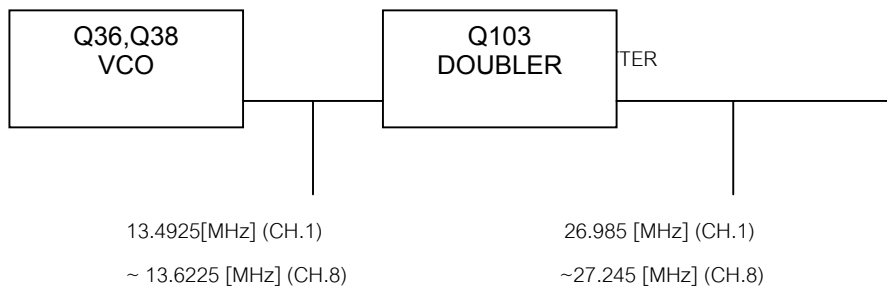


THEORY OF OPERATION

ALAN42-MULTI

Description Of Frequency Determining And Stabilizing Circuit Introduction

THE FREQUENCIES FOR TRANSMITTER AND RECEIVER LOCAL FREQUENCIES ARE ALL DERIVED A SIGNAL 4.0 [MHz] CRYSTAL BY MEANS OF A PHASE LOCKED LOOP. THE FIRST LOCAL OSCILLATOR FREQUENCIES ARE 16.29 [MHz] (CH.1) TO 16.55 [MHz] (CH.80). THE SECOND LOCAL FREQUENCY IS FIXED AT 10.6950 [MHz] TO GENERATE SECOND IF 455 [kHz]. DURING TRANSMIT, THE VCO OF THE PLL OPERATES 13.4925[MHz] (CH.1) TO 13.6225 [MHz] (CH.8) THE VCO FREQUENCY GOES TO THE DOUBLER CIRCUIT Q103, L10, L11 WHICH DOUBLES THE FREQUENCY TO GENERATE 26.985 [MHz] (CH.1) TO 27.245 [MHz] (CH.8).



THE VCO OPERATING FREQUENCY FOR THE RECEIVER IS 16.29 [MHz] (CH.1) TO 16.55 [MHz] (CH.8) AS THE FIRST LOCAL OSCILLATOR, INJECTED THROUGH THE BUFFER AMP Q38 INTO THE FIRST FET BALANCED MIXER Q5, Q6

DESCRIPTIONS OF EACH BLOCK

(1) INTRODUCTION

THE SYNTHESIZER IS IMPLEMENTED WITH THE FOLLOWING

COMPONENTS : PLL IC (IC4), X-TAL (X 2), VCO, VARICAP DIODE (D13)

IC1 IS A CPU THAT INCLUDES LCD DRIVER AND ALL OF CONTROL CIRCUIT.

THE PLL IC (IC4) OF PLL BLOCK, THE Q36, L7, C91, C92, C85, C90, VARICAP DIODE D13 ARE CLAPP OSCILLATOR CIRCUIT TO OPERATE AS A VCO. Q35 IS A SWITCHING TRANSISTOR TO CONNECT OR DISCONNECT THE TUNING CAPACITOR IN THE VCO OSCILLATOR TANK CIRCUIT FOR TRANSMITTER OR RECEIVER. Q38 WORKS AS A BUFFER AMP FOR RX LOCAL FREQUENCIES (16 [MHz]) AND TX CARRIER GENERATING FREQUENCIES (13 [MHz]).

(2) REFERENCE FREQUENCY

THE CRYSTAL, X2(4.0 [MHz]) AND OTHER COMPONENTS AT PIN 1 AND 16 OF IC4 CAN MAKE A REFERENCE FREQUENCY OSCILLATOR WITH INTERNAL AMPLIFIER.

(3) VCO

Q36 AND SURROUNDING PARTS ARE CONSISTING A CLAP OSCILLATOR WORKS AS A VCO OF IC4 WITH APPROPRIATE CONTROL VOLTAGE ON D13, THE VCO CAN BE OSCILLATE OVER THE REQUIRED RANGE OF 13.4925[MHz] TO 16.55 [MHz].

(4) PROGRAMMABLE DIVIDER AND ITS CONTROL

THE CPU(IC1) AND PLL IC (IC4) COMMUNICATE BY SERIAL DATA.

THE PROGRAMMABLE INPUTS FOR EACH CHANNELS ARE SETTED CPU (IC1).

EACH INPUT SIGNAL TO CONTROL THE PLL IC IS DONE WITH THE PROVIDED KEY INPUT PINS PIN 36, 37, AND PIN38 OF IC1.

(5) PHASE DETECTOR AND VCO CONTROL

THE PHASE DETECTOR IS A DIGITAL PHASE COMPARATOR WHICH COMPARES THE PHASE OF THE REFERENCE SIGNAL WITH PROGRAMMABLE DIVIDER OUTPUT SQUARE WAVES AND DEVELOPS A SERIES OF PULSES WHOSE DC LEVEL DEPENDS ON THE PHASE ERROR OF EACH SIGNAL.

THE PHASE DETECTOR PULSE OUTPUT IS FED TO AN ACTIVE LOW PASS FILTER AND RC LOW PASS FILTER OUTPUT SIGNAL OF IC4 IS FILTERED AND FED TO VARICAP D13 CONTROL THE VCO FREQUENCY.

(6) TRANSMITTER / RECEIVER BUFFER AMP

OUTPUT SIGNAL OF Q36 IS FED INTO THE BUFFER AMP Q38, L8 TO INCREASE THE STRENGTH OF TX CARRIER FREQUENCY AND 1st LOCAL FREQUENCIES.

(7) TRANSMITTER DOUBLER

THE OUTPUT SIGNAL OF Q38, L8 GOES TO AN AMPLIFIER WITH TUNING CIRCUIT Q103, L10, L11 WHICH DOUBLES INCOMING 13 MHz SIGNALS.

(8) SWITCHING OF TUNING CAPACITOR IN VCO

THE VCO CIRCUIT MUST TUNE WITH A WIDE RANGE OF FREQUENCIES 13.4925 ~ 13.6225 [MHz] FOR TRANSMITTER AND 16.29 ~ 16.550 [MHz] FOR RECEIVER. TO COMPLY ABOVE RANGE OF VCO, THE TUNING CAPACITANCE SHOULD SWITCHED FOR TRANSMISSION OR RECEPTION.

THE TUNING CIRCUIT CONSISTS WITH L7, C91, C92, C85, C90, WHEN THE VCO IS WORKING AS A RECEIVER Q35 BECOMES TURN OFF.

SO, L7 AND D13 MAKES TUNING FUNCTION.

WHEN TRANSMITTING Q406 BECOMES ON.

SO, L7 AND THE PARALLEL CAPACITANCE OF C89 AND D13 MAKE TUNING FUNCTION.

(9) RECEIVER LOCAL OSCILLATOR OUTPUTS

1ST MIXER : THE SECONDARY OUTPUT SIGNALS OF L3 IS INJECTED TO THE SOURCE OF

1ST MIXER Q4, Q5 IN THE 1ST IF MIXER SECTION.

2ND MIXER : THE OUTPUT OF 10.695 [MHz] OSCILLATOR CIRCUIT WITH X2 IS INJECTED

INTO THE IF MODULE (IC3).

INCOMING IF SIGNAL AND 10.695 [MHz] SIGNAL ARE MIXED INSIDE THE IF

IC TO EXTRACT 2ND IF SIGNAL 455 [MHz].

FM SIGNALS ARE RECOVERED WITH ENVELOPE DETECTOR.

FREQUENCY STABILITY

LET : F_o = CRYSTAL OSCILLATOR FREQUENCY

F_r = PHASE DETECTOR REFERENCE FREQUENCY

F_{vco} = VCO FREQUENCY

F_t = TRANSMIT FREQUENCY

THEN : $F_r = F_o/1800$

AND UNDER LOCKED CONDITIONS : $F_r = F_{vco} / N$

Where , "N" IS THE PROGRAMMABLE DIVIDER DIVIDE RATIO.

THEN : $F_{vco} = N \times F_r$

FROM WHICH IT CAN BE SEEN, THE PERCENTAGE ERROR IN F_t IS THE SAME AS THE PERCENTAGE ERROR IN F_o .

THE STABILITY OF THE CRYSTAL OSCILLATOR IS DETERMINED PRIMARILY BY THE ITSELF AND HAVING PASSIVE COMPONENTS OF THE OSCILLATOR.

THE CHOICE OF CRYSTAL AND COMPONENTS IS SUCH THAT THE REQUIRED FREQUENCY STABILITY IS MAINTAINED OVER THE REQUIRED VOLTAGE AND TEMPERATURE RANGE.

DESCRIPTION OF OTHER CIRCUITS TRANSMITTER

(1) TX AMPLIFICATION

THE OUTPUT OF DOUBLER AMP Q103 IS FED THROUGH TUNING IFT L10 AND L11 TO THE BASE OF PRE DRIVER AMP Q104.

THE OUTPUT IS THEN SUPPLIED THROUGH TUNING CIRCUIT L12 TO RF DRIVER AMP Q107. THE OUTPUT OF Q107 IS SPLITTED WITH TUNING CIRCUIT L13, C112, C84 AND GOES TO THE BASE OF FINAL RF AMP Q108.

THE OUTPUT OF Q108 IS SUPPLIED TO THE ANTENNA THROUGH L-C TUNING CIRCUIT.

(2) CIRCUIT FOR SUPPRESSION OF SPURIOUS RADIATION

THE TUNING CIRCUIT BETWEEN THE OUTPUT OF FINAL AMP Q108 AND ANTENNA,

7-STAGE "LPF" NETWORK L16, L17, L18, L1, C139, C144, C79, C83, C128, C129, C131, C142, C133, C134 SERVES AS A SPURIOUS RADIATION SUPPRESSOR

THIS NETWORK ALSO SERVES TO MATCH THE IMPEDANCE BETWEEN TX POWER AMP Q303 AND THE ANTENNA

(3) CIRCUITS FOR LIMITING POWER

AFTER FINISHED ALL ALIGNMENT, TO CONSTANT VOLTAGE SUPPLY CIRCUIT LIMITS THE AVAILABLE POWER 4 [W] OR SLIGHTLY LESS.

RV5 AND CORRESPONDING THREE TRANSISTORS CONTROL SUPPLY VOLTAGE OF RF AMPLIFIER AND OTHER CIRCUITS.

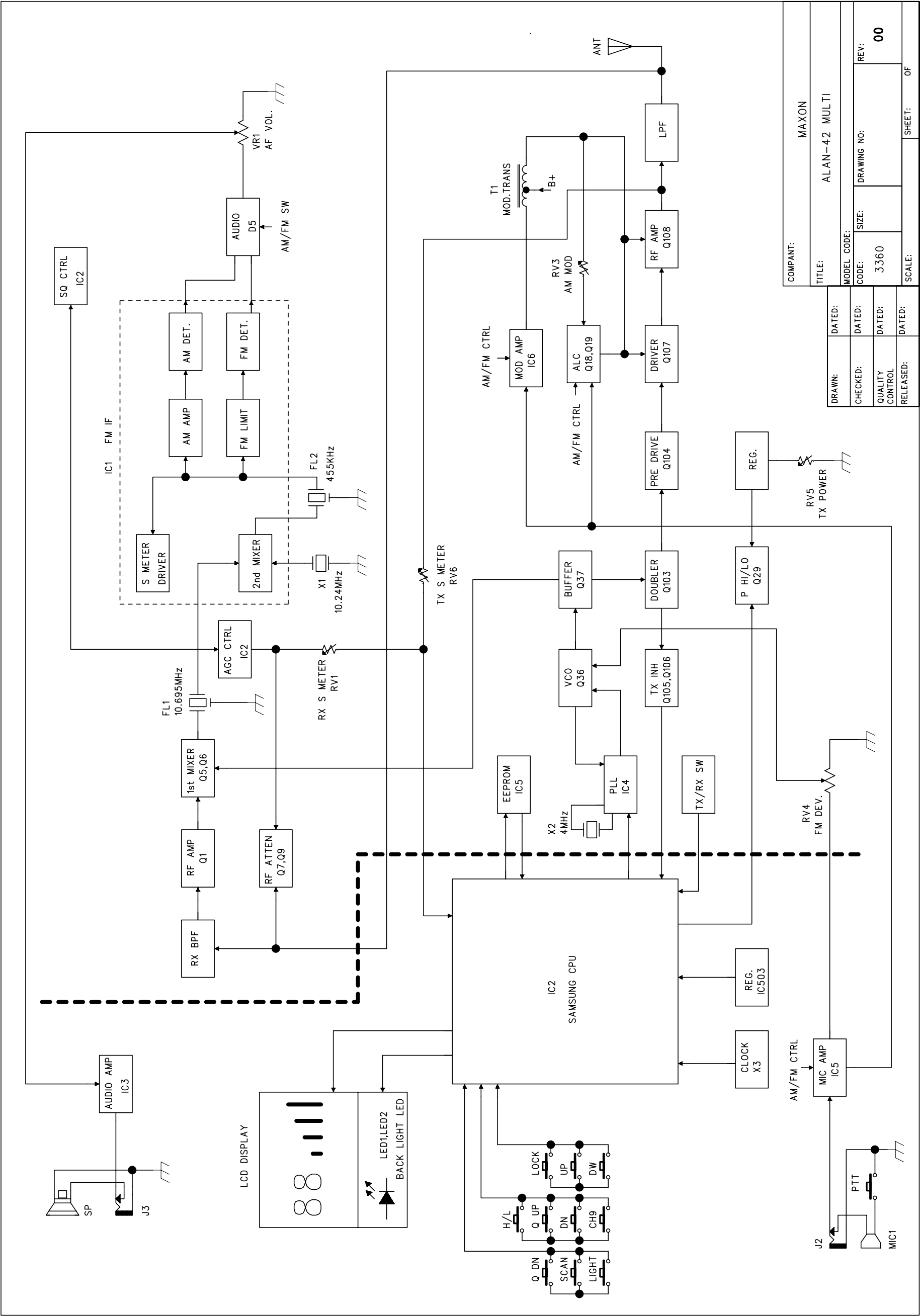
TUNE ALL THE TRIMMING PARTS FOR MAXIMUM INDICATION OF RF POWER METER AND ADJUST RV5 TO MAKE 4 [W] INDICATION OF RF POWER METER. THE TUNING IS ADJUSTED SO THAT THE ACTUAL POWER IS FROM 3.8 TO 4.0 [W]. THERE ARE NO OTHER ADDITIONAL CONTROLS FOR ADJUSTING THE TX OUTPUT POWER.

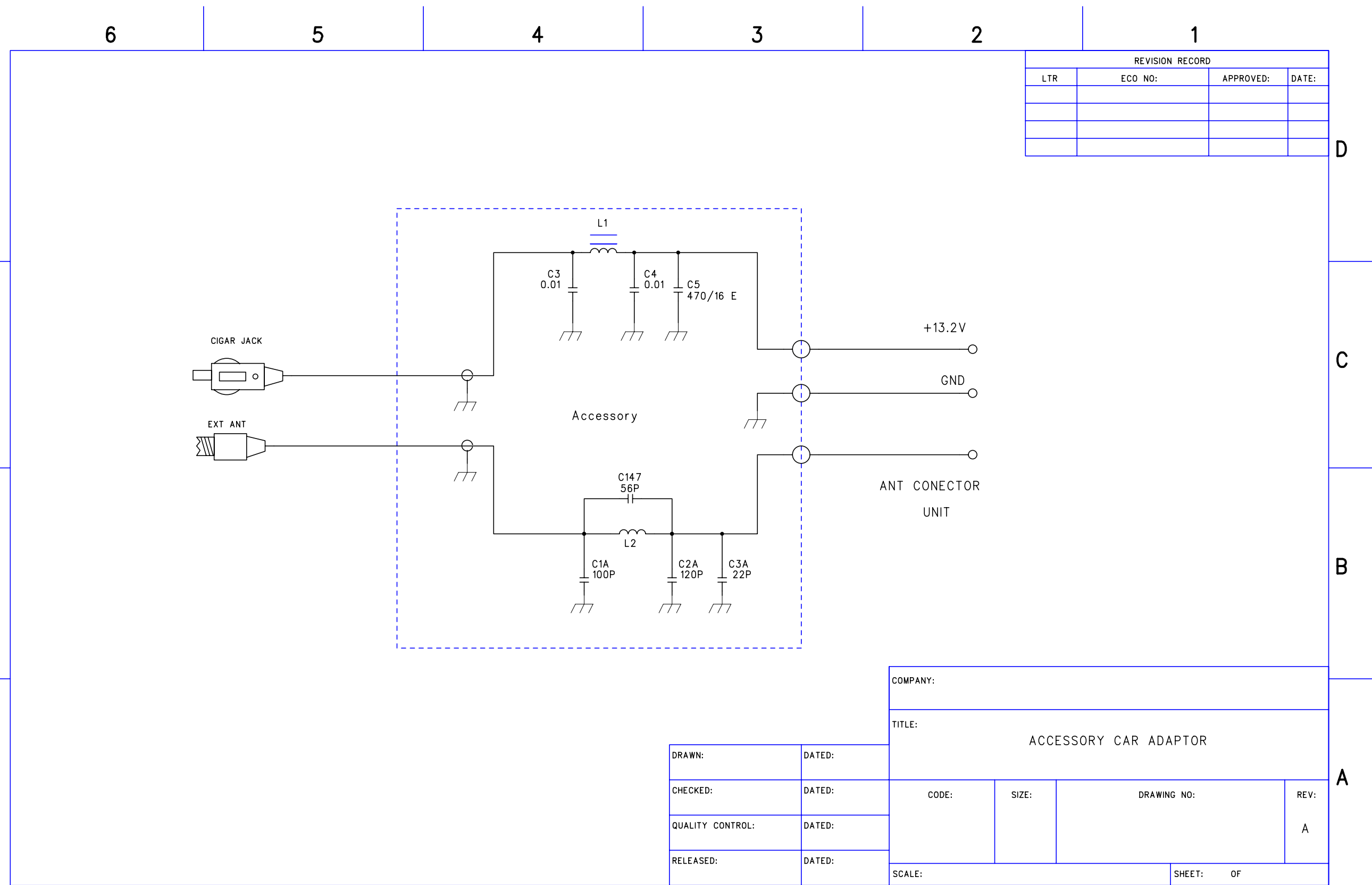
(4) MAX DEVIATION CONTROL

DEVIATION SIGNALS ARE FILTERED WITH RC NETWORK AND GOES TO THE OP AMP IC IC5A MAKE NOMINAL SIGNAL LEVEL TO ACHIEVE WANTED MODULATION. TO CONTROL INCOMING AUDIO SIGNAL, DIODE D17 AND CORRESPONDING LIMITER CIRCUIT CONTROLS WITH PROPORTIONAL TO SAMPLED AUDIO OUTPUT LEVEL ADJUST RV4 SHALL NOT EXCEED ± 2 [KHz] MAX DEVIATION UNDER 1.25 [KHz] AF 20 dB UP FROM 1 kHz MOD LEVEL INPUT.

RECEIVER

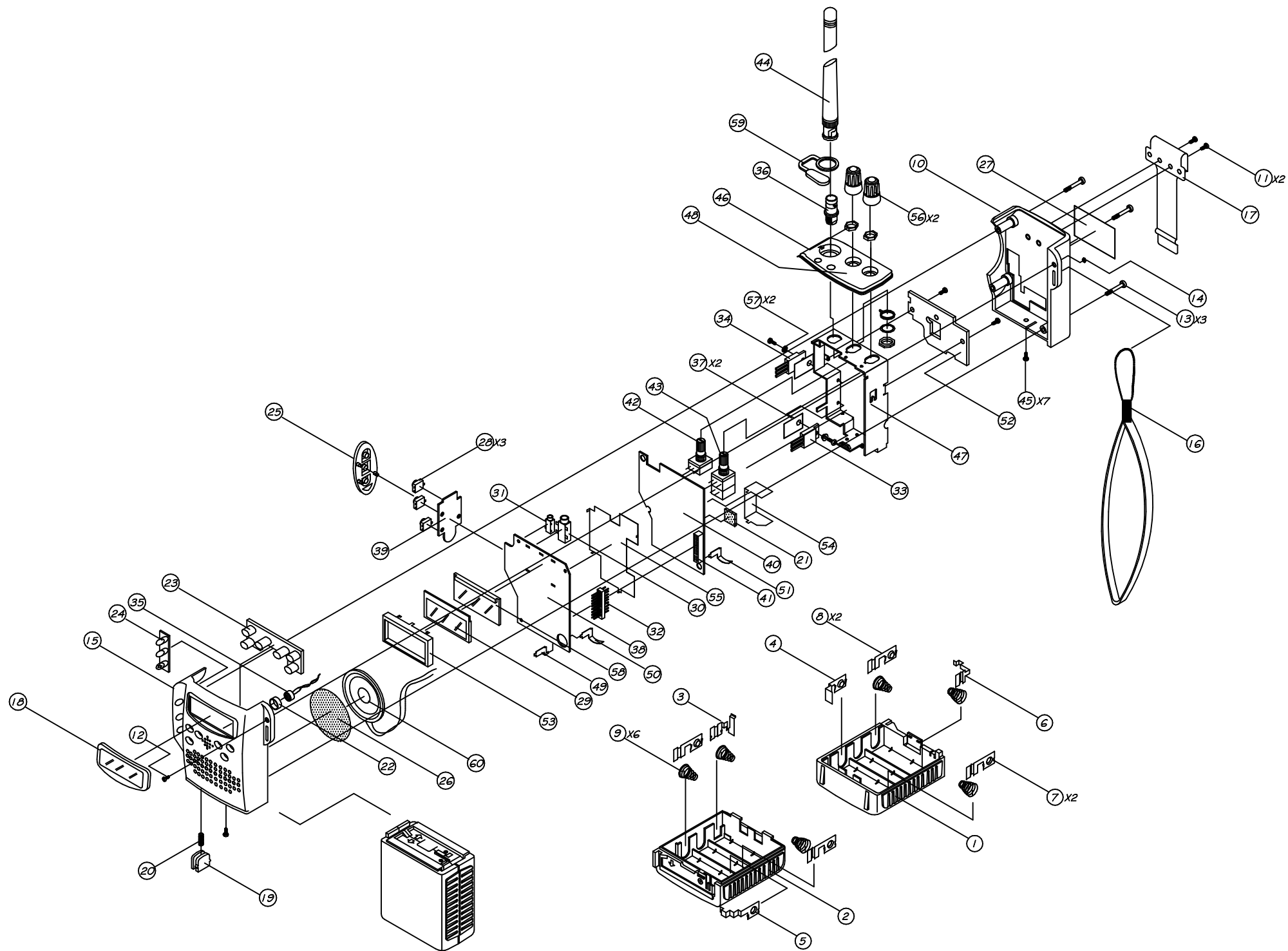
- (1) RF AMP Q1 AMPLIFY RF SIGNAL FROM ANTENNA, THE AMPLIFIED RF SIGNAL IS FED THROUGH TUNING COILS L401, L402, L403 TO THE GATE OF DOUBLE BALANCE MIXER FET, Q5, Q6 ALSO VCO SOURCES FREQUENCY LOWER 10.695 MHz THAN THE FREQUENCY OF EACH CHANNEL IS SUPPLIED TO MIXER.
- (2) THE SOURCE OF 10.695MHz FREQUENCY FILTERED BY CF1 IS FED TO THROUGH TO IC2.
- (3) THE 455KHz FREQUENCY SIGNAL PRODUCED FROM IC2 BY MIXING THE OUTPUT SOURCE OF CF1 10.695MHz FILTER AND THE SOURCE OF 4.00MHz FREQUENCY FROM CRYSTAL OSCILLATOR X2.
- (4) INTERNAL AM AND FM DETECTOR OF IC2 DETECT AM & FM AUDIO SIGNAL.
- (5) A.G.C(AUTOMATIC GAIN CONTROL) SIGNAL OF IC2 FED TO IC2A, D3, Q7CONTROL RECEIVING SENSITIVITY.
- (6) FM AUDIO OUTPUT
DETECTED AND AMPLIFIED AUDIO SIGNAL IS FED THROUGH HIGH CUT FILTER R20,C35,VR1,IC3 TO SPEAKER.



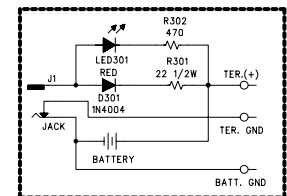


Alan 42 Multi Explode View Part List

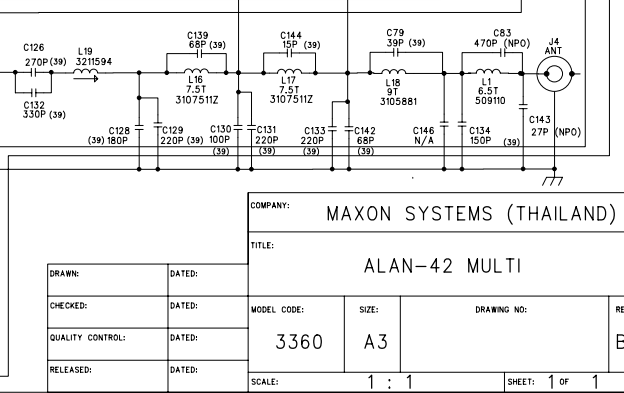
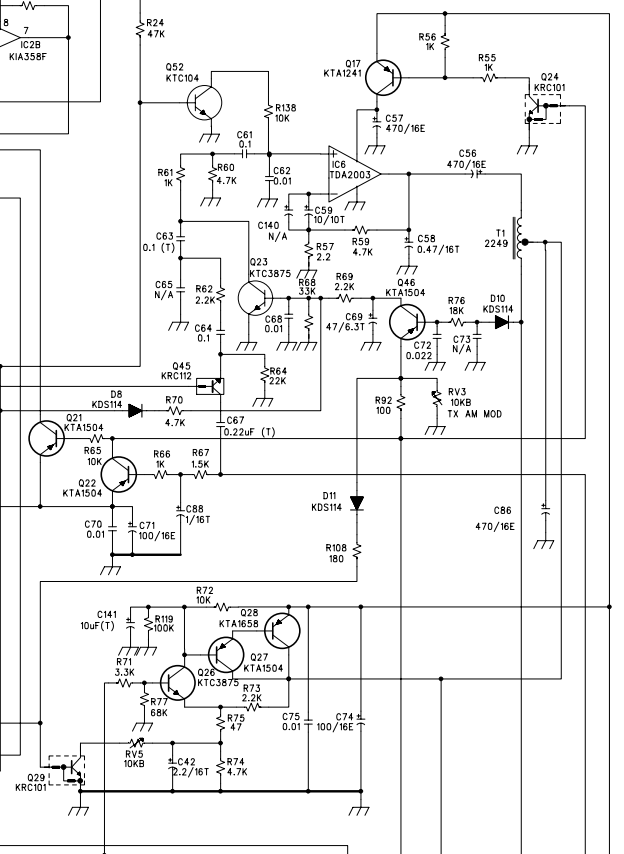
No.	Part Number	Part Name	Description	Q'ty	Remark
1.	719-410-A	BATT.BOTTOM COVER	ABS 94HB L380-S82276	1	
2.	719-411-F	BATT.UPPER COVER	ABS94HB L380-S82276	1	
3.	752-882	TERMINAL(1)	SUS 304 T=0.3	1	
4.	752-883	TERMINAL(2)	SUS 304 T=0.3	1	
5.	752-885	TERMINAL(+)	SUS 304 T=0.3	1	
6.	752-886	TERMINAL (-)	SUS 304 T=0.3	1	
7.	752-904	TERMINAL CHG(-,+)	SUS 304 T0.3	2	
8.	752-905	TERMINAL CHG(+,-)	SUS 304 T0.3	2	
9.	881-617	SPRING(BATT)	SWP3 &0.5	6	
10.	508-579-B	BOTTOM COVER ASS'Y	ABS 94HB L380-S82276	1	
11.	611-110	(+)MACHINE SCREW(BH)	2.6X4 BLK	2	
12.	612-285	(+)MACHINE SCREW(PH)	2X5 BLK	1	
13.	621-479	(+)TAPPING SCREW(PH)	T2.6X20-2S (+)PH BLK	3	
14.	651-158	NUT	M2 BLACK	1	
15.	NO PART	UPPER COVER	ABS 94HB L380-S82276	1	
16.	732-750-B	HAND STRAP	NYLON BLK	1	
17.	752-737	CLIP BELT	SUS 304 T0.6 BLK SPRAY	1	
18.	814-211	LENS	ACRYL CLEAR	1	
19.	826-301-A	KNOB LOCKING	ABS 94HB LG380-8A307B	1	
20.	881-618	SPRING	SUS304 &0.2	1	
21.	894-606	CUSHION	9X9XT1 RUBB.SPO.BLK STIC.	1	
22.	894-646	HOLDER	NEOPRENE RUBB. CR BLK HS60'	1	
23.	895-317	KEY PAD(1)	SILICONE RUBBER	1	
24.	895-318	KEY PAD(2)	SILICONE RUBBER GRAY	1	
25.	895-319	KNOB PTT	SILICONE RUBBER (BLACK)	1	
26.	906-706	FELT	&32.5XT=0.3	1	
27.	NO PART	LABEL NAME	POLYESTER 35.8X22.8	1	
28.	436-030-0	TACT SW		3	
29.	252-168-6Z	LCD		1	
30.	420-807-3V	JACK	SP1	1	
31.	420-806-2U	JACK	MICJ1	1	
32.	NO PART	CONNECTOR		1	
33.	202-125-2	TR		1	
34.	204-010-1	TR		1	
35.	420-247-8A	MIC		1	
36.	752-881	TERMINAL(ANT)BSP		1	
37.	440-020-4	MICA		2	
38.	NO PART	LCD PCB		1	
39.	NO PART	SUB PCB		1	
40.	NO PART	MAIN PCB		1	
41.	NO PART	CONNECTOR		1	
42.	450-437-5W	VR SQ		1	
43.	450-436-4Z	VR On/off VOI		1	
44.	420-407-7Z	ANT	HP-CB-MB2-1	1	
45.	611-385	(+)MACHINE SCREW(BH)	2.6X5 NI-PLAT	7	
46.	651-156	NUT	BSBM M7	2	
47.	702-448	BODY MAIN	EGI T0.8 US COATING	1	
48.	719-409-A	COVER TOP	ABS 94HB L380-S82276	1	
49.	752-884	TERMINAL(+)	BE-CU T=0.25 NI-PLAT	1	
50.	752-887	TERMINAL(-)	BE-CU T=0.25 NI-PLAT	1	
51.	752-881	TERMINAL(ANT)	BSP T=0.3 NI-PLAT	1	
52.	761-782	HEAT SINK	ALP T2.0	1	
53.	772-356-A	SHIELD HOUSING	SPTE T=0.3	1	
54.	772-358-A	SHIELD PLATE(VCO)	SPTE T0.3	1	
55.	772-359	SHIELD PLATE(CPU)	SPTE T0.3	1	
56.	826-250	KNOB VOL	ABS 94HB BLK	2	
57.	853-105	BUSHING	NYLON66+GLASS	2	
58.	895-327-A	ZEBRA	SILI.RUBB CLEAR	1	
59.	895-331	CAP DUST	N.B.R BLACK	1	
60.	420-120-6	SPEAKER		1	



REVISION RECORD			
LTR	ECO NO.	APPROVED	DATE

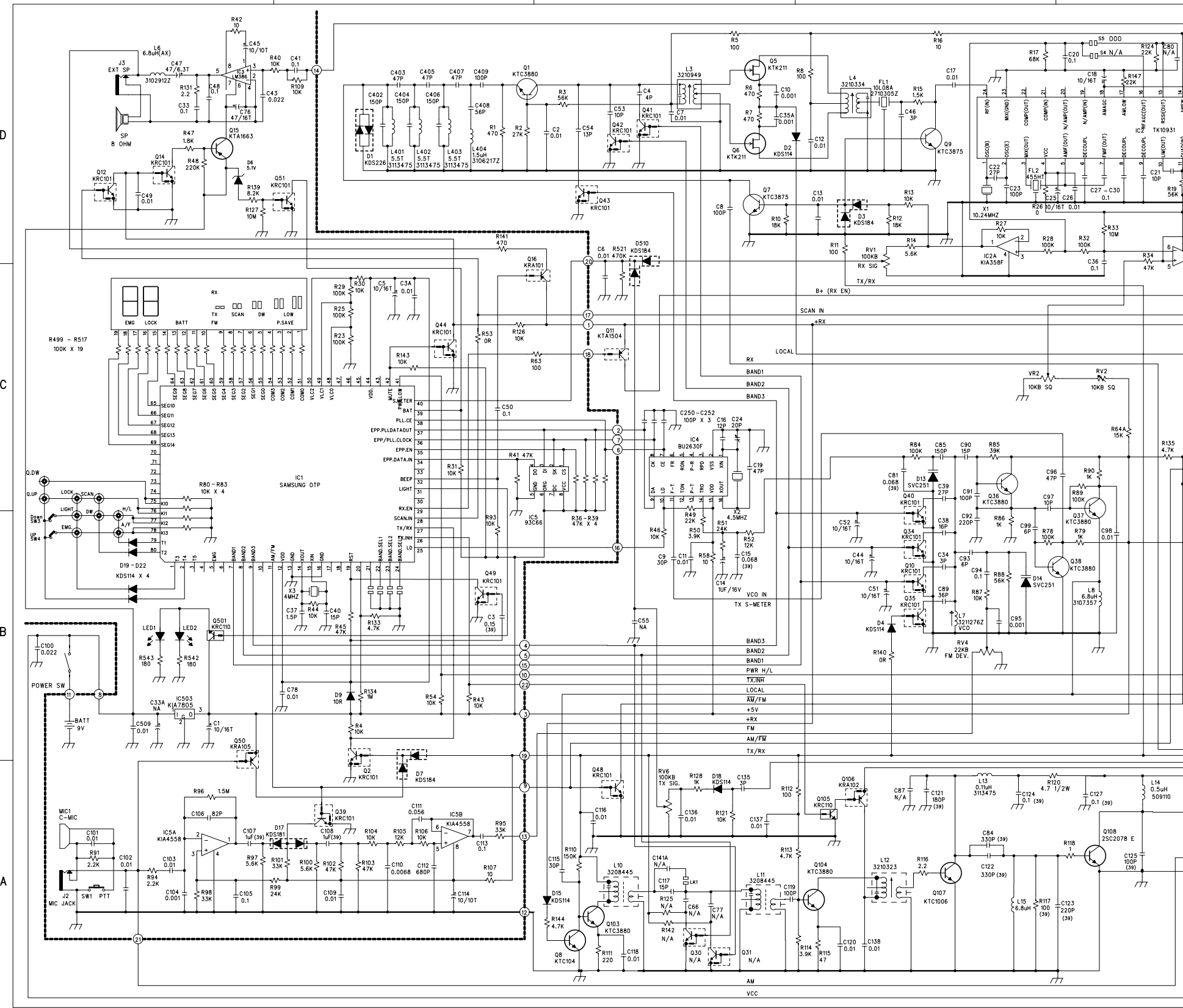


CHARGER CIRCUIT



COMPANY: MAXON SYSTEMS (THAILAND)
TITLE: ALAN-42 MULTI

DRAWN:	DATED:	MODEL CODE:	SIZE:	DRAWING NO:	REV:
CHECKED:	DATED:	3360	A3		B
QUALITY CONTROL:	DATED:				
RELEASED:	DATED:				
SCALE:		1 : 1		SHEET: 1 of 1	



COMPANY: MAXON SYSTEMS (THAILAND)
TITLE: ALAN-42 MULTI

DRAWN:	DATED:	MODEL CODE:	SIZE:	DRAWING NO:	REV:
CHECKED:	DATED:	3360	A3		B
QUALITY CONTROL:	DATED:				
RELEASED:	DATED:				
SCALE:		1 : 1		SHEET: 1 of 1	

DEVELOPMENT : FINAL
 DESIGN : FINAL
 TECHNIQUE : FINAL
 S/W VERSION : UNDEFINED
 MODEL CODE : 3360

PARTS LIST
 =====

ALAN42MULTI PORTABLE CB,4W,400

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6/03/07

1:35:54 PM

SEQ	LEVEL	PART-NO.	NAME & DESCRIPTION	ICP	Q'TY	UT	G	KON	OPT	REFERENCE-NO	ECO-DATE
1	2	533-60B-A	BATTERY ASS'Y		1	EA	A				8-3-2004
	3	719-410-A	BATT.BOTTOM COVER		1	EA	B	SUB			8-3-2004
	3	719-411-F	COVER UPPER(BATT)		1	EA	B	SUB			8-4-2002 C
	3	752-882	TERMINAL(1)	ICP	1	EA	B	SUB			8-3-2004
	3	752-883	TERMINAL(2)	ICP	1	EA	B	SUB			8-3-2004
	3	752-885	TERMINAL(+)	ICP	1	EA	B	SUB			8-3-2004
	3	752-886	TERMINAL (-)	ICP	1	EA	B	SUB			8-3-2004
	3	752-904		ICP	2	EA	B	SUB			8-3-2004
	3	752-905	TERMINAL CHG(+,-)	ICP	2	EA	B	SUB			8-3-2004
	3	881-617	SPRING(BATT)		6	EA	B	SUB			8-3-2004
2	2	533-60C-A	COVER ASS'Y		1	EA	A				7-3-2002
	3	508-579-AA	BOTTOM COVER ASS'Y		1	EA	B	SUB			11-4-2003 A
	4	719-407-A	COVER BOTTOM		1	EA	B	SUB			97/06/10 A
	4	853-039	INSERT(THREAD)		2	EA	B	SUB			97/06/09 A
	3	611-110	(+)MACHINE SCREW(BH)		4	EA	B	SUB		BELT CLIP MTG:2 , MAIN BODY:2	10-5-2018 C
	3	612-285	(+)MACHINE SCREW(PH)		1	EA	B	SUB		UPPER BOTTOM MTG	8-3-2004
	3	621-479	(+)TAPPING SCREW(PH)		3	EA	B	SUB		UPPER BOTTOM MTG	8-3-2004
	3	651-158	NUT		1	EA	B	SUB			8-3-2004
	3	719-408-K	COVER UPPER		1	EA	B	SUB			8-4-2002 A
	3	732-750-B	HAND STRAP	ICP	1	EA	B	SUB			8-3-2004
	3	752-737	CLIP BELT	ICP	1	EA	B	SUB			8-3-2004
	3	772-580	SHIELD PLATE TCXO	ICP	1	EA	B	SUB			11-4-2001 A
	3	814-211	LENS		1	EA	B	SUB			8-3-2004
	3	826-301-A	KNOB LOCKING		1	EA	B	SUB			8-3-2004
	3	881-618	SPRING		1	EA	B	SUB			8-3-2004
	3	894-646	HOLDER	ICP	1	EA	B	SUB			8-3-2004
	3	895-317-B	KEY PAD(1)	ICP	1	EA	B	SUB			9-4-2007 A
	3	895-318	KEY PAD(2)	ICP	1	EA	B	SUB			8-3-2004
	3	895-319	KNOB PTT	ICP	1	EA	B	SUB			8-3-2004
	3	903-960-A	INSULATION PLATE	ICP	1	EA	B	SUB		BOTTOM COVER:0.5 , SUB PCB:0.5	10-5-2018 C
	3	906-706	FELT	ICP	1	EA	B	SUB		FOR SPK	8-3-2004
3	2	533-60C-B	CHARGER BATT. ASS'Y		1	EA	A				7-3-2002
	3	001-471-7Z	FILM RESISTOR	ICP	1	EA	B	SUB		R302	7-3-2002

	3	030-220-1Z	FILM RESISTOR	22 1/ 2W 5% ST MINI	ICP	1 EA B SUB	R301	7-3-2002
	3	245-015-3X	DIODE RECTIFIER	1N4004	ICP	1 EA B SUB	D301	7-3-2002
	3	251-052-9Y	LED LAMP	LTL-1CHE RED	ICP	1 EA B SUB	LED301	7-3-2017 C
	3	420-870-1	DC POWER JACK	DJ25N-1		1 EA B SUB	J301	9-5-2003 C
	3	621-007	(+)TAPPING SCREW(PH)	2.6X4-2S ZN-PLAT	ICP	1 EA B SUB	CHARGE PCB MTG	8-3-2004
	3	719-448-E	COVER UPPER(CHG BATT	ABS		1 EA B SUB		8-4-2002 C
	3	719-449	COVER BO.(CHG BATT.)	ABS 94HB L380-S82276		1 EA B SUB		8-3-2004
	3	752-898	TERMINAL CHG(A)	BSP T0.3 NI-PLATING	ICP	1 EA B SUB		8-3-2004
	3	752-899	TERMINAL CHG(B)	BSP T0.3 NI-PLATING	ICP	1 EA B SUB		8-3-2004
	3	752-900	TERMINAL CHG(C)	SUS 304 T0.3	ICP	1 EA B SUB		8-3-2004
	3	752-901	TERMINAL CHG(D)	SUS 304 T0.3	ICP	1 EA B SUB		8-3-2004
	3	752-904	TERMINAL CHG(-,+)	SUS 304 T0.3	ICP	4 EA B SUB		8-3-2004
	3	752-905	TERMINAL CHG(+,-)	SUS 304 T0.3	ICP	2 EA B SUB		8-3-2004
	3	752-906	TERMINAL CHG(-)	SUS 304 T0.3	ICP	1 EA B SUB		8-3-2004
	3	752-907	TERMINAL CHG(+)	BSP T0.3 NI-PLATING	ICP	1 EA B SUB		8-3-2004
	3	795-870	GUIDE PLATE	PVC BLACK	ICP	2 EA B SUB		8-3-2004
	3	881-617	SPRING(BATT)	SWP3 &0.5		8 EA B SUB		8-3-2004
4	2	533-60E-A	EXT ANT CAR ADAPT AS			1 EA A		7-3-2002
	3	104-813-9X	ELECT CAPACITOR	470UF 16V 20% 8X12	ICP	1 EA B SUB	C702	7-3-2002
	3	130-102-9Y	DISK CERAMIC	0.01UF HIK(B)F 103Z 50	ICP	2 EA B SUB	C701.703	7-3-2002
	3	131-226-3	DISK CERAMIC	120PF NPO121J 50	ICP	1 EA B SUB	C705	3-5-2017 A
	3	135-605-2X	DISK CERAMIC	56PF NPO K% 50	ICP	1 EA B SUB	C704	3-5-2017 A
	3	300-120-8	TRANSFORMER	CHOKE EI-14	ICP	1 EA B SUB	CH1	7-3-2002
	3	312-314-0	COIL SPRING	6.5X0.8X5.5T:R	ICP	1 EA B SUB	L701	3-5-2017 A
	3	4A1-101	P.C.B ASS'Y	73.5X27.4X1.6 94HB 1/0	ICP	1 EA B SUB		7-3-2002
	4	401-773	P.C.B TERMINAL	25.3X20.5X1.6 94HB 1/0		1 EA A SUB		97/01/14 A
	4	401-774	P.C.B ANT	47X20.8X1.6 94HB 1/0		1 EA A SUB		97/01/14 A
	3	503-171-B	EXT ANT DC CAR CORD	EXT ANT DC CAR CORD		1 EA B SUB		1-5-1931 C
	3	612-220	(+)MACHINE SCREW(FH)	M2X5 (+)FH NI-PLAT		2 EA B SUB	HOLDER MTG	8-3-2004
	3	621-479	(+)TAPPING SCREW(PH)	T2.6X20-2S (+)PH BLK		2 EA B SUB	UPPER BOTTOM MTG	8-3-2004
	3	665-018	E RING	&1.5 BLK		1 EA B SUB		8-3-2004
	3	719-498-D	COVER UPPER ANT	ABS		1 EA B SUB		8-4-2002 C
	3	719-499	BOTTOM COVER(ANT)	ABS94HB L380-S82276		1 EA B SUB		8-3-2004
	3	732-942	HOLDER(ANT)	EGI US COATING T=0.5	ICP	1 EA B SUB		8-3-2004
	3	752-949	TERMINAL(ANT)	BSBM NI-PLAT		1 EA B SUB		8-3-2004
	3	752-950	TERMINAL	BSP T0.3 NI-PLAT	ICP	2 EA B SUB		8-3-2004
	3	881-630	SPRING	SUS304 &0.3		1 EA B SUB		8-3-2004
5	2	533-60L-PA	LCD PCB AUTO ASS'Y			1 EA A		7-3-2002
	3	05D-000-5Z	CHIP RESISTOR	0 1/16W 5% T 1005	ICP	1 EA B SMD	R53	10-4-2027 C
	3	05D-100-2Z	CHIP RESISTOR	10 1/16W 5% T 1005	ICP	2 EA B SMD	R42.107	8-3-2001 C
	3	05D-101-3Z	CHIP RESISTOR	100 1/16W 5% T 1005	ICP	1 EA B SMD	R63	12-3-2003 A

3	05D-103-5Z	CHIP RESISTOR	10K 1/16W 5% T 1005	ICP	16 EA B SMD	R4.30.31.40.43.54.80.81.82.83. 93.104.106.109.126.143	12-4-2016 C
3	05D-104-6Z	CHIP RESISTOR	100K 1/16W 5% T 1005	ICP	22 EA B SMD	R23.25.29.499.500.501.502.503. 504.505.506.507.508.509.510. + 511.512.513.514.515.516.517	7-4-2012 C
3	05D-105-7Z	CHIP RESISTOR	1M 1/16W 5% T 1005	ICP	1 EA B SMD	R134	10-4-2027 C
3	05D-106-8Z	CHIP RESISTOR	10M 1/16W 5% T 1005	ICP	1 EA B SMD	R127	10-4-2027 C
3	05D-123-3Z	CHIP RESISTOR	12K 1/16W 5% T 1005	ICP	1 EA B SMD	R105	8-3-2001 A
3	05D-155-2Z	CHIP RESISTOR	1.5M 1/16W 5% T 1005	ICP	1 EA B SMD	R96	9-4-2002 C
3	05D-181-5Z	CHIP RESISTOR	180 1/16W 5% T 1005	ICP	2 EA B SMD	R542.543	8-3-2001 C
3	05D-182-6Z	CHIP RESISTOR	1.8K 1/16W 5% T 1005	ICP	1 EA B SMD	R47	8-3-2001 A
3	05D-222-9Z	CHIP RESISTOR	2.2K 1/16W 5% T 1005	ICP	2 EA B SMD	R91.94	9-4-2002 C
3	05D-224-1Z	CHIP RESISTOR	220K 1/16W 5% T 1005	ICP	1 EA B SMD	R48	8-3-2001 A
3	05D-229-6Z	CHIP RESISTOR	2.2 1/16W 5% T 1005	ICP	1 EA B SMD	R131	8-3-2001 A
3	05D-243-8Z	CHIP RESISTOR	24K 1/16W 5% T 1005	ICP	1 EA B SMD	R99	8-3-2001 A
3	05D-333-6Z	CHIP RESISTOR	33K 1/16W 5% T 1005	ICP	3 EA B SMD	R95.98.101	8-3-2001 A
3	05D-471-7Z	CHIP RESISTOR	470 1/16W 5% T 1005	ICP	1 EA B SMD	R141	9-4-2002 A
3	05D-472-8Z	CHIP RESISTOR	4.7K 1/16W 5% T 1005	ICP	1 EA B SMD	R133	5-5-2009 C
3	05D-473-9Z	CHIP RESISTOR	47K 1/16W 5% T 1005	ICP	8 EA B SMD	R36.37.38.39.41.45.102.103	8-3-2001 C
3	05D-474-0Z	CHIP RESISTOR	470K 1/16W 5% T 1005	ICP	1 EA B SMD	R44	12-4-2016 A
3	05D-562-6Z	CHIP RESISTOR	5.6K 1/16W 5% T 1005	ICP	2 EA B SMD	R97.100	8-3-2001 A
3	05D-822-1Z	CHIP RESISTOR	8.2K 1/16W 5% T 1005	ICP	1 EA B SMD	R139	5-5-2009 A
3	060-100-5Z	CHIP RESISTOR	10 1/10W 5% T 2012	ICP	1 EA B SMD	D9	11-4-2024 C
3	130-B12-1Y	CHIP CERAMIC	0.001UF GRM36 X7R102K 50	ICP	1 EA B SMD	C104	8-3-2001 A
3	130-B16-5Y	CHIP CERAMIC	0.01UF GRM36 X7R103K 16	ICP	7 EA B SMD	C3A.49.78.102.103.109.509	9-4-2002 C
3	130-B33-0Y	CHIP CERAMIC	0.15UF GRM39 X7R154K 10	ICP	1 EA B SMD	C3	12-3-2003 A
3	130-B36-3Y	CHIP CERAMIC	0.1UF GRM36 X5R104K 10	ICP	6 EA B SMD	C33.41.48.50.105.113	10-4-2027 C
3	130-289-2Y	CHIP CERAMIC	0.022UF GRM36 Y5V223Z 25	ICP	1 EA B SMD	C43	10-4-2013 C
3	130-533-5Y	CHIP CERAMIC	0.056UF GRM36 X7R563K 16		1 EA B SMD	C111	9-4-2002 C
3	130-629-9Y	CHIP CERAMIC	0.0068UF GRM36 X7R682K 25	ICP	1 EA B SMD	C110	9-4-2002 C
3	131-135-4Y	CHIP CERAMIC	1UF GRM39 Y5V105Z 10	ICP	2 EA B SMD	C107.108	8-3-2004 A
3	131-583-5Y	CHIP CERAMIC	1.5PF GRM36 COG1R5C 50	ICP	1 EA B SMD	C37	10-4-2027 A
3	131-584-6Y	CHIP CERAMIC	15PF GRM36 COG150J 50V	ICP	1 EA B SMD	C40	10-4-2027 C
3	136-861-1Y	CHIP CERAMIC	680PF GRM36 X7R681K 50		1 EA B SMD	C112	8-3-2001 A
3	138-245-6Y	CHIP CERAMIC	82PF GRM36 COG820J 50	ICP	1 EA B SMD	C106	8-3-2001 A
3	141-046-0	CHIP TANTALUM	10UF 293D106X0010B2T1	ICP	2 EA B SMD	C45.114	8-3-2004 C
3	141-051-4	CHIP TANTALUM	10UF 293D106X0016C2T1	ICP	2 EA B SMD	C1.5	8-3-2004 A
3	144-723-3Z	CHIP TANTALUM	47UF 293D476X06R3C2T6		1 EA B SMD	C47	7-3-2002 C
3	144-729-8Z	CHIP TANTALUM	47UF 293D476X0016E2T1	ICP	1 EA B SMD	C76	7-3-2002 C
3	202-085-9	TRANSISTOR	KRC101S	ICP	7 EA B SMD	Q2.12.14.39.44.49.51	12-3-2003 C
3	202-096-9	BRT	KRC110S NK	ICP	1 EA B SMD	Q501	7-3-2002

	3	202-116-4	TRANSISTOR	KTA1663	ICP	1	EA	B	SMD	Q15	7-3-2002
	3	202-155-9	TRANSISTOR	KRA105S	ICP	1	EA	B	SMD	Q50	9-4-2015 A
	3	218-039-1Z	TRANSISTOR	KRA101S	ICP	1	EA	B	SMD	Q16	7-3-2002
	3	220-378-0	I.C REGULATOR	KIA78L05F	ICP	1	EA	B	SMD	IC503	8-3-2001 A
	3	221-531-6	I.C CPU(OTP)	S3P8249XZZ-TWR9 (ICP	1	EA	B	SMD	IC1	3-4-2017 A
	3	222-027-3	I.C OP AMP	KIA4558F	ICP	1	EA	B	SMD	IC5A	9-4-2002 C
	3	229-376-3X	I.C EEPROM	AT93C66A-10SI-2.7	ICP	1	EA	B	SMD	IC5	6-4-2025 C
	3	231-038-1	I.C	LM386MX-1 (SO-08)		1	EA	B	SMD	IC3	7-3-2002
	3	241-224-5	ZENER DIODE	Z02W5.1V Y SOT-23	ICP	1	EA	B	SMD	D6	9-4-2015 A
	3	243-051-5	DIODE SI CHIP	KDS184S	ICP	1	EA	B	SMD	D7	9-4-2015 A
	3	243-063-6	DIODE SWITCHING	KDS181S A3	ICP	1	EA	B	SMD	D17	8-3-2001 A
	3	243-080-1Z	DIODE	KDS114	ICP	4	EA	B	SMD	D19.20.21.22	8-3-2001 A
	3	251-233-6	LED LAMP CHIP	CL-220YG-C-TS YEL/GRN 5V		2	EA	B	SMD	LED1.2	7-3-2002
	3	421-410-1	CONNECTOR	GDH2-22DBC	ICP	1	EA	B	SUB		9-4-2002 A
	3	436-030-0	SW TACT	SKHUPFE010	ICP	3	EA	B	SMD	SW1.3.4	11-4-2015 C
6	2	533-60L-PM	LCD PCB MANUAL ASS'Y			1	EA	A			7-3-2002
	3	252-323-6	LCD DISPLAY	ISO5148E		1	EA	B	SUB		6-4-2011 A
	3	263-471-7	CRYSTAL OSCILLATOR	4M 30PPM 20PF	ICP	1	EA	B	SUB	X3	8-3-2004 A
	3	310-291-2Z	COIL AXIAL	6.8UH:TCEC-6R8K	ICP	1	EA	B	SUB	L6	7-3-2002
	3	420-806-2U	JACK STEREO EARPHONE	EJS-4-4035S	ICP	1	EA	B	SUB	J3	7-3-2002
	3	420-807-3V	JACK STEREO EARPHONE	EJS-4-4125S	ICP	1	EA	B	SUB	J2	7-3-2002
7	2	533-60M-BA	MAIN BODY ASS'Y			1	EA	A			7-3-2002
	3	202-125-2	TRANSISTOR	KTA 1658	ICP	1	EA	B	SUB	Q28	11-3-2028 C
	3	204-010-1	TRANSISTOR	2SC2078(E)	ICP	1	EA	B	SUB	Q108	11-3-2028 C
	3	229-075-1	I.C	TDA2003H		1	EA	B	SUB	IC6	8-3-2001 C
	3	421-036-8A	CONNECTOR PLUG	UG-1094/U(W)	ICP	1	EA	B	SUB	J4	7-3-2002
	3	440-020-4	MICA	0.1T:15X13 MICA FOR TR	ICP	2	EA	B	SUB	FOR Q28.108	7-3-2002
8	2	533-60M-PA	MAIN PCB AUTO ASS'Y			1	EA	A			7-3-2002
	3	05B-101-3Z	CHIP RESISTOR	100 1/16W 5% T 1608	ICP	1	EA	B	SMD	R117	12-3-2003 A
	3	05D-000-5Z	CHIP RESISTOR	0 1/16W 5% T 1005	ICP	3	EA	B	SMD	R26.140.S5	11-4-2024 C
	3	05D-100-2Z	CHIP RESISTOR	10 1/16W 5% T 1005	ICP	2	EA	B	SMD	R16.58	8-3-2001 C
	3	05D-101-3Z	CHIP RESISTOR	100 1/16W 5% T 1005	ICP	5	EA	B	SMD	R5.8.11.92.112	9-4-2002 C
	3	05D-102-4Z	CHIP RESISTOR	1K 1/16W 5% T 1005	ICP	8	EA	B	SMD	R55.56.61.66.79.86.90.128	10-4-2027 C
	3	05D-103-5Z	CHIP RESISTOR	10K 1/16W 5% T 1005	ICP	7	EA	B	SMD	R13.27.46.65.87.121.138	11-4-2024 C
	3	05D-104-6Z	CHIP RESISTOR	100K 1/16W 5% T 1005	ICP	6	EA	B	SMD	R28.32.78.84.89.119	9-4-2002 C
	3	05D-106-8Z	CHIP RESISTOR	10M 1/16W 5% T 1005	ICP	1	EA	B	SMD	R33	8-3-2001 C
	3	05D-109-1Z	CHIP RESISTOR	1 1/16W 5% T 1005	ICP	1	EA	B	SMD	R118	12-3-2003 A
	3	05D-122-2Z	CHIP RESISTOR	1.2K 1/16W 5% T 1005	ICP	1	EA	B	SMD	R122	11-4-2024 C
	3	05D-123-3Z	CHIP RESISTOR	12K 1/16W 5% T 1005	ICP	2	EA	B	SMD	R51.52	9-4-2002 C
	3	05D-152-9Z	CHIP RESISTOR	1.5K 1/16W 5% T 1005	ICP	1	EA	B	SMD	R15	8-3-2001 A
	3	05D-153-0Z	CHIP RESISTOR	15K 1/16W 5% T 1005	ICP	1	EA	B	SMD	R64A	9-4-2002 A

3	05D-154-1Z	CHIP RESISTOR	150K 1/16W 5% T 1005	ICP	1 EA B SMD	R110	8-3-2001 C
3	05D-181-5Z	CHIP RESISTOR	180 1/16W 5% T 1005	ICP	1 EA B SMD	R108	3-5-2008 C
3	05D-182-6Z	CHIP RESISTOR	1.8K 1/16W 5% T 1005	ICP	1 EA B SMD	R20	9-4-2002 A
3	05D-183-7Z	CHIP RESISTOR	18K 1/16W 5% T 1005	ICP	3 EA B SMD	R10.12.76	9-4-2002 C
3	05D-221-8Z	CHIP RESISTOR	220 1/16W 5% T 1005	ICP	1 EA B SMD	R111	8-3-2001 C
3	05D-222-9Z	CHIP RESISTOR	2.2K 1/16W 5% T 1005	ICP	4 EA B SMD	R62.67.69.73	10-4-2027 C
3	05D-223-0Z	CHIP RESISTOR	22K 1/16W 5% T 1005	ICP	5 EA B SMD	R49.64.124.146.147	10-4-2027 C
3	05D-229-6Z	CHIP RESISTOR	2.2 1/16W 5% T 1005	ICP	2 EA B SMD	R57.116	12-3-2003 C
3	05D-273-5Z	CHIP RESISTOR	27K 1/16W 5% T 1005	ICP	1 EA B SMD	R2	9-4-2002 C
3	05D-332-5Z	CHIP RESISTOR	3.3K 1/16W 5% T 1005	ICP	1 EA B SMD	R71	9-4-2002 C
3	05D-333-6Z	CHIP RESISTOR	33K 1/16W 5% T 1005	ICP	1 EA B SMD	R68	12-3-2003 C
3	05D-392-9Z	CHIP RESISTOR	3.9K 1/16W 5% T 1005	ICP	1 EA B SMD	R50	8-3-2001 C
3	05D-393-0Z	CHIP RESISTOR	39K 1/16W 5% T 1005	ICP	1 EA B SMD	R85	8-3-2001 C
3	05D-470-6Z	CHIP RESISTOR	47 1/16W 5% T 1005	ICP	2 EA B SMD	R75.115	8-3-2001 C
3	05D-471-7Z	CHIP RESISTOR	470 1/16W 5% T 1005	ICP	3 EA B SMD	R1.6.7	9-4-2002 C
3	05D-472-8Z	CHIP RESISTOR	4.7K 1/16W 5% T 1005	ICP	5 EA B SMD	R59.60.70.74.135	8-5-2027 C
3	05D-473-9Z	CHIP RESISTOR	47K 1/16W 5% T 1005	ICP	3 EA B SMD	R24.34.123	11-4-2024 C
3	05D-474-0Z	CHIP RESISTOR	470K 1/16W 5% T 1005	ICP	1 EA B SMD	R521	8-3-2001 A
3	05D-562-6Z	CHIP RESISTOR	5.6K 1/16W 5% T 1005	ICP	1 EA B SMD	R14	12-3-2003 C
3	05D-563-7Z	CHIP RESISTOR	56K 1/16W 5% T 1005	ICP	5 EA B SMD	R3.19.22.88.137	12-3-2003 C
3	05D-565-9Z	CHIP RESISTOR	5.6M 1/16W 5% T 1005	ICP	1 EA B SMD	R35	8-3-2001 C
3	05D-682-1Z	CHIP RESISTOR	6.8K 1/16W 5% T 1005	ICP	1 EA B SMD	R113	8-5-2027 A
3	05D-683-2Z	CHIP RESISTOR	68K 1/16W 5% T 1005	ICP	2 EA B SMD	R17.77	12-3-2003 C
3	05D-822-1Z	CHIP RESISTOR	8.2K 1/16W 5% T 1005	ICP	1 EA B SMD	R72	10-4-2027 A
3	067-104-5Y	RES.CHIP SEMIFIXED	100K TMC3KJB100K3DIA		2 EA B SMD	RV1.6	8-3-2004 C
3	067-223-8Y	RES.CHIP SEMIFIXED	22K TMC3KJB22K 3DIA		1 EA B SMD	RV4	11-5-2019 C
3	075-103-6	RES.CHIP TRIMMER	10K RH03E1C14X	ICP	3 EA B SMD	RV2.3.5	10-4-2013 C
3	130-A74-7Y	CHIP CERAMIC	0.1UF GRM39 Y5V104Z 25	ICP	2 EA B SMD	C124.127	9-4-2002 A
3	130-B12-1Y	CHIP CERAMIC	0.001UF GRM36 X7R102K 50	ICP	3 EA B SMD	C10.35A.95	8-3-2001 C
3	130-B16-5Y	CHIP CERAMIC	0.01UF GRM36 X7R103K 16	ICP	19 EA B SMD	C2.6.7.11.12.13.17.26.62.68.70 .75.98.116.118.120.136.137. +	9-4-2002 C
138							
3	130-B36-3Y	CHIP CERAMIC	0.1UF GRM36 X5R104K 10	ICP	10 EA B SMD	C20.27.28.29.30.36.61.64.82.94	11-4-2024 C
3	130-289-2Y	CHIP CERAMIC	0.022UF GRM36 Y5V223Z 25	ICP	2 EA B SMD	C72.100	9-4-2002 C
3	130-296-1Y	CHIP CERAMIC	0.22UF CL05F224ZPNC		3 EA B SMD	C32.35.60	11-4-2024 C
3	130-533-5Y	CHIP CERAMIC	0.056UF GRM36 X7R563K 16		1 EA B SMD	C31	11-4-2024 A
3	130-622-2	CHIP CERAMIC	0.068UF GRM39 Y5V683K 16	ICP	2 EA B SMD	C15.81	9-4-2002 C
3	131-093-9Y	CHIP CERAMIC	100PF GRM39 COG101J 50	ICP	2 EA B SMD	C125.130	11-4-2024 C
3	131-127-7Y	CHIP CERAMIC	10PF GRM36 COG100D 50	ICP	3 EA B SMD	C21.53.97	11-4-2024 C
3	131-129-9Y	CHIP CERAMIC	100PF GRM36 COG101J 50	ICP	8 EA B SMD	C8.23.91.119.250.251.252.409	10-4-2027 C
3	131-256-4Y	CHIP CERAMIC	12PF GRM36 COG120J 50	ICP	1 EA B SMD	C16	9-4-2002 A

3	131-312-7Y	CHIP CERAMIC	13PF	GRM36 COG130J 50	ICP	1 EA	B	SMD	C54	11-4-2024	A
3	131-564-8Y	CHIP CERAMIC	15PF	GRM39 COG150J 50	ICP	1 EA	B	SMD	C144	9-4-2002	A
3	131-575-8Y	CHIP CERAMIC	150PF	GRM39 COG151J 50	ICP	2 EA	B	SMD	C87.134	8-5-2027	C
3	131-584-6Y	CHIP CERAMIC	15PF	GRM36 COG150J 50V	ICP	2 EA	B	SMD	C90.117	11-4-2024	C
3	131-585-7Y	CHIP CERAMIC	150PF	GRM36 COG151J 50	ICP	4 EA	B	SMD	C85.402.404.406	12-3-2003	C
3	131-608-5Y	CHIP CERAMIC	16PF	GRM36 COG160J 50	ICP	1 EA	B	SMD	C38	8-3-2001	C
3	131-835-3Y	CHIP CERAMIC	180PF	GRM39 COG181J 50	ICP	2 EA	B	SMD	C121.128	9-4-2002	C
3	132-260-8Y	CHIP CERAMIC	220PF	GRM39 COG221J 50	ICP	3 EA	B	SMD	C129.131.133	8-5-2027	C
3	132-288-1Y	CHIP CERAMIC	220PF	GRM36 X7R221J 50	ICP	1,3 EA	B	SMD	C92	12-3-2003	C
3	132-735-1Y	CHIP CERAMIC	270PF	GRM39 COG271J 50	ICP	2 EA	B	SMD	C123.126	8-5-2027	C
3	132-754-8Y	CHIP CERAMIC	27PF	GRM36 COG270C	ICP	2 EA	B	SMD	C22.39	11-4-2024	C
3	133-110-1Y	CHIP CERAMIC	3PF	GRM36 COG030C 50	ICP	3 EA	B	SMD	C34.46.135	9-4-2002	C
3	133-111-2Y	CHIP CERAMIC	30PF	GRM36 COG300J 50	ICP	2 EA	B	SMD	C9.115	8-3-2004	C
3	133-350-1Y	CHIP CERAMIC	330PF	GRM39 COG331J 50	ICP	2 EA	B	SMD	C122.132	8-5-2027	C
3	133-617-3Y	CHIP CERAMIC	36PF	GRM36 COG360J 50	ICP	1 EA	B	SMD	C89	9-4-2002	C
3	133-930-5Y	CHIP CERAMIC	39PF	GRM39 COG390J 50	ICP	1 EA	B	SMD	C79	9-4-2002	A
3	134-018-7Y	CHIP CERAMIC	4PF	GRM36 COG040C 50V	ICP	1 EA	B	SMD	C4	9-4-2002	A
3	134-770-2Y	CHIP CERAMIC	470PF	GRM39 X7R471K 50	ICP	1 EA	B	SMD	C84	8-5-2027	A
3	134-779-1Y	CHIP CERAMIC	47PF	GRM36 COG470J 50V	ICP	5 EA	B	SMD	C19.96.403.405.407	11-4-2024	C
3	135-652-4Y	CHIP CERAMIC	56PF	GRM36 COG560J 50		1 EA	B	SMD	C408	10-4-2027	C
3	136-018-7Y	CHIP CERAMIC	6PF	GRM36 COG060D 50	ICP	2 EA	B	SMD	C93.99	8-3-2001	C
3	136-839-2Y	CHIP CERAMIC	68PF	GRM39 COG680J 50	ICP	2 EA	B	SMD	C139.142	9-4-2002	C
3	138-014-3Y	CHIP CERAMIC	8PF	GRM36 COG080D 50	ICP	1 EA	B	SMD	C141A	10-4-2027	A
3	140-114-3Z	CHIP TANTALUM	0.1UF	293D104X0035A2T3	ICP	2 EA	B	SMD	C63.67	8-5-2027	C
3	140-405-6	CHIP TANTALUM	0.47UF	TCA10474MR 20	ICP	1 EA	B	SMD	C58	8-3-2004	A
3	141-036-1	CHIP TANTALUM	1UF	293D105X0016A2T1	ICP	2 EA	B	SMD	C14.88	2-6-2006	C
3	141-051-4	CHIP TANTALUM	10UF	293D106X0016C2T1	ICP	2 EA	B	SMD	C18.141	10-4-2027	C
3	141-070-1Z	CHIP TANTALUM	10UF	293D106X96R3A2T6	ICP	5 EA	B	SMD	C25.44.51.52.59	10-4-2027	C
3	141-072-3Y	CHIP TANTALUM	10UF	TSM1A106ASSR 10	ICP	1 EA	B	SMD	C140	8-5-2027	A
3	142-227-2Z	CHIP TANTALUM	2.2UF	293D225X0016A2T1	ICP	1 EA	B	SMD	C42	9-4-2002	C
3	144-723-3Z	CHIP TANTALUM	47UF	293D476X06R3C2T6		1 EA	B	SMD	C69	7-3-2002	C
3	172-021-1Y	CHIP TRIMMER	20PF	STC3M20-TA	ICP	1 EA	B	SMD	C24	9-4-2002	C
3	202-082-6	TRANSISTOR		KTA1504ST1(G)	ICP	5 EA	B	SMD	Q11.21.22.27.46	7-3-2002	C
3	202-085-9	TRANSISTOR		KRC101S	ICP	10 EA	B	SMD	Q10.24.29.34.35.40.41.42.43.48	11-4-2024	C
3	202-089-3	BRT		KRA102SPB	ICP	1 EA	B	SMD	Q106	7-3-2002	
3	202-095-8Z	TRANSISTOR		KRC104SND	ICP	2 EA	B	SMD	Q45.52	8-5-2027	C
3	202-096-9	BRT		KRC110S NK	ICP	1 EA	B	SMD	Q105	7-3-2002	
3	202-112-0	TRANSISTOR		KTC3875S(GR)	ICP	5 EA	B	SMD	Q7.9.23.26.47	7-3-2003	C
3	202-153-7	TRANSISTOR		KTC3880SY	ICP	6 EA	B	SMD	Q1.36.37.38.103.104	7-3-2003	C
3	202-183-4	FET		KTK211GR	ICP	2 EA	B	SMD	Q5.6	7-3-2002	
3	220-110-4	I.C OP AMP		KIA358F	ICP	1 EA	B	SMD	IC2A	9-4-2002	C

9	2	3	221-460-5	I.C PLL(DUAL)	BU2630F	ICP	1	EA	B	SMD	IC4	8-3-2001	A
		3	221-883-1	I.C AM/FM DETECTOR	TK10931VTL		1	EA	B	SMD	IC2	10-4-2027	C
		3	242-024-6	DIODE VARIVAP CHIP	KDV251S	ICP	2	EA	B	SMD	D13.14	10-4-2013	C
		3	243-049-4	DIODE SI CHIP	KDS226	ICP	1	EA	B	SMD	D1	7-3-2002	C
		3	243-051-5	DIODE SI CHIP	KDS184S	ICP	3	EA	B	SMD	D3.5.510	8-3-2004	C
		3	243-080-1Z	DIODE	KDS114	ICP	6	EA	B	SMD	D2.4.8.10.11.18	9-4-2015	C
		3	321-127-6Z	COIL IFT	7.96MHZ 613BN-M014IB		1	EA	B	SMD	L7	10-4-2027	C
		3	4A1-193-B	P.C.B ASS'Y	135 X108 X1.0 FR4 2/S	ICP	1	EA	B	SMD		10-4-2014	C
		4	401-173-B	P.C.B MAIN	64.5 X53.5 X1.0 FR4 2/S		1	EA	B	SMD		10-4-2014	C
		4	411-829-B	P.C.B LCD	67 X57.2 X1.0 FR4 2/S		1	EA	B	SMD		10-4-2014	C
		4	411-830-B	P.C.B SUB	33.5 X21.3 X1.0 FR4 2/S		1	EA	B	SMD		10-4-2014	C
		4	411-831-B	P.C.B CHARGER	46 X7.5 X1.0 FR4 2/S		1	EA	B	SMD		10-4-2014	C
		3	421-410-2	CONNECTOR	TDH2-22SG	ICP	1	EA	B	SUB		9-4-2002	A
			533-60M-PM	MAIN PCB MANUAL ASSY			1	EA	A			7-3-2002	
		3	030-479-3Z	FILM RESISTOR	4.7 1/ 2W 5% ST MINI	ICP	1	EA	B	SUB	R120	7-3-2002	
		3	05D-472-8Z	CHIP RESISTOR	4.7K 1/16W 5% T 1005	ICP	1	EA	B	SMD	R144	10-4-2013	C
		3	101-124-5	ELECT CAPACITOR	100UF 25V 20% 6.3X11	ICP	1	EA	B	SUB	C74	9-4-2002	C
		3	101-125-6	ELECT CAPACITOR	100UF 10V 20% 5X7	ICP	1	EA	B	SUB	C71	8-3-2004	A
		3	104-813-9X	ELECT CAPACITOR	470UF 16V 20% 8X12	ICP	3	EA	B	SUB	C56.57.86	5-5-2017	C
		3	132-702-1X	DISK CERAMIC	27PF NPO K% 50	ICP	1	EA	B	SUB	C83A(ANT)	3-5-2014	A
		3	134-704-3Y	DISK CERAMIC	470PF N750471K 50	ICP	1	EA	B	SUB	C83	9-4-2015	A
		3	136-014-3Y	CHIP CERAMIC	6PF GRM39 COG060D 50	ICP	1	EA	B	SUB	C145	8-5-2027	A
		3	202-095-8Z	TRANSISTOR	KRC104SND	ICP	1	EA	B	SMD	Q8	10-4-2013	C
		3	202-117-5	TRANSISTOR	KTA1241	ICP	1	EA	B	SUB	Q17	7-3-2002	
		3	202-124-1	TRANSISTOR	KTC1006	ICP	1	EA	B	SUB	Q107	7-3-2002	
		3	243-080-1Z	DIODE	KDS114	ICP	1	EA	B	SMD	D15	10-4-2013	C
		3	262-043-9Y	CRYSTAL(HC-49U)	4.5MHZ -30 30PM 16P	ICP	1	EA	B	SUB	X2	9-4-2015	C
		3	263-395-2Y	CRYSTAL	10.240M -40 20PM 32P	ICP	1	EA	B	SUB	X1	9-4-2015	C
		3	270-007-0X	FILTER CERAMIC	LT455HT	ICP	1	EA	B	SUB	FL2	8-3-2004	A
		3	271-030-5Z	FILTER CRYSTAL	HC49/T (10.695M)	ICP	1	EA	B	SUB	FL1	7-3-2002	A
		3	300-224-9	TRANSFORMER	EI-19M/M CHOKE	ICP	1	EA	B	SUB	T1	7-3-2002	
		3	310-291-2Z	COIL AXIAL	6.8UH:TCEC-6R8K	ICP	1	EA	B	SUB	L15	7-3-2002	
		3	310-297-8Z	COIL SPRING	2.5X0.8X7T:R	ICP	1	EA	B	SUB	L13	7-3-2002	
		3	310-588-1	COIL SPRING	4.1X0.5X9T:R	ICP	1	EA	B	SUB	L18	9-4-2002	C
		3	310-621-7Z	COIL AXIAL	1.5UH:CESS-1R5K	ICP	1	EA	B	SUB	L404	7-3-2002	
		3	310-735-7	COIL AXIAL	6.8UH:LAL02TB6R8K	ICP	1	EA	B	SUB	L8	8-3-2004	A
		3	310-751-1Z	COIL SPRING	4X0.5X7T:R	ICP	2	EA	B	SUB	L16.17	9-4-2002	C
		3	311-347-5	COIL SPRING	0.17UH 2.3X0.45X5.5T:R	ICP	3	EA	B	SUB	L401.402.403	7-3-2002	
		3	320-647-4	COIL	455KHZ DET	ICP	1	EA	B	SUB	L5	8-3-2004	A
		3	320-844-5	COIL IFT	27MHZ TX DUBLER	ICP	2	EA	B	SUB	L10.11	7-3-2002	
		3	321-032-3	COIL IFT	27MHZ TX	ICP	1	EA	B	SUB	L12	7-3-2002	

10	2	3	321-033-4Z	COIL IFT	10.7MHZ LKS50N00-X000364-	ICP	1 EA B SUB	L4	7-3-2002
		3	321-094-9	COIL IFT	27MHZ RX (5I)	ICP	1 EA B SUB	L3	7-4-2016 C
		3	321-159-4	COIL IFT	100 MHZ NE 547NN -K5001(M		1 EA B SUB	L19	7-3-2002
		3	450-436-4Y	VR(A10K)	RD901S-20-15K-A14	ICP	1 EA B SUB	VR1	12-5-2002 C
		3	450-437-5W	VR	RV0915N-15KQA1-B10K-A	ICP	1 EA B SUB	VR2	7-3-2002
		3	509-110	6.5T SPRING COIL ASS	6.5T3.4X.55:M9D3.7X6	ICP	1 EA B SUB	L1	8-5-2027 C
		4	310-809-1	COIL SPRING	3.4X0.55X6.5T:R	ICP	1 EA B MAN		93/07/09 A
		4	321-053-2	CORE	1108-KA-058 M9DTH3.7X6		1 EA B MAN		93/07/09 A
		3	509-112	8.5T SPRIN.COIL ASSY	8.5T 3.4X .55XM9D3 3.7X8	ICP	1 EA B SUB	L14	8-5-2027 A
		4	310-811-2	COIL SPRING	3.4X0.55X8.5T:R	ICP	1 EA B MAN		93/08/25 A
		4	321-054-3	CORE SCREW	N9D 3.7X8.0		1 EA B MAN		93/08/25 A
			533-60P-A	PACKING ASS'Y			1 EA A		7-3-2002
		3	420-407-7Z	ANT HELICAL WHIP	HP-CB-MB2-1		1 EA B SUB	ANT	7-3-2002
		3	503-181	AC/DC ADAPTOR(CHG)	230V /50HZ 14V 120MA		1 EA B SUB		10-4-2021 C
		3	841-501	LEATHER CASE	LEATHER		1 EA B SUB		8-3-2004
		3	91C-373	TRAY BOX	SW1S 234(W)X167(D)X58(H	ICP	1 EA B FIN		8-3-2004
		3	91C-374	PAD	SW1S 384(W)X400(D)	ICP	1 EA B FIN		8-3-2004
		3	91D-303-C	BOX INNER	MANILA 235(W)X169(D)X	ICP	1 EA B FIN		9-4-2021 A
		3	91D-322-B	BOX OUT	DW1E 310(W)X238(D)X3	ICP	0,1 EA B FIN		9-4-2011 A
		3	921-020-EA	POLYBAG (PRINT)	P.E 100X200XT0.05	ICP	2 EA B FIN	CHG BATT.EXTERNAL JACK	8-3-2004
		3	921-530-EA	POLYBAG(PRINT)	P.E 150X300XT0.05	ICP	1 EA B FIN	FOR SET	3-5-2008 C
		3	922-030-EB	POLYBAG(PRINT)	P.E 200X300XT0.05	ICP	1 EA B FIN	FOR MANUAL	3-5-2008 A
		3	937-852	MANUAL OWNER'S	ALAN42MULTI	ICP	1 EA B FIN		9-4-2011 A
		3	943-244-C	WARRANTY CARD	WOOD PAPER 350X92		1 EA B FIN		7-4-2021 A
		3	943-714	CARD WARRANTY	ARTPAPER 210X95	ICP	1 EA B FIN		7-4-2021 A
		3	943-757	CARD WARRANTY	WOODFREEPAPER 149X105	ICP	1 EA B FIN		7-4-2021 A
		3	943-847-A	PAPER FOR SPAIN	WOODFREEPAPER 148X210	ICP	1 EA B FIN		7-4-2021 A
		3	943-858	BOOKLET RTTE	WOODFREEPAPER 148X210	ICP	1 EA B FIN		9-4-2014 A
		3	943-859	CARD IMPORTANT	WOODFREEPAPER 148X210	ICP	1 EA B FIN		9-4-2011 A
		3	943-871	CARD WARNING	WOODFREEPAPER 148X210	ICP	1 EA B FIN		11-4-2029 A
		3	95B-172	LABEL SERIAL	ARTPAPER 30X40		1 EA B FIN		7-4-2021 A
		3	95B-193	LABEL BARCODE	ARTPAPER 50X24	ICP	1 EA B FIN		9-4-2011 A
		3	95B-194	LABEL ERRATA CORRIGE	ARTPAPER 130X50	ICP	1 EA B FIN		9-4-2011 A
		3	95B-200	LABEL EU COUNTRY	ARTPAPER 50X36	ICP	1 EA B FIN		9-4-2014 A
		3	95B-227	LABEL NAMR	POLYESTER 35.8 X 22.8 X T	ICP	1 EA B FIN		2-5-2001 C
11	2		533-60T-C	TOP COVER ASS'Y			1 EA A		8-3-2004
		3	611-385	(+)MACHINE SCREW(BH)	2.6X5 NI-PLAT		5 EA B SUB	HEAT SINK:2 , TR:3	5-5-2027 C
		3	651-156	NUT	BSBM M7		2 EA B SUB	VOL MTG:1 , SQ/SW MTG:1	8-3-2004
		3	702-448	BODY MAIN	EGI T0.8 US COATING	ICP	1 EA B SUB		8-3-2004
		3	719-409-A	COVER TOP	ABS 94HB L380-S82276		1 EA B SUB		8-3-2004
		3	752-881	TERMINAL(ANT)	BSP T=0.3 NI-PLAT	ICP	1 EA B SUB		8-3-2004

	3	752-884	TERMINAL(+)	BE-CU T=0.25 NI-PLAT	ICP	1 EA	B	SUB		8-3-2004
	3	752-887	TERMINAL(-)	BE-CU T=0.25 NI-PLAT	ICP	1 EA	B	SUB		8-3-2004
	3	761-782	HEAT SINK	ALP T2.0	ICP	1 EA	B	SUB		8-3-2004
	3	772-356-A	SHIELD HOUSING	SPTE T=0.3	ICP	1 EA	B	SUB		8-3-2004
	3	772-358-A	SHIELD PLATE(VCO)	SPTE T0.3	ICP	1 EA	B	SUB		8-3-2004
	3	772-359	SHIELD PLATE(CPU)	SPTE T0.3	ICP	1 EA	B	SUB		11-4-2001 A
	3	772-696	SHIELD PLATE	SPTE T0.3	ICP	1 EA	B	SUB		11-4-2001 A
	3	826-250	KNOB VOL	ABS 94HB BLK		2 EA	B	SUB		8-3-2004
	3	853-105	BUSHING	NYLON66+GLASS		3 EA	B	SUB		9-4-2008 C
	3	895-327-A	ZEBRA	SILI.RUBB CLEAR	ICP	1 EA	B	SUB		8-3-2004
	3	895-331	CAP DUST	N.B.R BLACK	ICP	1 EA	B	SUB		8-3-2004
12	2	533-60U-PA	UPPER COVER ASS'Y			1 EA	A			7-3-2002
	3	130-A73-6Y	CHIP CERAMIC	0.01UF GRM39 X7R103K 25	ICP	1 EA	B	SUB	C101A(C-MIC)	3-5-2014 A
	3	130-B16-5Y	CHIP CERAMIC	0.01UF GRM36 X7R103K 16	ICP	1 EA	B	SMD	C101	9-4-2002 A
	3	420-120-6	SPEAKER	MS-3600-1		1 EA	B	SUB	SPK	1-6-2023 C
	3	420-293-8Z	MIC CONDENSER	ACM6022-03P28-003	ICP	1 EA	B	SUB	C-MIC	1-6-2023 C
13	2	533-60W-A	WIRE ASS'Y			1 EA	A			7-3-2002
	3	427-188-2Z	WIRE	VINYL 080D 7/0.12 BLK		0,09 EA	B	SUB	C-MIC(-)	11-4-2024 C
	3	427-191-4	WIRE	VINYL 080D (7/0.12) ORG		0,09 ME	B	SUB	C-MIC(+)	7-3-2002
	3	427-192-5	WIRE	VINYL 080D (7/0.12) YEL		0,09 ME	B	SUB	SPK(+)	7-3-2002
	3	427-193-6	WIRE	VINYL 080D (7/0.12) GRN		0,09 ME	B	SUB	SPK(-)	7-3-2002
	3	427-241-6	COAXIAL CABLE	178U W/O COVER		0,09 ME	B	SUB	ANT-LCD PCB	7-3-2002
14	2	533-60W-BPA	WIRE BATT. PACK.ASSY			1 EA	A			7-3-2002
	3	427-023-6	WIRE	1007 AWG 24(11/0.16) RED	ICP	0,04 ME	B	SUB	BATTERY PACK 0.5:0.5	7-3-2002
15	2	533-60S-MA	SUB MATERIAL ASS'Y			1 EA	A			7-3-2002
	3	965-002	TAPE SCOTCH	10M/M (0.010X25M)		0,1 ME	B			7-3-2002
	3	965-020	TAPE SCOTCH	15M/M (0.015X20M)		0,25 ME	B			7-3-2002
	3	965-039	TAPE PACKING	OPP (0.05X50M)	ICP	0,5 ME	B			7-3-2002
	3	965-048	TAPE PACKING	O.P.P.(0.05X25M) IVORY		0,15 ME	B			7-3-2002
	3	965-057	TAPE MASKING	4MM (0.004X50M)		0,15 ME	B			7-3-2002
	3	966-007	SOLDER BAR		63:37:00	20 GR	B			7-3-2002
	3	966-008	SOLDER WIRE	60:40 (2.2 DIA)		5 GR	B			7-3-2002
	3	966-016	SOLDER ROSIN CO.WIRE	60:40 0.04"-0.05"		13 GR	B			7-3-2002
	3	966-025	FLUX ROSIN			8 GR	B			7-3-2002
	3	966-034	THINNER FOR FLUX			8 GR	B			7-3-2002
	3	966-061	SILICON GREASE	YG-6111 OR XG-6111		0,02 GR	B			7-3-2002
	3	967-011	BOND #201			1 KG	B			7-3-2002
	3	967-039	BOND #609	#609		5 GR	B			7-3-2002

* TOTAL RECORD = 353

#RIR610B

Rev.: 051

ECO-NO.

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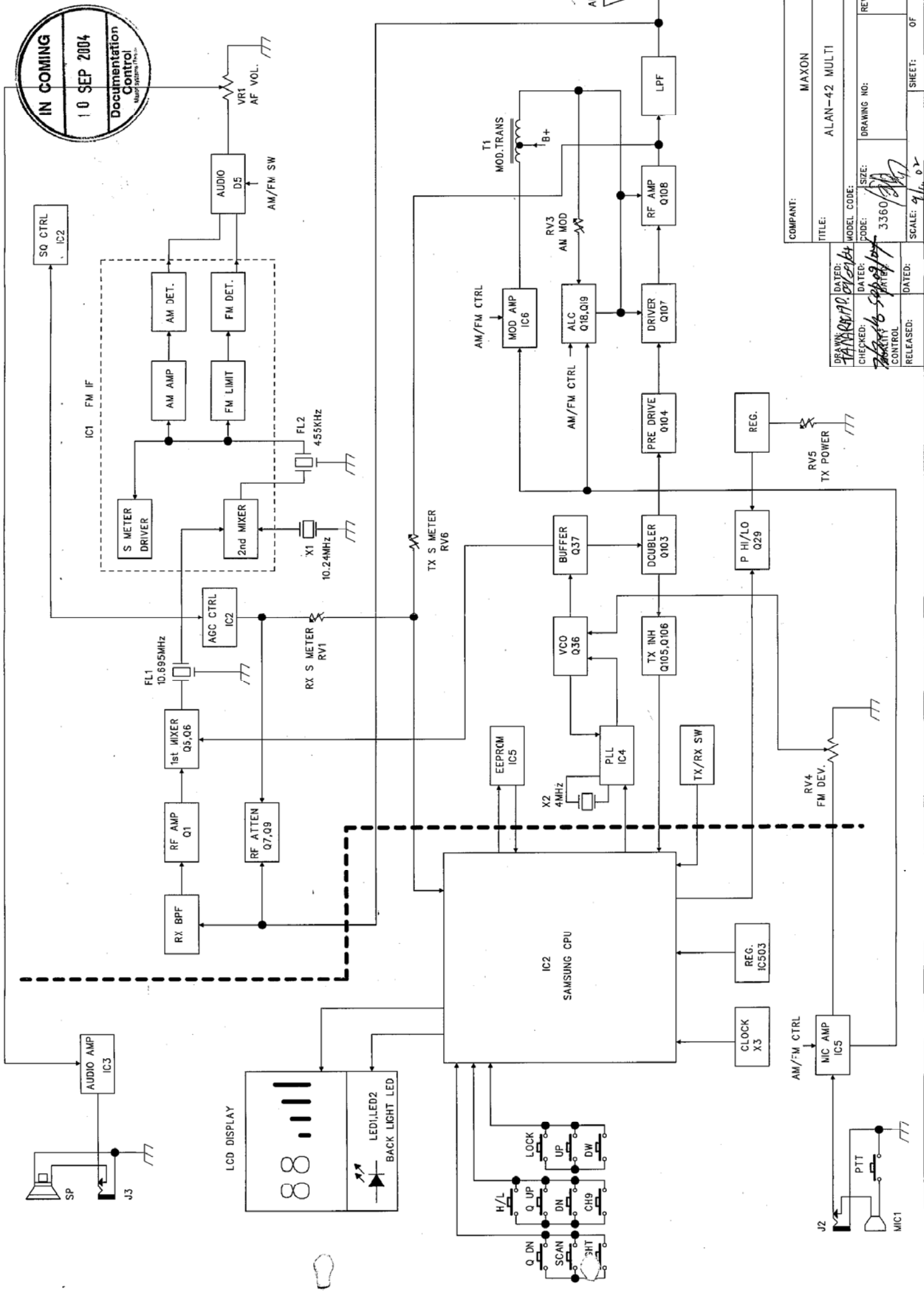
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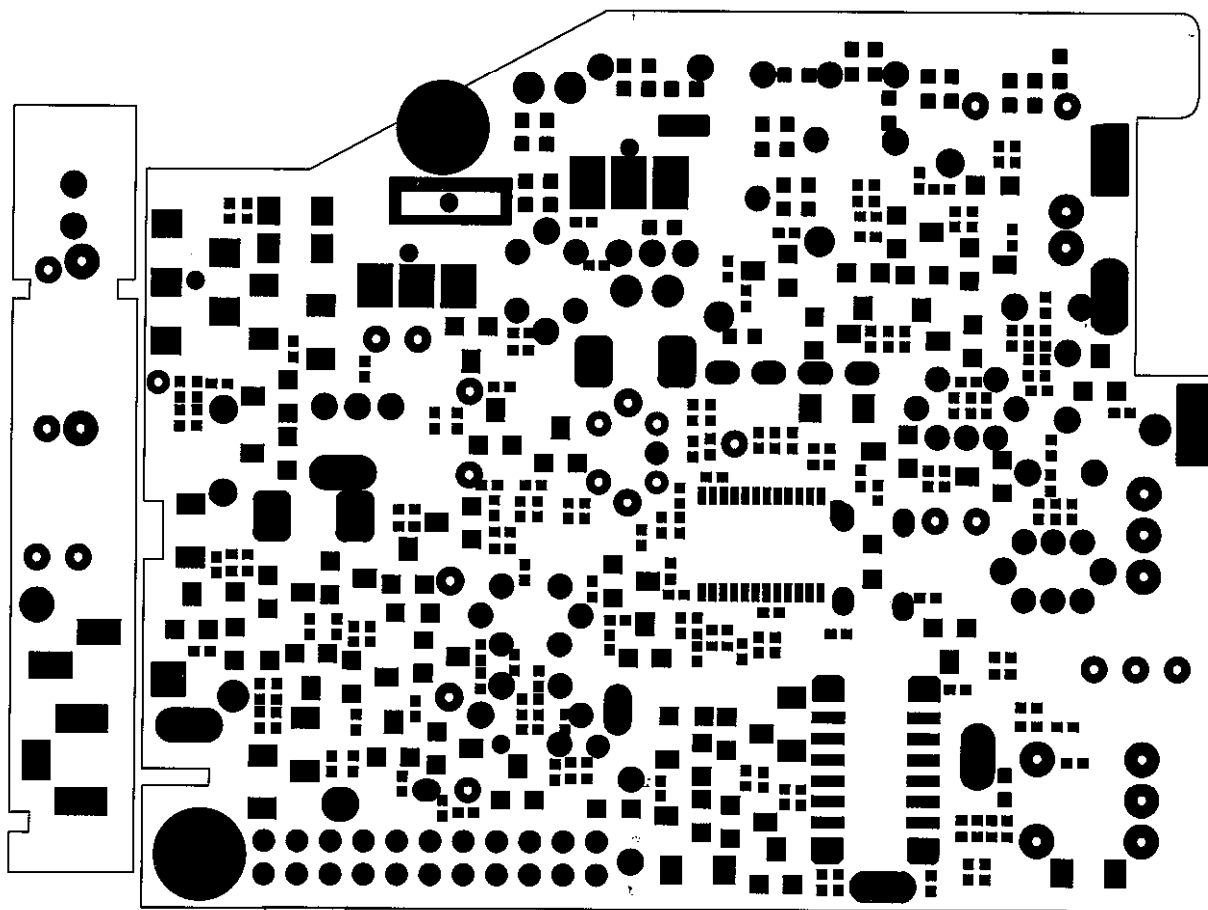
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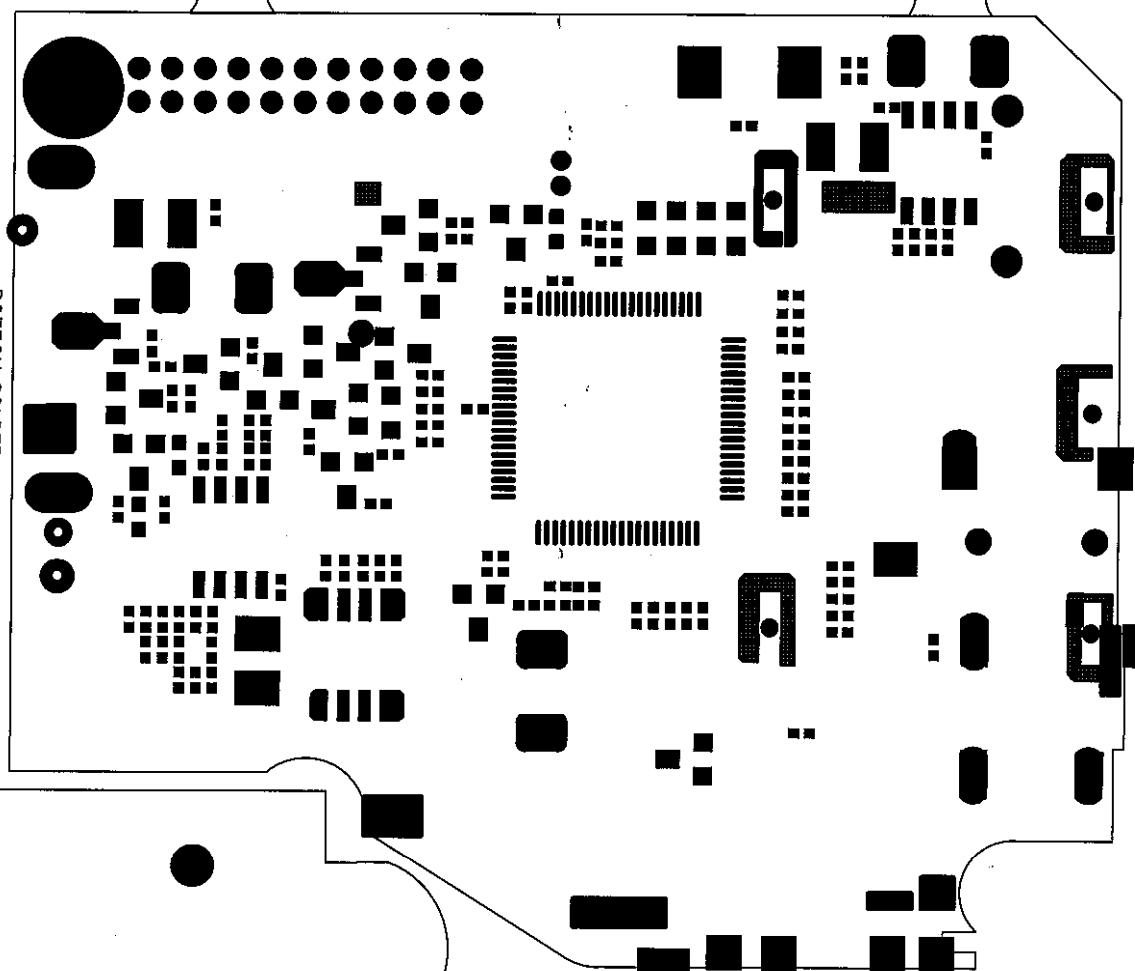
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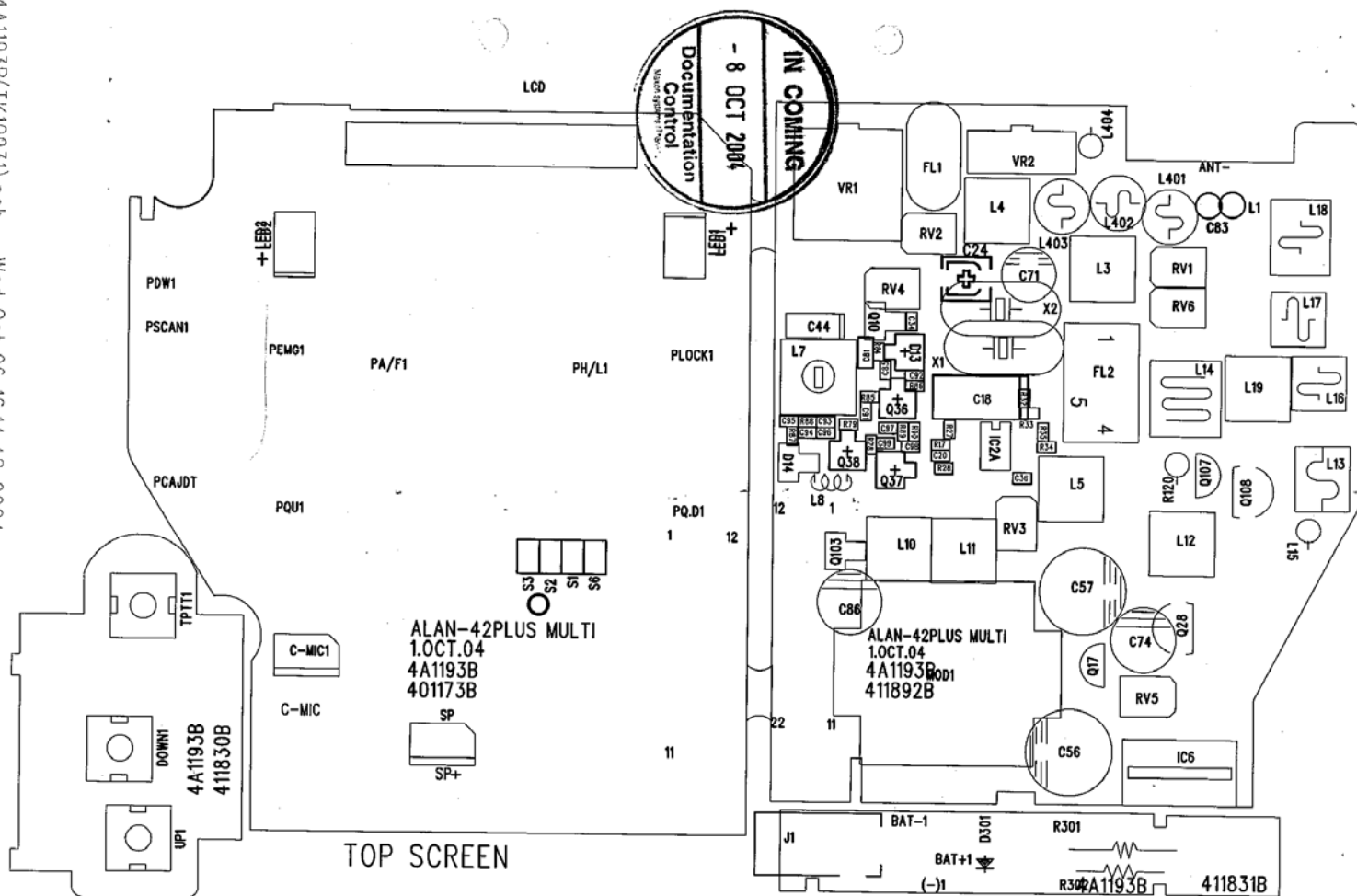
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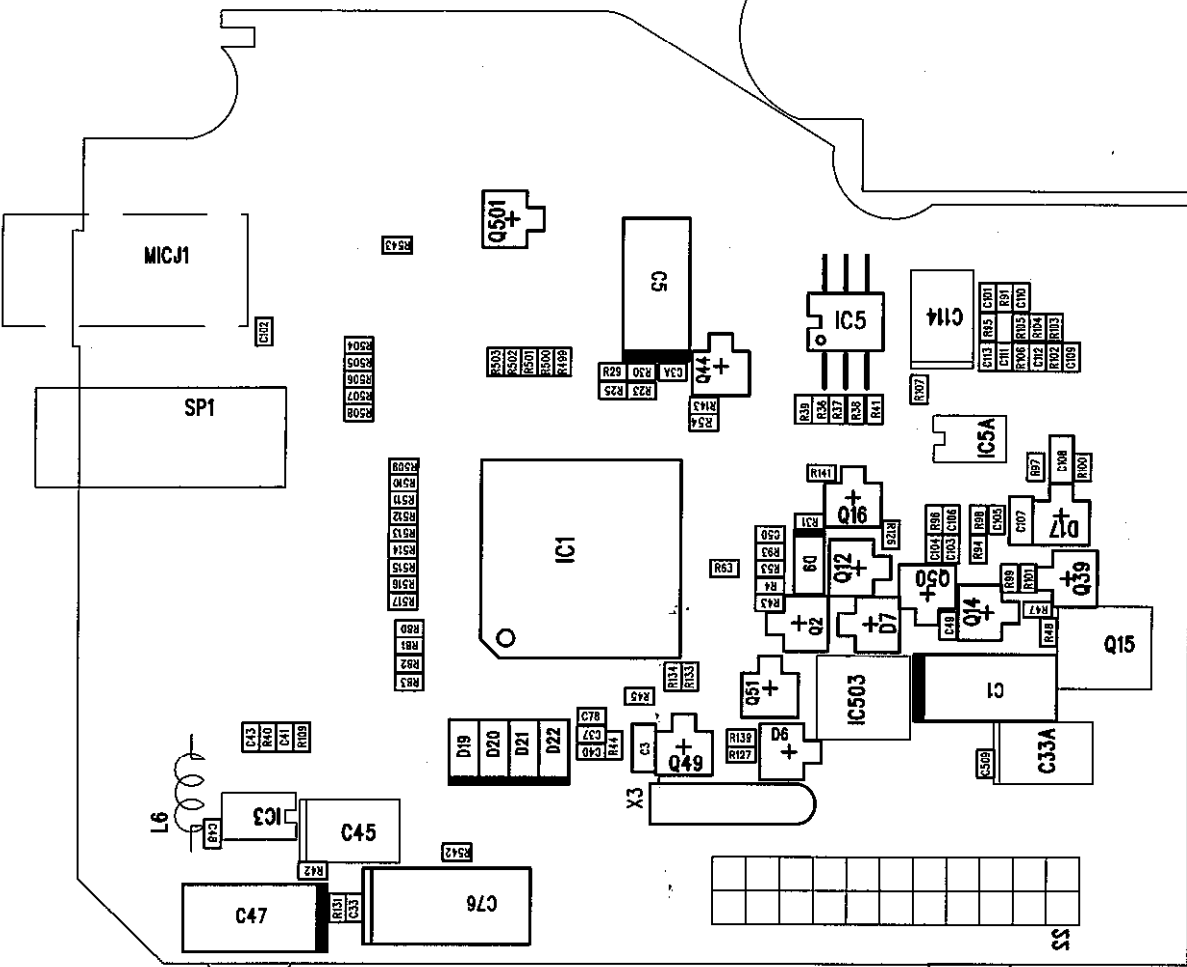




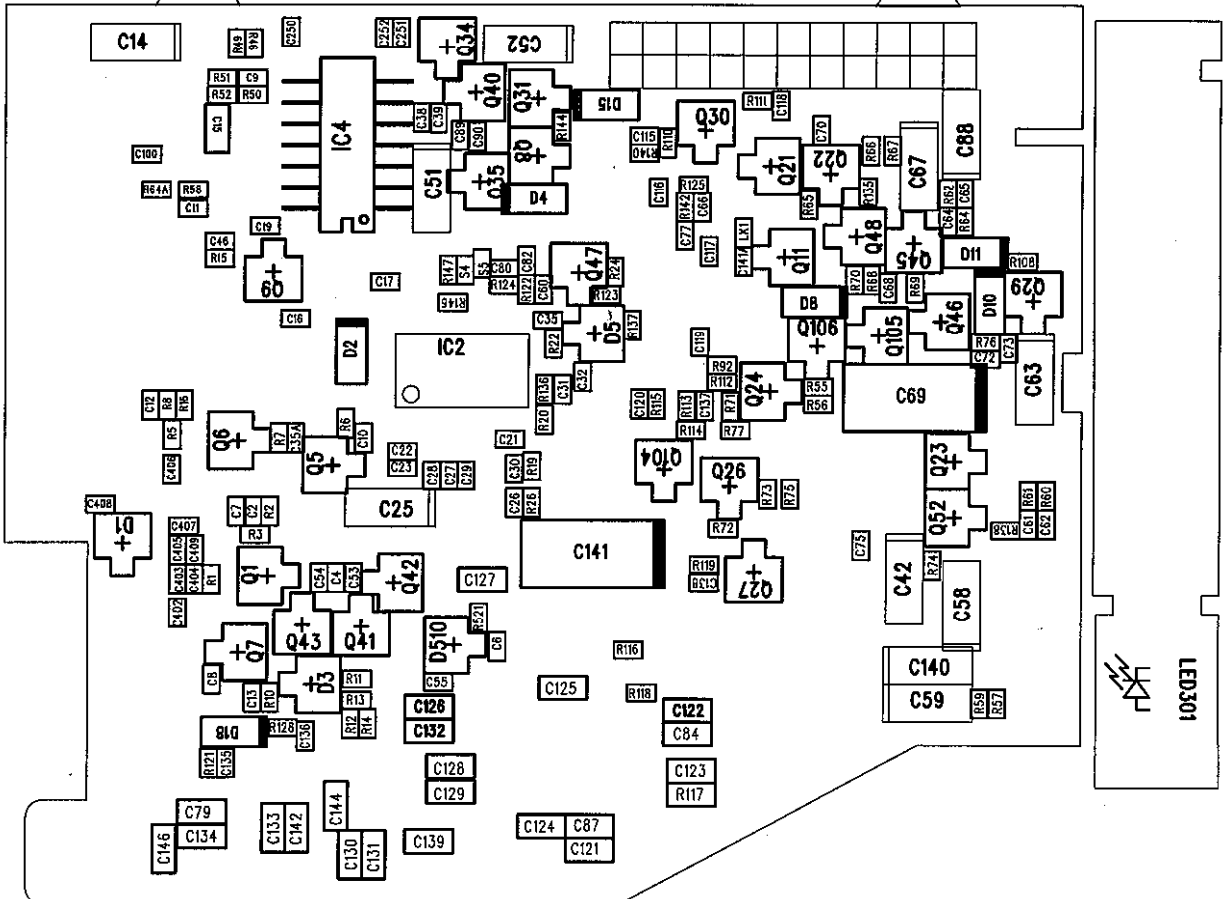
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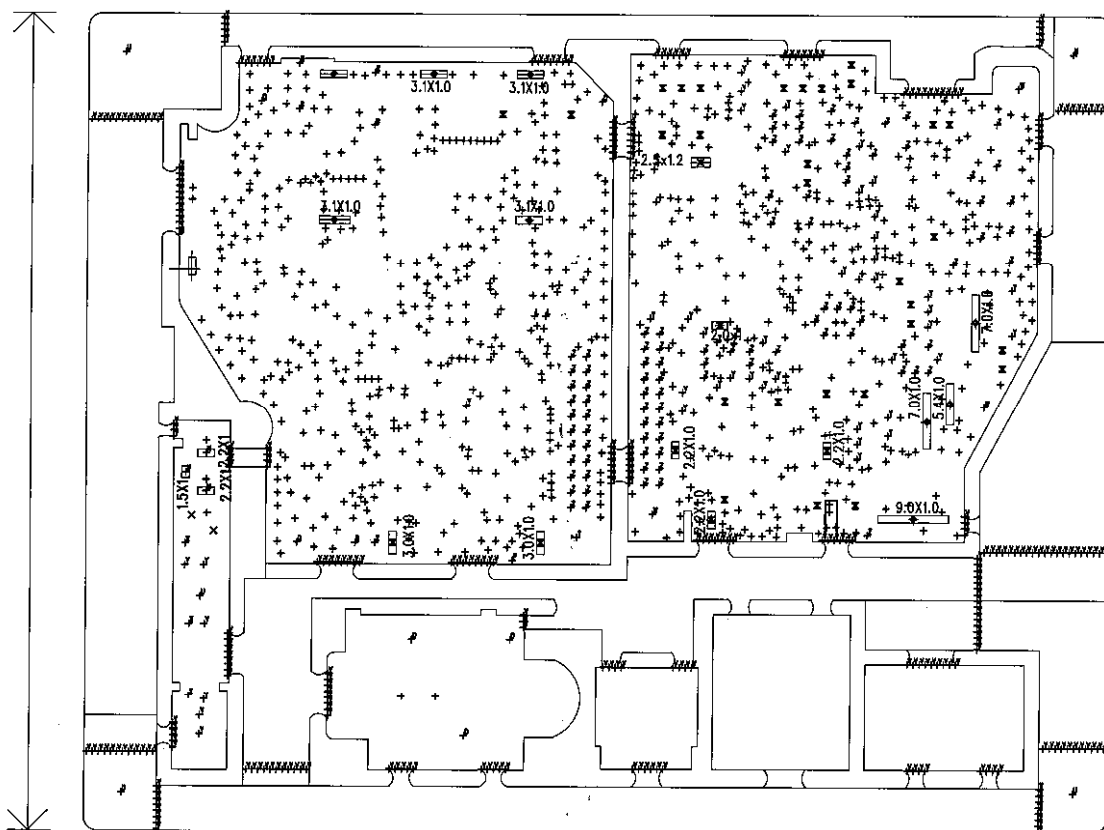
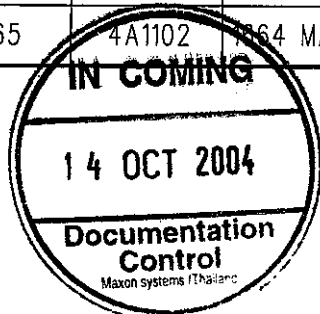


BOTTOM SCREEN



LED301


REVISION		SHEET OF									
MODEL CODE	MEC DWG.	SCH DWG.	MATERIAL	SCALE	PCB SIZE	*SAMPLE & PRODUCTION LIST*					
3665	4A1102	3664 MAIN	FR-4 GOLD	1 : 1	135X108X1.0T	PARTS NO	Rev.	SYM	CONTENTS	DATE	Ref. NO
											

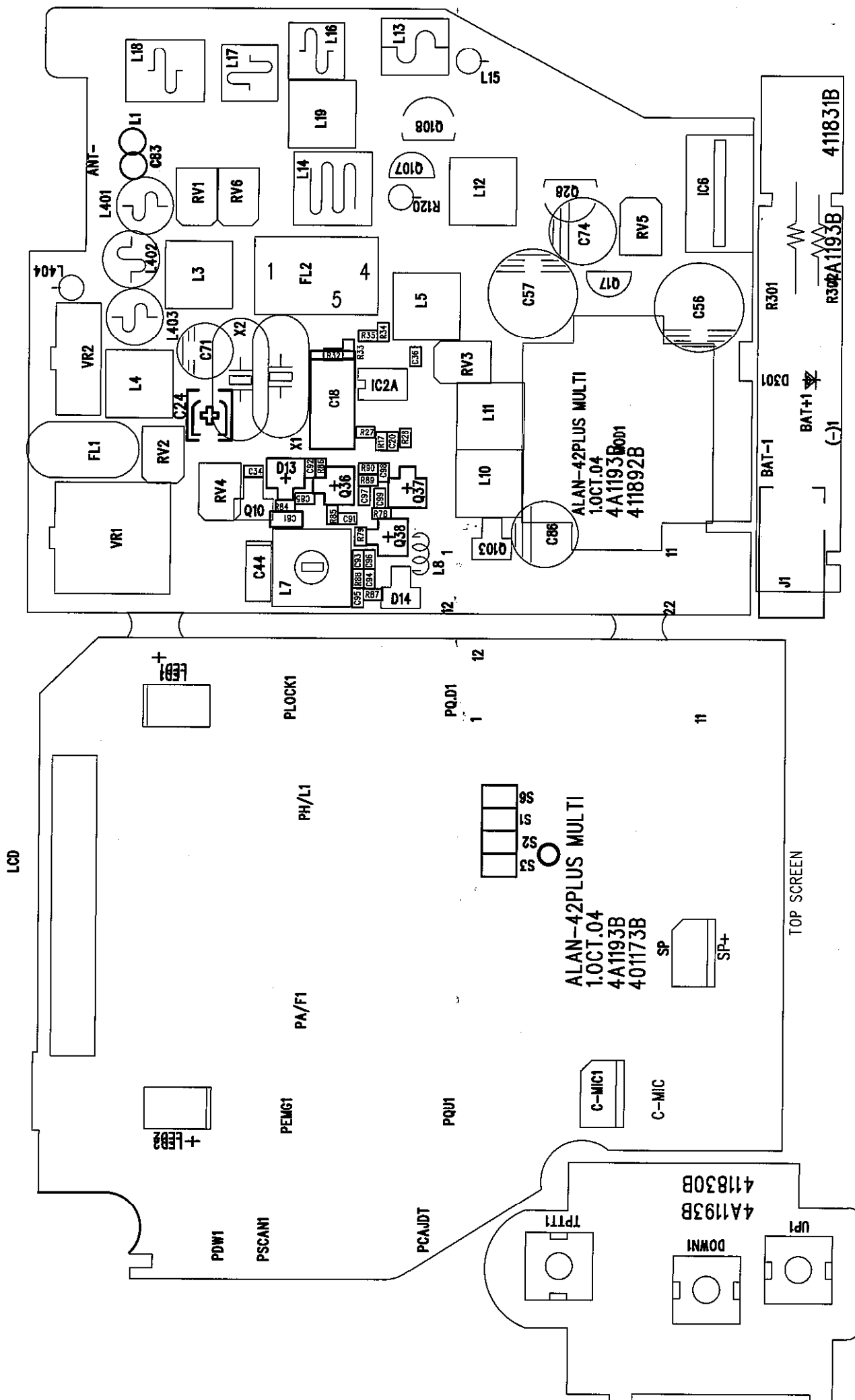


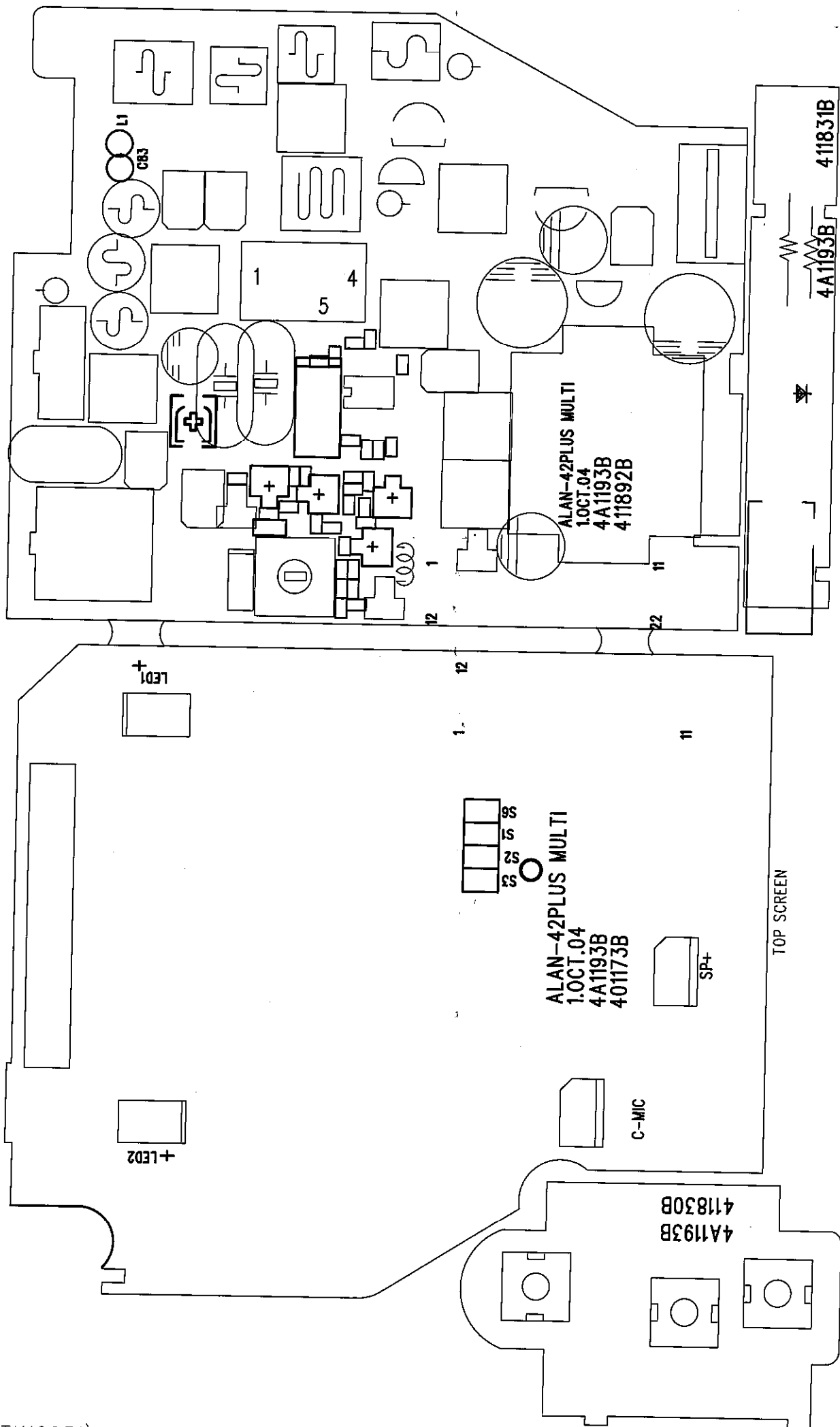
SIZE	QTY	SYM	PLTD
0.35	884	+	PLTD
1.2	3	X	PLTD
1	9	×	NPLTD
1	35	X	PLTD
0.85	2	L	PLTD
0.4	1	M	NPLTD
0.4	3	N	PLTD
2.8	3	O	NPLTD
1.7	1	P	PLTD
1.7	3	Q	NPLTD
1.5	3	R	PLTD
0.8	2	S	NPLTD
8	1	T	PLTD
4	5	U	NPLTD
0.5	314	V	NPLTD
3.7	3	W	PLTD
5.1	8	X	PLTD
0.8	43	Y	PLTD
0.8	82	Z	PLTD

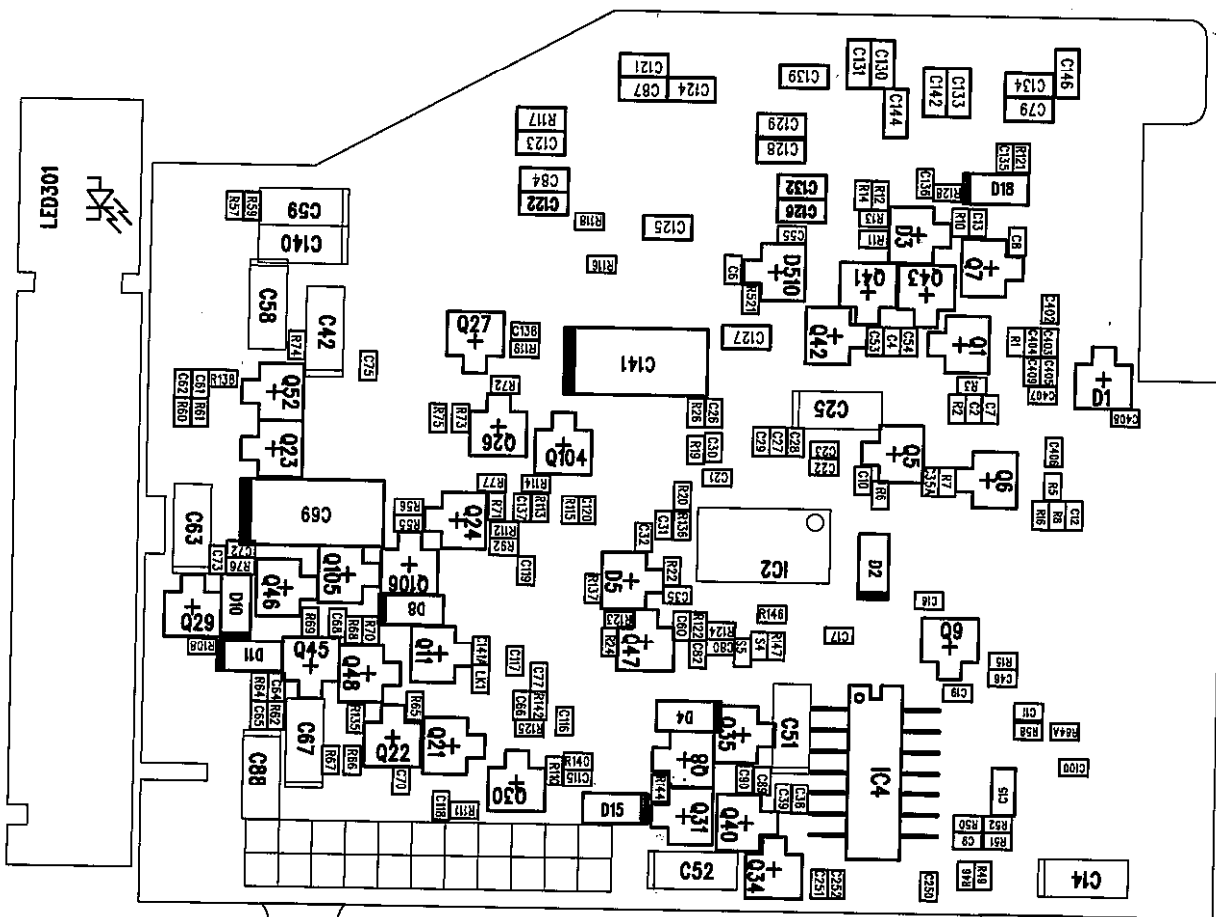
P/N ΔA1-193-B PCB ASS'Y

MODEL ALAN 22 MULTI <9960>

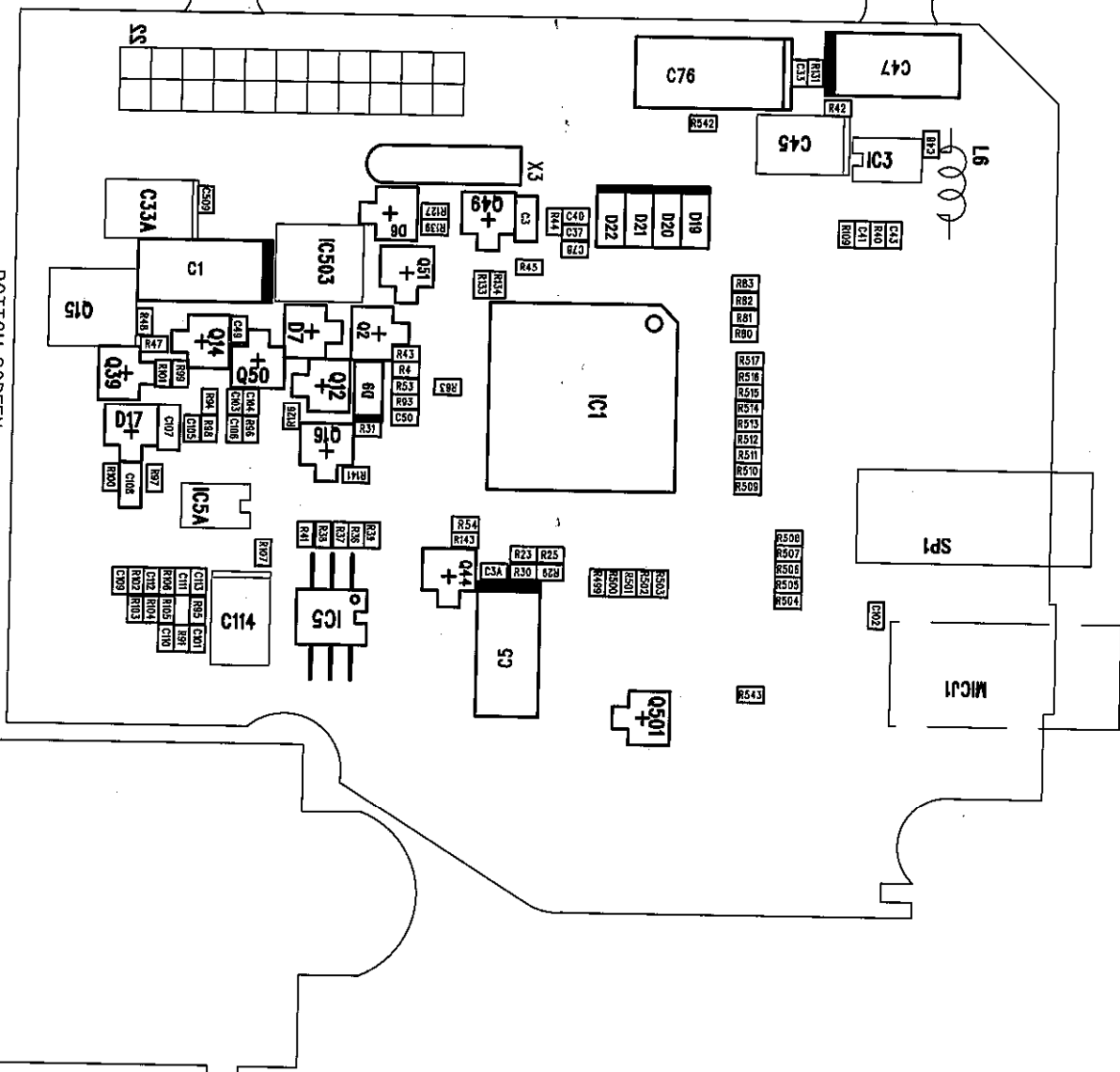
 MAXON ELECTRONICS CO.,LTD. #459-23,KASAN-DONG KUMCHON-KU, SEOUL,KOREA	Title	ALAN-42 PLUS MULTI	Part NO.	Rev.	Drawn By	Checked By	Checked By	Approved By
					Date	Date	Date	Date





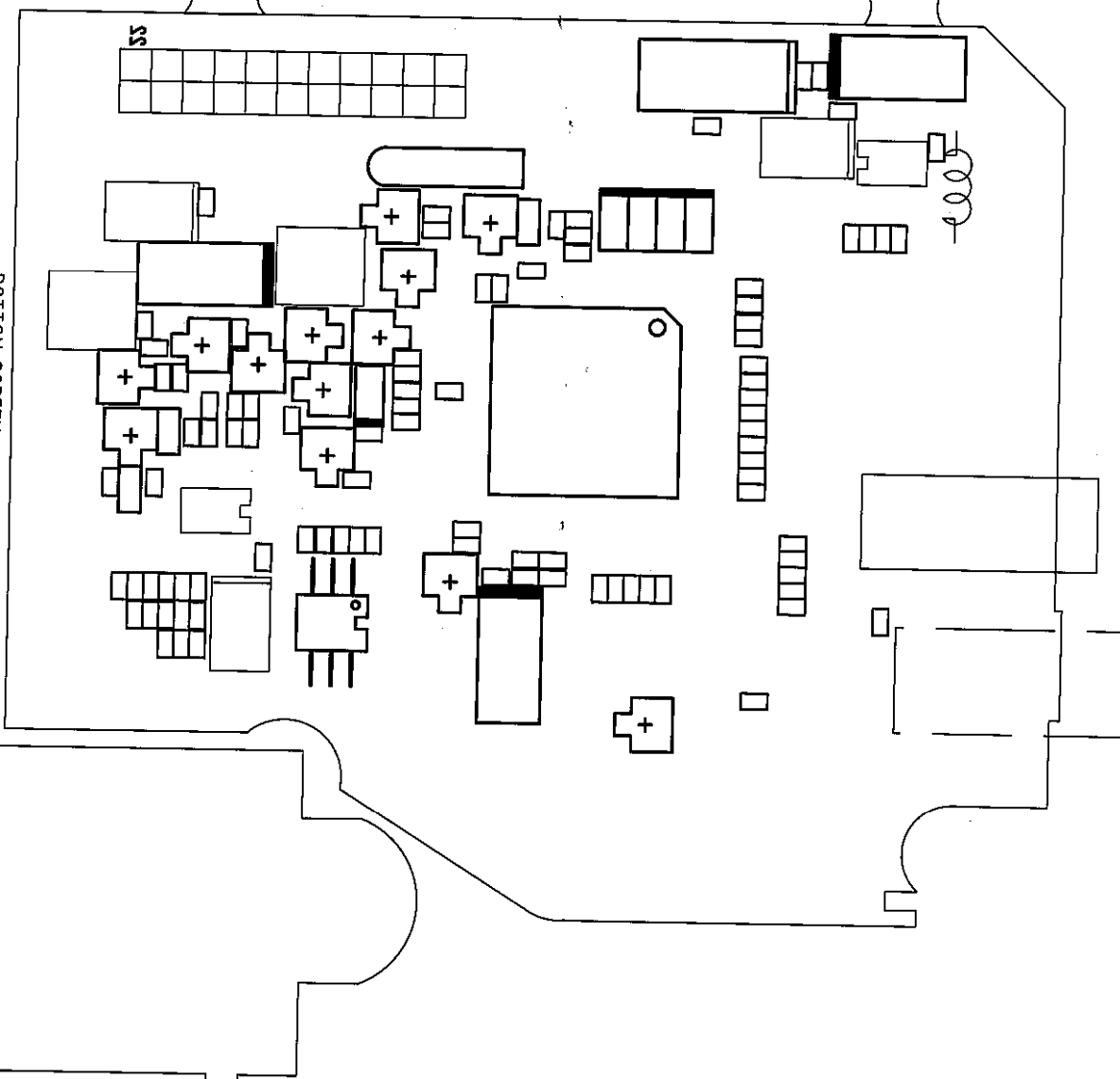


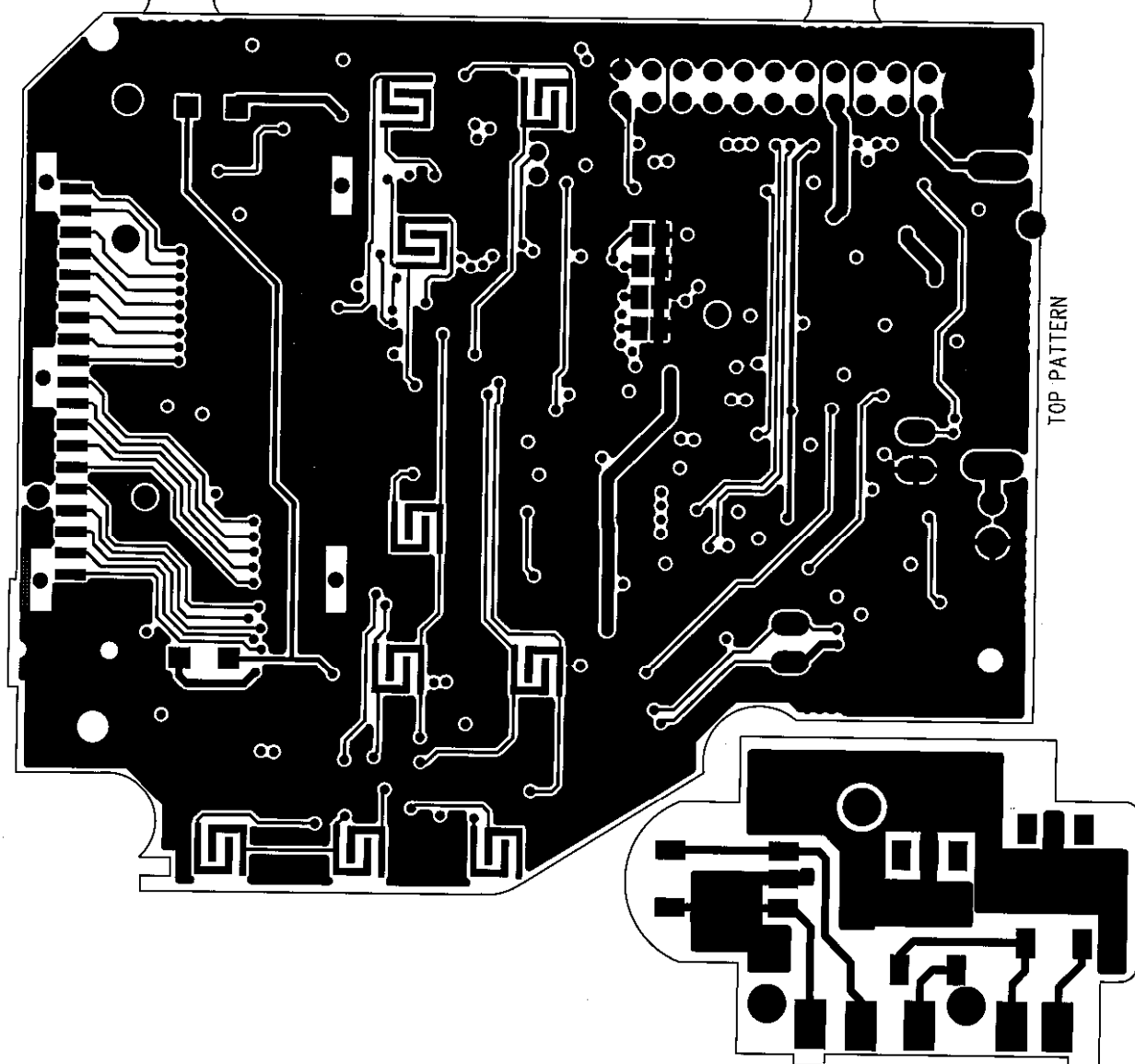
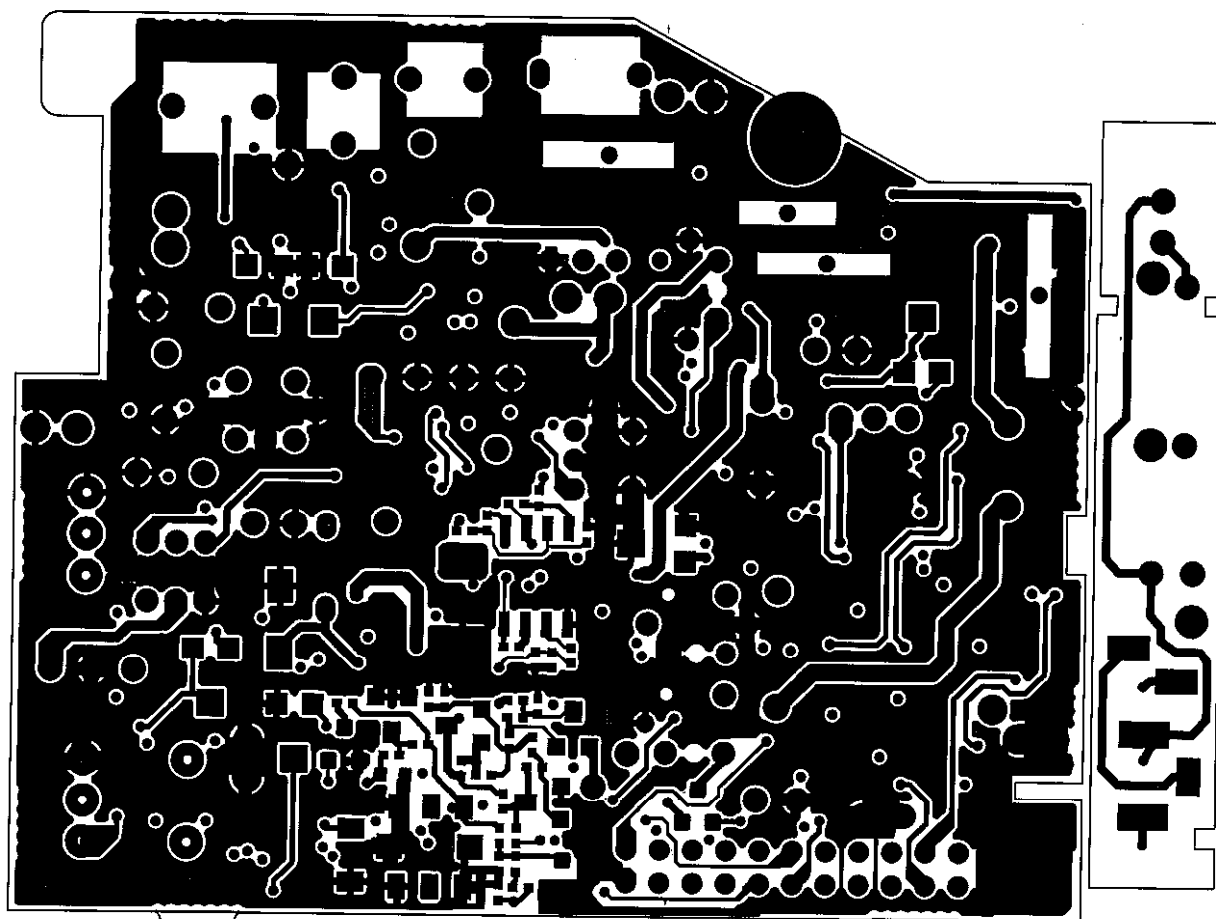
BOTTOM SCREEN

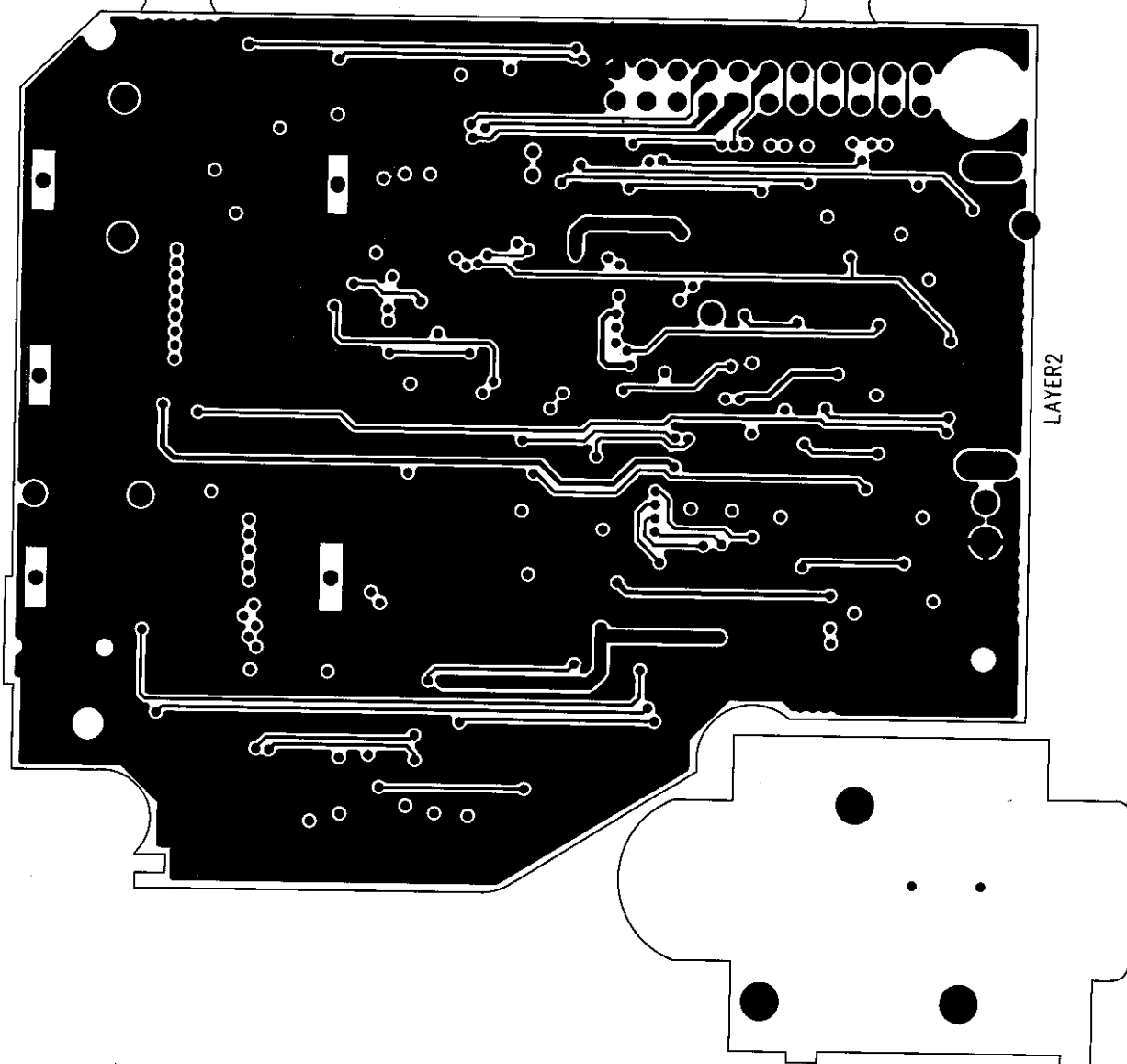
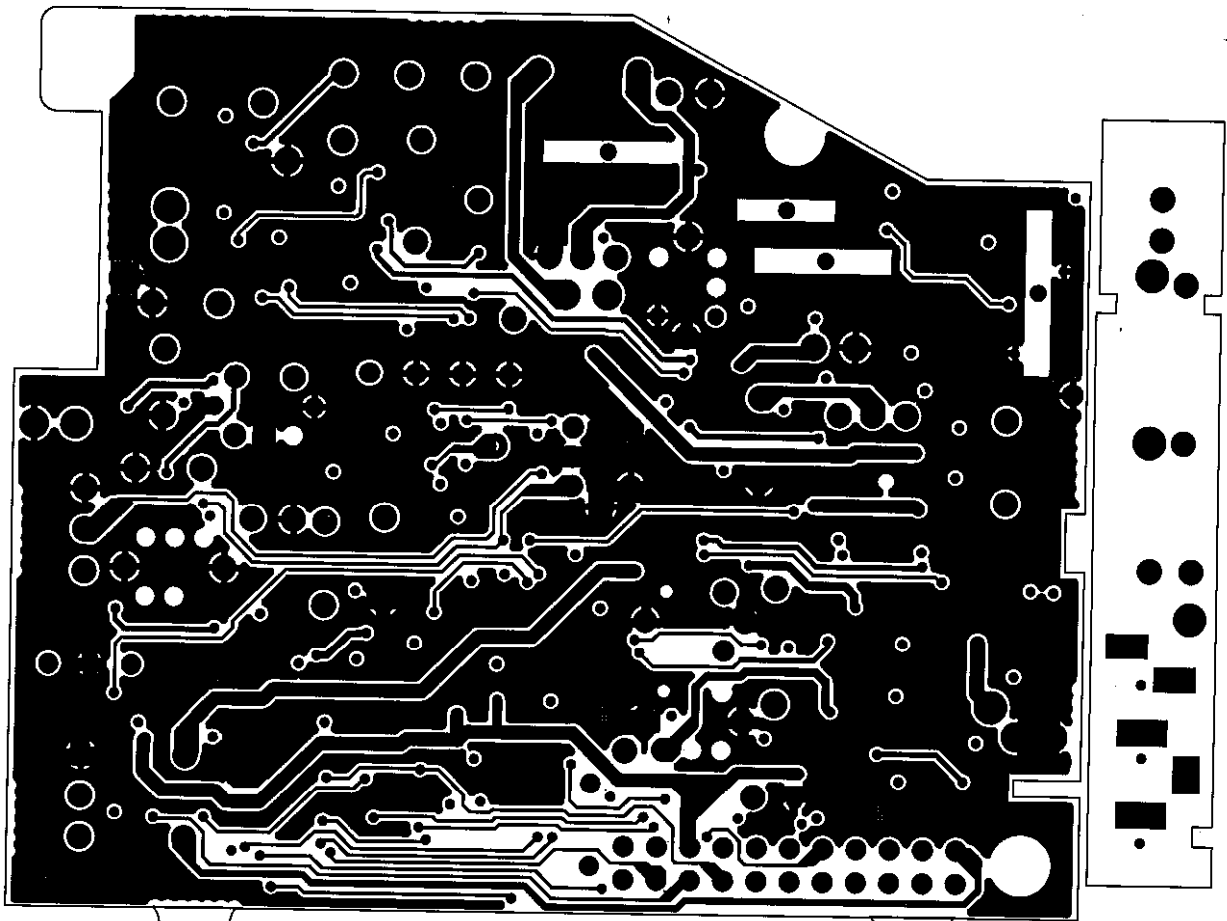


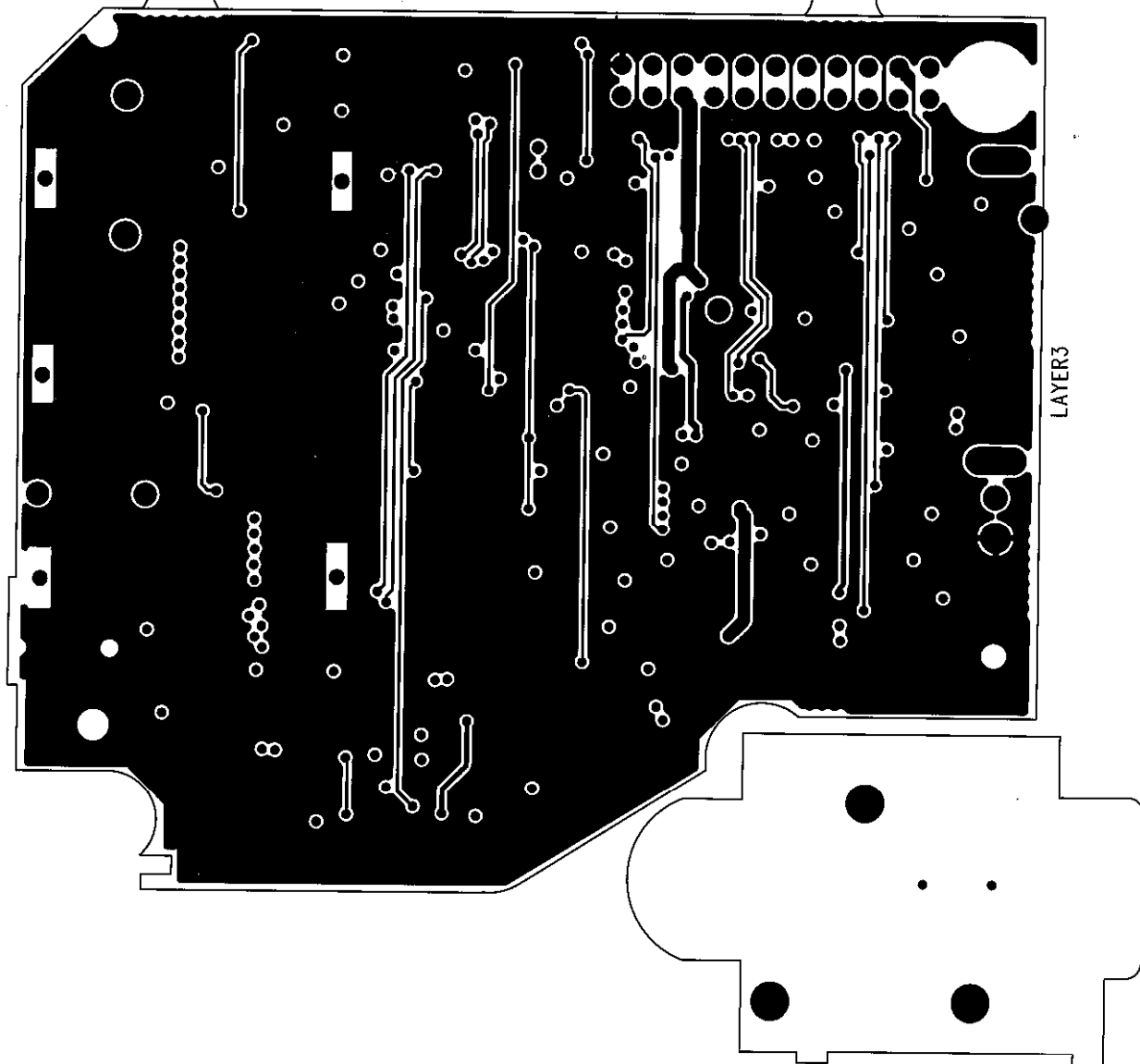
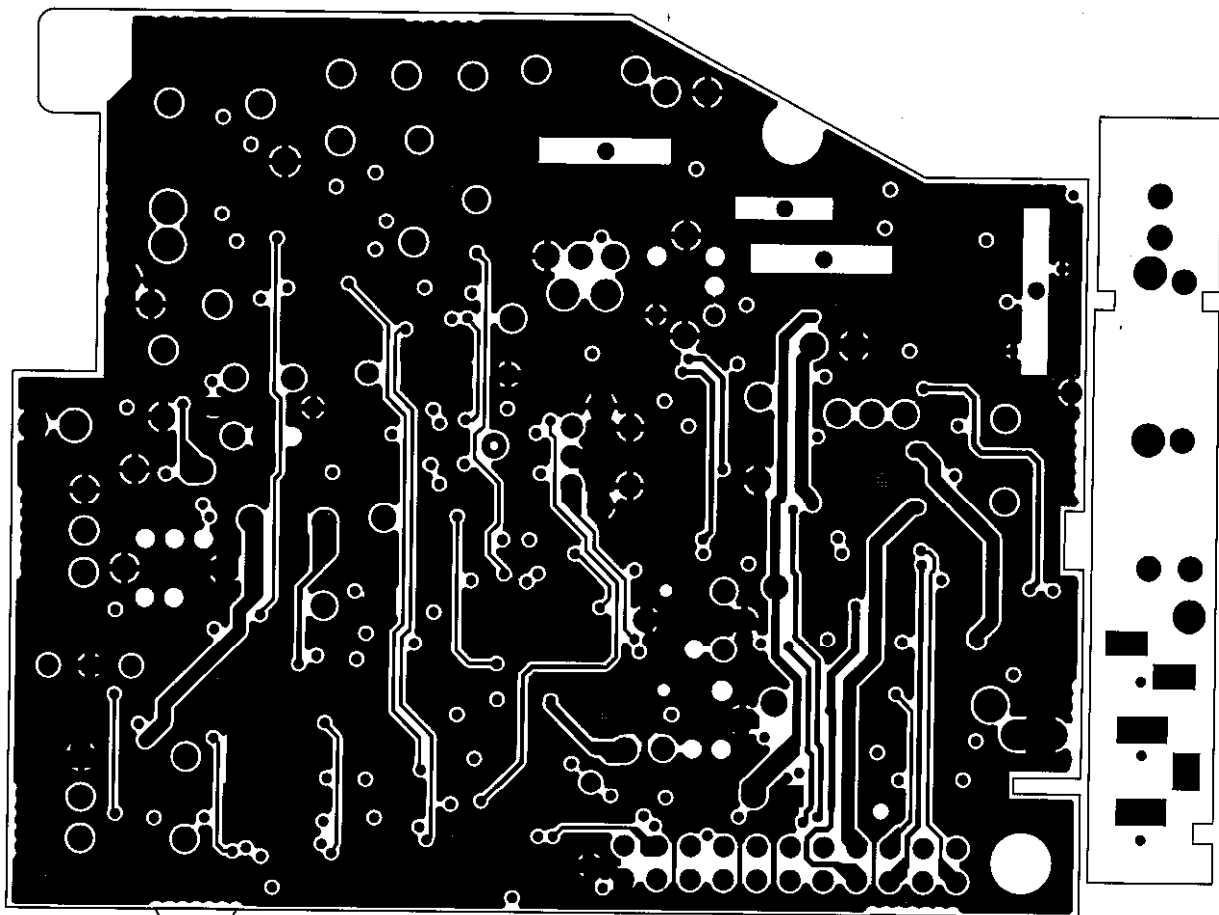


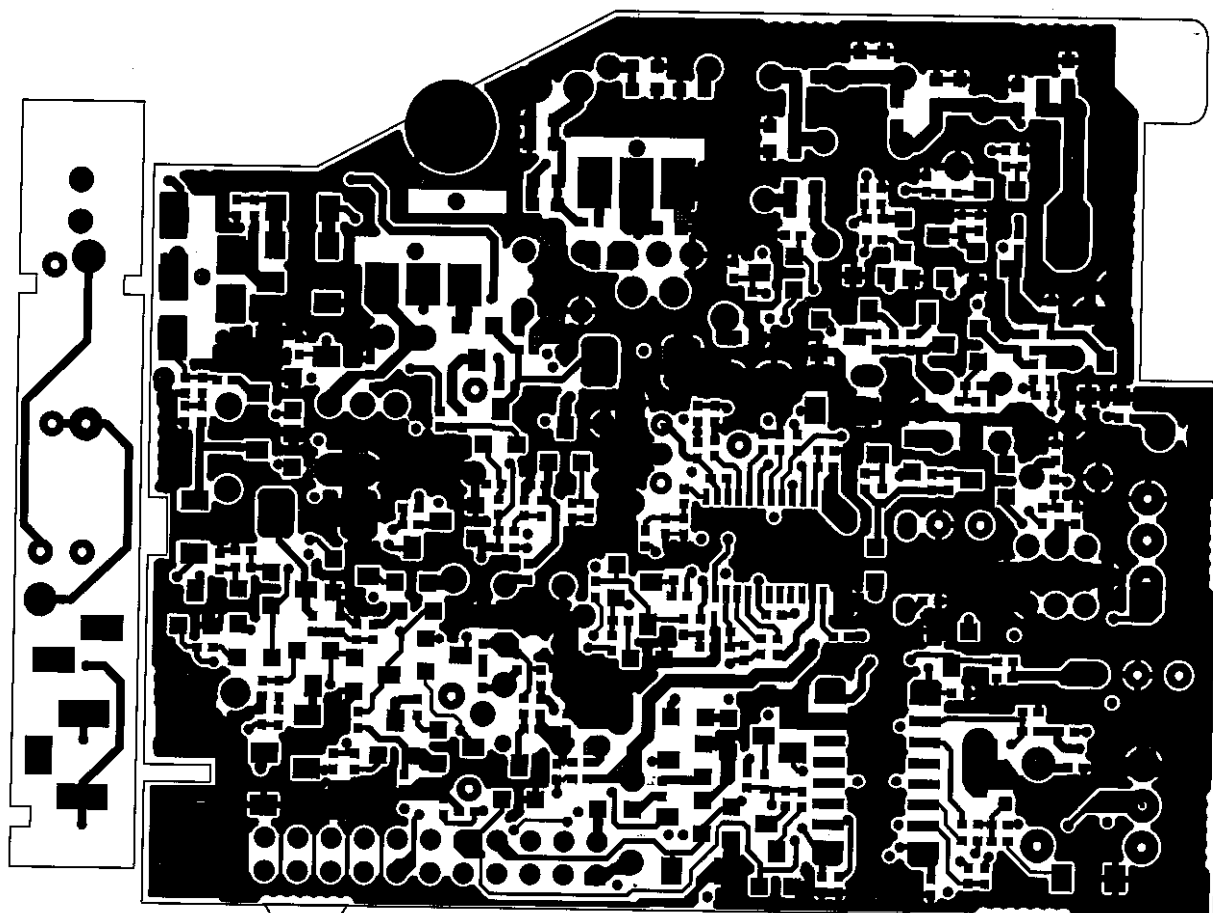
BOTTOM SCREEN











BOTTOM PATTERN

