

**IT PAYS TO  
KNOW YOUR  
EQUIPMENT**

*OPERATING  
AND SERVICE  
INSTRUCTIONS*

**BROWNING  
GOLDEN EAGLE MARK III  
BASE STATIONS**

**browning**  
LABORATORIES, INC.

1269 Union Avenue, Laconia, New Hampshire 03246

OPERATING AND SERVICE INSTRUCTIONS

BROWNING GOLDEN EAGLE MARK III BASE STATION

RECEIVER MODEL GOLDEN EAGLE MARK III

TRANSMITTER MODEL GOLDEN EAGLE MARK III

TRANSMITTER MODEL GOLDEN EAGLE MARK III SSB TYPE GEIIIIS

Price \$2.00

IT PAYS TO KNOW YOUR EQUIPMENT

READ CAREFULLY

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BROWNING LABORATORIES, INC.  
1269 UNION AVENUE  
LACONIA, N.H. 03246

## SECTION I

### THE BROWNING GOLDEN EAGLE MARK III BASE STATION

#### GOLDEN EAGLE MARK III RECEIVER

This is truly the most versatile receiver made for use on the 11 Meter Band - whether operating on conventional A.M. or Sideband, stations operating on upper or lower single sideband, or double sideband suppressed carrier. Also featured are the following -

- New Varactor Fine Tune Control with Full 300° rotation
- New Double conversion
- New R.F. and I.F. Gain Control
- New AGC On-Off Switch
- New On-Air Indicator
- New Beat Frequency Oscillator for Sideband Reception
- New Solid State Voltage Regulator
- Cascode nuvistor R.F. Amplifier
- Ultimate selectivity with extra tuned stages
- Speaker Control Switch
- Large jeweled movement "S" Meter
- Effective Noise Limiter with lockout switch
- Extra Noise Limiter for SSB Reception
- 2 Crystal Positions for monitoring AM stations
- Illuminated dials - meters and On-Air indicator
- Frequencies as well as Channels on tuning dial

#### GOLDEN EAGLE MARK III AM TRANSMITTER

Transmitter features are -

- New Antenna Switch for comparison between 2 antennas (Beam or Ground plane)
- Rear illuminated selector dial with large Channel numbers and frequencies
- Precision aircraft plug-in type miniature crystal switch assembly
- Clipper filter and limiter
- Spotting function with tone and visual indicator
- Large meter reads modulation, forward and reflected power
- Paging System - paging system with front panel level control

#### GOLDEN EAGLE MARK III SSB/AM TRANSMITTER TYPE GEIIIIS

Transmitter features are -

- Large meter reads Modulation, Forward and Reflected Power and Plate current
- Printed circuit SWR Bridge
- Rear illuminated selector dial with large channel numbers
- Precision aircraft plug-in type miniature crystal switch assembly
- Class AB Linear amplifier for maximum performance in Single Sideband operation
- Class C RF amplifier for maximum performance in AM operation
- Special ALC circuit for SSB operation (Automatic Level Control)
- Clipper Filter and Limiter Circuit for AM operation
- Spotting for both AM and Sideband operation
- Single Transmitter Mode Control AM, LSB, USB
- 29 Crystals  $\pm$  .002% tolerance or better
- Front Panel VFO Control
- Large Mode indicator lights (AM, LSB, USB)

## SECTION 2

### ANTENNA REQUIREMENTS

For ease and simplicity of adjustment, your SSB/AM and AM transmitters are designed to operate into a load of 50 ohms. An antenna fed with 50 ohm coaxial line will satisfy this requirement if the SWR (standing wave ratio) on the line is low. Practically all good CB antenna systems use 50 ohm coaxial line and are designed to give a low SWR.

Mount your antenna in the clear, away from surrounding objects (especially metallic ones) and as high as allowed by law. If the feed line must be longer than about 50 feet, use RG-8/U rather than the RG-58/U, to minimize feed-line losses. (Reducing losses helps on transmitting and receiving.)

An RG-58/U or RG-8/U line feeding an antenna, and showing an SWR of 1.0 or close to it, will present a load of 50 ohms to the transmitter regardless of the line length. This ideal situation is seldom found in practice. Even if the SWR proves to be 1.3 the line length will not be important and the transmitter will work at optimum performance.

If your transmitter works into an improper load, the maximum available power of the transmitter will not be obtained. In extreme cases, distortion will accompany the reduction in output. Obviously, to get the maximum performance from your transmitter, you should present the transmitter with a load close to 50 ohms.

When a too-high SWR is encountered, better loading of the transmitter can sometimes be obtained by adding 3 or 4 feet of coaxial line to the existing feed line. Changing the line length is not a sure-fire cure. The best cure is to use a proper "matching network" between the transmitter and the feed line. These networks are described in several popular antenna texts.

### ANTENNA GAIN

We recommend using the best antenna obtainable. For coverage in all directions without using a rotating mechanism, a "ground-plane" antenna is satisfactory. A "co-linear" type antenna, will increase your signal at the receiving end by about 3 1/2 db (equal to just a little more than doubling your input power.) For better results, a rotatable directional antenna should be used. A "3-element beam" will have a gain of approximately 7 db, equivalent to multiplying your input power by 5.

Since your input power is limited, it is obvious that much can be gained with a good antenna system.

## SECTION 3

### INSTALLATION

#### INTERCONNECTING THE GOLDEN EAGLE MARK III TRANSMITTER & RECEIVER

Unpack your base station carefully.  
Arrange your station so the units are side by side.  
Connect the "Control Cable" of the transmitter to the receiver.

The Key on the octal plug must mate with the Keyway in the large center hole of the socket. Do not force; be sure the Key and Keyway are mated before pushing in all the way.

Permanently connected to the transmitter is the antenna cable for the receiver. Connect the PL-259 plug on this cable to the socket on the receiver marked ANT.

If you have the Golden Eagle Mark III AM transmitter, connect your antenna PL-259 connector to the socket on the transmitter marked ANT. 1 and turn the Rear Panel Switch to the #1 position.

Never attempt to operate the transmitter without connection to a proper antenna or dummy load. (See Section 2.) Serious damage can result and such damage will not be covered by warranty.

Place the microphone in its stand in front of the equipment. Unwrap the microphone cable and insert the connector into the microphone socket on the left of the front panel.

Make certain that the Transmitter Power Switch is turned to OFF.

After checking the above connections for correctness and tightness, insert the power cord of the transmitter into the utility socket on the rear of the receiver. This can be done neatly without uncoiling the power cord of the Transmitter. Insert the receiver power cord into a wall outlet.

Your Golden Eagle Mark III Base Station is now ready to be placed in service after the following tests and tuning adjustments have been made: Refer to the next section (Operating the Mark III Base Station.)

### AM/SSB TRANSMITTER TESTS TYPE GEIIIIS

If you have the Mark III AM/SSB Transmitter, proceed as follows. If not, proceed to the next section.

Mode Switch - LSB  
Meter Switch - MA

Turn the power switch on and allow at least two minutes warm up. Press the microphone button and observe the transmitter meter indication. (Be sure not to talk into the microphone and also make sure there is no background noise.)

### SECTION 3

Carefully adjust the rear panel control marked BIAS so the pointer on the meter is in the center of the box marked BIAS. Variations in line voltage will affect this reading, but operation will be completely satisfactory if the BIAS setting remains within this brown box. Release the microphone button.

#### WARNING:

Failure to adjust this control properly will result in poor performance of the equipment. If the idling plate current is too low, distortion will result. If the idling plate current is too high, life of the output tube will be greatly shortened. Over an extended period of time, it may become impossible to set the BIAS control and bring the idling plate current within the brown section on the meter. If this occurs, replace the 7558 amplifier tube and immediately adjust the BIAS control using the above procedure (starting with the BIAS control set near the center of its range.)

## SECTION 4

### OPERATING THE GOLDEN EAGLE MARK III BASE STATION

#### NORMAL OPERATION - AM TRANSMITTER (Simplified Instructions)

CB - PA Switch	-	CB
PA Volume	-	Any position
Meter Switch	-	Modulation position
Channel Selector	-	Desired channel

#### NORMAL OPERATION OF RECEIVER AM (Simplified Instructions)

1.	Mode Switch	-	AM
2.	Volume on-off	-	Turn on and set approx. 9 o'clock
3.	Squelch	-	Pushed in and counter clockwise
4.	Tuning	-	Man.
5.	RF Gain and AGC	-	Max. clockwise - AGC Pushed in and on
6.	Main Tuning	-	Channel Desired (same as transmitter)
7.	Bandsread	-	Indicator at 12 o'clock
8.	Speaker	-	Int.

#### NORMAL OPERATION OF RECEIVER SSB (Simplified Instructions)

1.	Mode Switch	-	USB or LSB
2.	Volume on-off	-	Turn on and set approx. 9 o'clock
3.	Squelch	-	Pushed in and counter clockwise
4.	Tuning	-	Man.
5.	RF Gain and AGC	-	(Important) Approx. 3 o'clock depending on signal strength
6.	Main Tuning	-	Desired Channel (Same as transmitter)
7.	Bandsread	-	Indicator at 12 o'clock
8.	Speaker	-	Internal

#### NORMAL OPERATION OF AM/SSB TRANSMITTER TYPE GE IIIS (Simplified Instructions)

1.	Mode Switch	-	AM - (Switch to LSB or USB if operating Sideband)
2.	Meter	-	Mod
3.	SWR Calibrate	-	Approx. 12 o'clock
4.	VFO	-	Indicator at 12 o'clock
5.	Channel Selector	-	Channel desired
6.	Power on off	-	On

For Tuning in Sideband Stations see Section 8 Pg. 16

## SECTION 5

### OPERATING THE GOLDEN EAGLE MARK III RECEIVER

#### FUNCTION OF OPERATING CONTROLS

##### Mode Switch

The position of this switch determines what type of signal is received.

1. AM Position -  
With the Mode Switch in the AM position, Normal Amplitude Modulated signals may be received.
2. USB Position -  
With the Mode Switch in the USB Position, only Upper Sideband signals may be received.
3. LSB Position -  
With the Mode Switch in the LSB position, only Lower Sideband signals may be received.

##### Volume On-Off Control

The On-Off Switch at the extreme counter clockwise rotation of the volume control, controls the power to the receiver as well as the utility outlet on the rear of the receiver. The Transmitter can be plugged into this outlet and the power to the complete Base Station can be controlled by the Receiver volume on-off control.

##### Squelch Control

When rotated clockwise, the squelch control can be set so that the speaker will be silent until a signal comes on. Further clockwise adjustment will keep the speaker silent on weaker signals and turn on the audio only on strong local signals. When set at the maximum counter-clockwise position, the audio will be on all the time.

##### Tuning Control

This Switch controls the Tuning Mode.

1. MAN  
In the manual position the main tuning knob varies the frequency of the second oscillator. The received channel number can be read in the Tuning window.
2. XTAL 1  
In the crystal position the frequency is controlled by a crystal located on the chassis inside to the right. Any one of the 23 channel crystals may be obtained from your Browning dealer if you desire to use this function for monitoring AM stations only.



## SECTION 5

The dial light goes out to remind the operator that the main tuning control and bandspread will not operate in this position.

### 3. XTAL 2

This position performs the same function as XTAL 1. Neither of these crystals are supplied with the unit. However, they may be obtained from your Browning Dealer.

### RF Gain Control and AGC

The RF Gain Control not only varies the gain of the Cascode RF Stage but also the first two IF stages. Maximum Gain is obtained with the control set maximum clockwise. As the control is rotated counter clockwise, the bias of the first RF and first two IF tubes increases with a resultant decrease in Gain. This control is used for decreasing the sensitivity to prevent overload from strong signals.

The S Meter reading will not be accurate except at full clockwise setting.

In Sideband operation this control becomes very important and should be adjusted carefully depending on the strength of the incoming signal.

The AGC Switch can be disabled by pulling out on the RF Gain Control Knob. When operating in the AM position, the AGC Switch should be on to prevent blasting when tuning from weak to strong signals. It can be helpful, however, when tuning for very weak stations to disable the AGC for maximum sensitivity.

### Noise Limiter Switch - AM Operation

This switch is controlled by a pull-push action of the squelch control knob. When pushed IN this places the automatic series gated noise limiter circuit in operation to reduce pulse type noises such as ignition noise and other electrical interference. The limiter is turned OFF by pulling the squelch knob out. A separate noise limiter is switched in automatically when on Single Sideband.

### "S" Meter

The "S" Meter provides a visual indication of the relative signal strength of an incoming signal. The "S" Meter is calibrated in "S" units from 1 to 9 and in decibels above S-9 to plus 40 db.

The S Meter is inoperative when the AGC control is pulled out and off.

## SECTION 5

### "S" Meter Zero Control

Disconnect the antenna connection to the receiver and adjust the "S" Meter Zero Adj. control at the rear of the chassis. Watch the "S" Meter while turning the control and set the needle at 0, the lowest line on the meter. This adjustment may vary slightly with changes in line voltage. Now reconnect the Antenna cable.

### Speaker Switch

The slide designated EXT for external, INT for internal, and ALL controls the speaker system of the receiver by the use of an external speaker. An external speaker may be installed at the remote position from the base station in the work shop, in the basement, in the garage, and by proper setting of this selector switch, in the external position, the receiver will be heard only at this remote location, in the internal position the built in speaker in the receiver only will be heard. In the ALL position the internal and any remote speakers will be heard simultaneously. This remote speaker will also be used on the paging system as explained under the AM transmitter section. Any 8 Ohm speaker may be used.

### Bandspread

To increase the ease of tuning a Sideband Signal, Browning has incorporated a silky smooth varactor tuning control with full 300° rotation.

This feature gives added ease of differentiating between two or more stations close together and is especially useful for tuning in Sideband stations.

Does not apply to XTAL 1 & 2 positions.

## SECTION 6

### OPERATING THE GOLDEN EAGLE MARK III AM TRANSMITTER

#### FUNCTION OF OPERATING CONTROLS

##### Channel Selector

The AM Transmitter has a built in crystal switch assembly with all 23 crystals factory installed. These plug-in miniature type 3rd overtone crystals are made especially for Browning and afford better frequency accuracy than previous types.

CAUTION: Use only direct factory replacement crystals.

##### CB - PA Switch

When this switch is in the CB position, the Transmitter operates in the normal fashion. When the switch is placed in the PA position it automatically disables the RF section of your transmitter and connects the output of your audio circuitry to the external speaker. The on-the-air light will not light in the PA function which alerts the operator that there is no power to the antenna. When depressing the push-to-talk button on your microphone you have a high quality paging system with full audio power available wherever you wish to place remote speakers.

##### PA Volume

This front panel control varies only the audio circuitry when in the paging position. It does not affect your modulation in any way as the circuit is properly interlocked to prevent feedback or any other effect upon your regular citizens band operations. If the external speaker is too close to your transmitter, you may encounter feedback.

##### Spotting Switch

The spotting switch is for finding your own transmitter signal in the base station receiver.

Press the spot button and tune the main tuning dial on the receiver until a strong signal is indicated on the receiver "S" Meter. The spotting signal is modulated with a tone for easy identification.

##### Modulation Meter

The illuminated meter on the front panel varies directly with modulation and reads in percent (%). This meter will indicate low readings if the operator is too far from the microphone. The meter needle will bounce up and down quite rapidly as you speak into the microphone and will normally reach 100% on voice peaks. These readings are obtained when the meter switch is in the MOD position and the transmitter is "On the Air".

## SECTION 6

### MATCHING THE GOLDEN EAGLE MARK III AM TRANSMITTER TO YOUR ANTENNA SYSTEM

The Federal Communications Commission allows the adjustments of a citizens band transmitter's antenna loading system providing it does not in any way alter the frequency thereof. The following instructions will not alter the frequency of transmission, therefore, can be done by anyone:

The Golden Eagle Mark III AM transmitter has a built-in RF power meter for reading both forward and reflected power. This function is useful in determining the efficiency of your antenna system. By using the readings from this meter it is possible to measure the standing wave ratio (SWR) of your antenna system.

For best efficiency, an antenna system must have a low SWR reading. High SWR readings result from a mismatch of impedances between the coaxial feedline and the antenna. In simple language, loose connections or broken elements in the antenna system CANNOT be corrected at the transmitter. Retuning of the transmitter will not change the SWR. The power meter in this transmitter will indicate the efficiency of your antenna system, but the efficiency can be changed only at the antenna and not at the transmitter.

If your system is a 50 ohm load for the transmitter, you are ready to operate without any further adjustment. DO NOT ADJUST TRANSMITTER UNTIL AFTER YOU HAVE HAD IT ON THE AIR AND ARE FAMILIAR WITH ITS OPERATION.

It is recommended that the first adjustments be made with a "Dummy Load" attached in place of the antenna. This keeps your signal off the air and reduces interference while becoming familiar with the tuning methods involved.

It should be noted here that the meter adjust control has absolutely no effect on the output of the transmitter nor will it affect the reading of the meter when the meter is switched to MOD position. The sole function of this control is to assist in Antenna Loading as explained later.

#### READ AT LEAST TWICE BEFORE PROCEEDING WITH ACTUAL ADJUSTMENTS TO THOROUGHLY UNDERSTAND WHAT YOU ARE TO DO

1. Install a "Dummy Load" to antenna connection on rear of chassis.
2. Set Meter Switch on "Forward Power".
3. Selector Switch in middle area, ie., Channel 10, 11 or 12.
4. Turn on transmitter and let it warm up at least one minute.

Push the push-to-talk switch on microphone and adjust meter sensitivity control to approximately 50.

## SECTION 6

With a small screw driver inserted in the opening on the rear of the chassis nearest the left side, very, very, carefully adjust the plate tuning condenser for the highest reading on meter obtainable. Do not adjust the meter sensitivity control. These adjustments are very critical and the slightest movement, even 1/16" makes a big difference in output. Now do the same to the antenna loading condenser just to the right again seeking maximum output reading and working, very, very carefully.

These steps should be repeated at least (3) times as there is an interaction between these two controls. Always adjust antenna loading last. After making the adjustments once, take transmitter "off the air" with mike switch and wait about one minute. It is most likely that you will not be able to increase the readings the first time as this adjustment has been made at the factory. There will be a setting on both adjustments beyond which you cannot increase your output reading. This is where your transmitter is working at the absolute maximum output for a 50 ohm load.

### ADJUSTMENTS

Adjust the meter sensitivity control for a reading of about 80.

Now switch to Reflected Power and make notation of lowest reading on meter. It may not be ZERO. DO NOT be concerned if it is not. Control R32 is used for obtaining the deepest null when reading reflected power with a dummy load fastened to the output of the transmitter.

Proceed as follows:

Adjust Potentiometer R32 for lowest reading against the Dummy load, a non-inductive load of 50 ohms across the coaxial output connector of the transmitter.

This may not read zero. In every case, however, adjust for the lowest reading obtainable with power on, meter switch in reflected power position.

Take transmitter off the air and replace the dummy load with the antenna cable which should be RG8U or RG58U. Again switch to forward power, put transmitter on the air announcing your call letters. Set meter sensitivity control to reading of 80 again and shut off transmitter. You now have your transmitter adjusted to maximum output into a 50-52 ohm antenna. Nothing you can do at the transmitter will get you any more power into the antenna and NO FURTHER ADJUSTMENTS SHOULD BE MADE.

Now turn the meter switch to REF and put the carrier on again. Read the meter and write down the reading. Turn Carrier off.

## SECTION 6

The SWR can be found by referring to the table below:

The following readings are an indication of SWR on the Antenna System. Use this chart for the AM Transmitter only.

<u>Reflected Reading</u>	<u>SWR</u>
0	1 to 1
5	1.3 to 1
10	1.6 to 1
15	1.8 to 1
20	2 to 1
25	2.8 to 1

Any SWR less than 2 to 1 is good and any effort spent to reduce it will have little effect on efficiency. You will also find that the SWR of any antenna system is not the same on all channels.

With the many types of specially constructed antennas available you should consult the manufacturer of your particular antenna for information on matching the antenna to the feedline. Following the manufacturers recommendations and using the Golden Eagle Mark III transmitter power meter will eliminate your purchasing expensive SWR meters.

SECTION 7

OPERATING THE GOLDEN EAGLE MARK III AM/SSB TRANSMITTER  
TYPE GEIIIIS

FUNCTION OF OPERATING CONTROLS

Channel Selector

The AM/SSB Transmitter has a built in crystal switch assembly with all 23 crystals factory installed. These plug-in miniature type fundamental crystals are made especially for Browning and afford even a tighter frequency tolerance than previous types.

CAUTION: Use only direct factory replacement crystals.

Meter Switch

MOD - This the normal position when transmitting.

The top scale is used for audio level in the Sideband mode. (Voice peaks no greater than 15 on the meter.)

The center scale is used in the AM mode which reads % modulation. (Voice peaks should average between 80 and 100%.)

FWD - This position is to be used in the AM Mode only to monitor relative RF Power and work in conjunction with the SWR calibrate control.

REF - This position is also to be used in the AM Mode along with the FWD position to read SWR. The following procedure is to be followed for Reading SWR -

1. Mode Switch - AM
2. Meter - FWD

With antenna connected depress the microphone and adjust the SWR calibrate control for maximum deflection (on the Red 20). Without touching this control switch to REF on the meter switch and refer to the SWR chart.

SWR Chart for AM/SSB Transmitter only

The following readings are an indication of SWR on the Antenna System - Use top scale.

<u>Reflected Reading</u>	<u>SWR</u>
0	1 to 1
4	2 to 1
6.5	2.4 to 1
10	3.8 to 1
14	8 to 1
16	10 to 1

## SECTION 7

### MA

This position is to be used in the sideband mode only for checking the BIAS as indicated in the AM/SSB transmitter checks page 3.

### SPOT

This is a good time to impress upon you the fact that each CB Channel is 10,000 Hz wide. A Single Sideband station must be tuned to within 100 Hz to be intelligible. Therefore only by careful tuning and completely understanding your equipment will you derive the excellence of operation of which it is capable. First you must determine whether the station you want to call is on upper or lower sideband. Generally an upper sideband station will be copied most clearly slightly above center channel, a lower sideband slightly below center channel. Set your transmitter on the same sideband and channel as the receiver. Now switch to SPOT position and by means of your VFO control on the transmitter you should be able to zero beat your receiver. This condition occurs when no tone is heard between two rising tones. (Sometimes referred to as a "Null".)

### VFO

The letters VFO stand for Variable Frequency Oscillator. This function enables the operator to synchronize his transmitter frequency with another station's transmitter frequency. (See SPOT above.)

As indicated on the front panel, the VFO can be varied approximately 700 Hz. This is still within the channel limitation established by the FCC because of the tight tolerances of the crystals used in this transmitter.

### SWR Calibrate

This switch changes the mode of operation from a True AM Transmitter to a Pure Single Sideband Transmitter (Lower Sideband or Upper Sideband.) The red and amber front panel lights will light to indicate what mode of operation is selected.



## SECTION 7

### MATCHING THE GOLDEN EAGLE MARK III AM/SSB TRANSMITTER TYPE GEIIIIS TO YOUR ANTENNA SYSTEM

#### Antenna Check

With a dummy load connected, set the transmitter controls as follows:

Meter Switch	-	FWD
Power Switch	-	ON
Channel Selector	-	12
Mode	-	AM
SWR Calibrate	-	1/2 Volume

Press the microphone button and adjust the SWR Calibrate for approximately 1/2 scale on the meter. With a small screwdriver carefully adjust the plate tuning control (Rear Chassis) for maximum meter deflection. Make a note of this reading on the 50 ohm Dummy load. Release the microphone button.

#### Output Tuning Check

Remove the dummy load from the Transmitter ANT socket and connect your antenna system.

Turn the POWER switch ON and let the transmitter warm up for at least 2 minutes. Set the controls as for ANTENNA CHECK. Press the microphone button and, with a screwdriver, adjust PLATE TUNING control (rear panel) for maximum meter indication. (Little or no readjustment may be required, but this check must be made.) The meter reading may not be exactly the same as obtained with the dummy load, but this merely means the antenna load is not exactly 50 ohms. The reading may be higher or lower than that obtained with the dummy load, one is no better or worse than the other.

Your Golden Eagle Mark III AM/SSB Transmitter is now ready to be placed in service. Please note that the internal Audio Level control is factory set for normal voice peaks. Never shout into the microphone, to do so will result in much less than peak performance.

When operating on either AM or Sideband be sure that the meter switch stays in the MOD position for accurate audio level monitoring from the meter.

Voice peaks should be regarded like those on a tape recorder's VU Meter.

When operating Sideband use the top meter scale, voice peaks should not swing past 15. If these peaks are exceeded the ALC (Automatic Level Control) will take over and reduce the effective power level and clarity of transmission.

When operating on AM use the center scale which monitors % modulation. Voice peaks on this mode of operation will peak between 80 to 100% modulation.

## SECTION 8

### TUNING SIDEBAND STATIONS

Tuning in a Sideband Station whether single or double sideband is easy only when one becomes experienced after considerable practice.

When receiving sideband stations there is no carrier received. Therefore, a carrier must be inserted by the receiver's beat frequency oscillator. This carrier must be placed in very exacting position in relation to the received signal being transmitted. Naturally if this is not done the signal is unintelligible or badly distorted.

When a sideband signal is heard switch to LSB and remove the noise limiter and AGC by pulling these two switches out. Reduce the RF gain control to about 3 o'clock and advance the volume control if necessary.

Carefully tune the main tuning just below the center of the channel so as to coarse tune the sideband signal. Now very carefully fine tune the Bandspread control to bring the local carrier into line with the received signal.

The same procedure may be used when tuning on upper sideband.

Example: Reset the Bandspread so the pointer is at 12 o'clock. Now carefully tune the main tuning just above the center of the channel so as to coarse tune the sideband signal. Now use the Bandspread.

The resultant signal may sound very squeaky and high pitched or very guttural and low pitched, but careful tuning will change it to a good readable signal.

Another point to remember is that two stations may already be in contact on a very slightly different frequency. You will only be able to tune one clearly but may be able to listen to both by tuning one on the high side and the other on the low side. In other words between them. This however cannot always be done due to the variations in their crystals. No fault of your receiver. Unlike regular AM listening to more than one station at a time on Sideband is very hard to do. Most CB stations are using Double Sideband suppressed carrier transmission. However, when the signal cannot be cleared up as above you may be hearing single sideband which can be either upper or lower sideband. Then it will be necessary to find out by trial if the upper or lower sideband is being used by switching to upper sideband and tuning as above.

Sometimes when listening to double sideband signals either the upper or the lower may have less interference from AM stations. Only trial will tell.

Sideband reception depends very strongly on the skill of the operator and only practice will produce that skill.

SERVICE RETURN INSTRUCTIONS

The extreme selectivity and sensitivity of the Golden Eagle Mark III Receiver can only be attained through the use of precise test equipment.

NO ONE should attempt to make adjustments to the receiver without the proper equipment. Browning will not be responsible whether under warranty or not for work needed to be performed when examination indicates that internal adjustments of any kind have been made by unauthorized persons.

A standard service charge shall be made for realignment of the receiver.

If trouble develops with your unit which you cannot remedy yourself, contact your Browning Franchised Distributor. If it is necessary to return it to Browning, list all possible symptoms that might be helpful information.

Before returning your unit be sure all parts are securely mounted and well packed. Also, attache a tag to your equipment with complete name and address and return all parts pertaining to the operation of the unit; i.e., microphone.

Please enclose a letter with your unit indicating all of your problems. Remember, even if you have called in advance about your equipment a letter enclosed with your equipment will expedite matters both in Receiving and the Repair Department.

If you plan to bring your equipment to Browning in person, please call or write in advance for an appointment.

We do not recommend returning transceivers, receivers, or transmitters via Parcel Post as this equipment is too heavy and delicate. Prepay and insure all shipments.

\* \* \* \* \*

WARNING: The use of this equipment must comply with Part 95 of the Federal Communications Commission Rules and Regulations and failure to do so will subject the operator and all owners to severe fines and penalties.

The proper adherence to these rules and regulations by all will improve the efficiency and operating pleasure for everyone.

Any alterations of the transmitter by anyone other than the manufacturer is a violation of F.C.C. regulations and punishable accordingly and voids your warranty.

BROWNING LABORATORIES, INC.  
1269 UNION AVENUE  
LACONIA, N. H. 03246

W A R R A N T Y

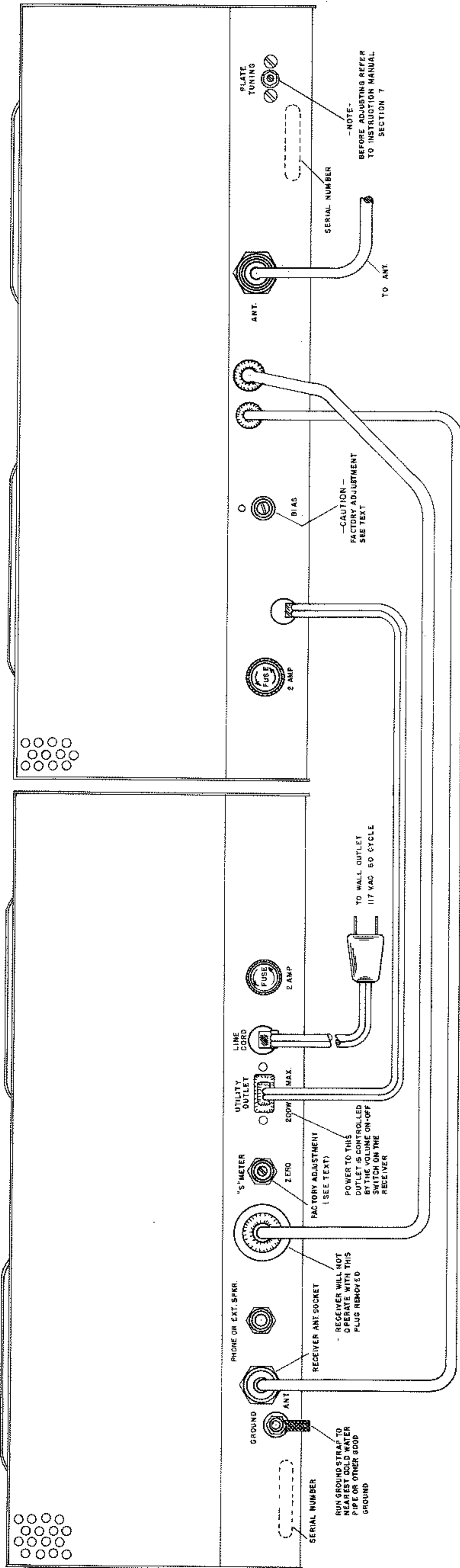
Browning Laboratories, Inc. warrants each new inter-communicating device manufactured by it to be free from defective material and workmanship and agrees to remedy such defect or to furnish a new part in exchange for any part of any unit of its manufacture which under normal installation, use and service, discloses such defect - provided the unit is delivered by the owner to us or to our authorized distributor or dealer from whom purchased within one (1) year from the date of sale to original purchaser, and provided that such examination discloses in our judgment that it is thus defective. Tubes and labor are warranted for ninety (90) days.

This warranty does not extend to any of our products which have been subjected to misuse, neglect, accident, incorrect application, improper installation, or use in violation of instructions furnished by us.

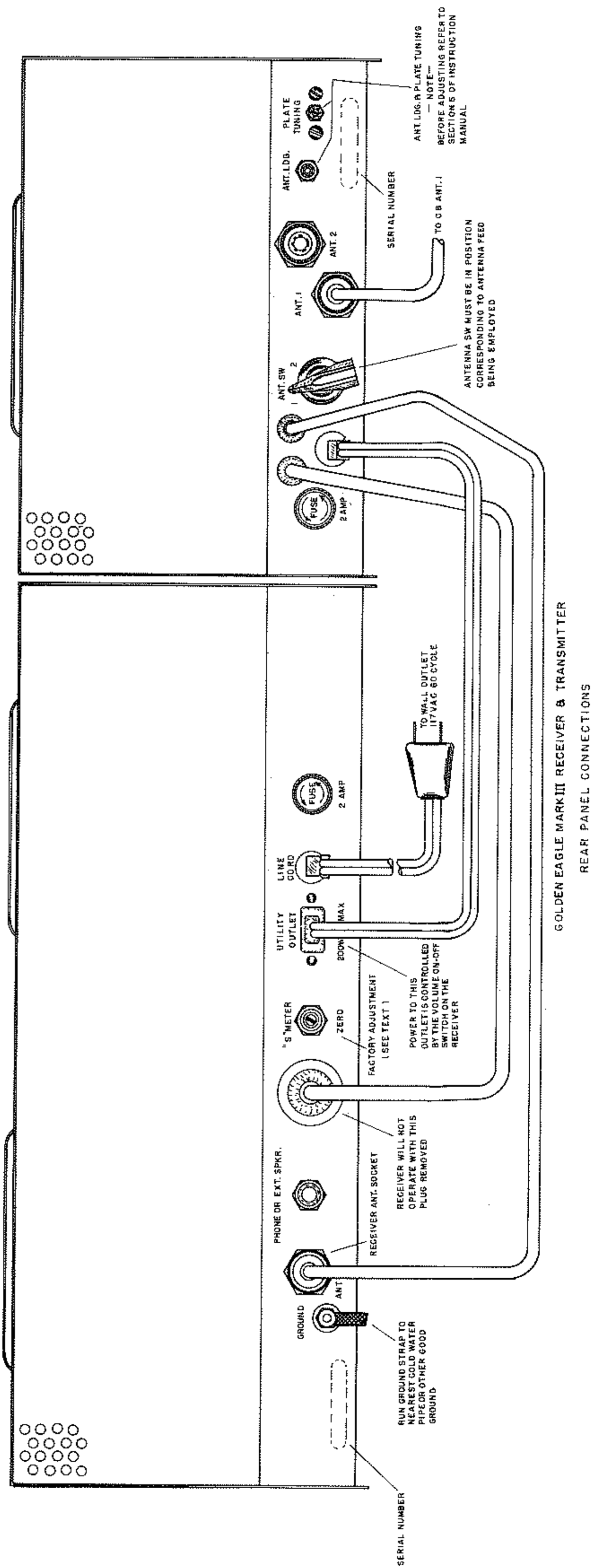
This is not an all-encompassing or performance guarantee (see instructions) and this Warranty is in lieu of all other Warranties expressed or implied; and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

Browning Laboratories, Inc. reserves the right to make any change in design, or to make additions and improvements in its products without imposing any obligation on itself to install them in its products previously manufactured.

Your Warranty is not valid unless Warranty Card is on file at Browning Laboratories. Mail it now.



GOLDEN EAGLE MARK III RECEIVER  
AND  
GOLDEN EAGLE MARK III SSB/AM TRANSMITTER TYPE GE1115  
CONTROL CONNECTIONS



GOLDEN EAGLE MARK III RECEIVER & TRANSMITTER  
REAR PANEL CONNECTIONS