

Sidebender IV

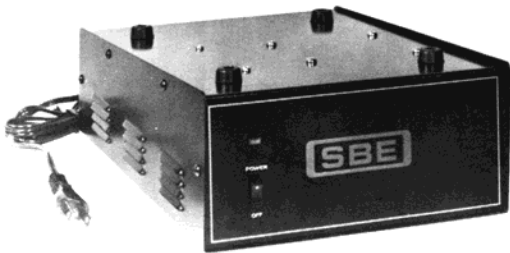
MODEL SBE-27CB/A



OWNER'S MANUAL



ACCESSORIES



SBE-4AC BASE STATION POWER SUPPLY

Rear terminals permit you to connect your Touch/Com 40 in seconds. Plugs into any 110 V 60 Hz outlet. Top and bottom rubber feet hold it firm, yet prevent it from scratching surfaces above and below.

SBE-1 SP ACCESSORY SPEAKER

This speaker allows sound to be focused toward the listener when mounted overhead, on sun shield or on inside rear shelf of vehicle. Speaker is closer to operator and not subject to under-dash muffling.

Tiltable "U" shape bracket facilitates mounting. Compact speaker is attractively finished in flat black and has protective grill. Speaker cone and dust cover are treated for resistance to moisture. The 6 foot cable provided terminates in a miniature plug. Power rating, 4-6 W, impedance 4 Ω .

Size 4.8"W, 4"H, 1.7"D. MM: 102H, 45D, 111W.



SBE-1SP/AMP ACCESSORY SPEAKER with amplifier

Another SBE, "Beat mobile noise" innovation turns any meek muffled audio channel into a roaring lion! The *means*: The SBE-1SP speaker is fortified by 6 big watts of audio supplied by a built-in solid-state audio amplifier that plugs into set's auxiliary speaker outlet. Amplifier is powered directly from vehicle 12V battery, *either positive or negative ground*. Amplifier is easily driven by audio output available from most CB transceivers, is biased near Class B so standby current is only 0.015A and increases in proportion to signal output.

Input can be either 4 or 8 Ω . Cord with plug and power leads is supplied.

Size: 4.8"W, 4"H, 1.7"D. MM: 102H, 45D, 111W.



NC-100

MOBILE NOISE CANCELLING MIC.

SBE noise cancelling microphone makes mobile operation far more pleasant, avoids needless repeats by substantially reducing extraneous noise pickup that is ever present in cars, trucks, other vehicles driving on highways. Special acoustic design uses noise input from an extra sound port in the top of the unit to provide a modified cardioid sound pickup pattern. Noise rejection is 10db or more to the front, 20 db or greater to either side. Microphone operates with all SBE transceivers having 4-conductor male microphone input.

M-100X

MOBILE MIC. with amplifier

Conveniently, small hand-held mobile microphone has a built-in solid-state amplifier, offers fixed station operating convenience in motion! A rear control with calibrated thumb wheel allows speech gain to be set for optimum modulation under prevailing background noise conditions. Amplifier is powered from internal penlight cells and is capable of more than 15db gain. Microphone has coil cord fitted with 4-conductor plug.

TABLE OF CONTENTS

Getting on the Air	1	Service Maintenance	9
Controls and Indicators	2	Parts Ordering Information	9
Operating Single Sideband	3	Component Location	10
Installation	3	Schematic	10
Interference Remedy Chart	6	Component Layout	11
Taking a CB Radio into Another Country	6	Parts List	12
Specifications	7	FCC License	20

GETTING ON THE AIR

You must have an FCC license to operate this unit. If you do not presently have one, consult page 20. You may start operating under a temporary license as soon as the enclosed Form 505 is mailed. If your SIDEBANDER IV is already installed, you may proceed immediately to the next section—OPERATING INSTRUCTIONS. For those who prefer to do their own installation, detailed installation instructions are included.

OPERATING INSTRUCTIONS

Receive:

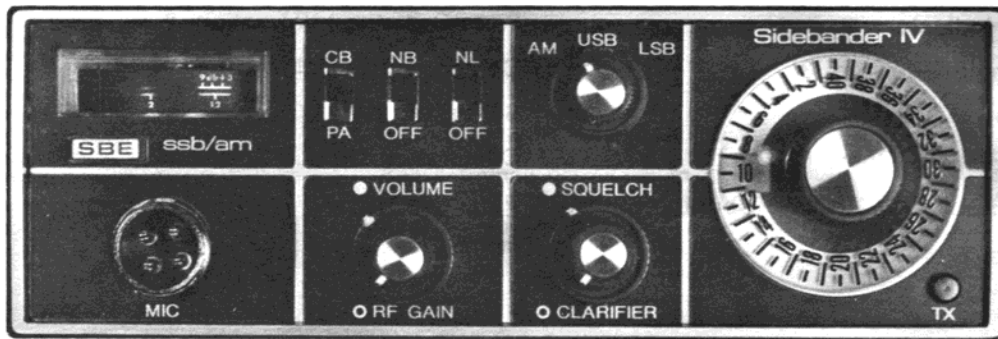
1. Set the CB/PA switch to CB, the NL and NB switches to OFF.
2. Turn the OFF/VOLUME control clockwise. The S/RF meter and CHANNEL INDICATOR should illuminate.
3. Turn SQUELCH control fully counterclockwise.
4. Adjust VOLUME control until a hissing sound or voice is heard at a comfortable level.
5. Slowly turn SQUELCH control clockwise until the hissing sound just disappears or until unintelligible weak signals are eliminated.
6. Rotate CHANNEL SELECTOR knob until a channel with CB traffic is found.
7. Set MODE SWITCH on mode (AM, USB, LSB) that produces intelligible reception.
8. Adjust CLARIFIER.
9. Readjust SQUELCH control until unwanted weak signals are eliminated.

Transmit:

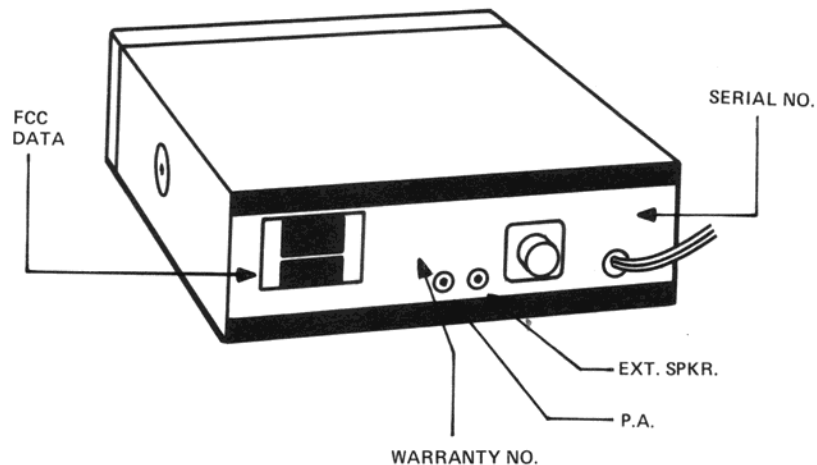
You must have a Class D station license before transmitting. All channels, except channel 9, may be used for normal communications. Channel 9 has been reserved by the FCC for emergency communications, such as protection of property or assistance to a motorist.

1. Select desired channel; listen, and when clear press PTT button. Tx light will come on, and S/RF meter will show output power.
2. Hold the microphone close to your mouth and speak clearly.
3. Release the PTT button and listen for a reply.

CONTROLS AND INDICATORS



1. OFF/VOLUME Control—Turns radio on and adjusts volume of receiver and PA audio.
2. CB/PA Switch—In PA position, radio can be used with an external speaker as a public address system. Press PTT Button (11) and microphone audio will be amplified through speaker; release PTT Button and receiver audio will be heard through speaker.
3. NL (Noise Limiter) Switch—Operates in AM mode to reduce impulse noise such as atmospheric and ignition. While AM sensitivity is the same in both positions of this switch, a slight loss of high voice tone might be noticed.
4. NB (Noise Blanker) Switch—Operates in both AM and SSB mode to reduce impulse noise.
5. CLARIFIER Control—Permits tuning in off-frequency stations. Does not affect transmitter frequency.
6. S/RF Meter—Indicates relative strength of received signal and output power of the transmitter.
7. TX Light—Indicates when the transmitter is on (keyed).
8. CHANNEL SELECTOR—Selects channel for transmission and reception.
9. RF GAIN Control—Adjusts the sensitivity of the receiver.
10. SQUELCH Control—Adjusts level at which weak signals and noise are eliminated.
11. PTT (Push-to-Talk) Button—Keys (turns on) transmitter when pressed.
12. PA JACK—Permits 8 Ω , 4 watts or better PA speaker to be connected.
13. EXT SPKR JACK—Permits 4 or 8 Ω , 4 watts or better speaker to be connected. Disables internal speaker when connected.



OPERATING SINGLE SIDEBAND

There are three types of signals presently used in CB communication — AM (Amplitude Modulation), and the two types of SSB (Single Sideband) signals—LSB (Lower Sideband) and USB (Upper Sideband). The **SIDEBANDER IV** is capable of receiving and transmitting any of these signals. A SSB signal (either USB or LSB) may be recognized while in AM mode by its characteristic garbled sound. A SSB signal can only be received by a receiver operating in the same mode.

To receive a SSB signal, switch to either LSB or USB. If you are in the correct sideband mode, turning the **CLARIFIER** knob will make the signal intelligible. If you are in the wrong sideband mode, no amount of turning of the **CLARIFIER** knob will make the signal intelligible.

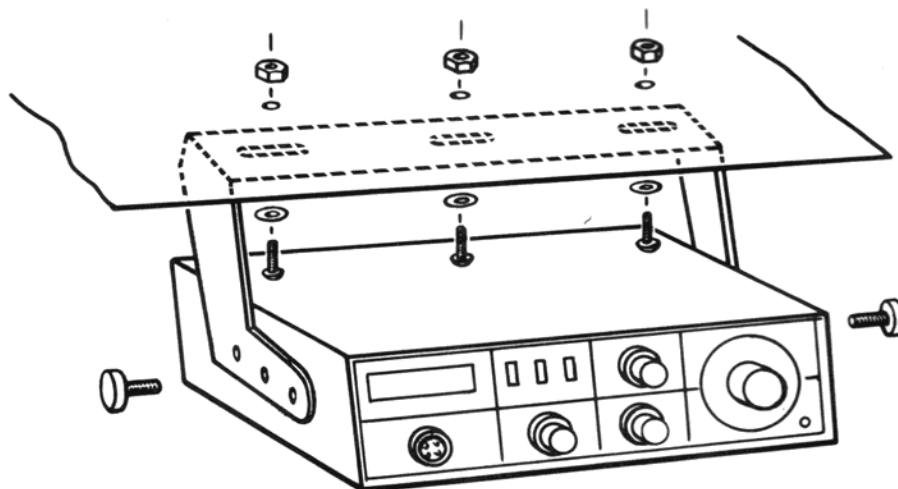
Single sideband has several advantages over AM. In AM transmission, at least two-thirds of the power is expended to produce the carrier while all of the power in SSB goes to produce only one sideband — the only part of the transmission conveying intelligence. Since only one sideband is produced, only half of a channel is used. Also, flutter effects often caused by vehicle motion are substantially reduced. Because of these advantages, Range Ratings of sideband radios are 2 to 3 times greater than AM radios at full modulation. Since sideband gives greater range to more people, special channels are extended to Sidebanders through CB courtesy.

INSTALLATION

A good installation is the most important factor in achieving maximum performance from your **SIDEBANDER IV**. Complete installation service is available from many CB radio dealers. While no special tools are needed for installation, the antenna installation should be checked with a good quality VSWR meter. If you do your own installation and do not have access to a VSWR meter, it is recommended that you have the installation checked by a local CB radio dealer.

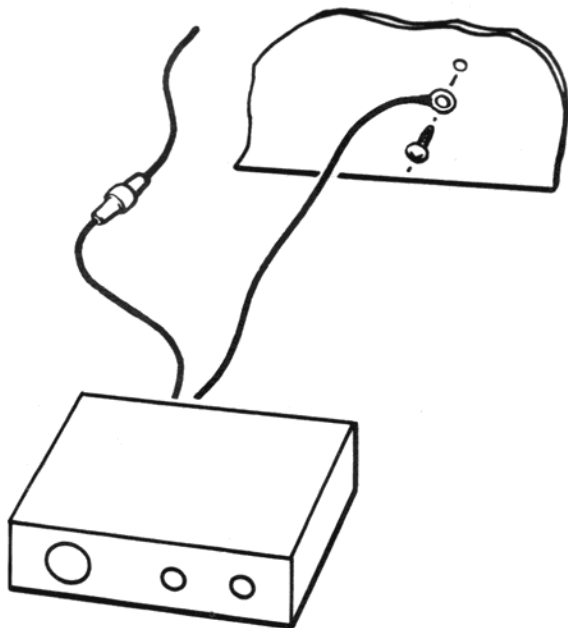
PERMANENT INSTALLATION

Choose a convenient location for your **SIDEBANDER IV**. Usually, this is under the dash, but the **SIDEBANDER IV** may be mounted in any position on a rigid surface. Check to be sure that the radio is not in the direct air stream of the vehicle's heater and that there is sufficient space behind the radio for antenna and accessory cable connections. Make certain that the microphone is easily accessible. The microphone holder may be mounted either on the side of the radio where convenient holes are provided or on any rigid surface.

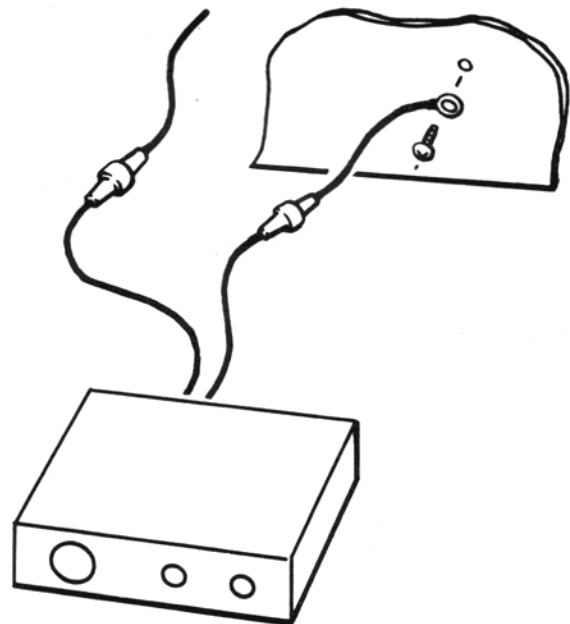


Attach the bracket to the radio and hold the unit against the planned mounting surface. Draw around the bracket so as to leave an outline on the mounting surface. Check to be sure that holes drilled through the mounting surface to secure the bracket will not damage any of the vehicle's components. Find a clear, accessible path between the antenna and radio mounting locations. Remove the antenna cable from the antenna's packing. Snake the cable along the intended path. Tie or tape the excess cable into a neat roll and tuck into a concealed space. Install the antenna according to the manufacturer's instructions. Detach the bracket from the radio, place into the outline and mark and center punch screw holes. Drill 7/32" clearance. To insure that the drill will not punch through and damage any part of the vehicle, wind a few turns of tape about 1/2" from the tip of the drill bit. Mount bracket and then mount radio.

Before wiring your SIDEBANDER IV to power, check the ground polarity of your vehicle by consulting the owner's manual or observing which battery terminal is connected to the vehicle's chassis. An additional 2 amp fuse and holder must be wired into the negative (black) power lead in positive ground vehicles. The SIDEBANDER IV may be connected to the accessory side of the ignition switch. If this connection proves to be too noisy, direct connection to the battery is recommended.



NEGATIVE GROUND
HOOK-UP



POSITIVE GROUND
HOOK-UP

CHOOSING AN ANTENNA

The type of antenna and mounting location determines the direction and range of communication. A CO-PHASE antenna gives maximum range to the front and rear of the vehicle, and is best suited for communicating with distant vehicles traveling on the same straight highway. A single antenna mounted on the center of the vehicle gives the best range in all directions and is best suited for city or general purpose communication. A single antenna will be directional when mounted away from the center of the vehicle. Figure 1 shows a method for determining the direction.

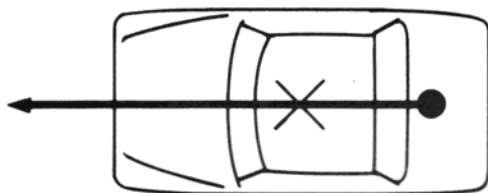
ANTENNA MOUNTING LOCATION

The best antenna location in most vehicles is the center of the passenger compartment roof. The trunk is a satisfactory location, especially if it is large and flat. Due to ignition noise, the antenna should not be mounted over the engine compartment. Various types of clamp-on antennas are available for temporary mounting on side mirrors, luggage racks, raingutters and bumpers. These antennas permit the antenna cable to be dressed through vents, side windows, or under the vehicle without drilling holes. A permanent antenna should be mounted in a location that permits dressing the antenna cable through the vehicle's frame or under its upholstery.

**FIGURE 1
DETERMINING ANTENNA RANGE DIRECTION**

Before installing an antenna, an approximation of the direction or maximum range can be obtained by following these rules.

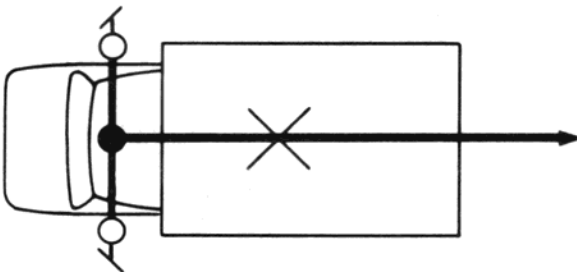
1. Draw a rough silhouette of the vehicle as seen from above.
2. Place a small x in the approximate center of the silhouette.
3. Place a dot on the silhouette where a single antenna is planned, or, if a co-phase is to be used, draw a line connecting the antennas. Place a dot in the center of this line.
4. Draw a line from the dot through the x. This line will point in the predominant direction. The longer the distance between the x and the dot the more predominant will be the range in that direction. A single antenna placed on the x will communicate equally in all directions. If the line connecting co-phase antennas intersects the x, the predominant direction will be in both directions perpendicular to the line.



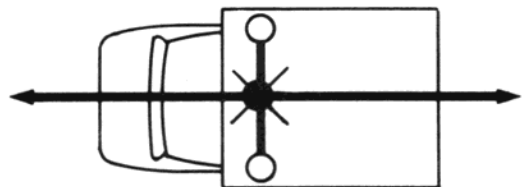
TRUNK MOUNT



**PASSENGER COMPARTMENT
MOUNT**



**CO-PHASE
MIRROR MOUNT**



**CO-PHASE
SIDE MOUNT**

INTERFERENCE REMEDY CHART

TYPE OF INTERFERENCE	CAUSE	REMEDY
POPPING — increases rate with engine speed. Stops instantly when ignition is shut off.	Ignition	Make certain that engine is properly tuned. Install resistor plug with suppressor cable if vehicle does not already have them.
WHINE — goes up with engine speed. Whines down when ignition is shut off.	Generator or Alternator	Clean commutator or slip rings. Check brushes.
POPPING OR RUSHING — occurs in dry weather at high speeds.	Wheels and Tires	Install static collector rings in front wheel caps or put antistatic powder in inner tube or tire.
NOISE — occurs when accessory is turned on.	Accessory	Install 0.25 MFD capacitor across power terminals at accessory.
CRACKLING, CLICKING—occurs as gauges operate or dash is jarred.	Gauge or Voltage Limiter	Clip 0.25 MFD capacitor across gauges and voltage limiter until interference disappears. Install capacitor at that point.

TAKING A CB RADIO INTO ANOTHER COUNTRY

Since laws change, always check with a country's Consul General's Office before taking a CB radio into that country. Many countries do not presently offer CB service while others do not offer it on the same frequencies. The CB frequencies used in the United States and Canada are used by some countries for government and commerce.

Persons holding valid U.S. Citizens Band licenses or temporary permits may obtain authority to operate in Canada by requesting D.O.C. Form "APPLICATION FOR REGISTRATION OF RADIO STATION LICENSEE OF UNITED STATES OF AMERICA" from a Canadian consulate and mailing it in at least 60 days prior to entry into Canada. Canadians planning to travel in the United States should obtain F.C.C. Form 410-B, "APPLICATION FOR PERMIT TO OPERATE A CANADIAN GENERAL RADIO SERVICE STATION IN THE UNITED STATES."

Mexico does not have a Citizens Band service. It is against the law to take a Citizens Band transceiver into Mexico.

SPECIFICATIONS

General

Channels	40
Frequency Range	26.965 to 27.405 MHz
Frequency Control	Digitally synthesized
Frequency Stability	0.005%
Operating Temperature Range	—30° C to +50° C
Humidity	95%
Microphone	Dynamic w/p.t.t. switch and coil cord
Input Voltage	13.8 VDC positive or negative ground. 15.9 VDC maximum, 11.7 VDC minimum
Current Drain	Transmit: AM 95% mod. Carrier 1.6 amps SSB 12 watts PEP output 2.5 amps Receive: Squelched 0.25 amp 2 watt audio output .5A
Size	2.3"H, 6.6"W, 9.1"D 58mm H, 168mm W, 213mm D
Weight	4 pounds 1.8 kg
Antenna Connector	UHF, SO-239

Transmitter

Power Input	AM, 6 watts SSB, 25 watts
Power Output	AM, 4 watts SSB, 12 watts
Modulation	AM, high and low level Class B
Modulation Capability	AM, 100%
Intermodulation Distortion	SSB: 3rd order —25db 5th order —35db
Carrier Suppression	SSB: —50db
Unwanted Sideband	—50db
Frequency Response	AM and SSB: 350—2500 Hertz
Output Impedance	50 Ω , unbalanced
Automatic Level Control (ALC)	Adjustable, holds P.E.P. to 1db increase w/10db increase in audio input.
SSB Filter	7.8 MHz, crystal lattice type 6db @ 4.0 KHz 50db @ 5.5 KHz
Output Indicator	Backlit front panel meter

Receiver

Sensitivity	SSB: $0.5\mu\text{v}$ for 10db S+N/N AM: $1\mu\text{v}$ for 10db S+N/N
Selectivity	SSB: 6db @ 2.4 KHz, 50db @ 5.5 KHz AM: 6db @ ± 2 KHz, 50db @ 5.5 KHz
Image Rejection	50db
IF Frequency	7.8 MHz
Automatic Gain Control (AGC)	Less than 10db increase in audio output for inputs of 1 to $500,000\mu\text{v}$
Squelch	Adjustable, Threshold less than $1\mu\text{v}$
Noise Limiter	Series gate type
Noise Blanker	Deluxe noise blanker installed
Clarifier Range	± 700 Hertz Minimum
Audio Output Power	4.0 watts with 10% T.H.D. into a 4Ω load
Hum and Noise	-40db
Built-in Speaker	3-1/2" round, 8Ω
External Speaker (not supplied)	4 or 8Ω . Disables internal speaker when connected.

PA System

Power Output	4 watts into external speaker
External Speaker for PA	4 or 8Ω . When PA/CB switch is in PA, the PA speaker also monitors the normal CB receiver.

SERVICE

If your SIDEBANDER IV fails to perform as stated in this manual, it is recommended that SBE be contacted in writing at one of the following addresses:

SBE, INC.
1045 Main Street
Watsonville, California 95076

SBE, INC.
5280 West 161st Street
Brook Park, Ohio 44142

SBE will either authorize return of the unit to the factory or refer you to an authorized SBE repair agency in your area. Do not ship equipment without prior written authorization from SBE. Your letter to SBE must include the following particulars.

1. Model number and serial number of equipment.
2. Date of purchase of equipment.
3. Nature of trouble.
4. Cause of trouble if known.
5. Name of distributor from whom the equipment was purchased.
6. Your return address.
7. Method of shipment by which the equipment should be returned.

Also include any information that you feel will be helpful in locating or correcting the problem.

ORDERING PARTS

When ordering replacement parts, direct your order to an SBE distributor or SBE's parts facilities:

1045 Main Street
Watsonville, California 95076

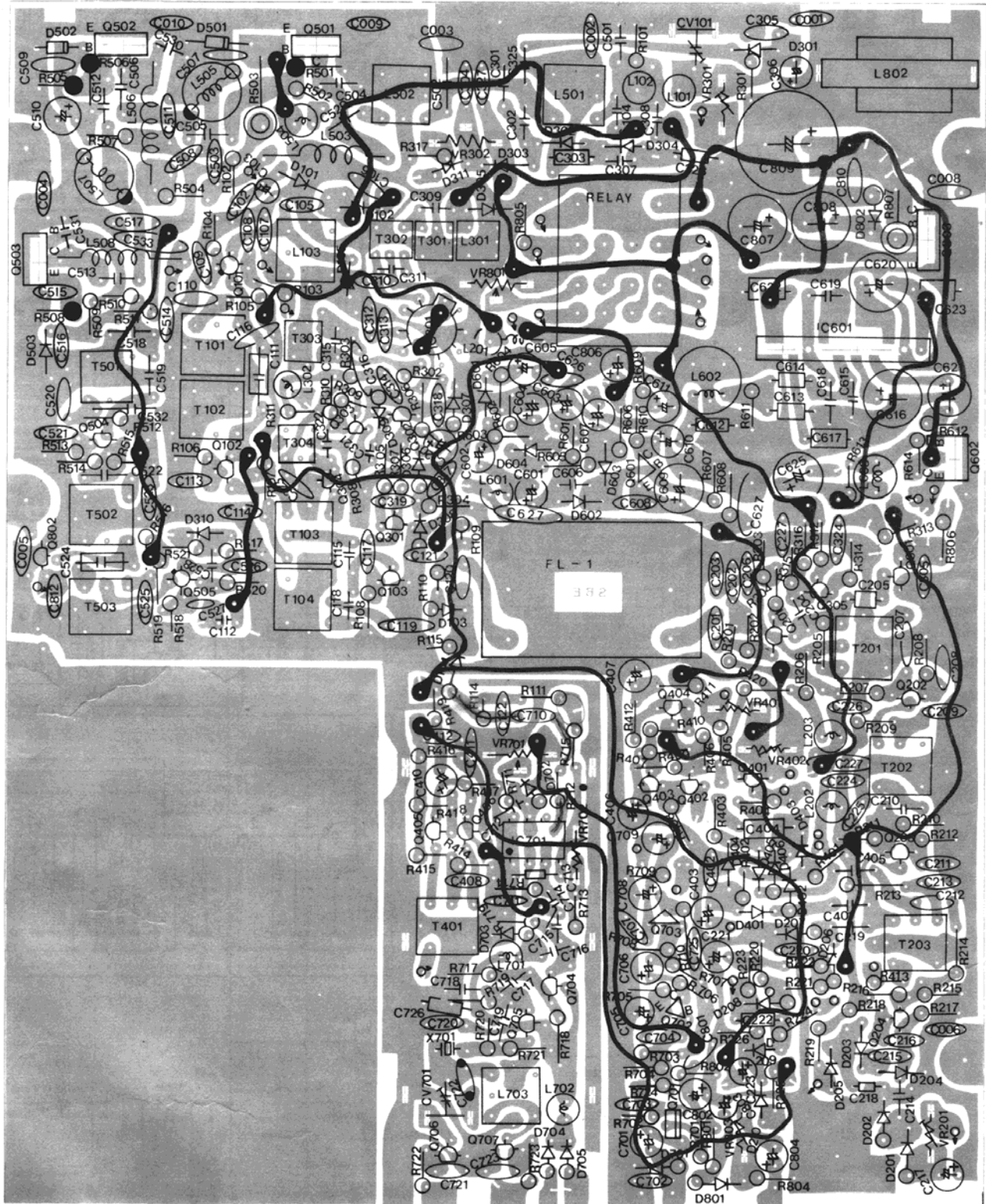
5280 West 161st Street
Brook Park, Ohio 44142

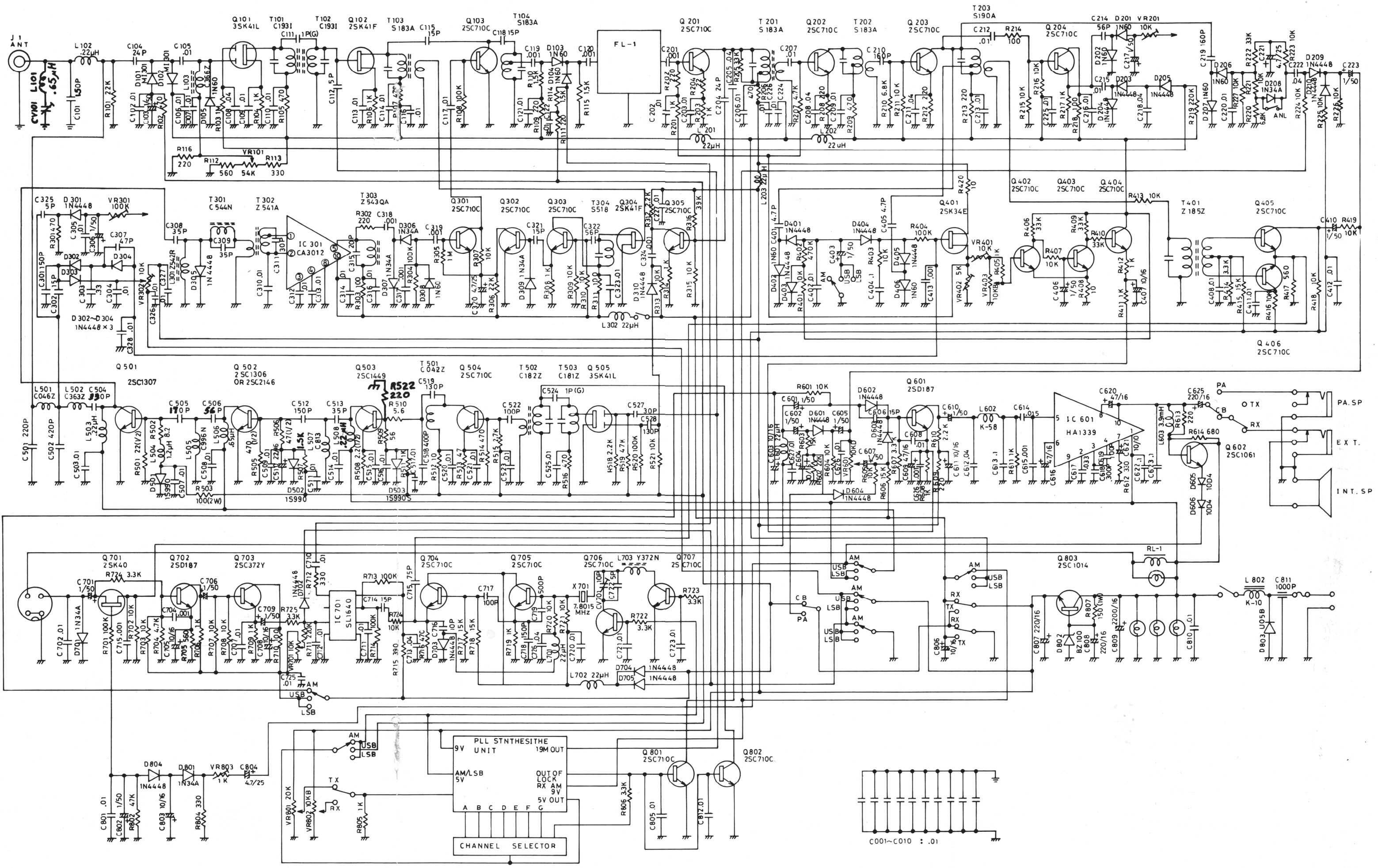
Furnish the following information:

1. Quantity required.
2. SBE part number and description.
3. Item or symbol number obtained from parts list, schematic, or component location drawing.
4. SBE model number and serial number.

Unless specified, SBE will determine the best method of shipment for the parts involved. If payment does not accompany the order, parts will be sent C.O.D.

COMPONENT LOCATION





C001-C010 : .01

SBE-27CB SIDEBANDER IV PARTS LIST

SYMBOL #	PART #	DESCRIPTION
C101	8000-00006-057	Cap., Fixed, 100pfd, 50V, Mica
C102	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C103	8000-00004-042	Cap., Fixed, 1mfd, 16V, Elect.
C104	8000-00004-006	Cap., Fixed, 24pfd, 50V, Mica
C105	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C106	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C107	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C108	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C109	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C110	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C111	8000-00006-277	Cap., Fixed, 1pfd, 50V, Gimmic
C112	8000-00011-008	Cap., Fixed, 0.01mfd, 50V, Cer.
C113	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C114	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C115	8000-00004-002	Cap., Fixed, 15pfd, 50V, Mica
C116	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C117	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C118	8000-00004-002	Cap., Fixed, 15pfd, 50V, Mica
C119	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C120	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C121	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C122	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C201	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C202	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C203	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C204	8000-00004-006	Cap., Fixed, 24pfd, 50V, Mica
C205	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C206	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C207	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C208	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C209	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C210	8000-00038-013	Cap., Fixed, 160pfd, 50V, Mica
C211	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C212	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C213	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C214	8000-00011-009	Cap., Fixed, 56pfd, 50V, Mica
C215	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C216	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C217	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C218	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C219	8000-00038-013	Cap., Fixed, 160pfd, 50V, Mica
C220	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C221	8000-00038-015	Cap., Fixed, 4.7mfd, 25V, Elect.
C222	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C223	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C224	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C225	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C226	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C227	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.

SYMBOL #	PART #	DESCRIPTION
C301	8000-00006-059	Cap., Fixed, 150pfd, 50V, Mica
C302	8000-00004-002	Cap., Fixed, 15pfd, 50V, Mica
C303	8000-00047-007	Cap., Fixed, 0.33mfd, 50V, Elect.
C304	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C305	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C306	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C307	8000-00004-021	Cap., Fixed, 47pfd, 50V, Mica
C308	8000-00006-273	Cap., Fixed, 35pfd, 50V, Mica
C309	8000-00006-273	Cap., Fixed, 35pfd, 50V, Mica
C310	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C311	8000-00004-024	Cap., Fixed, 30pfd, 50V, Mica
C312	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C313	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C314	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C315	8000-00004-016	Cap., Fixed, 20pfd, 50V, Mica
C316	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C317	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C318	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C319	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C320	8000-00038-015	Cap., Fixed, 4.7mfd, 25V, Elect.
C321	8000-00004-002	Cap., Fixed, 15pfd, 50V, Mica
C322	8000-00011-009	Cap., Fixed, 56pfd, 50V, Mica
C323	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C324	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C325	8000-00011-008	Cap., Fixed, 5pfd, 50V, Mica
C326	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C327	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C328	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C329	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C401	8000-00047-008	Cap., Fixed, 4.7pfd, 50V, Mica
C402	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C403	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C404	8000-00028-021	Cap., Fixed, 0.1mfd, 50V, Mylar
C405	8000-00047-008	Cap., Fixed, 4.7pfd, 50V, Mica
C406	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C407	8000-00028-026	Cap., Fixed, 10mfd, 60V, Elect.
C408	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C409	Not Used	
C410	8000-00004-042	Cap., Fixed, 1mfd, 16V, Elect.
C411	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C412	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C413	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C501	8000-00006-060	Cap., Fixed, 220pfd, 50V, Mica
C502	8000-00047-009	Cap., Fixed, 420pfd, 50V, Mica
C503	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C504	8000-00004-017	Cap., Fixed, 500pfd, 50V, Mica
C505	8000-00012-006	Cap., Fixed, 200pfd, 50V, Mica
C506	8000-00004-021	Cap., Fixed, 47pfd, 50V, Mica
C507	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C508	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C509	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.

SYMBOL #	PART #	DESCRIPTION
C510	8000-00047-010	Cap., Fixed, 22mfd, 50V, Elect.
C511	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C512	8000-00006-059	Cap., Fixed, 150pfd, 50V, Mica
C513	8000-00006-273	Cap., Fixed, 35pfd, 50V, Mica
C514	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C515	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C516	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C517	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C518	8000-00047-011	Cap., Fixed, 400pfd, 50V, Mica
C519	8000-00038-012	Cap., Fixed, 130pfd, 50V, Mica
C520	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C521	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C522	8000-00006-057	Cap., Fixed, 100pfd, 50V, Mica
C523	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C524	8000-00006-277	Cap., Fixed, 1pfd, 50V, Gimmic
C525	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C526	Not Used	
C527	8000-00004-024	Cap., Fixed, 30pfd, 50V, Mica
C528	8000-00038-012	Cap., Fixed, 130pfd, 50V, Mica
C601	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C602	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C603	8000-00047-012	Cap., Fixed, 10mfd, 50V, Elect.
C604	8000-00047-012	Cap., Fixed, 10mfd, 50V, Elect.
C605	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C606	8000-00004-002	Cap., Fixed, 15pfd, 50V, Mica
C607	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C608	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C609	8000-00047-013	Cap., Fixed, 47mfd, 50V, Elect.
C610	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C611	8000-00047-012	Cap., Fixed, 10mfd, 50V, Elect.
C612	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C613	8000-00028-021	Cap., Fixed, 0.1mfd, 50V, Mylar
C614	8000-00047-014	Cap., Fixed, 0.015mfd, 50V, Mylar
C615	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C616	8000-00028-023	Cap., Fixed, 47mfd, 16V, Elect.
C617	8000-00041-009	Cap., Fixed, 0.033mfd, 50V, Mylar
C618	8000-00011-011	Cap., Fixed, 300pfd, 50V, Mica
C619	8000-00006-057	Cap., Fixed, 100pfd, 50V, Mica
C620	8000-00028-023	Cap., Fixed, 47mfd, 16V, Elect.
C621	8000-00047-015	Cap., Fixed, 10mfd, 10V, Tan.
C622	8000-00028-021	Cap., Fixed, 0.1mfd, 50V, Mylar
C623	8000-00028-021	Cap., Fixed, 0.1mfd, 50V, Mylar
C624	Not Used	
C625	8000-00028-032	Cap., Fixed, 220mfd, 16V, Elect.
C626	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C627	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C701	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C702	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C703	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C704	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C705	8000-00028-026	Cap., Fixed, 10mfd, 16V, Elect.

SYMBOL #	PART #	DESCRIPTION
C706	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C707	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C708	8000-00028-026	Cap., Fixed, 10mfd, 16V, Elect.
C709	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C710	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C711	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C712	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C713	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C714	8000-00004-002	Cap., Fixed, 15pfd, 50V, Mica
C715	8000-00006-274	Cap., Fixed, 75pfd, 50V, Mica
C716	8000-00006-052	Cap., Fixed, 10pfd, 50V, Mica
C717	8000-00006-057	Cap., Fixed, 100pfd, 50V, Mica
C718	8000-00006-059	Cap., Fixed, 150pfd, 50V, Mica
C719	8000-00004-017	Cap., Fixed, 500pfd, 50V, Mica
C720	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C721	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C722	8000-00047-016	Cap., Fixed, 5pfd, 50V, Cer.
C723	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C724	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C725	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C726	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C727	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C801	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C802	8000-00028-024	Cap., Fixed, 1mfd, 50V, Elect.
C803	8000-00028-026	Cap., Fixed, 10mfd, 16V, Elect.
C804	8000-00038-015	Cap., Fixed, 4.7mfd, 25V, Elect.
C805	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C806	8000-00028-026	Cap., Fixed, 10mfd, 16V, Elect.
C807	8000-00028-032	Cap., Fixed, 220mfd, 16V, Elect.
C808	8000-00028-032	Cap., Fixed, 220mfd, 16V, Elect.
C809	8000-00028-033	Cap., Fixed, 2200mfd, 16V, Elect.
C810	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C811	8000-00004-048	Cap., Fixed, 1000pfd, Feed-Thru
C812	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C901	8000-00028-032	Cap., Fixed, 220mfd, 16V, Elect.
C902	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C903	8000-00047-017	Cap., Fixed, 1mfd, 10V, Tan.
C904	8000-00047-018	Cap., Fixed, 0.22mfd, 10V, Tan.
C905	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C906	8000-00004-006	Cap., Fixed, 24pfd, 50V, Mica
C907	8000-00047-019	Cap., Fixed, 22pfd, 50V, Cer.
C908	8000-00006-057	Cap., Fixed, 100pfd, 50V, Mica
C909	8000-00047-020	Cap., Fixed, 47pfd, 50V, Cer.
C910	8000-00011-008	Cap., Fixed, 5pfd, 50V, Mica
C911	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C912	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C913	8000-00011-009	Cap., Fixed, 56pfd, 50V, Mica
C914	8000-00010-119	Cap., Fixed, 27pfd, 50V, Mica
C915	8000-00004-024	Cap., Fixed, 30pfd, 50V, Mica
C916	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C917	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar

SYMBOL #	PART #	DESCRIPTION
C918	8000-00004-008	Cap., Fixed, 1.5pfd, 50V, Mica
C919	8000-00011-008	Cap., Fixed, 5pfd, 50V, Mica
C920	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C921	8000-00006-052	Cap., Fixed, 10pfd, 50V, Mica
C922	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C923	8000-00004-003	Cap., Fixed, 0.04mfd, 50V, Mylar
C924	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C925	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C926	8000-00047-019	Cap., Fixed, 22pfd, 50V, Cer.
C927	8000-00047-021	Cap., Fixed, 22mfd, 16V, Tan.
C928	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C929	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C930	8000-00006-061	Cap., Fixed, 330pfd, 50V, Mica
C931	8000-00006-059	Cap., Fixed, 150pfd, 50V, Mica
C932	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C933	8000-00047-022	Cap., Fixed, 0.22mfd, 16V, Tan.
C934	8000-00004-011	Cap., Fixed, 0.001mfd, 50V, Cer.
C935	Not Used	
C936	8000-00004-001	Cap., Fixed, 0.01mfd, 50V, Cer.
C937	8000-00006-059	Cap., Fixed, 150pfd, 50V, Mica
CV101	8000-00004-204	Capacitor, Var., 10pfd, Cer.
CV701	8000-00004-204	Capacitor, Var., 10pfd, Cer.
D101	8000-00047-035	Diode, MI301
D102	8000-00047-035	Diode, MI301
D103	8000-00006-007	Diode, 1N60
D104	8000-00006-007	Diode, 1N60
D105	8000-00006-007	Diode, 1N60
D201	8000-00006-007	Diode, 1N60
D202	8000-00006-007	Diode, 1N60
D203	8000-00047-007	Diode, 1N4448
D204	8000-00047-007	Diode, 1N4448
D205	8000-00047-007	Diode, 1N4448
D206	8000-00006-007	Diode, 1N60
D207	8000-00006-007	Diode, 1N60
D208	8000-00004-060	Diode, 1N34A
D209	8000-00042-007	Diode, 1N4448
D210	8000-00042-007	Diode, 1N4448
D301	8000-00042-007	Diode, 1N4448
D302	8000-00042-007	Diode, 1N4448
D303	8000-00042-007	Diode, 1N4448
D304	8000-00042-007	Diode, 1N4448
D305	8000-00042-007	Diode, 1N4448
D306	8000-00004-060	Diode, 1N34A
D307	8000-00004-060	Diode, 1N34A
D308	8000-00006-007	Diode, 1N60
D309	8000-00004-060	Diode, 1N34A
D310	8000-00042-007	Diode, 1N4448
D311	8000-00042-007	Diode, 1N4448

SYMBOL #	PART #	DESCRIPTION
D401	8000-00042-007	Diode, 1N4448
D402	8000-00006-007	Diode, 1N60
D403	8000-00042-007	Diode, 1N4448
D404	8000-00042-007	Diode, 1N4448
D405	8000-00042-007	Diode, 1N4448
D406	8000-00006-007	Diode, 1N60
D501	8000-00004-184	Diode, 1S990
D502	8000-00004-184	Diode, 1S990
D503	8000-00004-184	Diode, 1S990
D601	8000-00042-007	Diode, 1N4448
D602	8000-00042-007	Diode, 1N4448
D603	8000-00042-007	Diode, 1N4448
D604	8000-00042-007	Diode, 1N4448
D701	8000-00004-060	Diode, 1N34A
D702	8000-00042-007	Diode, 1N4448
D703	8000-00042-007	Diode, 1N4448
D704	8000-00042-007	Diode, 1N4448
FIL-1	8000-00011-071	Crystal Filter, 7.8MHz
IC301	8000-00047-005	Integrated Circuit, CA3012
IC601	8000-00047-004	Integrated Circuit, HA1339
IC701	8000-00047-001	Integrated Circuit, SL1640
IC901	8000-00047-002	Integrated Circuit, MC14568
IC902	8000-00047-003	Integrated Circuit, MC14526
IC903	8000-00040-011	Integrated Circuit, SN7490
IC904	8000-00038-007	Integrated Circuit, SN7474
IC905	8000-00047-006	Integrated Circuit, 78L06AC
L101	8000-00004-055	Choke, 0.65 μ h
L102	8000-00004-263	Choke, 0.22 μ h
L103	8000-00047-024	C336Z
L201	8000-00047-025	Choke, 22 μ h
L202	8000-00047-025	Choke, 22 μ h
L203	8000-00047-025	Choke, 22 μ h
L301	8000-00047-026	Z542R
L302	8000-00047-025	Choke, 22 μ h
L501	8000-00047-027	C997N
L502	8000-00004-075	C043N
L503	8000-00004-263	Choke, 0.22 μ h
L504	8000-00040-029	Choke, 1.2 μ h
L505	8000-00047-028	C996N
L506	8000-00004-055	Choke, 0.65 μ h
L507	8000-00047-028	C813N
L508	8000-00004-055	Choke, 0.65 μ h

SYMBOL #	PART #	DESCRIPTION
L601	8000-00047-025	Choke, 22 μ h
L602	8000-00006-284	K-58
L603	8000-00006-254	3.9 μ h
L701	8000-00047-025	Choke, 22 μ h
L702	8000-00047-025	Choke, 22 μ h
L703	8000-00047-029	Y372N
L801	Not Used	
L802	8000-00030-012	Choke, K-10
Q101	8000-00011-053	Transistor, 3SK41L
Q102	8000-00047-031	Transistor, 2SK41F
Q103	8000-00011-047	Transistor, 2SC710C
Q201	8000-00011-047	Transistor, 2SC710C
Q202	8000-00011-047	Transistor, 2SC710C
Q203	8000-00011-047	Transistor, 2SC710C
Q204	8000-00011-047	Transistor, 2SC710C
Q301	8000-00011-047	Transistor, 2SC710C
Q302	8000-00011-047	Transistor, 2SC710C
Q303	8000-00011-047	Transistor, 2SC710C
Q304	8000-00047-031	Transistor, 2SK41F
Q305	8000-00011-047	Transistor, 2SC710C
Q401	8000-00011-055	Transistor, 2SK34E
Q402	8000-00011-047	Transistor, 2SC710C
Q403	8000-00011-047	Transistor, 2SC710C
Q404	8000-00011-047	Transistor, 2SC710C
Q405	8000-00011-047	Transistor, 2SC710C
Q406	8000-00011-047	Transistor, 2SC710C
Q501	8000-00047-032	Transistor, 2SC1969 or 2SC1307
Q502	8000-00047-033	Transistor, 2SC2146 or 2SC1306
Q503	8000-00047-034	Transistor, 2SC1449
Q504	8000-00011-047	Transistor, 2SC710C
Q505	8000-00011-053	Transistor, 3SK41L
Q601	8000-00030-009	Transistor, 2SD187
Q602	8000-00011-050	Transistor, 2SC1061
Q701		2SK40C
Q702	8000-00030-009	2SD187
Q703	8000-00032-025	2SC372Y
Q704	8000-00011-047	2SC710C
Q705	8000-00011-047	2SC710C
Q706	8000-00011-047	2SC710C
Q707	8000-00011-047	2SC710C
Q801	8000-00011-047	2SC710C
Q802	8000-00011-047	2SC710C
Q803	8000-00004-087	2SC1014

SYMBOL #	PART #	DESCRIPTION
R503	8000-00047-023	Resistor, 100 ohm, 2W, Metal Oxide
R807	8000-00032-005	Resistor, 150 ohm, 1W, Metal Oxide
T101	8000-00047-030	Transformer, C193I
T102	8000-00047-030	Transformer, C193I
T103	8000-00011-029	Transformer, S183A
T104	8000-00011-029	Transformer, S183A
T201	8000-00011-029	Transformer, S183A
T202	8000-00011-029	Transformer, S183A
T203	8000-00011-030	Transformer, S190A
T301	8000-00037-004	Transformer, C544N
T302	8000-00037-001	Transformer, Z541A
T303	8000-00037-003	Transformer, Z543Q
T304	8000-00037-005	Transformer, S518A
T401	8000-00011-031	Transformer, Z185Z
T501	8000-00004-118	Transformer, C042D
T502	8000-00011-036	Transformer, C182Z
T503	8000-00011-037	Transformer, C181Z
VR101	8000-00011-005	Resistor, Var., 10KD, 5KA, Vol. RF Gain
VR201	8000-00004-096	Resistor, Var., 10K Ω
VR301	8000-00004-094	Resistor, Var., 100K Ω
VR302	8000-00006-047	Resistor, Var., 10K Ω
VR401	8000-00004-096	Resistor, Var., K Ω
VR402	8000-00003-004	Resistor, Var., 5K Ω
VR403	8000-00004-256	Resistor, Var., 10KB, 10KB Squelch Clar
VR601	8000-00011-005	Resistor, Var., 10KD, 5KA Vol. RF Gain
VR701	8000-00006-047	Resistor, Var., 10K Ω
VR801	8000-00006-045	Resistor, Var., 20K Ω
VR802	8000-00004-256	Resistor, Var., 10KB, 10KB Squelch Clar
VR803	8000-00011-082	Resistor, Var., 1K Ω
	8000-00038-027	Front Bezel
	8000-00047-036	Front Overlay
	8000-00011-171	Channel Knob w/Disc.
	8000-00038-035	Knob Mode
	8000-00038-037	Knob RF Gain
	8000-00038-037	Knob Clarifier
	8000-00011-119	Knob Volume
	8000-00011-119	Knob Squelch
	8000-00038-033	SBE Jewel
	8000-00038-034	TX Lamp Jewel
	8000-00030-029	Meter
	8000-00011-056	Lamp, 14V, 70MA
	8000-00004-142	Lamp, 16V, 40MA
	8000-00004-102	Mode Switch
	8000-00038-032	Slide Switch
	8000-00047-051	Channel Switch

SYMBOL #	PART #	DESCRIPTION
	8000-00047-037	Main Chassis
	8000-00047-038	Mount Speaker
	8000-00047-039	Mount Meter
	8000-00030-023	Feed thru Capacitor Mounting Plate
	8000-00047-040	PLL Unit Cover
	8000-00047-041	PLL Chassis
	8000-00047-042	VFO Chassis
	8000-00047-043	VFO Cover
	8000-00047-044	Shield, large
	8000-00047-045	Shield, small
	8000-00047-046	Heat sink for Q501, Q502, Q503
	8000-00047-047	Heat sink for IC601, Q602
	8000-00038-025	Cabinet
	8000-00038-028	Mounting Bracket
	8000-00047-052	PLL P.C. Board
	8000-00047-053	Main P.C. Board
	8000-00004-153	Microphone
	8000-00004-157	Mic hook
	8000-00038-036	Speaker
	8000-00011-091	Rubber Plate for speaker
	8000-00047-048	Plate FCC
	8000-00038-040	Styrofoam package
	8000-00047-049	Display Box
	8000-00030-021	Ext. Speaker Jack
	8000-00004-141	Relay
	8000-00030-045	Lamp Grommet
	8000-00004-069	Ant. Connector
	8000-00004-070	Microphone Jack
	8000-00047-050	19MHz Filter P.C. Board

FCC LICENSE

The SBE-27CB 1A SIDEBANDER IV transceiver is type accepted by the Federal Communications Commission for operation on any of the 40 Citizens Band channels. You are required to read and understand Part 95 of the F.C.C. regulations prior to operation of this unit. A copy of 95 is enclosed.

You must obtain a Class D station license before transmitting. If you do not have a license, obtain one with the enclosed application Form 505. You may operate under a temporary permit for 60 days after the Form 505 is mailed to the F.C.C. provided that you complete and comply with the enclosed Temporary Permit, Form 555-B.

WARNING: Transmitter section adjustments must be performed by a qualified technician holding a valid First or Second class F.C.C. radiotelephone license.

The use of substitute components in the transmitter section of this equipment may cause a violation of F.C.C. rules and regulations. Use only the exact replacement parts specified in the parts list with this instruction manual.

LIMITED WARRANTY

SBE, Inc., warrants equipment manufactured by it to be free from defects in material or workmanship and agrees to repair or, at the option of manufacturer, to replace such equipment which, under normal use and service, develops defects arising from the fault of the manufacturer (and existing at the date of original purchase). Equipment must be returned to the manufacturer or to one of the Certified Service Stations, transportation prepaid, at the address set forth below, within one year from the date of original purchase. Unless the warranty card has been filled in and returned within ten days of original purchase, this warranty shall be void.

This warranty does not apply to equipment which (1) has been repaired or altered by anyone in any way so as, in our judgement, to injure its stability or reliability, (2) has been subject to misuse, negligence, or accident, (3) has had the serial number altered, defaced or removed, or (4) has been connected, installed, adjusted other than in accordance with our written instructions.

The foregoing is in lieu of any other express warranty. ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY, APPLICABLE TO EQUIPMENT MANUFACTURED BY SBE, INC. SHALL EXIST FOR THE LESSER OF ONE YEAR OR THE DURATION OF THE EXPRESS WARRANTY HEREIN. In no event shall SBE, Inc. be liable for incidental or consequential damages.

Some states do not allow either limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

The warranty gives you specific legal rights and you may also have other rights which vary from state to state.

SBE, Inc., neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with this equipment.

SBE, INC.
220 Airport Boulevard
Watsonville, California 95076
(408) 722-4177

We recommend that you record the following information at the time you purchase your SIDEBANDER IV. If your unit becomes damaged or lost, this information may then be supplied to your insurance company and/or the local police department.

- | | |
|-------------------------|------------------------|
| 1. Model Number _____ | 4. Dealer's Name _____ |
| 2. Serial Number* _____ | 5. City _____ |
| 3. Date Purchased _____ | 6. State _____ |

* Permanent number on case of radio

