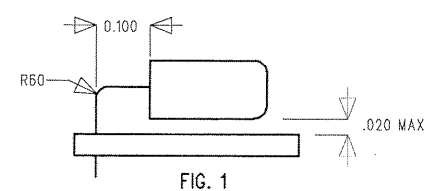
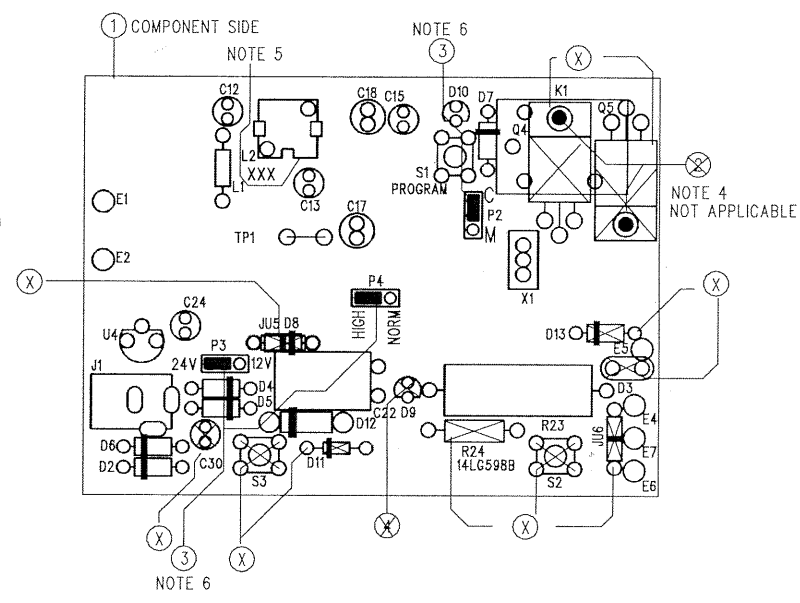
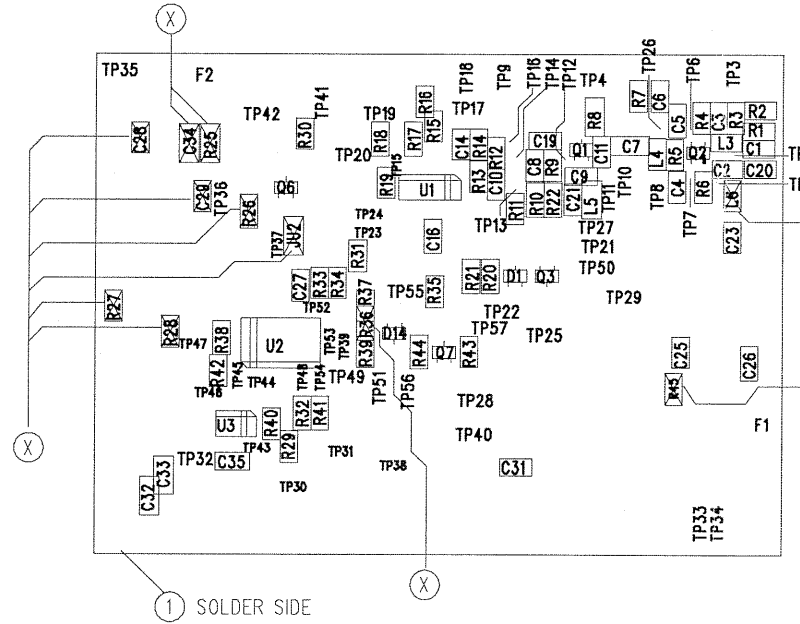
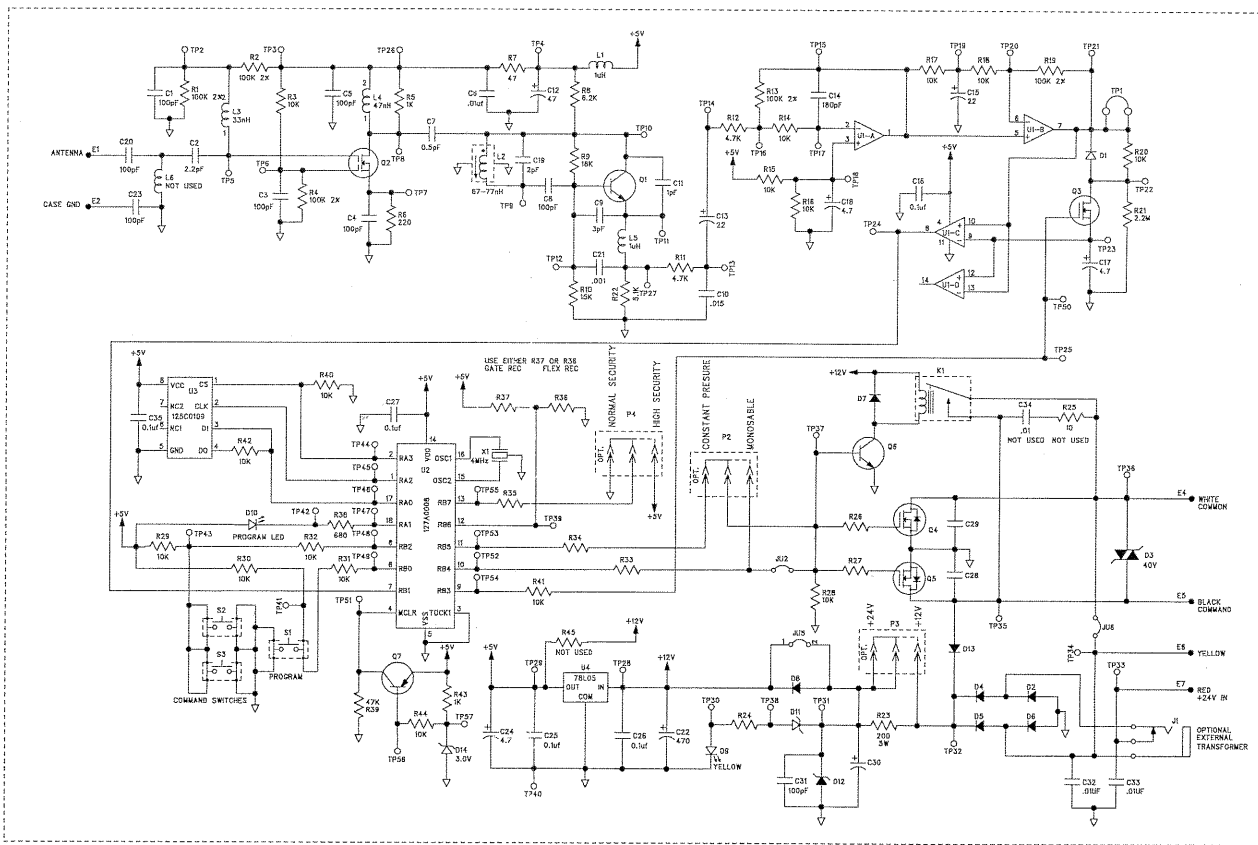


412-315HM

Reference	Part Name	Description	Qty
C1, C3-C5, C8, C20, C23, C31	030D71020100	CAP SMD0805 100pF 5% NPO	8
C10	030D715412R0	CAP SMD0805 0.015uF 10% X7R	1
C11	030D71000000	CAP SMD0805 1.0pF 5% NPO	1
C12	030B0440-081	CAPACITOR, LY TIC 4.7uF 10V	1
C13, C15	030B0445-081	CAPACITOR, LY TIC 22uF 10V	2
C14	030D71820002	CAP SMD0805 180pF 5% NPO 60V	1
C16, C25-C27, C35	030D710522R2	CAP SMD0805 0.1uF 20% X7R 50V	5
C17, C18, C24	030B0442-081	CAPACITOR, LY TIC 4.7uF 25V	3
C19	030D72000000	CAP SMD0805 2.0pF 5% N150	1
C2	030D72030000	CAP SMD0805 2.2pF 5% NPO	1
C21	030D710322R0	CAP SMD0805 0.001uF 20% X7R	1
C22 (SEE FIG 1)	030A0508-100	CAPACITOR, LY TIC 470uF 35V	1
C28, C29	NOT USED	CAP SMD0805 0.1uF 20% X7R 50V	
C30	NOT USED	CAPACITOR, LY TIC 22uF 50V	
C6, C32, C33	030D710422R2	CAP SMD0805A/1206 0.01uF 5% 50V	3
C34	NOT USED	CAP SMD0805A/1206 0.01uF 20% X7R	
C7	030D60900000	CAP SMD 0805A/1206 0.5pF +/-25 NPO	1
C9	030D73000000	CAP SMD0805 3.0pF 5% NPO	1
D1	052B0065	DIODE, SMD SIGNAL	1
D10	052B0079-2	DIODE, LED T1 YELLOW	1
D11	NOT USED	DIODE, ZENER 8.2V	
D12	052A0146	DIODE, ZENER 18V 5W	1
D14	052B0152	DIODE, SMD ZENER 3.0V	1
D2, D4, D5, D6, D7	052B0007-401	DIODE, RECTIFIER 100V PV	5
D3	NOT USED	DIODE, M.O.V. 40V	
D8, D13	NOT USED	DIODE, RECTIFIER 100V PV	
D9	NOT USED	DIODE, LED T1 YELLOW	
E1, E2	847G201010	CONNECTION POINT, EXT WIRE BARE	2
E4	859GX02510	CONNECTION POINT, EXT WIRE WHITE	1
E5	850GX02410	CONNECTION POINT, EXT WIRE BLACK	1
E6	860GX02210	CONNECTION POINT, EXT WIRE YELLOW	1
E7	856GX02310	CONNECTION POINT, EXT WIRE RED	1
J1	203A0158	CONNECTION POINT, EXT WIRE	1
JU2	NOT USED	RES SMD0805A/1206 ZERO OHM	
JU5	0304A0001-40	RESISTOR, ZERO OHM 0.40"	1
JU6	NOT USED	RESISTOR, ZERO OHM 0.40"	
K1	160B0105	RELAY, 12V LOW PROFILE FORM A	1
L1	040B0039-451	INDUCTOR, RF CHOKE 1uH	1
L2	040B0133	INDUCTOR, VARIABLE, SHIELDED	1
L3	040A0103	INDUCTOR, RF CHOKE 33nH SMD	1
L4	040A0095	INDUCTOR, RF CHOKE 47nH SMD	1
L5	040A0104	INDUCTOR, RF CHOKE 1uH SMD	1
L6	NOT USED	INDUCTOR, RF CHOKE	
P2-P4	023A0102	CONNECTOR 3 PIN HEADER	3
Q1	207C0065	TRANSISTOR, SMD NPN RF PR42	1
Q2	207C0103	TRANSISTOR, N-FET DUAL GATE	1
Q3	207C0104	TRANSISTOR, N-CHANNEL FET	1
Q4, Q5	NOT USED	MOSFET, 100V 2A W/INT DIODE	
Q6	207C0078	TRANSISTOR, SMD NPN SWITCH	1
Q7	207C0069	TRANSISTOR, SMD PNP SWITCH	1
R10	311C1535	RES SMD0805 15K 5%	1
R11, R12, R33-R35, R37	311C4726	RES SMD0805 4.7K 5%	6
R1, R2, R4, R13, R19	311C1042	RES SMD0805 100K 2%	5
R21	311C2255	RES SMD0805 2.2M 5%	1
R22	311C5125	RES SMD0805 5.1K 5%	1
R23	156A0144	RESISTOR, 200 OHM 5W	1
R24	NOT USED	RES C.F. 1.3K 1/2W 5%	
R25	NOT USED	RES SMD0805A/1206 10 OHM 5%	
R26, R27	NOT USED	RES SMD0805 470 5%	
R28	NOT USED	RES SMD0805 10K 5%	
R3, R14-R18, R20, R29-R32, R40-R42, R44	311C1035	RES SMD0805 10K 5%	15
R36	NOT USED	RES SMD0805 4.7K 5%	
R38	311C0815	RES SMD0805 680 5%	1
R39	311C4735	RES SMD0805 47K 5%	1
R5, R43	311C1025	RES SMD0805 1.0K 5%	2
R6	311C2215	RES SMD0805 220 5%	1
R45	NOT USED	RES SMD0805 220 5%	
R7	311C4705	RES SMD0805 47 OHM 5%	1
R8	311C6225	RES SMD0805A/1206 6.2K 5%	1
R9	311C1835	RES SMD0805 18K 5%	1
S1	180B0120-1	SWITCH, MOM. PB, HI FORCE	1
S2, S3	NOT USED	SWITCH, MOM. PB, HI FORCE	
TP1	217A0147-1	TEST POINT, .25" BARE WIRE	1
U1	125C0133	LC, QUAD OP AMP LM2902	1
U2	127A0008	SOIC, UNIVERSAL RX UP	1
U3	125C0109	SOIC, ELECT. ERASABLE PROM	1
U4	125B0013	LC, VOLTAGE REG 5V	1
X1	033B0059	RESONATOR, CERAMIC 4MHz	1
ITEMS	NON-SCHEMATIC ITEMS		
1	14D0588	PC BOARD	1
2	NOT USED	RIVET, NYLON	
3	175A0117	CONNECTOR, SHORTING	3
4	NOT USED	SPACER, LED 0.32"	
5	014R0598	3 up Array	0.333



- NOTES:
- ALL COMPONENTS TO BE INSERTED TO WITHIN 0.020" OF BODY OR PREFORM LIMITS.
 - LEAD CLIP SPECIFICATION (WIRE LEADED PARTS ONLY): 0.050" MIN, 0.095" MAX.
 - CLEANING OF ASSEMBLY WITH A CLEANING SOLVENT AFTER WAVESOLDER IS NOT PERMITTED.
 - ITEM 2 RIVETS ARE INSERTED INTO 175A0117 THROUGH Q4 & Q5 TAB HOLES. SHAFT OF RIVETS ARE THEN PUSHED IN TO EXPAND RIVET AND HOLD TRANSISTORS SECURELY TO PCB.
 - L2 MUST BE INSERTED WITH SIDE OF CAN CONTAINING PART NUMBER OR ORIENTING NOTCH FACING IN DIRECTION SHOWN ON SILKSCREEN.
 - SHIPPING POSITION OF OPTION 175A0117 (WHERE USED): P2 MUST BE IN THE "M" POSITION; P3 IN THE "24V" POSITION; P4 IN THE "HIGH" POSITION.

PART NUMBER		195D1614		A
REV	DATE	BY	APP	REV
R-318	10/08/01	CE		A
REVISION				
PRELIMINARY				

CHAMBERLAIN
CONSUMER PRODUCTS GROUP
A UNIT OF DUCHOSSAIS INDUSTRIES, INC.

NAME: ASSEMBLY, PCB
315 MHZ UNIVERSAL RCVRS

CONFIDENTIAL

DO NOT SCALE DRAWING

TOLERANCE UNLESS OTHERWISE SPECIFIED:
 .250 .00 DECIMAL
 .005 .000 DECIMAL
 .184 .00 FRACTIONS
 .30° .00 ANGLES
 .253 .00 HOLES

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DO NOT CHANGE THIS DOCUMENT WITHOUT UPDATING THE COMPUTER DATA BASE.

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DRAWN	CE	DATE	10/08/01	SCALE	PART NUMBER	REV
CHECKED	LPT				195D1614	A
APPROVED	RK					