GENERAL SPEC

MJ-300 AM/FM MOBIL

FEATURE

*** FUNCTION**

1. AM/FM SW
2. SCAN SW
3. CH-9 (RESET) SW
   120CH**>>**band "L0W**>**CB**>**HIGH"
4. UP SW
5. DOWN SW

*** CONTROLS**

1. AF VOLUME CONTROL, W/ ON / OFF SW
2. SQUELCH VOLUME CONTROL

*** LCD DISPLAY**

1. CHANNEL-2DIGIT
2. TX
3. AM/FM
4. SC
5. L , H

*** 3.5 PIE EXT SPEAKER JACK**

*** M-TYPE ANT CONNECTOR**

*** 4 PIN MIC JACK**

C-MIC, PTT SW

*** BILT-IN AUTOMATIC NOISE LIMIT**

*** DIMENSION : W-140mm . D-125mm . H-41mm.**

*** WEIGHT :680 g.(gift total :1200 g)**

ELECTRICAL

*** GENERAL**

@ TRANSMITTER..... CRSTAL CONTROLLED PLL SYNTHESIZER

@ RECEIVER..... DOUBLE CONVERSION, SUPERHETERODYNE SYSTEM

@ VOLTAGE OPERATION..... DC 13.8 V

@ TEMPERATURE..... -10 ℃ ~ +50 ℃

@ CHANNEL STEP ..... 10 Khz

*** TRANSMITTER**

@ OUTPUT POWER..... FM/AM : 4WATTS
HP :FM/AM : 6WATTS UP

@ FREQUENCY RANGE..... 26.965 ~ 27.405 MHz
LOW BAND :26.515 ~ 26.955 MHz
CB BAND :26.965 ~ 27.405 MHz
HI BAND : 27.415 ~ 27.855 MHz

@ FREQUENCY TOLERANCE..... +-500 Hz

@ MODULATION SENS..... 10mV(1.25KHz INPUT:C-MIC)

@ MODULATION CAPABLITY..... AM : 90 %
FM : 2 KHz

*** RECEIVER**

@ SENSITIVITY..... AM : 0.5 uV(S/N 10dB)
FM : 0.3 uV (SINAD12dB)

@ SQUELCH..... 1uV MAX

@ S/N RATIO..... 45 dB

@ DISTORTION..... 5 %

@ MAX POWER..... 4 WATTS

*** TEST CONDITION**

@ POWER SOURCE..... DC 13.8 VOLTS

@ ANT LOAD IMPEDANCE..... 50 ohm NON-INDUCTIVE

@ AUDIO LOAD IMPEDANCE..... 8 ohm NON-INDUCTIVE

|MJ-300 FRONT PCB PART LIST 2006 , 05 ,21 |

Item	Qty	Reference	Part Name	Manufacturer	Description
1	1	C305	C-SMD,0.01B		
2	2	C303-304	C-SMD,0.022B		
3	1	C306	C-SMD,0.1B		
4	1	C307	C-SMD,0.1B		
5	2	C301-302	C-SMD,18PCH		
6	1	MIC301	4PIN PCB TYPE CONNECTOR	W/WASHER,NUT	samwoo
7	1	D301	D-A,KDS160		
8	1	IC301	IC-44QFP, S3P9228QFP		samsung CPU
9	2	LP301-302	LAMP,14V 40mA		
10	1	LCD301	9 PIN-2.54		SL
11	1	RO3	R-SMD,4.7K		
12	1	R305	R-SMD,100K		
13	4	R302-303 R306-307	R-SMD,10K		
14	1	R301	R-SMD,15K		
15	1	R309	R-SMD,1K		
16	0	RO2	R-SMD,AM OP		
17	0	RO1	R-SMD,FM OP		
18	0	R308	R-SMD,68K		
19	1	SW301	SW-2P TACT,AM/FM		
20	1	SW304	SW-2P TACT,CH9(RESET)		
21	1	SW303	SW-2P TACT,DOWN		
22	1	SW305	SW-2P TACT,SCAN		
23	1	SW302	SW-2P TACT,UP		
24	1	Q301	TR-A,KRA110S		
25	1	X301	XTL-49/S 4MHz:CL18P		
26	1	PCB	FR4 양면		FRONT WHITE

|MJ-300 VR PCB PART LIST 2006 , 06 , 21 |

Item	Qty	Reference	Part Name	Manufacturer	Description
1	1	SQ301	VR-9PIE ,10KB	20MM SHAFT	
2	1	VR301	VR-9PIE ,50KA	20MM SHAFT	
3	1	VR PCB	FR4 double		

|MJ-300 MIC ASSY 2005 , 08 , 21 |

Item	Qty	Reference	Part Name	Manufacturer	Description
1	1	MIC PLUG	4PIN		W/SCREW,MT ASSY
2	1	CURL CORD	3P 1SHIELD	4PIE/ 2M	
3	1	PTT SW	2C-2P NON LOCK		
4	1	MIC PCB	FR4 양면		MOBIL 공용
12	1	C-MIC	9.7 X 5	44dB SOLDER	1.5V

MJ-300 THEORY OF CIRCUITS , ALIGNMENT PROCEDURES

1. CIRCUIT DESCRIPTION

1-1. PLL PARTY

Main CPU IC does Kondeurol to serial data to PLL IC doing function and Display indication function at the same time.

VCO AND REFERENCE FREQUENCY OSCILRATE AND THE PHASE DETECTER HAVE DESIGNATED PLL CIRCUIT, WHICH PHASE BOTH FREQUENCIES.

THE OUTPUT OF PHASE DETECTOR CONTROLLED VCO AND M AKE STABLIZED OF VCO OSCILATE FRQUENCY.
THE PLL WILL WORKING STABLY WHEN THE PHASE OF VCO AND REFERENCE FREQUENCY SHOULD BE EQUAL.

PLL BLOCK DIAGRAM

→ REFERENCE FREQUENCY ---→

→ PHASE COMPARATOR → L.P.F → TO VCO OSC.

→ VCO. OSCILLATOR ---→ (LOW PASS FILTER)

1-2. RECEIVER PARTY

1-2-1. HIGH FREQUENCY AMPLIFICATION PARTY.

Q2 IS HIGH FREQUENCY AMPLIFICATION TRANSISTOR AND APPLIED COMMON EMITTER METHOD.

THIS CIRCUIT HAS BEEN FEATURED AS HIGH SENSITIVITY AND LOW NOISE.

D6 IS WORKING AS WHEN INCOMING STRONG SIGNAL ON RECEIVER.

1-2-2. FIRST MIXER PARTY

Q8,Q9 IS MIXER PARTY. AND IT HAS OUTPUT 10.700㎒(MID RANGE) BY MIXE HIGH FREQUENCY AMPLIFICATED SIGANL AND 1ST LOCAL OSCILLATED FREQUENCY.

FOR EXAMPLE, IF THIS EQUIPMENT IS 19CH, THE FREQUENCY IS 27.185㎒ AND 1ST LOCAL FREQUENCY IS 16.485㎒.

SO, Fo - 1ST LOCAL FREQUENCY (V.C.O FREQ.) ARE 10.700㎒.

1-2-3. FILTER APRTY

WHEN THE 10.700㎒ WHICH MADE FROM THE FIRST MIXER PARTY PASSED CF1,2 FILTER GETS REAL 10.700㎒ SIGNAL WHICH HAS BAND WIDTH -/+7.5㎑.

1-2-4. 2ND MIXER PARTY

WHEN THE 10.700㎒ AND 2ND LOCAL FREQUENCY (10.245㎒) ARE MIXED BY IC 1, THE MIDDLE FREQUENCY 455㎑ HAS OUTPUTED AND PASSING CF3 FILTER.

1-2-5. FM DETECTOR PARTY.

THE FM SIGNAL DETECTING BY IC 1 AND TURN TO VOICE SIGNAL ON D12(SWITCH).

1-2-6. AM FREQUENCY DETECTOR PARTY

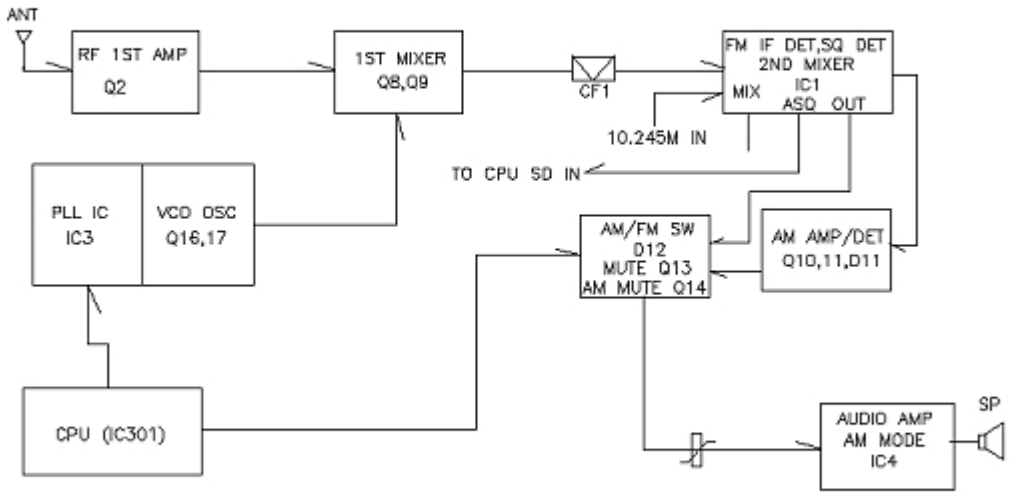
The AM detecting waves amplifies 455 KHzs sign that appear in FM DET IC in Q10, Q11, Boiseu signal that is detected by D11 is sent to D12(SWITCH).

1-2-7. AUDIO AMPLIFIER PARTY

MODIFIED VOICE SIGNAL WILL BE HEARED TROUGH SPEAKER BY PASSING VOLUME AND AUDIO POWER AMP (IC 5).

RECEIVER BLOCK DIAGRAM

RX BLOCK DIAGRAM



1-3. TRANSMITTER PARTY.

1-3-1. V.C.O PARTY (VOLTAGE CONTROL OSCILLATOR)

ACCORDING TO VCO VOLTAGE MODIFIED OF EACH CHANNEL,
FVCO X 2 FREQUENCY *(IN CASE IF 19CH, 27.185㎒) IS MADE
BY VCO FREQUENCY & DIVIDE RATIO (N) ARE MODIFYING.

AT THIS TIME, THE VCO FREQ (13.5925㎒ AT 19CH) IS FLOW IN Q30.
AND ON Q30, DOUBLLER THE FVCO X 2 ㎒ IS TURN TO 27.185㎒
FLOW IN Q31 BSAE.

THE Q31 ARE PRE-AMPLIFIER. AND IT AMPLIFICATE WEAK CARR-
IER OF 27.185㎒. THE 27.185㎒ FLOW IN TO Q32 AND IT AMPLIFICATE
ON THE Q33 (TX POWER AMP) AND RADIATE BY ANTENNA THROUCH L.P.F.

1-3-2. L.P.F (LOW PASS FILTER)

L5, L6, L7, L8,L9,L10 & C26,C27,C94,C95,C96,C97,C98 ARE L.P.F CIRCUIT.
54MHz TRAP L11,C100. AND THIS CIRCUIT DEPRESS THE NEEDLESS HARMONICS TO
UNDER 90dB EXCEPT THE 27㎒.

1-3-4. AM MODULATION

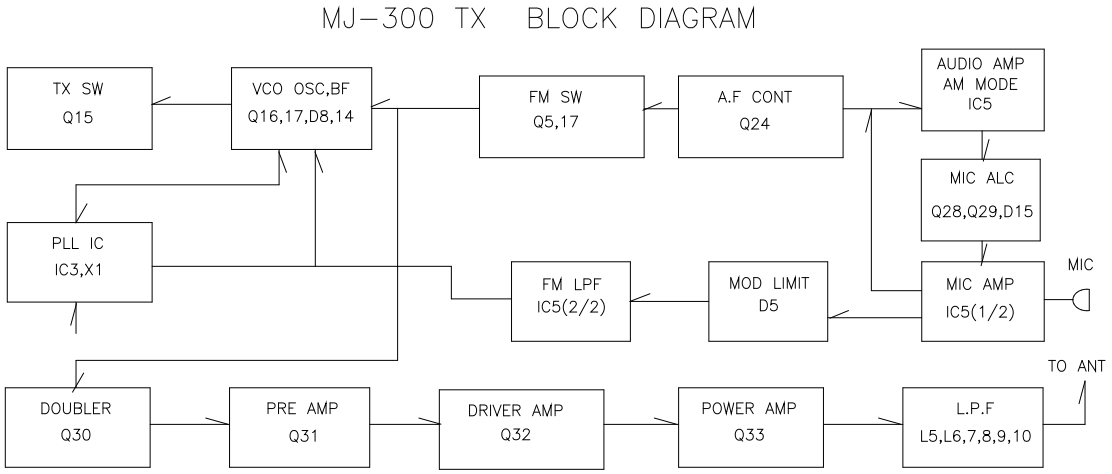
A) THE AMPLIFICATED SIGNAL ON IC5(1/2) FLOW IN TO IC4. AND THIS SIGNAL MODULATED ON IC4, OPT1 THROUGH D24.

B) AMC CONTROLLED BY Q28 AFTER DETECT ON Q29,D15.

1-3-5. FM MODULATION

THE AMPLIFICATED SIGNAL ON IC5(1/2) FLOW IN TO LIMIT DIODE D6 AND LPF IC5(2/2) FLOW IN TO MODULATED UNDER CONTROL OF FVCO WHICH MODIFIDE VARIABLE CAPACITOR D14 THROUGH FILTER.

TX BLOCK DIAGRAM



2. HOW TO ADJUST

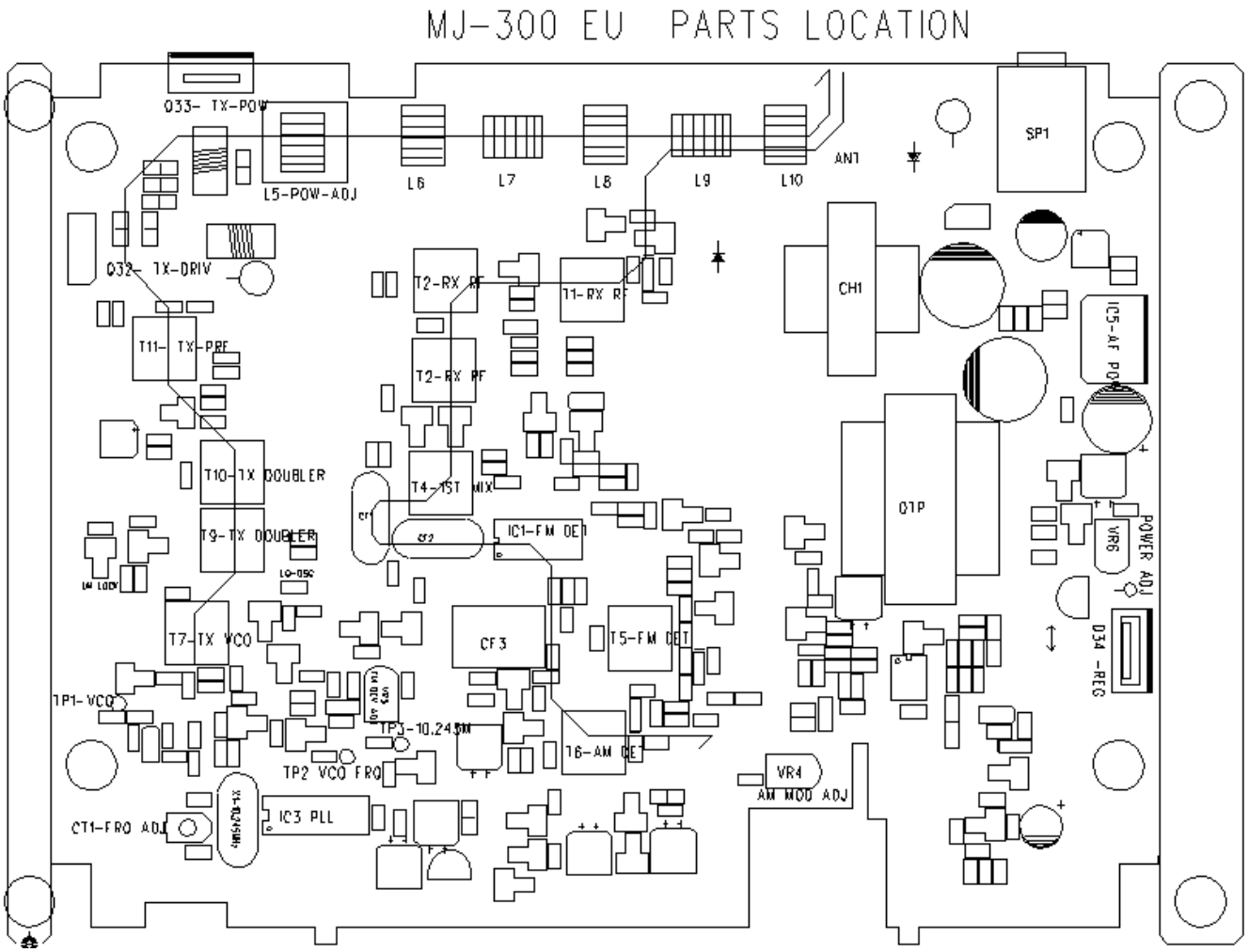
2-1. PREPARATION

2-1-1. HOW TO DISASSEMBLE

TAKE OFF 8 PCS OF SCREWS ON SDIE PART OF BOTTOM COVER.

2-2. ADJUST & TEST POINT

PARTS LOCATION DIAGRAM



2-3. PASHE LOCKED LOOP & VCO PARTY

A) TEST EQUIPMENTS

1) FREQUECY COUNTER

2) D.C POWER SUPPLY (13.8 VOLT. 3 Amp)

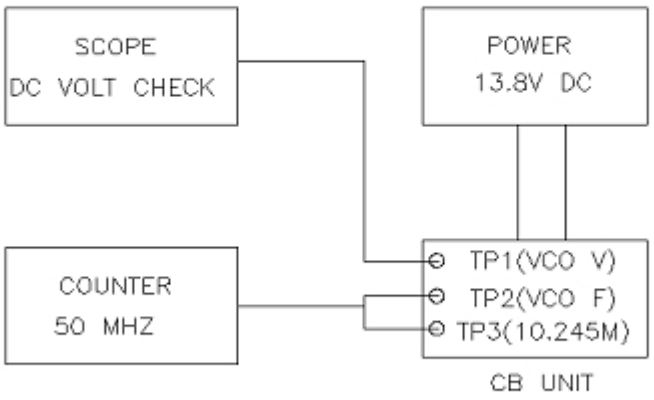
3) DC VOLTMETER

4) OSCILLOSCOPE

B) ADJUST ORDER

ORDER	PREPARATION	CONNECTION	POINT	ADJUST
1	10.245㎒ ADJUST 1) PTT S/W : RX 2) VR/SQ : TX 3) CH : FM 1CH	CONNECT ON TP3 WITH PROBE AND CHECK THE FREQ COUTER	CT1	10.245㎒ +/- 100Hz
2	RX VCO ADJUST 1) PTT S/W : RX 2) VR/SQ : MORMAL 3) CH : FM 1CH	CONNECT ON DC VOLTMETER TO TP1	T7	2.5V
3	TX VCO CHECK 1) PTT S/W : TX 2) VR/SQ : NORMAL 3) CH : FM 1CH	SAME AS ABOVE	T7	2.5~3.0V
4	F VCO CHECK 1) PTT S/W : RX 2) VR/SQ : NORMAL 3) CH : FM 1CH	CONNECT ON PROBE TO TP2. FREQ.COUNTER		16.2625㎒

VCO TEST DIAGRAM



2-4. TRANSMITTER PARTY

A) TEST INSTUMENTS

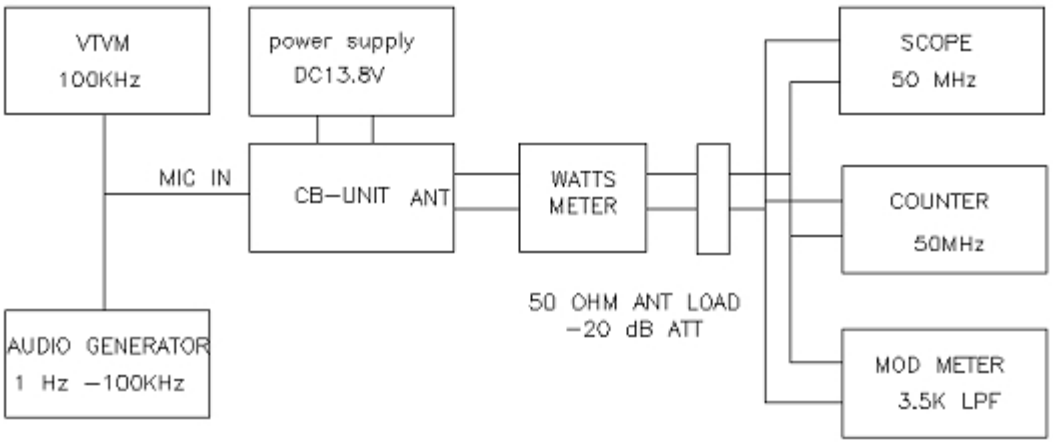
1) RF POWER METER
2) 50 ohm LOAD
3) RF ATTENUATOR
4) OSCILOSCOPE
5) AUDIO GENERATOR
6) DC POWER METER (13.8V 3A)
7) SPECTRUM ANALYZER
8) FREQUENCY COUNTER
9) COUPER
10) DUMMY LOAD
11) MODULATION METER

B) CONTROL ORDER

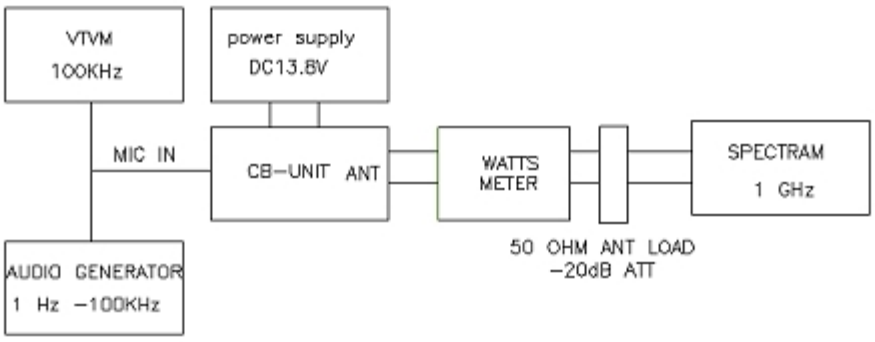
№	PREPARATION	CONNECTION	POINT	ADJUST
1	RF DRIVER & CURRENT ADJUST 1) PTT S/W : TX 2) VR/SQ : NORMAL 3) MODE: AM 4) CH : 19CH	ADASHIVE 50ohm DUMMY LOAD ON RF POWER METER AND CONNECT ON ANTENNA JACK ON EQUIPMENT. TX TEST2	*T9,T10,,T11, L1, TK1 (AM:NO MOD)	*CONTROL UPTO MAXIM -UM RF DRIVER LEVEL MAXIMUM OUTPUT
2	ADJUST RF POWER 1)PTT S/W : TX MODE 2)VR/SQ : NORMAL 3)MODE:AM 4)CH : 19CH	SAME AS ABOVE	*FM/AM:VR6	*ADJUST 4WATTS
3	2ND HRAMONIC CONFIR-MATION 1) PTT S/W:TX MODE 2) VOLUME: NORMAL 3) SQUELCH : NORMAL 4) CH: AM 19CH	CONNET THE RF ATTENUATOR(-90dB) TO ANT JACK OF EQUIP AND CONNECT TO SPECTRUM. TX TEST2		CONFIRMATION DISPLAYED BASIC FRE -QUENCY AND 2ND,3RD FREQ.UNDER NONMOD -ULATE CONDITION

№	PREPARATION	CONNECTION	POINT	ADJUST
4	TX FREQUENCY CONFIR-MATION 1) PTT S/W: TX MODE 2) VOLUME: NORMAL 3) SQUELCH: NORMAL 4) CH: AM 19CH	CONNECT FRQUENCY COUNTER TO ON OUTPUT OF DUMMY LOAD. TX TEST1	CT1	ADJUST FREQUENCY AS 27.185MHZ +/-200HZ WHICH DISPLAY ON FREQ. COUNTER
5	AM MODULATION CONFIR-MATION 1) PTT S/W : TX MODE 2) VOLUME : NORMAL 3) SQUELCH : NORMAL 4) CH : 19CH 5) MODE S/W : AM	CONNECT THE OUTPUT TO OSCILOSCOPE. INSERT TO 1KHZ SIGNAL OF AUDIO GENERATOR TO BOTH TERMINAL OF MIC OF SET.TX TEST1	VR4	ADJUST 85~ 90% MODULATE ON OSCILOSCOPE IN MODULATION SITUATION.
6	FM MODULATION CONFIR-MATION 1) PTT S/W : TX MODE 2) VOLUME : NORMAL 3) SQUELCH : NORMAL 4) CH : 19CH 5) MODE S/W : FM	CONNECT THE RF OUT POWER METER TO DEV METER. INSERT THE 1.25KHZ 20mV SIGNAL OF AUDIO GENERATOR TO BOTH TERMINAL OF MIC OF SET. TX TEST1	VR3	ADJUST 2.0KHZ ON DEV.METER UNDER CONDITION OF MODULATION.

TX TEST DIAGRAM 1



TX TEST DIAGRAM 2



2-5 RECEIVER PARTY

A) TEST EQUIPMENTS

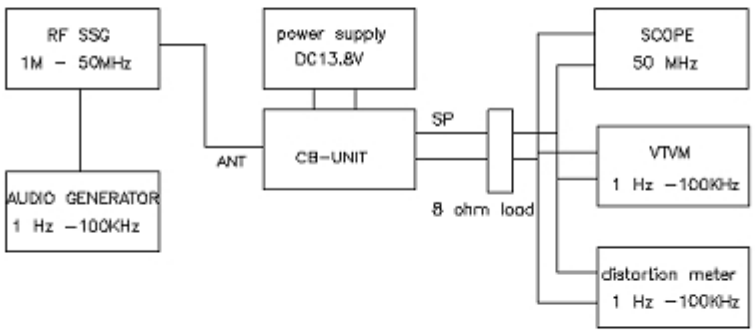
1) S.S.G
2) V.T.V.M
3) DISTORTION METER
4) DC POWER SUPPLY
5) 8 ohm DUMMY LOAD

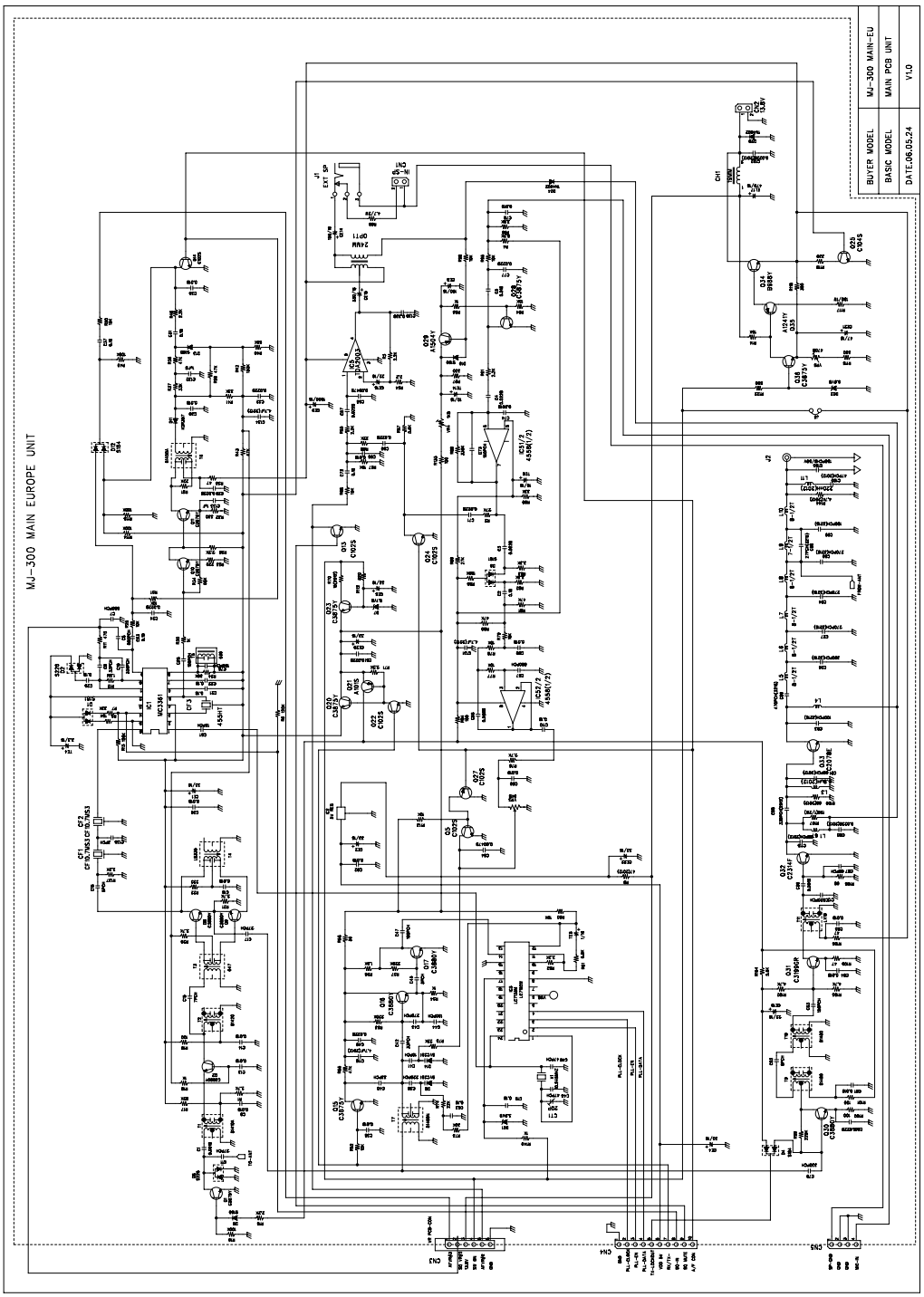
B) ADJUST ORDER

NO	PREPARATION	CONNECTION	POINT	ADJUST
1	RF DRIVER/ 1F PARTY 1) PTT S/W : RX MODE 2) VOLUME : MINIMUM 3) SQUELCH : MINIMUM 4) CH : 19CH 5) S.S.G : 27.185MHZ 1KHZ. ATT 30% MODE 6) MODE S/W : AM	CONNECT SSG TO ANT JACK AND CONNECT VTVM & DISTORTION METER TO 8ohm. RX TEST	T1,T2,T3,T4, T6.	ADJUST VTVM TO MAXIMUM
2	FM/DET PARTY 1) PTT S/W : RX MODE 2) VOLUME : STANDARD 3) SQUELCH : MINIMUM 4) CHANNEL : 19 CH 5) S.S.G : 27.185MHZ 1 KHZ, 1mV, 1.25 KHZ, DEV 6) MODE S/W : FM	SAME AS ABOVE RX TEST	T5	SAME AS ABOVE
3	SQ ACTIVITY SITUATION 1) PTT S/W : RX MODE 2) VOLUME : STANDARD 3) SQUELCH : MAXIMUM 4) CH : 19 CH 5) S.S.G : 27.185MHZ ATT0.5~1uV	INSERT THE SSG TO ANT JACK AND CONNECT VTVM & DISTORTION METER TO 8 ohm LOAD. RX TEST	-	SQ VR MAXIMUM ADJUST UNTILL LOW FREQUENCY 1KHZ WILL APPEAR.

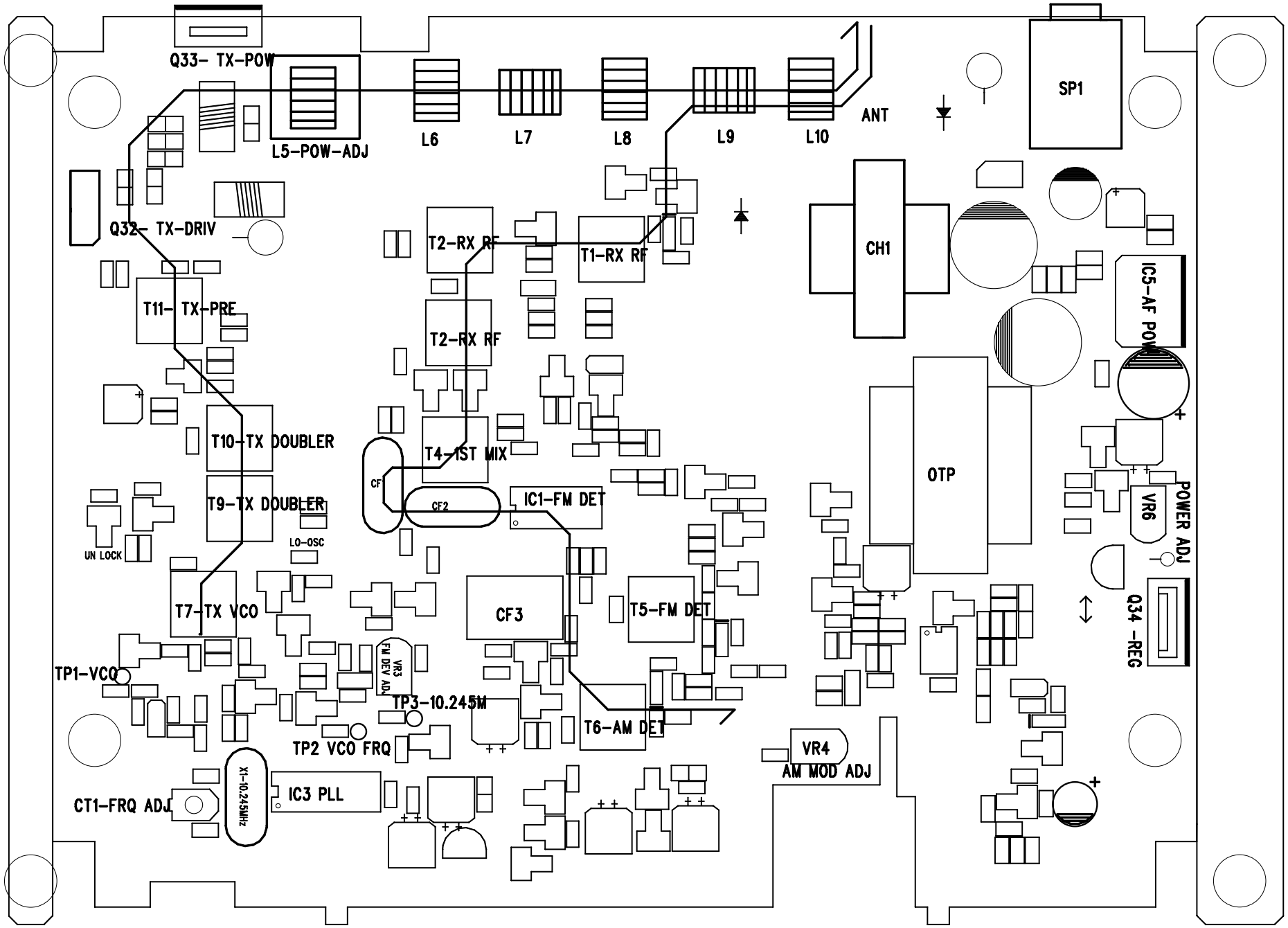
	1 KHZ 30% MOD 6) MODE S/W : AM			

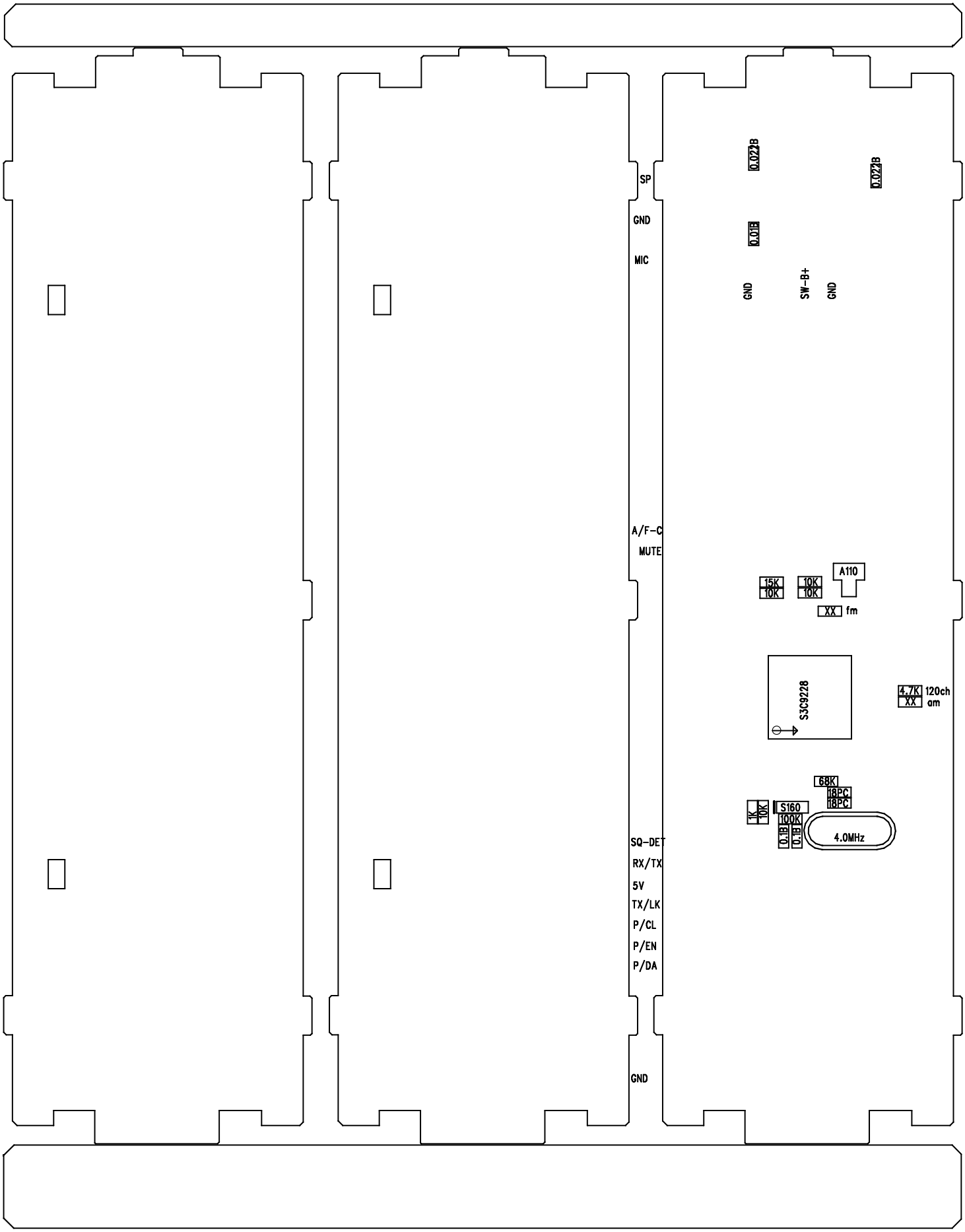
RX TEST DIAGRAM

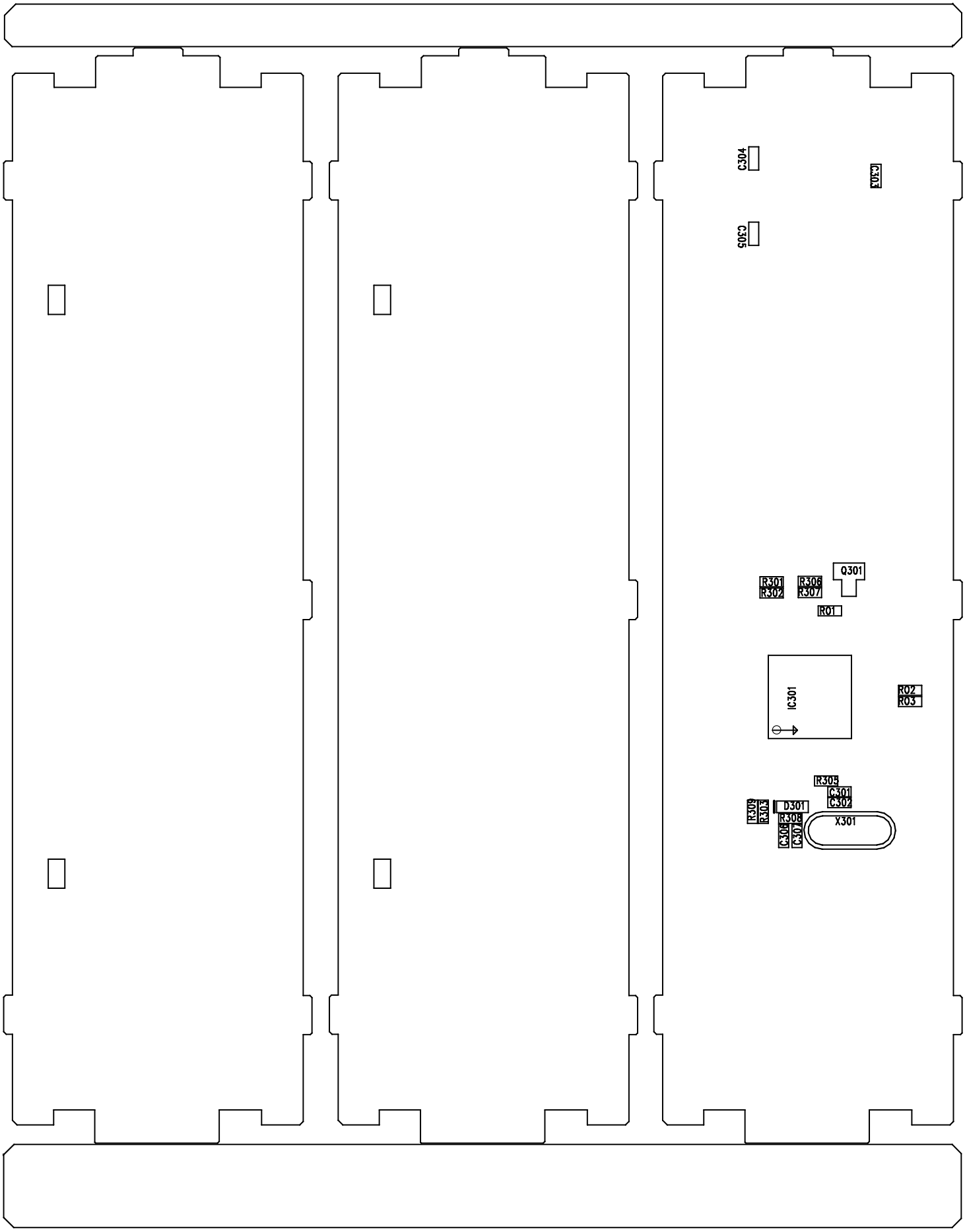


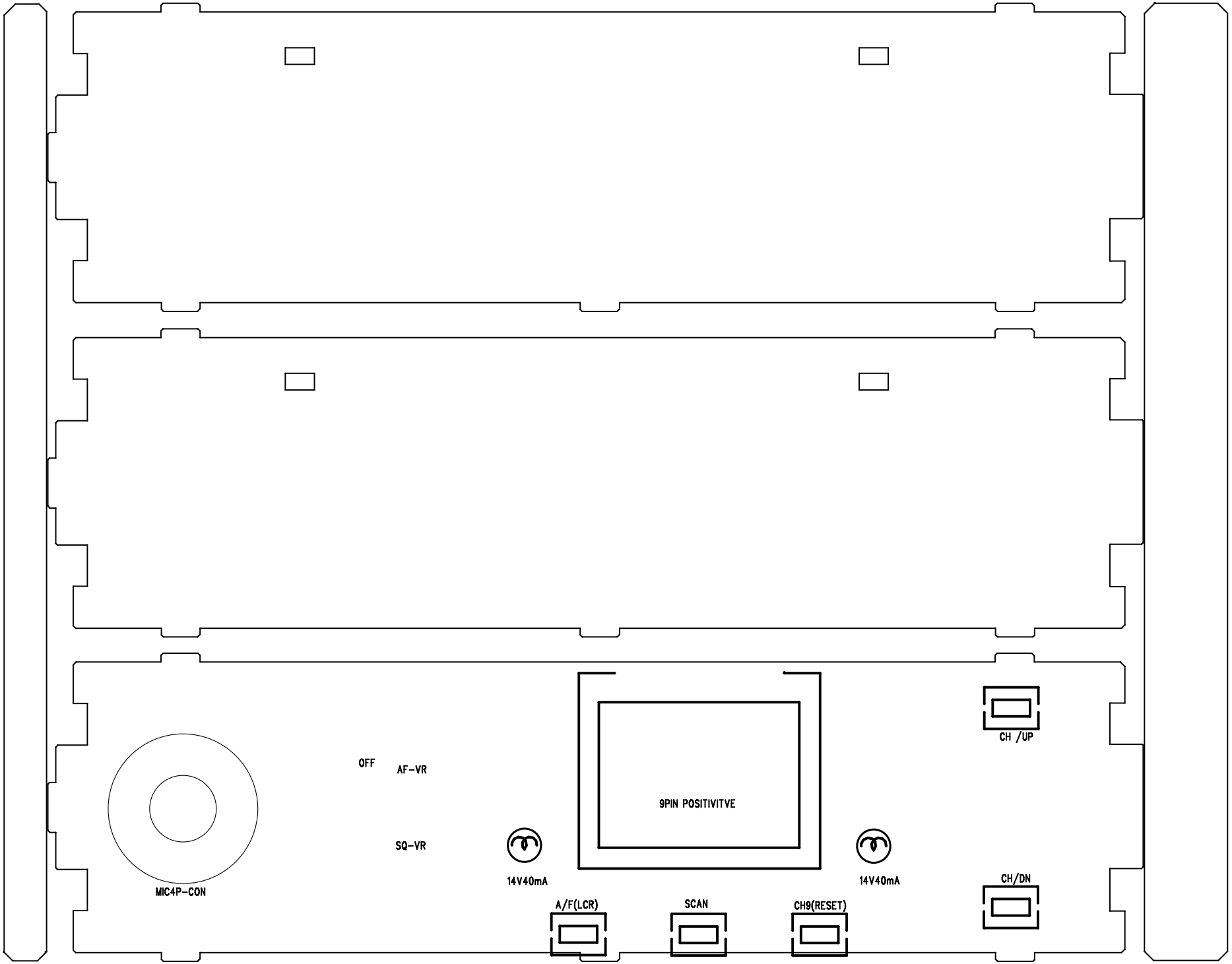

MJ-300 MAIN EUROPE UNIT
BUYER MODEL
MJ-300 MAIN-EU
BASIC MODEL
MAIN PCB UNIT
DATE.06.05.24
V1.0

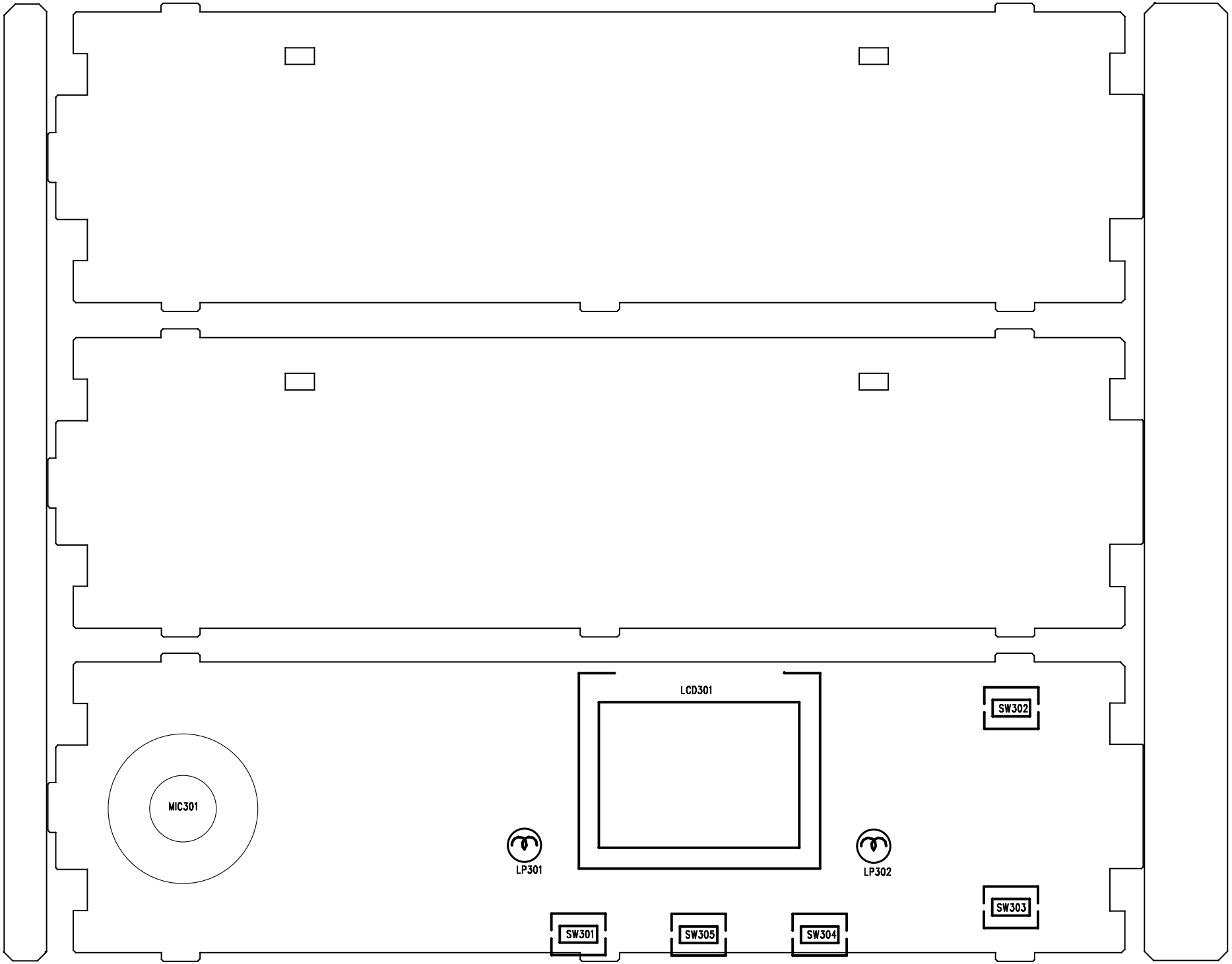
MJ-300 EU PARTS LOCATION




SP
GND
MIC
A/F-C
MUTE
SQ-DET
RX/TX
5V
TX/LK
P/CL
P/EN
P/DA
GND
0.022B
0.022B
0.01B
GND
SW-B+
GND
A110
15K
10K
10K
10K
XX
fm
S3C9228
4.7K
XX
120ch
am
68K
18PC
18PC
1K
10K
S160
100K
0.1B
0.1B
4.0MHz


C304
C303
C305
Q301
R301
R302
R306
R307
R01
IC301
R02
R03
R305
C301
C302
D301
R309
R303
R308
C306
C307
X301


OFF
AF-VR
SQ-VR
MIC4P-CON
14V40mA
9PIN POSITIVITVE
14V40mA
CH /UP
CH/DN
A/F(LCR)
SCAN
CH9(RESET)


LCD301
SW302
MIC301
LP301
LP302
SW303
SW301
SW305
SW304

MJ-300 MAIN PCB PART LIST	May 26 12:35:15 2006

Item	Qty	Reference	Part Name	Manufacturer	Description
1	1	J2	ANT,ANT		
2	3	C1 C74 C86	C-SMD,0.001B		
3	2	C56 C64	C-SMD,0.0047B		
4	17	C5 C8 C13-14 C16 C30 C35-36 C38 C62 C65-66 C69 C78 C81 C84-85	C-SMD,0.01B		
5	12	C3-4 C24 C29 C32 C46 C57 C59 C61 C71 C77 C80	C-SMD,0.022B		
6	2	C90 C102	C-SMD, 0.022B(2012)		
7	1	C68	C-SMD,0.068B		
8	11	C2 C19 C21-23 C25 C31 C37 C63 C72 C110	C-SMD,0.1B		
9	1	C130	C-SMD,0.33B		
10	2	C28 C47	C-SMD,100PCH		
11	1	C93	C-SMD, 100PCH(3216)		
12	1	C41	C-SMD,10PCH		

13	3	C44 C73	C-SMD,150PCH		
		|C83			
14	1	C103	C-SMD,		
			|150PCHD/50V		
15	1	C51	C-SMD,15PCH		
16	1	C76	C-SMD,180PCH		
17	1	C99	C-SMD,		
			|180PCH(3216)		
18	1	C133	C-SMD,1uF		

19	1	C132	C-SMD,1uFB		
20	1	C39	C-SMD,220PCH		
21	1	C43	C-SMD,270PCH		
22	3	C27	C-SMD,		
		|C94-95 |270PCH(3216)		
23	2	C11 C17	C-SMD,27PCH		
24	1	C98	C-SMD,		
			|27PCH(3216)		
25	2	C10 C79	C-SMD,330PCH		
26	1	C88	C-SMD,		
			|330PCH(2012)		
27	3	C9 C40	C-SMD,33PCH		
		|C42			
28	1	C26	C-SMD,		
			|390PCH(3216)		
29	1	C135	C-SMD,3PCH		
30	3	C116 C131	C-SMD,		
		|C134 |4.7uF(2012)		
31	1	C89	C-SMD,		
			|470PCH(3216)		
32	2	C48-49	C-SMD,47PCH		
33	1	C100	C-SMD,		
			|47PCH(2012)		
34	2	C18 C45	C-SMD,5PCH		

35	3	C6-7 C67	C-SMD,680PCH		
36	1	C87	C-SMD,68PCH		
37	2	C91 C115	C-SMD,		
			68PCH(2012)		
38	1	C15	C-SMD,7PCH		
39	1	C82	C-SMD,8PCH		
40	1	C12	C-SMD,C820PCH		
41	1	CF3	CF-A,455HT		
42	2	CF1-2	CF-A,CF10.7MS3		
43	1	CN2	CON-2,13.8V		
44	1	CN4	CON-10,		
			CONNECTOR		
45	1	CN1	CON-2B,IN-SP		
46	1	CN5	CON4-S		
47	1	CN3	CON6-S,		
			CONNECTOR		
48	1	CT1	CV-SMD,20P		
49	2	D20 D24	D-A,1N4002		
50	1	D11	D-A,KDR357		
51	3	D9 D13	D-A,S160		
		D15			
52	2	D2 D6	D-SOT23,S226		

53	2	D1 D5	D-USM,S181		
54	2	D4 D12	D-USM,S184		
55	2	D8 D14	D-V,SVC251		
56	1	D21	DZ-A,3.0VB		
57	1	D22	DZ-A,5.6VB		
58	1	D7	DZ-A,9.1VB		
59	1	TE8	E-A,1/16		
60	2	TE6 TE14	E-A,10/16		
61	2	CE8 CE14	E-A,100/16		
62	1	CE9	E-A,1000/16		
63	2	CE10 CE16	E-A,22/16		

64	1	TE4	E-A,3.3/16		
65	6	CE1-2 CE4	E-A,33/16		
		CE6 CE20			
		CE22			
66	1	CE15	E-A,330/16		
67	1	CE21	E-A,47/16		
68	1	EL17	E-A,470/16		
69	1	IC2	IC3,5V REG		
70	2	IC51-52	IC5,4558(1/2)		
71	1	IC5	IC5,TDA2003		
72	1	IC3	IC24-MFP24S,		
			LC7152M		
73	1	IC1	ICP16,MC3361		PLL-16PIN (DIP) PCB DECAL
74	1	T3	IFT,047		
75	1	T6	IFT,81450A		
76	1	T7	IFT,81460N		
77	1	T4	IFT,LB335		
78	1	T1	IFT6,81410A		
79	1	T2	IFT6,81420		
80	2	T9-10	IFT6,81480		
81	1	T11	IFT6,LX18		
82	1	T5	IFT-5,036		
83	1	J1	J-SP,EXT SP		
84	1	J3	JUMPER		JUMPER BLOCK, 2 PINS 0.1"
					SPACING
85	1	L4	L-D		
86	1	L11	L-D,		
			220nH(2012)		
87	1	L3	L-D,		
			6.8uH(2012)		
88	1	L1	L-D,6T		
89	1	L9	L-D,7-1/2T		
90	5	L5-8 L10	L-D,8-1/2T		
91	1	R58	R-SMD,1.5K		
92	1	R12	R-SMD,1.5M		
93	5	R19 R84	R-SMD,100		

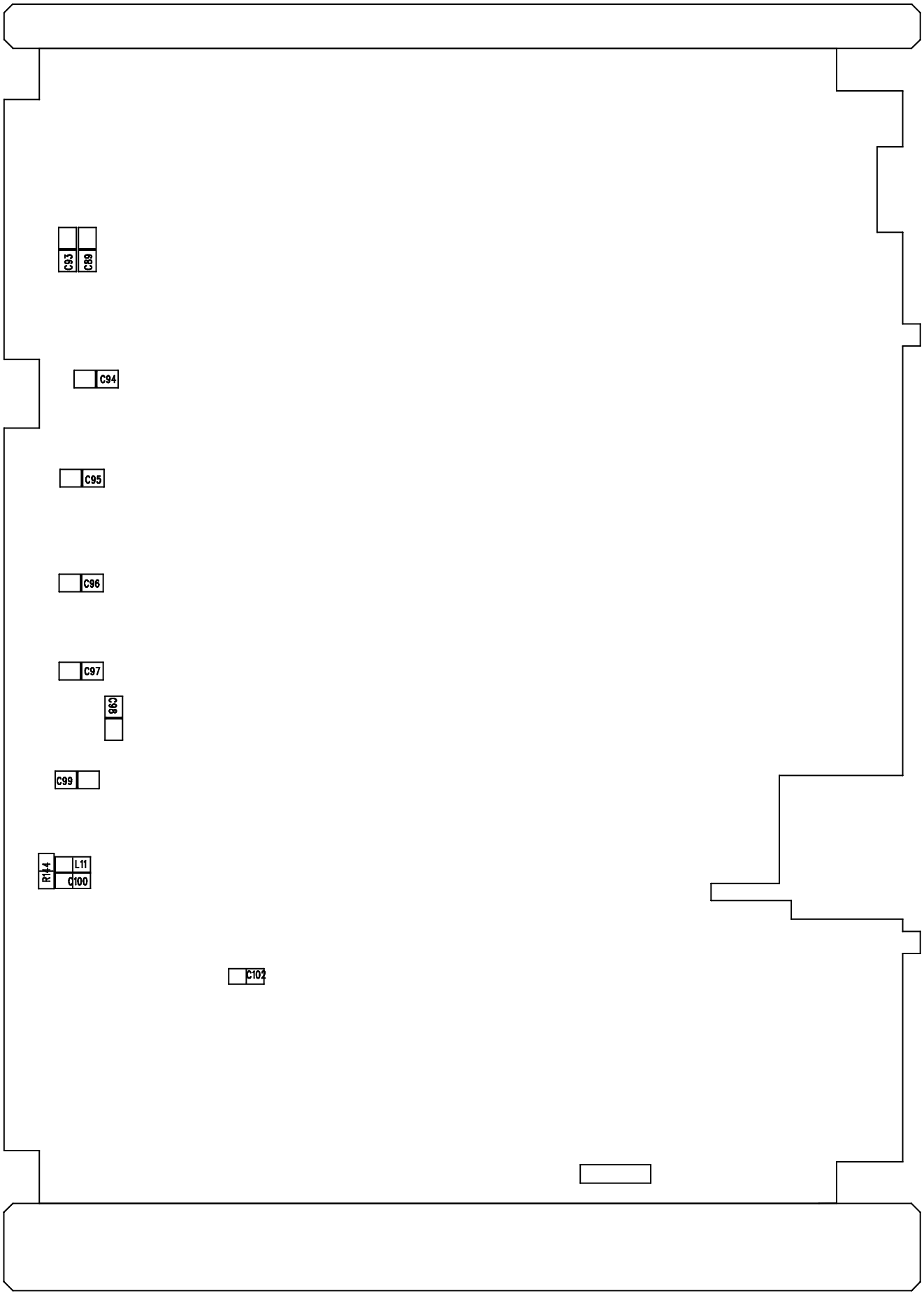
		R100-101			
		R133			
94	5	R13 R15	R-SMD,100K		
		R49			
		R114-115			
95	10	R25 R51	R-SMD,10K		
		R60 R67			
		R77-79			
		R95 R98			
		R113			
96	1	R107	R-SMD,		
			120(1/2W)		
97	1	R6	R-SMD,120K		
98	1	R70	R-SMD,15(2012)		
99	1	R117	R-SMD,150/1W		
100	1	R42	R-SMD,150K		
101	5	R5 R14	R-SMD,15K		
		R50 R66			
		R94			
102	1	R85	R-SMD,180K		
103	5	R18 R30	R-SMD,1K		
		R54 R93			
		R140			
104	1	R52	R-SMD,1OK		
105	1	R64	R-SMD,2.2		
106	9	R3 R16	R-SMD,2.2K		
		R36 R46			
		R62 R65			
		R71 R91			
		R137			
107	4	R1 R20-21	R-SMD,2.7K		
		R76			
108	2	R22 R33	R-SMD,220		
109	3	R53 R57	R-SMD,220K		
		R99			

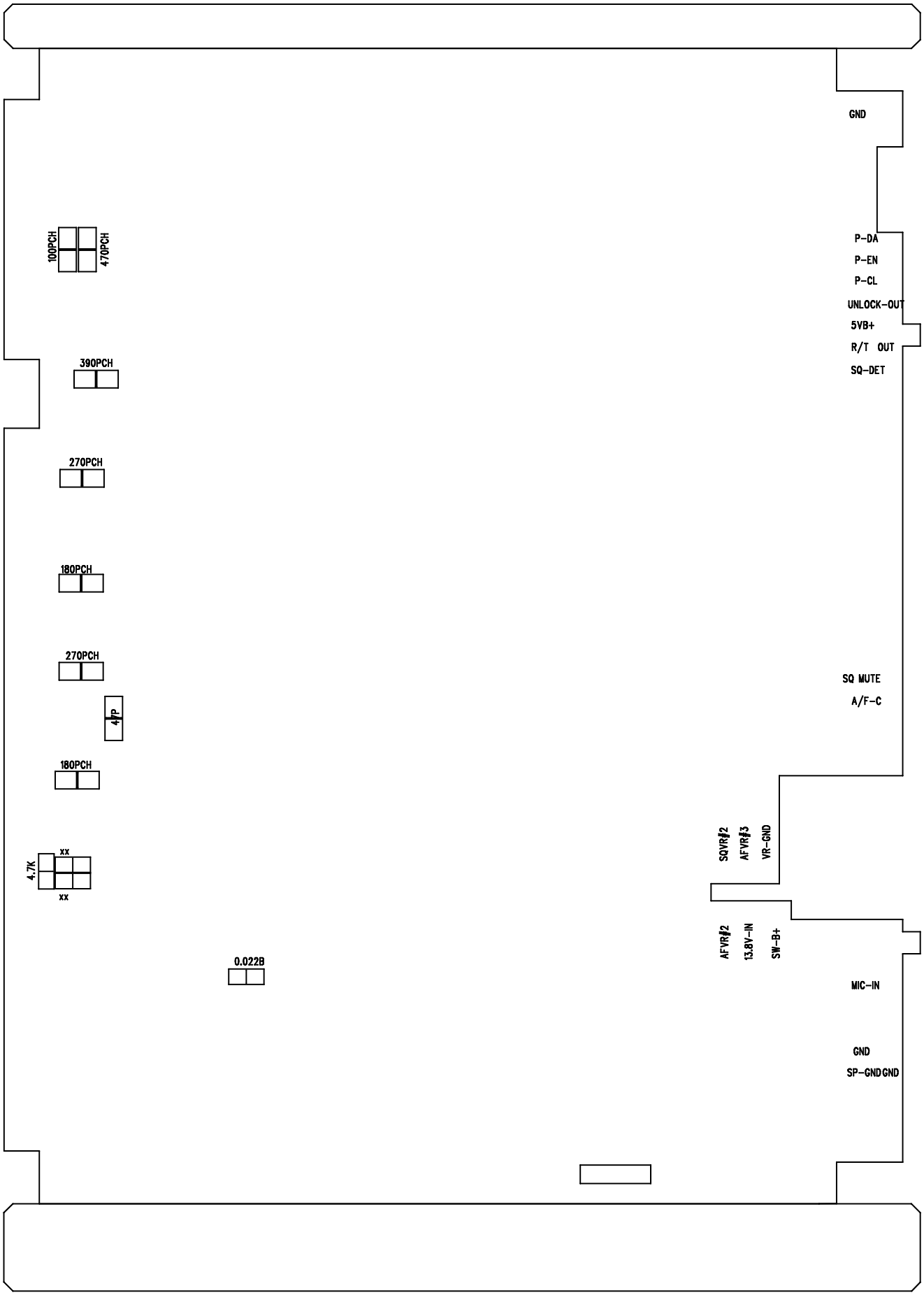
110	4	R31 R68	R-SMD,22K		
		|R74-75			
111	2	R2 R89	R-SMD,27K		
112	2	R82-83	R-SMD,3.3K		
113	1	R96	R-SMD,3.9K		
114	4	R32 R97	R-SMD,330		
		|R116 R119|		
115	1	R88	R-SMD,330K		
116	5	R7 R37	R-SMD,33K		
		|R41 R73			
		|R90			

117	1	R118	R-SMD,390		
118	1	R69	R-SMD,4.7/2W		
119	2	R102-103	R-SMD,4.7K		
120	1	R144	R-SMD,		
			|4.7K(2012)			
121	3	R35	R-SMD,47		
		|R105-106			
122	1	R8	R-SMD,47(2012)		
123	1	R11	R-SMD,470		
124	6	R38-39	R-SMD,47K		
		|R43 R55			
		|R80-81			
125	2	R87 R104	R-SMD,5.6K		
126	1	R56	R-SMD,56		
127	2	R24 R34	R-SMD,56K		
128	1	R61	R-SMD,6.8K		
129	1	R108	R-SMD,68		
130	1	R109	R-SMD,68(2012)		
131	1	R122	R-SMD,680		
132	1	R40	R-SMD,68K		
133	1	R4	R-SMD,8.2K		
134	1	R112	R-SMD,820		

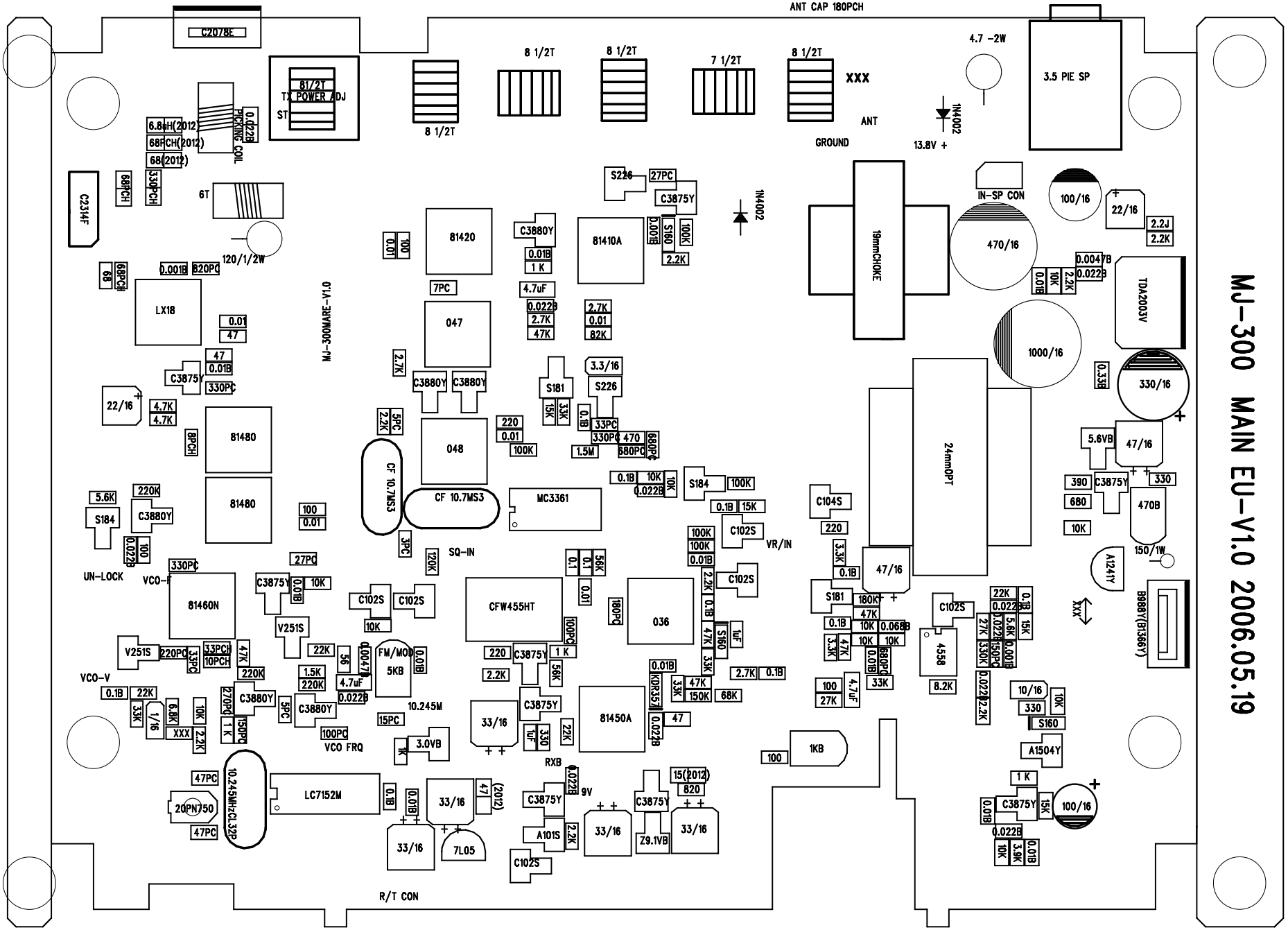
135	1	R17	R-SMD,82K		
136	1	Q21	T-220AB,A101S		
137	1	Q35	T-220AB,A1241Y		
138	1	Q29	T-220AB,A1504Y		
139	1	Q34	T-220AB,B988Y		
140	6	Q5 Q13-14	T-220AB,C102S		
		Q22 Q24			
		Q27			
141	1	Q25	T-220AB,C104S		
142	1	Q33	T-220AB,C2078E		
143	1	Q32	T-220AB,C2314F		
144	1	Q31	T-220AB,		
			C3199GR		
145	8	Q1 Q10-11	T-220AB,C3875Y		
		Q15 Q20			
		Q23 Q28			
		Q36			
146	6	Q2 Q8-9	T-220AB,C3880Y		
		Q16-17			
		Q30			
147	1	VM8	TP1,+		
148	1	OPT1	TRANS,24MM		
149	1	CH1	TRANS2,19MM		
150	1	VR4	VR-5H3P,1KB		

151	1	VR6	VR-5H3P,470B		
152	1	VR3	VR-6H3P,5KB		
153	1	X1	XTL-11X4.5,		
		|10.245MHZ		

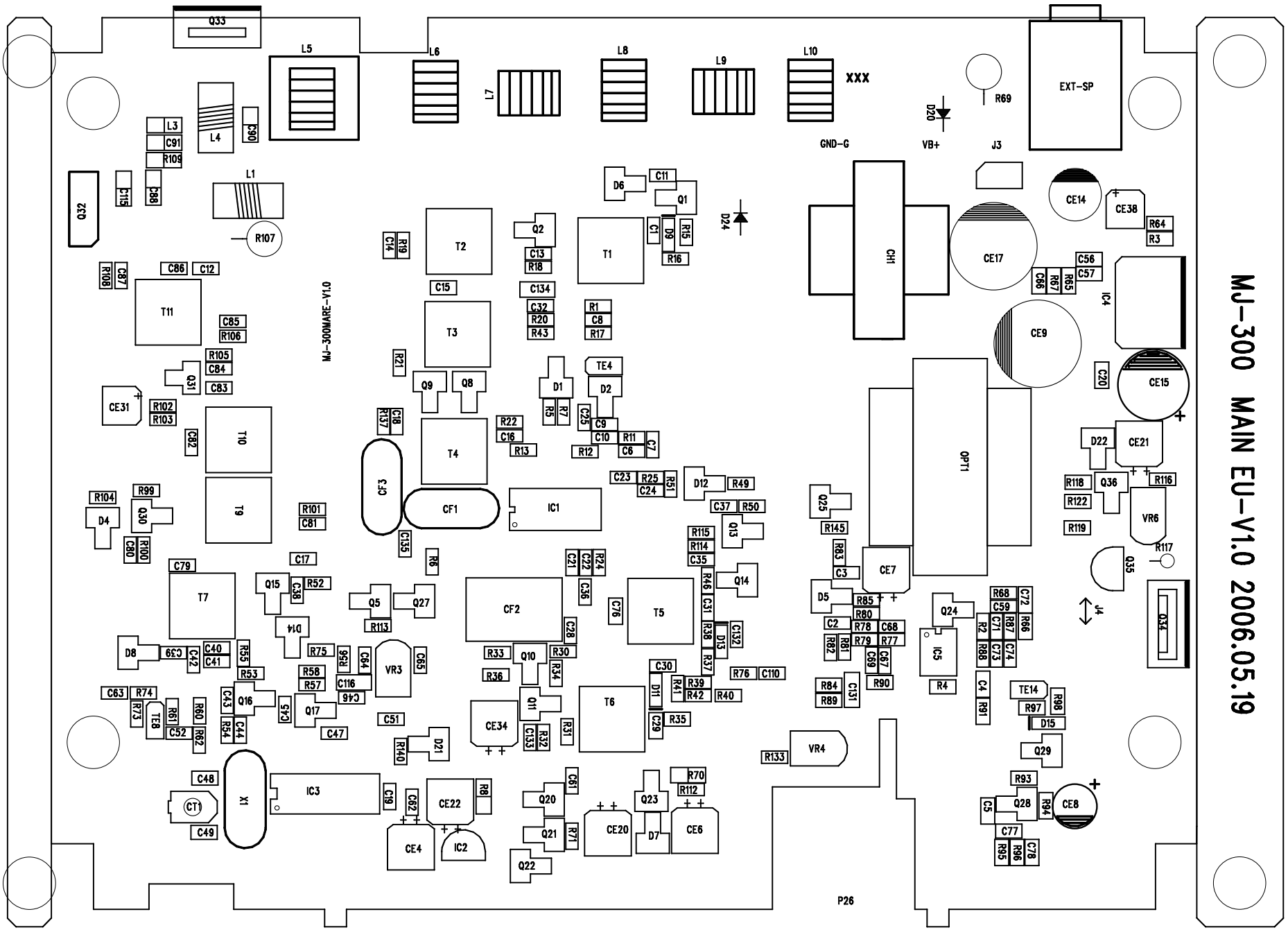

C93
C89
C94
C95
C96
C97
C98
C99
R144
L11
C100
C102

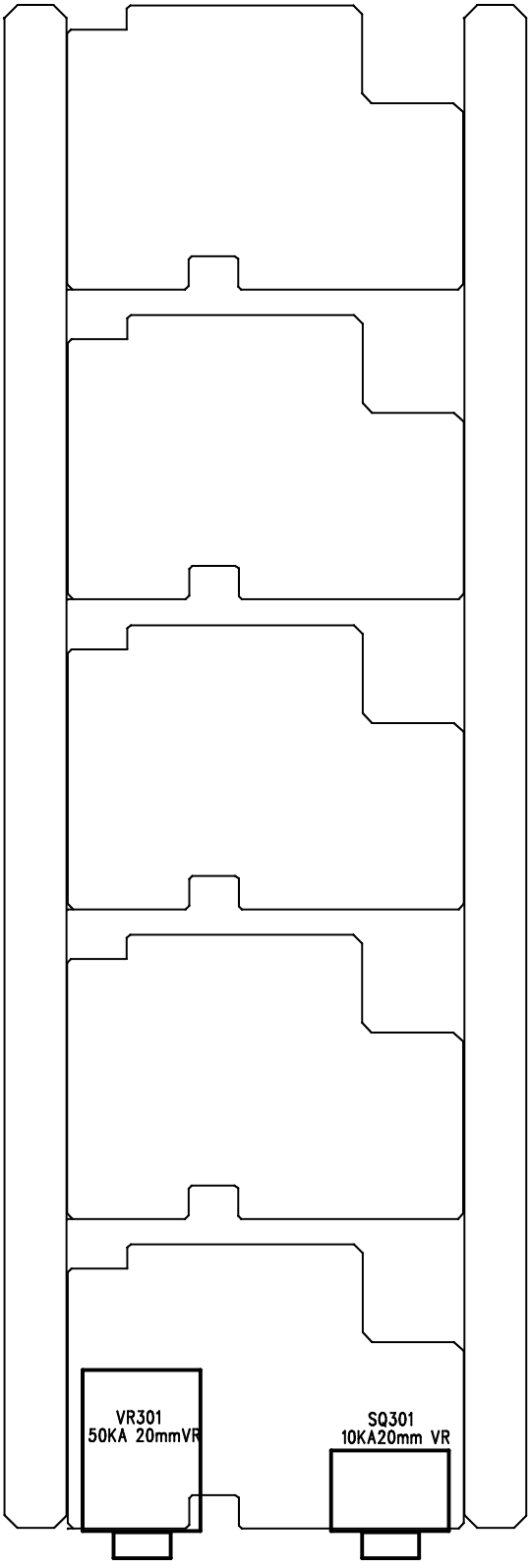

GND
100PCH
470PCH
P-DA
P-EN
P-CL
UNLOCK-OUT
5VB+
R/T OUT
SQ-DET
390PCH
270PCH
180PCH
270PCH
SQ MUTE
A/F-C
4P
180PCH
SQVR#2
AFVR#3
VR-GND
xx
4.7K
xx
AFVR#2
13.8V-IN
SW-B+
0.022B
MIC-IN
GND
SP-GND
GND

MJ-300 MAIN EU-V1.0 TOP PCB

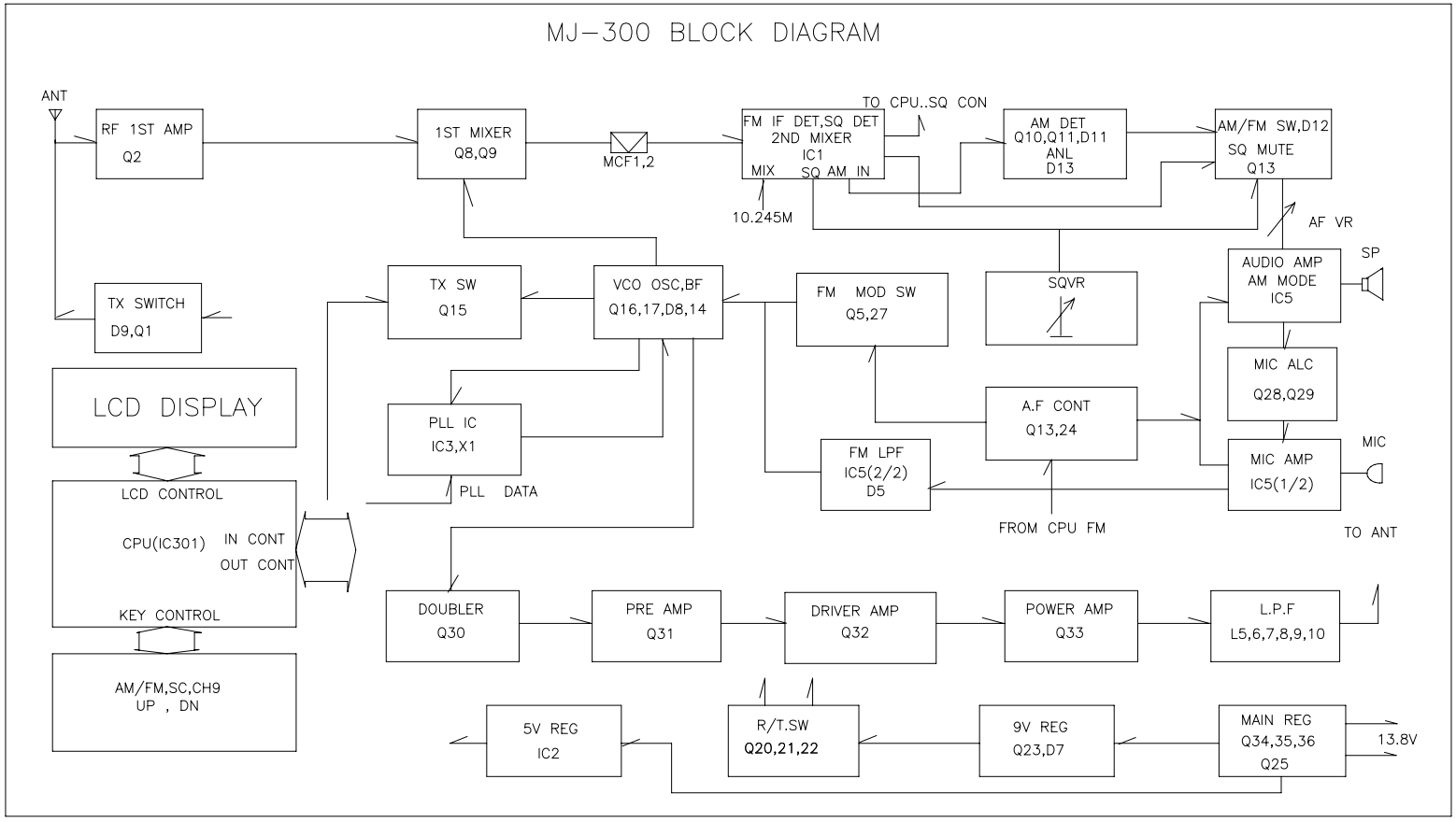


MJ-300 MAIN EU-V1.0 TOP PCB




VR301
50KA 20mmVR
SQ301
10KA20mm VR

MJ-300 BLOCK DIAGRAM



BUYER MODEL	MJ-300FREU
BASIC MODEL	MJ300FRONT-EU
REV: 06/05/25