

held liable for damages in transit, if packing, IN HIS OPINION, is insufficient.

\*Authorized service stations are for out-of-warranty units only, unless the station is specifically noted on the List of Authorized Service Stations to be authorized for other work.

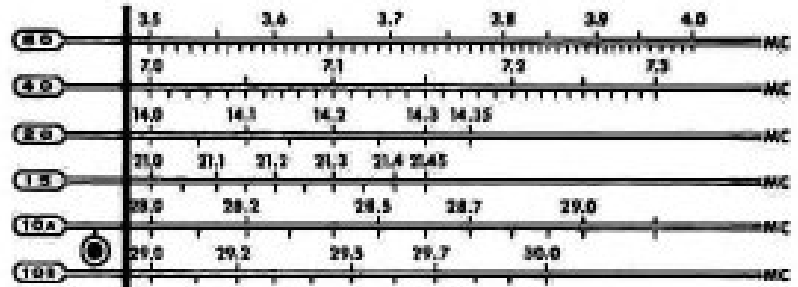


**EICO THE EICO WARRANTY EICO**

The Electronic Instrument Company, Inc., hereafter referred to as EICO, warrants that, for a period of 90 days from the date of purchase, any EICO kit will be free of defects in parts, and that any EICO factory-wired unit will be free of defects in parts and workmanship. For an EICO kit, EICO's obligation is limited to those parts which are returned transportation prepaid to the factory without further damage, and in the judgement of EICO are either originally defective or have become defective in normal use. For an EICO factory-wired unit, EICO's obligation is limited to those parts, sections, or the entire unit which is returned transportation prepaid to the factory without further damage, and in the judgement of EICO are either originally defective or have become defective in normal use.

The warranty does not apply to any parts damaged in the course of handling, assembling, or wiring by the customer, or damaged due to abnormal usage or in violation of instructions or reasonable practice, or further damaged to a consequential degree in return shipment. Furthermore, the foregoing warranty is made only to the original customer, and is and shall be in lieu of all other warranties, whether expressed or implied, and of all other obligations or liabilities on the part of EICO, and in no event shall EICO be liable for any anticipated profits, consequential damages, loss of time, or other losses incurred by the customer in connection with the purchase or operation of EICO products or components thereof.

The registration card, which accompanies each EICO kit or factory-wired unit, must be filled in and returned to the company within 10 days after the date of purchase. This warranty applies only to registered units.



SET POINTER TO THE LEFT OF THE FIGURE "29.0" ON THE SCALE FOR HAND 10B

Figure 4-1. Dial Pan

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**TRANSMIT** - VFO feeds out signal and transmitter radiates signal from antenna as long as key is held down.

VFO should be in close enough proximity to the receiver so that the VFO signal can be heard. A lead from the receiver antenna terminal brought near to the VFO will assure availability of the VFO signal.

## SOLUTION IV. MAINTENANCE

### 4-1. GENERAL

Your VFO will normally require little service outside of tube replacement. The performance is not dependent upon tube selection and the types employed are available everywhere.

All of the required adjustment procedures are described in this section. Operating voltages are shown on the schematic diagram. The material of Section II and II should be helpful in reading the schematic diagram.

### 4-2. CASE REMOVAL

Loosen and remove the four steel metal screws at the rear. Slide the case out of the panel frame and off the instrument.

### 4-3. VFO ADJUSTMENTS AND CALIBRATION

#### A. General

During the following procedure, the VFO function switch is in SPOT position, and the 2-foot length of coaxial cable is connected to the VFO and terminated in the transmitter which is to be used with the VFO. The transmitter should be properly tuned-up and should be turned on in the TUNE mode (key on the air).

**NOTE:** The transmitter location is not essential for VFO calibration, but it is desirable because various transmitter loads will require slightly different settings of L4 and L5 to achieve maximum signal output.

A well calibrated communications receiver covering 5.3-8.0mc and 7.3-7.7mc (and, if possible, a crystal calibrator to check receiver calibration) is required for VFO calibration. The

Allow a half-hour warm-up of all equipment before starting adjustments.

#### B. Adjustment of Output Circuit Tuning Elements (Coils L4 and L5)

1. Tune receiver to 3.75mc.
2. Turn VFO band switch to 80M.
3. Turn VFO until signal is heard in receiver, disregarding the calibration of the VFO dial at this time.
4. Adjust L4 to obtain maximum signal output as indicated by the receiver S-Meter. If the receiver is not equipped with an S-Meter, L4 may be adjusted by observing grid drive to one of the stages in the transmitter, and maintaining this quantity with L4. If the latter method is used, set the band selector of the transmitter to the 80M band for adjustment of L4.
5. Tune receiver to 3.15mc.
6. Turn VFO band switch to 90, 95, 105, 115A M.
7. Repeat steps (3) and (4), this time adjusting L5. If the indication is grid drive in the transmitter, set the band selector of the transmitter to 40M for adjustment of L5.

#### C. VFO Calibration

1. Turn TUNING knob to fully close variable capacitor.
2. If spot scale printer on dial provides that right edge of pointer is aligned to the left side of the figure "29.4" on the scale for band 80M. See Figure 4-1 on page 8.

5



3. Bend center tip of pointer carriage down to point dial and permanently.
4. Set both the VFO and the transmitter band switches to the 80M band.
5. Set both VFO and receiver tuning controls at 4.5mc on the respective dials. Carefully rotate trimmer C3 until VFO is heard on receiver (and/or gives maximum S-Meter reading) indicating that the VFO is exactly tuned to 4.5mc.
6. Set both VFO and receiver at 3.5mc on their respective dials. Carefully adjust slug of coil L1 until the VFO is heard indicating exact tuning of the VFO to 3.5 mc.
7. Repeat step 4 and then step 6, and continue repeating them as long as is necessary to get the calibration of the VFO at 3.5 and 4.5mc to correspond exactly to that of the receiver. Take the time necessary to perform these adjustments carefully and accurately, since the accuracy of the VFO calibration depends on these adjustments.
8. Set the VFO BAND switch at the 40, 30, 20, 15A or 16 position, and the transmitter band switch at the 40M position.
9. Set both VFO and receiver tuning controls at 7.5mc on their respective dials. Carefully rotate trimmer C4 until the VFO (second harmonic) is heard on the receiver (and/or gives maximum S-Meter reading) indicating that the VFO second harmonic is exactly at 7.5mc.
10. Set the VFO BAND switch at the 100 position. The transmitter band switch remains set at the 40M band position.
11. Set the VFO TUNING knob at 20.5mc on the 100 scale, and the receiver tuning control at exactly 7.25mc. Carefully rotate trimmer C11 until the VFO (second harmonic) is heard on the receiver (and/or

gives maximum S-Meter reading) indicating that the VFO second harmonic is exactly at 7.25mc band, consequently, that the right harmonic is exactly at 14.5mc.

This completes the VFO calibration.

#### SECTION V. KICD SERVICE POLICY

##### SERVICE CONSULTATION

If you are experiencing trouble that you cannot diagnose yourself, you are invited to email yourself of the KICD Service Consultation Department. The consultant handling your inquiry will make every effort to diagnose the cause of your particular difficulty based on the information that you provide. Please be as thorough as possible. Include the following information about your unit:

- a) Have you made a thorough check of the wiring, checking also for cold solder joints, or accidental shorting between parts, or to chassis? (Check to see whether a bare wire or lead extends far enough to be shorted when the bottom plate is put on).
- b) Have you checked that the proper tube or transistor is in each socket, and also making proper contact in the socket? Are all shields firmly in place?
- c) Does the trouble occur at one time or one operating situation, but not at another time or operating situation? Be as specific as possible in this respect.
- d) If the unit is of the type that involves alignment or calibration, be as specific as possible as to what you have done or not done with regard to these requirements. If the unit incorporates tuned circuits stated to be factory pre-aligned, did you change any settings? If so, what alignment procedure did you use?
- e) Have you observed any peculiarities about a part? If a part appears charred or otherwise damaged by excessive heat, please say so. If you think

QTYL #	STOCK NO.	AMT.	DESCRIPTION
<b>CAPACITORS</b>			
C1	25012	1	capacitor, ceramic, 100000 (10000), 15 (red, brown, brown, brown, brown)
C2	25018	1	capacitor, ceramic, 50000 - 100000
C3	25021	1	capacitor, trimmer, 2.50000 - 10.00000
C4	25040	1	capacitor, ceramic, 25000 (2500), 10%
C5	25014	1	capacitor, ceramic, 15000 (15000), 5% (white, brown, black, black, green)
C6	25021	1	capacitor, trimmer, 2.50000 - 10.00000
C7	25013	1	capacitor, ceramic, 25000 (2500), 5%
C8	25019	1	capacitor, ceramic, 50000 (50000), 5% (white, green, black, white, green)
C9, 10	25019	2	capacitor, mica, 500000, 15, 200V
C11	25021	1	capacitor, trimmer, 2.50000 - 10.00000
C12	25018	1	capacitor, ceramic, 10000 (10000), 5%
C13	25019	1	capacitor, ceramic, 50000 (50000), 5% (white, green, black, white, green)
C14	25043	1	capacitor, disc, .001000 (100 or 1000000), GMV, 500V
C15, 16	25026	2	capacitor, disc, .010000 (100 or 1000000), GMV, 500V
C17	25027	1	capacitor, disc, 100000, 100, 500V
C18, 19	25028	2	capacitor, disc, .001000 (100 or 2000000) GMV, 1000V
C20, 21	25028	2	capacitor, disc, 2 x .001000 (100 or 2000000) 100V
C22	25028	1	capacitor, disc, 1000000, 100, 100V
C23	25028	1	capacitor, disc, .010000 (100 or 20,000000) GMV, 500V
C24	25016	1	capacitor, elect., 2 x 100000, 200V, 200V

<b>DIODES</b>			
CR1, 2	50003	2	rectifier, 500 PIV
<b>FUSE</b>			
F1	91002	1	fuse, 1 Amp
<b>NON-INDICATOR</b>			
D1	50005	1	bulb, inc., 25-W
<b>LATCHES</b>			
L1	50002	1	latch, key
L2	50004	1	latch, push-stroke
<b>COILS</b>			
L3	25083	1	coil, 28.5ohm, oscillator
L3, 3	25074	1	choke, tank, RF
L4	25083	1	coil, 15ohm
L5	25081	1	coil, 7ohm
L6	25085	1	choke, 50, filter

STOCK NO.	AMT.	DESCRIPTION
<b>MISCELLANEOUS</b>		
47011	1	coil, rubber
47044	1	wiring
50007	1	knob, lever control
50024	1	knob
50034	1	potentiometer, slide
57080	1	key, code
54000	1	coil, insulated, 20
51086	2	slag, FCC phone
52181	1	strain relief
52084	1	brushing, ceramic (Oxide)
50000	1	brushing, ceramic (Ferroal)
50007	1	assembly, drive shaft
50021	1	assembly, drum and disc
50025	1	plate, intermediate
50034	1	padding, metal, 1/2"
50030	1	ball joint
50000	1	washer, plastic
50701	1	lubricant
57081	1	switch, 500
50125	1	ball-bearing, 1/4" dia
50071	1	Construction Manual

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SYM. #	STOCK NO.	AM'T.	DESCRIPTION
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SWITCHES

81	66873	1	switch, rotary, rotary
82	66875	1	switch, lever

TRANSFORMER

T1	3640	1	transformer, power
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TERMINAL STRIPS

T01	34528	1	terminal board, 2 screw
T02	34523	1	terminal strip, 1 post left with ground
T03	34529	1	terminal strip, 2 post right
T04	34527	1	terminal strip, 3 post, 1 strip with ground
T05	34525	1	terminal strip, 4 post with ground
T06	34526	1	terminal strip, 3 post left, upright

TUBES

V1	90029	1	tube, 6A2B
V2	90034	1	tube, 6X2
V3	90028	1	tube, 6CE6

SOCKETS

K11	97180	1	socket, 7 pin miniature (top screw)
K12	97097	1	socket, 7 pin miniature
K13	97092	1	socket, 7 pin miniature (top screw)
K14	97097	1	socket, 7 pin miniature (top screw)

RESISTORS

R1	18908	1	resistor, 22k, 1/2W, 5% (red, red, black)
R2	18428	1	resistor, 47k, 1/2W, 1% (yellow, violet, orange, silver)
R3	18913	1	resistor, 680k, 3W, 1% (green, red, red, silver)
R4	18424	1	resistor, 22k, 1/2W, 1% (red, red, orange, silver)
R5	18901	1	resistor, 47k, 1W, 5% (yellow, violet, brown, silver)
R6	18904	1	resistor, 22k, 1W, 5% (red, red, orange, silver)
R7	18416	1	resistor, 18k, 1/2W, 1% (brown, black, orange, silver)
R8	18420	1	resistor, 33k, 1/2W, 1% (orange, orange, orange, silver)

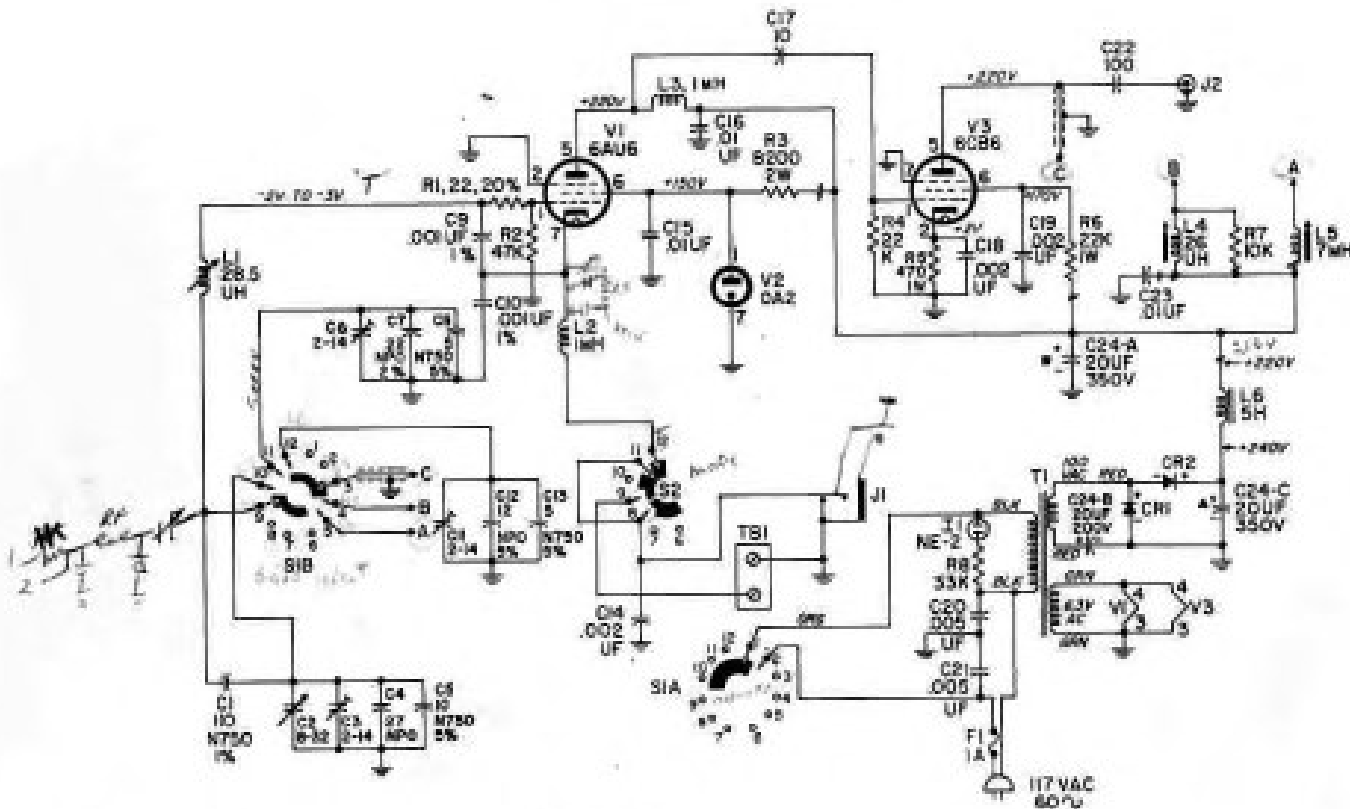
MOUNTING HARDWARE

40000	20	nut, hex, No. 3-32
40001	2	nut, hex, 3/8"
40007	10	nut, hex, No. 3-48
40010	1	nut, hex, 1/2"
41000	22	screw, No. 6-32 x 1/4"
41007	1	screw, No. 6-32 x 3/4"
41018	8	screw, No. 4-40 x 1/4"
41026	11	screw, No. 5 self-tapping
41065	4	screw, No. 4 self-tapping, brass
41086	6	screw, No. 6-32 x 5/16"
41089	6	screw, No. 6-32 x 3/16", round head
41093	2	screw, No. 4-40 x 5/16"
42000	2	washer, lock, 3/8"
42001	2	washer, flat, 3/8"
42002	10	washer, lock, No. 4
42003	2	washer, flat three, No. 4
42007	10	washer, lock, No. 4
42009	1	washer, rubber, 1/2"
42515	2	pin, cotter
43000	4	leg, ground, No. 8
47002	2	standoff, shoulder, 3/16"
48004	2	leg, ground, No. 4

SHEET METAL

60101	1	panel, control (nonconductive)
61203	1	chassis
61204	1	chassis panel (metal plate)
61205	1	shield, cover
61206	1	shield
61207	1	bracket, left
61208	1	bracket, right
61209	1	bracket, cigarette
61210	1	bracket, switch
60003	1	case
60004	1	cabinet

Figure 4 - 2. Schematic Diagram for Model 732



NOTES

1. All resistors are in ohms, 1/2W, 10%, unless otherwise specified.
2. All capacitors are in  $\mu\text{f}$ , 10%, unless otherwise specified.
3. M - Megohms (1,000,000).
4. "BAND" switch S1 shown in "OFF" Extreme counter-clockwise position.
5. "MODE" switch S2 shown in "SPOT" position.

K - Kilohms (1,000)

VOLTAGE MEASUREMENT INSTRUCTIONS  
 Voltages Measured to Ground with VTVM When:

1. FUNCTION switch is in "SPOT" position.
2. BAND switch in 30M position.
3. VFO tuned to 3.5Mc.

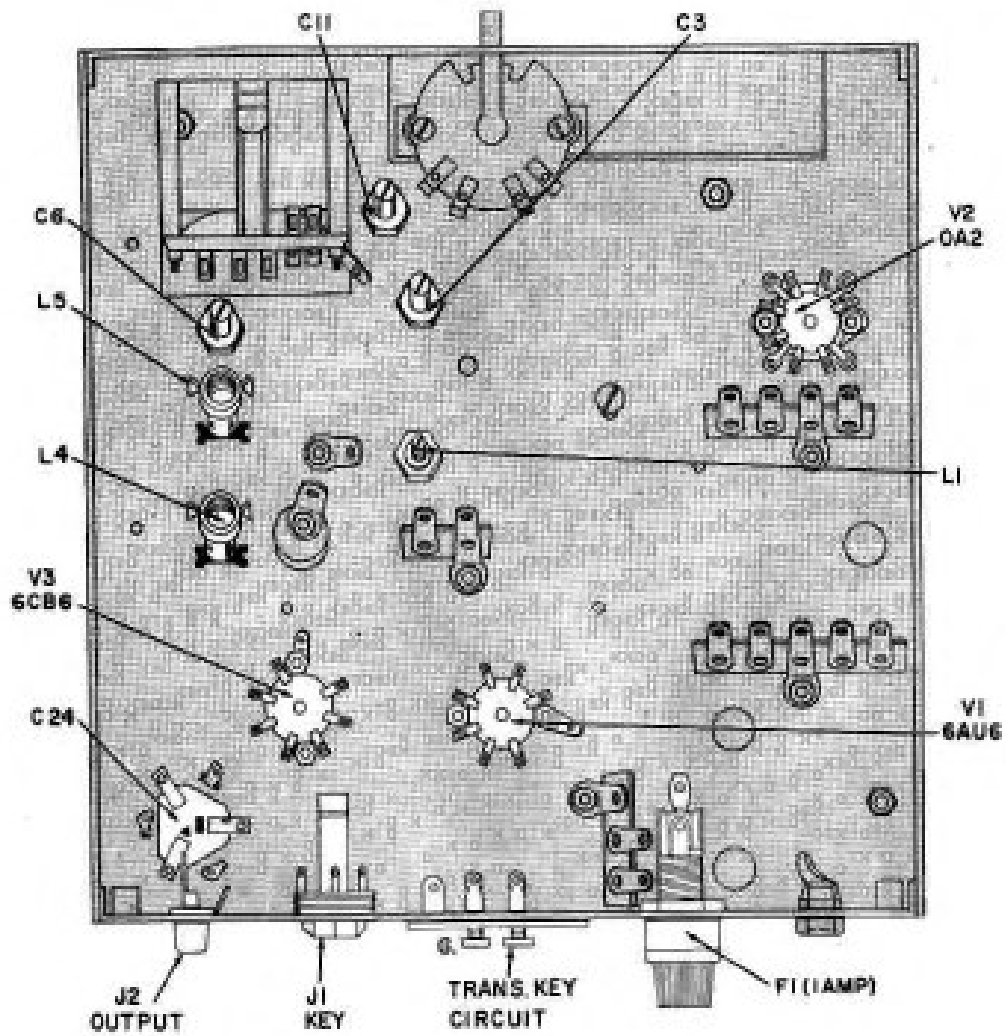


Figure 4-3 Bottom Chassis Layout



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