PRESIDENT

WALKER II EU

SERVICE MANUAL

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SPECIFICATIONS

General		
Frequency coverage		26.965 ~ 27.405MHz
Operating mode		F3E (FM), A3E (AM)
Number of channels		40 EU / 40 PL / 80 d / 40 EC / 40 UK+40 CEPT / 27 In
Antenna Impedance		50Ω
Working temperature		–10℃~+55℃
Frequency Tolerance		Better than 0.002%
Input Voltage		13.2V DC
Grounding Method		Negative ground
Current Drain	Transmitter	3.0A Max.
	Receiver	About 300mA 0.8A (VOL Max.)
Dimensions (W x H x D) With projections		Microphone: 60 x 41 x 82 mm Body: 170 x 202 x 52 mm
Weight		Approx.1Kg
RECEIVER		
Receiving System		Dual conversion superheterodyne
IF Frequencies		Double Conversion 1st 10.695MHz/ 2nd 455KHz
Sensitivity		-112dBm for 20dB SINAD in AM Mode
		-117dBm for 20dB SINAD in FM Mode
Audio Output Power		3 watts max @8Ω
Audio Distortion		Less than 5% @ 1KHz
Image Rejection		70dB
Adjacent Channel Rejection		60dB
Frequency Response		300Hz to 3000Hz
Squelch		Less than 1.0μV
TRANSMITTER		
Output Power		FM/AM: 4.0 W
Modulated signal distortion		Inferior to 5%
Frequency Response		300Hz to 3000Hz
Output Impedance		50ohms, Unbalanced
Harmonic Suppression		More than -54dBm

CIRCUIT DESCRIPTION

Frequency configuration

The receiver utilizes double conversion. The first IF is 10.695MHz and the second IF is 455kHz. The first local oscillator signal is supplied from the VCO module.
The VCO module in the transmitter generates the necessary frequencies. Fig. 1 shows the frequencies.

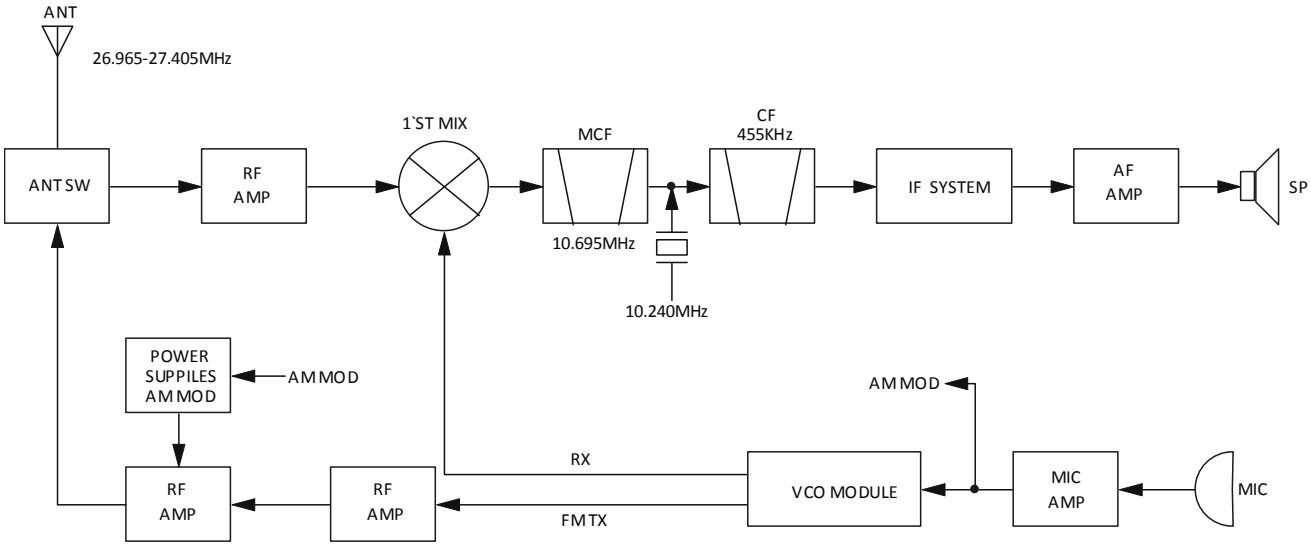


Fig. 1 Frequency configuration

Receiver

The frequency configuration of the receiver is shown in Fig. 2.

■ Front - end RF amplifier

An incoming signal from the antenna is applied to an RF amplifier (Q103) after passing through a transmit/receive switch circuit (D108 and D109 are off). After the signal is filtered through a band pass filter (L103, L104 and L105) to eliminate unwanted signals before it is passed to the first mixer.

■ First Mixer

The signal from the RF amplifier is heterodyned with the first local oscillator signal from the VCO module at the first mixer (Q104) to create a 10.695MHz first intermediate frequency (1st IF) signal. The first IF signal is filtered through a band pass filter (L106, L107and L108) and then fed through the monolithic crystal filter (MCFs : CB100) to further remove spurious signals.

The band-pass filters are tuned to a desired frequency by varicaps (D112, D113, D114,). A tuning voltage corresponding to the desired signal is applied to each varicap through the DC amplifier of the U303B to tune to the receive frequency.

■ IF amplifier

The first IF signal go into second mixer Q113, second mixer mix first IF and 10.24MHZ second IF output Y100. The signal is heterodyned again with a second local oscillator signal. The second IF signal is then fed through a 455kHz ceramic filter (CF100) to further eliminate unwanted signals. The signal is amplified by Q114 and Q105, and then the second IF signal enter U101 (FM processing IC) in FM mode or changed

CIRCUIT DESCRIPTION

according to D117 diode DC and receive audio signal output.

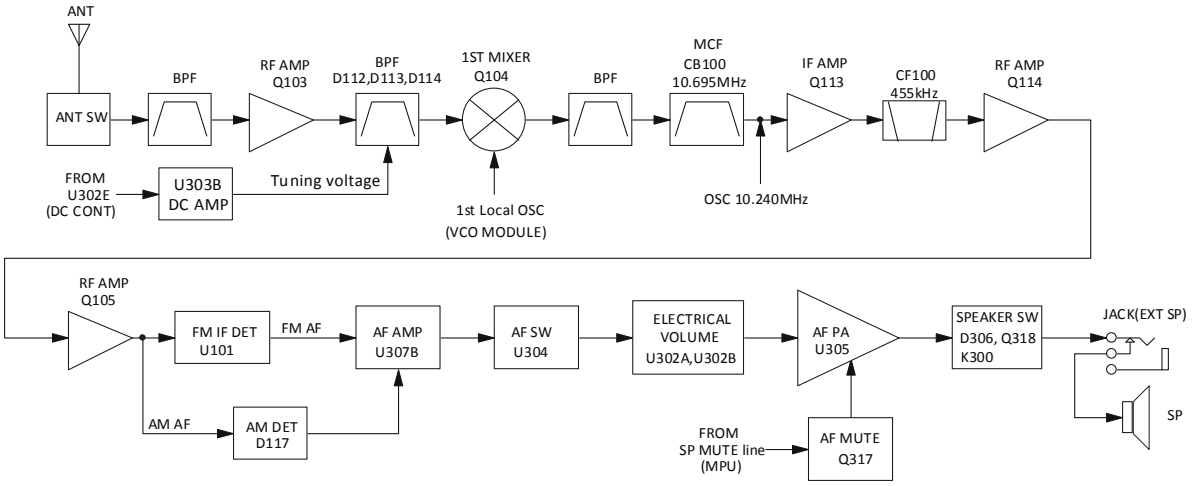


Fig. 2 Receiver section configuration

■ AF amplifier

The FM IC output the FM AF passes through the AF amplifier (U307B) or The AM AF through the D117 and AF amplifier (U307B), and AF switch (U304),and Electrical Control Volume IC(U302). After goes to AF power amplifier IC (U305). Is routed to an audio power amplifier (U305) where it is amplified and output to the speaker. To output sounds from the speaker, U701 sends a high signal to the SPMUT line the turns Q317.

■ Squelch

A squelch circuit is provided to prevent no-signal noise or weak signals from outputting to a speaker during transmission.

Transmitter

■ Transmit audio

The audio signal from the microphone goes through the MIC amplifiers (U300 and U301), and resulting signal goes to the VCO module through the VCO modulation terminal for direct FM modulation. The AM modulation signal enter into RF amplifier after passing through power supplies Q306, Q307 and Q311.

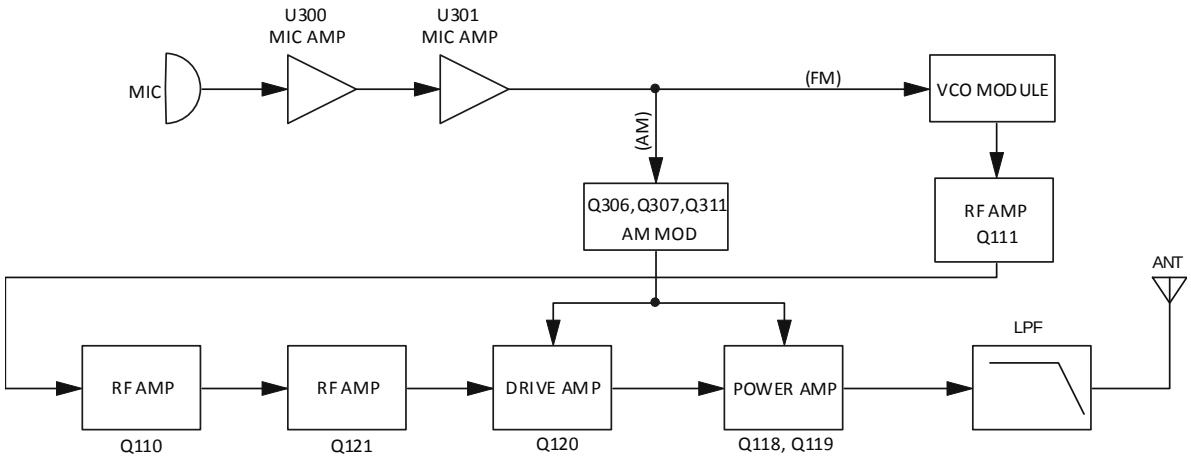


Fig. 3 Transmit circuit

CIRCUIT DESCRIPTION

■ **Power Amplifier Circuit**

The transmit output signal from the VCO module passes through the buffer amplified (Q111) and amplified by Q110、Q121 and Q120. The amplified signal goes to the final amplifiers (Q118 and Q119) through a low-pass filter. The lowpass filter removes unwanted high-frequency harmonic components, and the resulting signal is transmitted through the antenna terminal.

Power Supply

The power supply voltage is maintained to 8.0V, 5.0V and 3.3V by the series regulator (U501, U500 and U503). It is used as MCU power 3M3, 8N, 8T and 8R.

8V is a common 8V.

8R is 8V for reception and output during reception.

8T is 8V for transmission and output during transmission.

5V is a common 5V.

Control Circuit

■ **MPU**

The microprocessor (U701) operates at a clock of 12MHz.

The control circuit consists of a microprocessor (U701) and its peripheral circuits. It controls the TX-RX unit. U701 mainly performs the following:

1) Switching between transmission and reception by the PTT signal input.
2) Sending frequency program data to the VCO module.
3) Controlling squelch on/off by the DC voltage from the squelch circuit.
4) Controls the second MPU.
5) Controls the compander unit.
6) Controls the power supply unit.

Display Circuit

The MPU (U701) controls the display LCD and LEDs. The LCD driver (U800) and MPU (U701) communicate through the DAT, CLK, CS lines.

LCD UNIT		
Designators	**Comment**	**Footprint**
C800	103P	S0402
C801	103P	S0402
C802	103P	S0402
C803	103P	S0402
C804	103P	S0402
C805	225P/10V	S0402
C806	225P/10V	S0402
C807	103P	S0603
C808	103P	S0603
C809	226P/25V	S0805
C810	226P/25V	S0805
C811	226P/25V	S0805
C812	103P	S0402
C813	475P/16V	S0603
D800	CESDBLC5V0D5	SOD523
D801	R6GHBHC	R6GHBHC
D802	R6GHBHC	R6GHBHC
D803	R6GHBHC	R6GHBHC
D804	R6GHBHC	R6GHBHC
D805	R6GHBHC	R6GHBHC
D806	R6GHBHC	R6GHBHC
D807	R6GHBHC	R6GHBHC
D808	R6GHBHC	R6GHBHC
DS800	HSA27718-UPTSZ-01	HSA27719-UNTSZ-01
J800	CB-HKCZ-0012	QFM16-6F2
J801	5V 2.1A	SIP2T2
J802	CGJ-JCJ-0467	CGJ-JCJ-USB180
J803	0.5S-1-12PB	SIPM12
J804	0.5S-1-10PB	SIPM10
R800	75K/F	S0603
R801	43.2K/F	S0603
R802	100R	S0402
R803	1K	S0402
R804	1K	S0402
R805	1K	S0402
R806	1K	S0402
R807	49.9K/F	S0603
R808	49.9K/F	S0603
R809	100K	S0402
R810	100K	S0402
R811	100K	S0402
R812	100K	S0402
R813	100K	S0402
R814	100K	S0402
R815	100K	S0402
R816	100K	S0402
R817	100K	S0402
R818	100K	S0402
R819	100K	S0402
R820	100K	S0402
R821	2K2	S0402
R822	2K2	S0402
R823	2K2	S0402
R824	2K2	S0402
R825	2K2	S0402
R826	2K2	S0402
R827	2K2	S0402
R828	2K2	S0402

Designators	Comment	Footprint
R829	2K2	S0402
R830	51K	S0402
R831	51K	S0402
R832	51K	S0402
R833	51K	S0402
R834	51K	S0402
R835	51K	S0402
R836	10R	S2010
R837	1K	S0402
R838	1K	S1206
R839	10R	S0603
R840	10R	S0603
R841	33R	S0603
R842	10R	S0603
R843	10R	S0603
R844	33R	S0603
R845	390R	S0603
R846	390R	S0603
R847	680R	S0603
R848	1K5	S2010
S801	MODE	SKW(6*3.5*5)
S802	VOX	SKW(6*3.5*5)
S803	F	SKW(6*3.5*5)
S804	CGJ-BDKG-0006	SW-R11NP
SW800	CGJ-BDKG-0006	SS-22D03
SW801	CGJ-BDKG-0006	SS-22D03
SW802	CGJ-BDKG-0006	SS-22D03
U800	TM1622	LQFP64-7*7
U801	TM1829	SOP8
VOL UNIT		
Designators	**Comment**	**Footprint**
J702	CB-LJX-0107	SIP2T12
W901	CGJ-JZKG-0001	VRHK9.5
W902	CGJ-QTKG-0053	R09449GO
W903	CGJ-YLKG-0050	R09448GS
MAIN UNIT		
Designators	**Comment**	**Footprint**
C100	36P/J	S0805
C101	101P/J	S0402
C102	33K-NTC	S0402
C103	103P	S0402
C104	103P	S0402
C105	103P	S0402
C106	103P	S0402
C107	103P	S0402
C108	103P	S0402
C109	103P	S0402
C110	103P	S0402
C111	103P	S0402
C112	103P	S0402
C113	103P	S0402
C114	103P	S0402
C115	103P	S0402
C116	103P	S0402
C117	103P	S0402
C118	103P	S0402
C119	103P	S0402
C120	103P	S0402
C121	0R	S0402

Designators	Comment	Footprint
C122	475P/25V	S0805
C123	NC	S0402
C124	NC	S0402
C125	121P/J	S0402
C126	121P/J	S0402
C127	0R	S0402
C128	27P/J	S0402
C129	39P/J	S0402
C130	12P/J	S0402
C131	12P/J	S0402
C132	12P/J	S0402
C133	56P/J	S0402
C134	56P/J	S0402
C135	56P/J	S0402
C136	475P/16V	S0603
C137	475P/16V	S0603
C138	105P/16V	S0402
C139	6P/B	S0402
C140	6P/B	S0402
C141	6P/B	S0402
C142	102P/J	S0402
C143	102P/J	S0402
C144	102P/J	S0402
C145	102P/J	S0402
C146	7P/B	S0402
C147	7P/B	S0402
C148	221P/J	S0402
C149	221P/J	S0402
C150	221P/J	S0402
C151	221P/J	S0402
C152	221P/J	S0402
C153	104P	S0402
C154	104P	S0402
C155	6P/B	S0402
C156	22P/J	S0402
C157	101P/J	S0402
C158	101P/J	S0402
C159	101P/J	S0402
C160	101P/J	S0402
C161	101P/J	S0402
C162	101P/J	S0402
C163	101P/J	S0402
C164	101P/J	S0402
C165	20P/J	S0402
C166	20P/J	S0402
C167	13P/J	S0402
C168	16P/J	S0402
C169	NC	S0805
C170	NC	S0805
C171	103P	S0402
C172	103P	S0603
C173	103P	S0603
C174	103P	S0603
C175	471P	S0603
C176	103P	S0603
C177	103P	S0603
C178	103P	S0603
C179	151P/J	S0402
C180	151P/J	S0402
C181	103P	S0402

Designators	Comment	Footprint
C182	225P/10V	S0402
C183	181P/J	S0402
C184	104P	S0402
C185	104P	S0402
C186	104P	S0402
C187	104P	S0402
C188	104P	S0402
C189	104P	S0402
C190	103P	S0402
C191	103P	S0402
C192	103P	S0402
C193	103P	S0402
C194	103P	S0402
C195	103P	S0402
C196	103P	S0402
C197	103P	S0402
C198	103P	S0402
C199	103P	S0402
C200	102P/J	S0402
C201	102P/J	S0402
C202	102P/J	S0402
C203	102P/J	S0402
C204	102P/J	S0402
C205	821P/J	S0402
C206	33P/J	S0402
C207	33P/J	S0402
C208	33P/J	S0402
C209	223P	S0402
C210	101P/J	S0402
C211	101P/J	S0402
C212	101P/J	S0402
C213	225P/10V	S0402
C214	225P/10V	S0402
C215	221P/J	S0402
C216	683P	S0402
C217	123P	S0402
C218	333P	S0402
C219	225P/10V	S0402
C220	225P/10V	S0402
C221	222P	S0402
C222	103P	S0402
C223	NC	S0402
C224	225P/25V	S0805
C225	103P	S0402
C226	56P/HJ	S0805
C227	36P/HJ	S0805
C228	39P/HJ	S0805
C229	33P/HJ	S0805
C230	472P	S0402
C231	152P/HJ	S1206
C232	152P/HJ	S1206
C233	152P/HJ	S1206
C234	331P/J	S0402
C235	103P	S0603
C236	103P	S0603
C237	103P	S0603
C238	224P	S0402
C239	102P	S0603
C240	102P	S0603
C241	331P/J	S0603

Designators	Comment	Footprint
C242	391P/J	S0603
C243	NC	S0603
C244	224P	S0402
C245	224P	S0402
C246	391P/J	S0603
C247	68P/J	S0603
C248	103P	S0402
C249	103P	S0402
C250	103P	S0402
C251	103P	S0402
C252	392P/J	S0402
C253	391P/J	S0402
C254	101P/J	S0402
C255	39P/HJ	S0805
C256	101P/HJ	S0805
C257	68P/HJ	S0805
C258	101P/HJ	S0805
C259	47P/HJ	S0805
C260	101P/HJ	S0805
C261	68P/HJ	S1206
C262	331P/HJ	S1206
C263	102P	S0603
C264	103P	S0603
C265	102P	S0603
C266	181P/J	S0603
C267	101P/J	S0603
C268	43P/J	S0603
C269	472P	S0402
C270	103P	S0402
C271	104P	S0402
C272	103P	S0402
C273	NC	S0402
C274	NC	S0402
C275	104P	S0402
C276	NC	S0402
C277	NC	S0402
C300	475P/16V	S0603
C301	103P	S0402
C302	105P/16V	S0402
C303	225P/10V	S0402
C304	105P/16V	S0402
C305	104P	S0402
C306	225P/10V	S0402
C307	105P/16V	S0402
C308	103P	S0402
C309	103P	S0402
C310	103P	S0402
C311	104P	S0402
C312	104P	S0402
C313	103P	S0402
C315	104P	S0402
C316	104P	S0402
C317	104P	S0402
C318	104P	S0402
C319	104P	S0402
C320	104P	S0402
C321	224P	S0402
C322	103P	S0402
C323	103P	S0402
C324	103P	S0402

Designators	Comment	Footprint
C325	102P	S0402
C326	681P/J	S0402
C327	183P	S0402
C328	473P	S0603
C329	473P	S0603
C330	104P	S0402
C331	104P	S0603
C332	103P	S0603
C333	103P	S0603
C334	103P	S0402
C335	103P	S0603
C336	103P	S0603
C337	103P	S0402
C338	103P	S0402
C339	103P	S0402
C340	472P	S0402
C341	475P/16V	S0603
C342	NC	S0402
C343	105P/16V	S0402
C344	104P	S0402
C345	104P	S0402
C346	47P/J	S0402
C347	475P/16V	S0603
C348	103P	S0402
C349	105P/16V	S0402
C350	103P	S0402
C351	103P	S0603
C352	271P/J	S0402
C353	56P/J	S0402
C354	475P/16V	S0603
C355	475P/16V	S0603
C356	103P	S0402
C357	104P	S0402
C358	104P	S0402
C359	103P	S0402
C360	473P	S0402
C362	102P	S0603
C363	102P	S0603
C364	102P	S0603
C365	151P/J	S0402
C366	104P	S0402
C367	104P	S0402
C368	104P	S0402
C369	104P	S0402
C370	104P	S0402
C371	104P	S0402
C372	104P	S0402
C373	273P	S0402
C374	102P	S0402
C375	103P	S0603
C376	NC	S0402
C377	224P	S0603
C378	103P	S0603
C379	103P	S0603
C380	103P	S0603
C381	103P	S0603
C382	222P	S0402
C383	222P	S0402
C384	NC	S0402
C385	NC	S0402

Designators	Comment	Footprint
C386	NC	S0402
C387	NC	S0402
C388	NC	S0402
C389	NC	S0402
C390	NC	S0402
C391	NC	S0402
C392	NC	S0402
C393	NC	S0402
C394	NC	S0402
C395	NC	S0402
C396	NC	S0402
C397	NC	S0402
C398	NC	S0603
C399	NC	S0402
C400	NC	S0402
C401	NC	S0402
C500	104P	S0603
C501	104P	S0603
C502	103P	S0603
C503	103P	S0603
C504	103P	S0603
C505	103P	S0603
C506	103P	S0402
C507	103P	S0402
C508	103P	S0402
C509	103P	S0402
C510	103P	S0402
C511	103P	S0402
C512	103P	S0402
C513	103P	S0402
C514	103P	S0402
C515	103P	S0402
C516	103P	S0402
C517	471P/J	S0402
C518	471P/J	S0402
C519	225P/10V	S0402
C520	225P/10V	S0402
C521	225P/10V	S0402
C522	225P/10V	S0402
C523	475P/16V	S0603
C524	105P/16V	S0402
C525	105P/16V	S0402
C526	105P/25V	S0603
C527	333P	S0603
C528	105P/25V	S0603
C529	105P/25V	S0603
C530	103P	S0603
C531	103P	S0603
C600	NC	S0402
C601	NC	S0805
C602	NC	S0402
C603	NC	S0603
C604	NC	S0402
C605	NC	S0402
C606	NC	S0402
C607	NC	S0402
C608	NC	S0402
C609	NC	S0402
C610	NC	S0402
C611	NC	S0402

Designators	Comment	Footprint
C612	NC	S0402
C613	NC	S0402
C614	NC	S0402
C615	NC	S0402
C616	NC	S0402
C617	NC	S0402
C618	NC	S0402
C619	NC	S0402
C622	NC	S0402
C623	NC	S0402
C625	NC	S0402
C626	NC	S0402
C627	NC	S0402
C651	225PA	S0402
C652	225PA	S0402
C653	225PA	S0402
C654	104PC	S0402
C655	104PC	S0402
C656	104PC	S0402
C658	101PH/J	S0402
C659	221PH/J	S0402
C660	NC	S0402
C661	NC	S0402
C700	103P	S0402
C701	103P	S0402
C702	103P	S0402
C703	103P	S0402
C704	103P	S0402
C705	103P	S0402
C706	102P	S0402
C707	103P	S0402
C708	102P	S0402
C709	103P	S0402
C710	104P	S0402
C711	103P	S0402
C712	103P	S0402
C713	103P	S0402
C714	225P/10V	S0402
C715	103P	S0402
C716	225P/10V	S0402
C717	103P	S0402
C718	103P	S0402
C719	103P	S0402
C720	8P/B	S0402
C721	8P/B	S0402
C722	103P	S0402
C723	103P	S0402
C724	103P	S0402
C725	103P	S0402
C726	104P	S0402
C727	105P/16V	S0402
C728	103P	S0402
C729	103P	S0402
C730	104P	S0402
C731	103P	S0402
CB100	10.695MHZ	M10.7
CF100	LT455HT	K455E5
D100	1SS400	SOD523
D101	1SS400	SOD523
D102	1SS400	SOD523

Designators	Comment	Footprint
D103	1SS400	SOD523
D104	1SS400	SOD523
D105	1SS400	SOD523
D107	1SS400	SOD523
D108	1SS356	SOD323
D109	1SS356	SOD323
D110	1SS356	SOD323
D111	NC	SOT523-123
D112	JDV2S14E(FH)	SOD523
D113	JDV2S14E(FH)	SOD523
D114	JDV2S14E(FH)	SOD523
D115	BAR43S	SOT23-123(1)
D116	BAR43S	SOT23-123(1)
D117	BAR43S	SOT23-123(1)
D118	1N728WS	SOD323
D119	1N728WS	SOD323
D120	LL4148	SOD80
D121	LL4148	SOD80
D122	BA892	SOD523
D123	BA892	SOD523
D300	1SS400	SOD523
D301	1SS400	SOD523
D302	12V	SOD523
D303	PMBD353	SOT23-123(1)
D304	1SS400	SOD523
D305	1SS355	SOD323
D306	1SS355	SOD323
D307	1SS400	SOD523
D308	3V3	SOD523
D309	1SS400	SOD523
D310	1SS400	SOD523
D500	B540C	DO-214AB
D501	SM540BF	SMB-FL
D502	SM540BF	SMB-FL
D503	5V6	SOD323
D600	NC	SOD523
D601	NC	SOT523-123
D703	ESDBL3V3F1	DFN1006
D704	DTESDBLC5V0LED02	DFN1006
D705	DTESDBLC5V0LED02	DFN1006
D706	ESDBL3V3F1	DFN1006
D707	ESDBL3V3F1	DFN1006
D708	ESDBL3V3F1	DFN1006
D709	ESDBL3V3F1	DFN1006
D710	ESDBL3V3F1	DFN1006
D711	ESDBL3V3F1	DFN1006
D712	ESDBL3V3F1	DFN1006
D713	ESDBL3V3F1	DFN1006
D714	ESDBL3V3F1	DFN1006
D715	ESDBL3V3F1	DFN1006
E100	ANT	ANT
E300	100uF/25V	SRB0.125(6MM)
E301	100uF/25V	SRB0.125(6MM)
E302	470uF/25V	SRB0.160(8MM)
E303	470uF/25V	SRB0.160(8MM)
E500	470uF/25V	SRB0.160(8MM)
E501	470uF/25V	SRB0.160(8MM)
E502	100uF/25V	SRB0.125(6MM)
E503	220uF/16V	SRB0.125(6MM)
E504	100uF/16V	SRB0.10(5MM)

Designators	Comment	Footprint
E505	100uF/16V	SRB0.10(5MM)
E507	470uF/25V	SRB0.160(8MM)
E508	470uF/10V	SRB0.125(6MM)
J300	SP	SIP2T2
J500	RH3.5X1.0X12.0	DC-1.0/2.5MM-V1.0
J502	5V 2.1A	SIP2T2
J701	CON3	CON2.0-3
J702	CON10	SIP2T10
J703	0.5S-1-12PB	SIPM12
J704	0.5S-1-10PB	SIPM10
JK300	EX SP	PJ-302
JK301	PA SP	PJ-302
JK302	EXT-MIC	EJ-2503-35-GP
K300	HLS6-4100H-DC12V	HLS6-4100H
L100	FHW0805UC1R0JGT	S0805
L101	NC	S0805
L102	NC	S0805
L103	FHW0805UCR33GGT	S0805
L104	FHW0805UCR33GGT	S0805
L105	FHW0805UCR33GGT	S0805
L106	NLV25T-1R0J	S2520
L107	NLV25T-1R0J	S2520
L108	NLV25T-1R0J	S2520
L109	22uH	S0603
L110	6.8uH	S0603
L111	NLV32T-471J	S3225
L112	NLV32T-101J	S3225
L113	470nH	S0603
L114	8.2uH	S0603
L115	JMP	
L116	NC	S2520
L117	0R	S0603
L118	NC	
L119	6.5TR	
L120	6.5TR	
L121	6.5TR	
L122	6.5TR	
L123	3.5TR	
L124	WBRID-237555	WBRID-2375XX
L125	WBRID-237555	WBRID-2375XX
L126	3.5(2DU)	
L127	4.5TR	
L128	5.5TR	
L129	100nH	S0603
L130	FHW0805UCR33GGT	S0805
L131	220nH	S0603
L300	10uH	S0603
L301	DK3*5*1	AXIAL10
L302	10uH	S0603
L500	HMI0630-100M	INDUCTORS-7.8*7.0MM
L501	CBM100505U301T	S0402
L502	CBM100505U301T	S0402
L503	LWS33-0009	L7*13
L504	HMI0530-4R7M	LWS-5952
L600	NC	S0603
L601	NC	S0603
L602	NC	S0603
L603	NC	S0603
L650	CBM100505U221T	S0402
L651	220nH	S0402

Designators	Comment	Footprint
L700	CB-LJX-0097	JMP
Q100	RT1N141U	EMT3
Q101	RT1N141U	EMT3
Q102	RT1N141U	EMT3
Q103	MMBTSC2714Y	SOT23
Q104	MMBTSC2714Y	SOT23
Q105	MMBTSC2714Y	SOT23
Q106	MMBTSC2714Y	SOT23
Q107	MMBTSC2714Y	SOT23
Q108	MMBTSC2714Y	SOT23
Q109	MMBTSC2714Y	SOT23
Q110	KTC3770S-B	SOT23
Q111	MMBTSC2714Y	SOT23
Q112	2SC4082	SC70
Q113	2SC2714(QY)	SOT23
Q114	2SC2714(QY)	SOT23
Q115	KTC3875S(GR)	SOT23
Q116	KTC3875S(GR)	SOT23
Q117	LMBT3906LT1G	SOT23
Q118	IRF520	TO-220AB-DDD
Q119	IRF520	TO-220AB-DDD
Q120	IRF520	TO-220AB-DDD
Q121	2SC2314(F)	TO126
Q122	RT1N141U	EMT3
Q300	RT1N141U	EMT3
Q301	RT1N141U	EMT3
Q302	RT1N141U	EMT3
Q303	RT1N141U	EMT3
Q304	RT1N141U	EMT3
Q305	RT1N141U	EMT3
Q306	TIP36C	TO-247(3P)
Q307	2SB1132	SOT89
Q308	KTC3875S(GR)	SOT23
Q309	LMBT3906LT1G	SOT23
Q310	LMBT3906LT1G	SOT23
Q311	2SC2712(GR)	SOT23
Q312	RT1N141U	EMT3
Q313	L2SD1781KRLT1G	SOT23
Q314	2SC2412K(R)	SOT23
Q317	UMC5N	SOT353
Q318	DTC114YKA	SOT23
Q500	2SB1132	SOT89
Q501	UMC5N	SOT353
Q502	UMC5N	SOT353
Q503	RT1N141U	EMT3
R100	330R	S0805
R101	3K3	S0402
R102	3K3	S0402
R103	3K3	S0402
R104	2K4	S0402
R105	4K7	S0402
R106	1K	S0402
R107	1K	S0402
R108	1K	S1206
R109	470R	S0402
R110	470R	S0402
R111	470R	S0402
R112	470R	S0402
R113	470R	S0402
R114	470R	S0402

Designators	Comment	Footprint
R115	470R	S0402
R116	4K7	S0402
R117	10K	S0402
R118	10K	S0402
R119	10K	S0402
R120	10K	S0402
R121	10K	S0402
R122	10K	S0402
R123	10K	S0402
R124	10K	S0402
R125	10K	S0402
R126	10K	S0402
R127	10K	S0402
R128	10K	S0402
R129	100K	S0402
R130	100K	S0402
R131	100K	S0402
R132	100K	S0402
R133	100K	S0402
R134	100K	S0402
R135	100K	S0402
R136	100K	S0402
R137	330R	S0402
R138	220R	S0402
R139	220R	S0402
R140	220R	S0402
R141	220R	S0402
R142	330K	S0402
R143	330K	S0402
R144	240K	S0402
R145	10R	S0402
R146	1K	S0402
R147	1K	S0402
R148	1K	S0402
R149	0R	S0805
R150	0R	S0402
R151	220R	S0402
R152	0R	S0402
R153	470R	S0402
R154	220K	S0402
R155	3K9	S0402
R156	1K5	S0402
R157	1M	S0402
R158	1M	S0402
R159	3K3	S0402
R160	3K3	S0402
R161	220R	S0402
R162	680R	S0402
R163	680R	S0402
R164	100R	S0402
R165	22K	S0402
R166	22K	S0402
R167	2K2	S0402
R168	2K2	S0402
R169	2K2	S0402
R170	2K2	S0402
R171	510R	S0402
R172	150R	S0603
R173	2K2	S0402
R174	150R	S0603

Designators	Comment	Footprint
R175	47R	S0402
R176	15R	S0402
R177	33K	S0402
R178	39K	S0402
R179	47K	S0402
R180	47K	S0402
R181	47K	S0402
R182	47K	S0402
R183	47K	S0402
R184	39K	S0402
R185	47K	S0402
R186	330R	S0402
R187	330R	S0402
R188	470K	S0402
R189	4K7	S0402
R190	0R	S0603
R191	150K	S0402
R192	2K4	S0402
R193	120K	S0402
R194	22K	S0402
R195	68K	S0402
R196	68K	S0402
R197	33K	S0402
R198	47K	S0402
R199	10K	S2010
R200	120R	S0805
R201	82R	S0805
R202	330R	S1206
R203	270R	S0603
R204	330R	S0805
R205	1K2	S1206
R206	270K	S0603
R207	820R	S0805
R208	300K	S0603
R209	100K	S0402
R210	2K2	S0603
R211	15R	S0603
R212	10R	S0402
R213	82R	S0402
R214	8K2	S0402
R215	390R	S0402
R216	47K	S0402
R217	56R	S0402
R218	56R	S0402
R219	220R	S0402
R220	220R	S0402
R221	220R	S0402
R222	5K1	S0402
R223	12K	S0402
R224	220K	S0402
R225	220K	S0402
R226	39K	S0603
R227	5R6	S0805
R228	100K	S0402
R229	100K	S0402
R230	150K	S0402
R231	150K	S0402
R232	220R	S0402
R233	12K	S0402
R234	10K	S0402

Designators	Comment	Footprint
R235	10K	S0402
R236	NC	S0805
R300	1K8	S0402
R301	5K6	S0402
R302	4K7	S0402
R303	560R	S0402
R304	30K	S0402
R305	47K	S0402
R306	56K	S0603
R307	39K	S0402
R308	NC	S0402
R309	NC	S0402
R310	2K2	S0402
R311	6K8	S0402
R312	3K9	S0402
R313	15K	S0402
R314	10K	S0402
R315	12K	S0402
R316	15K	S0402
R317	10K	S0402
R318	10K	S0805
R319	12K	S0402
R320	10K	S0402
R321	22K	S0402
R322	10K	S0402
R323	10K	S0402
R324	10K	S0402
R325	10K	S0402
R326	10K	S0402
R327	1K	S0402
R328	10K	S0402
R329	10K	S0402
R330	8K2	S0402
R331	100K	S0402
R332	100K	S0402
R333	100K	S0402
R334	100K	S0402
R335	100K	S0402
R336	100K	S0402
R337	100K	S0402
R338	1M	S0402
R339	1M	S0402
R340	NC	S0402
R341	220K	S0402
R342	220K	S0402
R343	220K	S0402
R344	820K	S0402
R345	270K	S0402
R346	8K2	S0402
R347	2K7	S0402
R348	4K7	S0402
R349	8K2	S0402
R350	1K	S0402
R351	1K	S0402
R352	1K	S0402
R353	1K	S0402
R354	1K	S0402
R355	22K	S0402
R356	22K	S0402
R357	22K	S0402

Designators	Comment	Footprint
R358	2K2	S0402
R359	2K2	S0402
R360	2K2	S0402
R361	2K2	S0402
R362	3K3	S0805
R363	3K3	S0402
R364	3K3	S0402
R365	5K6	S0402
R366	5K6	S0402
R367	5K6	S0402
R368	10K	S0402
R369	4K7	S0402
R370	2K	S0402
R371	220R	S0402
R372	220R	S0603
R373	1K	S0402
R374	1K	S0402
R375	56K	S0402
R376	100R	S0402
R377	220K	S0402
R378	220K	S0402
R379	47K	S0402
R380	33K	S0402
R381	560R	S0805
R382	15R	S0805
R383	39K	S0402
R384	NC	S0402
R385	2K2	S0402
R386	1K	S0402
R387	22R	S0805
R388	22R	S0402
R389	0R	S0402
R390	100R	S1206
R391	220K	S0402
R392	100K	S0402
R393	150K	S0402
R394	330K	S0402
R395	560K	S0402
R396	30K	S0402
R397	100K	S0402
R398	2K2	S0402
R399	47K	S0402
R400	2K2	S0603
R401	100K	S0603
R402	51R	S0805
R403	3K9	S0402
R404	470R	S0603
R405	1K	S0402
R406	22K	S0402
R407	1K	S0402
R408	1K	S0402
R409	12K	S0402
R410	47K	S0402
R411	NC	S0402
R412	NC	S0402
R413	NC	S0402
R414	NC	S0402
R415	NC	S0402
R416	NC	S0402
R417	NC	S0402

Designators	Comment	Footprint
R418	NC	S0402
R419	NC	S0402
R420	NC	S0402
R421	NC	S0402
R422	NC	S0402
R500	47K	S0603
R501	1K	S0603
R502	10K	S0402
R503	0.091R/F	S1206
R504	0.091R/F	S1206
R505	10.5K/F	S0603
R506	3.3K/F	S0603
R600	NC	S0603
R601	NC	S0402
R602	NC	S0402
R603	NC	S0402
R604	NC	S0402
R700	4K7	S0402
R701	4K7	S0402
R702	10K	S0402
R703	10K	S0402
R706	100R	S0402
R707	100R	S0402
R708	100R	S0402
R709	100R	S0402
R710	100R	S0402
R711	100R	S0402
R712	10K	S0402
R713	100R	S0402
R714	100R	S0402
R715	100R	S0402
R716	100R	S0402
R717	100R	S0402
R718	100R	S0402
R719	NC	S0402
R720	10K	S0402
R721	100K	S0402
R722	10K	S0402
R723	10K	S0402
R724	100R	S0402
R725	10K	S0402
R726	10K	S0402
R727	NC	RES0.4(1/4W)
R728	22K	S0402
R729	10K	S0402
R730	10R	S0402
R731	150K	S0402
R732	47K	S0402
R733	68K	S0402
R734	2K2	S0402
R735	NC	S0402
Shield100	CB-PBJ-0061	WALKER-S1-V1.0
Shield101	CB-PBJ-0062	WALKER-S2-V2.0
Shield650	CB-PBJ-0058	CB-VCOA
TP600	NC	TEST POINT 1
U100	TA75S01F	SOT25
U101	AA32416	SSOP16
U104	BA2904SFV	ICS-SSOP-B8
U300	TA75S01F	SOT25
U301	BA2904SFV	ICS-SSOP-B8

Designators	Comment	Footprint
U302	UTC-M62364	SSOP24
U303	SGM8272YMS8G/TR	ICS-MSOP8
U304	SGM4157YC	SOT363
U305	YD1517P	SDIP18
U306	SGM4157YC	SOT363
U307	BA2904SFV	ICS-SSOP-B8
U308	NC	SOT363
U309	NC	MSOP10(0.5)
U310	NC	SOL-16
U500	ME6118A50B3G	SOT223-123
U501	L7808CV	TO220-V-123-V2.0
U502	ME6206-33M	SOT23-123
U503	ME6206-33M	SOT23-123
U504	XL4201	SOP8-E
U600	NC	QFN4X4-20
U601	NC	SOT23-123
U650	QA8558	QFN4X4-20
U701	GD32F330RBT6	SQFP10X10-64
X600	NC	XTAL3.2*2.5
X650	QSSMD-0064	TCXO-2520
X700	12MHZ	XTAL3.2*2.5
Y100	10.24MHZ	XTAL_SMD5032
Y101	JTBM455C24	K450V2

Testing mode

Note：Testing voltage 13.2V/27,205Mhz

Test mode: In radio off status, Knob CB/PA：in CB position, Knob EMG1：Off position ,Knob ANL/NB/HICUT： off position, Press PTT + Mode + F + turn on radio and enter into testing mode, Press microphone [UP] or [DN] to adjust menu ,turn channel knob to adjust parameter.

AM/FM LP adjustment： In testing mode, select PL channel, turn off the signal of modulation, Under the launching state Rotary channel switch adjust the power to 3.8W

FM deviation testing mode： In testing mode, select FM channel, 1.25k 30mV, Under the launching state Rotary channel switch adjust the deviation to 1.8Khz

Note： MIC GAIN turned full clockwise

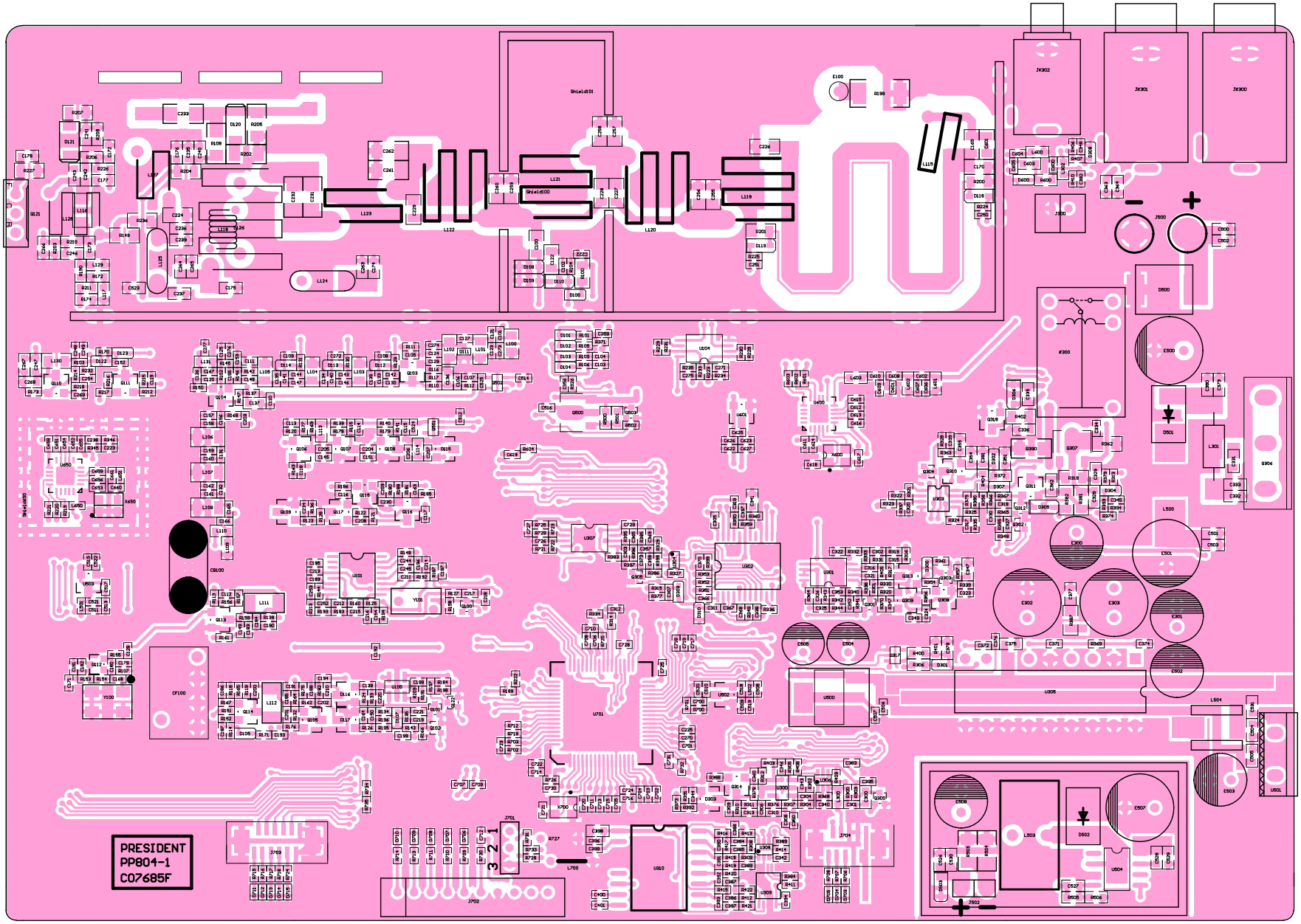
AM HP amplitude adjustment：In testing mode, select AM channel, 1.25K 30mV, Under the launching state Rotary channel switch adjust the amplitude to 90%

Note：MIC GAIN turned full clockwise

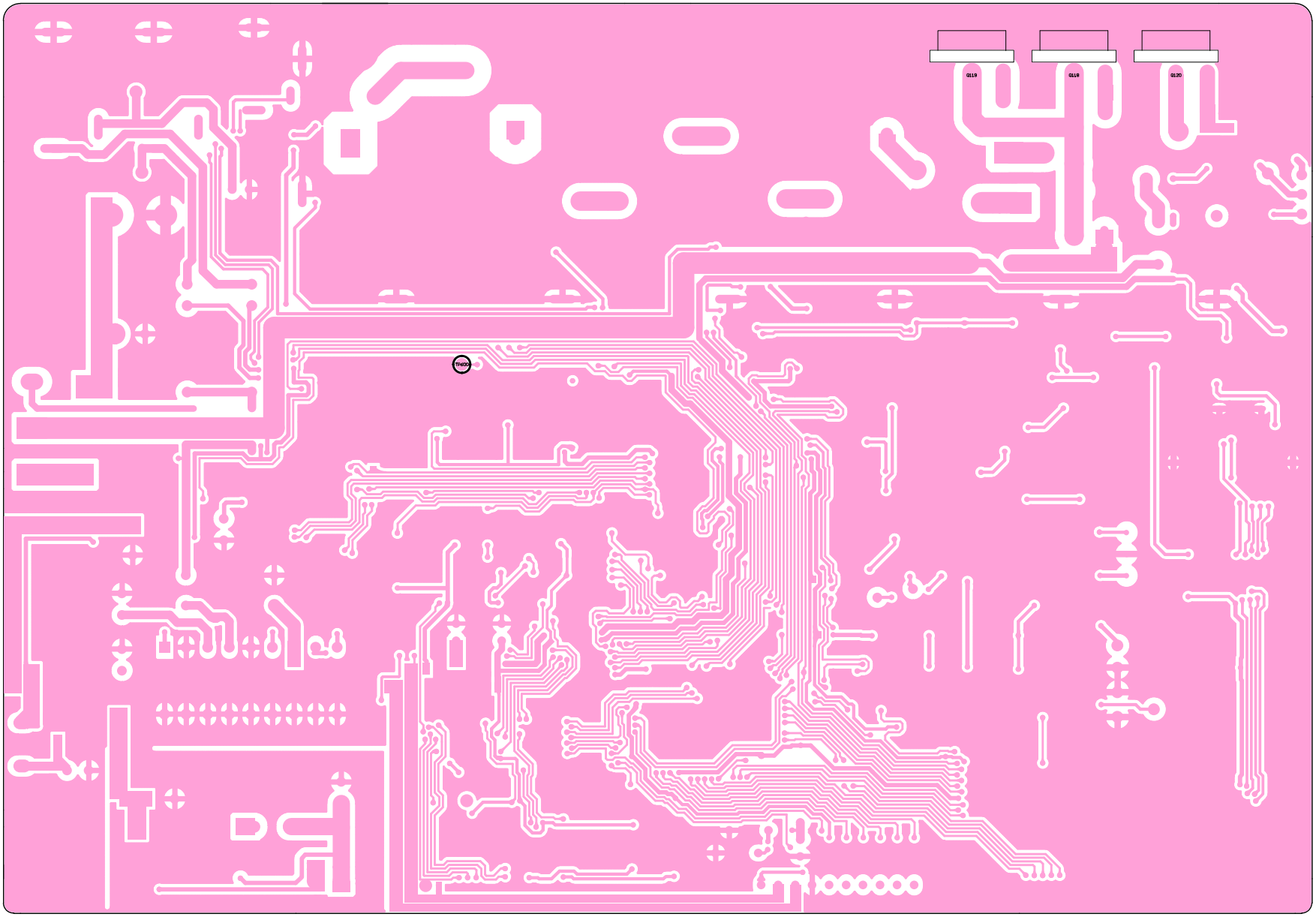
AM LP amplitude adjustment： In testing mode, select AL channel, 1.25K 30mV, Under the launching state Rotary channel switch adjust the amplitude to 87%

Note： MIC GAIN turned full clockwise

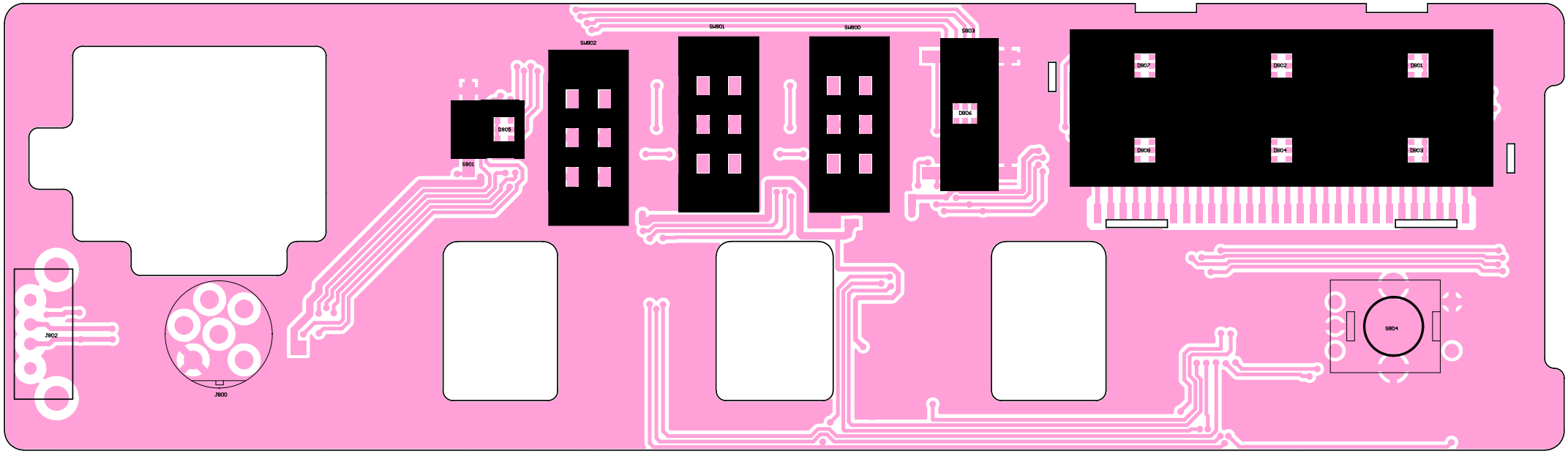
PC BOARD VIEWS



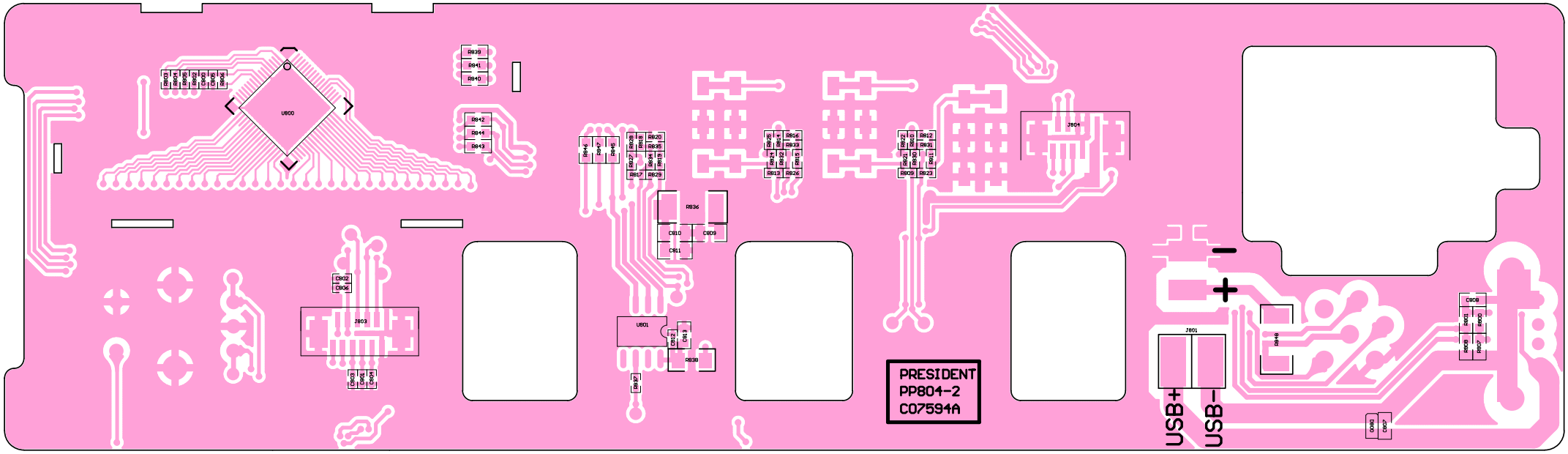
PC BOARD VIEWS



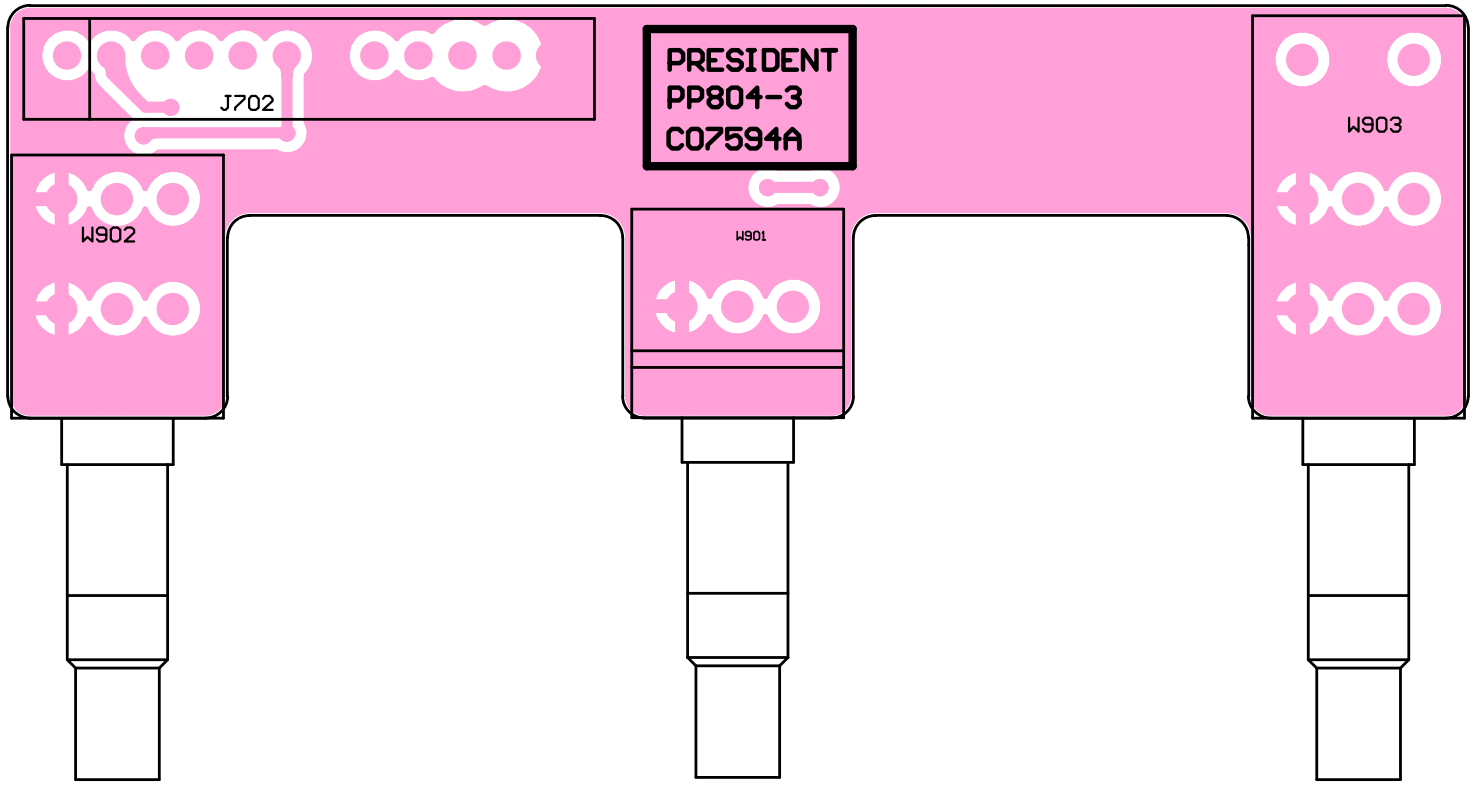
PC BOARD VIEWS



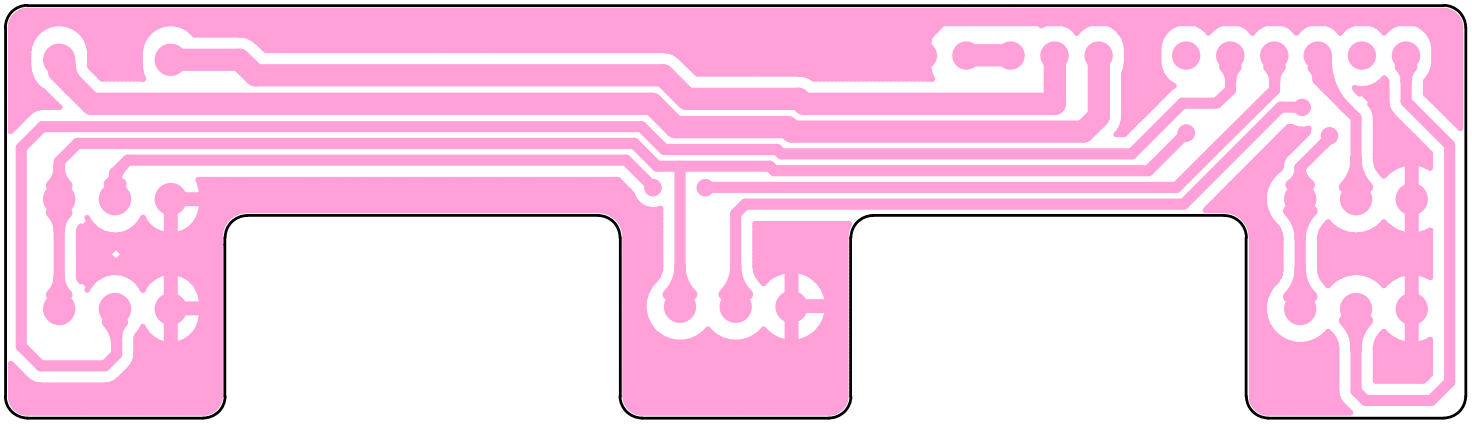
PC BOARD VIEWS



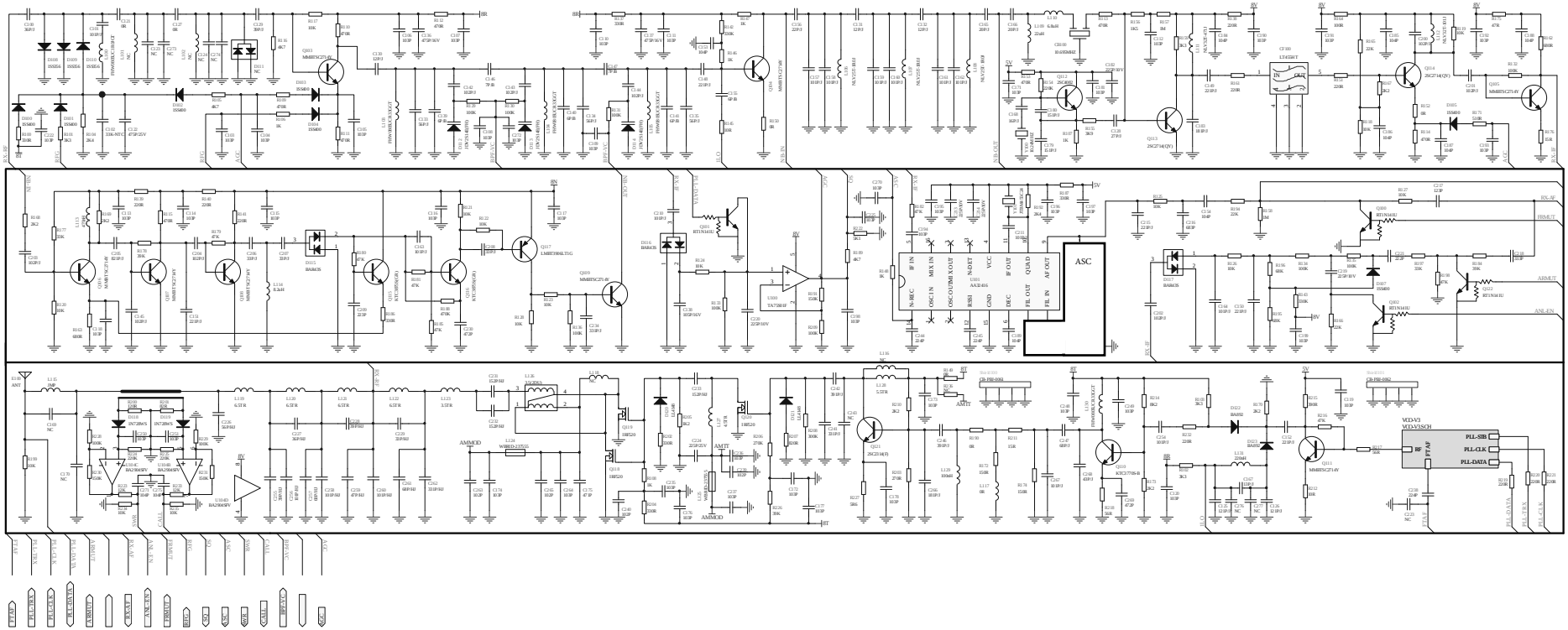
PC BOARD VIEWS



PC BOARD VIEWS



SCHEMATIC DIAGRAM



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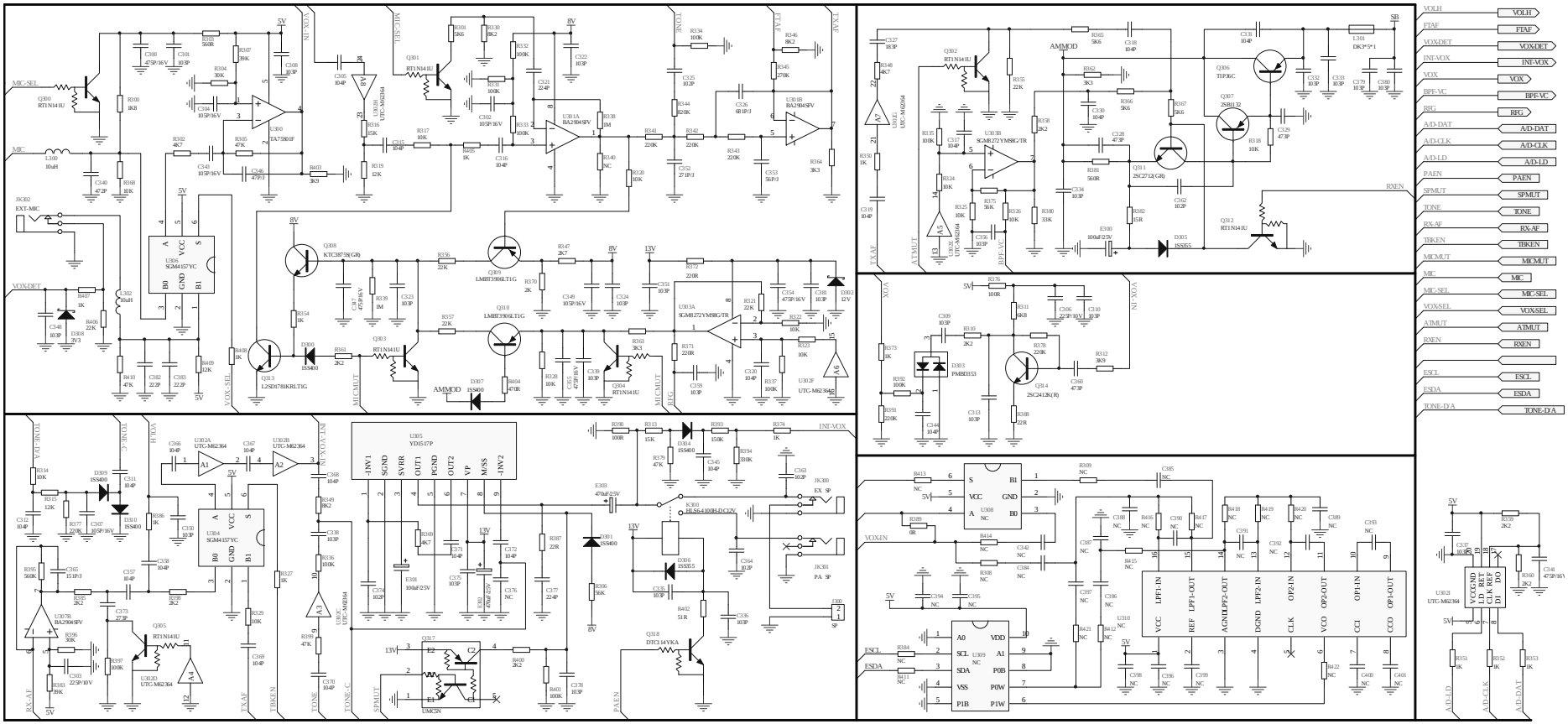

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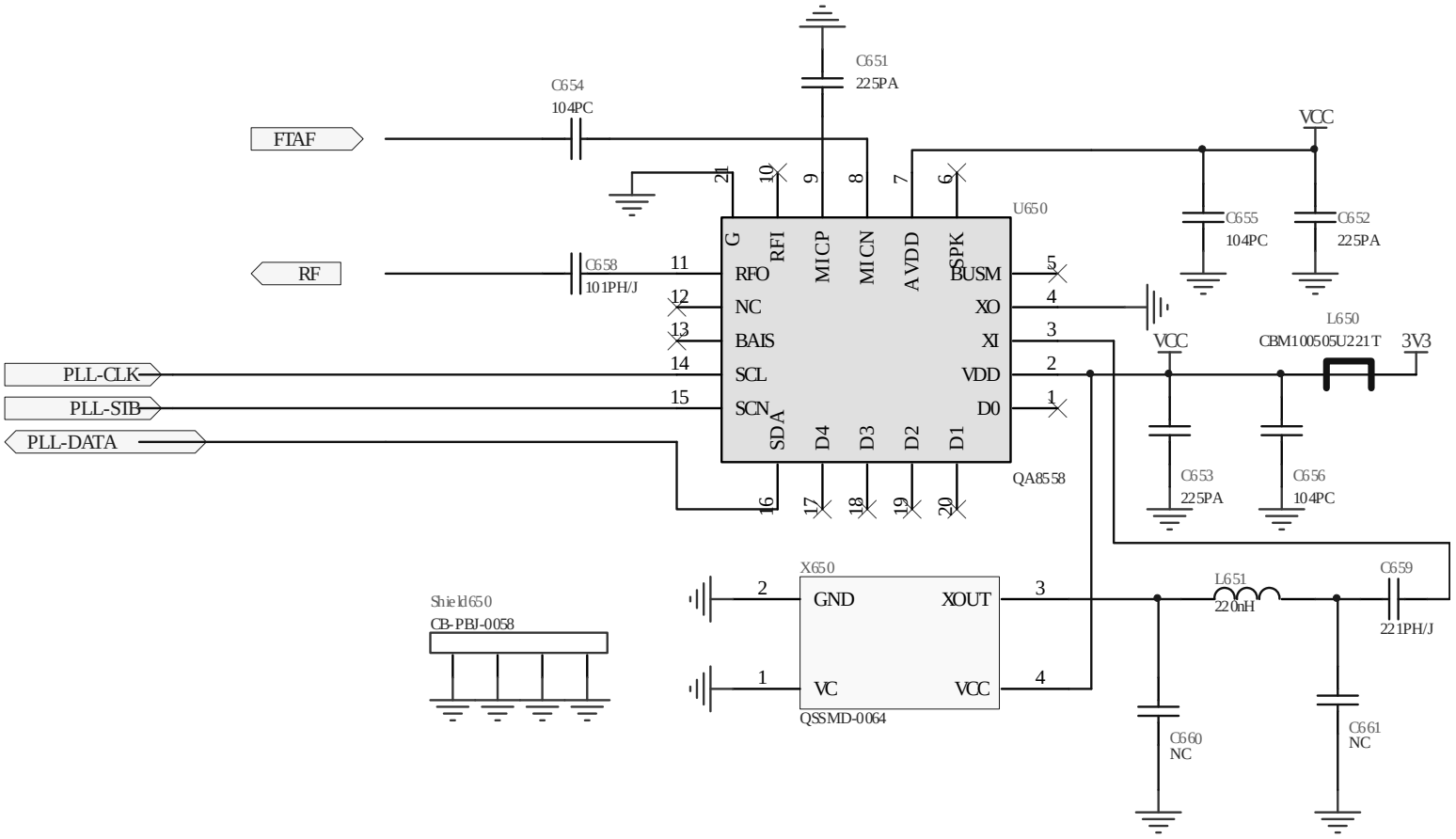
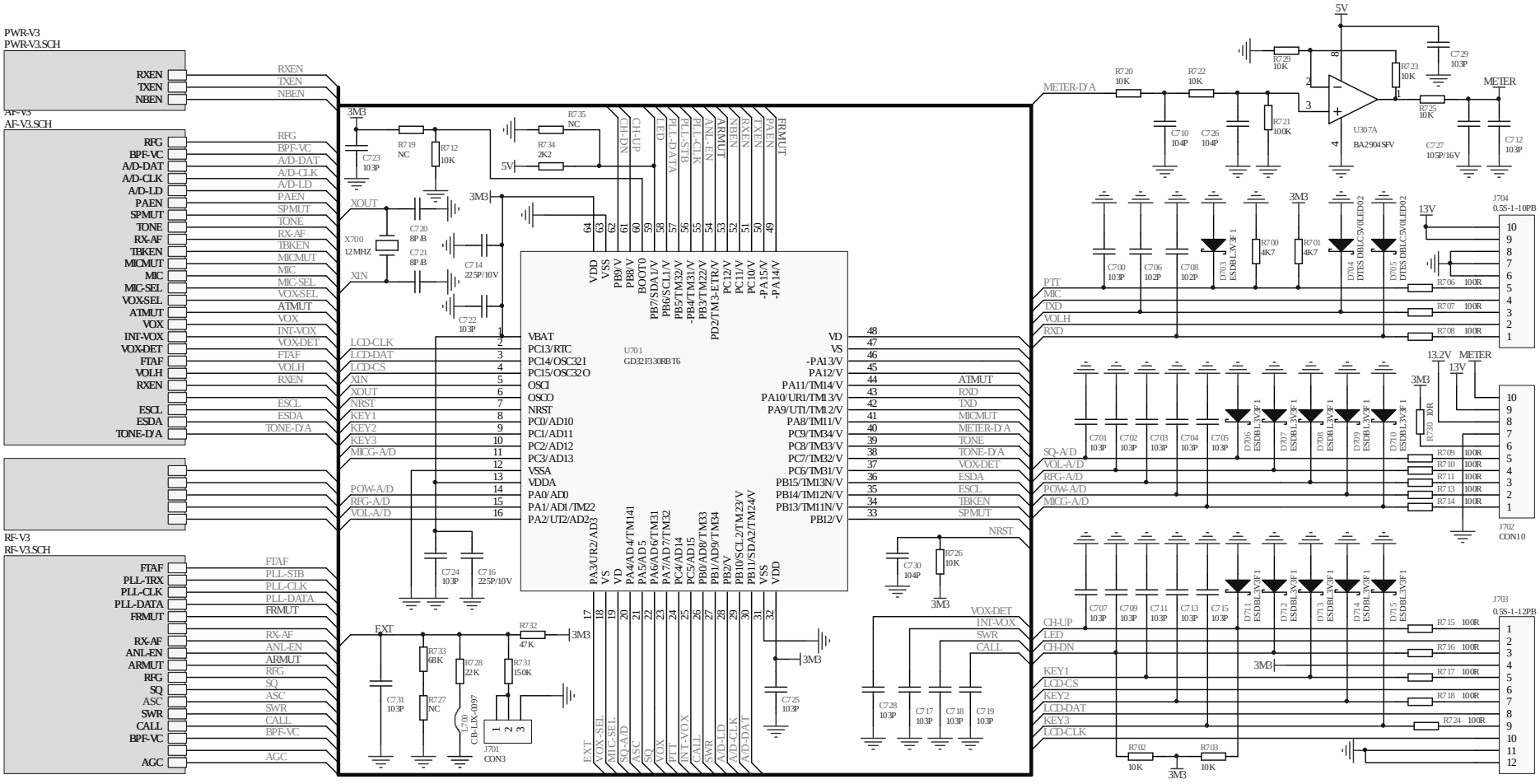
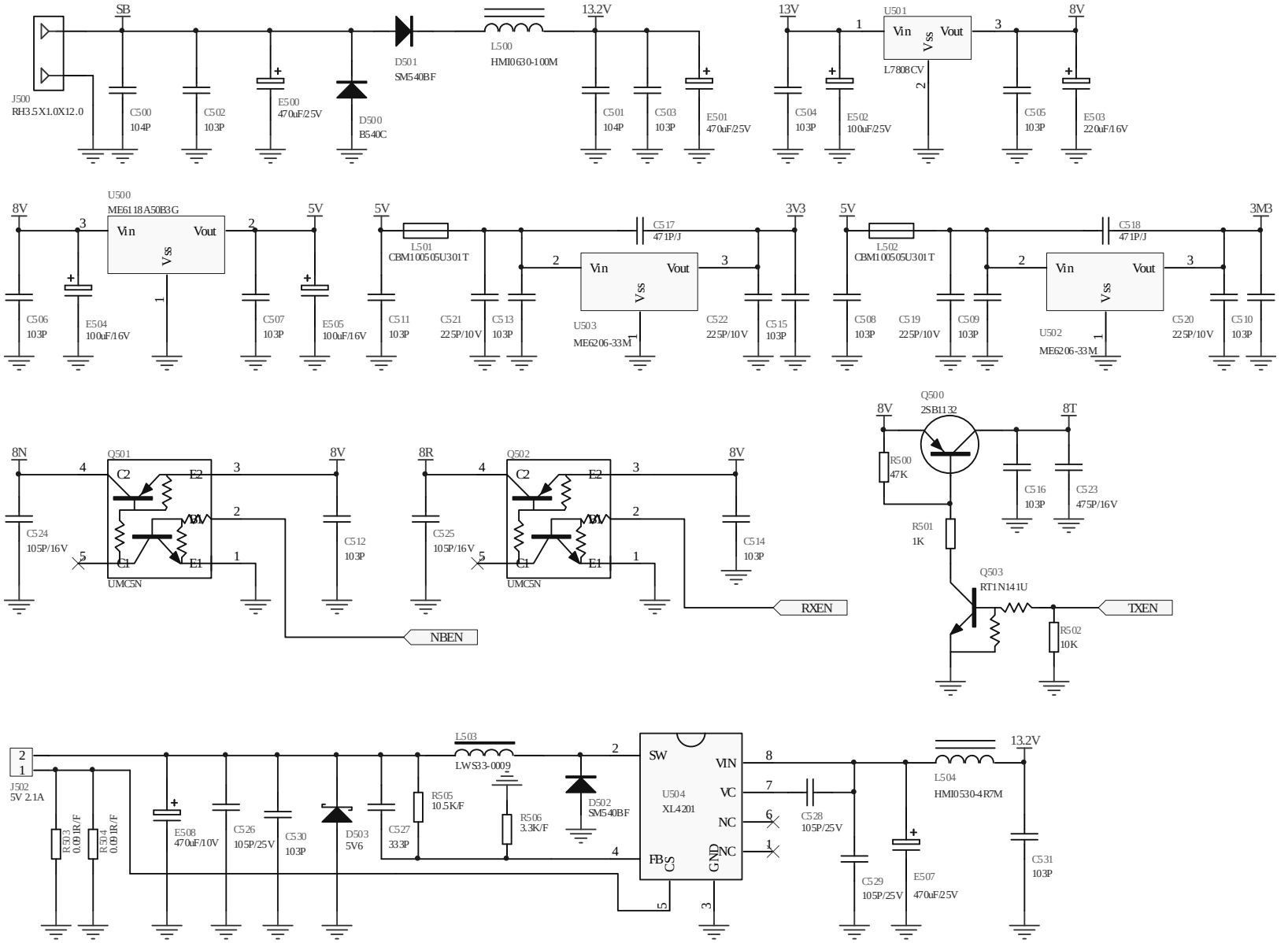


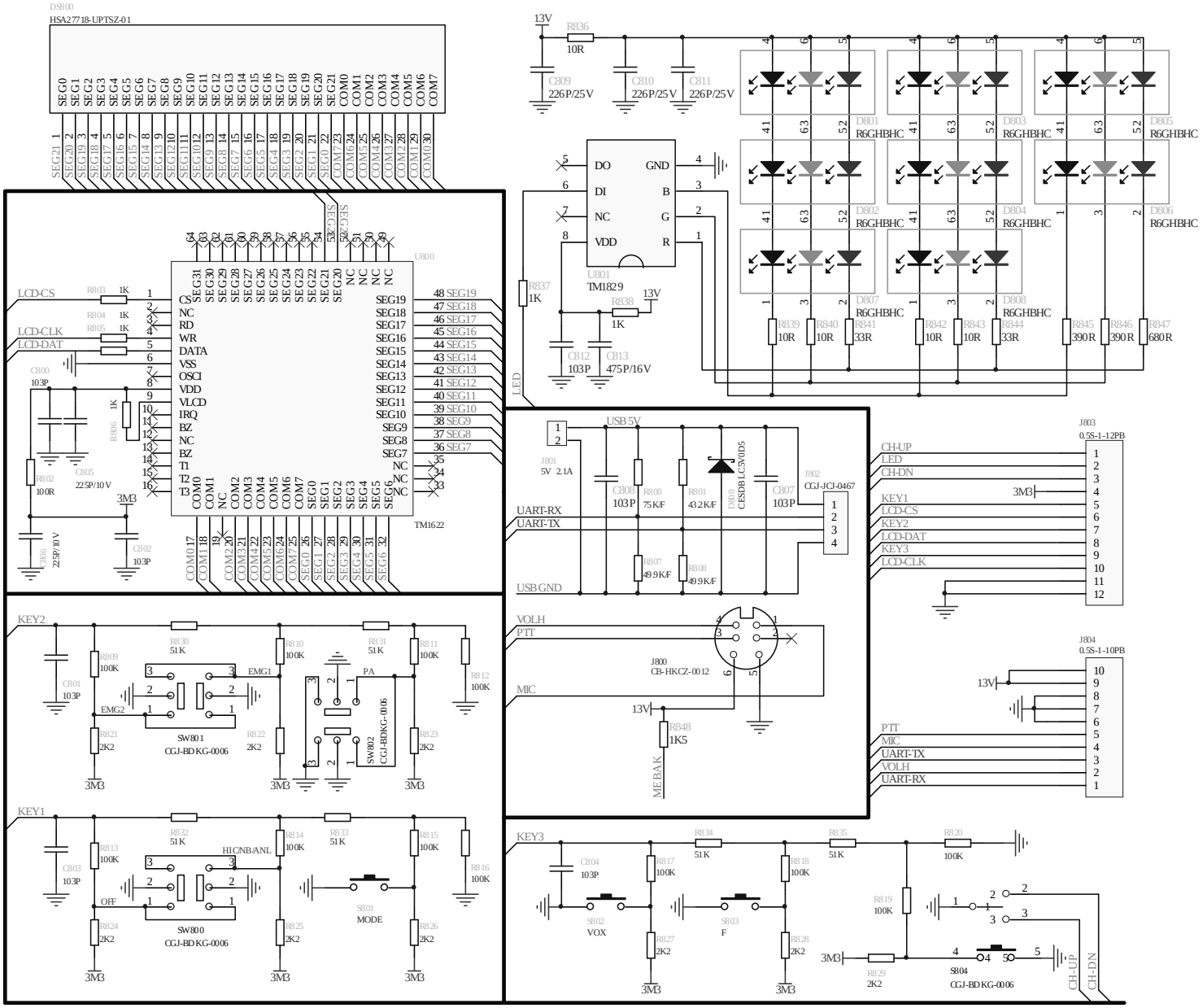
SCHEMATIC DIAGRAM



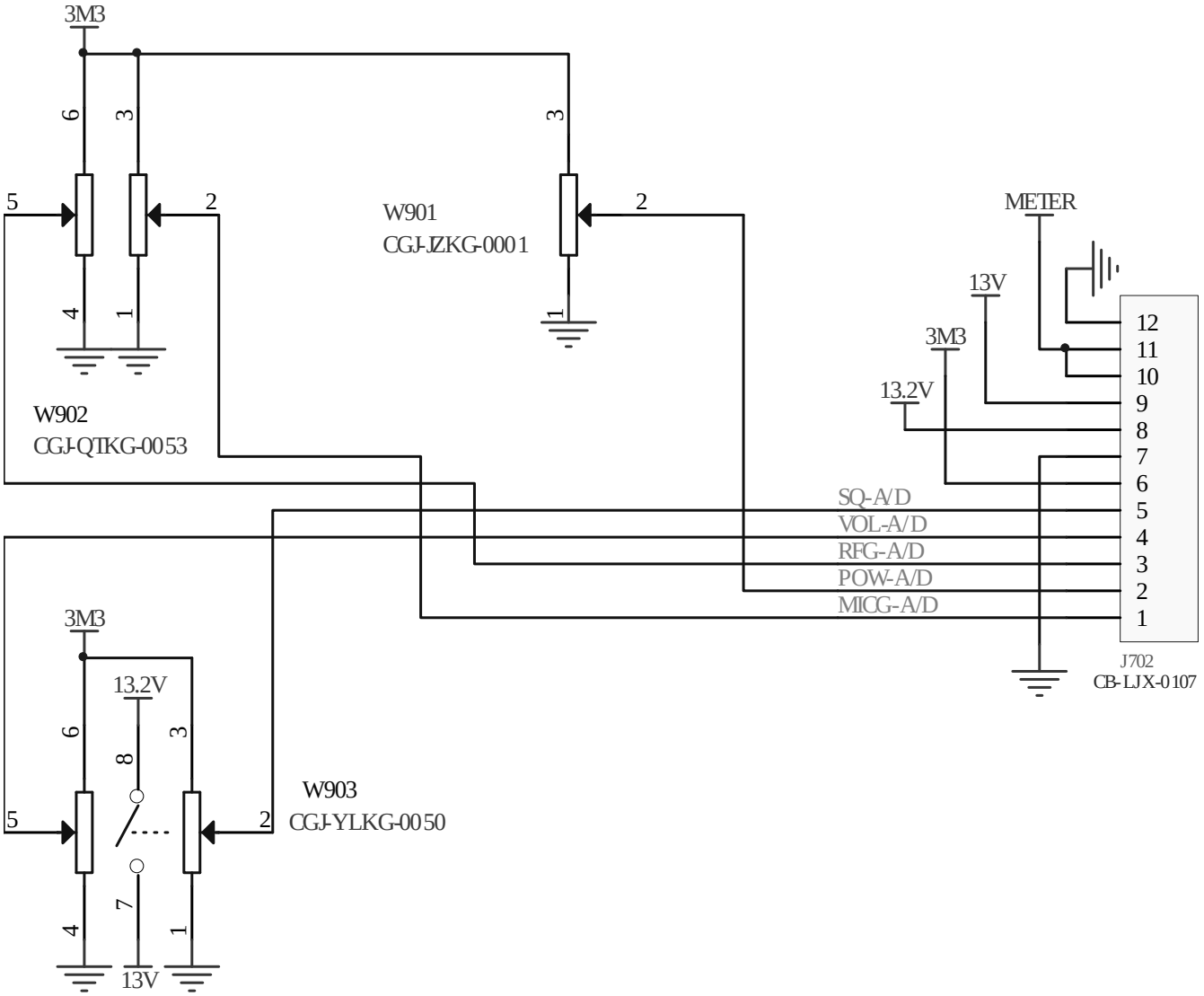
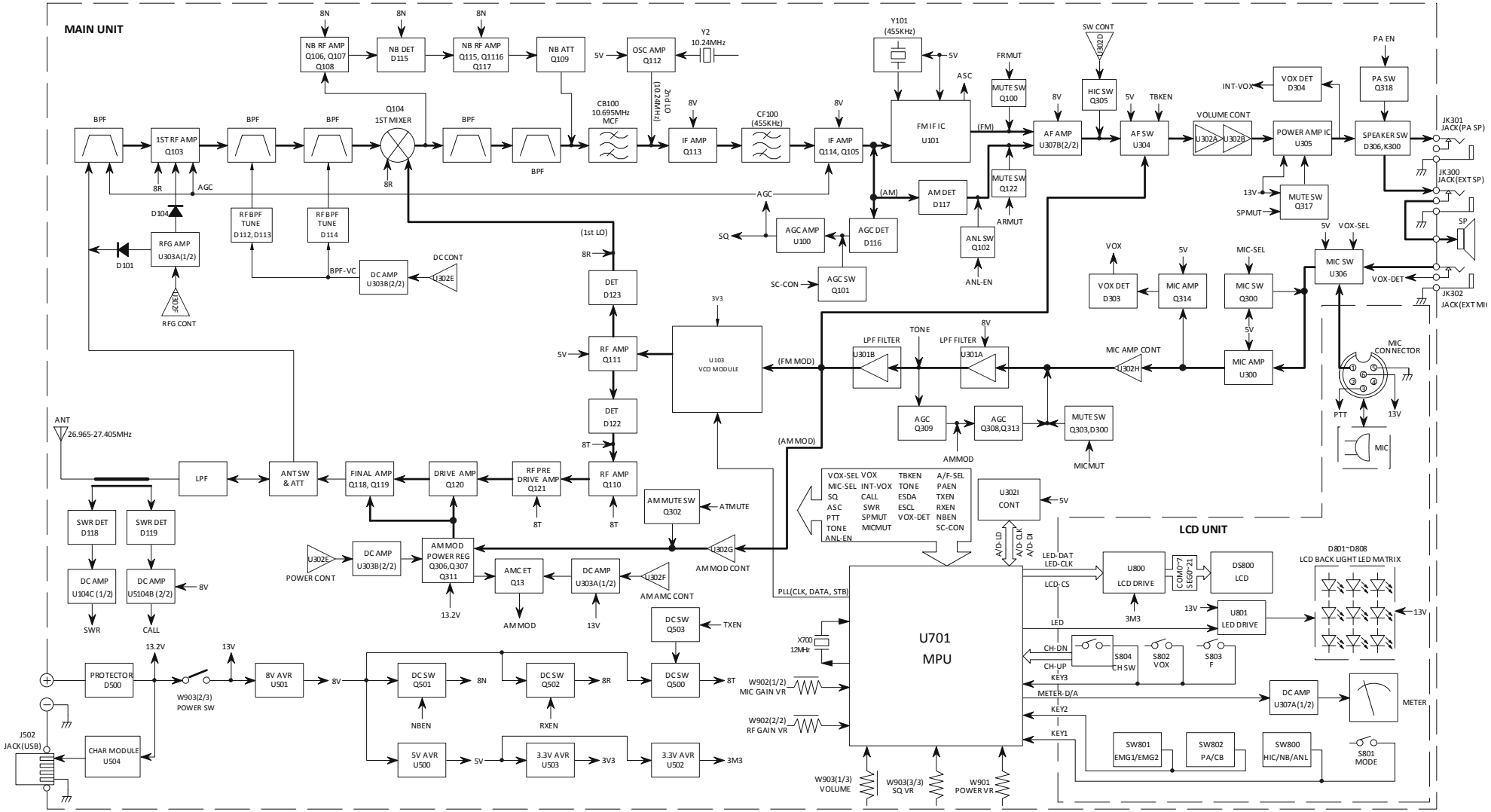
SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM



BLOCK DIAGRAM