

## 10-20A CHANGE NOTICE

This is a summary of changes made during production of Multiphase Exciter Model 20A. Some of these changes are applicable to Model 10B and are noted accordingly. This information is presented in accordance with Central Electronics' policy to keep its customers advised of improvements.

The first change occurred on 6-21-54 when an improved 9 MC master crystal oscillator was incorporated using a 6U8 in lieu of the 12BH7. This information will be sent upon request.

Later the 3 mmf capacitor (C72) on pin #7 of the grid of the 12BH7 cathode follower was removed. This increased the 10 meter drive.

In the latter part of 1954 a bad batch of 6AG7 tubes was received from GE. The tube would develop control grid to screen shorts and burn out the 180 ohm series screen resistors R57 and R58. These resistors were removed and jumpers installed so the fuse would blow, instead of a resistor, if a tube shorted. Production switched to RCA type 6AG7 tubes with complete success.

Some wiring changes to grounds, etc., are shown on the attached Change Notices, as well as information on the voice control relay.

It is recommended that the changes shown on Notice M151 be made to the 6BA7 Mixer plate circuit in the 20A Bandswitch Assembly, if the changes outlined on Notice M149 are made. These changes will raise the 10 meter output to almost equal that obtained on the lower frequencies. The Exciter exhibits no tendency toward parasitics, even without load.

Change tuning slugs in the orange and yellow 15 MC trap coils from half brass and iron to all iron. The brass ring on the slug can generally be removed. This change increases 15 MC rejection.

Early production units had a 330 ohm resistor across the VFO input coax. This was removed to raise the mixer injection on 16 MC for improved 40 meter operation.

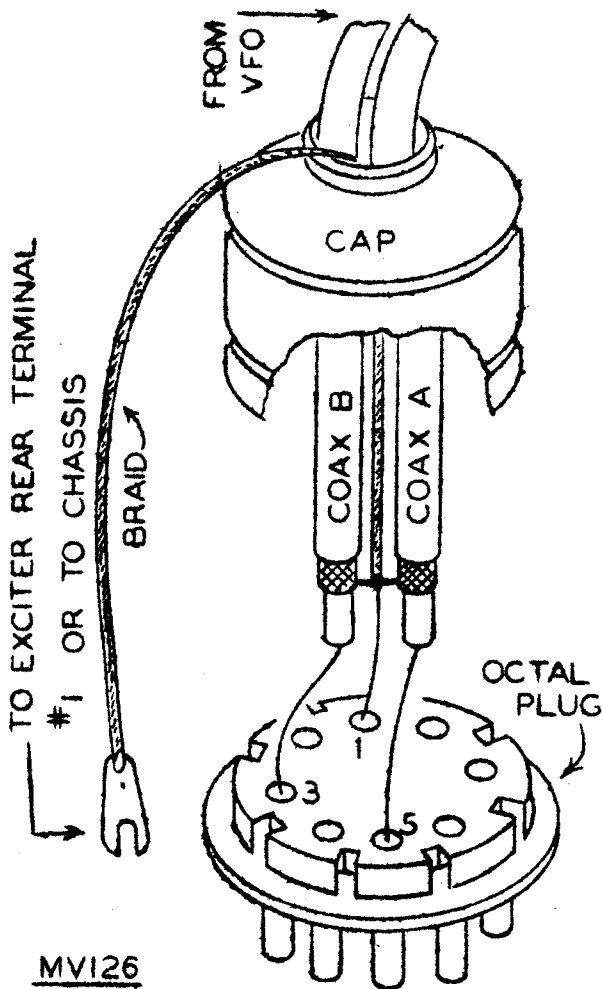
458 VFO

CHANGE NOTICE

In order to provide sufficient output when the 1625 is operating as a frequency tripler to 16 mc. (for 40 meter operation) the Voltage Regulator tube has been changed to a VR105. The dropping resistor for the Regulator Tube is now 4000 ohms.

If the 1625 grid bias resistor (located on terminals 6 and 7 on the VR tube socket) is increased to 100,000 ohms, additional reserve output will be obtained.

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\* \* \* \*



It is advisable to provide an additional low impedance ground path for the coaxial cable shields as shown on the left. This will prevent the exciter from self-oscillating, particularly on the higher frequency bands.

NOTE

SCRAPE OFF COAX RIGHT WHERE VFO PLUGS INTO EXCITER AND PUT BRAID STRAP ACROSS AND GROUND STRAP TO 20A

MV126  
101MX

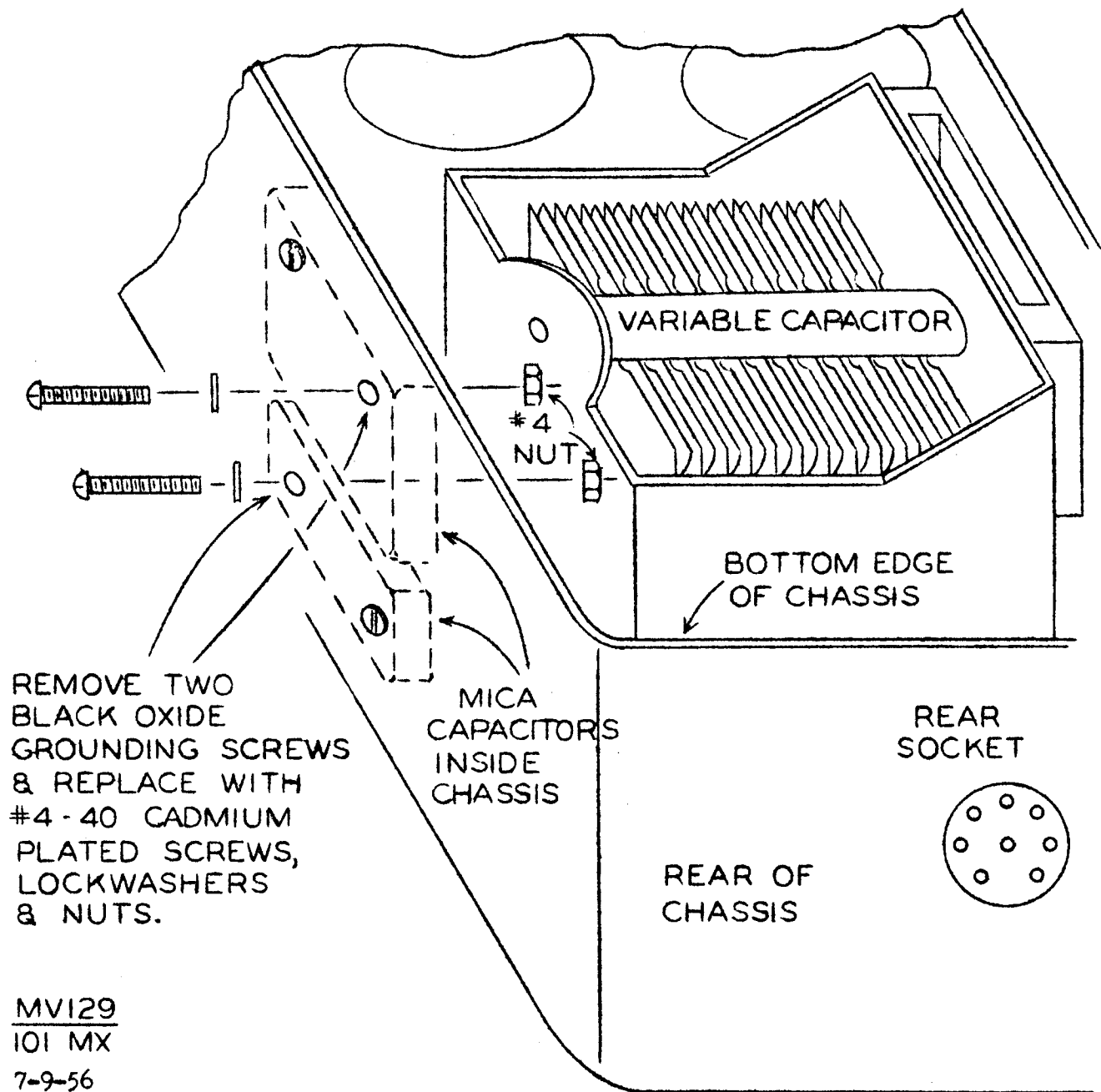
CENTRAL ELECTRONICS, INC.  
1247 W. BELMONT AVENUE  
CHICAGO 13, ILLINOIS

458K  
5-22-56  
Printed in USA

458 CHANGE NOTICE

The black oxide screws sometimes make poor R.F. contact and must be replaced. Before installing coax F, remove two black oxide #3 nuts, screws and washers from the right side of chassis near rear, as shown. These two screws hold two mica capacitors and two ground lugs to the side of chassis. The two ground lugs should be cleaned, if necessary, to insure good contact. Two #4-40 x 5/8" screws, nuts and lockwashers are used to replace the #3 screws, as shown.

Place a lockwasher under head of screw; push through hole in side of chassis and capacitor. A #4 nut is used to hold lug and capacitor to inside of chassis. If your 458 is painted black wrinkle, it is advisable to scratch paint from around the two holes before adding #4 screws.



## TEMPERATURE COMPENSATION OF THE VFO

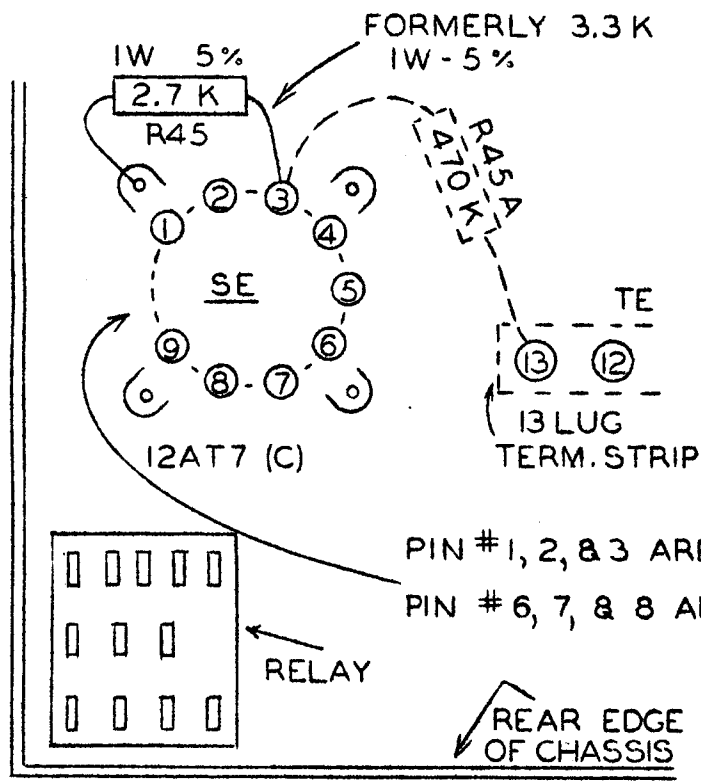
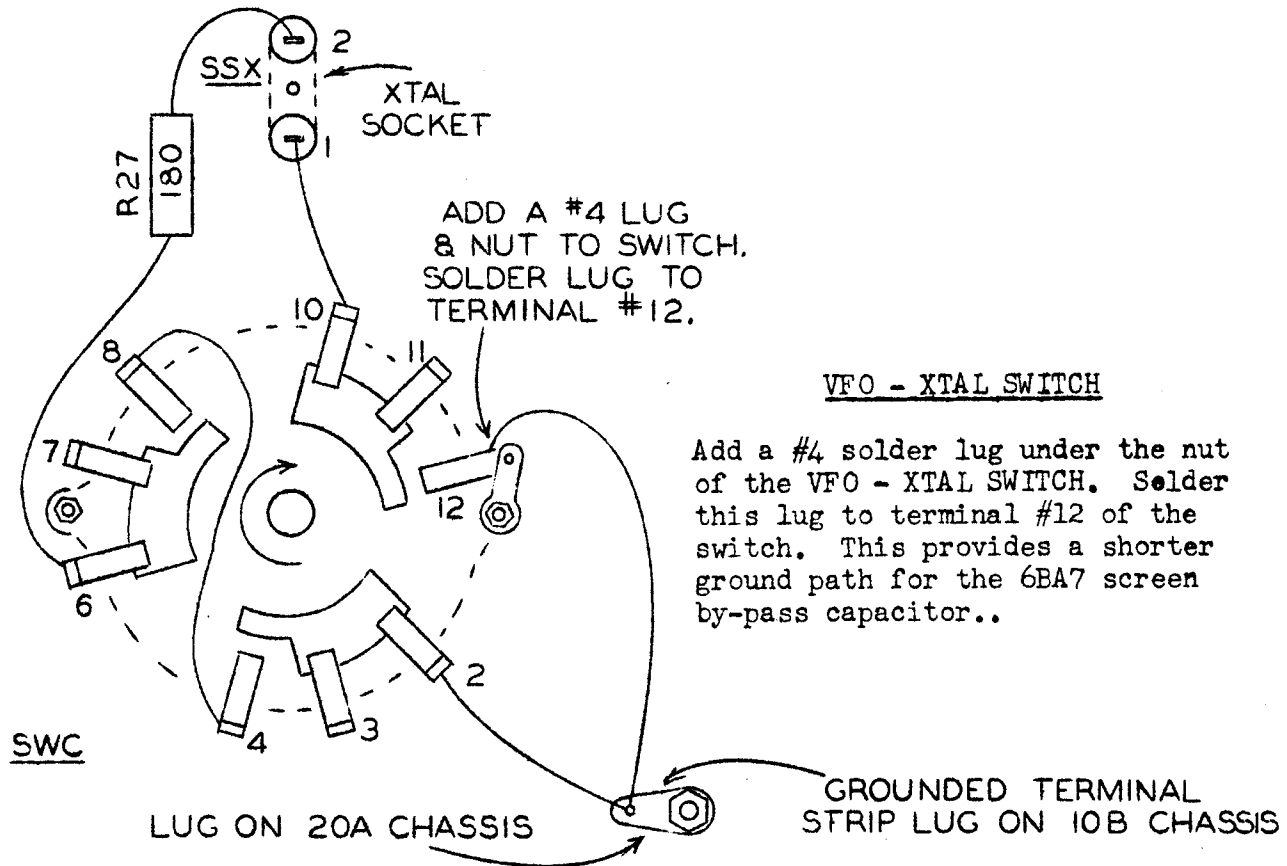
In order to achieve good stability in a reasonable period of time, the AVERAGE BC-453 requires a 10 mmfd. P100 temperature compensating capacitor, C26, inside the oscillator can. Be sure to remove the 3 mmfd. neg. 750 and change the 1626 grid capacitor to 180 mmf. zero temperature coefficient.

Occasionally some units may require no positive compensation at all, while others require 20 mmfd. P100.

It is recommended that all drift checks are made with the Exciter operating on the 40 meter band, where the fundamental VFO frequency is multiplied by three to 16 mc., so that any drift may be readily observed. If the 458 continues to drift higher in frequency 20 minutes after a cold start, when observed on 40 meters, another 10 mmfd. P100 should be added in parallel to the one already installed. If the 458 drifts lower in frequency instead, the 10 mmfd. P100 capacitor should be removed.

Each time a capacitor is added or removed, it will be necessary to readjust the large capacitor inside the oscillator can for proper calibration at 21,450 kc.

10B - 20A CHANGES

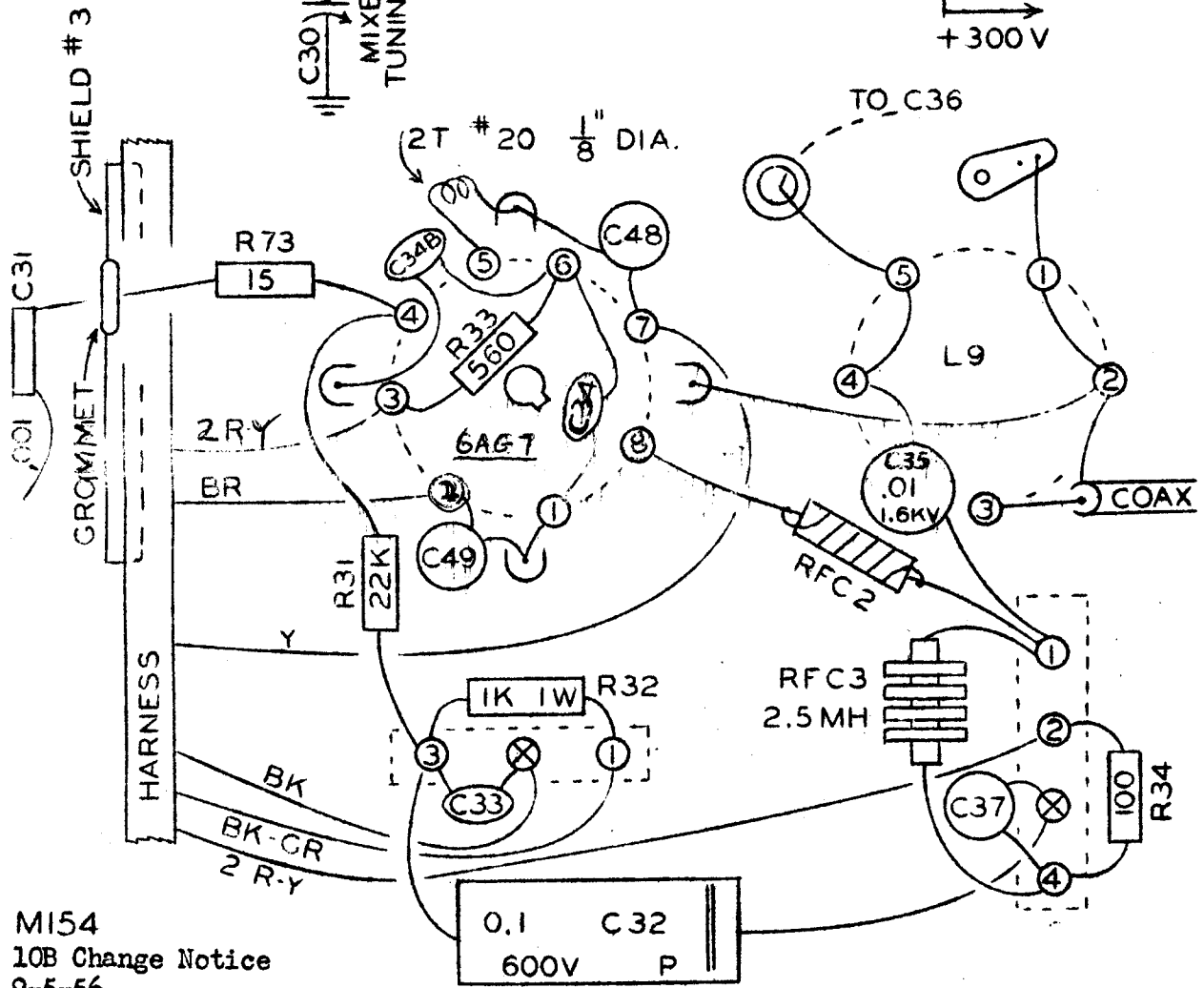
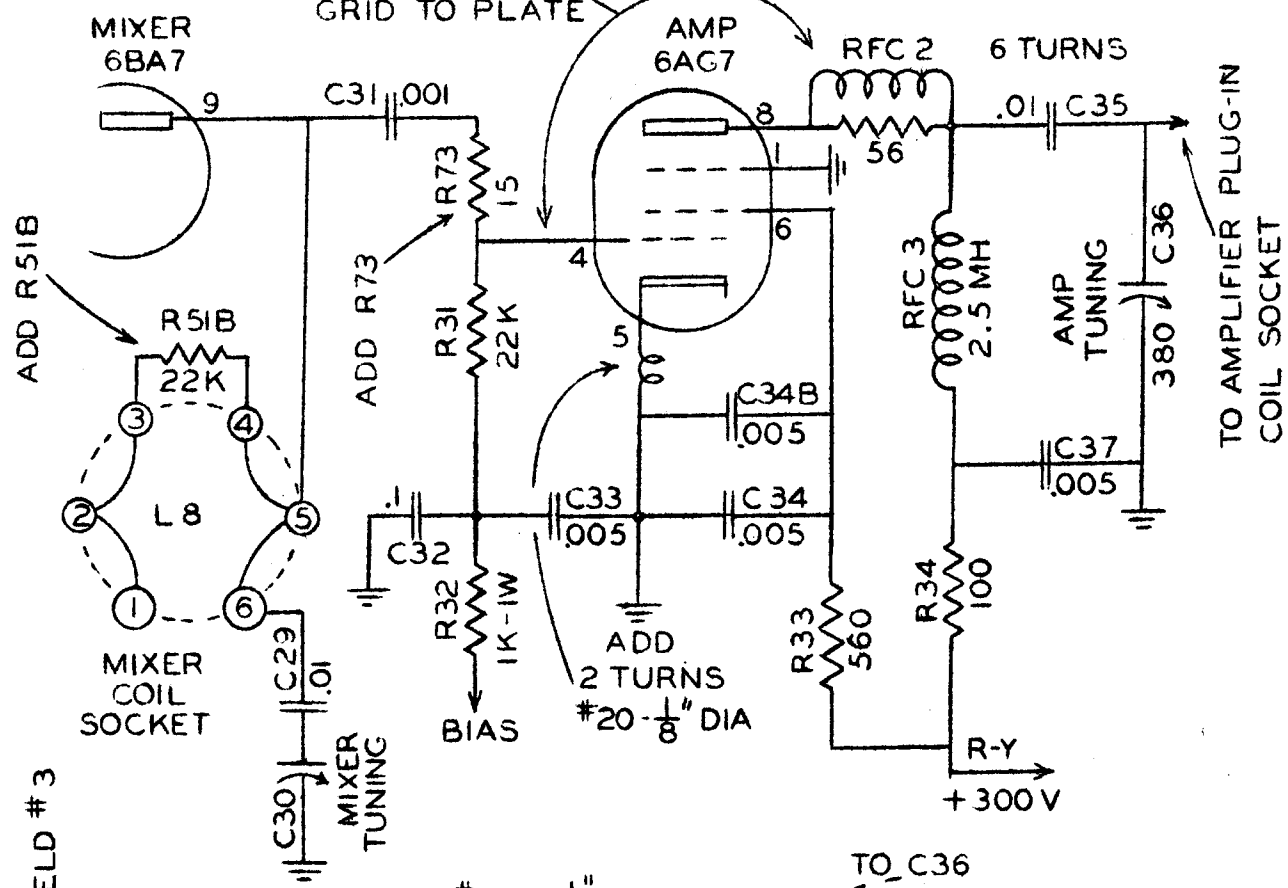


VOICE CONTROL RELAY CIRCUIT CHANGE

R45, in the cathode of the relay control tube, has been changed from 3.3K 5% to 2.7K 5% in order to lengthen the relay "hold-in" time and sensitivity. If the relay will not release after speaking into the mike, the value of this resistor should be increased.

M137A

MOVE PARASITIC SUPPRESSOR FROM GRID TO PLATE



M154  
10B Change Notice  
9-5-56

CENTRAL ELECTRONICS, INC.

CHANGE NOTICE

10B - 20A

KEYING CIRCUIT CHANGE

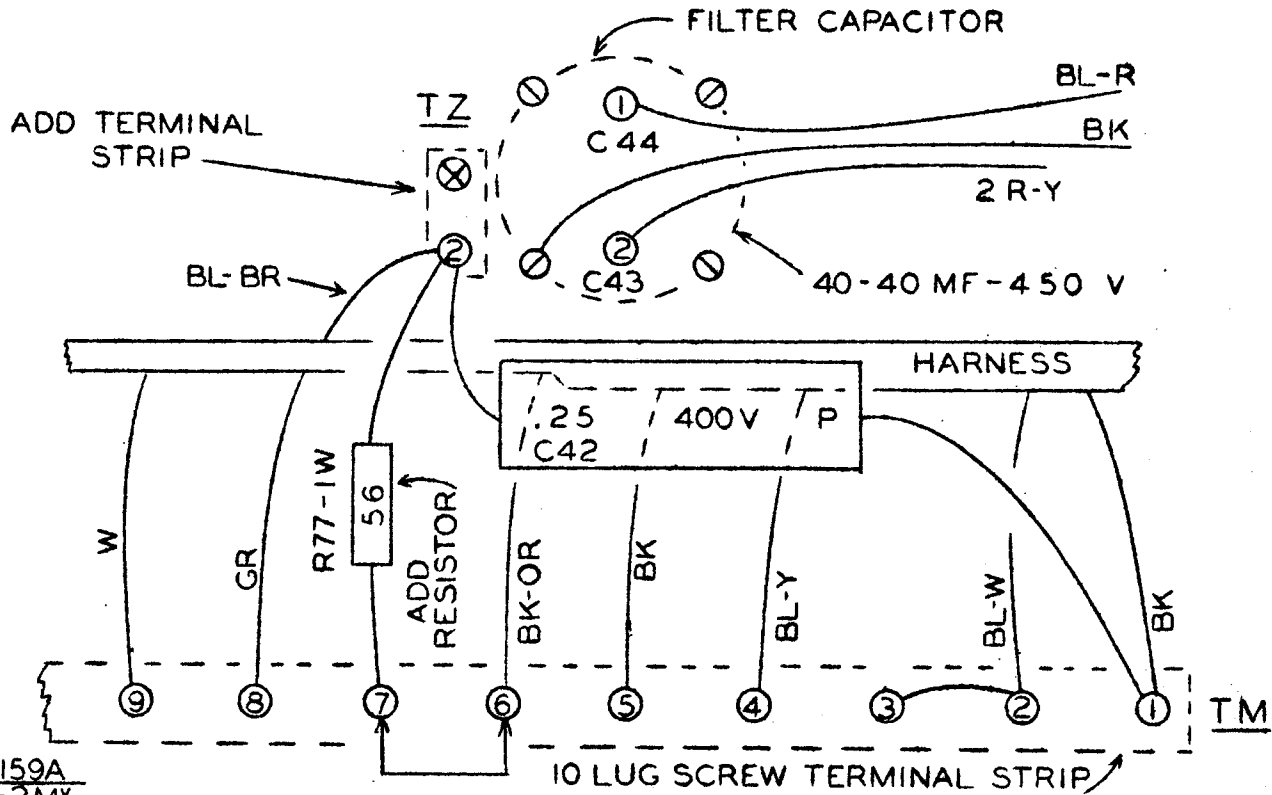
Mount a two lug terminal strip TZ together with the filter capacitor plate as shown.

The Blue-Brown lead from harness goes to terminal strip TZ lug #2 (NS).

A 56 ohm 1 watt resistor, R77, from two lug terminal strip lug TZ #2 (NS) to lug #7 of 10 lug rear screw terminal strip TM. Capacitor C42 (.25 mfd.) goes to terminal #2 of TZ two lug strip (S).

NOTE: On units below serial No. 7300, C42 was connected to #7 of 10 lug rear terminal strip TM.

The grounded terminal #1 of TZ is not wired.



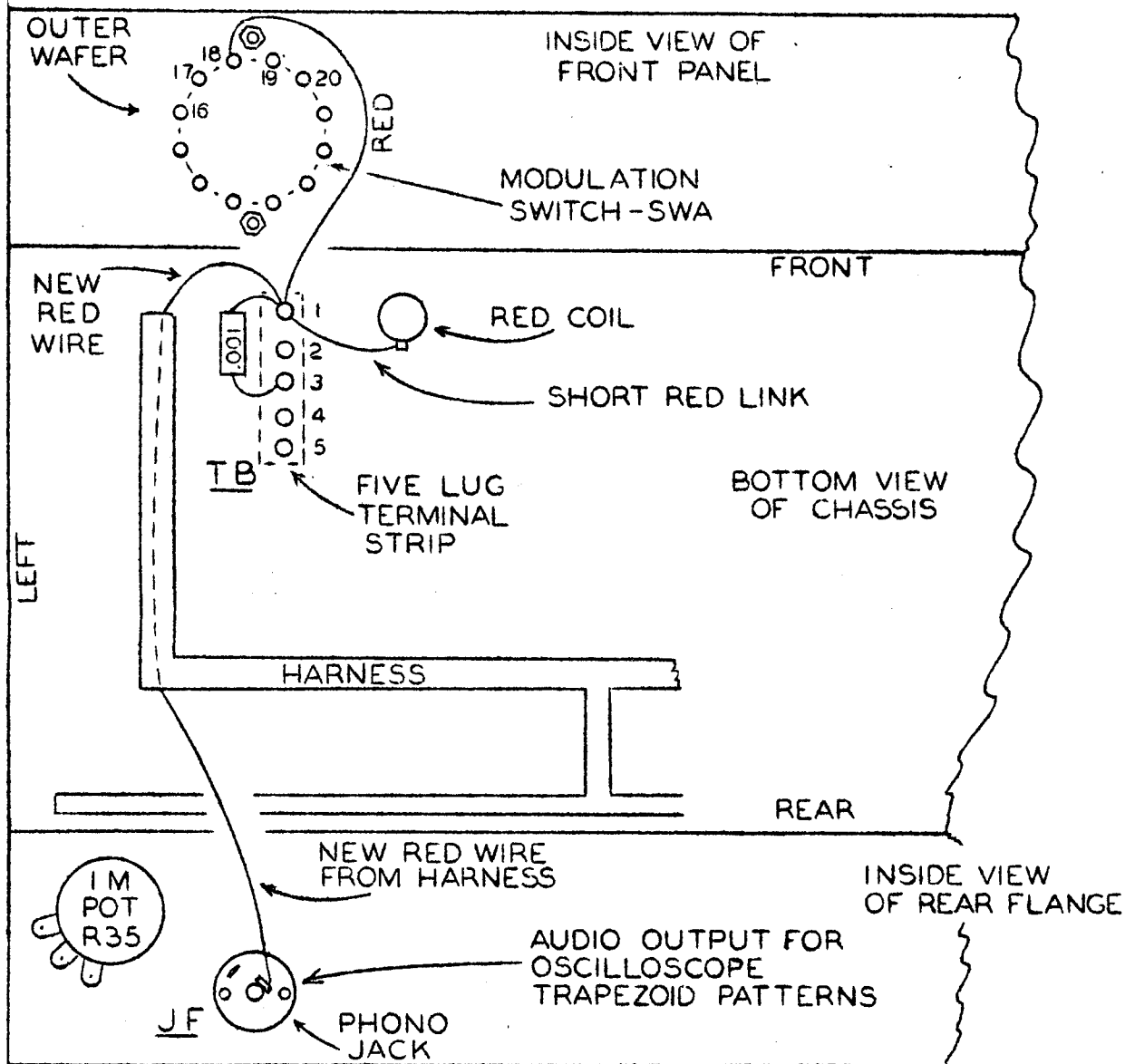
# 10B-20A CHANGE NOTICE

## AUDIO CONNECTION FOR OSCILLOSCOPE

A phono jack has been added to the rear of the chassis, which connects to the output of one of the modulators. This jack can be used to supply the audio voltage to an oscilloscope, such as the MM-1, for obtaining trapezoid patterns.

Mount the phono connector on the rear of the chassis with #6 hardware, as shown below. The red wire from the harness connects to terminal strip TB, Term. #1, near the front of the chassis. Solder the other end of this lead to the phono jack at the rear of the chassis.

This red wire is included in the harness in all Exciters which have the letter "C" following the serial number. On earlier Exciters the holes must be drilled for the connector and the red wire must be added.

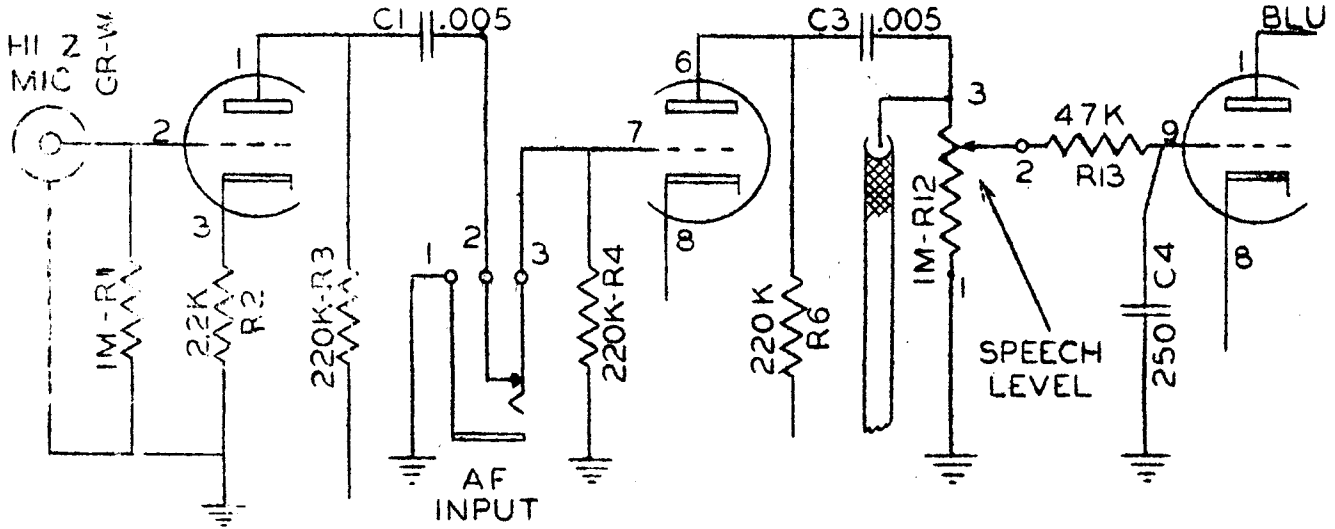




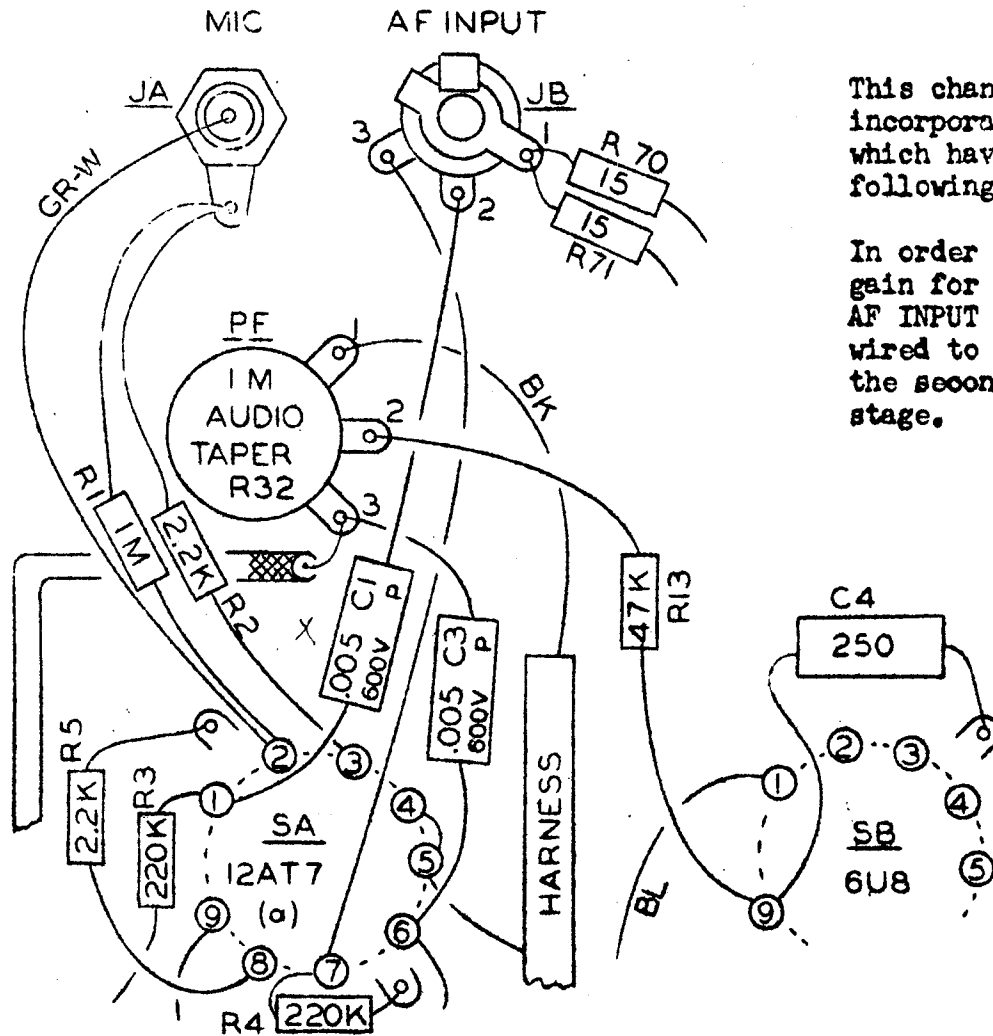
10B-20A CHANGE NOTICE - MODIFICATION "C"

SPEECH PRE-AMP  
12AT7 (a)

AF  
DRIVER  
1/2-6U8



AF INPUT JACK CHANGE



This change has been incorporated in all Exciters which have the letter "C" following the serial number.

In order to provide more AF gain for phone patch operation AF INPUT jack JB has been wired to the input grid of the second speech preamplifier stage.