

LANCER

Operating Instructions  
for  
AN/URC-32

Preliminary Settings

SET ALL CONTROLS TO OFF, TUNE, OR FULLY COUNTERCLOCKWISE EXCEPT \*

**Antenna**

Antenna Coupler (AN/SRA-22)

**Step**

- \*1. Antenna/Load switch: to Load position
- \*2. Reflected/Forward power switch: to Forward 1000 position

Radio Frequency Amplifier

- \*1. FIL OFF/TUNE/OPERATE switch: to TUNE
- 2. PLATE ON/OFF/KEY switch: to OFF
- \*3. BAND CHANGE switch: to band frequency is in.
- 4. DRIVER TUNE control: fully counterclockwise
- 5. PA TUNE control: fully counterclockwise

Frequency Generator

- \*1. DIAL LOCK: place in up position to unlock dial
- \*2. FREQUENCY CHANGE control: rotate until frequency appears in window of band frequency is in.
  - a. for FSK: subtract 2 KHz
  - b. for CW: subtract 1 or 1.5 KHz as appropriate
  - c. for all other modes: set on exact frequency
- 3. Align small white line beside last number in last window with external white line.
- \*4. Place DIAL LOCK in down position
- \*5. BAND CHANGE control: select proper band in small window above BAND CHANGE control.

FREQ. RANGE  
2-30 MHz

MODES & POWER

- 1. (COMBATABLE) AM - 125 W
  - 2. CW
  - 3. ISB
  - 4. SSB (USB)
  - 5. FSK (RFCS)
- } 500 W

FOR FSK

SUBTRACT 2 KHz  
FROM ASSIGNED FREQ.

FOR CW

SUBTRACT 1 OR 1.5 KHz  
FROM ASSIGNED FREQ.

ALL OTHER MODES

SET ON EXACT ASSIGNED FREQ!

### Sideband Generator

1. RECEIVER RF GAIN control: turn fully counterclockwise.
2. TUNE/LOCAL/EXTERNAL CONTROL switch: to TUNE position
- \*3. SSB/AM toggle switch: to SSB position
- \*4. MONITOR switch: to RF OUT EXCITER position
5. EXCITER RF GAIN control: turn fully counterclockwise

### CW/FSK Unit

- \*1. METER MULTIPLIER switch: to +8 db position
- \*2. XMIT/REC/CW TEST switch: to REC
3. MONITOR switch: to OFF
4. OSC CONTROL switch: to OFF
5. OSC OUTPUT control: fully counterclockwise.

### Audio Control Unit

1. MIC GAIN control: fully counterclockwise
2. SIDEBAND SELECTOR switch: to OFF

### Frequency Comparator

1. FREQUENCY SELECTOR switch: to OFF

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### Handset Adapter Unit

- \* 1. LOCAL/REMOTE switch: to LOCAL position

You have completed the PRELIMINARY SETTINGS for the AN/URC-32 and are ready to energize the transceiver and continue with the tuning procedures.

### Tuning Procedures\*

\*To be accomplished after all PRELIMINARY SETTINGS have been made.

Unit	Step
Low Voltage Power Supply	1. ON/OFF switch: to ON
Frequency Generator	1. Momentarily depress the OPERATE/TUNE switch to the TUNE position for 3 to 5 seconds
Radio Frequency Amplifier	1. PLATE ON/OFF/KEY SWITCH: to ON
CW/FSK Unit	1. Key transmitter (place CW TEST switch in TEST position)
Sideband Generator	1. Adjust EXCITER RF GAIN control until db meter reads approximately 20db.
Radio Frequency Amplifier	1. Adjust the DRIVER TUNE control to peak (maximum reading) on PLATE CURRENT meter. NOTE: Do not exceed 200ma on PLATE CURRENT meter. When meter approaches 200ma, decrease the reading slightly by adjusting the EXCITER RF GAIN control and continue the peak. 2. Adjust PA TUNE control for a dip (minimum reading) on PLATE CURRENT meter 3. Adjust the EXCITER RF GAIN control on the Sideband Generator Unit for a 200ma reading on PLATE CURRENT meter or 100W on RF WATT meter (whichever occurs first)
CW/FSK Unit	1. Unkey transmitter (place CW TEST switch in REC position)

DON'T  
FORGET

Tuning Procedures  
for  
A1/SRA-22

TUNE/OPERATE TO TUNE

1. Set LOAD/ANTENNA switch to ANTENNA
2. Set COIL and TAP potentiometers to "home" positions:
  - a. COIL                    130
  - b. TAP                    100
3. Set CAPACITOR switches to "home" positions:
  - a. CAPACITOR 1-12            1
  - b. SERIES/SHUNT            SHUNT
4. Operate COIL and TAP tune controls to zero respective meters.  
DO NOT KEY XMITR.
5. Reset COIL potentiometer to limit position for frequency range:

<u>Frequency:</u>	<u>COIL dial setting</u>
a. 2 to 6 mhz	500
b. 6 to 12 mhz	350
c. 12 to 16 mhz	250
d. 16 to 30 mhz	200

6. Hold TUNE/OPERATE switch in the TUNE position for all remaining steps.
7. Key transmitter and advance power output to obtain minimum usefull reading  
Do not exceed 100W forward Power or 200ma on PLATE CURRENT meter. (Use  
EXCITER RF GAIN control to adjust output power).
8. Unkey transmitter, set REFLECTED/FORWARD power switche to REFLECTED 1000  
(Switch to REFLECTED 100 if reflected power is less than 50 watts) *REKEY XMITER  
TO READ.*
9. Hold TUNE/OPERATE switch to TUNE position, key transmitter, and operate  
COIL TUNE control to left, stoping when reflected power dips or COIL  
meter reaches zero (limit value) whichever occurs first.
10. If dip occurs first, then operate COIL and TAP FINE TUNE controls for  
minimum reflected power. Use minimum COIL necessary.

11. If coil limit value is reached first, unkey transmitter, reset COIL potentiometer to 150, and move COIL SWITCH. Return COIL potentiometer to limit value.

12. With CAPACITOR in START position, key transmitter and advance CAPACITOR 1 - 12 switch one step at a time, watching reflected power meter for a dip. Use minimum capacitor setting.

**WARNING!!!**

DO NOT ADVANCE TOWARD POSITION ONE OR SWITCH TO LOCAL WHILE TRANSMITTER IS KEYED!

13. If no dip is found on reaching CAPACITOR position 12, unkey transmitter and switch to LOCAL. Wait until CAPACITOR SWEEP RANGE dialing is gone over.

14. Key transmitter and reduce CAPACITOR 1 - 12 switch one step at a time watching the reflected power meter for a dip.

**WARNING!!!**

DO NOT ADVANCE TOWARD POSITION TWELVE OR SWITCH TO LOCAL WHILE TRANSMITTER IS KEYED!

15. When a dip is found, then operate COIL and TAP FINE TUNE controls to reduce reflected power to a minimum. Do not let COIL exceed limit value.

16. When minimum reflected power is reached, unkey transmitter and release TUNE/OPERATE switch to OPERATE position and set REFLECTED/FORWARD switch to FORWARD 1000 position and check the forward power. Key transmitter and adjust EXCITER RF GAIN control for a 100W level on RF Watt meter or 200ma on PLATE CURRENT meter, whichever occurs first. Unkey transmitter.

~~17. Zero both COIL and TAP meters using COIL and TAP potentiometers. DO NOT ZERO THE METERS WITH THE TUNING CONTROLS (LEVEL/ATT)~~

You have now finished tuning the AN/URA-22 Antenna coupler. The next step is the last one before selecting the mode of emission.

**Unit**

**Step**

Exciter Generator

1. TUNE/LOCAL/EXTERNAL CONTROL: to LOCAL



SKIP

The following steps are to be used to assist you in selecting the proper mode of emission.

### SSB (USB or LSB)

1. MONITOR switch (CW/FSK Unit): to appropriate sideband XMIT
2. SSB/AM toggle switch (Sideband Generator): to SSB
3. OSC CONTROL switch (CW/FSK Unit): to OFF
4. SIDEBAND SELECTOR switch (Audio Control Unit): to appropriate sideband

### Compatible AM

1. MONITOR switch (CW/FSK Unit): to USB XMIT
2. SSB/AM toggle switch (Sideband Generator): to AM
3. OSC CONTROL switch (CW/FSK Unit): to OFF
4. SIDEBAND SELECTOR switch (Audio Control Unit): to USB

### FSK (RFGS)

1. MONITOR switch (CW/FSK Unit): to USB XMIT
2. SSB/AM toggle switch (Sideband Generator): to SSB
3. OSC CONTROL switch (CW/FSK Unit): to FSK
4. SIDEBAND SELECTOR switch (Audio Control Unit): to USB

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### CW

1. MONITOR switch (CW/FSK Unit): to USB XMIT
2. SSB/AM toggle switch (Sideband Generator): to SSB
3. OSC CONTROL switch (CW/FSK Unit): to CW 1 or 1.5 KC as appropriate
4. SIDEBAND SELECTOR switch (Audio Control Unit): to USB

NOTE: The following step applies to all modes of operation

#### Unit

#### Step

Handset Adapter Unit

1. LOCAL/REMOTE switch: to REMOTE

DON'T  
FORGET



You have now completed the set-up of the xcwv. Call your instructor to check your work.