

FIG. 6-1 ALIGNMENT LAYOUT

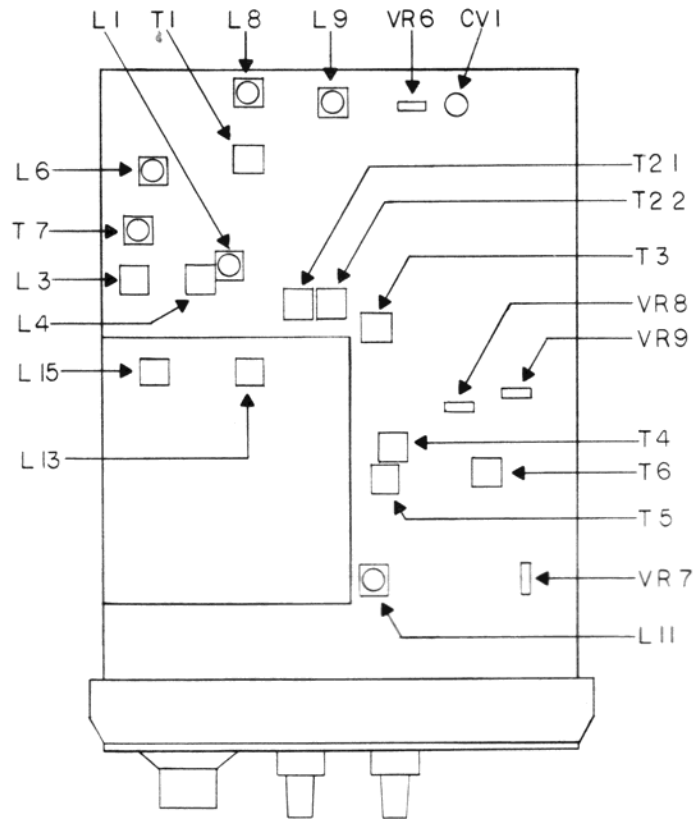
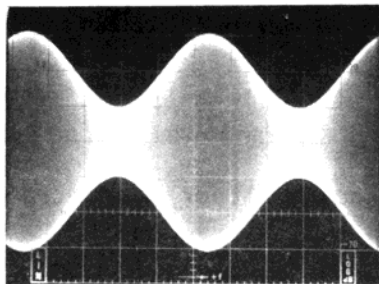
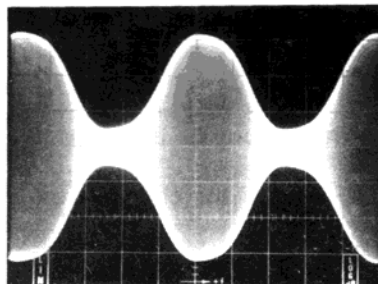


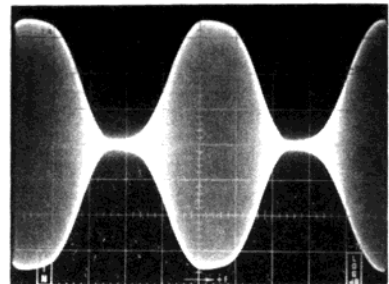
FIG. 6.2-2 TRANSMITTER ALIGNMENT WAVEFORMS



50% MODULATION



**80% POSITIVE AND
NEGATIVE MODULATION
(SLIGHT DISTORTION ON
PEAKS, AS IN STEP 2)**



**80% POSITIVE, 90%
NEGATIVE MODULATION**

TRANSMITTER ALIGNMENT PROCEDURE

INITIAL SET-UP

Connect the test equipment to the unit as shown in figure 6.2-1. Set the delta tune control to the center position. Set the CB/PA switch in the CB position. Set the channel selector to channel 13.

STEP 1

With no modulation, key the transmitter and adjust coils and transformers L3, L4, T7, L6, L8, L9 and L13 for maximum power output.

STEP 2

With the transmitter keyed, observe the output envelope on the oscilloscope. Turn on the audio oscillator and set its output frequency to 1 KHz. Increase oscillator output while observing the modulation envelope on the oscilloscope. Set the audio oscillator output to a level that results in slight distortion of the positive peaks of the modulation, (see figure 6.2-2).

STEP 3

Adjust L6 counterclockwise until approximately 90-95% negative modulation is seen on the oscilloscope wave-form, (see figure 6.2-2).

MODULATION LIMITER

Switch the modulation test box to the 16db attenuation position and adjust the output of the audio oscillator for 50% modulation, (see figure 6.2-2). Switch the modulation test box to the zero attenuation position and adjust VR9 for 100% negative modulation.

R.F.O. METER

The R.F.O. meter indication is relative. It should be adjusted to approximately 2/3 scale with VR6.

OUTPUT FREQUENCY

Connect the frequency counter to the output of the transceiver. Key the transmitter with no modulation and note the frequency.

If the frequency is more than 500 Hz from the channel frequency, adjust L11 for the correct channel frequency.

SECOND HARMONIC TRAP

This trap is adjusted at the Factory. Its intent is to reduce the second harmonic of the transmitted signal.

CAUTION: Do not tamper with this adjustment unless there is some question of T.V. interference, if so, proceed as follows.

Turn on a nearby T.V. set and set it to channel 2. Key the transmitter and adjust CV1 for minimum interference on the television receiver.

SECTION 7
SBE - 26 CB FORMULA D PARTS LIST

<u>SYMBOL NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C101	8000-00004-016	Capacitor, 20 pfd, Mica
C102	8000-00004-007	Capacitor, 10pfd, Mica
C103	8000-00004-001	Capacitor, 0.01mfd, Cer.
C104	8000-00004-001	Capacitor, 0.01mfd, Cer.
C105	8000-00004-001	Capacitor, 0.01mfd, Cer.
C106	8000-00004-001	Capacitor, 0.01mfd, Cer.
C107	8000-00012-011	Capacitor, 30pfd, N330, Cer.
C108	8000-00004-001	Capacitor, 0.01mfd, Cer.
C109	8000-00004-021	Capacitor, 47pfd, Mica
C110	8000-00011-008	Capacitor, 10pfd, Mica
C111	8000-00004-001	Capacitor, 0.01mfd, Cer.
C112	8000-00004-001	Capacitor, 0.01mfd, Cer.
C113	8000-00011-012	Capacitor, 1pfd, Mica
C114	8000-00004-003	Capacitor, 0.04mfd, Mylar
C115	8000-00004-041	Capacitor, 150pfd, Mica
C116	8000-00011-012	Capacitor, 1pfd, Mica
C117	8000-00004-003	Capacitor, 0.04mfd, Mylar
C118	8000-00004-003	Capacitor, 0.04mfd, Mylar
C119	8000-00004-007	Capacitor, 10pfd, Mica
C120	8000-00038-015	Capacitor, 4.7mfd, 25V, Elect.
C121	8000-00004-018	Capacitor, 0.1mfd, Mylar
C122	8000-00004-003	Capacitor, 0.04mfd, Mylar
C123	8000-00004-044	Capacitor, 220mfd, 16V, Elect.
C124	8000-00004-001	Capacitor, 0.01mfd, Cer.
C125	8000-00004-003	Capacitor, 0.04mfd, Mylar
C126	8000-00038-015	Capacitor, 4.7mfd, 25V, Elect.
C127	8000-00004-018	Capacitor, 0.1mfd, Mylar
C128	8000-00004-011	Capacitor, 0.001mfd, Cer.
C129	8000-00004-011	Capacitor, 0.001mfd, Cer.
C130	8000-00004-011	Capacitor, 0.001mfd, Cer.
C131	8000-00004-203	Capacitor, 0.02mfd, Mylar
C132	8000-00004-045	Capacitor, 0.22mfd, Elect.
C201	8000-00006-072	Capacitor, 0.047mfd, Mylar
C202	8000-00006-072	Capacitor, 0.047mfd, Mylar
C203	8000-00038-015	Capacitor, 4.7mfd, 25V, Elect.
C204	8000-00004-011	Capacitor, 0.001mfd, Cer.
C205	8000-00004-001	Capacitor, 0.01mfd, Cer.
C206	8000-00004-009	Capacitor, 47mfd, 16V, Elect.
C207	8000-00024-087	Capacitor, 1mfd, 50V, Elect.
C208	8000-00004-018	Capacitor, 0.1mfd, Mylar
C209	8000-00004-044	Capacitor, 220mfd, 16V, Elect.
C210	8000-00011-007	Capacitor, 0.005mfd, Mylar
C211	8000-00011-007	Capacitor, 0.005mfd, Mylar
C212	8000-00004-001	Capacitor, 0.01mfd, Cer.
C213	8000-00024-087	Capacitor, 1mfd, 50V, Elect.
C214	8000-00004-009	Capacitor, 47mfd, 16V, Elect.

<u>SYMBOL NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C215	8000-00004-001	Capacitor, 0.01mfd, Cer.
C216	8000-00004-001	Capacitor, 0.01mfd, Cer.
C217	8000-00004-045	Capacitor, 0.22mfd, Elect.
C218	8000-00004-047	Capacitor, 10mfd, 16V, Elect.
C219	8000-00004-001	Capacitor, 0.01mfd, Cer.
C220	8000-00004-001	Capacitor, 0.01mfd, Cer.
C301	8000-00004-011	Capacitor, 0.001mfd, Cer.
C302	8000-00004-001	Capacitor, 0.01mfd, Cer.
C303	8000-00024-087	Capacitor, 1mfd, 50V, Elect.
C304	8000-00024-087	Capacitor, 1mfd, 50V, Elect.
C305	8000-00004-047	Capacitor, 10mfd, 16V, Elect.
C401	8000-00004-002	Capacitor, 15pfd, Mica
C402	8000-00004-021	Capacitor, 47pfd, Mica
C403	8000-00004-283	Capacitor, 78pfd, Mica
C404	8000-00004-001	Capacitor, 0.01mfd, Cer.
C405	8000-00004-001	Capacitor, 0.01mfd, Cer.
C406	8000-00004-024	Capacitor, 30pfd, Mica
C407	8000-00004-017	Capacitor, 500pfd, Mica
C408	8000-00004-026	Capacitor, 40pfd, Mica
C409	8000-00004-001	Capacitor, 0.01mfd, Cer.
C410	8000-00004-001	Capacitor, 0.01mfd, Cer.
C411	8000-00038-012	Capacitor, 130pfd, Mica
C412	Not Used	
C413	8000-00004-001	Capacitor, 0.01mfd, Cer.
C414	8000-00004-006	Capacitor, 24pfd, Mica
C415	8000-00004-020	Capacitor, 100pfd, Mica
C416	8000-00004-001	Capacitor, 0.01mfd, Cer.
C417	8000-00004-021	Capacitor, 47pfd, Mica
C418	8000-00004-001	Capacitor, 0.01mfd, Cer.
C419	8000-00004-027	Capacitor, 220pfd, Mica
C420	8000-00038-013	Capacitor, 160pfd, Mica
C421	8000-00011-012	Capacitor, 1pfd, Mica
C501	8000-00004-203	Capacitor, 0.02mfd, Mylar
C502	8000-00004-011	Capacitor, 0.001mfd, Cer.
C503	8000-00004-001	Capacitor, 0.01mfd, Cer.
C504	8000-00006-072	Capacitor, 0.047mfd, Mylar
C505	8000-00004-045	Capacitor, 0.22mfd, Elect.
C506	8000-00004-203	Capacitor, 0.02mfd, Mylar
C507	8000-00004-042	Capacitor, 1.0mfd, Elect.
C508	8000-00004-001	Capacitor, 0.01mfd, Cer.
C509	8000-00030-006	Capacitor, 20pfd, N750, Cer.
C510	8000-00004-020	Capacitor, 100pfd, Mica
C511	8000-00038-014	Capacitor, 47pfd, N470, Cer.
C512	8000-00011-008	Capacitor, 5pfd, Mica
C513	8000-00004-001	Capacitor, 0.01mfd, Cer.
C514	8000-00011-008	Capacitor, 5pfd, Mica
C515	8000-00004-020	Capacitor, 100pfd, Mica
C516	8000-00004-001	Capacitor, 0.01mfd, Cer.
C517	8000-00004-001	Capacitor, 0.01mfd, Cer.
C518	8000-00004-001	Capacitor, 0.01mfd, Cer.
C519	8000-00004-001	Capacitor, 0.01mfd, Cer.
C520	8000-00004-001	Capacitor, 0.01mfd, Cer.
C521	8000-00004-021	Capacitor, 47pfd, Mica
C522	8000-00004-001	Capacitor, 0.01mfd, Cer.

<u>SYMBOL NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
C523	8000-00004-001	Capacitor, 0.01mfd, Cer.
C524	8000-00004-003	Capacitor, 0.04mfd, Mylar
C525	8000-00004-003	Capacitor, 0.04mfd, Mylar
C526	8000-00004-024	Capacitor, 30pfd, Mica
C527	8000-00032-003	Capacitor, 470mfd, 16V, Elect.
C528	8000-00004-046	Capacitor, 100mfd, 16V, Elect.
C529	8000-00004-044	Capacitor, 220mfd, 16V, Elect.
C530	8000-00004-001	Capacitor, 0.01mfd, Cer.
C531	8000-00004-001	Capacitor, 0.01mfd, Cer.
C532	8000-00004-003	Capacitor, 0.04mfd, Mylar
C534	8000-00004-011	Capacitor, 0.001mfd, Cer.
C535	8000-00004-001	Capacitor, 0.01mfd, Cer.
C536	8000-00004-001	Capacitor, 0.01mfd, Cer.
C537	8000-00004-003	Capacitor, .04mfd, Mylar
C601	8000-00004-041	Capacitor, 150pfd, Mica
C602	8000-00006-061	Capacitor, 330pfd, Mica
C603	8000-00004-003	Capacitor, 0.04mfd, Mylar
C604	8000-00004-041	Capacitor, 150pfd, Mica
C605	8000-00004-002	Capacitor, 15pfd, Mica
C701	8000-00004-049	Capacitor, 1000mfd, 16V, Elect.
C702	8000-00004-048	Capacitor, 0.001mfd, Feed Thru
C703	8000-00004-018	Capacitor, 0.1mfd, Mylar
C704	8000-00004-003	Capacitor, 0.04mfd, Mylar
C705	Not Used	
C706	8000-00004-001	Capacitor, 0.01mfd, Cer.
C707	8000-00004-003	Capacitor, 0.04mfd, Mylar
C708	8000-00004-001	Capacitor, 0.01mfd, Cer.
C709	8000-00004-001	Capacitor, 0.01mfd, Cer.
C801	8000-00011-008	Capacitor, 5pfd, Mica
C802	8000-00024-087	Capacitor, 1mfd, 50V, Elect.
C803	8000-00024-087	Capacitor, 1mfd, 50V, Elect.
C901	8000-00004-001	Capacitor, 0.01mfd, Cer.
C902	8000-00004-018	Capacitor, 0.1mfd, Mylar
C903	8000-00011-002	Capacitor, 2.2mfd, 16V, Elect.
C904	8000-00011-002	Capacitor, 2.2mfd, 16V, Elect.
C905	8000-00004-001	Capacitor, 0.01mfd, Cer.
C906	8000-00004-001	Capacitor, 0.01mfd, Cer.
CV-1	8000-00004-204	Capacitor, Var., 10pfd, Trimmer, Cer.
D1	8000-00038-008	Diode, WG713
D2	8000-00038-008	Diode, WG713
D3	8000-00011-046	Diode, 1S1007S
D4	8000-00038-009	Diode, 1N60FM
D5	8000-00011-043	Diode, BZ090
D6	8000-00038-009	Diode, 1N60FM
D7	8000-00038-008	Diode, WG713
D8	8000-00038-009	Diode, 1N60FM
D9	8000-00038-009	Diode, 1N60FM
D10	8000-00004-064	Diode, 1S84
D11	8000-00038-009	Diode, 1N60FM
D12	8000-00038-009	Diode, 1N60FM

<u>SYMBOL NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
D13	8000-00038-008	Diode, WG713
D14	8000-00004-248	Diode, 1S352M
D15	8000-00038-009	Diode, 1N60FM
D16	8000-00038-009	Diode, 1N60FM
D17	8000-00004-060	Diode, 1N34A
D18	8000-00011-045	Diode, 1S1211
D19	8000-00030-010	Diode, 1N4002
D20	8000-00011-043	Diode, BZ090
D21	8000-00038-008	Diode, WG713
D22	8000-00030-010	Diode, 1N4002
D23	8000-00038-008	Diode, WG713
D24	8000-00038-008	Diode, WG713
D25	8000-00038-008	Diode, WG713
D26	8000-00038-010	Diode, MV201
D27	8000-00004-239	Diode, 1S331
D901	8000-00038-009	Diode, 1N60 FM
D902	8000-00038-009	Diode, 1N60 FM
FIL-1	8000-00004-139	Ceramic Filter, LFB-6, 455 KHz
IC1	8000-00038-003	Integrated Circuit, F9316PC
IC2	8000-00038-003	Integrated Circuit, F9316PC
IC3	8000-00038-003	Integrated Circuit, F9316PC
IC4	8000-00038-005	Integrated Circuit, 74H22/9H22
IC5	8000-00038-006	Integrated Circuit, 7493/9393
IC6	8000-00038-006	Integrated Circuit, 7493/9393
IC7	8000-00038-007	Integrated Circuit, F7474PC
IC8	8000-00038-004	Integrated Circuit, 7400/9N00
IC9	8000-00038-002	Integrated Circuit, MC 4044P
J1	8000-00004-069	Connector, Ant., SO-239
J2	8000-00030-021	Jack, External Speaker
J3	8000-00030-021	Jack, PA
J4	8000-00004-070	Jack, Microphone
L1	8000-00038-016	Coil, 508SB1
L2	8000-00004-054	Choke Coil, 3.3uh
L3	8000-00038-017	Coil, C354N
L4	8000-00038-017	Coil, C354N
L5	8000-00030-011	Choke Coil, RF, 2.5uh
L6	8000-00004-078	Coil, C046ZD
L7	8000-00004-055	Choke HF, 0.65uh
L8	8000-00004-077	Coil, C045ZD
L9	8000-00004-077	Coil, C045ZD
L10	8000-00004-059	Choke Coil, 0.85uh
L11	8000-00038-022	Coil, Z353ZZ
L12	8000-00004-057	Choke Coil, 150uh
L13	8000-00038-017	Coil, C354N
L14	8000-00038-023	Coil, Z355N
L15	8000-00030-012	Transformer, K-10
M1	8000-00030-029	Meter, A-36

<u>SYMBOL NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
PL1	8000-00004-142	Lamp, 16V, 40ma
PL2	8000-00004-142	Lamp, 16V, 40ma
PL3	8000-00011-056	Lamp, 14V, 75ma
Q1	8000-00011-047	Transistor, 2SC710C
Q2	8000-00011-053	Transistor, 3SK45L
Q3	8000-00011-047	Transistor, 2SC710C
Q4	8000-00011-047	Transistor, 2SC710C
Q5	8000-00011-053	Transistor, 3SK45L
Q6	8000-00011-047	Transistor, 2SC710C
Q7	8000-00006-278	Transistor, 2SC495T
Q8	8000-00038-001	Transistor, 2SC1306
Q9	8000-00011-047	Transistor, 2SC710C
Q10	8000-00030-007	Transistor, 2SC403C
Q11	8000-00030-007	Transistor, 2SC403C
Q12	8000-00030-007	Transistor, 2SC403C
Q13	8000-00030-007	Transistor, 2SC403C
Q14	8000-00030-009	Transistor, 2SD187R or Y
Q15	8000-00030-007	Transistor, 2SC403C
Q16	8000-00004-087	Transistor, 2SC1014C1
Q17	8000-00004-087	Transistor, 2SC1014C1
Q18	8000-00030-007	Transistor, 2SC403C
Q19	8000-00010-017	Transistor, 2SK30GR
Q20	8000-00011-049	Transistor, 2SC458LGD
Q21	8000-00011-047	Transistor, 2SC710C
Q22	8000-00011-047	Transistor, 2SC710C
Q23	8000-00011-047	Transistor, 2SC710C
Q24	8000-00011-047	Transistor, 2SC710C
Q25	8000-00011-047	Transistor, 2SC710C
Q26	8000-00011-050	Transistor, 2SC1061C
Q901	8000-00011-047	Transistor, 2SC710C
Q902	8000-00011-047	Transistor, 2SC710C
R214	8000-00004-091	Resistor, Fixed, 1 ohm, 1 watt, Oxide Film
RL1	8000-00030-022	Relay, HTC-12VDC
S1	8000-00038-032	Switch, Slide, D.P.D.T.
S2	8000-00038-032	Switch, Slide, D.P.D.T.
S3	8000-00038-032	Switch, Slide, D.P.D.T.
S4	Part of VR-1	
S5	8000-00038-044	Switch, Rotary, 24 Pos.
SP1	8000-00038-036	Speaker, 8 ohm
T1	8000-00038-018	Transformer, C294DD
T2-1	8000-00038-019	Transformer, F3571 (PINK)
T2-2	8000-00038-020	Transformer, F001AS (BLUE)
T3	8000-00030-018	Transformer, A088AT

<u>SYMBOL NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
T4	8000-00012-034	Transformer, EIA117B
T5	8000-00012-034	Transformer, EIA227B
T6	8000-00038-021	Transformer, A293AP
T7	8000-00030-016	Transformer, C042DD
T8	8000-00030-019	Transformer, A-31
T9	8000-00012-037	Transformer, E-03
VR1 and VR2	8000-00004-098	Res., Var., 10K x 10K ohm, w/sw
VR3 and VR4	8000-00004-256	Res., Var., 10K x 10K
VR5	8000-00030-002	Res., Var., 5K ohm
VR6	8000-00004-094	Resistor, Var., 100K ohm
VR7	8000-00004-096	Resistor, Var., 10K ohm
VR8	8000-00004-094	Resistor, Var., 100K ohm
VR9	8000-00011-082	Resistor, Var., 1K ohm
X1	8000-00038-011	Crystal, HC25U, 10.240 MHz
Miscellaneous	8000-00030-022	Relay, HTC-12VDC
	8000-00038-024	Heat Sink, 2SC1306
	8000-00038-025	Cabinet
	8000-00038-027	Front Bezel, Less Overlay
	8000-00038-028	Mounting Bracket
	8000-00030-023	Feed Through Bracket (For C702)
	8000-00038-031	Front Panel Overlay
	8000-00038-033	SBE Jewel
	8000-00038-034	Tx Lamp Jewel
	8000-00030-028	Channel Plate Knob w/skirt
	8000-00038-037	Knob Outside (Tone or Mic Gain)
	8000-00011-119	Knob Inside (Volume or Squelch)
	8000-00038-035	Knob Delta Tune
	8000-00030-031	Pwr Cord Clamp
	8000-00004-152	Fuse, 2A
	8000-00004-151	Fuse Holder
	8000-00038-038	Foam (Meter Mounting)
	8000-00038-039	Grommet
	8000-00004-172	Channel Window Plate
	8000-00004-153	Microphone, Complete
	8000-00038-040	Styrofoam, Packing
	8000-00038-041	Display Box
	8000-00038-042	Speaker Mounting Ring
	8000-00038-043	Model Label (Rear Panel)
	8000-00030-053	Bolt, Mounting Bracket
	8000-00030-054	Washer, Mounting Bracket
	8000-00038-045	Channel Window Ring

SECTION 8

ADDENDA

8.1 MODIFICATIONS

The following is a list of modifications made during production of the SBE model 26CB. Any radios received for service should be checked to insure that these modifications have been performed. Any modifications that have not been performed, should be installed as part of the normal service procedure.

C119, original value 10pfd – change to 5 pfd

R121, original value 100K ohm – change to 220K ohm

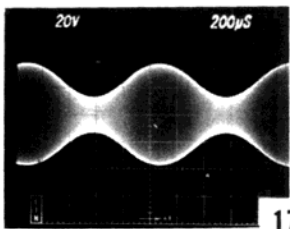
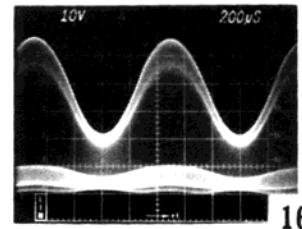
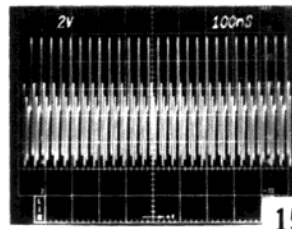
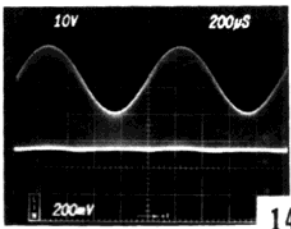
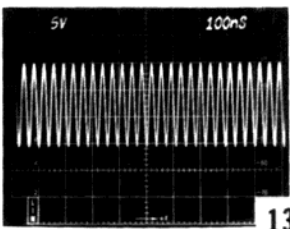
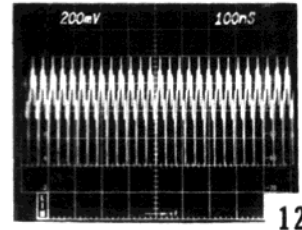
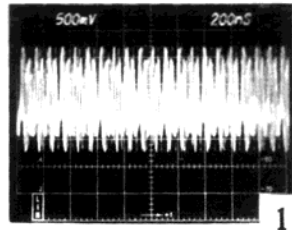
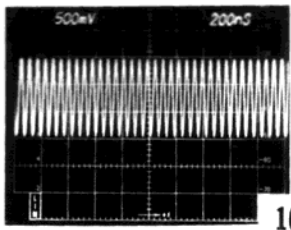
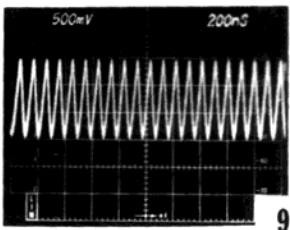
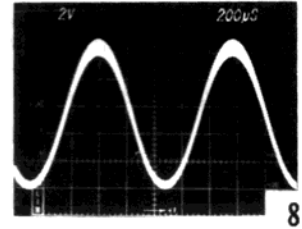
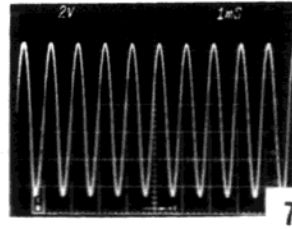
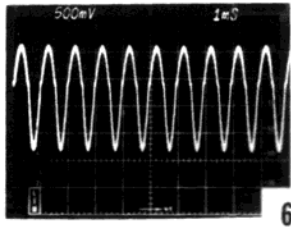
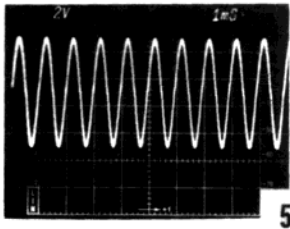
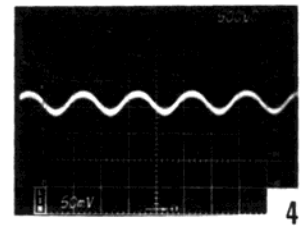
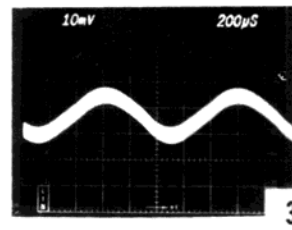
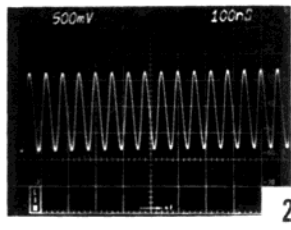
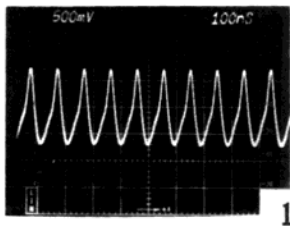
R202, original value 4.7K ohm – change to 1K ohm

R518, original value 47K ohm – change to 6.8K ohm

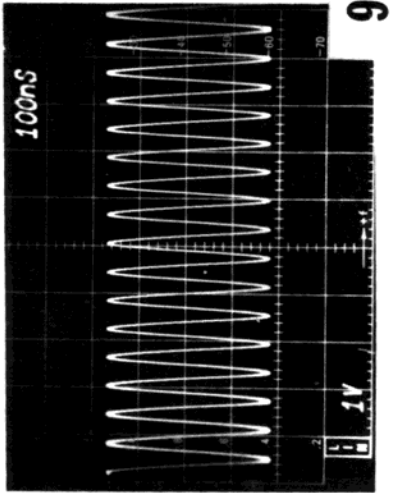
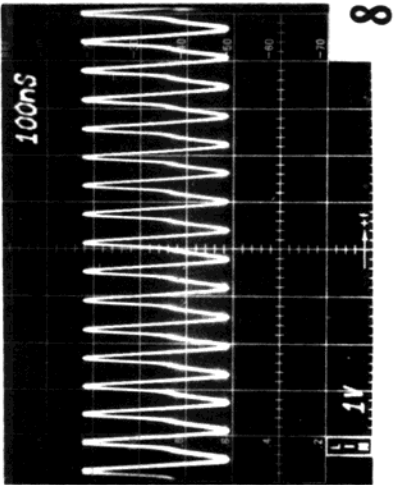
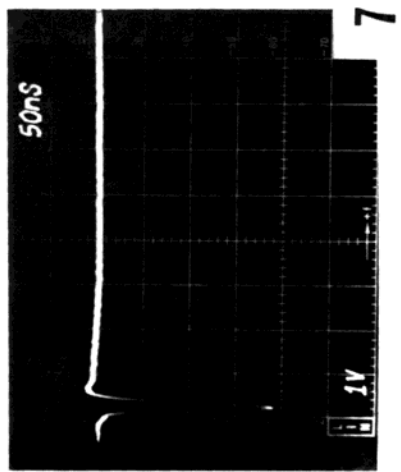
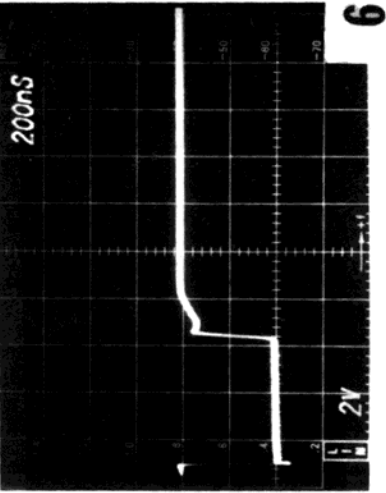
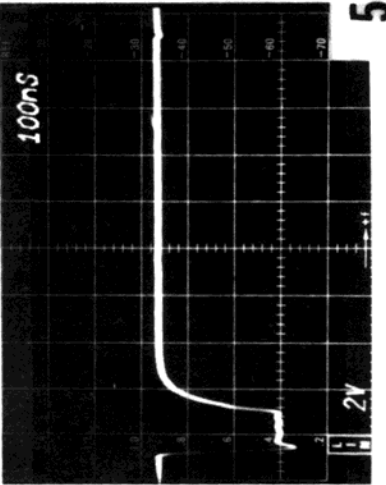
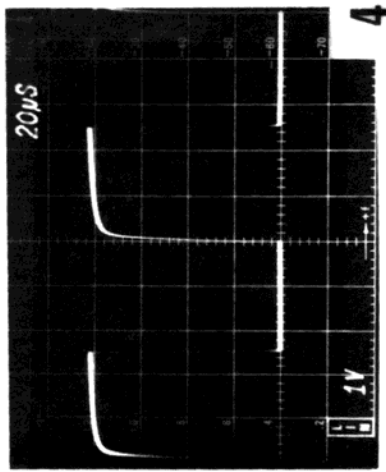
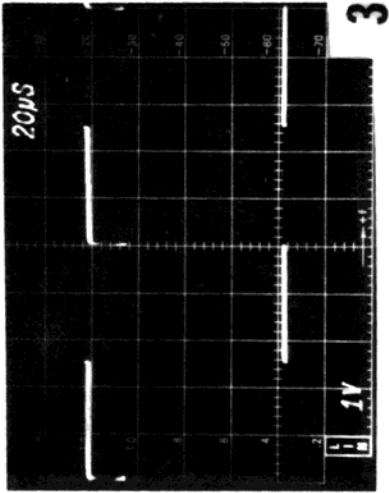
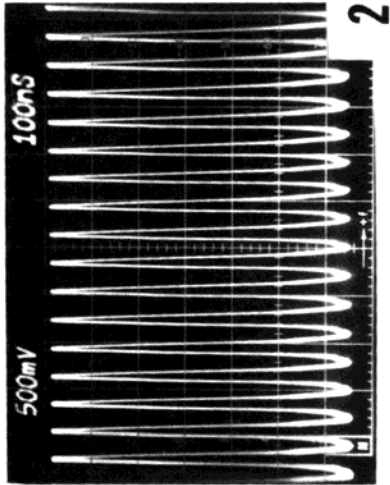
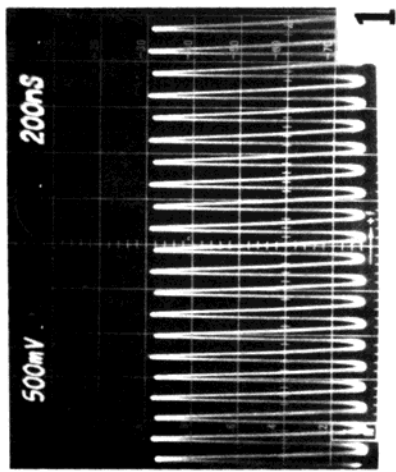
R528, original value 33K ohm – change to 6.8K ohm

The source lead of Q19 passes through a ground foil on the component side of the synthesizer circuit board, and is soldered to a ground foil on the bottom of the board. Early production units have this lead soldered only to the bottom foil. On these units, the ground foil on the component side should also be soldered to the source lead.

TRANSCEIVER WAVEFORMS



SYNTHESIZER WAVEFORMS





SBE, INC.
220 AIRPORT BLVD.
WATSONVILLE, CA 95076