Courier

CENTURION

SOLID STATE
23 CHANNEL CB TRANSCEIVER
AM-SINGLE SIDE BAND
FCC TYPE ACCEPTED

INSTRUCTION MANUAL

LIMITED WARRANTY

FANON/COURIER CORPORATION warrants each new electronic product manufactured by it to be free from defective material and workmanship and agrees to remedy any such defect or to furnish a new part (at the Company's option) in exchange for any part of any unit of its manufacture which under normal installation, use and service disclosed such defect; provided the unit is delivered by the owner to us or to our authorized distributor from whom purchased, or authorized service station, intact, for our examination, with all transportation charges prepaid to our factory, within 90 days from the date of sale to original purchaser and provided that such examination discloses, in our judgment, that it is thus defective.

Written authorization must be obtained before any merchandise is returned to the factory.

This warranty does not extend to any of our electronic products which have been subjected to misuse, neglect, accident, incorrect wiring not our own, improper installation, unauthorized modifications, or to use in violation of instructions furnished by us, nor units which have been repaired or altered outside of our factory, nor to cases where the serial number thereof has been removed, defaced or changed.

This warranty is in lieu of all 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 of our electronic products.

SECTION 1

GENERAL DESCRIPTION

The COURIER Centurion Citizen Band Transceiver is an all transistorized, 23 channel receiver/transmitter designed for continuous heavy duty base station or mobile operation. The set operates from 117V AC, 50/60 Hz power, for base station installation, or from 13.8V DC as required for mobile operation.

RECEIVER

The COURIER Centurion receiver is a sensitive superheterodyne circuit, designed to receive AM (Amplitude Modulated) signals in the 26 and 27 MHz (11 meters) citizens band as well as, the upper and lower sidebands of these frequencies (SSB).

Special noise cancelling and spurious signal control circuits have been incorporated in the receiver section to provide the listener with the clearest possible reception during heavy traffic and long distance. The Centurion features:

- [ ] DUAL CONVERSION
- [ ] SIGNAL CLARIFIER
- [ ] NOISE BLANKER
- [ ] AC/DC OPERATION
- [ ] DIGITAL CLOCK
- [ ] LOW NOISE RF STAGE
- [ ] ADJUSTABLE SQUELCH
- [ ] EXTERNAL SPEAKER JACK
- [ ] 23 CRYSTAL CONTROLLED CHANNELS + UPPER AND LOWER SIDEBANDS

TRANSMITTER

The Centurion transmitter is fully transistorized, making use of three crystal controlled oscillators to produce the desired frequencies. The final power output stage is a high gain RF power transistor, conservatively rated to produce the 3.5 watt carrier, 4 watts when AM modulated 100%, and 12 watts PEP on SSB operation.

The transmitter and receiver both operate on the lower and upper sidebands in the 11 meter band.

NOMINAL SPECIFICATIONS

GENERAL

Frequency Range :	23 Channels, 26.965MHz through 27.255MHz, Crystal Controlled, AM, Upper and Lower Sidebands.
Frequency Control :	Synthesizer Technique.
Frequency Tolerance :	Channel Frequency ± 500Hz.
Frequency Stability	0.005% from -30°C to + 60°C.
Operating Temperature :	-20°C to + 50°C.
Primary Power (Input Voltage) :	117V AC, 50/60Hz or 13.8V DC (EIA Standard).
Antenna :	50 Ohm Coaxial.
Dimensions :	H = 7-1/4 IN; W = 15-13/16 IN; L = 16-3/4 IN.
Weight :	20 Lbs, 8 Oz.

RECEIVER

Sensitivity :	SSB = Less than 0.15uV for 10db $\frac{S + N}{N}$ AM = Less than 0.25uV for 10db $\frac{S + N}{N}$
Selectivity :	SSB = ±2.1KHz at 6db AM = ±3KHz to 2.5KHz @ 6db
Spurious Rejection :	More than 60db
Squelch Range :	SSB & AM adjustable from 0.15uV to 500uV.
1st I. F. :	AM & SSB 7.8MHz
2nd I. F. :	AM & SSB 455KHz
Clarifier Range :	± 400 Hz
Audio Output :	6 Watts
Audio Frequency Range :	400Hz to 3000Hz @ 3db
Add, Channel Rejection :	80db @ 10KHz 780 db at 20KHz

TRANSMITTER

Input Power :	SSB = 25 Watts PEP AM = 5 Watts

Output Power :	SSB = 12 Watts PEP AM = 4 Watts
Modulation Capability :	100%
Frequency Response :	400Hz to 3KHz at 3 db
Spurious Harmonic Suppression :	60db
SSB Filter :	Lattice Type, 7.8KHz Crystal, 2.1KHz at 6db; 5.5KHz at 60db
Output Impedance :	50 Ohms Unbalanced

IMPORTANT

Your Centurion Transceiver is a radio transmitter and therefore must be registered with the Federal Communications Commission prior to use.

The registration procedure is not complicated and can be considered to be as routine as obtaining a registration for your automobile. Obtain copies of Form # 505D from the Federal Communications Commission, Washington, D.C. 20554 or from the nearest Field Office listed on page 4 of this manual. Fill the Form out carefully and accurately in complete accordance with the instructions given with the Form. A VALID LICENSE MUST BE IN THE LICENSEE'S POSSESSION BEFORE ANY TRANSMITTER CAN BE OPERATED.

If you contemplate operating several transmitters such as a fleet of delivery trucks, or as a family communication system, only one application is required to be submitted. Just state the total number of transmitters required for your system. It is legal and customary to state a higher number of transmitters than is needed at the present time to avoid license modifications, changes, etc., later if more transmitters are needed.

The call letters assigned to your station or system are assigned in geographical and numerical order, special numbering requests will not be honored.

It should be understood that the license granted by the Government is a STATION license and the call sign is the registration number of your station. It is incorrect to state that an individual is licensed when in reality, it is the equipment. The licensee is the registered owner of the station and legally responsible for its use and the conduct of persons using the equipment.

FCC REGULATIONS AND REQUIREMENTS

Before placing any transmitter on the air, it is necessary that a valid Citizens Band Station license be obtained in accordance with FCC Rules Part 95. The following sections are reprinted solely as a guide and should not be construed as exact reproductions of pertinent sections of FCC Rules Part 95. The user is advised to review the rules and regulations frequently since changes and revisions occur periodically.

1. It is required that the licensee of each transmitting station attach to each mobile transmitter a properly filled out Identification card or FCC Form 452.
2. The licensee must attest to the fact that he has in his possession, and has read, a copy of FCC Rules and Regulations, Part 95, prior to filling out Form 505.

A copy of Part 95 of the FCC Rules and Regulations may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

License application, FCC Form 505, may be obtained from the Federal Communications Commission, Washington, D.C. 20554 or from the nearest FCC Field Office listed below.

FCC Field Offices

Mobile, Ala. 36602
Anchorage, Alaska. 99501
Los Angeles, Cal. 90014
San Diego, Cal. 92101
San Francisco, Cal. 94126
San Pedro, Cal. 90731
Denver, Col. 80202
Miami, Fla. 33101
Tampa, Fla. 36606
Atlanta, Ga. 31403
Savannah, Ga. 31502
Honolulu, Hawaii. 96808
Chicago, Ill. 60604
New Orleans, La. 70130
Baltimore, Md. 21202
Boston, Mass. 02109
Detroit, Mich. 48226
St. Paul, Minn. 55102
Kansas City, Mo. 64106
Buffalo, N.Y. 10014
Portland, Ore. 97205
Philadelphia, Pa. 19106
San Juan, P.R. 00903
Beaumont, Tex. 77704
Dallas, Tex. 75202
Houston, Tex. 77002
Norfolk, Va. 23510
Seattle, Wash. 98104

SECTION 2

INSTALLATION

LOCATION

Install your COURIER Centurion in an area that is comparatively dry, free from dust and moisture, and near a 117V AC power outlet. Place on a desk, table or shelf, preferable away from heavy traffic.

POWER CONNECTIONS

Your Centurion will operate from 117V AC, 50/60Hz or 13.8V DC, for your BASE STATION installation. Be sure to connect the AC power cord to an AC POWER source, not to a DC power source.

ANTENNAS

Your choice of an antenna type should be determined by the location (area and terrain) and service conditions under which the equipment will be used. In general, coaxial type antennas serve local communications very well. Greater distances are more suitably covered by a ground plane type. See your local FANON/COURIER dealer or electronics store for more detailed information on the various types available for your installation.

CAUTION: YOUR TRANSCEIVER SHOULD NEVER BE OPERATED WITHOUT AN ANTENNA. FAILURE TO OBSERVE THIS CAUTION MAY RESULT IN DAMAGE TO THE TRANSCEIVER COMPONENTS.

TRANSMISSION CABLE

Your Centurion Transceiver has been carefully tested and adjusted at the factory for operation with a 50 ohm cable and antenna. To connect the antenna to the transceiver a 50 ohm coaxial transmission line is required. There are several types available, each have different characteristics, for various installations. Type RG-8/U coax is recommended for lengths in excess of 50 feet, RG-58/U coax is recommended for lengths less than 50 feet. See Figure 1 for instructions on assembling a PL-259 type connector to RG-58/U coax cable.

For best results the transmission line should be in lengths of 11 feet 9 inches, lengths other than multiples of 11 feet, 9 inches can be used, but may result in poorer performance.

After connecting the transmission line to the antenna, wind any excess cable into a neat coil not less than 8 inches in diameter.

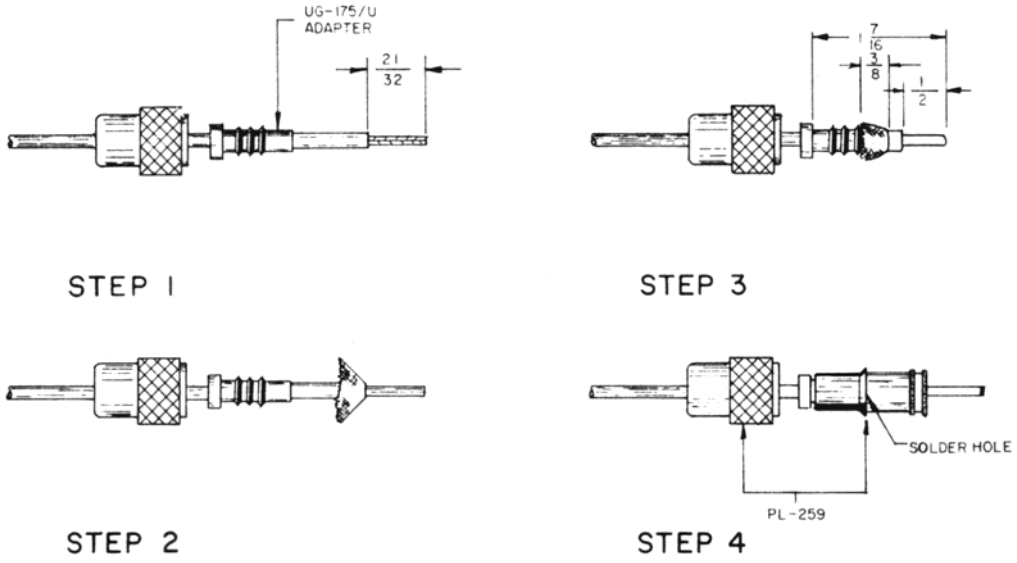

Figure 1, Antenna Connector Assembly Diagram

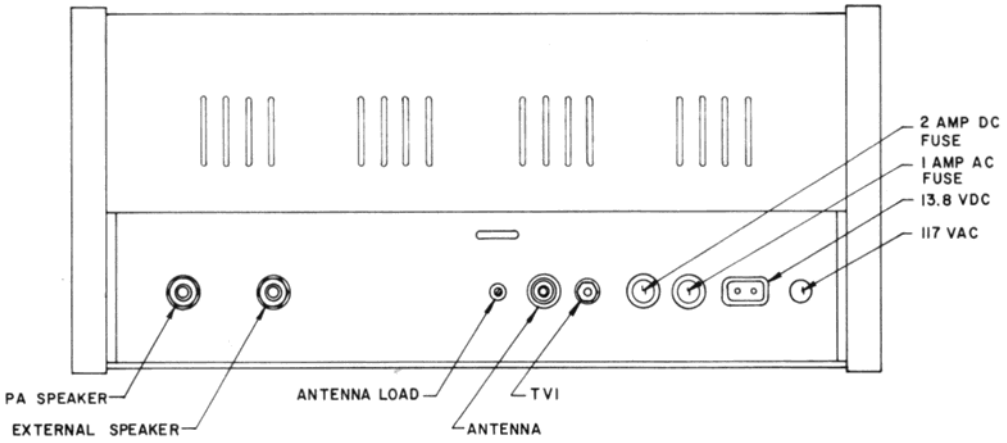

Figure 2, Centurion Rear Panel Connections

VSWR ADJUSTMENT

Your transceiver is provided with a VSWR meter (see Figure 3) for monitoring the performance of the transmitter, as well as an ANTENNA LOAD adjustment (see Figure 2) for matching the Antenna and Transmission Line to the Transmitter, for minimum VSWR. The following steps should be taken for the initial installation and whenever a new transmission line or antenna is installed.

1. Connect the transmission line to the antenna and to the transceiver.

2. Set the PA-CB switch to CB.

3. Set the CHANNEL SELECTOR to any channel, except channel #9.

4. Set the MODE switch to AM.

5. Insert the microphone plug into the MIC jack.

6. Press the CAL switch IN (requires pressing again to release).

7. Press the Transmit switch on the microphone and adjust the CAL knob to position the SWR meter needle to the CAL mark (between red areas).

8. Press the CAL knob to release.

9. Press the Transmit switch on the microphone and read the SWR on the meter. The reading should be LESS than 1.5, the closer to 1 the better.

10. If the reading is greater than 1.5, press the Transmit switch on the microphone and adjust the ANTENNA LOAD on the rear panel to give the MAXIMUM reading on the AM RF scale of the RF/S meter.

11. Repeat step #9 above, if the SWR is still greater than 1.5, an adjustment in the antenna or transmission line or both will be necessary.

READ CAREFULLY THE INSTRUCTIONS FURNISHED WITH YOUR ANTENNA BY THE MANUFACTURER TO INSURE PROPER INSTALLATION IF THERE IS A PROBLEM IN OBTAINING THE MINIMUM SWR.

Consult your local FANON/COURIER Dealer or contact the FANON/COURIER Service Department for information regarding ANY problems you may encounter with the installation or operation of your COURIER Centurion.

EXTERNAL SPEAKERS

Public Address Speaker - To use the Public Address facility, prepare an 8 ohm speaker or horn with an insulated cable, FANON/COURIER Model 2W, and a miniature plug (H. H. Smith #480) or equivalent, and connect to the "EXP SP" jack located on the rear panel, (See Figure 2).

CAUTION: SPEAKER WIRES MUST NOT BE GROUNDED, OR CONNECTED IN ANY WAY TO THE TRANSCEIVER CHASSIS OR POWER SUPPLY.

Set the PA-CB switch to CB (PUSH-IN) position and use the RECEIVER VOL control to set the proper volume level. Press the microphone control switch when speaking into the microphone.

External Speaker - Prepare an 8 ohm speaker and cable as described above for Public Address speaker setup. OBSERVE CAUTION ABOVE. Set the PA-CB switch for CB operation. The PA-CB switch operates in two positions: when pushed "IN" it stays down; when pushed again, it stays in the "OUT" position. The internal speaker is automatically disconnected when an external speaker is plugged in.

Microphone

A microphone hanger is provided with your Centurion, which may be attached to the desk or table within easy reach from your position when operating your transceiver. Your microphone is a fine percision instrument and should be handled with care.

It is not necessary to place your mouth close to the microphone or to shout into it. Speak in a natural voice approximately 2 to 3 inches away. If you do not use the hanger, place the microphone on the desk or table with the grille downward; do not drop.

NOISE SUPPRESSION

Your COURIER Centurion Tranceiver features an AUTOMATIC NOISE LIMITER and NOISE BLANKER, as well as input power line filters. If severe noise becomes a problem, the services of a qualified technician may be required, or see your local FANON/COURIER Dealer.

Fig. 3

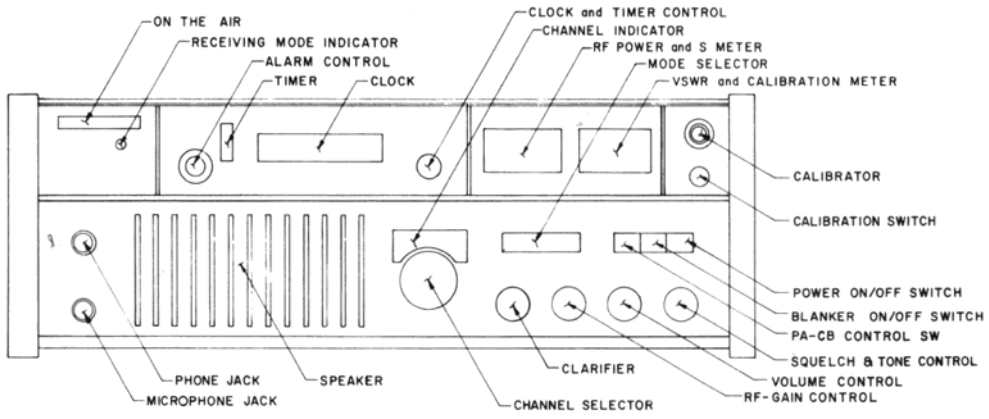

Figure 3, Centurion Front Panel Controls and Indicators

SECTION 3

OPERATING INSTRUCTIONS

GENERAL

The COURIER Centurion Transceiver operates on sixty-nine different channels. They are: 23 AM channels, 23 Upper Sideband channels, and 23 Lower Sideband channels; a total of 69.

When your Centurion is set on the AM (Amplitude Modulated) mode, you will hear only AM stations. There may be some SSB (Single Sideband) chatter in the background, however, you will not be able to understand the conversation. When set on the Upper or Lower Sideband Mode, you will hear the sideband channel. You will also hear strong AM signals, but you will not be able to understand the conversation.

SSB (Single Sideband) Fundamentals

AM radio signals are made up of three parts, 1) the fundamental signal, or carrier; 2) an upper sideband signal, which is the sum of the voice signals* and the fundamental signal; 3) a lower sideband signal, which is the difference between the fundamental signal and the voice signal.

* (Voice frequencies are approximately 400 to 1000Hz)

EXAMPLE: When your Centurion channel selector is set to channel 4, and in the AM mode, the transceiver will receive and transmit a 27.005 MHz radio signal. When you press the microphone transmit switch, and speak into the microphone, the amplitude of the fundamental signal will vary according to the loudness of your voice, up to 100% of the amplitude of the fundamental signal (without modulation). Two new signals are also generated: 1) 27.005MHz + the voice signal (e.g. 1000Hz) = 27.006MHz, this is the upper sideband; 2) 27.005MHz minus the voice signal (e.g., 1000Hz) = 27.004MHz, this is the lower sideband.

When recieving the above signal, your transceiver strips out the 27.005MHz fundamental signal, leaving only the voice signal which you hear in your loud speaker.

When the transceiver is to the SSB mode, upper or lower sideband, the fundamental signal of 27.005MHz is not transmitted, only the sideband of 27.005MHz + the voice signal (upper sideband) or 27.005MHz minus the voice signal (lower sideband). Also to be considered is the fact that there is NO signal transmitted unless there is a voice signal.

When your transceiver receives SSB signals, the fundamental signal, which is not present in the received signal, is reinserted by your receiver and the signal is processed the same as for an AM signal.

The advantages in Single Sideband mode of operation are twofold: 1) Less power is required to transmit SSB signals because the carrier (fundamental) signal is not transmitted when there is no audio (voice signal); 2) Two additional channels are made available with the same bandwidth (channel) as required by AM mode of operation.

CONTROLS AND INDICATORS

Before attempting to operate your Centurion, thoroughly familiarize yourself with the front panel layout (Figure 3) and study the following descriptions of the controls and indicators.

ON THE AIR - This indicator is illuminated, so that it may be seen in low light level areas, when the microphone switch is operated to indicate that the transmitter is being operated and all the sound entering the microphone will be broadcast, ON-THE-AIR.

RECEIVING MODE INDICATOR- This indicator is illuminated when the transceiver is in the RECEIVE mode providing visual indication to the operator that the transceiver is ON and the MODE of operation.

BLANKER ON/OFF SWITCH- Your Centurion is provided with special circuits to eliminate excessive noise. When this switch is in the ON position (Press to ON and press to OFF) excessive noise, such as electrical interference, ignition noise, etc., is reduced.

PA-CB CONTROL SWITCH- This switch is used to select the operating mode of your transceiver. When in the PA position, and a horn or speaker is plugged into the PA jack on the rear panel of the set, your Centurion functions as a public address amplifier. When the switch is in the CB position, the set operates as a citizen band transceiver.

VOLUME CONTROL- Volume of the receiver is adjusted by this control, for the enclosed speaker, headphones, external speaker, and PA speaker or horn.

RF-GAIN CONTROL- A change in receiver sensitivity is sometimes necessary when listening to very strong stations, sometimes local stations, and very weak or distant stations. Rotation of the control clockwise increases the sensitivity and counter clockwise for less sensitivity, or for strong stations.

CLARIFIER- This control provides a small change, shift, in the transmitter and receiver frequencies, (within legal limits) to optimize the SSB and AM signals.

SQUELCH CONTROL- The Squelch control is designed to reduce the background noise which is characteristic to CB reception, also called "shot-noise" during the absence of an incomming signal. The control should be set at the point where the noise "drops-out" Setting the control beyond this point will diminish the reception of weak signals.

TONE CONTROL- When the control is in the "pulled-out" position, it functions as a tone control, reducing the audio "hash" common to CB reception.

DIGITAL CLOCK CONTROLS- The Digital Clock and Timer operate only when the transceiver is being operated from an AC power source. The controls are also interconnected with the POWER/ON/OFF switch. To turn the set ON rotate the ALARM CONTROL to ON, at the same time set the POWER/ON/OFF switch to the ON position. To turn the transceiver OFF, turn the POWER/ON/OFF switch to the OFF position.

CLOCK AND TIMER CONTROL- Push this knob IN to set the clock, pull OUT to set the timer.

ALARM CONTROL- This control sets up the Alarm functions. The transceiver may be turned ON automatically at a preset time by setting the Alarm Control to the AUTO position and setting the TIMER to the desired "TURN-ON" time. When the ALARM CONTROL is set to ALARM, both the ALARM and the transceiver will turn on at the preset time. To turn the ALARM OFF, set the control to OFF. The transceiver may also be turned OFF automatically by setting the control to the OFF position and turning the "0 to 60 minute" knob clockwise to the desired ON time.

CHANNEL INDICATOR- This illuminated dial provides selection of 23 channels and one blank position. Set the selector to the blank position when using the transceiver as a public address amplifier.

RF POWER and S METER- This meter indicates the relative power input to the final stage of the transmitter in watts and the strength of received signals in "S units". A change of one "S unit" is equal to 6db in signal level.

MODE SELECTOR- This control consists of three switches which set up the the mode of operation, Upper Sideband, Lower Sideband, and AM. The switches are operated by pressing IN, which releases any other switch which may be set. To release all switches, press IN only slightly and release.

VSWR and CALIBRATION METER- During the installation of an antenna or a new transmission line, this meter is used to read the VSWR (Voltage Standing Wave Ratio), or electrical match between the transmitter and the antenna system. Also the meter provides a good periodic check on the performance of the transceiver. The meter may be calibrated by pressing the CALIBRATION SWITCH to the IN position and adjusting the CALIBRATOR, while transmitting (Press the microphone switch). Adjust the meter needle to the break in the red scale (CAL). Calibrate the meter before making VSWR measurements.

POWER ON/OFF SWITCH- Power is supplied through this switch for both AC and DC power sources. This switch should be in the OFF position at all times when the transceiver is not in use, do not depend upon the ALARM CONTROL except when used for this function.

OPERATING PROCEDURE

After completing the installation in accordance with the previous instructions and posting your FCC Station License as required, you are ready to operate your COURIER Centurion Transceiver.

1. Receiving in the AM Mode.

   a. Check that the antenna cable is connected properly.

   b. Insert the microphone plug into the MIC jack on the front panel.

   c. Rotate the SQUELCH control full counter clockwise.

   d. Set the VOLUME control to approximately center position.

   e. Operate the POWER switch and the ALARM CONTROL to the ON position.

   f. Rotate the CHANNEL SELECT control to the desired channel and listen for a break in the conversation, if the channel is busy. Readjust the SQUELCH control to the point where the noise cuts out. Adjust the VOLUME to a comfortable level.

   g. The RF POWER and S meter will indicate the signal strengh of the station being monitored. If the signal is weak, adjust the RF GAIN control for greater sensitivity. If the signal strength is too strong, reduce the gain by turning the control counter clockwise.

2. Receiving in the SSB Mode.

   a. Press the USB switch IN.

   b. Follow the procedure outlined above for AM Mode.

   c. Upon receiving an incoming station, adjust the CLARIFIER to minimize the audio beat signal, (reduce to the lowest frequency)

   d. Press the LSB switch IN and follow steps b and c.

3. Transmitter Operation

Prior to pressing the transmit switch on your microphone you MUST have a valid Class D Citizens Band Station License POSTED at the main control location of your station or a properly filled out and signed mobile identification card, Form 452C, if you have mobile units.

A. AM Mode

1). Press the AM mode switch IN.

2). Follow the procedure outlined above for Receiving Operation.

3.). Select a CLEAR channel, or wait for a pause in the conversation if the channel you desire is busy. Do not select channel #9 unless you have an emergency.

4). Press the transmit switch on the microphone and observe that the ON THE AIR indicator illuminates.

5). Place the microphone at right angle to your face with the grille approximately 2 to 3 inches from your mouth. Speak in a normal tone of voice.

6). Press the transmit switch on the microphone and observe a reading of at least 3 watts on the AM POWER scale on the RF POWER and S meter. Observe that when you speak into the microphone the meter needle varies upward on the scale.

B. SSB Mode

1). Press the USB switch "IN".

2). Press the transmit switch on the microphone and observe that the ON-THE-AIR indicator illuminates.

3). Speak into the microphone and observe that the RF and S meter needle swings upward.

4). Your are now transmitting on the UPPER SIDEBAND. Repeat the above procedure, steps 1 through 3 for the LOWER SIDEBAND, "LSB".

TRANSMISSION ETIQUETTE

It is best for technical as well as personal reasons, to abide by the FCC request for SHORT TRANSMISSION. Learn to say a lot with a little, and everyone concerned will be grateful. The maximum legal channel use time is 5 minutes per contact and at least 2 minutes off time.

Once the station or system is licensed, anyone may speak over it and use it for any purpose not contrary to FCC rules and regulations Part 95, provided the station or system is under control and supervision of the licensee.

When a licensed system contains several cars, boats, or planes, etc., it is common to designate the control station by the assigned call letters and arbitarily assign numbers or names of each unit. It is not necessary to give the call letters every single time you make a transmission, actually it is more feasible to give the calls upon establishing initial contact and then occasionally thereafter.

It is customary, however, to announce that the station is entering or leaving radio service. Most dispatchers will find it advantageous to arrange some signaling system such as the "10-Code" system.

SECTION 4

SERVICE AND MAINTENANCE

SERVICE & MAINTENANCE

In order to place your Warranty in effect be sure to mail your WARRANTY CARD.

Due to the use of solid-state circuitry, high quality materials and advanced construction techniques built into FANON/COURIER products, your unit, under normal operating conditions, should not require repair service other than a periodic external cleaning.

However, should your unit require service, write, call or contact your local FANON/COURIER dealer or the FANON/COURIER Service Department, and request return authorization. When shipping your unit to the dealer or factory, please enclose a full description of the problem with your unit. Pack the return articles well enough for rough handling during shipping. Follow the instructions given on the Return Authorization Form which will be sent you.

SPECIAL REPLACEMENT PARTS

FANON/COURIER Part Number	Description	Symbol
1042-01	F. E. T. 3SK-22Y	TR1
1042-02	〃 2SK-30Y	TR7
2017-117	Transistor 2SC-372Y	TR10, 15, 18, 19, 20, 23,
1080-21	or 2SC-945R	24, 25, 32
1042-04	Transistor 2SC-839H	TR2, 3, 4, 5, 6, 8, 11, 12, 13, 14, 21, 22
1074-115	Transistor 2SC-945QL	TR9
1042-05	〃 2SC-735Y	TR26
1042-06	〃 2SA-495Y	TR16, 17
1042-07	〃 2SC-710C	TR29
1042-08	〃 2SC-1306	TR30
1042-09	〃 2SC-1307	TR31
1074-116	〃 2SC-1096L	TR34
1074-117	〃 2SD-180M	TR33
296-62-9	〃 2SB-474V10	TR27, 28
1042-11	I. C. TA-7045M	IC1, 2
294-42-9	Diode IN60	D3, 4, 5, 6, 7, 8, 23, 24, 25, 26, 27, 29, 33, 34, 46, 47, 58, 59, 63
1042-13	Diode IN60P	D18, 19, 20, 21, 61, 62,
1042-14	〃 IS1007	D10, 11, 48, 49, 50, 51
1074-118	〃 IS-2473	D12, 13, 14, 15, 16, 17, 30, 31, 32, 38, 39, 40, 41, 42, 43, 45, 52, 56, 57
1042-16	Diode IN4448	D9, 28, 1
1042-17	〃 SR1-K2	D64, 65, 68, 69, 70, 71
1074-120	Zener Diode	D36, 37, 44
1074-121	〃 〃	D67
1074-122	〃 〃	D35
1074-123	〃 〃	D66
1042-20	〃 〃	D2
1042-21	Thermistor	TH1
1042-22	〃	TH2
1042-23	Silicon Varistor	D22, 53, 54, 55
1042-24	Coil, RX Antenna	T1
1042-25	〃 RX RF	T2, 3
1042-26	〃 Balance Mixer 19MHz	T4
1042-27	〃 〃 〃 〃	T5
1042-28	〃 Filter 19MHz	T6, 7, 8
1042-29	〃 IF 7.8MHz	T9
1042-30	〃 〃 〃	T10, 11, 12

FANON/COURIER Part Number	Description	Symbol
1042-32	Coil, Balance Modulator	T17
1042-33	〃 OSC Carrier	T16
1042-34	〃 IF AM 455KHz	T14
1042-35	〃 〃 〃 〃	T15
1079-04	〃 Transmit A	T18
1042-37	〃 〃 B	T19
1042-38	〃 〃 C	T20
1079-03	〃 〃 D	T21
1042-40	〃 TVI Trap 3-1/2t	L1
1042-41	〃 Peaking	L2
1074-01	〃 RFC Transmit	L10, 11, 13
1074-130	〃 Filter Transmit	L12, 14. 15
1074-127	〃 Transmit Filter	L16, 17, 18
1042-44	〃 Power Choke	L19
1042-45	Micro Inductor 3.9uH	L3
1042-46	〃 〃 8.2uH	L4
1042-47	〃 〃 10uH	L5
1042-48	〃 〃 100uH	L6, 7, 8, 9
1042-49	Mechanical Filter	T13
1042-50	Ceramic Filter	MF1
1074-02	Input Transformer	INPUT
1074-03	MOD Transformer	OUTPUT
1074-04	Power Choke Transformer	CH
1074-05	〃 Transformer	PT
1074-06	Digital Clock 120V/60Hz	CLOCK
1074-08	Fuse 1 amp.	FUSE
1042-104	Fuse 2 〃	FUSE
1042-53	Ceramic Trimmer	CT2-19
1074-10	Speaker 121-56 8 ohms	S.P.
1042-58	Microphone w/hanger	
1042-59	Relay	S8-1, 8-2, 8-3, 8-4
1042-61	DC Power Connector Plug	DC POWER S-4
1042-64	Channel Selector Sw. RL-2. 4. 242 amp	S1-1, 2, 3
1074-14	Push Switch, Mode Selector	S2-1, 2, 3, 4, 5, 6, 7, 8
1074-15	〃 〃	S3-1, 2 S5-1, 2, 3, 4 S6-1, 2, 3, 4
1074-16	Push Switch	S7-1, 2
1042-67	Crystal HC25/U 11.000MHz	X1D
1042-68	〃 〃 11.050 〃	X2E
1042-69	〃 〃 11.100 〃	X3F
1042-70	〃 〃 11.150 〃	X4I
1042-71	〃 〃 11.200 〃	X5H
1042-72	〃 〃 11.250 〃	X6G
1042-73	〃 〃 8.1665 〃	X7J

FANON/COURIER Part Number	Description	Symbol
1042-74	Crystal HC25/U 8.1765MHz	X 8K
1042-75	〃 〃 8.1865 〃	X 9L
1042-76	〃 〃 8.2065 〃	X 10M
1042-77	〃 〃 8.1635 〃	X 11N
1042-78	〃 〃 8.1735 〃	X12φ
1042-79	〃 〃 8.1835 〃	X 13X
1042-80	〃 〃 8.2035 〃	X 14Y
1042-81	〃 〃 7.3435 〃	X 15C
1042-82	〃 〃 7.7985 〃	X 16B
1042-83	〃 〃 7.8015 〃	X 17A
1042-84	〃 Filter 7.8MHz 〃	XF1
1042-87	470 ohm, B	VR13
1042-88	Wired Semifixed Resistor, 60 ohm 2W	VR17
1074-18	AF Volume 10K ohm, A	VR16
1074-128	SQ Control 100K ohm, B with switch	VR10
1074-20	RF Gain Control 10K ohm, B	VR8
1074-21	CAL Volume 5K ohm, B	VR19
1042-73	Semifixed Volume 500K ohms B-2	VR6
1042-94	〃 〃 300K 〃 B-2	VR9
1042-95	〃 〃 100K 〃 B-3	VR1
1042-96	〃 〃 100K 〃 B-2	VR5
1042-97	〃 〃 20K ohm B-2	VR4
1042-98	〃 〃 10K 〃 B-2	VR2, 3, 7, 11, 12, 14, 20
1042-99	〃 〃 5K 〃 B-3	VR15
1042-100	〃 〃 200 〃 B-2	VR18
1074-22	〃 〃 200 〃 B-3	VR21
1074-23	Meter SWR	M1
1074-24	〃 S/RF	M2
1042-101	Air Varicon 50pF Max.	CT1
1042-102	Semi-fixed Trimmer 150pF Max.	CT20
1074-25	Sub Miniature Relay	S 9-1, 2
1074-30	Pilot Lamp 14V/30ma red	Clock Lamp, Channel Lamp
1074-31	〃 〃 〃 white	Meter Lamp
1074-32	〃 〃 〃 blue	TX Lamp
1074-33	〃 〃 〃 yellow	RX Lamp
1074-34	〃 〃 〃 green	Clock Lamp
1042-117	Tantal Condenser 6.3V/33u +20%	C 84, 155
1042-118	〃 〃 6.3V/10u 〃	C 151
1042-119	〃 〃 10V/4.7u 〃	C 89, 152, 153, 154
1042-120	〃 〃 10V/1u 〃	C 82, 87, 149, 158, 162, 166
1042-121	〃 〃 16V. 0.1u 〃	C 86, 168
1042-122	Alminum Condenser 25V/0.1u +20%	C 7, 112
1074-37	Elect. Condenser 25V/2,200u Block type	C 228
1042-123	〃 〃 25V/1,000u	C 212

FANON/COURIER Part Number	Description	Symbol
1042-124	Elect. Condenser 16V/470u	C 171
1042-125	〃 〃 16V/220u	C 124, 165, 170, 230
1042-126	〃 〃 6.3V/220u	C 164, 169,
1042-127	〃 〃 16V/100u	C 156
1042-128	〃 〃 16V/47u	C 85, 90, 125, 140
1042-129	〃 〃 16V/10u	C 51, 62, 107, 110, 221, 122, 146, 221
1074-38	Elect. Condenser 16V/22u	C 120
1042-130	〃 〃 25V/4.7u	C 117, 143, 223
1042-131	〃 〃 16V/2.2u	C 116
1042-132	〃 〃 25V/1u	C 66
1042-133	〃 〃 50V/0.47u	C 101
1042-134	〃 〃 25V/220u	C 174
1042-135	Silvered Mica Condenser 50V/500pF	C 111
1042-136	〃 〃 〃 50V/400pF	C 39, 200
1042-137	〃 〃 〃 50V/300pF	C 201-199
1042-138	〃 〃 〃 50V/250pF	C 198
1042-139	〃 〃 〃 50V/200pF	C 188
1042-140	〃 〃 〃 50V/150pF	C 5, 32, 93
1042-141	〃 〃 〃 50V/120pF	C 202
1042-142	〃 〃 〃 50V/100pF	C 24, 34, 35, 38, 45, 136
1042-143	〃 〃 〃 50V/80pF	C 30
1042-144	〃 〃 〃 50V/60pF	C 43, 47, 50, 175
1042-145	〃 〃 〃 50V/40pF	C 28, 36, 40, 194
1042-146	〃 〃 〃 50V/30pF	C 182
1042-147	〃 〃 〃 50V/25pF	C 1, 108, 224
1042-148	〃 〃 〃 50V/20pF	C 20, 21, 22, 23, 24, 25, 26, 27
1042-149	Silvered Mica Condenser 50V/15pF	C 187
1042-150	〃 〃 〃 50V/10pF	C 12, 137, 138, 144, 179, 219, 96
1042-151	Silvered Mica Condenser 50V/5pF	C 58
1042-153	〃 〃 〃 50V/4pF	C 190
1042-152	〃 〃 〃 50V/3pF	C 142
1042-154	〃 〃 〃 50V/2pF	C 8, 46, 49
1042-155	〃 〃 〃 50V/1pF	C 181
1042-158	Styrol Condenser 50V/500pF	C 98
1042-162	Mylar Condenser 100V/0.22uF	C 2, 218
1042-163	〃 〃 50V/0.04uF	C 9, 33, 41, 42, 48, 52, 53, 54, 55, 56, 57, 73, 74, 75, 76, 77, 78, 79, 88, 94, 95, 97, 99, 100, 102, 103, 104, 105, 106, 109, 115, 119, 128, 131, 139, 141, 150, 159, 160, 161, 163, 176,

FANON/COURIER Part Number	Description	Symbol
		C 177, 180, 183, 184, 185, 186, 191, 192, 193, 195, 196, 197, 203, 204, 205, 206, 207, 211, 214, 215, 216, 217, 222, 225, 226, 189, 233
1042-165	Mylar Condenser 50V/0.02uF	C 6, 113, 172, 173, 178
1042-166	〃 〃 50V/0.01uF	C 3, 60, 65, 67, 68, 80, 81, 110, 114, 123, 126, 127, 145, 147, 148, 157, 167, 210, 220, 229, 231, 232, 234
1042-167	Mylar Condenser 50V/0.005uF	C 11
1074-39	〃 〃 50V/0.001uF	C 4, 10, 37, 44, 69, 70, 71, 72, 83, 92, 130, 133, 134, 135, 227
1042-169	Cement Resistor 5 ohms 5W	R 136
1042-170	Metal Covered Resistor 1 ohm 1/2 W	R 135
1074-40	〃 〃 〃 10 ohms 3W	R 165
1074-48	Tublar Condenser	C 123
1074-49	Temperature Compensating Condenser 20pF/50V	C 14, 15, 16, 17, 18, 19
1074-50	Temperature Compensating Condenser 20pF/50V	C 91, 129, 132
1074-51	Temperature Compensating Condenser 3pF/50V	C 13
1074-67	Channel Knob	
1074-68	Volume Knob	
1074-69	Knob for Clock (A)	
1074-70	〃 〃 〃 (B)	
1074-90	Volume Knob	
1074-92	Power Switch Knob	
1074-109	Channel Dial	
1074-114	DC Power Cord w/plug	
1074-17	Knob, Push Switch	

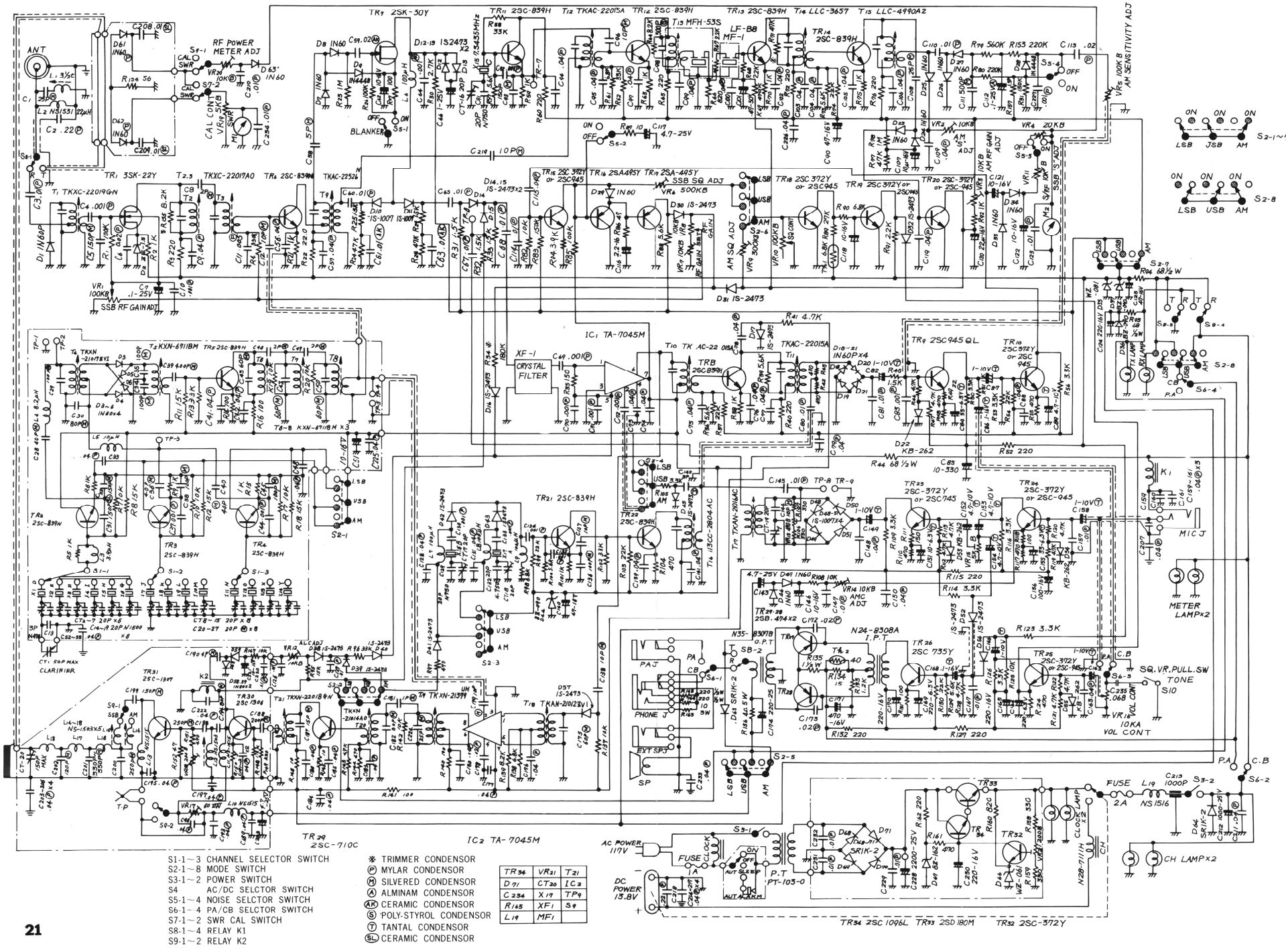

Figure 5, Schematic Diagram, Centurion Single Sideband Transceiver

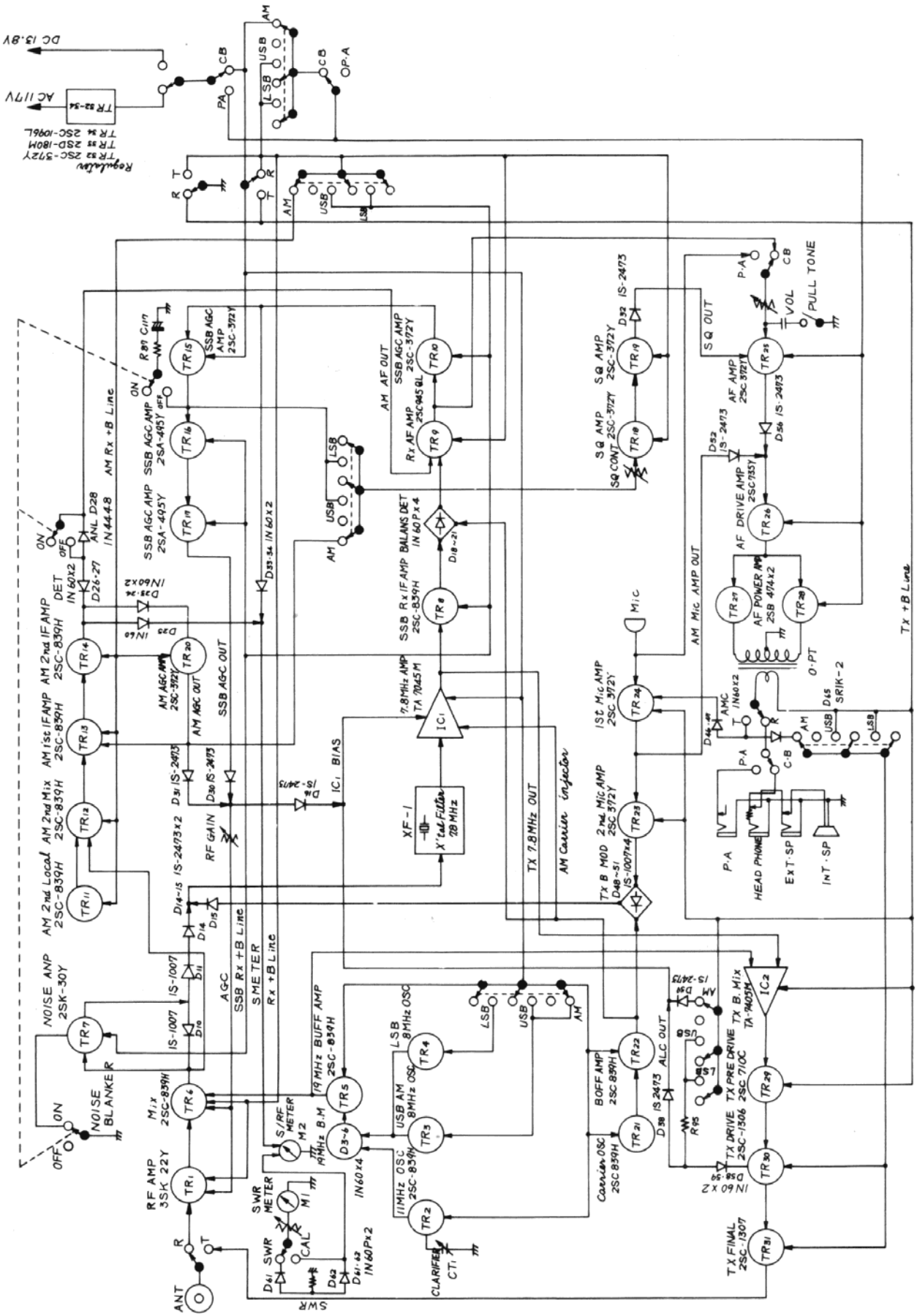

Figure 6, Block Diagram, Centurion Single Sideband Transceiver

ADDENDUM
TO
SSB INSTRUCTION MANUAL

Please note the following change in the "SPECIFICATIONS: TRANSMITTER SECTION" of your instruction manual.

Output Power:

AM = 3.5 watts; SSB = 12 watts PEP

These specifications reflect the maximum legally allowable RF output for SSB (12 watts PEP) as per FCC regulations, (FCC Docket # 17196, Oct. 11, 1973).

Fanon/Courier Corp.

WARNING

THE FCC RULES AND REGULATIONS, PART 95, REQUIRES THAT ONLY PERSONS POSSESSING A VALID FIRST OR SECOND CLASS RADIOTELEPHONE OPERATOR'S LICENSE ARE ALLOWED TO MAKE ADJUSTMENTS OR REPAIRS TO THE TRANSMITTING SECTION OF THIS TRANSCEIVER.

MODIFICATION TO THE TRANSMITTER SECTION IN ANY WAY NOT RECOMMENDED BY FANON/COURIER CORPORATION IS ILLEGAL. MODIFICATIONS INCLUDE, BUT ARE NOT LIMITED TO, SUBSTITUTION OF CRYSTALS, REPLACEMENT OF COMPONENT PARTS NOT OF THE SAME ELECTRICAL RATING, ADDITION OF ANY COMPONENT PART (S), CONNECTIONS, DEVICE OR ACCESSORY INTERNALLY OR EXTERNALLY TO THE TRANSMITTER.

MANUFACTURED IN JAPAN EXCLUSIVELY TO THE SPECIFICATIONS OF

FANON / COURIER CORPORATION

990 S. FAIR OAKS AVE.,
PASADENA, CALIFORNIA 91105
a subsidiary of: RESDEL INDUSTRIES

LI-382 ISSUE C (3-75)

Printed in Japan