

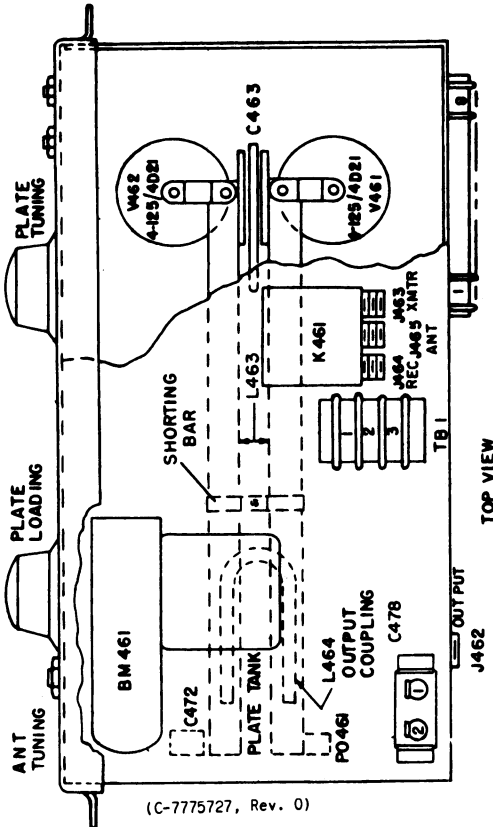
METER READINGS FOR PROPER OPERATION

METER	READING
GRID CURRENT	19-25 MILLIAMPERES
PLATE CURRENT	260 MILLIAMPERES
PLATE VOLTAGE	2000 VDC ±100
FIL VOLTAGE	5 VOLTS

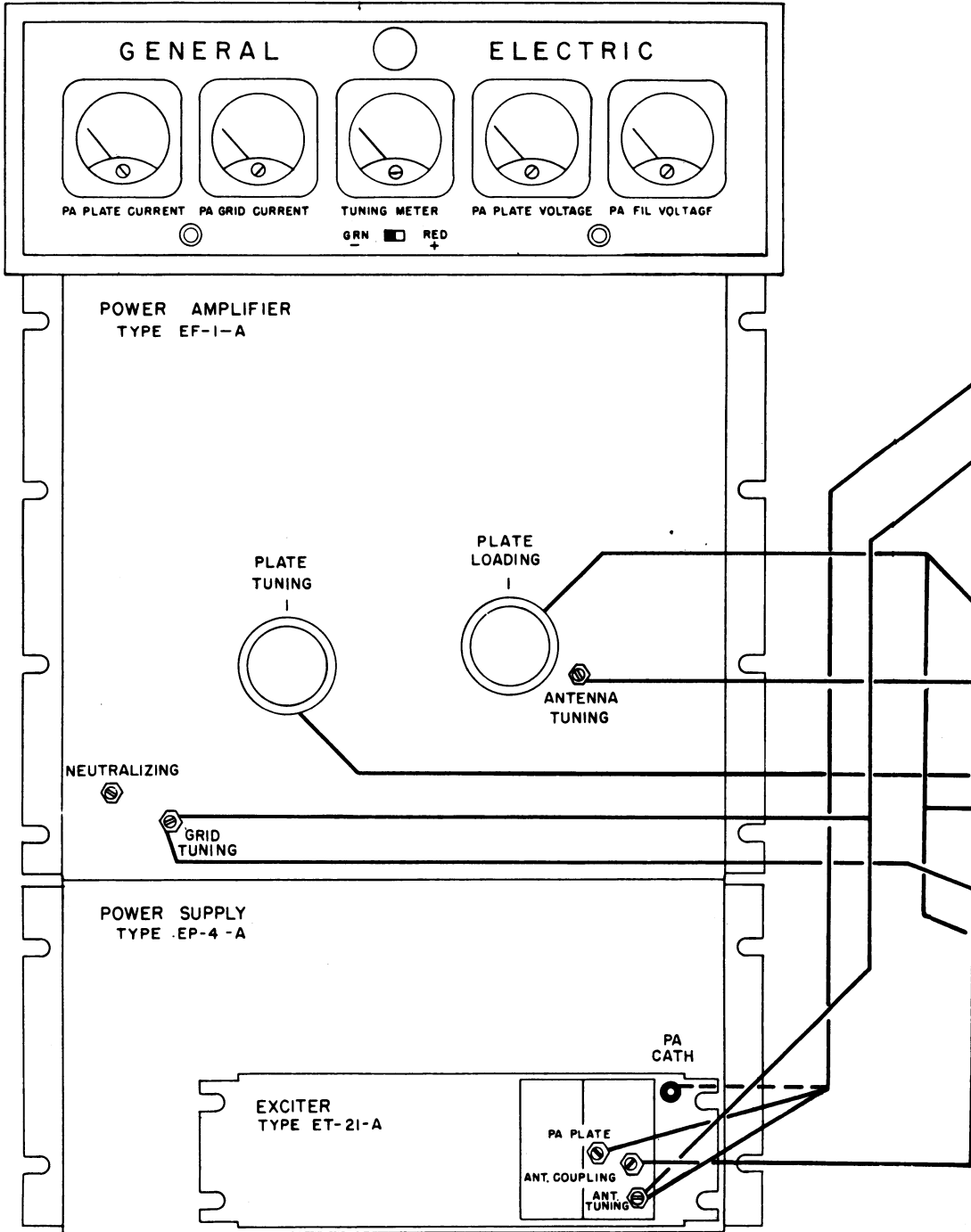
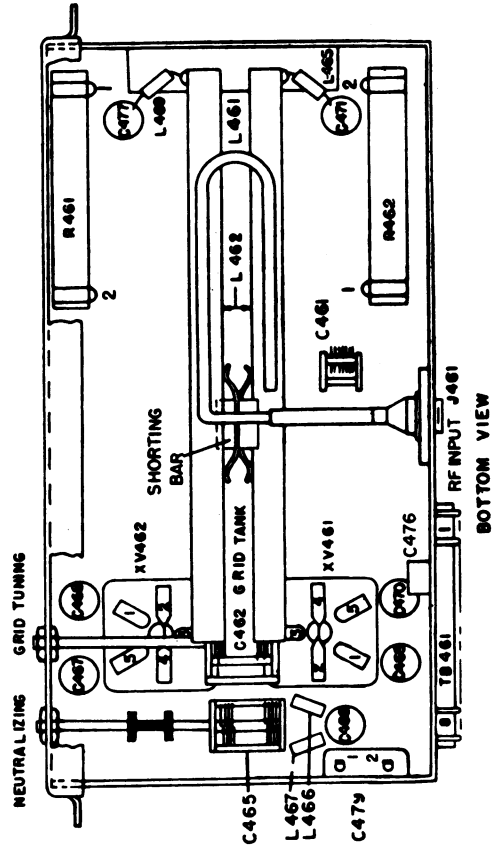
VOLTAGE READINGS WITH FULL POWER OUTPUT

METERING POINTS	TB461-1	TB461-2	TB461-3	TB461-4	TB461-5	TB461-6	TB461-8	PO #461
VOLTAGE	117 VAC	117 VAC	GROUND	GROUND	GROUND	GROUND	GROUND	GROUND
READING	117 VAC	117 VAC	-70 VDC	2.5 VDC	2.5 VDC	2.5 VDC	230 VDC	1950 VDC

* IF EXITATION IS REMOVED, SCREEN VOLTAGE SHOULD BECOME ZERO.



(C-7775727, Rev. 0)



SIMPLIFIED ALIGNMENT PROCEDURE				
Before this alignment procedure is followed, the multiplier stages of the Exciter must be aligned, the shorting bars on the Power Amplifier grid and plate lines must be adjusted, and the Power Amplifier must be correctly neutralized. Instructions for aligning the Exciter are included on the SERVICE OUTLINE for the unit and the complete procedure for aligning the Power Amplifier is included in the BENCH ALIGNMENT PROCEDURE for the EF-1-A.				
PRELIMINARY OPERATIONS				
1. Connect antenna or other suitable 50-ohm load to ANT jack of Power Amplifier				
2. Be sure that Channel A crystal and Channel B crystal (if used) are connected between pins 4 and 6 and between pins 2 and 8 of crystal socket XY101, respectively, in the Exciter.				
3. Turn the PA Power Supply TUNE-OPERATE switch and the Exciter TUNE-OPERATE switch to TUNE.				
4. Rotate Exciter ANT COUPLING control fully clockwise and Power Amplifier PLATE LOADING control to zero.				
5. Turn the power on and allow 3 or 4 minutes for warmup.				
6. Adjust the PA FILAMENT rheostat (R481) on the PA Power Supply for a reading of 5.0 volts on the PA FIL VOLTAGE meter.				
7. Connect a microphone to the microphone jack on the Exciter Power Supply.				
NOTE: The transmitter should not be keyed more than 15 seconds in every half minute until the PA has been tuned.				
METERING		ADJUSTMENT	METER READING	PROCEDURE
EXCITER	AMPLIFIER			
CATH PA J106 red		PA PLATE, ANT TUNING (Exciter)	Minimum (Dip)	1. Key transmitter and adjust Exciter PA PLATE and ANT TUNING controls for minimum CATH PA meter reading. (Use TUNING METER and set polarity-reversing switch to red-positive.)
	PA GRID CURRENT	ANT TUNING (Exciter) and GRID TUNING (Power Amplifier)	Maximum	2. Key transmitter and tune Exciter ANT TUNING and Power Amplifier GRID TUNING controls for maximum PA GRID CURRENT. (If no maximum is observed, rotate Exciter ANT COUPLING slightly counter-clockwise until indication can be observed while tuning.)
	PA GRID CURRENT	ANT COUPLING (Exciter)	20-30 ma	3. Turn Exciter TUNE-OPERATE switch to OPERATE.
	PA PLATE CURRENT	PLATE TUNING (Power Amplifier)	Do not exceed 1.5 volts	4. Key transmitter and adjust Exciter ANT COUPLING control counterclockwise for 20-30 ma of PA GRID CURRENT. Do not load the CATH PA beyond 1.5 volts
	PA PLATE CURRENT	PLATE TUNING (Power Amplifier)	Minimum (Dip)	5. Key transmitter and tune Power Amplifier PLATE TUNING control for minimum PA PLATE CURRENT.
	PA PLATE CURRENT	PLATE TUNING (Power Amplifier)	Minimum (Dip)	6. Turn Power Amplifier TUNE-OPERATE switch to OPERATE.
	PA PLATE CURRENT	PLATE TUNING (Power Amplifier)	Minimum (Dip)	7. Key transmitter and tune Power Amplifier PLATE TUNING control for minimum PA PLATE CURRENT. Observe whether peak in PA GRID CURRENT is obtained simultaneously with dip in PA PLATE CURRENT. If not, make very slight adjustment of NEUTRALIZING control until proper "tracking" is obtained.
	PA PLATE CURRENT	PLATE LOADING (Power Amplifier)	160-190 ma	8. Key transmitter and adjust Power Amplifier PLATE LOADING control for 160-190 ma of PA PLATE CURRENT.
	PA PLATE CURRENT	ANTENNA TUNING (Power Amplifier)	Maximum	9. Key transmitter and tune Power Amplifier ANTENNA TUNING control for maximum PA PLATE CURRENT.
	PA PLATE CURRENT	PLATE TUNING (Power Amplifier)	Minimum (Dip)	10. Key transmitter and redip Power Amplifier PLATE TUNING control.
	PA PLATE CURRENT	PLATE LOADING (Power Amplifier)	260 ma	11. Key transmitter and adjust Power Amplifier PLATE LOADING control for 260 ma of PA PLATE CURRENT.
	PA PLATE CURRENT	PLATE TUNING (Power Amplifier)	Minimum (Dip)	12. Key transmitter and redip Power Amplifier PLATE TUNING control.
	PA GRID CURRENT	ANT COUPLING (Exciter)	20-30 ma	13. Key transmitter and adjust Exciter ANT COUPLING control for 20-30 ma of PA GRID CURRENT. Do not load the CATH PA beyond 1.5 volts.
	PA GRID CURRENT	GRID TUNING (Power Amplifier)	Do not exceed 1.5 volts	14. Key transmitter and adjust Power Amplifier GRID TUNING control for maximum PA GRID CURRENT.
	PA PLATE CURRENT	PLATE LOADING (Power Amplifier)	Maximum	15. Key transmitter and readjust Power Amplifier PLATE LOADING control for 260 ma of PA PLATE CURRENT.
	PA PLATE CURRENT	PLATE LOADING (Power Amplifier)	260 ma	16. Since different power amplifier tubes may have different grid drive requirements for maximum power output, it will usually be advantageous to repeat Step 13, setting the PA GRID CURRENT to the value which produces the highest power output for 260 ma of PA PLATE CURRENT.

SOLID LINES INDICATE TUNING CONTROLS.

BROKEN LINES INDICATE METERING JACKS.

Service Outline

250-WATT POWER AMPLIFIER
MODEL 4EF1A2

(RC-359A)