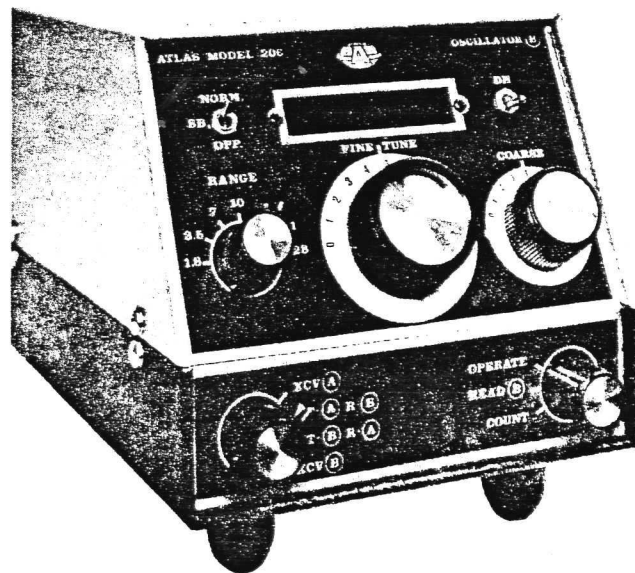


INSTALLATION OPERATION AND MAINTENANCE



ATLAS Model 206 Auxiliary VFO

ATLAS RADIO, INC.

Date of Purchase

WARRANTY REGISTRATION CARD

(Please fill in and mail promptly)

Model 206 Serial No. VFQ-132

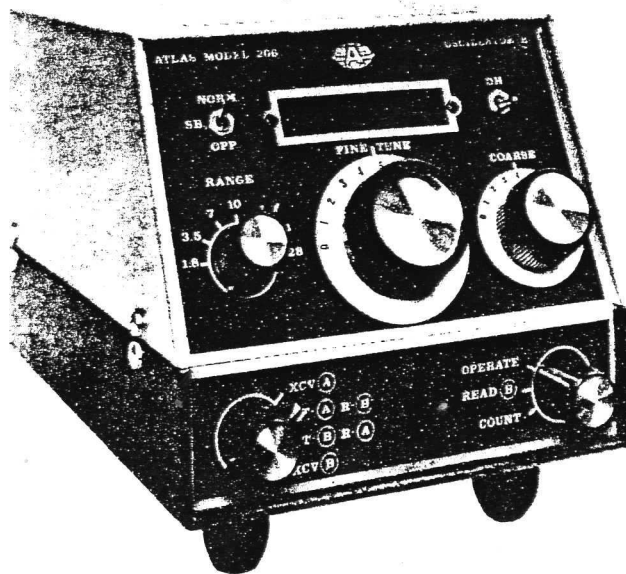
Owner's Name

Dealer's Name

Call Phone ()

Address

ATLAS RADIO, INC. 417 Via Del Monte
Oceanside, California 92054
(714) 433-1983



INTRODUCTION

The model 206 Auxiliary VFO is designed for simple plug-in installation with all ATLAS transceivers providing increased versatility, greater frequency coverage, including full coverage of the 10 meter band and WWV, and more flexible operating capability. It matches the 220 console supply in height, depth and styling.

GENERAL SPECIFICATIONS

FREQUENCY COVERAGE:

1800-3000 kHz (with Model 215x transceiver only)
 3000-5000 kHz
 6000-8000 kHz
 8000-10,000 kHz
 14,000-16,000 kHz
 20,000-22,000 kHz
 28,000-30,000 kHz (with Model 210x transceiver only)

FREQUENCY READOUT: Digital Dial with six L.E.D. matrix displays, reads within 100 Hz of operating frequency.

OPERATING FUNCTIONS: Function switch permits transmitting and re-

ceiving on different frequencies, as well as transceiving on either the transceiver dial or the 206 dial.

FRONT CONTROLS: Fine Tune, Coarse Tune, Range Switch, Sideband Selector, Digital Hold, Function Switch, Mode Switch.

FINISH: Grey vinyl covered aluminum cabinet and black vinyl covered aluminum bottom cover. Anodized aluminum panels.

WEIGHT: 4 lbs, 8 oz. (2.0 kg) net, 6 lbs. (2.7 kg) shipping weight.

DIMENSIONS: 6 in. (15.2 cm) wide, 5 5/8 in. (14.3 cm) high, 9 1/2 in. (24.1 cm) deep.

INSTALLATION

EXTERNAL OSCILLATOR SOCKET:

This socket is a 9 pin noval installed on the back of the transceiver and is for plug-in of the ATLAS Model 206 VFO. Jumper wires are factory installed on this socket and must be removed when the Model 206 is used. Refer to Digital Dial section of these instructions for any necessary modifications of this socket.

DIGITAL DIAL:

Transceiver Modifications;

Transceivers with serial numbers lower than 3950 will require some modification of wiring to the external oscillator socket. If transceivers serial numbers are higher than 3950 these modifications may be ignored.

- (a) Remove transceiver cabinet.
- (b) Locate the EXT OSC socket, the NEG GND banana jack, and the two +12-14V banana plugs on the back of the 210x/215x transceiver.
- (c) Remove the red wire from terminal 8 of the EXT OSC socket. Cut and tape this lead so as to prevent any short circuits.
- (d) Temporarily remove the NEG GND banana jack. This will make access to the +12-14V banana plug directly below this jack easier.
- (e) Connect a 3 AMP pigtailed fuse from the +12-14V banana plug directly below the NEG GND jack to terminal 8 of the EXT OSC socket. Use insulating sleeving and avoid short circuits or disturbing any other wiring.
- (f) After careful inspection of your work, replace the NEG GND banana jack and its solder lug. Replace the transceiver cabinet.

This change replaces a +12VDC low current line with a +12VDC fused high current line to the EXT OSC socket.

OPERATION

FUNCTION SWITCH:

This 4 position switch selects the oscillator which will be used for receiving, and the one that will be used for transmitting. Oscillator A is the 210x/215x XCVR and Oscillator B is the 206 VFO.

- (a) In XCV (transceive) A, the transceiver dial is used for both transmit and receive.
- (b) In T - A R - B, the transceiver dial is used for transmit and the 206 dial is used for receive.
- (c) In T - B R - A, the transceiver dial is used for receive and the 206 dial is used for transmit.
- (d) In XCV B, the 206 VFO is used in both transmit and receive.

FREQUENCY RANGE:

The numbers on the range selector read in megahertz for the respective frequency range. This expanded coverage permits MARS operation as well as reception over large segments of the HF spectrum. (*See Specs.*)

SIDEBAND SELECTOR:

The sideband selector toggle switch allows for proper digital dial reading of either normally used or opposite sideband. The switch must correspond with the "NORM.-OPP" sideband selector switch on the 210x/215x for proper reading. "Normal" usage is lower sideband on the 160, 80 and 40 meter bands, and upper sideband on 20, 15 and 10 meters.

MODE SELECTOR:

- (a) **OPERATE position:**
Reads receive frequency and transmit frequency in all positions of the function switch.
- (b) **READ B position:**
When operating transceiver with the 210x/215x you can check the frequency of the 206 by switching to the Read B position.
- (c) **COUNT position:**
This position allows the 206 to function as a frequency counter from 100 Hz to 40 MHz for general use around the ham shack or lab. Set the sideband selector switch in the NORM. position. Connect the signal to be measured to the RCA phono plug located on the rear panel of the 206. This plug is labeled COUNT. Use 50 ohm coaxial cable and limit the input to 5 volts. The 206 will now read frequencies from 100 Hz to 40 MHz.

FREQUENCY TUNING:

- (a) **Coarse Tuning:**
Allows for quick tuning of the entire frequency range.
- (b) **Fine Tuning:**
This control is normally used when finer tuning of the frequency range is desired. Minimum frequency reading for each range is obtained when both tuning controls read 0 on the 0-10 aluminum discs.

DIGITAL HOLD (DH):

Allows retention of a frequency reading while tuning to other frequencies.

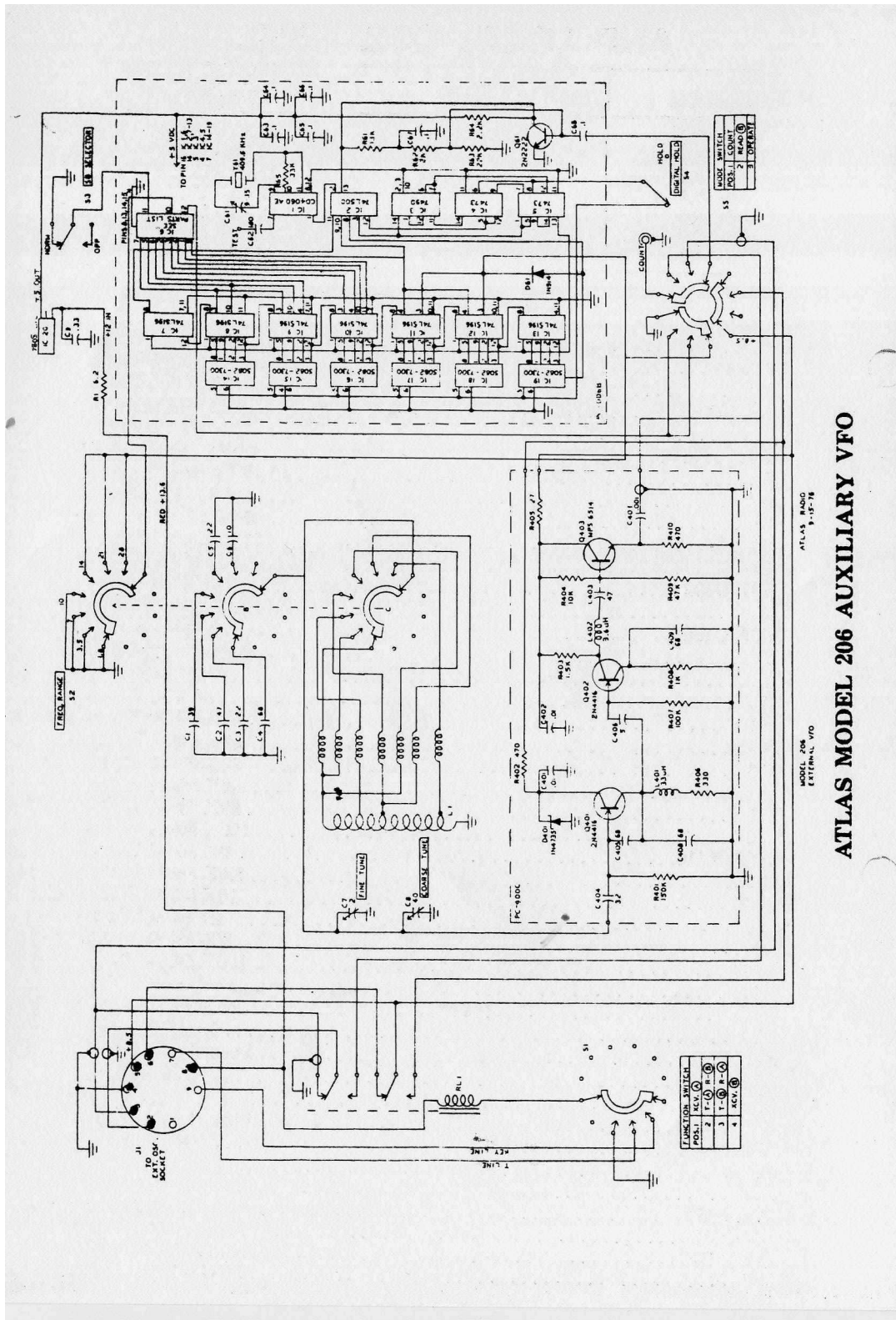
MAINTENANCE

DIGITAL DIAL CALIBRATION:

The Digital readout circuitry in the Atlas 206 is controlled by a 409.6 kHz crystal. The frequency of this crystal must be set exactly in order for the Digital Dial to read correctly. A small trimmer capacitor is used for frequency adjustment. This has been pre-set at the factory, and should not require adjustment for awhile. However, as the crystal ages, it will gradually shift frequency, so it is wise to check and readjust calibration periodically. The procedure is as follows:

- (a) Tune to one of the WWV Bureau of Standard frequencies at:

WWV	206 Bandwidth	Transceiver Bandwidth
2500 kHz	1.8	1.8 (215x only)
5000 kHz	3.5	3.5
10,000 kHz	10	7
15,000 kHz	14	14
20,000 kHz	21	21
- (b) One of the above frequencies will be received loud and clear, depending on your location, time of day, and propagation conditions.
- (c) Tune for zero beat with the WWV carrier, and when there is voice identification, tune very carefully for the most natural sounding voice. At this exact point, the Digital Dial should be reading correctly, with the last 3 digits being zero.
- (d) If adjustment is required, remove the top cabinet, (4 screws), and locate the small ceramic trimmer near the nickel plated crystal holder. Carefully turn this trimmer with an insulated alignment tool until the digital readout corresponds to the WWV frequency being received.



ATLAS MODEL 206 AUXILIARY VFO

AND LOCAL OSC. FREQ.

Range mHz	Operating Range kHz	VFO Injection Freq. kHz
1.8 - 3.0	1,800 - 3,000	7,320 - 8,520
3.0 - 5.0	3,000 - 5,000	8,520 - 10,520
6.0 - 8.0	6,000 - 8,000	11,520 - 13,520
8.0 - 10.0	8,000 - 10,000	13,520 - 15,520
14.0 - 16.0	14,000 - 16,000	8,480 - 10,480
20.0 - 22.0	20,000 - 22,000	14,480 - 16,480
28.0 - 30.0	28,000 - 30,000	22,480 - 24,480

PARTS LIST

C1	39 pF 5% Disc
C2, C403	47 pF 5% Disc
C3, C5	22 pF 5% Disc
C4, C409	68 pF 5% Disc
C6	10 pF 5% Disc
C7	2 pF Fine Tuning
C8	40 pF Coarse Tuning
C9	.33 MF 2% SM
C61	9-35 pF Trimmer
C62	180 pF 5% Ceramic
C63-C68	1 MF 2% SM
C401, C402	.01 MF 5% Disc
C404	32 pF 5% Disc
C405, C408	68 pF 5% SM
J1	9 Pin Noval Plug
L1	VFO Coil
R1	6.2 10 Watt
R61	13K 5% 1/4 Watt
R62	2K 5% 1/4 Watt
R63	22K 5% 1/4 Watt
R64	2.2K 5% 1/4 Watt
R65	33K 5% 1/4 Watt
R401	150K 5% 1/4 Watt
R402, R410	470 5% 1/4 Watt
R403	1.5K 5% 1/4 Watt
R404	10K 5% 1/4 Watt
R405	27 5% 1/4 Watt
R406	330 5% 1/4 Watt
R407	100K 5% 1/4 Watt
R408	1K 5% 1/4 Watt
R409	47K 5% 1/4 Watt
RL1	12 VDC Relay
S1	1 sec. 2 pole 4 pos.
S2	3 sec. 7 pos.
S3, S4	SPDT
S5	1 sec. 4 pole 3 pos.
IC1	CD4060 AE
IC2	74L500
IC3	74900
IC4, IC5	7473
IC7-IC13	74LS196
IC14-IC19	5082-7300
IC20	UGH 7805 U/C