

2000+ AMPLIFIER

THE SUPPLY

(050165)
PRICE \$ 2.00

MANUAL 183-48
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SECTION I

1-1 NOTICE ! TUBE HOLD-DOWN TAPE AND FILLERS MUST BE REMOVED BEFORE PLACING IN OPERATION. REMOVE CAREFULLY. Take special notice of how the equipment was packed, in the event you ship it again. Some parts may be packed separately. Also, take note of any special warning or instruction tags attached. There are wood blocks inside the supply which should be left intact.

1-2 NOW is the time to make a careful examination of the RF section, power supply, tubes and other components for any signs of shipping damage. NOT after power is applied and failures occur because of previously unnoticed shipping damage. This equipment has been carefully packed and will arrive safely, if properly handled.

(A) OBVIOUS DAMAGE

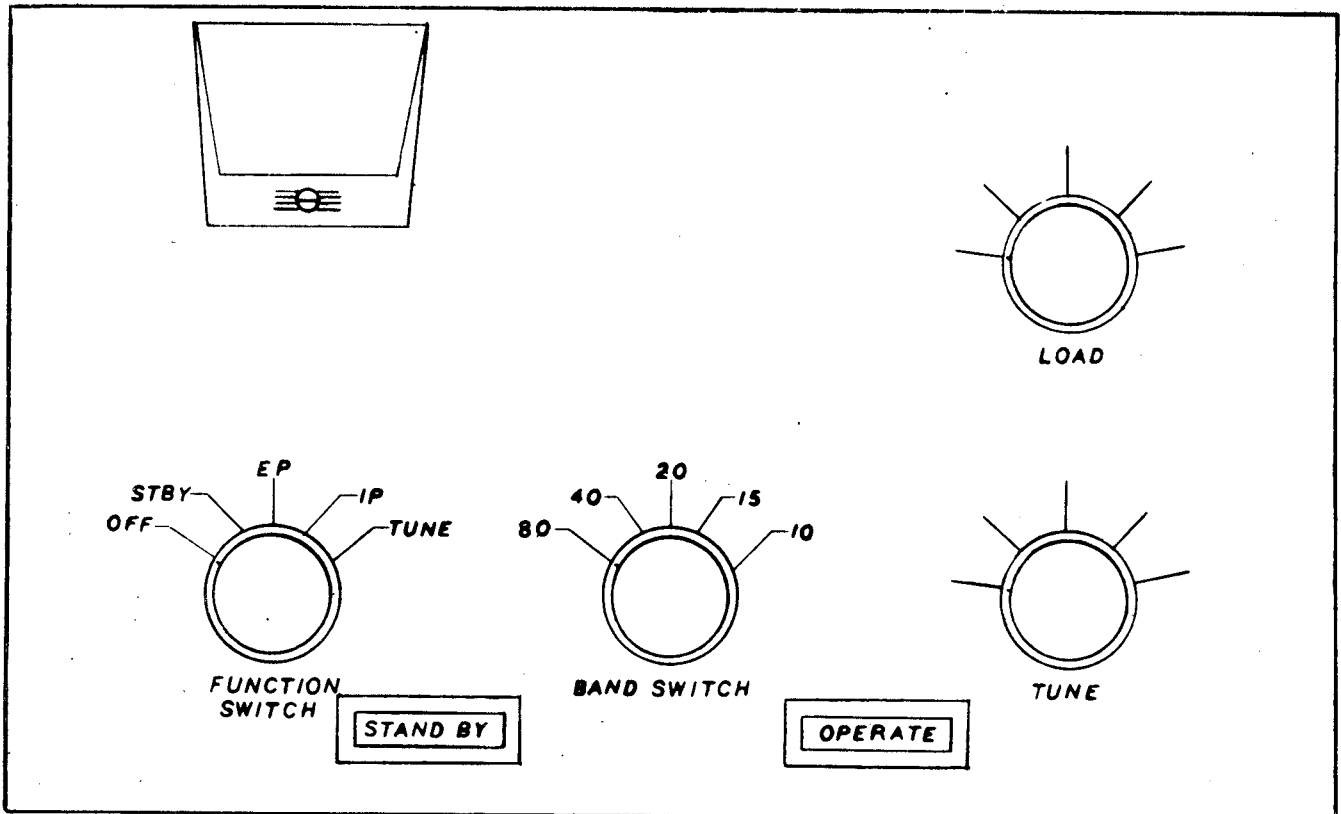
If the carton shows evidence of rough handling, you should have noted this on the carriers delivery receipt. If inspection shows obvious damage, such as loose or broken parts, the delivering carrier must be contacted immediately by you, and a joint inspection made by you and this carriers agent. This joint inspection report is not a claim but a report and record that there is, or may be, serious damage, and lays the foundation on which a claim may be filed later when the extent of such damages can be accurately determined.

(B) HIDDEN DAMAGE

Perhaps, at the time of delivery, there was no opportunity to make a careful inspection or, when the unit was unpacked, damage is apparent even though the cartons showed no outward signs of such damage. The procedure for contacting the carrier and having an inspection will be the same.

Remember, responsibility for safe delivery rests with the carrier. The responsibility for careful inspection and reports of damage to the carrier rests with you. Prompt action will speed adjustments. Under no circumstances should you make any reshipments of damaged equipment before the proper joint inspection and reports have been made. To do so will generally result in a loss that you will have to assume. Our warranty in no way covers repair of damage due to improper handling. Do not assume difficulties or breakage are not from shipping. It is best to have the inspection made even if not used. After the inspection has been made, contact your dealer or us for assistance.

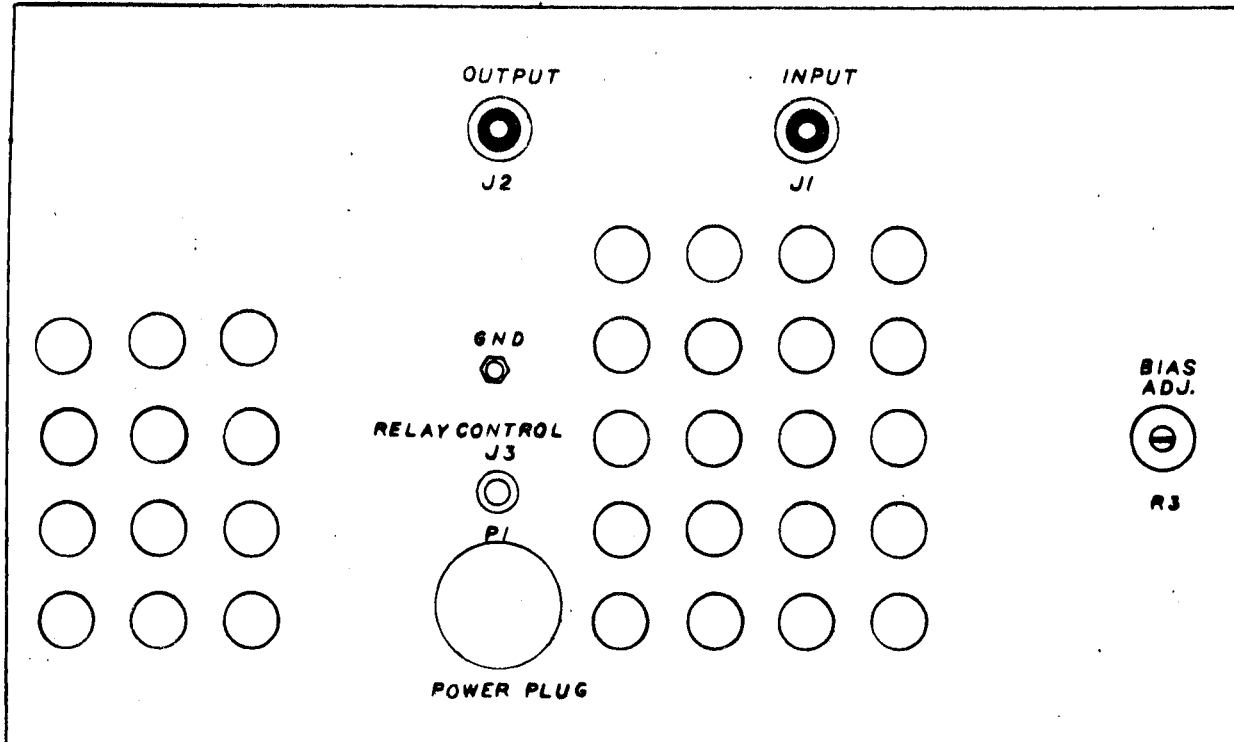
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2-1 LOCATION OF FRONT PANEL CONTROLS

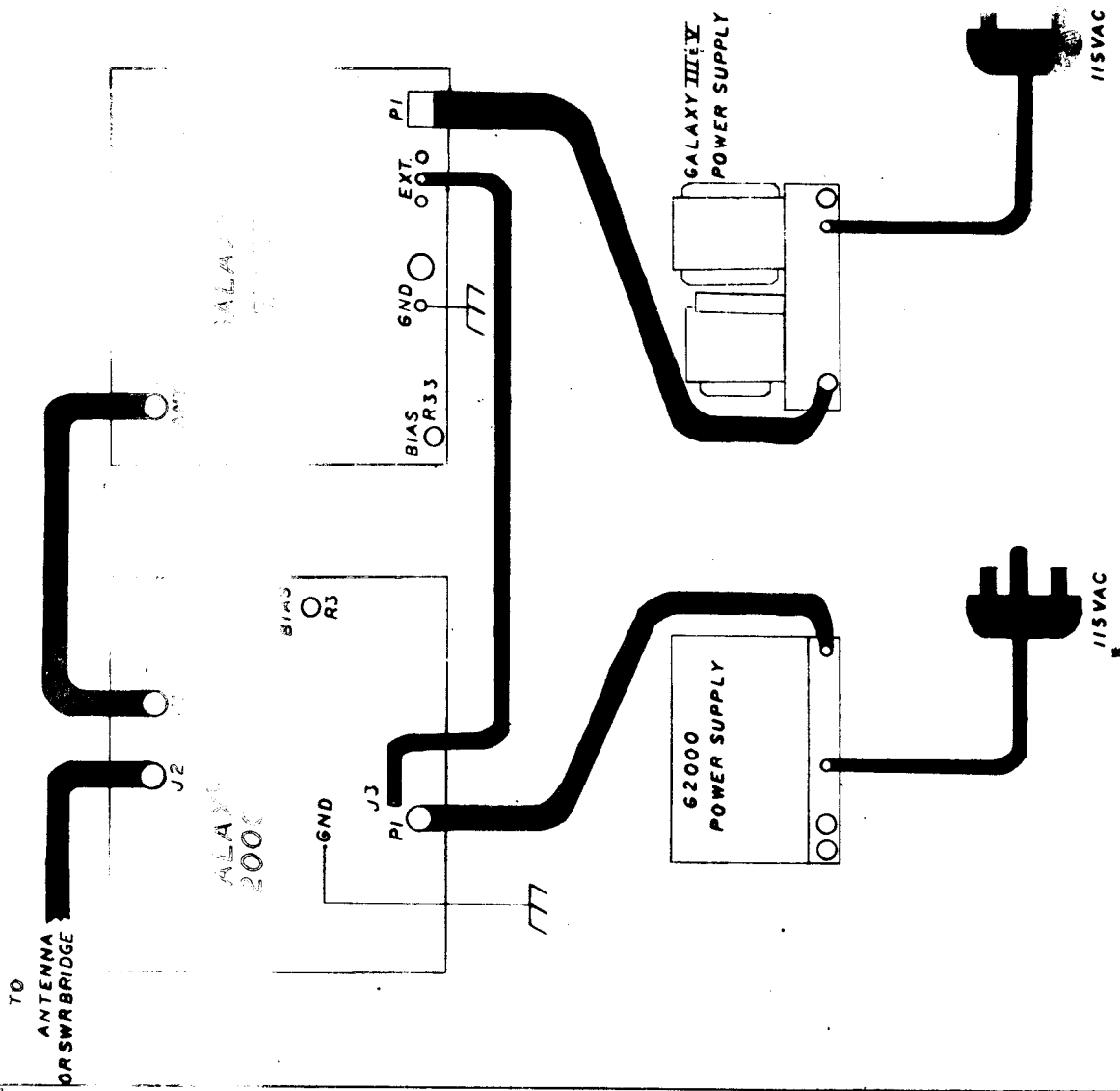
- FUNCTION** A five position rotary switch located immediately below the meter. Controls primary power, metering, and tune-up power reduction.
- BAND** A five position rotary switch to select the desired band.
- TUNE** A variable capacitor, tuning the plate circuit for resonance. Fully clockwise is maximum capacity.
- LOAD** A variable capacitance in the pi-network, used to adjust impedance matching. Fully counter-clockwise is maximum capacitance (minimum loading requires maximum capacity).
- STANDBY** A panel indicator (yellow) illuminated only in STBY position.
- OPERATE** A panel indicator (red) illuminated when the function switch is in EP IP TUNE positions, indicating the unit is ready to operate when the control circuit is operated.

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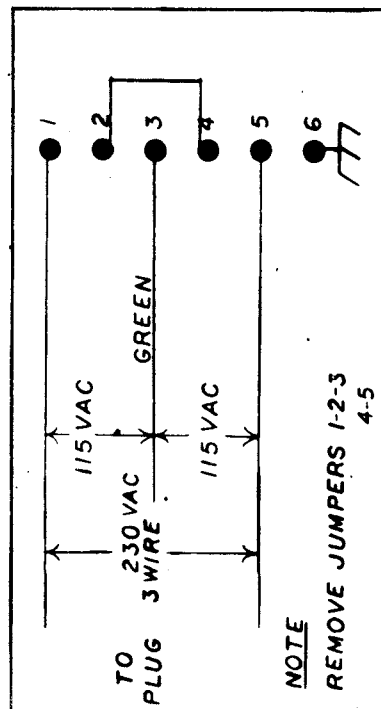
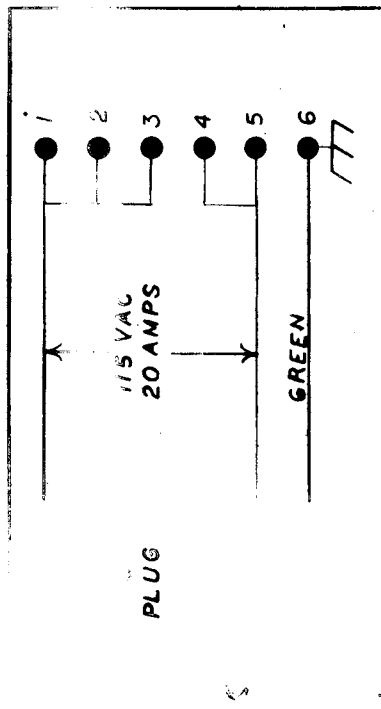


REAR PANEL CONTROLS & CONNECTIONS

- J-1 RF input connector, for connection to the exciter with the cable supplied with the amplifier, using PL259 plugs.
- J-2 RF output connector, to be connected to the antenna direct, or through an SWR bridge, etc., using a PL259 plug.
- J-3 Relay control jack, requiring a ground connection through the exciter control contacts, to actuate the internal relay. A coax cable with pin plugs on each end is furnished for this.
- P-1 An octal plug for control and power connections to the separate power supply provided.
- R-3 Amplifier bias adjustment potentiometer. Maximum bias (lowest final idle current) is applied when the control is maximum counter-clockwise. See section 2-4.
- GND A grounding bolt located just above J-3. Connect a good external ground and also connect to the other equipment.



* UNIT IS WIRED FROM FACTORY FOR 115VAC OPERATION
 * SEE SCHEMATIC AND MANUAL FOR 230VAC OPERATION



SECTION II

VOLTAGE ADJUSTMENT JUMPER

The power supply chassis has two 4 pin sockets mounted on one side of the chassis. It is shipped with the jumper plug in the socket marked SSB. For CW-RTTY use at the legal limit of 1,000 watts input, place this jumper in the other socket (with the power off). See 3-3 for other information.

2-2 PRIMARY POWER CONNECTIONS

WARNING ! DO NOT OPERATE THIS EQUIPMENT WITHOUT A GOOD GROUND CONNECTION BECAUSE OF SHOCK HAZZARD. -----

The primary power connector supplied is wired for 115 vac use, and has a special plug with a ground pin on it. It **MUST** be use to avoid a shock hazzard. We suggest a matching receptacle be installed if 115 vac use will be permanent. But, as a temporary measure, adaptors to fit this to a standard receptacle with a ground pig-tail lead are available at most hardware stores. The pig-tail lead should then be connected to a ground at the socket, etc.

It is best to use the amplifier on 230 vac, because of the substantial power demand that occurs with 2,000 watt operation, and much better voltage regulation will be obtained.

Two fuse holders are mounted on the power supply chassis, each with a 10 Ampere 230 vac fuse installed. When the supply is wired for 115 vac use, as when supplied, these fuses are wired in parallel, and the supply is therefor fused at 20 Amperes. When the changes in wiring are made for 230 vac operation, the two fuses are automatically wired in series and thereby fuse the unit at 10 Amperes.

To change the supply over to 230 vac wiring, remove the bottom plate from the power supply for access to the power cord terminal strip. Make the changes in connections on the terminal strip as shown in the following drawings. Also, change the power cord plug to an approved type for 230 vac use and to match the available receptacle. If an approved type 230 vac receptacle is not now available it must be installed.

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2-3 SET-UP ADJUSTMENTS

Connect the multi-wire power cable from the power supply to plug P1 on the rear of the amplifier chassis. Attach a good external ground to the GND bolt on the rear of the amplifier panel. Place the function switch to the OFF position. Connect the primary power cord to the power source.

Set the function switch to the STBY position. The yellow panel indicator should light (the indicators are neon and do not have a bright light), the fan should run, and all tube filaments should light. Check these - especially the fan to be sure it does not hit wiring, and see that all the tube filaments light. Allow 2-3 minutes warm-up.

Viewing the amplifier from the rear, the final bias potentiometer R-3 should be set to its maximum counter-clockwise position. Connect one end of a patch cord (supplied), which has pin plugs on each end, to the amplifier control jack J-3, being careful not to touch the other end (65 volts). Set the function switch to the IP position. Take the free end of the relay control cable and touch the center pin to the back panel. This will place the unit in a ready condition (red light) and actuate the internal relay. Now, while watching the meter, slowly turn the bias control R-3 in a clockwise direction until the meter reads 3/10 Ampere (300 Ma.) This is just over one meter division, which is 1/4 Ampere each (250 Ma.) Turn the function switch to OFF. The set-up adjustment is completed.

Connect the RF cable which has a PL259 plug on each end -- one plug to the exciter output and the other end to the amplifier input jack J-1. Connect the amplifier output jack J-2 to the antenna, or through a SWR bridge, such as will be found in our Deluxe Accessory Console. The free end of the control patch cable now connects to the exciter (the EXT jack on a Galaxy III or V) where necessary to obtain a set of contacts that will place a ground potential on the center pin under transmit condition.

2-4 ANTENNA CONSIDERATIONS

It is very important that a suitable antenna be provided for operation of this amplifier, and failure to do so may well cause damage that is not covered by warranty. A relatively poor antenna may easily take 100 or 200 watts and fail at the high power level you will now have. We recommend you do not use the small size coax, such as RG58/U, but use RG8/U or the foam equivalents. It is important that a low SWR be maintained -- 1.5:1 recommended maximum. The nominal

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matching range of this pi-network is 40 to 90 Ohms, resistive only.

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3-1 EXCITER TUNING

This amplifier requires an exciter which is capable of delivering approximately 100 watts, for both tune-up and operation. Most popular exciters are able to provide 100 watts output, but if the exciter used can deliver more, it's output must be controlled to deliver 100 watts.

If you use the Galaxy III or V, suitable amplifier tune-up power will be delivered when the exciter is loaded in the TUNE position, as normally done. If you use a different type exciter which is usually tuned at full power that will result in over 100 watts drive, reduce the output to 100 watts with the carrier level control or similar control provided. For voice SSB operation, simply reducing the microphone gain control on the exciter to deliver 100 watts output will normally be satisfactory. The correct setting of the exciter mic. gain will be that which drives the amplifier to rated power input- -and no more.

3-2 AMPLIFIER TUNING FOR SSB USE

First, place the function switch to STBY and allow at least one minute tube warm-up. Set the bandswitch of the amplifier to the same band as the exciter. Do not overlook this simple step. Set the amplifier LOAD control fully counter-clockwise, and the TUNE control fully clockwise.

Tune your exciter in the manner prescribed by it's manufacturer. The exciter is now connected to the antenna. Now, if your exciter is delivering over 100 watts output, adjust the carrier level or adjustment provided and take note of the exact meter reading, (not needed on the Galaxy III or V because of tune power provisions), and place the exciter in standby.

(The following amplifier tuning instructions will be specified to normal completion. If you have abnormal action and can not tune the amplifier as follows, place the exciter-then the amplifier in standby and read the subsequent malfunction information. (*) Possible trouble point)

Place the amplifier function switch in the TUNE position. Prepare to adjust the amplifier TUNE capacitor. Switch the exciter on and quickly adjust the amplifier TUNE capacitor for a "dip" of minimum plate current, which indicates resonance. Now, recheck the exciter plate

SECTION III

tuning and loading controls for resonance and the same loading as before (including Galaxy exciters) since the difference from the antenna and amplifier circuits will probably cause some detuning. The meter on the amplifier should read under the $\overset{\text{TUNE}}{\Delta}$ mark (*). Adjust the amplifier LOAD control slightly in a clockwise direction, which will increase the meter reading (*), then retune the amplifier TUNE capacitor for a "dip" of minimum meter reading again. Repeat this LOAD and TUNE adjustment on the amplifier in small steps until the last TUNE "dip" occurs with the meter reading on the meter $\overset{\text{TUNE}}{\Delta}$ mark. (*). Now place the exciter in standby and the amplifier switch to IP and you are ready for SSB operation.

(*) If the initial meter reading was over the meter $\overset{\text{TUNE}}{\Delta}$ mark, it indicates the antenna impedance is below that which the amplifier can match, and the antenna will have to be adjusted. ---If the LOAD and TUNE procedure will not bring the reading up to the required point, it generally indicates the antenna impedance is above that which the amplifier can match and requires antenna adjustment--or the drive from the exciter is too low to drive the amplifier to rated power. --Take care that 100 watts drive is maintained, as you can overload the amplifier with low drive while the meter reading appears normal. This results in abnormally low output and overheated tubes.

Set the exciter for normal SSB operation and, with the microphone gain quite low, place the exciter in transmit condition with VOX or PTT as desired. Speak into the microphone and slowly advance the microphone gain until the amplifier meter reads absolutely no higher than the mark on peaks, and less on the average voice level. When the meter reads peaks at the $\overset{\text{TUNE}}{\Delta}$ mark you have 2,000 watts PEP input power. Driving the amplifier to higher meter readings will naturally cause you to exceed the legal power limit, but also to cause distortion and splatter on the band. Severe TVI can also result.

3-3

AMPLIFIER TUNING FOR CW-RTTY

A change of a jumper must be made for CW-RTTY use at 1,000 watts carrier input. First, turn the amplifier function switch to OFF. Remove the jumper plug from the side of the power supply, which is originally in the socket marked SSB, and plug it into the adjacent socket that is marked CW-RTTY. Reset the function switch to STBY.

SECTION III

The exciter again should be adjusted to deliver 100 watts drive, the same as for SSB tune-up. Initial exciter tuning is done with the amplifier function switch set to STBY position, so the exciter is tuned into the antenna.

With the power supply jumper changed as directed, the voltage will be reduced to about 600 VDC when loaded, and slightly more unloaded.

The main difference in tuning the amplifier for CW-RTTY use is that the TUNE position on the function switch is not used or necessary, due to the lower plate voltage now applied. Also, the amplifier will be tuned to a plate current reading that is higher.

After the exciter is properly tuned, place it in standby. Now place the amplifier function switch to IP position-set the amplifier LOAD control to maximum counter-clockwise position-energize the exciter-adjust the amplifier TUNE control for a "dip" of minimum plate current. Now recheck the exciter and, if necessary, slightly readjust the exciter tune and loading controls to obtain the same reading as before. Now advance the amplifier LOAD control slightly clockwise and re-adjust the TUNE control for the "dip". Repeat the LOAD and TUNE adjustment on the amplifier until the "dip" is at 1.65 Amperes. Assuming you have 600 volts (check by placing the function switch to EP), this will give you an input of 990 watts, which is about all the law allows, considering meter accuracy, etc. Should the plate voltage (EP) be a bit higher or lower, you can calculate the 1,000 watt current to arrive at the exact IP required. Multiply current times voltage for power. The exciter can now be keyed for CW or RTTY.

If you are operating RTTY with prolonged duty cycles, we suggest that you insure adequate cabinet ventilation of the amplifier is provided, by not having other equipment or objects blocking any air flow.

SECTION IV

4-1 FILTER ADJUSTMENT

Included in the output circuit is an adjustable, two section "M" derived low pass filter. This will give the user added protection against TVI, especially in fringe areas. There are two field adjustments, C91 and C92, but we suggest you do not make these adjustments unless the need is proven.

The overall filter design gives attenuation to all RF energy above 40 Mc., no matter where the two adjustments are set. As supplied from the

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factory, the top capacitor (C92) is set for maximum rejection to energy escape on channel 3, and the lower capacitor (C91) is set for maximum rejection to channel 6, which are the two channels most likely to receive interference by harmonic relationship.

Adjustment is best done by simply watching a TV set for interference when the amplifier is properly loaded in SSB TUNE position, and the adjustment trimmers are accessible through the holes in the side of the amplifier case.

The user may, for example, have a local TV channel 2, and can re-set the top trimmer for best attenuation to harmonic energy there. Generally, you will use the top trimmer C92 to protect against TVI on channels 2 through 5, and the bottom trimmer C91 on channels 6 through 13.

SECTION V

5-1 VOLTAGE & RESISTANCE MEASUREMENTS

Set-up for the resistance measurement is as follows: All cables dis-connected from the RF section. Function switch on STBY, band-switch on 80 meters, final bias control R3 maximum counter-clockwise. Readings are taken from the specified pin on plug P1 to chassis ground.

PIN # - OHMS

1----Infinity
 2----Zero
 3----3.5 to 4
 4----Infinity
 5----Infinity
 6----Infinity (with meter leads reversed the reading will be 22K to 100K)
 7----Infinity
 8----Infinity

	PIN-1	2	3	4	5	6	7	8	9	10	11	12
V1	3.7	inf.	inf.	0	11k	inf.	inf	inf.	11k	0	inf.	3.3
V2	3.3	"	"	"	"	"	"	"	"	"	"	2.7
V3	2.7	"	"	"	"	"	"	"	"	"	"	2.2
V4	2.2	"	"	"	"	"	"	"	"	"	"	1.8
V5	1.8	"	"	"	"	"	"	"	"	"	"	1.3
V6	4.1	"	"	"	"	"	"	"	"	"	"	3.7
V7	4.5	"	"	"	"	"	"	"	"	"	"	4.1
V8	.4	"	"	"	"	"	"	"	"	"	"	0
V9	.8	"	"	"	"	"	"	"	"	"	"	.4
V10	1.3	"	"	"	"	"	9.5k	"	"	"	"	.8

(inf. is Infinity)

SECTION V

Set-up for the voltage check is as follows: All cables connected, then make the final bias set-up adjustment as called for in section 2-3 to obtain 300 Ma. idle current on IP. Place the bandswitch to 80 meters. Return the function switch of the amplifier to STBY one minute, then set to TUNE position. Ground the center pin of the control cable to place the amplifier in a ready condition, but do not apply any RF driving power from the exciter. The voltage readings are taken from the pins specified against chassis ground. NC means no connection at this pin.

WARNING ! HAZZARDOUS VOLTAGES EXPOSED ARE DANGEROUS!

PIN-	1	2	3	4	5	6	7	8	9	10	11	12
V1	53.5	NC	220d	0	-78d	220d	NC	220d	-78d	0	220d	47.0
V2	47	"	"	"	"	"	"	"	"	"	"	40.8
V3	40.8	"	"	"	"	"	"	"	"	"	"	33.8
V4	33.8	"	"	"	"	"	"	"	"	"	"	27.4
V5	27.4	"	"	"	"	"	"	"	"	"	"	20.9
V6	59.5	"	"	"	"	"	"	"	"	"	"	53.5
V7	65.8	"	"	"	"	"	"	"	"	"	"	59.5
V8	7.0	"	"	"	"	"	"	"	"	"	"	0.0
V9	13.8	"	"	"	"	"	"	"	"	"	"	7.0
V10	20.9	"	"	"	"	"	-78d	"	"	"	"	13.8

Voltages shown with d behind the number are DC and others are AC. Where preceded with a - sign the voltage is negative polarity DC .

5-2 TROUBLE SHOOTING INFORMATION

In the course of normal operation the one thing that will probably be encountered is a fuse blowing occassionally. The unit is fused with a pair of 10 Ampere fuses which are in parallel for 115 vac use, and in series for 230 vac use. These fuses are very near the actual current drawn by the unit in normal operation, so a slight overload will blow a fuse. **DO NOT INCREASE THE FUSE CURRENT RATING OR USE SLO-BLO.**

In the event there is a minor flash-over or tube short, the proper fuse will blow instantly and protect the equipment. If a larger fuse is used there may be ample time to destroy components before it will blow. Remember, you have a power supply capable of delivering very high peak currents--up to 200 Amperes for an instant, which could potentially cause great damage.

Due to the very heavy filament-cathode construction of this type tube, to deliver high peak currents, a minute particle may occassionally flake off and this will cause an internal tube arc, which will blow a fuse, but once this arc has cleared the tube impurity there is seldom any damage to the tube and it may again be used. Should a particular tube flash repeatedly, it indicates the particle is lodged firmly and calls for removal

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of the tube. However, this does not mean the tube cannot be salvaged and provide satisfactory use. Hold the tube upside down and tap it on the side gently with a wood pencil. If flakes drop out this may remove the impurity and, with careful insertion of the tube in it's socket so the impurity stays in the outer envelope away from the inner elements, it may well provide years of service again.

As supplied from the factory, the tubes installed are matched to a degree for equal DC operating characteristics. Should one tube become defective and unusable, the tube selected for replacement can be checked by visual means for suitability. With the unit removed from it's case for visibility, place the function switch in the IP position, ground the center pin of the control cable without applying any RF driving power, and darken the room. The new tube should not show any heat color in great excess of any other tube after a minute or so, and if it does it indicates it has a characteristic of drawing too much current and would be overloaded. If it remains much darker than the other tubes, it is also questionable and may not draw it's share of power, overloading the other tubes.

Normally, if one tube fails another can be installed in it's place without resorting to replacing all tubes. However, it might be necessary to select between two or three new tubes to obtain the best match.

FOR YOUR CONVENIENCE, THE FACTORY WILL SUPPLY A COMPLETE SET OF MATCHED TUBES AT JUST \$29. 95, PLUS POSTAGE. The price is less than half the cost of tubes for any equally rated unit!

Should you experience any shock from the chassis, with the unit off or on, it indicates you have not properly grounded the chassis as specified.

Do not attempt to use power line plugs which are not grounded as specified, or not of an approved type for the voltage used.

In the event there is any RF arcing in the plates of the tuning or loading capacitors, it indicates that the antenna is not suitable, being reactive or appreciably of the wrong impedance for the matching range of the pi-network, or a plate of the tuning capacitor has been bent in handling. The spacing of the capacitors is considerable, and more than required for this power level if the antenna is non-reactive and within the impedance range specified. Corrective measures are properly to be done at the antenna, though an antenna tuner of proper design can be used to correct the mismatch appearing at the transmitter end of the feedline and present a suitable impedance to the amplifier.

Again, we believe it should be stressed that adequate ventilation is a must

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Should the equipment be placed in any confining enclosure, such as a special console, on a desk with a shelf over or near the side of the equipment, additional steps are required for ventilation, such as a fan externally which will rapidly move air around the unit. This also applies to the Galaxy or most other exciters in such enclosures.

DO NOT TUNE FOR MAXIMUM RF OUTPUT with an SWR bridge, watt-meter, or other RF output indicating devices. Proper operation does not occur with maximum RF output. The unit will deliver the specified power output when tuned as instructed, and the quality of the signal will be good. More RF output can be obtained by improper tuning, but the linearity of the signal will be greatly degraded.

SECTION VI SERVICE & RETURNS

6-1 SERVICE INFORMATION

Sufficient and proper information must be included in any correspondence to identify the problem and provide helpful information. Omission will prevent us from giving the fastest possible help. The following will help:

MODEL OF EQUIPMENT -- SERIAL OF EQUIPMENT
DATE PURCHASED -- DEALERS NAME AND LOCATION
DESCRIBE PARTS BY USING OUR PART NUMBERS
STATE ALL TESTS MADE AND OBSERVATIONS OF BEHAVIOR
BE AS CONCISE AS POSSIBLE IN DESCRIBING OPERATION

ORDER ING PARTS

IN WARRANTY ----Where possible, we will ship a required replacement on an exchange-in warranty basis, enclosing a special return label for the defective part to be shipped to us. However, to do this your warranty card must be on file--so mail your warranty card immediately.

NOT WARRANTY--parts orders are normally shipped C. O. D. on smaller parts. On large parts orders, over \$5. 00, include 25% or more of the cost for C. O. D. shipment. Or, enclose a check made payable to us with the amount blank and we will fill it in only for the parts cost and postage, saving you C. O. D. charges. Sorry-we do not offer billing services.

Be sure and state the model and serial, as well as OUR part number on any parts ordered, as there may be a production change that would result in your receiving the wrong part otherwise.

SECTION VI

6-2 RETURNING PARTS AND EQUIPMENT

DO NOT ship parts or equipment to us without advance notice-preferably with our special return labels -as delays generally occur.

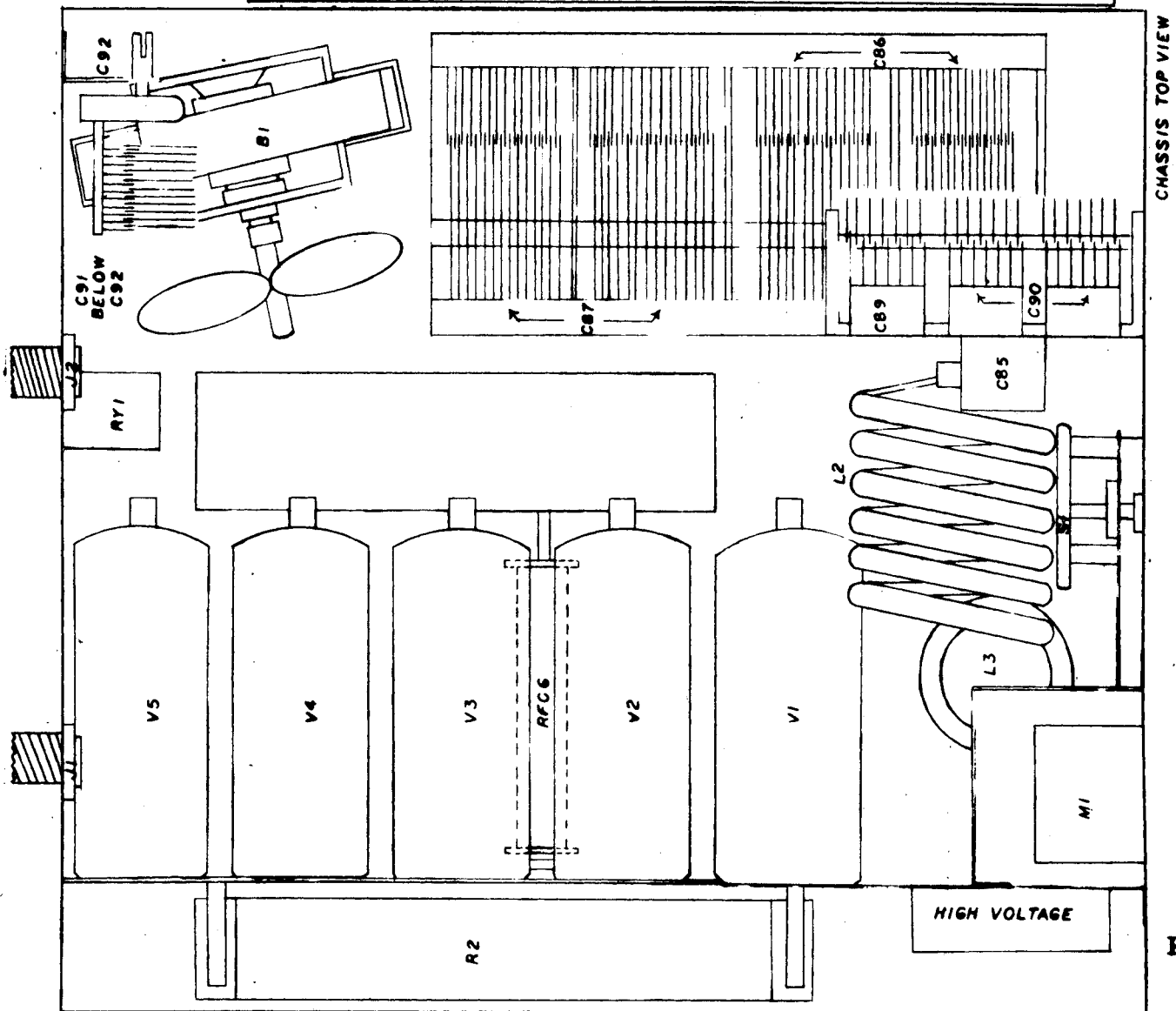
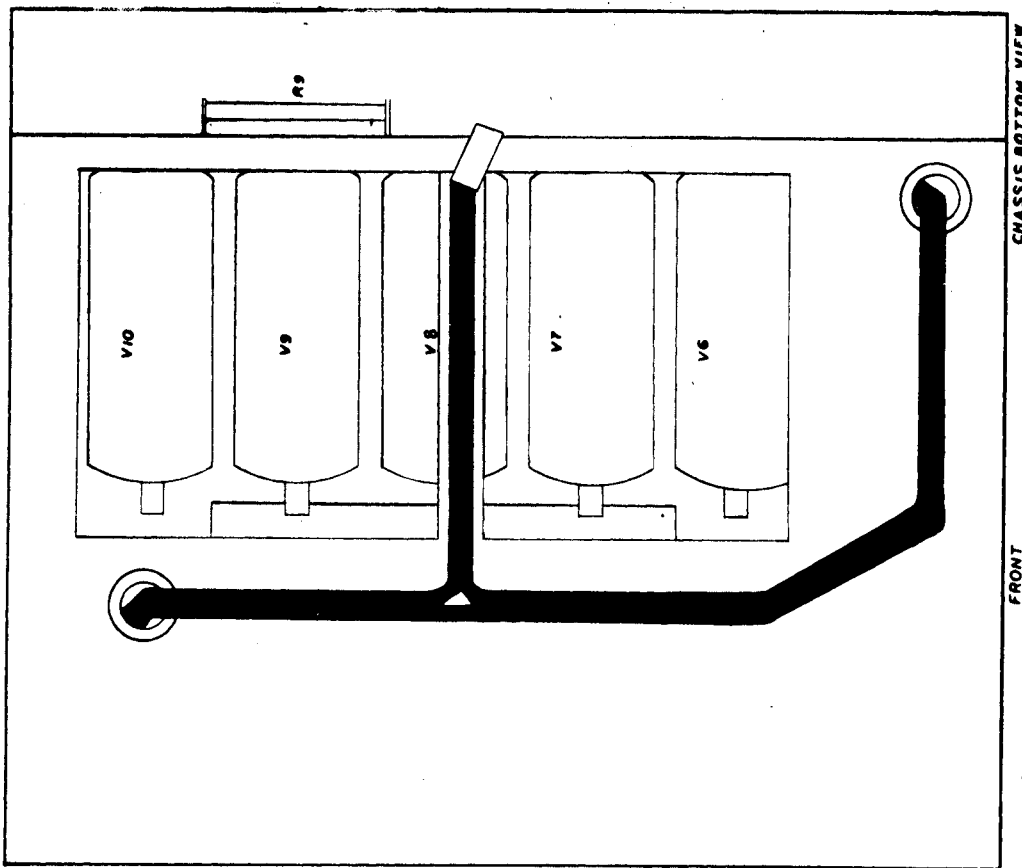
When shipping equipment to us, be sure it is well packed and fully insured, for your own protection. When units are received with shipping damage we will inspect them to ascertain the cost of repairs due to shipping damage, advise you of the cost, and hold the equipment for your payment to cover repairs. We will provide you with joint inspection forms as applicable. Damage is an undesirable situation to encounter, but one which we have no control over on incoming shipments, and we assume no liability for filing claims, etc. It is best prevented by proper packing and selection of suitable means of transportation for the equipment involved. Also, in the event the carrier determines your packing was not adequate for the equipment your claim may well be rejected by the carrier.

PREPAY ALL SHIPMENTS TO US. Shipments are returned collect for transportation.

Mark all shipments with your name and address. Show your address on the carton and do not use company mailing labels which may make it impossible to identify the owner. Also, affix a tag or label to the equipment inside the carton.

DO NOT ENCLOSE MONEY OR LETTERS WITH EQUIPMENT. ALL PAYMENTS OR ADDITIONAL INFORMATION NOT ALREADY ON FILE SHOULD BE SENT SEPARATELY BY AIRMAIL, GIVING THE DATE OF SHIPMENT AND METHOD OF TRANSPORTATION USED.

SECTION VII



SECTION VII

PARTS LIST

R.F. AMPLIFIER

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

SYMBOL	DESCRIPTION	PART #	PRICE EA.
C-1/40	.001 mfd @ 1 KV.	20-24	\$.15
C-46	same	same	same
C-52/70	same	same	same
C-41/43	.01 mfd @ 1.6 KV.	20-29	\$.24
C-45	same	same	same
C-61/82	same	same	same
C-44	.01 mfd @ 600 V.	20-5	\$.24
C-75/80	same	same	same
C-93/95	same	same	same
C-47	33 pf @ 600V.	22-7	\$.12
C-48	55/300 pf trimmer	26-8	\$ 1.02
C-49	.005 mfd @ 1 KV.	20-3	\$.15
C-71/72	same	same	same
C-50/51	.22 mfd @100V.	23-15	\$.80
C-73	680 pf @ 600V.	22-13	\$.24
C-74	10 pf @ 600V.	22-17	\$.24
C-83/84	500 pf @ 5KV.	22-31	\$ 2.68
C-85	100 pf @ 600V.	21-1	\$.16
C-86/87 (one unit)	874 pf dual variable	25-22	\$46.50
C-88	.001 mfd @ 5KV.	22-32	\$ 3.24
C-89/90 (one unit)	400/800 pf variable	25-10	\$ 2.60
C-91/92	65 pf @ 600V.	25-18A	\$ 2.04
C-96	300 pf @ 5KV.	22-35	\$ 2.43
D-1	silicon, 400PIV @ 500 Ma.	112-501	\$.45
D-2/4	1N34A	112-1N34-A	\$.54
D-3	2N2926A	111-6	\$.72
L-1	Grid tuning coil		\$
L-2	Plate coil, 10/15 meters	42-39	\$
L-3	Plate coil, 20-40-80 meters	42-38	\$
L-4	L. Pass trap coil	42-40	\$.42
L-5	L. Pass trap coil	42-42	\$.42
L-6	L. Pass trap coil	42-41	\$.39
L-7	L. Pass trap coil	42-43	\$.42
PC-1/10	Parasitic plate choke	33-3	\$.40
R-1	1 K, 1/2 watt	10-42	\$.12
R-2	50 Ohm, non-inductive	11-1F	\$ 5.20

SECTION VII

PARTS LIST

R. F. AMPLIFIER

SYMBOL	DESCRIPTION	PART #	PRICE EA.
R-3	7.5 K., 1/2 watt	13-12	\$.60
R-4	4.7 K., 1 watt	10-35A	\$.18
R-5	47 K., 1/2 watt	10-13	\$.12
R-6/8	4.7 K., 1/2 watt	10-36	\$.12
R-7	15 K., 1/2 watt	10-81	\$.12
R-9	10 K., 2 watt, 1%	11-15A	\$.62
R-10	1 Meg., 2 watt	10-74B	\$.24
R-11/15	500 K., 1 %	10-75A	\$.34
R-12	100, 1/2 watt	10-7	\$.12
R-13	2.9 K., 1 watt, 1 %	10-74A	\$.34
R-14	1, 13 watt, 1 %	11-14D	\$ 1.02
RFC-1	800 mh.	30-3	\$.45
RFC-2/5	2.5 uh.	30-9	\$.40
RFC-6	Special plate choke	30-13	\$.78
RY-1	3PDT, 63VAC coil	116-10	\$ 7.80
SW-1	Special bandswitch	53-21	\$ 9.00
SW-2	Special function switch	53-22	\$ 2.64
SW-3	Special grid switch	55-1	\$.27
Q-1	2N2926Y transistor	111-6Y	\$.72
J-1/2	SO-239 coax receptacle	101-1	\$.60
J-3	Phono jack	100-4	\$.10
P-1	Octal plug	107-8	\$.30
B-1	Blower and blade, 115vac	172-26	\$ 4.68
M-1	Special meter	115-8	\$ 8.40
--	1/10 tube sockets	62-5	\$ 1.95
--	OPERATE light	113-31XP148	\$ 1.38
--	STANDBY light	113-31XP149	\$ 1.38
V-1/10	6HF5 tube	110-6HF5	\$ 3.90
NOTE! WE OFFER A SET OF TEN MATCHED TUBES FOR \$29.95			

SECTION VII

PARTS LIST

POWER SUPPLY SECTION

SYMBOL	DESCRIPTION	PART #	PRICE EA
C-1/6	300 mfd. @ 400VDC	24-30	\$ 2.50
C-7/8	30 mfd. @ 150VDC	24-10	\$.52
D-1/8	MR1034B , diode	112-MR1034B	\$ 1.16
D-9/12	MR1033B , diode	112-MR1033B	\$.92
D-13	400PIV, 500 MA.	112-501	\$.45
F-1/2	Fuse, AGC-10(10A.)	114-8	\$.06
R-1/6	150K. , 2 watt, 10%	10-24B	\$.12
R-7	680 , 2 watt, 10%	10-73B	\$.12
RY-1	DPST, 115VAC coil	116-11	\$ 2.00
J-1/2	Socket, 4 pin	104-6	\$.51
J-3	Socket, octal	104-7	\$.60
FH-1/2	Fuseholders	66-1	\$.56
P-1	Plug, 4 pin	109-9	\$.74
FC-1	Choke, special	32-5	\$ 1.50
T-1	Transformer, special	70-12	\$63.60

SECTION VIII

8-1

WARRANTY

GALAXY ELECTRONICS warrants each new product manufactured by it to be free from defective material or workmanship and agrees to remedy any such defect by repairing defective workmanship or replacing any defective part by exchanging for a new part, provided the equipment is delivered by the owner to our factory or any service station we may designate, with all transportation charges prepaid, and provided that examination, in our judgement, thus discloses it is defective. Component parts, with the exception of tubes and semi-conductors, are warranted for one year-tubes semi-conductors and labor for 90 days from the date of sale to the original purchaser.

This warranty does not extend to a product of ours that has been subjected to misuse, neglect, accident, incorrect wiring not our own, improper use or installation. Nor does the warranty cover unauthorized repairs, improper repairs not our own, accessories not of our manufacture, or where the serial has been removed, defaced or changed. The warranty does not extend to cover the purchase of replacement parts the owner may make on his own initiative, nor will we reimburse the owner for such unauthorized purchases.

This warranty applies only to the original purchaser and is not transferable. This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

GALAXY ELECTRONICS reserves the right to change circuit design, component specifications, features, or any previously advertised or implied specification at any time, without advance notice or incurring any obligation to purchasers of products previously made or sold.

K4XL's **BAMA**

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