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***Cobra 132A, 132B, 135A, 135B  
Citizen's Band Transceiver***

DYNASCAN CORPORATION • Service Department  
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E. Cobra 135

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## IDENTIFICATION OF VERSION "B" UNIT

The Cobra 132 Version "B" serial numbers are from R34000 through R35999.

The Cobra 135 Version "B" serial numbers are from R30000 through R33499.

Version "B" units can also be identified by the following characteristics:

1. The Channel Selector Switch has only 1 wafer deck.
2. The SSB transmitter final amplifier has only 1 transistor.
3. The Oscillator Board contains only 11 crystals.

1. SSB TRANSMITTER ALIGNMENT

1.1 SSB Exciter Alignment.

- A. Disconnect TP3 and connect oscilloscope TP3-TP4.
- B. Rotate the channel selector switch to channel 11.
- C. Set the mode selector switch on either upper or lower sideband.
- D. Connect an audio generator to the input terminal of the microphone connector. Inject a frequency of 1KHz.
- E. Adjust the audio generator output level to 3 millivolts.
- F. Press the mike button and adjust transformers T1, T2, T3, T4 and T5 for maximum output.
- G. Set T6 to maximum and rotate 2 turns clockwise.

TABLE I

<u>Location</u>	<u>AF or RF Voltage</u>	<u>DC Voltage</u>
Mike Jack	3mV r.m.s. (1KHz)	
TP13	130mV r.m.s. (1KHz)	
TP1	1.2V P-P	
Q4 Base		0.65V
Q4 Collector		5.6V
Q5, 6 Base		1.5V
Q5, 6 Emitter		0.9V
Q5, 6 Collector		6.5V
Q7 Base		0.65V
Q7 Collector		4V
TP3	0.8V P-P	

### 1.2 Transistors Bias Adjustment of Linear Amplifier.

- A. Connect a 50 ohm Wattmeter to antenna jack.
- B. Set the mode selector switch on either upper or lower sideband.
- C. Connect a milliamp meter between L4 and +B (TP9).
- D. Short the microphone input. Press the mike button and adjust R131 for 30 milliamp current indication.
- E. Connect a milliamp meter between L7 and +B (TP10).
- F. Adjust R130 on Version B for 30 milliamp current indication. Adjust R130 for 50 milliamp current indication on Version A.

### 1.3 Linear Amplifier Alignment.

- A. Set the mode selector switch on either upper or lower sideband.
- B. Short TP11-TP12 and connect audio generator to the microphone input circuit. Inject a frequency of 1kHz.
- C. Adjust the audio generator output level to 15 millivolts for Version A. Adjust the audio generator output level to 3 millivolts for Version B.
- D. Press the mike button and adjust the transformer and coils T16, L5 and L8 for maximum power output. Power output should be more than 9 watts.
- E. Disconnect TP11-TP12 and adjust R136 for 9 watts power output.

TABLE II

<u>Location</u>	<u>RF Voltage</u>	<u>DC Voltage</u>
Q19 Base		1.5V
Q19 Emitter		1V
Q19 Collector	22V P-P	13V
Q20 Base	1.6V P-P	
Q20 Collector	20V P-P	
Q21, 22 Base	8V P-P	
Q21, 22 Collector	42V P-P	
ANT Jack	68V P-P	

NOTE: Q22 used only in Version A.

#### 1.4 Carrier Balance Alignment.

- A. Select either upper or lower sideband with the mode switch and short the microphone input circuit to ground.
- B. Press the mike button and adjust the R23 and C20 for minimum indication on the oscilloscope. Output voltage should be less than 0.6 volts P-P.

## 2. AM TRANSMITTER ALIGNMENT

SSB alignment should be performed before AM alignment.

### 2.1 AM Transmitter alignment.

- A. Press the mike button and adjust transformers and coil T14, T15 and L3.
- B. Adjust C116 for 3.7 watts power output.
- C. Repeat the steps A and B.

TABLE III

<u>Location</u>	<u>RF Voltage</u>	<u>DC Voltage</u>
Q16 Base		1.3V
Q16 Emitter		0.9V
Q16 Collector	12V P-P	8V
Q17 Emitter	30V P-P	
Q18 Emitter	30V P-P	
Q18 Collector		13V
ANT Jack	36V P-P	

### 2.2 Modulation performance check.

- A. Connect an oscilloscope across the 50 ohm dummy load.
- B. Connect an audio generator to the microphone input circuit. Inject a frequency of 1kHz.
- C. Adjust the audio generator output level to 2 millivolts. Modulation should be approx. 100%.

TABLE IV

<u>Location</u>	<u>AF Voltage</u>
Mike Jack	2mV
Q32 Base	3mV
Q34 Base	23mV
Q34 Collector	3V
Q35, 36 Collector	8V
Q18 Collector	8V

### 3. AM RECEIVER

#### 3.1 AM Receiver performance check.

- A. Connect the RF signal generator to the antenna jack. Set the generator output at 0.5 microvolts, 1kHz 30% modulation.
- B. Connect the 8 ohm load with an audio voltmeter to external speaker jack.
- C. Rotate the volume control to the maximum clockwise position and the squelch control to the maximum counter-clockwise position.
- D. Set the channel selector switch to channel 11 and the signal generator to 27.085 MHz.
- E. Audio output power should be more than 1 watt.
- F. Adjust the volume control for 1 (or 0.775) volt indication on the audio voltmeter.  
Remove the modulating signal from the signal generator. Indication on the audio voltmeter should drop 10 dB or more.

#### 3.2 AM Receiver alignment

The following table is provided to aid the alignment of the AM receiver section.



TABLE V

<u>Alignment</u>	<u>Generator Frequency &amp; Output Level</u>	<u>Generator Connection</u>	<u>Adjustment</u>	<u>Voltmeter Connection</u>	<u>Adjust For</u>
2nd IF stage	455kHz (10 $\mu$ V)	TP5-TP6	T12, T13	EXT SP Jack	MAX
1st IF Stage	7.8MHz (3 $\mu$ V)	Base of Q11	T10, T11	EXT SP Jack	MAX
RF Stage	27MHz (0.5 $\mu$ V)	Ant. Jack	T7, T8, T9	EXT SP Jack	MAX

## 3.3 AM Receiver Transistor Voltage.

TABLE VI

	<u>Q8</u>	<u>Q9</u>	<u>Q11</u>	<u>Q12</u>	<u>Q13</u>	<u>Q14</u>
Emitter (Source)	2.9	2.9	1.7	0.1	0	1.1
Collector (Drain)	7.0	1.6	6	3.3	1.8	8
Base (Gate)	0.48	2	2.9	0.65	0.6	1.8

All voltages are measured with a 100K ohm voltmeter with no input from signal generator.

## 3.4 AM AGC Performance Check.

- A. Connect the signal generator to the unit. Select channel 11 and adjust the signal generator for 0.5 microvolts output signal modulated 30%.
- B. Increase the signal generator output to 100 millivolts.
- C. Adjust the volume control for 1 (or 0.775) volt indication on the audio voltmeter.
- D. Reduce the signal generator to 10 microvolts. The audio voltmeter should not drop more than 6 dB.

## 3.5 AM S- meter alignment.

- A. Connect the unit as described in Step 3.4 and adjust the signal generator for 100 microvolts.
- B. Adjust R91 for S9 indication.

### 3.6 Squelch performance check.

- A. Connect the unit as described in Step 3.1.
- B. Rotate the squelch control until the signal has been just muted.
- C. Advance the signal generator output level until the squelch is broken. It should take less than 0.5 microvolts increase on the signal generator output to break the squelch.
- D. Rotate the squelch control to the maximum clockwise position. Advance the signal generator output. Adjust R204 to break the squelch between the output of 300 and 1500 microvolts.

### 3.7 Squelch Troubleshooting.

Table VII is to be used as an aid in locating and correcting troubles in the squelch circuitry.

TABLE VII

<u>Stage</u>		<u>Unsquelched</u>	<u>Full Squelch</u>
	E	0	0
Q37	C	0.7	0.03
	B	0.55	0.65
	E	0	0
Q38	C	0.03	2
	B	0.7	0.03

## 4. SSB RECEIVER

### 4.1 SSB Receiver Performance Check.

- A. Connect an RF signal to the antenna jack. Set the signal generator output level to 0.25 microvolts with no modulation.
- B. Connect a 8 ohm load with an Audio voltmeter to external speaker jack.

- C. Set the mode selector switch to upper sideband. Rotate the volume control to its maximum clockwise position and the squelch control to its maximum counterclockwise position.
- D. Rotate channel selector switch to channel 11.
- E. Adjust the signal generator output frequency for an audio tone of approx. 1kHz. Audio output power should be more than 1 watt.
- F. Adjust the volume control for 1 (or 0.775) volt indication on the audio voltmeter.
- G. Remove the signal generator output. The indication on the audio voltmeter should drop 10 dB or more.

VIII

<u>Location</u>	<u>DC Voltage</u>
(terminal of IC1)	
1	2
2	2
3	8
4	0
5	8
6	2
7	2

5. SYNTHESIZER, (VERSION A)

5.1 Synthesizer performance check.

- A. Connect a 50 ohm wattmeter to the antenna jack.
- B. Connect a frequency counter to the antenna jack.
- C. Connect an audio generator set at 1kHz to the microphone input.
- D. Rotate the channel selector to Channel 1 and the mode switch to USB.

- E. Press the mike button and increase the audio generator output until sufficient RF output is obtained to trigger the counter.
- F. Check the voice lock control for maximum and minimum output frequency. This should be 26.966MHz  $\pm$  approx. 600 Hz.
- G. Check the remaining channels in the upper sideband mode. Keep in mind that the output frequency will appear 1kHz higher than the actual assigned channel number since you are using a 1kHz tone.
- H. When checking output frequency when the mode switch is at LSB, the measured output frequency should be 1kHz  $\pm$  approx. 600Hz less than the assigned channel frequency.

## 5.2 Synthesizer Alignment.

- A. Connect TP301 to ground (TP310) and connect the frequency counter between TP303 and TP305.
- B. Set the channel selector switch on Channel 1 and mode selector switch to USB.
- C. Adjust C322 for a frequency reading of 7,461.5kHz.
- D. Frequency adjustment for the remaining channels are listed in Table IX.
- E. Set the channel selector switch in Channel 1 and mode selector switch to LSB.
- F. Adjust C310 for a frequency reading of 7,458.5kHz.
- G. Frequency adjustment for the remaining channels are listed in Table IX.

TABLE IX

<u>Channel</u>	<u>Mode Switch</u>	<u>Adjustment</u>	<u>Frequency (kHz)</u>
1	USB	C322	7,461.500
2	USB	C324	7,471.500
3	USB	C326	7,481.500
4	USB	C328	7,501.500
1	LSB	C310	7,458.500
2	LSB	C312	7,468.500
3	LSB	C314	7,478.500
4	LSB	C316	7,498.500

- H. Disconnect TP301 from TP310 and connect TP302 to TP305.
- I. Set the channel selector switch to Channel 13 and mode switch to USB.
- J. Rotate voice lock control to the maximum clockwise position.
- K. Adjust L301 for a frequency of 11,855.700kHz.
- L. Rotate voice lock control to the maximum counterclockwise position.
- M. Adjust R310 for a frequency of 11,854.300kHz.
- N. Repeat Steps J through M.
- O. Remove the counter from TP303-TP305 and disconnect TP302 from TP305.
- P. Connect an oscilloscope to TP306-TP307.
- Q. Tune T301, T302 and T303 for maximum indication on the oscilloscope. A typical voltage reading should be 0.2 volts P-P.

### 5.3 Synthesizer Troubleshooting.

- A. For locating a problem in the synthesizer circuitry of the unit, use the measurements in Table X.

TABLE X

<u>Location</u>	<u>RF Voltage (V P-P)</u>
TP301	2
TP302	2.8 (USB, AM)
TP303	2.8 (LSB)
TP306 - TP307	0.6

- B. If there is no synthesizer output on some channels, refer to Table XI to locate the defective crystal. (Table XI is on following page).

### 5.4 Carrier Oscillator Alignment.

- A. Connect the frequency counter to TP1-TP2.
- B. Set the mode selector switch to upper sideband.
- C. Adjust C1 for the output frequency of 7,798.500kHz
- D. Set the mode selector switch to lower sideband.
- E. Adjust C7 for the output frequency of 7,801.500kHz.

TABLE XI

	<u>Channel Frequency</u>	<u>Carrier Frequency</u>	<u>OSC</u>	<u>1st Local Frequency</u>	<u>OSC</u>	<u>Syn. Local Oscillator</u>	<u>Syn. Local (Upper or Lower)</u>
1.	26.965	7.7985 7.8015	+ +	19.1665 19.1635	= =	11.705 + 7.4615 11.705 + 7.4585	USB & AM LSB
2.	26.975	7.7985 7.8015	+ +	19.1765 19.1735	= =	11.705 + 7.4715 11.705 + 7.4685	USB & AM LSB
3.	26.985	7.7985 7.8015	+ +	19.1865 19.1835	= =	11.705 + 7.4815 11.705 + 7.4785	USB & AM LSB
4.	27.005	7.7985 7.8015	+ +	19.2065 19.2035	= =	11.705 + 7.5015 11.705 + 7.4985	USB & AM LSB
5.	27.015	7.7985 7.8015	+ +	19.2165 19.2135	= =	11.755 + 7.4615 11.755 + 7.4585	USB & AM LSB
6.	27.025	7.7985 7.8015	+ +	19.2265 19.2235	= =	11.755 + 7.4715 11.755 + 7.4685	USB & AM LSB
7.	27.035	7.7985 7.8015	+ +	19.2365 19.2335	= =	11.755 + 7.4815 11.755 + 7.4785	USB & AM LSB
8.	27.055	7.7985 7.8015	+ +	19.2565 19.2535	= =	11.755 + 7.5015 11.755 + 7.4985	USB & AM LSB
9.	27.065	7.7985 7.8015	+ +	19.2665 19.2635	= =	11.805 + 7.4615 11.805 + 7.4585	USB & AM LSB
10.	27.075	7.7985 7.8015	+ +	19.2765 19.2735	= =	11.805 + 7.4715 11.805 + 7.4685	USB & AM LSB
11.	27.085	7.7985 7.8015	+ +	19.2865 19.2835	= =	11.805 + 7.4815 11.805 + 7.4785	USB & AM LSB
12.	27.105	7.7985 7.8015	+ +	19.3065 19.3035	= =	11.805 + 7.5015 11.805 + 7.4985	USB & AM LSB
13.	27.115	7.7985 7.8015	+ +	19.3165 19.3135	= =	11.855 + 7.4615 11.855 + 7.4585	USB & AM LSB
14.	27.125	7.7985 7.8015	+ +	19.3265 19.3235	= =	11.855 + 7.4715 11.855 + 7.4685	USB & AM LSB
15.	27.135	7.7985 7.8015	+ +	19.3365 19.3335	= =	11.855 + 7.4815 11.855 + 7.4785	USB & AM LSB
16.	27.155	7.7985 7.8015	+ +	19.3565 19.3535	= =	11.855 + 7.5015 11.855 + 7.4985	USB & AM LSB
17.	27.165	7.7985 7.8015	+ +	19.3665 19.3635	= =	11.905 + 7.4615 11.905 + 7.4585	USB & AM LSB

	<u>Channel Frequency</u>	<u>Carrier Frequency</u>	<u>OSC</u>	<u>1st Local Frequency</u>	<u>OSC</u>	<u>Sync. Local Oscillator</u>	<u>Syn. Local (Upper or Lower)</u>
18.	27.175	7.7985 7.8015	+ +	19.3765 19.3735	= =	11.905 + 7.4715 11.905 + 7.4685	USB & AM LSB
19.	27.185	7.7985 7.8015	+ +	19.3865 19.3835	= =	11.905 + 7.4815 11.905 + 7.4785	USB & AM LSB
20.	27.205	7.7985 7.8015	+ +	19.4065 19.4035	= =	11.905 + 7.5015 11.905 + 7.4985	USB & AM LSB
21.	27.215	7.7985 7.8015	+ +	19.4165 19.4135	= =	11.955 + 7.4615 11.955 + 7.4585	USB & AM LSB
22.	27.225	7.7985 7.8015	+ +	19.4265 19.4235	= =	11.955 + 7.4715 11.955 + 7.4685	USB & AM LSB
Vacant	27.235	7.7985 7.8015	+ +	19.4365 19.4335	= =	11.955 + 7.4815 11.955 + 7.4785	USB & AM LSB
23.	27.255	7.7985 7.8015	+ +	19.4565 19.4535	= =	11.955 + 7.5015 11.955 + 7.4985	USB & AM LSB

(AM Receiver 2nd Local OSC 7.3435 MHz)

TABLE XII

<u>Location</u>	<u>RF Voltage</u>
Q3 Base	1V P-P
TP1	1.2V P-P

## 6. SYNTHESIZER (Version B)

### 6.1 Synthesizer performance check.

- A. Connect a 50 ohm wattmeter to the antenna jack.
- B. Connect a frequency counter to the antenna jack.
- C. Connect an audio generator set at 1kHz to the microphone input.
- D. Rotate the channel selector to channel 1 and the mode switch to USB.
- E. Press the mike button and increase the audio generator output until sufficient RF output is obtained to trigger the counter.
- F. Check the voice lock control for maximum and minimum output frequency. This should be 26.966 MHz  $\pm$  approx. 800 Hz.
- G. Check the remaining channels in the upper sideband mode. Keep in mind that the output frequency will appear 1kHz higher than the actual assigned channel number since you are using a 1kHz tone.
- H. When checking output frequency when the mode switch is at LSB, the measured output frequency should be 1kHz  $\pm$  approx. 800 Hz, less than the assigned channel frequency.

### 6.2 Synthesizer alignment.

- A. Short between TP301 and ground TP303 and connect the frequency counter between TP303 and TP304.
- B. Set the channel selector switch on channel 1 and mode selector switch to USB, or LSB.
- C. Adjust C320 for a frequency reading of 6,000 kHz.
- D. Frequency adjustment for the remaining channels are listed in Table XIII.



TABLE XIII

<u>Channel</u>	<u>Mode Switch</u>	<u>Adjustment</u>	<u>Frequency (MHz)</u>
1	USB or LSB	C320	6.000
2	USB or LSB	C318	6.010
3	USB or LSB	C316	6.020
4	USB or LSB	C314	6.040

- E. Disconnect TP301-TP303 and short between TP302 and ground (TP303).
- F. Set the channel selector switch to channel 1 and mode switch to USB or LSB.
- G. Adjust C312 for frequency reading of 15.965 MHz.
- H. Frequency adjustment for the remaining channels are listed in Table XIV.

TABLE XIV

<u>Channel</u>	<u>Mode Switch</u>	<u>Adjustment</u>	<u>Frequency (MHz)</u>
1	USB or LSB	C312	15.965
5	USB or LSB	C310	16.015
9	USB or LSB	C308	16.065
13	USB or LSB	C306	16.115
17	USB or LSB	C304	16.165
21	USB or LSB	C302	16.215

- I. Remove the frequency counter from TP303-TP304.
- J. Connect the frequency counter between TP305 and TP309.
- K. Set the mode selector switch on USB and voice lock control to its maximum clockwise position.
- L. Adjust L301 for a frequency reading of 12.8023 MHz.
- M. Set the mode selector switch on LSB and voice lock control to its maximum counterclockwise position.
- N. Adjust R331 for a frequency reading of 12.7977 MHz.
- O. Set the mode selector switch on USB and voice lock control to its maximum counterclockwise position.

- P. Adjust R329 for a frequency reading of 12.8007 MHz.
- Q. Set the mode selector switch on LSB and voice lock control to its maximum clockwise position.
- R. Adjust R326 for a frequency reading of 12.7993 MHz.
- S. Disconnect TP302 and TP303 and remove the frequency counter from TP305-TP309.
- T. Short between TP308 and TP309 and connect an oscilloscope to TP305-TP309.
- U. Tune T301 and T302 for maximum indication on the oscilloscope.
- V. Remove the oscilloscope from TP305-TP309 and disconnect TP708-TP709.
- W. Connect an oscilloscope to TP306-TP307.
- X. Tune T303, T304 and T305 for maximum indication on the oscilloscope.  
A typical voltage reading should be 0.2 volts P-P.

### 6.3 Synthesizer Troubleshooting.

- A. Locating a problem in the synthesizer circuitry of the unit, use the measurements in Table XV.

TABLE XV

<u>Location</u>	<u>RF Voltage (V P-P)</u>
Q301 Base	2.4
Q302 Base	6.4
Q305 Emitter	2
T305 (Output)	0.2

- B. If there is no synthesizer output on some channels, refer to Table XVI to locate the defective crystal.

TABLE XVI

Ch.	<u>Frequency</u>	<u>Carrier Frequency</u>	<u>Synthesizer Frequency</u>	<u>Mode</u>
1	26.965	7.8015	- 34.7665 = 6.000 + 15.965 + 12.8015	USB
		7.7985	- 34.7635 = 6.000 + 15.965 + 12.7985	LSB & AM
2	26.975	7.8015	- 34.7765 = 6.010 + 15.965 + 12.8015	USB
		7.7985	- 34.7735 = 6.010 + 15.965 + 12.7985	LSB & AM
3	26.985	7.8015	- 34.7865 = 6.020 + 15.965 + 12.8015	USB
		7.7985	- 34.7835 = 6.020 + 15.965 + 12.7985	LSB & AM
4	27.005	7.8015	- 34.8065 = 6.040 + 15.965 + 12.8015	USB
		7.7985	- 34.8035 = 6.040 + 15.965 + 12.7985	LSB & AM
5	27.015	7.8015	- 34.8165 = 6.000 + 16.015 + 12.8015	USB
		7.7985	- 34.8135 = 6.000 + 16.015 + 12.7985	LSB & AM
6	27.025	7.8015	- 34.8265 = 6.010 + 16.015 + 12.8015	USB
		7.7985	- 34.8235 = 6.010 + 16.015 + 12.7985	LSB & AM
7	27.035	7.8015	- 34.8365 = 6.020 + 16.015 + 12.8015	USB
		7.7985	- 34.8335 = 6.020 + 16.015 + 12.7985	LSB & AM
8	27.055	7.8015	- 34.8565 = 6.040 + 16.015 + 12.8015	USB
		7.7985	- 34.8535 = 6.040 + 16.015 + 12.7985	LSB & AM
9	27.065	7.8015	- 34.8665 = 6.000 + 16.065 + 12.8015	USB
		7.7985	- 34.8635 = 6.000 + 16.065 + 12.7985	LSB & AM
10	27.075	7.8015	- 34.8765 = 6.010 + 16.065 + 12.8015	USB
		7.7985	- 34.8735 = 6.010 + 16.065 + 12.7985	LSB & AM
11	27.085	7.8015	- 34.8865 = 6.020 + 16.065 + 12.8015	USB
		7.7985	- 34.8835 = 6.020 + 16.065 + 12.7985	LSB & AM
12	27.105	7.8015	- 34.9065 = 6.040 + 16.065 + 12.8015	USB
		7.7985	- 34.9035 = 6.040 + 16.065 + 12.7985	LSB & AM
13	27.115	7.8015	- 34.9165 = 6.000 + 16.115 + 12.8015	USB
		7.7985	- 34.9135 = 6.000 + 16.115 + 12.7985	LSB & AM
14	27.125	7.8015	- 34.9265 = 6.010 + 16.115 + 12.8015	USB
		7.7985	- 34.9235 = 6.010 + 16.115 + 12.7985	LSB & AM
15	27.135	7.8015	- 34.9365 = 6.020 + 16.115 + 12.8015	USB
		7.7985	- 34.9335 = 6.020 + 16.115 + 12.7985	LSB & AM

<u>Ch.</u>	<u>Frequency</u>	<u>Carrier Frequency</u>	<u>Synthesizer Frequency</u>	<u>Mode</u>
16	27.155	7.8015 7.7985	- 34.9565 = 6.040 + 16.115 + 12.8015 - 34.9535 = 6.040 + 16.115 + 12.7985	USB LSB & AM
17	27.165	7.8015 7.7985	- 34.9665 = 6.000 + 16.165 + 12.8015 - 34.9635 = 6.000 + 16.165 + 12.7985	USB LSB & AM
18	27.175	7.8015 7.7985	- 34.9765 = 6.010 + 16.165 + 12.8015 - 34.9735 = 6.010 + 16.165 + 12.7985	USB LSB & AM
19	27.185	7.8015 7.7985	- 34.9865 = 6.020 + 16.165 + 12.8015 - 34.9835 = 6.020 + 16.165 + 12.7985	USB LSB & AM
20	27.205	7.8015 7.7985	- 35.0065 = 6.040 + 16.165 + 12.8015 - 35.0035 = 6.040 + 16.165 + 12.7985	USB LSB & AM
21	27.215	7.8015 7.7985	- 35.0165 = 6.000 + 16.215 + 12.8015 - 35.0135 = 6.000 + 16.215 + 12.7985	USB LSB & AM
22	27.225	7.8015 7.7985	- 35.0265 = 6.010 + 16.215 + 12.8015 - 35.0235 = 6.010 + 16.215 + 12.7985	USB LSB & AM
Vacant	27.235	7.8015 7.7985	- 35.0365 = 6.020 + 16.215 + 12.8015 - 35.0335 = 6.020 + 16.215 + 12.7985	USB LSB & AM
23	27.255	7.8015 7.7985	- 35.0565 = 6.040 + 16.215 + 12.8015 - 35.0535 = 6.040 + 16.215 + 12.7985	USB LSB & AM

(AM Receiver 2nd Local OSC 7.3450 MHz)

6.4 Carrier Oscillator Alignment.

- A. Connect the frequency counter to TP1-TP2.
- B. Set the mode selector switch to upper sideband.
- C. Adjust C7 for the output frequency of 7,801.500 kHz.
- D. Set the mode selector switch to lower sideband.
- E. Adjust C1 for the output frequency of 7,798.500 kHz.

TABLE XVII

<u>Location</u>	<u>RF Voltage</u>
Q3 Base	1V P-P
TP1	1.2V P-P

7. AC POWER SUPPLY (MODEL COBRA 135 ONLY)

TABLE XVIII

Power Supply Transistor Voltage Table

	C	B	E
Q501	15.3	7.8	7.2
Q502	20	14.6	14
Q503	20	15.3	14.6

Condition: Unit should be in AM receiving mode.