.

AMPERITE 7-POINT Velocity MICROPHONES

THE AMPERITE VELOCITY MICROPHONE ---- IS CAREFULLY ASSEMBLED AND THOROUGHLY TESTED OVER THE ENTIRE AUDIBLE RANGE. IT BRINGS THE BEST IN MICROPHONES WITHIN YOUR REACH. INSTALLING AN AMPERITE VELOCITY MICROPHONE IS THE EASIEST AND LEAST EXPENSIVE WAY TO GREATLY IMPROVE ANY INSTALLATION. THE AMPERITE VELOCITY MICROPHONE DELIVERS A POTENTIAL OF APPROXIMATELY 550 MICROVOLTS AT ONE BAR PER VOLT ACROSS THE 200 OHM OPEN LINE. THE STANDARD OUTPUT IMPEDANCE IS 50 OR 200 OHMS FOR USE WITH THE INPUT TRANSFORMER -- 2,000 OHMS FOR OPERATION DIRECTLY INTO A GRID. SPECIAL IMPEDANCE CAN BE OBTAINED UPON REQUEST AT NO EXTRA CHARGE.

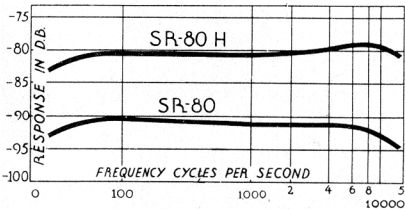


FIG.1

IT MIGHT SEEM WHEN USING A VELOCITY MICROPHONE FOR THE FIRST TIME THAT THE RESPONSE AT THE LOWER FREQUENCIES IS GREATER THAN THE HIGHER -- ESPECIALLY WHEN ONE IS ACCUSTOMED TO HIGH PITCHED MICROPHONES. ACTUALLY THE VELOCITY MICROPHONE REPRODUCES THE ENTIRE AUDIBLE RANGE WITH PERFECT UNIFORMITY FIG 1. UNLIKE DIAPHRAGM TYPE MICROPHONES, IT HAS NO PEAKS WHICH TEND TO ACCENTUATE CERTAIN HIGH FREQUENCIES AND ALSO TEND TO TIRE THE LISTENER.

A SLIGHTLY RISING CHARACTERISTIC -- GIVING THE REPRODUCTION MORE BRILLIANCY -- IS OBTAINED WITH THE HIGH LEVEL (2,000 OHM) VELOCITY MICROPHONES. A RISING CHARACTERISTIC OF THIS TYPE IS SOMETIMES DESIRABLE ESPECIALLY FOR RECORDING.

A VELOCITY MICROPHONE IS UNUSUALLY ADAPTABLE IN THAT THE RESPONSE CAN BE ALTERED WITHOUT INTRODUCING ANY UNDESIRABLE PEAKS OR OTHER DISADVANTAGES. FOR EXAMPLE, THE LOW FREQUENCY RESPONSE CAN BE ACCENTUATED WITHOUT CUTTING THE HIGHS OR VICE VERSA. SOME PREFER ACCENTUATED HIGHS -- OTHERS ACCENTUATED LOWS. THE AMPERITE VELOCITY MICROPHONES ARE DESIGNED WITH AN AVERAGE RESPONSE WHICH IS PRACTICALLY FLAT OVER THE ENTIRE AUDIBLE RANGE. HOWEVER, THE LOW OR HIGH FREQUENCY RESPONSE CAN BE INCREASED UPON REQUEST.

IN STUDIO WORK, WHERE THE DISTANCE OF THE ARTIST FROM THE MICROPHONE IS UNDER CONTROL, SLIGHTLY ACCENTUATED LOWS ARE DESIRABLE -- AS IN "LIVE" STUDIOS. IN REMOTE OR PA WORK, MANY SOLOISTS WILL INSIST ON HUGGING THE MICROPHONE -- RESULTING IN A "BARREL"

EFFECT WHEN USING A MICROPHONE WITH ACCENTUATED LOWS. FOR SUCH PURPOSES, MICROPHONES CAN BE SUPPLIED WHICH WILL NOT TEND TO BECOME "BARRELLY" ON CLOSE TALKING. SUCH A MICROPHONE IS ALSO DESIGNED TO ELIMINATE "DANCE FLOOR" NOISES, ETC. IN THIS CONNECTION, THE HIGH LEVEL MICROPHONES (2,000 OHM OUTPUT) ARE BETTER SUITED FOR CLOSE TALKING THAN THE LOW IMPEDANCE TYPES. OUR ENGINEERING DEPARTMENT WILL BE GLAD TO ASSIST YOU ON ANY SUCH PROBLEMS.

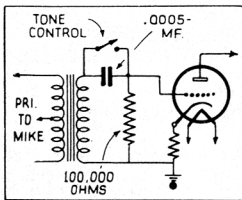


FIG.2

LOW PITCH

FOR SPEECH, IT IS SOMETIMES DESIRABLE TO DECREASE THE LOW FREQUENCY RESPONSE. THIS CAN BE DONE BY INSERTING A .0005 MFD. CONDENSER IN THE GRID CIRCUIT OF THE FIRST TUBE AS SHOWN IN FIG 2. DECREASING THE SIZE OF THE CONDENSER WILL FURTHER DECREASE THE "LOWS" AND VICE VERSA. A SLIGHTLY RISING CHARACTERISTIC IS OBTAINED IN THIS WAY WITHOUT INTRODUCING ANY PEAKS.

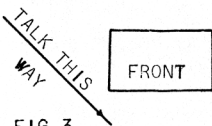


FIG.3

DO NOT TALK INTO MICROPHONE

THE PERFORMER SHOULD STAND NO LESS THAN 12" AWAY FROM THE MICROPHONE. IF IT IS NECESSARY TO STAND CLOSER TALK AWAY FROM THE MICROPHONE AS SHOWN IN FIG 3 OR OVER IT.

CABLE LENGTH

THE VELOCITY MICROPHONE CAN BE OPERATED AT A CONSIDERABLE DISTANCE FROM THE PRE-AMPLIFIER. A VELOCITY WITH 50 OHM OUTPUT CAN BE USED UP TO 200 FEET -- AND A 200 OHM OUTPUT UP TO 2,000 FEET -- A 2,000 OHM OUTPUT UP TO 75 FEET AND UP TO 150 FEET WHEN OPERATED INTO PUSH PULL GRIDS.

A SHIELDED CABLE SHOULD BE USED BETWEEN THE MICROPHONE AND PRE-AMPLIFIER. THE CABLE BETWEEN THE PRE-AMPLIFIER AND THE MAIN AMPLIFIER CAN BE ANY LENGTH DESIRED DEPENDING ON THE OUTPUT OF THE PRE-AMPLIFIER.

TRANSFORMERS

WE RECOMMEND THE AMPERITE STANDARD TRANSFORMER FOR PUBLIC ADDRESS - THE AMPERITE LABORATORY TRANSFORMER FOR STUDIO WORK. ONLY TRANSFORMERS ESPECIALLY DESIGNED FOR RIBBON MICROPHONE WORK SHOULD BE USED.

PRE-AMPLIFIER FOR LOW IMPEDANCE VELOCITIES

TWO STAGES OF PRE-AMPLIFICATION USING TRIODES BRINGS THE OUTPUT LEVEL OF THE AMPERITE VELOCITY MICROPHONE TO A VALUE OF -35 DB. WHICH IS THE LEVEL OF THE AVERAGE CARBON MICROPHONE. WITH PENTODES USED AS TRIODES 6C6 ETC. THE OUTPUT IS BROUGHT UP TO -10 DB. WITH A HIGH GAIN MAIN AMPLIFIER, ONLY ONE STAGE OF PRE-AMPLIFICATION IS NECESSARY. A THREE STAGE LINE AMPLIFIER WILL BRING THE LEVEL OF THE MICROPHONE UP TO +15 DB. NOT INCLUDING ATTENUATION LOSSES.

IT IS, OF COURSE, IMPORTANT THAT THE TRANSFORMER IN THE MICROPHONE MATCH THE INPUT TRANSFORMER OF THE PRE-AMPLIFIER. A MICROPHONE WITH A 50 OHM OUTPUT, HOWEVER, CAN BE FED INTO A 200 OHM LINE WITHOUT AFFECTING THE FREQUENCY RESPONSE -- THE GAIN WILL BE DOWN APPROXIMATELY 2 DB. A HIGHER IMPEDANCE MICROPHONE SHOULD NEVER BE FED INTO A LOWER IMPEDANCE LINE.

HUM

IF HUM IS ENCOUNTERED, THE CENTER TAP OF THE PRIMARY OF THE L. G. TRANSFORMER SHOULD BE GROUNDED. DO NOT GROUND EITHER SIDE OF THE MICROPHONE LEADS. IF NO CENTER TAP IS AVAILABLE IN THE PRIMARY OF THE L. G. TRANSFORMER, THE PRIMARY SHOULD NOT BE GROUND AT ALL. GROUNDING OF EITHER MICROPHONE LEAD WILL RESULT IN LOWER OUTPUT AND HIGH FREQUENCY CUT OFF.

MAKE SURE A GOOD GROUND IS USED -- OTHERWISE HUM LEVEL WILL BE HIGHER THAN WITH NO GROUND. A COMMON GROUND SHOULD BE USED FOR MICROPHONE, PRE-AMPLIFIER, AND AMPLIFIER. IN BUILDING PRE-AMPLIFIERS VARIOUS PARTS SHOULD ALSO BE GROUNDED INTO A COMMON GROUND.

TO FURTHER ELIMINATE HUM, THE MALLORY C BIAS CELL WILL BE FOUND VERY USEFUL -- REPLACES CATHODE RESISTOR AND CONDENSER.

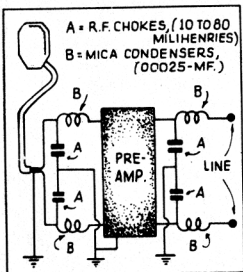


FIG. 4

WHEN USING THE HIGH LEVEL VELOCITY (2,000 OHM OUTPUT), MAKE SURE THE CENTER WIRE GOES TO GRID AND THE SHIELD TO GROUND.

INDUCED R.F. - LOW IMPEDANCE VELOCITY

IF THE MICROPHONE IS OPERATED NEAR A TRANSMITTER OR ANY OTHER SOURCE OF R. F. SUCH AS SPARK COILS, OR NEON SIGNS -- R.F. CHOKES SHOULD BE USED AS SHOWN IN FIG 4

EXCESSIVE AMPLIFICATION - DISTORTION

WHEN THE OPERATING SETTING OF ORDINARY VOLUME CONTROLS IS NEAR EITHER END, DISTORTION OCCURS.

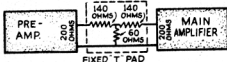


FIG. 5

MOST STANDARD AMPLIFIERS REQUIRE AN INPUT VOLTAGE BELOW THAT DELIVERED BY THE AMPERITE VELOCITY MICROPHONE AND STANDARD TWO STAGE PRE-AMPLIFIER. IN SUCH CASES, A FIXED T PAD -10 DB. ATTENUATION SHOULD BE USED BETWEEN PRE-AMPLIFIER AND AMPLIFIER FIG 5.

ANOTHER SIMPLE AND EFFICIENT WAY OF DECREASING THE OVERALL GAIN IS TO FEED THE 500 OHM PRE-AMPLIFIER OUTPUT DIRECTLY TO THE GRID OF THE FIRST TUBE OF THE MAIN AMPLIFIER -- THUS ELIMINATING THE INPUT TRANSFORMER WHICH IN ITSELF HAS A GAIN OF 15 TO 30 DB.

PICKUP ANGLE

CONTRARY TO POPULAR CONCEPTION, THE VELOCITY MICROPHONE HAS A WIDER ANGLE OF PICKUP WITHOUT FREQUENCY DISCRIMINATION THAN ANY OTHER TYPE MICROPHONE AVAILABLE. OVER THE WIDE ANGLE OF 120° FRONT OR BACK (AND ONLY AT 180° IS THE RESPONSE ZERO) THERE IS NO FREQUENCY DISCRIMINATION. THEREFORE, NO SPECIAL ARRANGEMENT OF INSTRUMENTS IS NECESSARY FOR LARGE ENSEMBLES. UPON REQUEST, THE RESPONSE ON THE BACK OF THE VELOCITY CAN BE MATERIALLY DECREASED -- ESPECIALLY USEFUL FOR GRILLS, ETC.

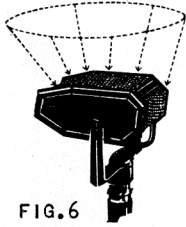


FIG. 6

360° PICKUP

BY TILTING THE VELOCITY PARALLEL TO THE CEILING EQUAL RESPONSE OVER 360° IS OBTAINED. THIS IS ESPECIALLY USEFUL FOR STAGE WORK IN THAT THE DEAD ANGLE OF THE MICROPHONE IS TOWARD THE ORCHESTRA PIT AND AUDIENCE (FIG 6). FOR STAGE PICKUP, THE MICROPHONES SHOULD BE PLACED APPROXIMATELY 15 FEET APART FIG 8. FOR PICKING UP AN ENTIRE STAGE, IT IS ALSO USUALLY MORE DESIRABLE TO USE THE AMPERITE BEAM TYPE VELOCITY MICROPHONES -- MUCH MORE AMPLIFICATION CAN BE USED BEFORE FEEDING BACK.

FEEDBACK

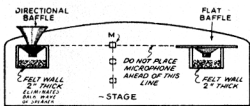


FIG. 7

IN MOST CASES, FEEDBACK CAN BE ELIMINATED WITH THE STANDARD AMPERITE VELOCITY MICROPHONE. IN CASES WHERE FEEDBACK IS UNUSUALLY BAD, THE AMPERITE BEAM TYPE VELOCITY SHOULD BE USED. THIS IS AVAILABLE IN ALL TYPES. THE AMPERITE BEAM VELOCITY IS NOT A CLOSE TALKING OR DAMPENED MICROPHONE. ONE OF THE FUNDAMENTAL WAYS IN WHICH LESS FEEDBACK IS OBTAINED IS BY USING TWO RIBBONS WHICH NEVER OPERATE IN PHASE. THIS TYPE, HOWEVER, HAS A SLIGHT FREQUENCY DISCRIMINATION WITH THE ANGLE OF INCIDENTS OF SOUND AND IS MORE DIRECTIONAL. DIRECTIONAL BAFFLES ON THE SPEAKERS WILL HELP ELIMINATE FEEDBACK.

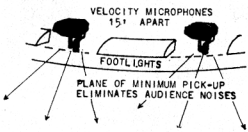


FIG. 8

THE BACK WAVE BEING THE WORSE SOURCE OF TROUBLE, IT SHOULD BE ELIMINATED BY CLOSING THE SPEAKER COMPARTMENT WITH A 2" WALL OF FELT (FIG 7).

WHEN THE BEAM TYPE IS USED PARALLEL TO THE CEILING (FOR 360° PICKUP) THE PICKUP ANGLE IS SUFFICIENT FOR THE ENTIRE STAGE - THE ZERO PICKUP ANGLE WHICH FACES THE ORCHESTRA IS INCREASED -- DECREASING THE AMOUNT OF UNDESIRABLE NOISES. THE BEAM TYPE IS,

THEREFORE, VERY USEFUL FOR DIFFICULT NOISE AND PICKUP PROBLEMS.

LOW IMPEDANCE VELOCITY MICROPHONES IN PARALLEL

WHEN NO MIXING IS REQUIRED AHEAD OF THE PRE-AMPLIFIER, ANY NUMBER OF MICROPHONES UP TO FIVE CAN BE USED ON A SINGLE PRE-AMPLIFIER.

IF THE DISTANCE BETWEEN MICROPHONES IS LESS THAN 15' THE MICROPHONES MUST BE PHASED. THIS CAN BE DONE BY REVERSING THE LEADS OF ONE MICROPHONE AT A TIME -- A CONSIDERABLE INCREASE IN OUTPUT WILL BE NOTICED WHEN THE CORRECT CONNECTIONS ARE OBTAINED.

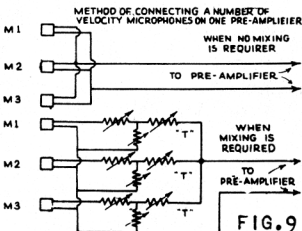


FIG. 9

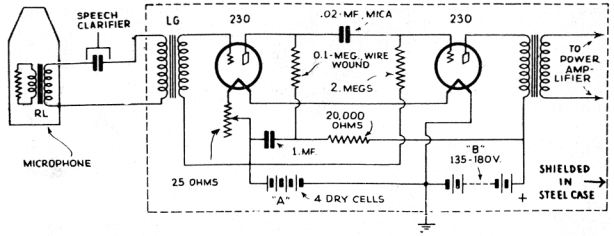
WHEN MIXING IS REQUIRED AT THE MICROPHONES (EITHER PARALLEL OR SERIES CONNECTED) CONSTANT IMPEDANCE PADS SHOULD BE USED FOR EACH MICROPHONE. PARALLEL CONNECTION IS RECOMMENDED FOR ITS SIMPLICITY. WHEN USING A PARALLEL CONNECTION, NO MORE THAN THREE MICROPHONES SHOULD BE USED PER PRE-AMPLIFIER. THE MICROPHONE IMPEDANCE AND PAD IMPEDANCE SHOULD BE THE SAME AS THAT OF A SINGLE MICROPHONE e.g. WITH 200 OHM PRE-AMPLIFIER INPUT FIG 9.

FOR SERIES CONNECTION, THE INPUT IMPEDANCE OF THE PRE-AMPLIFIER SHOULD BE THE SUM OF THE IMPEDANCE

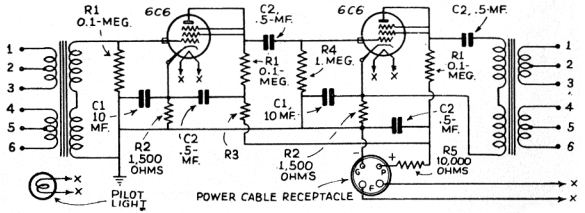
OF MICROPHONES e.g. FOUR 50 OHM MICROPHONES SHOULD BE FED INTO A 200 OHM PRE-AMPLIFIER INPUT.

WHEN PADS ARE NOT USED, THE VOLUME CONTROL SHOULD BE INSERTED AFTER THE FIRST STAGE OF THE PRE-AMPLIFIER - NOT BEFORE IT.

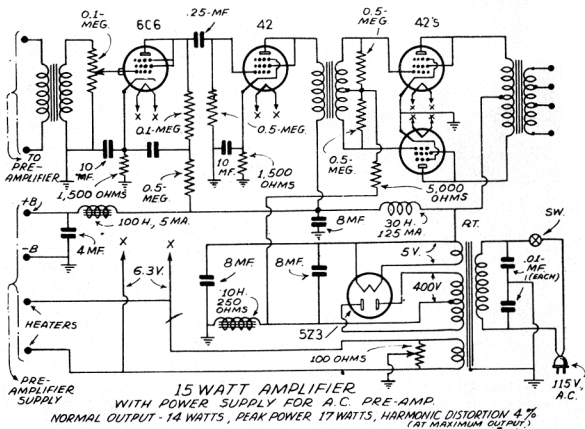
THE BATTERY OPERATED PRE-AMPLIFIER SHOWN IS QUITE SIMPLE TO BUILD AND WILL GIVE EXCELLENT RESULTS. WE RECOMMEND THAT YOU USE OUR STANDARD GRADE TRANSFORMERS FOR PUBLIC ADDRESS WORK -- OUR LABORATORY GRADE FOR STUDIO USE



THE A.C. PRE-AMPLIFIER WILL GIVE EXCELLENT RESULTS. USE STANDARD POWER-SUPPLY 250 VOLTS PLATE. BUILDING AN AC PRE-AMPLIFIER, HOWEVER, REQUIRES A LITTLE TECHNIQUE AND EXPERIENCE. IF YOU ARE NOT EXPERIENCED, WE RECOMMEND THAT YOU BUILD THE BATTERY OPERATED PRE-AMPLIFIER -- OR PURCHASE OUR A.C. MODEL. TO FURTHER ELIMINATE HUM, THE MALLORY C BIAS CELL WILL BE FOUND VERY USEFUL -- REPLACES CATHODE RESISTOR AND CONDENSER.



THE 15 WATT AMPLIFIER SHOWN IS EXCELLENT FOR PUBLIC ADDRESS WORK. THE POWER SUPPLY IS DESIGNED TO SUPPLY THE NECESSARY FILAMENT AND PLATE CURRENT FOR THE PRE-AMPLIFIER.



GUARANTEE

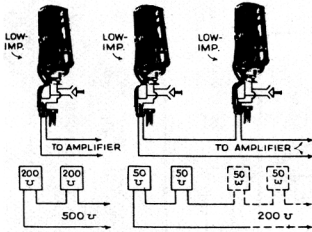
ALL AMPERITE MICROPHONES AND PARTS ARE GUARANTEED AGAINST ANY MANUFACTURING DEFECTS. WE WILL BE HAPPY TO TEST ANY MICROPHONES WHICH YOU FEEL ARE DEFECTIVE.

FOR THOSE NOT EXPERIENCED IN HANDLING RIBBON MICROPHONES, A LITTLE DIFFICULTY MIGHT BE ENCOUNTERED IN OBTAINING BEST RESULTS. PLEASE FEEL FREE TO CONSULT OUR ENGINEERING DEPARTMENT ON ANY PROBLEMS WHICH YOU MIGHT ENCOUNTER IN USING OUR MICROPHONES.

IF UNOPENED, THE VELOCITY MICROPHONE WILL GIVE UNINTERRUPTED SERVICE WITHOUT ANY LOSS IN EFFICIENCY FOR MANY YEARS. IT IS UNUSUALLY RUBBED AND WILL WITHSTAND A GREAT DEAL OF MECHANICAL ABUSE. IF CONVENIENT, WE RECOMMEND THAT YOU TEST MICROPHONES THAT SEEM DEFECTIVE ON ANOTHER SYSTEM BEFORE RETURNING THEM TO US FOR INSPECTION.

MULTIPLE LOW IMPEDANCE MICROPHONES WITH SWITCHES

ANY NUMBER UP TO 4 LOW IMPEDANCE VELOCITIES CAN BE FED INTO ONE AMPLIFIER. IF THE MICROPHONES ARE TO BE USED WITHOUT SWITCHES, THEY CAN BE PLACED IN PARALLEL AND FED INTO THE ONE AMPLIFIER INPUT.

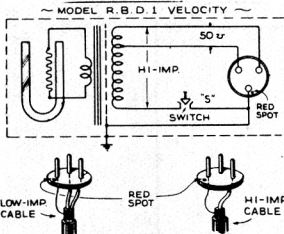


FG.10

WHEN A NUMBER OF LOW IMPEDANCE MICROPHONES WITH SWITCHES ARE REQUIRED ON ONE AMPLIFIER THE MICROPHONES MUST BE PUT IN SERIES INSTEAD OF PARALLEL, AS SHOWN IN FIG. 10.

TWO 200 OHMS MICROPHONES CAN BE FED INTO A 500 OHM INPUT. TWO, THREE OR FOUR 50 OHM MICROPHONES CAN BE PLACED IN SERIES AND FED INTO A 200 OR 500 OHM INPUT. IN GENERAL A LOWER IMPEDANCE MICROPHONE, OR A NUMBER OF MICROPHONES, TOTALLING A LOWER IMPEDANCE, CAN BE FED INTO A HIGHER IMPEDANCE INPUT. DO NOT FEED MIKES WITH HIGHER IMPEDANCES INTO A LOWER IMPEDANCE.

DUAL IMPEDANCE MODEL RBD1



FG.11

THE AMPERITE DUAL IMPEDANCE MICROPHONE, MODEL RBD1 IS EQUIPPED WITH A SWITCH. THE WIRING DIAGRAM IS SHOWN IN FIG. 11.

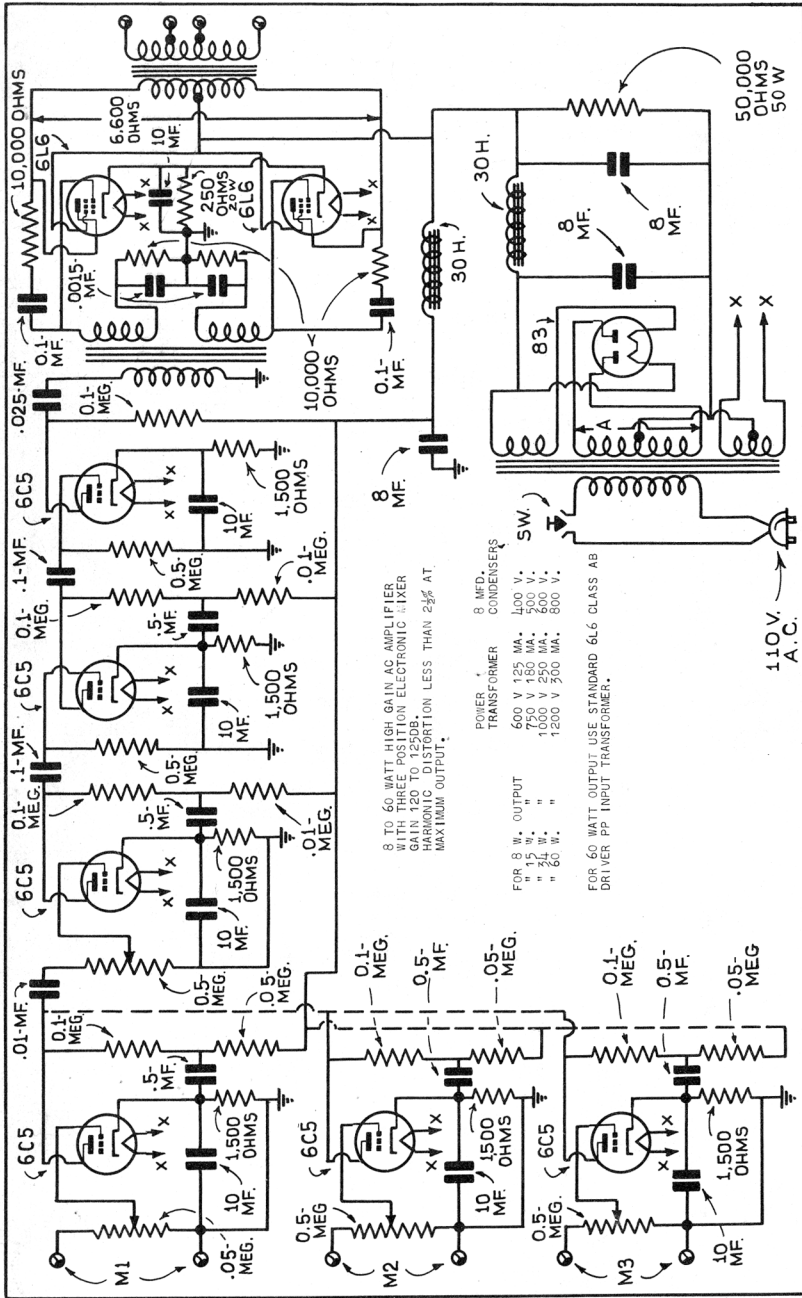
ANY CABLE LENGTH UP TO 2,000 FEET CAN BE USED WITH THE LOW IMPEDANCE CONNECTION. WITH THE HIGH IMPEDANCE, ANY CABLE LENGTH UP TO 100 FEET.

CABLE - USE A 2 CONDUCTOR SHIELDED CABLE FOR THE LOW IMPEDANCE WINDING AND A SINGLE CONDUCTOR SHIELDED CABLE FOR THE HIGH IMPEDANCE.

SWITCH "S" CONNECTS MICROPHONE "ON" AND "OFF" WHEN HIGH IMPEDANCE IS USED.

FOR LOW IMPEDANCE SWITCH MUST BE ON "OFF" POSITION.

THE 50 OHM OUTPUT CAN BE FED INTO 50, 200 OR 500 OHM INPUT WITHOUT LOSS OF VOLUME OR QUALITY. HIGHER IMPEDANCE MICROPHONES, HOWEVER, SHOULD NOT BE FED INTO A LOWER IMPEDANCE INPUT.



8 TO 60 WATT HIGH GAIN AC AMPLIFIER WITH THREE POSITION ELECTRONIC MIXER GAIN 120 TO 125DB. HARMONIC DISTORTION LESS THAN 2% AT MAXIMUM OUTPUT.

POWER TRANSFORMER CONDENSERS
 FOR 8 W. OUTPUT
 600 V 125 MA. 100 V.
 750 V 160 MA. 400 V.
 1000 V 250 MA. 600 V.
 1200 V 300 MA. 800 V.

FOR 60 WATT OUTPUT USE STANDARD 6L6 DRIVER PP INPUT TRANSFORMER.

A MOST ECONOMICAL AMPLIFIER FOR ANY WATTAGE OUTPUT. THE OUTPUT OF THIS AMPLIFIER CAN BE VARIED BY MERELY CHANGING THE PLATE VOLTAGE OF RECTIFIER ETC. FOR 8 WATTS "A" SHOULD BE 600V. -15 WATTS 750V. -180 MA ETC.

THE PROPER POWER TRANSFORMER FOR THE VOLTAGE AND MA. DRAIN DESIRED SHOULD BE USED.

THE 8 MFD. FILTER CONDENSER WILL ALSO VARY WITH OUTPUT DESIRED. - FOR 8 WATTS USE 100 V, 15 WATTS 500 V, 24 WATTS 600 V, 60 WATTS 800 V.

INPUT TRANSFORMER - FOR 8, 15 OR 24 WATT OUTPUT ANY STANDARD PUSH - PULL INPUT TRANSFORMER CAN BE USED. FOR 60 WATT OUTPUT USE ANY STANDARD 6L6 CLASS AB DRIVER TRANSFORMER.

RESISTANCES - ALL RESISTORS ARE ONE WATT CAPACITY EXCEPT THE 250 OHM 20 WATT AND 50,000 OHM 50 WATT SHOWN.

ELECTRONIC MIXER - WHEN NO MIXING IS REQUIRED THE 605 TUBES CONNECTED TO 2A2 AND 4M5 CAN BE OMITTED.