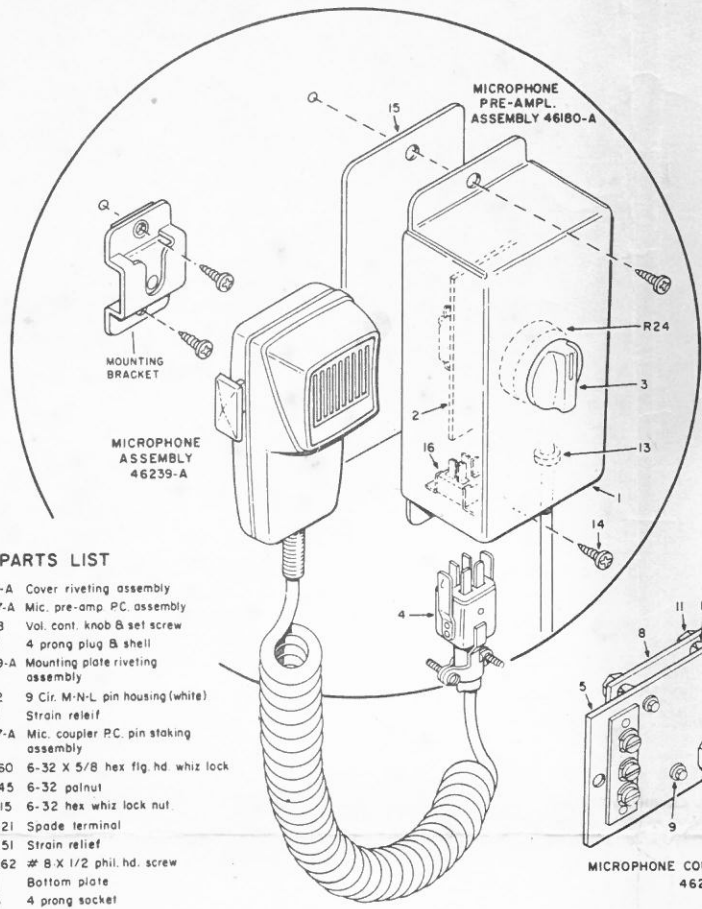


# INSTALLATION INSTRUCTIONS MICROPHONE KIT # 2130

## INSTALLATION INSTRUCTIONS



### PARTS LIST

- |             |                                      |
|-------------|--------------------------------------|
| 1. 46185-A  | Cover riveting assembly              |
| 2. 46257-A  | Mic. pre-amp PC assembly             |
| 3. 44908    | Vol. cont. knob B set screw          |
| 4. 17597    | 4 prong plug B shell                 |
| 5. 46259-A  | Mounting plate riveting assembly     |
| 6. V-7012   | 9 Cir. M-N-L pin housing (white)     |
| 7. 13206    | Strain relief                        |
| 8. 46267-A  | Mic. coupler PC pin staking assembly |
| 9. ST-2560  | 6-32 X 5/8 hex fig. hd. whiz lock    |
| 10. ST-8745 | 6-32 palnut                          |
| 11. ST-8715 | 6-32 hex whiz lock nut               |
| 12. ST-2621 | Spade terminal                       |
| 13. ST-9251 | Strain relief                        |
| 14. ST-4062 | # 8 X 1/2 phil. hd. screw            |
| 15. 46181   | Bottom plate                         |
| 16. 17596   | 4 prong socket                       |

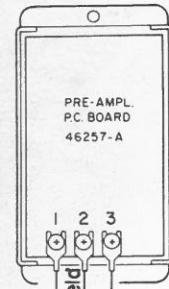
1. Remove microphone kit cover from amplifier and attach coupler with 2 screws originally removed.  
Plug cable into microphone accessory socket.

2. Make 3 wire connection at coupler terminal and dress cable as shown in Fig. 1 for Model 442 (160) or Fig. 2 for Model 443 (100).

**Note:**  
A shielded 22 gauge 2 wire cable is adequate for average type installations. Should requirement be beyond 75 ft., it may be necessary to use a shielded 18 gauge cable.

3. Connect other end of cable to microphone pre-amp.

4. Fasten pre-amp. and microphone bracket suitable to location requirement.



Use Belden type 8422 or equivalent cable

### AMPLIFIER

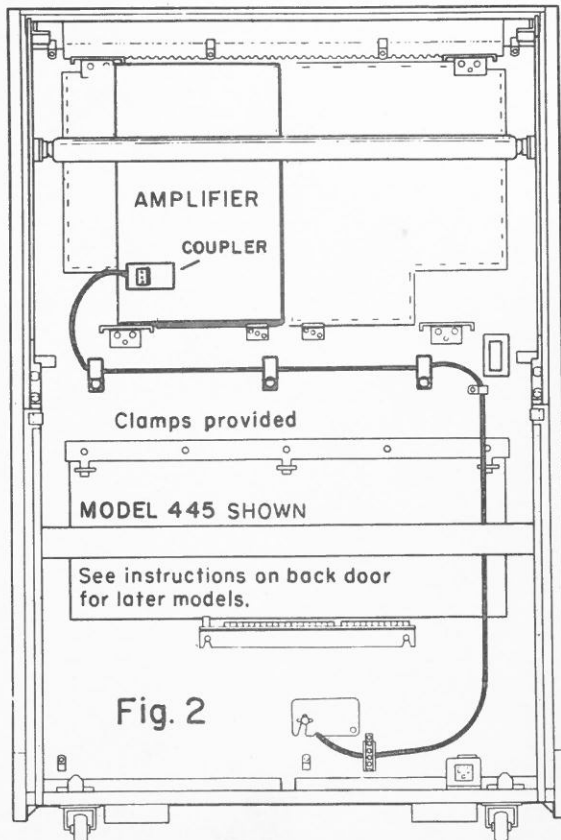
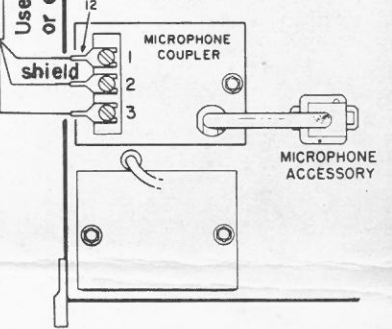


Fig. 2

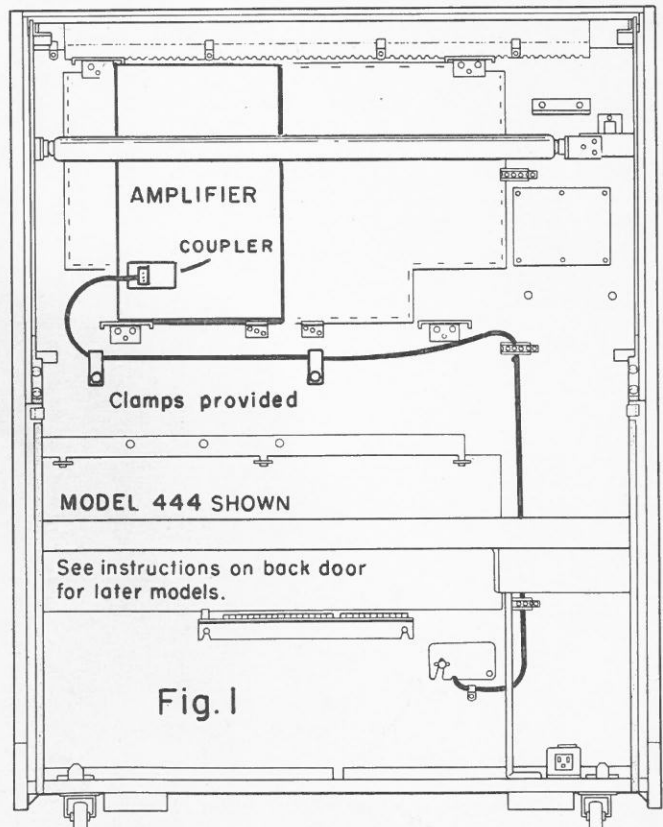


Fig. 1

The microphone kit consists of a coupler mounted in the amplifier, and a pre-amplifier which is connected to the coupler by a 3 conductor cable.

Functions of the coupler are as follows:

1. Provide regulated + 27 volts for the pre-amplifier through R1 and CR5 network.
2. Transistor Q2 turns on the photocell lamp in the amplifier to reduce music volume when the phonograph is playing.
3. A.V.C. capacitor C23 in the amplifier is charged to provide smooth fade-in of music after use of microphone through the voltage divider R2 and R4 in the emitter of Q1 and diode CR3.
4. Couples the signal from the pre-amplifier to both channels of amplifier through Q1 and channel isolation diodes CR1, 2 and 4.

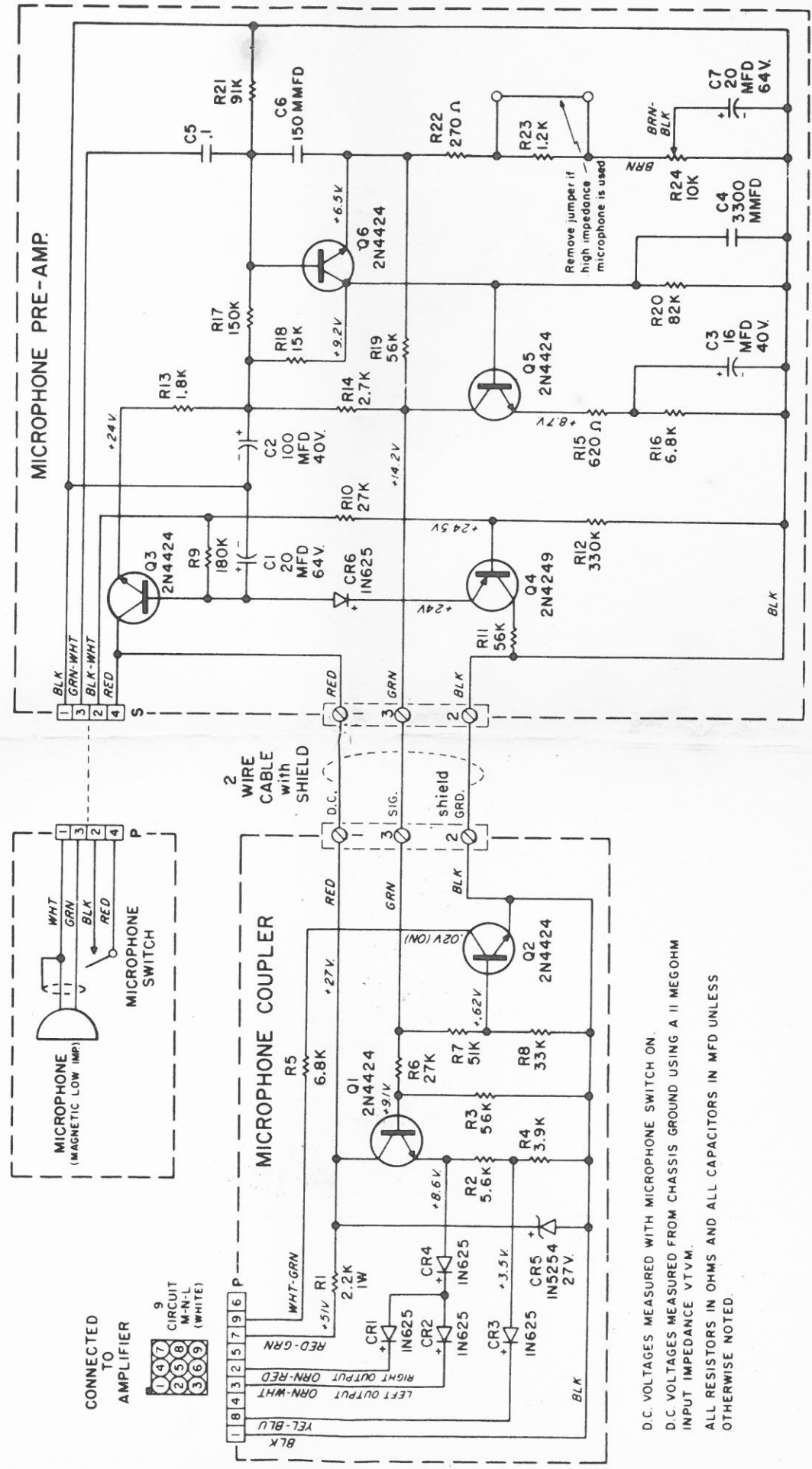
The coupler is activated only when the "push-to-talk" switch is "on", applying a potential of approximately + 14 volts on the signal line (green wire). This potential turns "on" transistor Q1 and provides bias for common collector amplifier Q2.

The microphone pre-amplifier consists of a standard two stage direct coupled amplifier (Q5 and Q6) and power supply switching network (transistors Q3 and Q4). In the emitter of Q6 is the pre-amplifier volume control.

The power supply switching network provides controlled delay "turn-on" and "turn-off" of the microphone in order to eliminate switching transients and noises. When the "push-to-talk" switch is closed, the capacitor C1 begins to charge, turning on transistor Q3 which allows current to flow to the amplifier and to charge C2. "Turn-on" delay of the amplifier is approximately 1 second.

When the "push-to-talk" switch is released, capacitor C1 begins to discharge through transistor Q4 to ground, slowly cutting off the series transistor Q3. After approximately 2 - 3 seconds C1 is discharged, Q3 is cut off, deactivating the amplifier and coupler since there is no D.C. potential on the signal line (green wire).

# SCHEMATIC MICROPHONE KIT # 2130



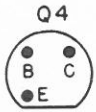
D.C. VOLTAGES MEASURED WITH MICROPHONE SWITCH ON.  
 D.C. VOLTAGES MEASURED FROM CHASSIS GROUND USING A 11 MEGOHM  
 INPUT IMPEDANCE VTVM.  
 ALL RESISTORS IN OHMS AND ALL CAPACITORS IN MFD UNLESS  
 OTHERWISE NOTED.

46263-A  
MICROPHONE COUPLER  
P.C. BOARD ASSEMBLY

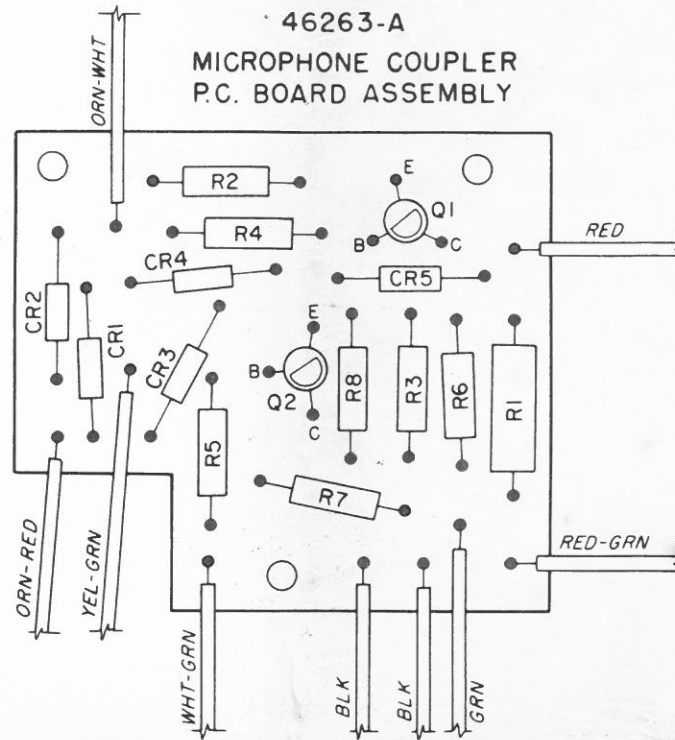
Q1, Q2,  
Q3, Q5,  
Q6



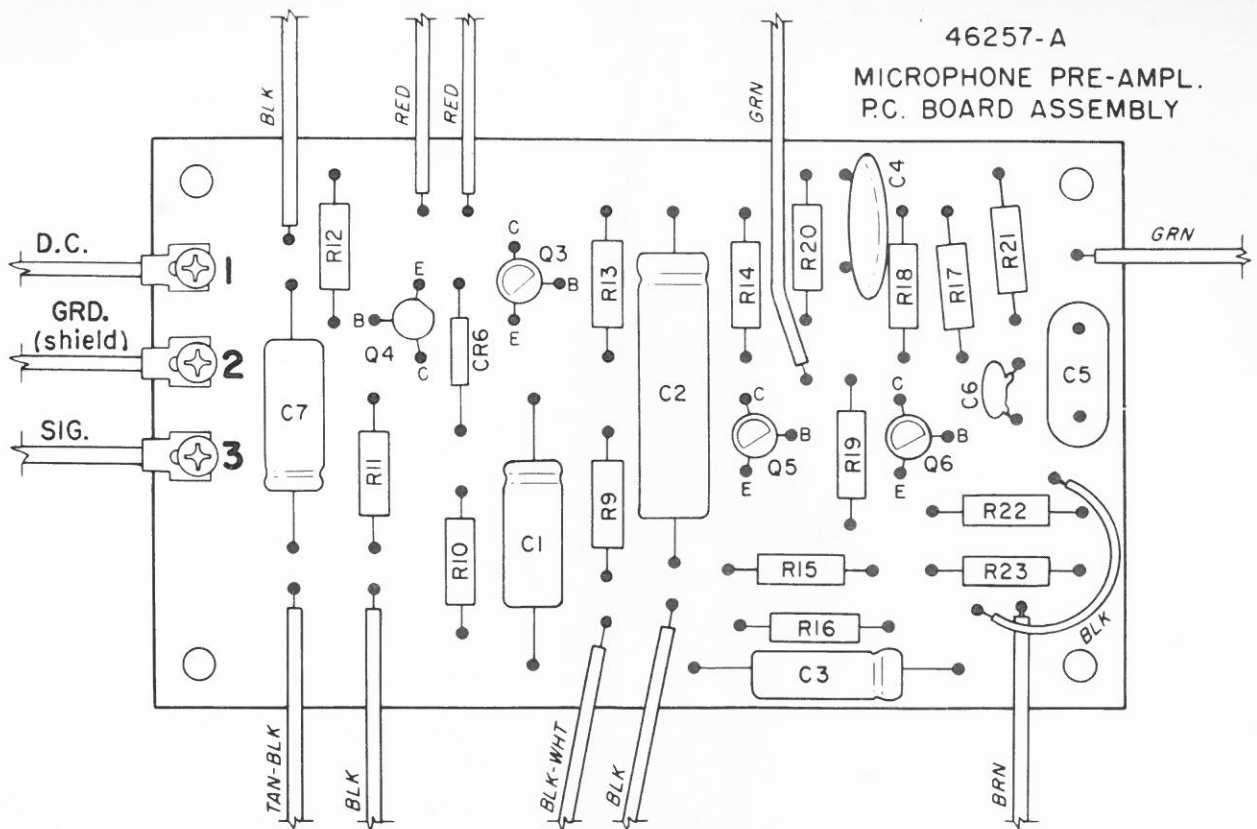
BOTTOM  
VIEW



BOTTOM  
VIEW



46257-A  
MICROPHONE PRE-AMPL.  
P.C. BOARD ASSEMBLY





**ELECTRICAL PARTS LIST**  
**MICROPHONE KIT #2130**

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C1	46253	20 MFD 64 WVDC Capacitor
C2	46254	100 MFD 40 WVDC "
C3	40719	16 MFD 40 WVDC "
C4	30580	3300 MMFD Ceramic Disc Capacitor
C5	44775	.1 MFD 200 WVDC Capacitor
C6	33438	150 MMFD Ceramic Disc Capacitor
C7	46253	20 MFD 64 WVDC Capacitor
CR1	43555	IN625 Diode
CR2	43555	IN625 Diode
CR3	43555	IN625 Diode
CR4	43555	IN625 Diode
CR5	46256	IN5254 Diode
CR6	43555	IN625 Diode
Q1	45747	2N4424 Transistor
Q2	45747	2N4424 Transistor
Q3	45747	2N4424 Transistor
Q4	45298	2N4249 Transistor
Q5	45747	2N4424 Transistor
Q6	45747	2N4424 Transistor
R1	46252	2200 OHM 1 Watt Resistor 5%
R2	18661	5600 OHM ½ Watt Resistor 5%
R3	45292	56,000 OHM ½ Watt Resistor 5%
R4	16225	3900 OHM ½ Watt Resistor 5%
R5	40266	6800 OHM ½ Watt Resistor 5%
R6	43568	27,000 OHM ½ Watt Lo-Noise Resistor 5%
R7	45310	51,000 OHM ½ Watt Resistor 5%
R8	30572	33,000 OHM ½ Watt Resistor 5%
R9	33321	180,000 OHM ½ Watt Resistor 5%
R10	43568	27,000 OHM ½ Watt Lo-Noise Resistor 5%
R11	45292	56,000 OHM ½ Watt Lo-Noise Resistor 5%
R12	35325	330,000 OHM ½ Watt Resistor 5%
R12	18659	1800 OHM ½ Watt Resistor 5%
R14	32205	2700 OHM ½ Watt Resistor 5%
R15	40257	620 OHM ½ Watt Resistor 5%
R16	40266	6800 OHM ½ Watt Resistor 5%
R17	34072	150,000 OHM ½ Watt Resistor 5%
R18	33324	15,000 OHM ½ Watt Resistor 5%
R19	45292	56,000 OHM ½ Watt Lo-Noise Resistor 5%
R20	38679	82,000 OHM ½ Watt Lo-Noise Resistor 5%
R21	46251	91,000 OHM ½ Watt Resistor 5%
R22	35696	270 OHM ½ Watt Resistor 5%
R23	46249	1200 OHM ½ Watt Resistor 5%
R24	46186	Potentiometer