



*Cortez*  
(SBE · 21CB)



**23 CHANNEL AM  
CITIZENS BAND TRANSCEIVER**

220 AIRPORT BLVD., WATSONVILLE, CA. 95076

The SBE Cortez transceiver is designed and engineered for licensed Class D operation on any of the 23 channels designated as Citizens Band frequencies by the Federal Communications Commission. You are required to read and understand Part 95 of the FCC regulations prior to operation of this unit. Copies of Part 95, covering regulations for the Citizens Band Radio Service are available from the Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402.

You must also obtain a license and call sign before operating your Cortez. If you do not have a Class D station license, request an application for a Class D station license for the Citizens Radio Service (FCC form 505) obtainable from any FCC Field Office.

**WARNING:** Transmitter section adjustments must be performed by a qualified technician holding a valid first or second class FCC radio-telephone license.

## 1.0 GENERAL DESCRIPTION AND SPECIFICATIONS

The SBE Cortez is a fully solid state 23 channel Citizen Band radio intended for use as a Class D Station in the Citizen Radio Service. The Cortez features include built-in public address, power/signal strength meter, switchable noise blanker and illuminated channel selector. The equipment comes complete with a hand held dynamic microphone, mobile mounting bracket, power cable and crystals installed for all 23 channels.

### 1.1 General

Channels:	23
Frequency Range:	26.965 to 27.255 MHz
Frequency Control:	Synthesizer
Frequency Tolerance:	+ .003%
Operating Temperature Range:	-20°C to +50°C
Humidity:	95%
Input Voltage:	11.7V DC to 15.9V DC, positive or negative ground.
Microphone:	Dynamic
Size:	2-1/8"H, 5-7/8"W, 8-3/4"D
Weight:	4 pounds

### 1.2 Transmitter

Power Input:	5 watts
Modulation:	95 - 100%
Modulator Response:	300-2500 Hz
Output Impedance:	50 ohms, unbalanced
Output Indicator:	Back lit front panel meter

### 1.3 Receiver

Sensitivity:	less than 1 microvolt for 10db S+N/N ratio.
Selectivity:	-6db @ +6 KHz, -60db @ +20 KHz
I. F. Frequencies:	10 MHz, 455 KHz
Automatic Gain Control:	less than 8db change in audio output for signal inputs from 10-100,000 microvolts.
Squelch Threshold:	1 microvolt

Audio Output Power:  
Frequency Response:

2 watts @ 10% distortion @ 1 KHz  
300-2500 Hz

1.4 Miscellaneous

Power Consumption:

@ 13.8V DC  
Receive (squellch) 400ma  
Receive (2 watts audio) 1.0 amps  
Transmit (100% modulation) 1.7 amps

## 2.0 INSTALLATION

### 2.1 Antennas

One of the important keys to achieving optimum communications system performance is the installation of a good antenna system. Only a properly matched antenna system will allow maximum power transfer from the 52 ohm transmission line to the radiating element.

The recommended method of antenna tuning is to use an in-line wattmeter or VSWR bridge to adjust the antenna for minimum reflected power on channel 11.

### 2.2 Mobile

The Cortez is supplied with a universal mounting bracket and microphone holder. The transceiver may be mounted in any plane and on any rigid surface, such as, underneath an automobile dashboard, truck roof or vertically on a boat bulkhead.

DC power should be derived directly from the vehicle's battery in order to minimize voltage loss and ignition interference. The unit is designed for a 12 volt positive or negative ground system. Connect the red wire to the positive (+) battery terminal, black wire to the negative (-). If the transceiver's power lead must be lengthened, use #14 (or larger) wire.

#### 2.2.1 Mobile Antenna

The antenna type best suited for mobile applications is either a base/center loaded or full length quarter wave vertical whip. This type of antenna is non-directional thus assuring minimum signal variation as the vehicle changes direction. If directional capabilities are desired in a mobile installation, it is recommended that only a properly matched pair of antennas and phasing harness be used. A phasing control that allows the operator to shift antenna phase may also be used providing no reactive component is reflected to the transmission line. An in-line wattmeter or VSWR bridge may be used to check this characteristic since a reactive component will appear as an increase in the standing wave ratio. A standard antenna connector (type SO-239) is located on the rear panel for convenient connection to a PL-259 cable plug. Type RG-8/U or RG-58/U cable is recommended for transmission line.

## 3.0 OPERATION

### 3.1 Control Functions

#### 3.1.1 Off/On Volume

Turn clockwise to apply power to the unit and to set the desired listening level.

#### 3.1.2 Squelch

Blanks out unwanted noise when no signals are present. Turn fully counterclockwise then slowly clockwise until the receiver noise disappears. Any signal to be received must now be slightly stronger than the average received noise. Further clockwise rotation will increase the threshold level which a signal must overcome in order to be heard. Only strong signals will be heard at a maximum clockwise setting.

#### 3.1.3 NL Switch

Normally left in the OFF position. Turn to ON when high atmospheric noise level is present.

#### 3.1.4 Channel

Selects the desired channel for transmission and reception. Channels 10 thru 15 and 23 may be used for communications between stations operating under different licenses and between units sharing the same licenses. All other channels, except channel 9, may be used only between units operating under the same license. Channel 9 has been reserved by the FCC for emergency communications or immediate protection of property. Channel 9 may also be used to render assistance to a motorist; it is commonly called the HELP channel.

#### 3.1.5 PA-CB Switch

Selects the mode of operation. The PA function should not be used unless an external speaker is connected as described in the Installation Section of this manual. In the CB position, the PA function is disabled and the unit will transmit and receive on the selected channel.

### 3.1.6 Press-To-Talk Microphone

The receiver and transmitter are controlled by the press-to-talk switch on the microphone. Press the switch and the transmitter is activated; release the switch to receive. When transmitting, hold the microphone two inches from the mouth and speak clearly in a normal voice.

### 3.1.7 Meter

Indicates received signal strength and relative transmitter output power.

## 3.2 Operating Procedure

### 3.2.1 Operating Procedure to Receive

1. Place CB-PA switch in CB position.
2. Turn the Off/On - Volume control clockwise.
3. Select the desired operating channel.
4. Place noise limiter switch in the "NL" position if high atmospheric or ignition noise levels are present.
5. Rotate the squelch control clockwise slightly beyond the point where noise disappears.

### 3.2.2 To Transmit

1. Select the desired channel.
2. If the channel is clear, depress the push-to-talk switch on the microphone and speak in a normal voice. The output meter will indicate output power.
3. Release the push-to-talk switch to receive.

#### 4.0 SERVICE MAINTENANCE

Should your Cortez fail to perform as stated in this manual, it is recommended that SBE be contacted in writing. 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.

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

## 5.0 PARTS ORDERING INFORMATION

When ordering replacement parts, you should direct your order to an SBE distributor or SBE, Replacement Parts Department, 220 Airport Boulevard, Watsonville, California 95076. Please furnish the following information:

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

Unless specified, SBE will determine the best method of shipment for the parts involved.

## SBE-21CB CORTEZ PARTS LIST

<u>Symbol</u>	<u>Part Number</u>	<u>Description</u>
C1	8000-00011-011	Cap., Fixed, 300pfd, +10%, 50V, Mica
C2	8000-00004-024	Cap., Fixed, 30pfd, +10%, 50V, Mica
C3	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C4	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C5	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C6	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C7	8000-00012-011	Cap., Fixed, 30pfd, N330, 50V, Cer.
C8	8000-00004-016	Cap., Fixed, 20pfd, +10%, 50V, Mica
C9	8000-00004-021	Cap., Fixed, 47pfd, +10%, 50V, Mica
C10	8000-00004-020	Cap., Fixed, 100pfd, +10%, 50V, Mica
C11	8000-00030-006	Cap., Fixed, 20pfd, N750, 50V, Cer.
C12	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C13	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C14	8000-00012-002	Cap., Fixed, 1.5pfd, +0.5pfd, 50V, Mica
C15	8000-00011-009	Cap., Fixed, 56pfd, +10%, 50V, Mica
C16	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C17	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C18	8000-00004-003	Cap., Fixed, 0.04mfd, +10%, 50V, Mylar
C19	8000-00012-002	Cap., Fixed, 1.5pfd, +0.5pfd, 50V, Mica
C20	8000-00004-007	Cap., Fixed, 10pfd, +10%, 50V, Mica
C21	8000-00004-003	Cap., Fixed, 0.04mfd, +10%, 50V, Mylar
C22	8000-00004-018	Cap., Fixed, 0.1mfd, 10%, 50V, Mylar
C23	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C24	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C25	8000-00004-044	Cap., Fixed, 220mfd, 16V, Elect.
C26	8000-00004-011	Cap., Fixed, 0.001mfd, 20%, 50V, Cer.
C27	Not Used	
C28	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C29	8000-00004-042	Cap., Fixed, 1mfd, 16V, Elect.
C30	8000-00004-011	Cap., Fixed, 0.0001mfd, 20%, 50V, Cer.
C31	8000-00004-018	Cap., Fixed, 0.1mfd, 10%, 50V, Mica
C32	8000-00030-005	Cap., Fixed, 0.01mfd, +10%, 50V, Mylar
C33	8000-00004-042	Cap., Fixed, 1mfd, 16V, Elect.
C34	8000-00004-030	Cap., Fixed, 4.7mfd, 16V, Elect.
C35	8000-00004-018	Cap., Fixed, 0.1mfd, 10%, 50V, Mylar
C36	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C37	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C38	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.

## SBE-21CB Cortez Parts List Cont.

<u>Symbol</u>	<u>Part Number</u>	<u>Description</u>
C39	8000-00004-042	Cap., Fixed, 1mfd, 16V, Elect.
C40	8000-00004-011	Cap., Fixed, 0.001mfd, 20%, 50V, Cer.
C41	8000-00004-042	Cap., Fixed, 1mfd, 16V, Elect.
C42	8000-00004-047	Cap., Fixed, 10mfd, 16V, Elect.
C43	8000-00030-004	Cap., Fixed, 50pfd, +10%, 50V, Mica
C44	8000-00004-020	Cap., Fixed, 100pfd, +10%, 50V, Mica
C45	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C46	8000-00030-004	Cap., Fixed, 50pfd, +10%, 50V, Mica
C47	8000-00004-027	Cap., Fixed, 220pfd, +10%, 50V, Mica
C48	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C49	8000-00004-020	Cap., Fixed, 100pfd, +10%, 50V, Mica
C50	8000-00004-027	Cap., Fixed, 220pfd, +10%, 50V, Mica
C51	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C52	8000-00011-008	Cap., Fixed, 5pfd, +10%, 50V, Mica
C53	8000-00004-007	Cap., Fixed, 10pfd, +10%, 50V, Mica
C54	8000-00011-008	Cap., Fixed, 5pfd, +10%, 50V, Mica
C55	8000-00011-012	Cap., Fixed, 1pfd, 10%, 500V, Gimic
C56	8000-00012-010	Cap., Fixed, 25pfd, N150, 50V, Cer.
C57	8000-00004-011	Cap., Fixed, 0.001mfd, 20%, 50V, Cer.
C58	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C59	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C60	8000-00012-010	Cap., Fixed, 25pfd, N150, 50V, Cer.
C61	8000-00004-011	Cap., Fixed, 0.001mfd, 20%, 50V, Cer.
C62	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C63	8000-00004-020	Cap., Fixed, 100pfd, +10%, 50V, Mica
C64	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C65	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C66	8000-00004-002	Cap., Fixed, 15pfd, +10%, 50V, Mica
C67	8000-00004-020	Cap., Fixed, 100pfd, +10%, 50V, Mica
C68	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C69	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C70	8000-00004-011	Cap., Fixed, 0.001mfd, 20%, 50V, Cer.
C71	8000-00004-027	Cap., Fixed, 220pfd, +10%, 50V, Mica
C72	8000-00011-010	Cap., Fixed, 170pfd, +10%, 50V, Mica
C73	8000-00004-011	Cap., Fixed, 0.001mfd, 20%, 50V, Cer.
C74	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C75	8000-00011-008	Cap., Fixed, 5pfd, +10%, 50V, Mica
C76	8000-00004-011	Cap., Fixed, 0.001mfd, 20%, 50V, Cer.
C77	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.

## SBE-21CB Cortez Parts List Cont.

<u>Symbol</u>	<u>Part Number</u>	<u>Description</u>
C78	8000-00004-009	Cap., Fixed, 47mfd, 16V, Elect.
C79	8000-00004-009	Cap., Fixed, 47mfd, 16V, Elect.
C80	8000-00004-042	Cap., Fixed, 1mfd, 16V, Elect.
C81	8000-00004-009	Cap., Fixed, 47mfd, 16V, Elect.
C82	8000-00004-003	Cap., Fixed, 0.04mfd, +10%, 50V, Mylar
C83	8000-00004-044	Cap., Fixed, 220mfd, 16V, Elect.
C84	Not Used	
C85	Not Used	
C86	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C87	8000-00004-042	Cap., Fixed, 1mfd, 16V, Elect.
C88	8000-00004-049	Cap., Fixed, 1000mfd, 16V, Elect.
C89	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C90	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C91	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C92	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C93	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C94	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C95	8000-00004-001	Cap., Fixed, 0.01mfd, 20%, 50V, Cer.
C96	8000-00004-011	Cap., Fixed, 0.001mfd, 20%, 50V, Cer.
C97	8000-00004-048	Cap., Fixed, 1000pfd, Feed Through
CV-1	8000-00004-204	Cap., Var., 10pfd, Max., Trimmer
D1	8000-00006-008	Diode, WG1012
D2	8000-00011-046	Diode, 1S1007
D3	8000-00011-046	Diode, 1S1007
D4	8000-00011-042	Diode, 1S2472
D5	8000-00004-060	Diode, 1N34A
D6	8000-00004-060	Diode, 1N34A
D7	8000-00004-060	Diode, 1N34A
D8	8000-00004-064	Diode, 1S84
D9	8000-00006-008	Diode, WG1012
D10	8000-00006-008	Diode, WG1012
D11	8000-00004-060	Diode, 1N34A
D12	8000-00004-060	Diode, 1N34A
D13	8000-00006-008	Diode, WG1012
D14	8000-00004-060	Diode, 1N34A
D15	8000-00011-045	Diode, 1S1211
D16	8000-00011-042	Diode, 1S2472
D17	8000-00030-010	Diode, 1N4002

## SBE-21CB Cortez Parts List Cont.

<u>Symbol</u>	<u>Part Number</u>	<u>Description</u>
D18	8000-00004-060	Diode, 1N34A
D19	8000-00030-010	Diode, 1N4002
D20	8000-00011-043	Diode, BZ090, Zener
F1	8000-00004-152	Fuse, 2A
FH	8000-00004-151	In-line Fuse Holder,
FL-1	8000-00004-138	Filter, LF-B6, Ceramic
J1	8000-00004-070	Microphone Connector
J2	8000-00030-021	Jack, Ext. Speaker
J3	8000-00030-021	Jack, PA
J4	8000-00004-069	Coaxial Connector, SO-239
L1	8000-00030-015	Coil, HF, Z164A
L2	8000-00030-014	Coil, HF, 507SB1
L3	8000-00012-022	Coil, HF, 507SC1
L4	8000-00011-019	Choke Coil, 22uh
L5	8000-00030-011	Choke Coil, 2.5uh
L6	8000-00030-017	Coil, HF, S-18
L7	8000-00004-055	Choke Coil, 0.65uh
L8	8000-00030-017	Coil, HF, S-18
L9	8000-00030-017	Coil, HF, S-18
L10	8000-00004-059	Choke Coil, 0.85uh
L11	8000-00030-012	Choke Coil, K-10
M1	8000-00030-029	Meter
PL-1	8000-00004-142	Lamp, 16V, 40ma
PL-2	8000-00004-142	Lamp, 16V, 40ma
PL-3	8000-00011-056	Lamp, 14V, 75ma
Q1	8000-00011-004	Transistor, 2SC710B
Q2	8000-00004-081	Transistor, 2SK19Y
Q3	8000-00011-047	Transistor, 2SC710C

## SBE-21CB Cortez Parts List Cont.

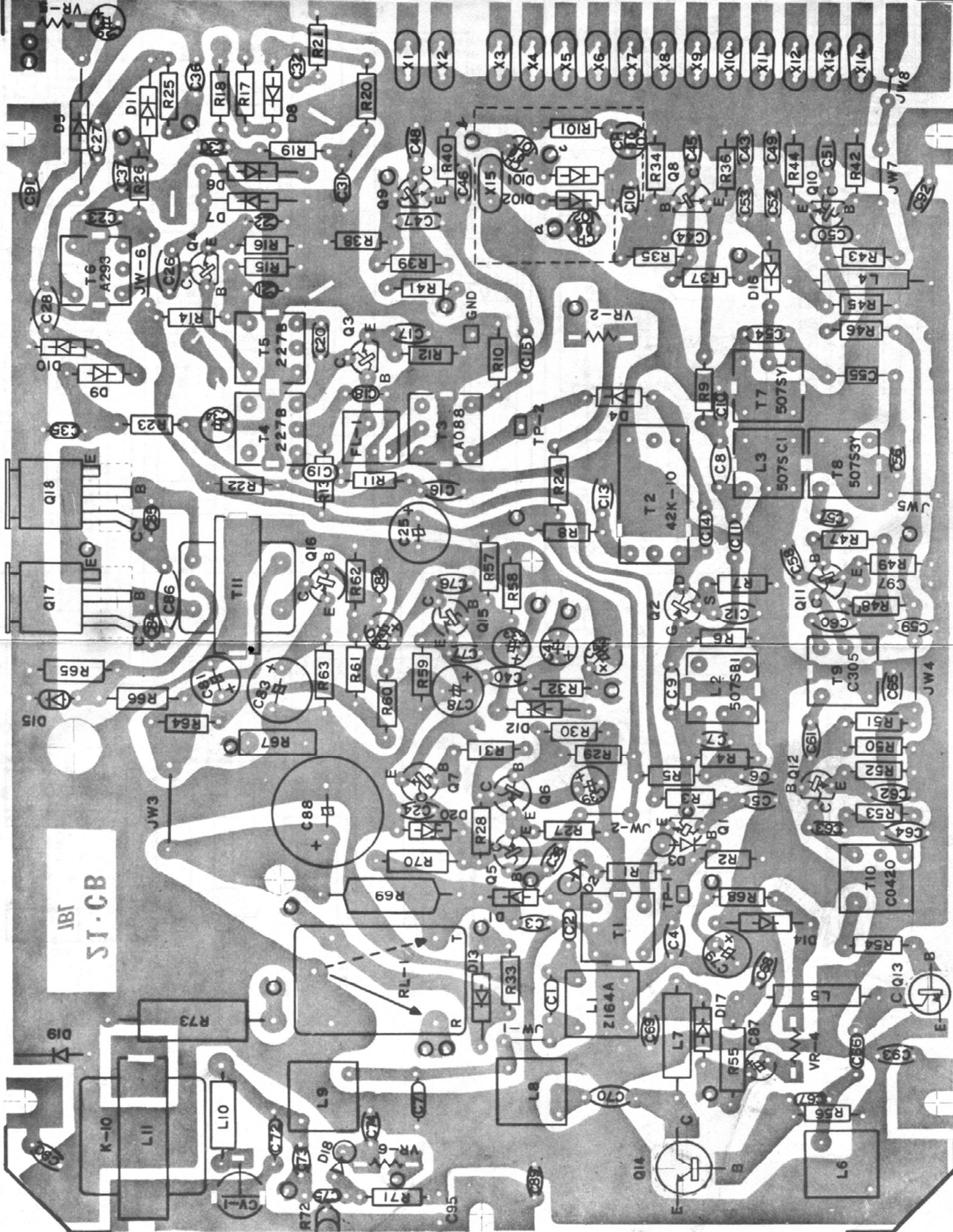
<u>Symbol</u>	<u>Part Number</u>	<u>Description</u>
Q4	8000-00011-047	Transistor, 2SC710C
Q5	8000-00030-007	Transistor, 2SC403C
Q6	8000-00030-007	Transistor, 2SC403C
Q7	8000-00030-007	Transistor, 2SC403C
Q8	8000-00011-047	Transistor, 2SC710C
Q9	8000-00011-047	Transistor, 2SC710C
Q10	8000-00011-047	Transistor, 2SC710C
Q11	8000-00011-047	Transistor, 2SC710C
Q12	8000-00011-047	Transistor, 2SC710C
Q13	8000-00030-008	Transistor, 2SC1475
Q14	8000-00006-230	Transistor, 2SC756
Q15	8000-00030-009	Transistor, 2SD187
Q16	8000-00030-007	Transistor, 2SC403C
Q17	8000-00004-087	Transistor, 2SC1014
Q18	8000-00004-087	Transistor, 2SC1014
R67	8000-00004-091	Res., Fixed, 1 ohm, 10%, 1W, Oxide Film
RL-1	8000-00030-022	Relay
S2	8000-00030-020	Rotary Switch 24T
S3	8000-00030-037	Slide Switch 2P2T
S4	8000-00030-036	Slide Switch 1P2T
SP-1	8000-00011-057	Speaker, 8 ohm, 3W
T1	8000-00030-013	Coil, HF, C234D
T2	8000-00012-032	Transformer IF, 42K-10
T3	8000-00030-018	Transformer IF, A088
T4	8000-00012-034	Transformer IF, EIA 227B
T5	8000-00012-034	Transformer IF, EIA 227B
T6	8000-00012-035	Transformer IF, EIA 146D
T7	8000-00012-023	Coil, HF, 507SY1
T8	8000-00012-024	Coil, HF, 507S3Y
T9	8000-00030-045	Coil, HF, 507SZ
T10	8000-00030-016	Coil, HF, C042D
T11	8000-00030-019	Transformer, Input, A31
T12	8000-00012-037	Transformer, Output, E03

## SBE-21CB Cortez Parts List Cont.

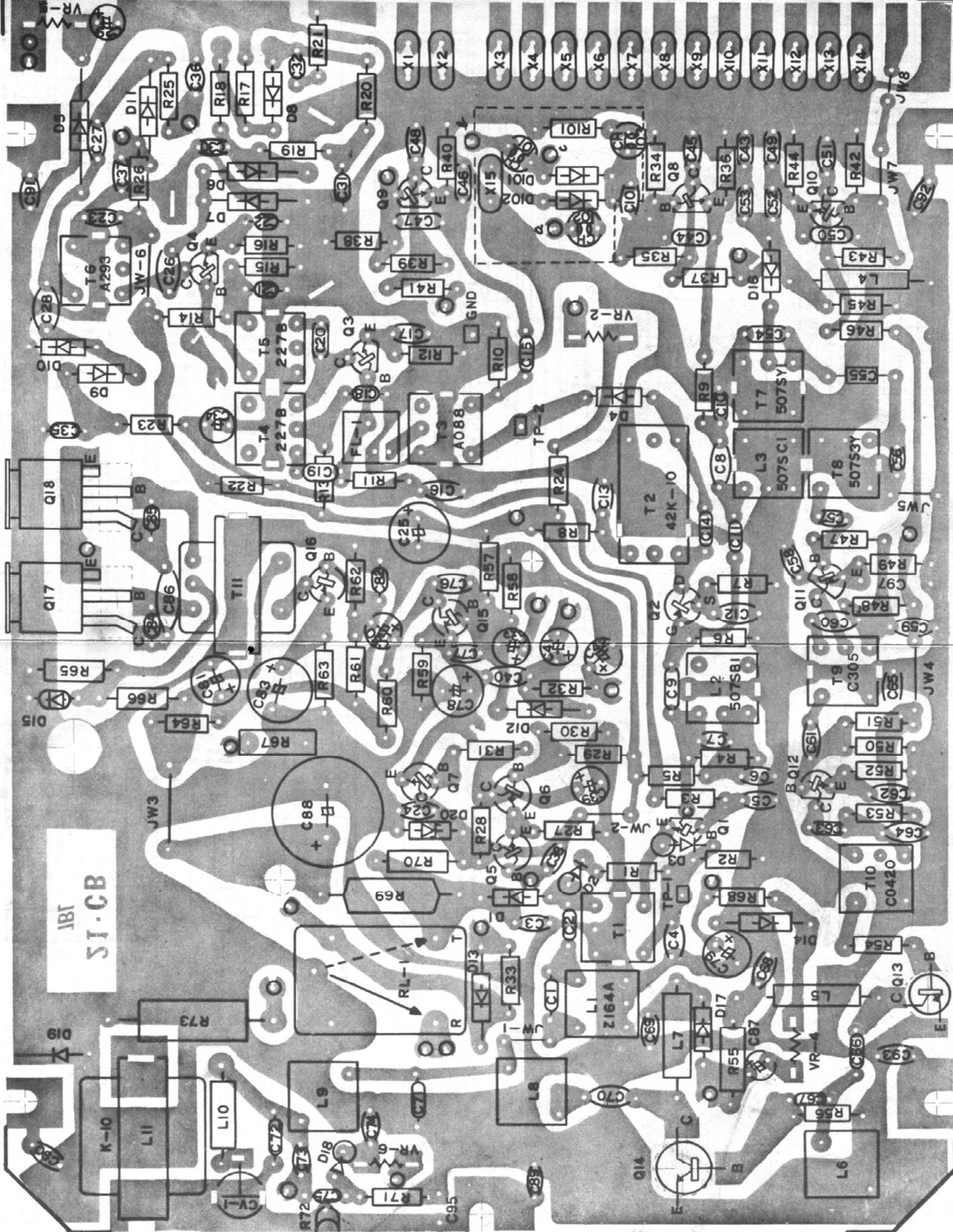
<u>Symbol</u>	<u>Part Number</u>	<u>Description</u>
VR-1	8000-00030-002	Res., Var., 10K ohm, B type, Trimmer
VR-2	8000-00030-001	Res., Var., 50K ohm, 2T, Trimmer
VR-3	8000-00030-003	Res., Var., 50K ohm, D type w/switch Trimmer
VR-4	8000-00011-082	Res., Var., 1K ohm, 2T Trimmer
VR-5	8000-00004-097	Res., Var., 10K ohm, 2T, Trimmer
VR-6	8000-00004-094	Res., Var., 100K ohm, 2T, Trimmer
X1	8000-00012-043	Crystal, 9.545 MHz, HC25/U
X2	8000-00012-044	Crystal, 9.555 MHz, HC25/U
X3	8000-00012-045	Crystal, 9.565 MHz, HC25/U
X4	8000-00012-046	Crystal, 9.585 MHz, HC25/U
X5	8000-00012-047	Crystal, 16.965 MHz, HC25/U
X6	8000-00012-048	Crystal, 17.015 MHz, HC25/U
X7	8000-00012-049	Crystal, 17.065 MHz, HC25/U
X8	8000-00012-050	Crystal, 17.115 MHz, HC25/U
X9	8000-00012-051	Crystal, 17.165 MHz, HC25/U
X10	8000-00012-052	Crystal, 17.215 MHz, HC25/U
X11	8000-00012-053	Crystal, 10.000 MHz, HC25/U
X12	8000-00012-054	Crystal, 10.010 MHz, HC25/U
X13	8000-00012-055	Crystal, 10.020 MHz, HC25/U
X14	8000-00012-056	Crystal, 10.040 MHz, HC25/U
	8000-00030-023	Feed-through Capacitor Bracket
	8000-00030-024	Front Die Cast
	8000-00030-025	Front Plate
	8000-00030-026	Volume Knob
	8000-00030-027	Squelch Knob
	8000-00030-028	Channel Selector
	8000-00030-030	Heat Sink for 2SC756
	8000-00030-031	Cable Clamp
	8000-00030-032	Meter Mounting Plate
	8000-00030-033	Sponge Rubber
	8000-00030-034	Rubber Sheet for Meter
	8000-00030-035	Rubber Lamp Bracket

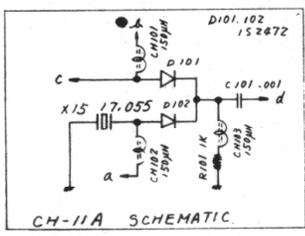
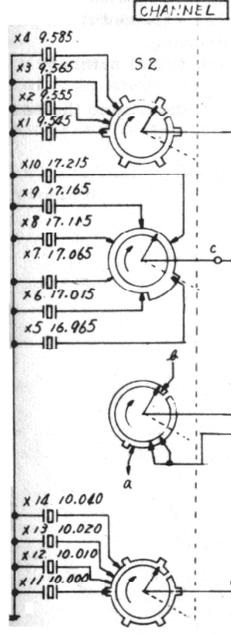
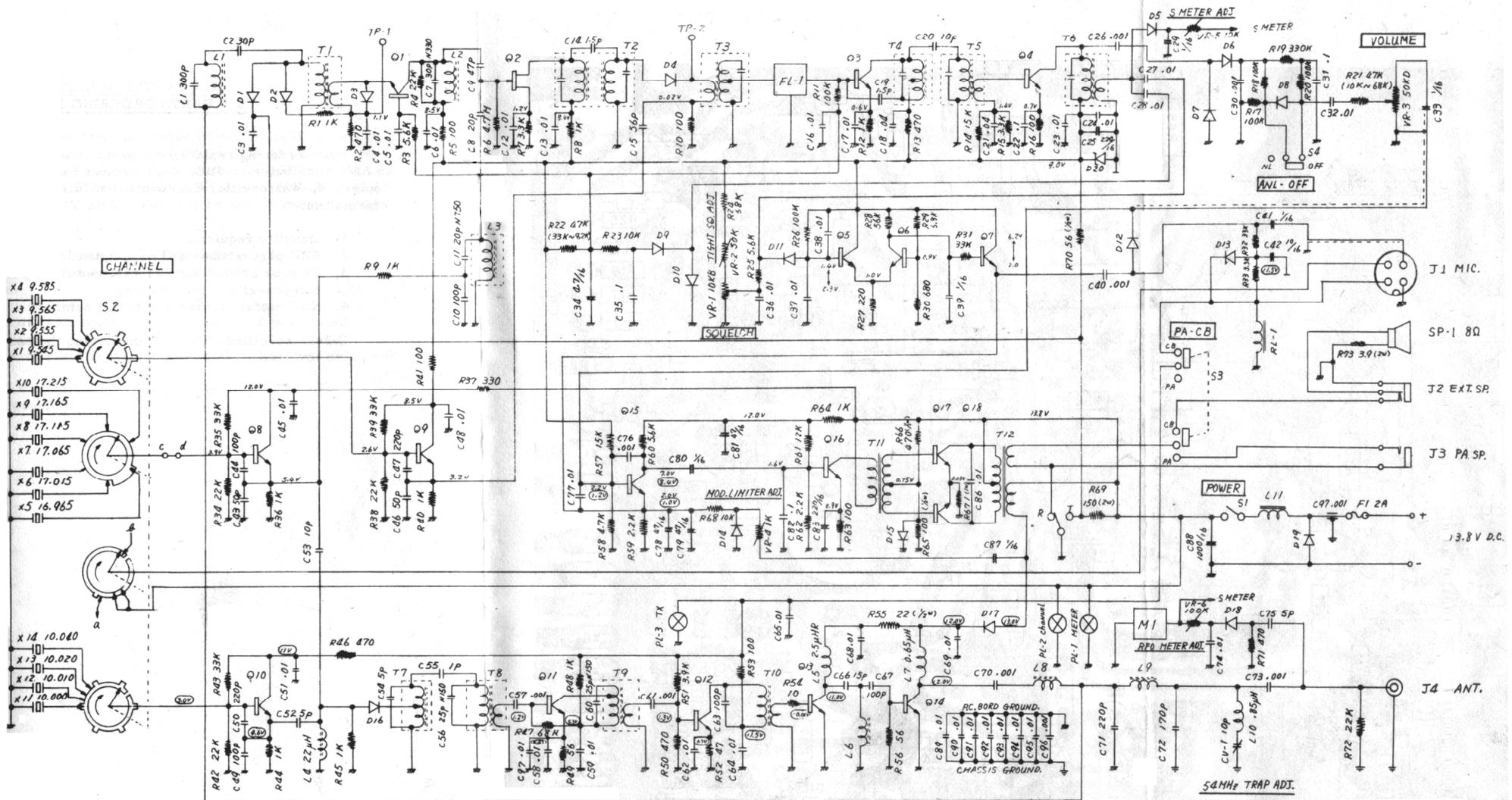
SBE-21CB Cortez Parts List Cont.

<u>Symbol</u>	<u>Part Number</u>	<u>Description</u>
	8000-00030-038	Speaker Mounting Bracket
	8000-00004-159	Lamp Assembly, Red
	8000-00030-039	Cabinet
	8000-00030-040	Mounting Bracket
	8000-00030-041	Felt Speaker Insulator
	8000-00004-153	Microphone Complete
	8000-00030-042	F. C. C. Name Plate
	8000-00030-043	Display Box
	8000-00030-044	Styrofoam Box
	8000-00004-164	Microphone Connector, female



IBT  
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SEMICONDUCTORS

Q1	ZSC710B	Q9	ZSC710C	Q7	ZSC1018	D1	WG1012	D9	WG1012	D7	IN4002
Q2	ZSK18Y	Q10	ZSC710C	Q18	ZSC1014	D2	1S1007	D10	WG1012	D18	IN34A
Q3	ZSC710C	Q11	ZSC710C			D3	1S1007	D11	IN34A	D19	IN4002
Q4	ZSC710C	Q12	ZSC710C			D4	1S2472	D12	IN34A	D20	BZ090
Q5	ZSC403C	Q13	ZSC1425			D5	IN34A	D13	WG1012		
Q6	ZSC403C	Q14	ZSC756			D6	IN34A	D14	IN34A		
Q7	ZSC403C	Q15	ZSD187			D7	IN34A	D15	1S1211		
Q8	ZSC710C	Q16	ZSC403C			D8	1S84	D16	1S2472		

1. Voltage values shown are measured with voltmeter (20KΩ/V) through 150μH CO-1.
2. Voltage values with  $\square$  are values during transmitting, without  $\square$  are values during receive.
3. All Resistors and Capacitors are rated in Ω and μF, unless otherwise specified.

## Notes

## WARRANTY

Linear Systems, Inc., warrants equipment manufactured by it to be free from defects in material or workmanship and agrees to repair such equipment which under normal use and service, develops defects arising from the fault of the manufacturer. Equipment must be returned, transportation prepaid, within 90 days from the date of original purchase, and unless the warranty card has been filled in and returned within 10 days of original purchase, the 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 warranty or liability expressed, implied, or statutory and in no event shall Linear Systems, Inc., be liable for special or consequential damages. Linear Systems, Inc., neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with this equipment.

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