



B500E

INSTRUCTION BOOK

HOLDEN ELECTRONICS CO.

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HOUSTON, TEXAS 77088

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TUNING AND OPERATING

CONNECT A NINE (9) FOOT SECTION OF RG-58 COAX (NOT SUPPLIED WITH UNIT) FROM THE TRANSCEIVER TO THE RADIO CONNECTOR ON THE AMPLIFIER. NOTE: THE NINE FOOT COAX IS IMPORTANT, THIS PROVIDES A MATCHING NETWORK BETWEEN YOUR RADIO AND THE AMPLIFIER. CONNECT YOUR ANTENNA TO THE ANTENNA CONNECTOR. PLUG THE POWER CORD INTO A 120V OUTLET. TURN THE ON-OFF SWITCH ON --- ALLOW ONE MINUTE FOR WARM-UP. POSITION HI-LO SWITCH TO LO FOR INITIAL TUNING. POSITION KNOBS WITH WHITE LINE STRAIGHT UP, EXCLUDE AM-SSB KNOB. DEPRESS YOUR MIKE BUTTON, FIRST TUNE DRIVE THEN TUNE AND LOAD. POSITION HI-LO SWITCH TO HI. REPEAT ADJUSTMENTS FOR MAXIMUM INDICATION ON THE METER. NEXT TURN LOAD CLOCKWISE UNTIL METER DROPS ONE OR TWO DIVISIONS -- REPEAT TUNE CONTROL. THE METER SHOULD DEFLECT FORWARD WITH MODULATION WHEN PROPERLY LOADED.

NOTE: IF YOU USE AN IN-LINE WATTMETER, USE IT ONLY FOR INITIAL TUNING -- NOT LOADING. A WATTMETER IS DESIGNED TO MEASURE WATTS, NOT MODULATION. YOUR B500 CAN BEST BE LOADED WITH THE FRONT PANEL METER.

IF THE UNIT FAILS TO LOAD PROPERLY, CHECK YOUR SWR, IT SHOULD BE 1.5:1 OR BETTER. TO MEASURE THE SWR, REMOVE CONNECTORS FROM THE AMPLIFIER AND INSERT YOUR SWR BRIDGE.

THE B500E IS A HIGH PERFORMANCE GROUNDED GRID LINEAR AMPLIFIER.
THE B500E IS DESIGNED TO OPERATE IN THE 25 - 30 MHz BAND.

DRIVE: 1 - 6 WATTS AM - UP TO 15 WATTS SSB.

POWER OUTPUT: HI - 475 TO 525 WATTS (RMS) WITH 3 WATTS INPUT.
LO - 150 TO 200 WATTS (RMS) WITH 3 WATTS INPUT.

PRIMARY POWER: 120 VAC 14 AMP.

CONTROLS

DRIVE: THIS TUNES THE PLATE CIRCUIT OF THE INTERNAL DRIVER STAGE.

TUNE: TUNES THE PLATE CIRCUIT OF THE POWER AMPLIFIER STAGE.

LOAD: LOADS THE OUTPUT TO THE ANTENNA.

AM-SSB: THE DETENT IS FOR AM OPERATION -- A UNIQUE CIRCUIT ALLOWS
THE SSB DELAY TO BE ADJUSTED FOR YOUR PARTICULAR SPEECH.

SWITCHES

ON - OFF: TURNS THE AMPLIFIER ON -- HAS BUILT-IN NEON LAMP TO
SHOW THE UNIT IS ON.

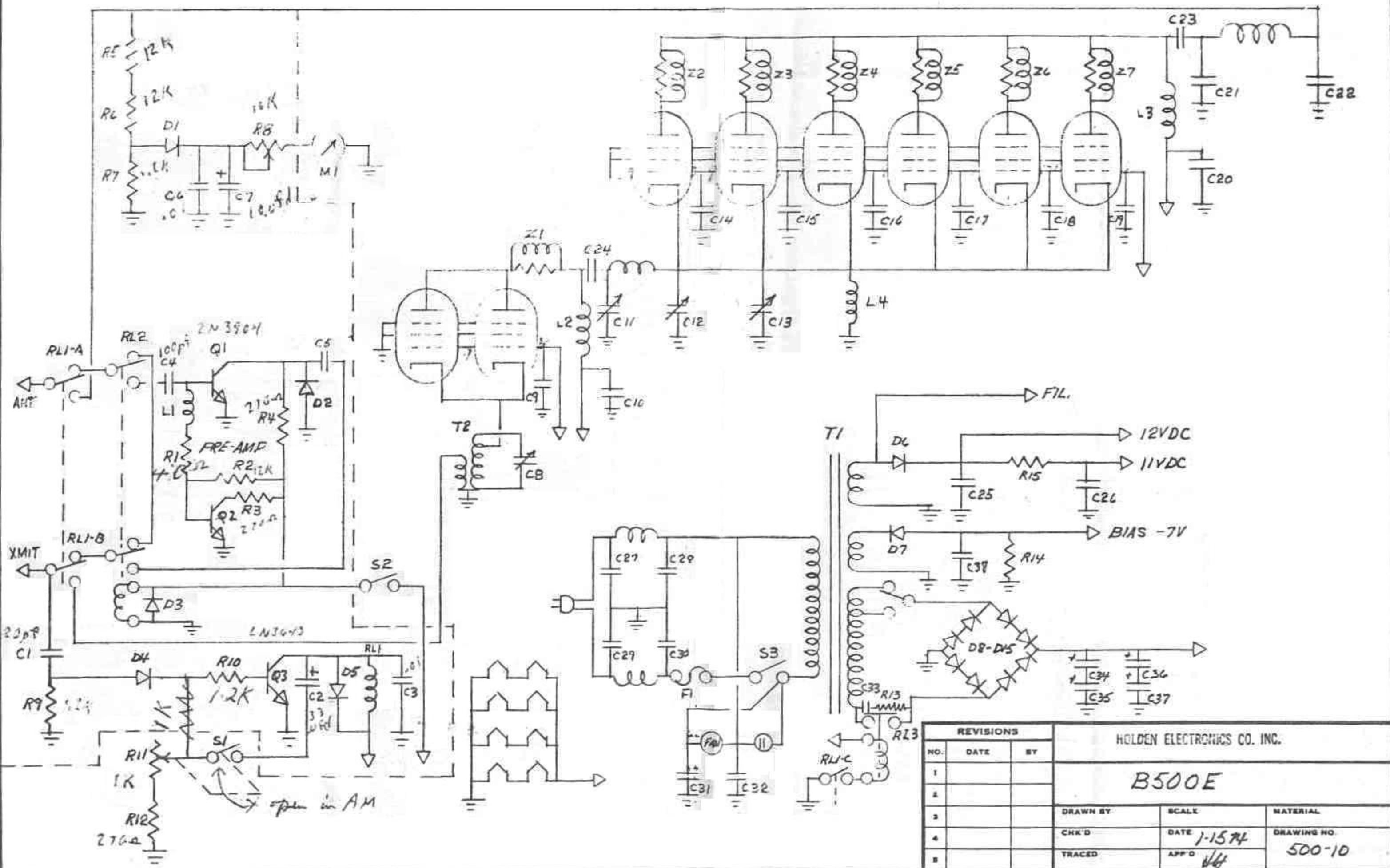
STAND-BY: IN THIS POSITION, UNIT IS WARMED UP AND READY FOR
INSTANT USE WHEN SWITCHED TO OPERATE.

HI - LO: IN HI POSITION, THE UNIT HAS FULL OUTPUT; IN LO
POSITION, THE OUTPUT WILL BE 150 TO 200 WATTS.

PRE-AMP: TURNS PRE-AMP ON.

PARTS LIST
B500E

ITEM	P/N	DESCRIPTION
C1	1005-016	20pF CAPACITOR
C2	1005-012	33MFD 50V CAPACITOR
C3,C6	1005-027	.01MFD 100V CAPACITOR
C4,C5	1005-026	100pF 100V CAPACITOR
C7	1005-024	10MFD 10V CAPACITOR
C8	1005-006	463 TRIMMER CAPACITOR
C9,C14,C19,C10,C20	1005-021	.01 CAPACITOR
C11	1005-002	4-55pF VAR. CAP.
C12,C13	1005-007	467 TRIMMER CAPACITOR
C21	1005-003	4-55pF VAR. CAPACITOR
C22	1005-018	100-365pF VAR. CAPACITOR
C23	1005-022	.001 5KVA CAPACITOR
C24	1005-014	.001 2KVA CAPACITOR
C25,C38	1005-011	1000MFD 16V CAPACITOR
C27,C32	1005-015	.001 MFD CAPACITOR
C33	1005-037	.001 MFD 1KV CAPACITOR
C34,C37	1005-030	80MFD 450V CAPACITOR
D1,D4	1020-009	1N4148 DIODE
D2,D3,D5,D6,D7	1020-007	1N4002 DIODE
D8,D15	1020-002	2.5A 1000V DIODE
F1	1025-002	15 AMP FUSE
L1,L2,L4	1010-001	15uH CHOKE
L3	1010-003	Z14 RF CHOKE
M1	1045-001	0-1MA METER
Q1,Q2	1075-007	2N3904 TRANSISTOR
Q3	1075-003	2N3643 TRANSISTOR
RL1	1050-005	3PDT RELAY
RL2	1050-004	DPDT RELAY
RL3	1050-002	SPST RELAY
S1	1065-007	PART OF R11 POT
S2	1065-005	SPST ROCKER SWITCH
S3	1065-006	SPST ROCKER SWITCH W/LIGHT
T1	1072-005	POWER TRANSFORMER
T2	3003-007	RF TRANSFORMER
V1-V8	1080-005	6LR6/6LF6 TUBE
R1	1055-017	470 OHM RESISTOR
R2,R5,R6	1055-032	12K RESISTOR
R3,R4,R12	1055-038	270 OHM RESISTOR
R7,R9,R10	1055-024	1.2K RESISTOR
R8	2038-002	10K POTENTIOMETER
R11	2038-001	1K POTENTIOMETER W/SWITCH
R13	1055-016	10K RESISTOR
R14	1055-004	10 OHM 5W RESISTOR
R15	1055-040	27 OHM RESISTOR



REVISIONS			HOLDEN ELECTRONICS CO. INC.		
NO.	DATE	BY			
1			B500E DRAWN BY: _____ SCALE: _____ MATERIAL: _____ CHK'D: _____ DATE: 1-15-74 DRAWING NO.: 500-10 TRACED: _____ APP'D: <i>[Signature]</i>		
2					
3					
4					
5					