

SERVICE MANUAL

FOR REPAIR SERVICE

UHF WIRELESS TUNER S5.5-RX A1, B2, C1, D3



No.833-73-817-20

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Update history

NOTE ON REPAIR WORK SAFETY

Follow the instructions below, both to prevent accidents when making repairs and to ensure post-repair product safety.

Do not apply voltages other than those specified for the equipment or its components.

Applying voltages other than the rated voltage could cause electrical breakdown or over-current, possibly resulting in electric shock or fire.

Use specified parts and components.

Be sure to use only specified parts when replacing parts indicated by the Δ mark in the circuit diagram or parts list. Because such parts have been designed for safety in terms of their incombustibility and dielectric strength, using parts other than those specified could result in a fire.

After replacing parts, be sure to return the new parts and any other affected parts to their previous configuration.

Check that all screws, parts, and wiring removed or changed during servicing have been restored to their original states. Also, confirm that no damage has occurred around the serviced area.

Do not modify the design of circuit boards or other electronic elements.

Modifying circuit boards could cause electric shock or result in a fire hazard due to excessive heat build-up. User modification automatically exempts the manufacturer from all personal and property liability caused by such modification, and the user who carried out such modification shall be solely responsible for such accidents.

• About lead-free solders

Since lead can become an environmental contaminant, this unit has been manufactured using solders that contain no lead in the printed circuit board.

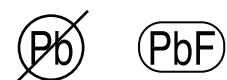
[While conventional solders are alloys of zinc and lead, lead-free solder is comprised of an alternative alloy that contains no lead.]

NOTES

- Circuit boards using lead-free solder bear a lead-free solder designation. To maintain the integrity of this designation, be sure to use lead-free solder when repairing such lead-free solder circuit boards. Boards not marked with the lead-free solder designation may legally be serviced using conventional solders.
- Because the melting point of lead-free solder (approximately 220°C) is 30°C-40°C higher than that of conventional (lead-zinc alloy) solder, it takes little longer to melt. It is recommended that a soldering iron with controllable temperature be used and set to 20°C higher than would normally be used with conventional solder.

Identifying printed circuit boards that use free-lead solder

Printed circuit boards that use lead-free solder have the following designation printed or stamped on either side of the board.



SPECIFICATIONS

Power Source	AC mains (supplied AC adapter must be used)
Power Consumption	300 mA (13 V DC)
Receiving Frequency	692 - 852 MHz (*2), UHF
Channel Selectable	10 banks, 24 frequencies max / bank (the number of channels may differ from country to country)
Receiving System	Double super-heterodyne
Diversity System	Space diversity (true diversity)
Audio Output	XLR-3-32 type connector LINE: -22dB(*1), 600 Ω , balanced MIC: -62dB(*1), 600 Ω , balanced Phone jack -28 dB(*1), 600 Ω , unbalanced
Antenna Input	75 Ω , BNC
Antenna Phantom Power	9 V DC, 30mA (max)
Receiving Sensitivity	Under 0 dB μ V (12 dB SINAD)
Squelch Sensitivity	6 - 36 dB μ V variable
Squelch System	Using together of noise SQ, carrier SQ and tone SQ
Tone Frequency	32.768 kHz
Indicator	LCD, Power lamp, Mute lamp, ANT A/B lamp,
S/N Ratio	Over 110dB (A weight)
Harmonic Distortion	Under 1% (typical)
Frequency Response	50 Hz - 20 kHz, +3 dB
Function	Audio Low-cut, High-boost and phase reverse Battery indicator (7steps) Headphone output Infra-Red link port Channel check Monitoring software with USB connectivity
Operating Temperature	-10°C to +50°C (14°F to 122°C)
Finish	Chassis: steel, dark gray, painting Front panel: aluminum, silver, almite
Dimensions	210(W) x 46(H) x 210(D) mm
Weight	1.3kg

• Accessories

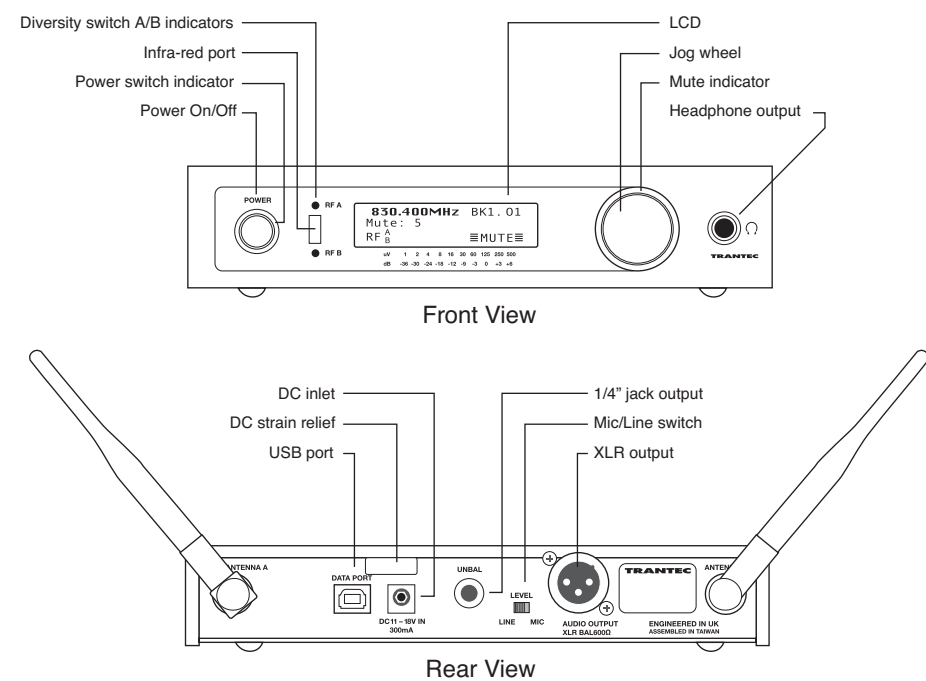
AC adapter (*3)	1
Wireless Antenna	2
Rack mount kit	11

(*1)

0 dB = 1 V

Type	Frequency Range(*2)	AC Adapter(*3)
A1	692 - 722 MHz, UHF	120 V AC, 60 Hz
B2	740 - 752 MHz, UHF	-
C1	794 - 830 MHz, UHF	230 V AC, 50 Hz
D3	830 - 865 MHz, UHF	230 V AC, 50 Hz

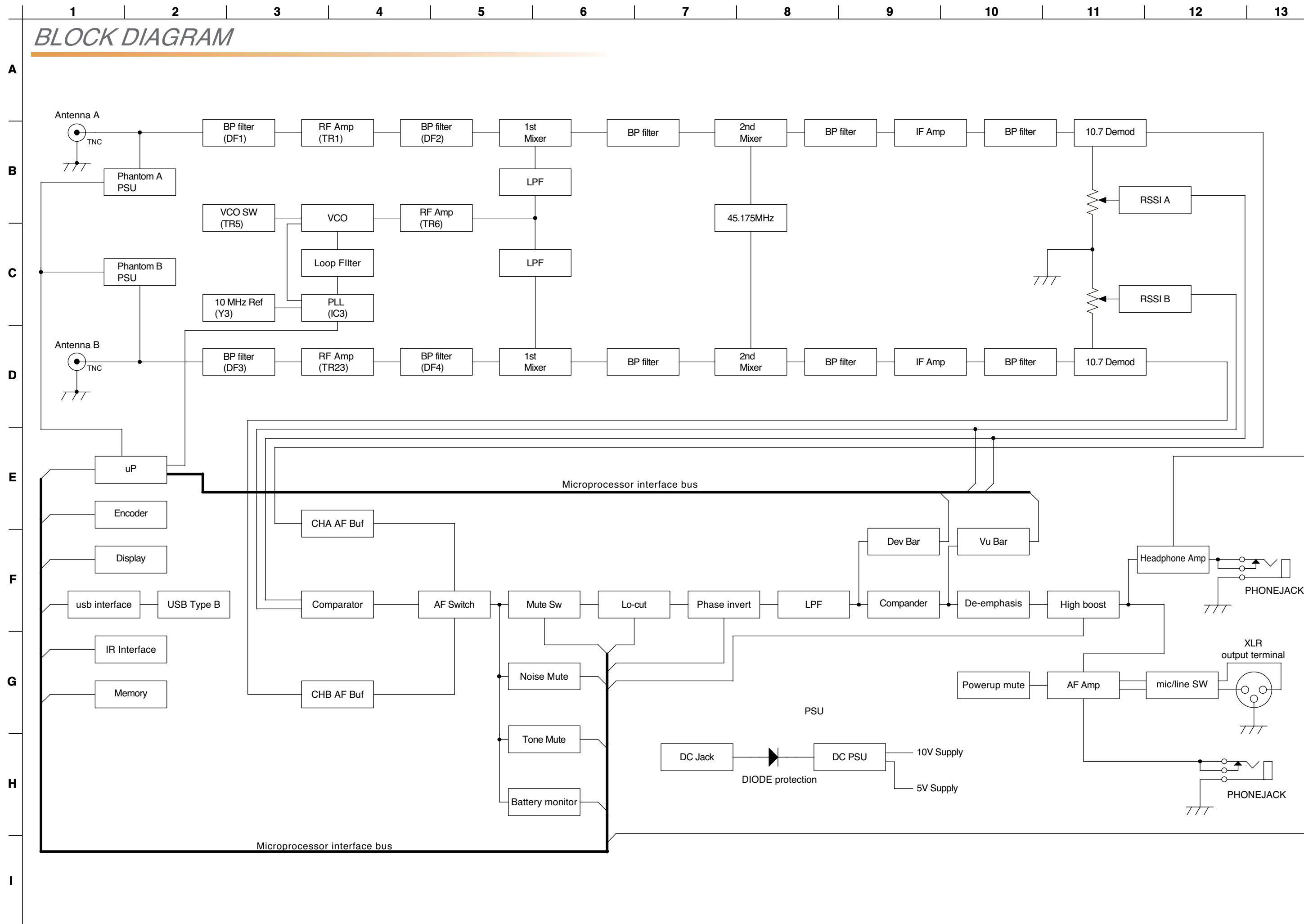
NOMENCLATURE AND SET-UP



1. Attach the supplied antennae (2) to the rear panel TNC antenna connectors as shown in above illustration.
2. Connect the AC/DC adaptor into the DC inlet as marked on the rear panel using the attached cable strain relief. Observe the front panel on-off switch surround is illuminated red.
3. Connect the rear panel AF output from either the 1/4" Jack or XLR to your mixing console or amplifier.
Note: the XLR balanced output can be switched for either mic or line. The system can be also monitored from the headphone socket using the "Jog-Wheel" to adjust Volume level.
4. Switch On-Off switch to "On" position and the receiver will default to initial setting as per illustration above. (BK1.01)

The system is now ready for use.

BLOCK DIAGRAM



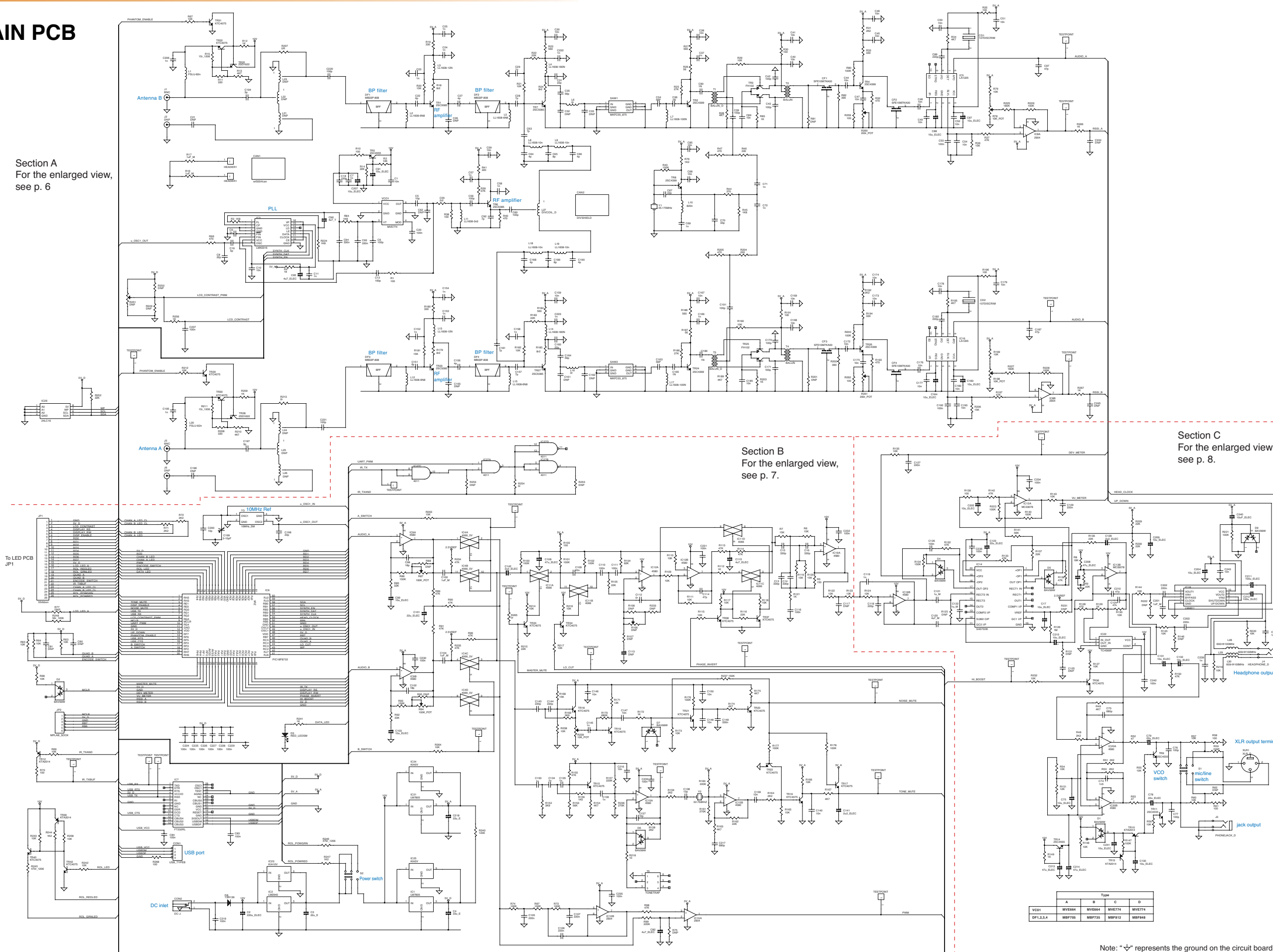
SCHEMATIC DIAGRAMS

• MAIN PCB

Section A
For the enlarged view,
see p. 6

Section B
For the enlarged view,
see p. 7.

Section C
For the enlarged view,
see p. 8.



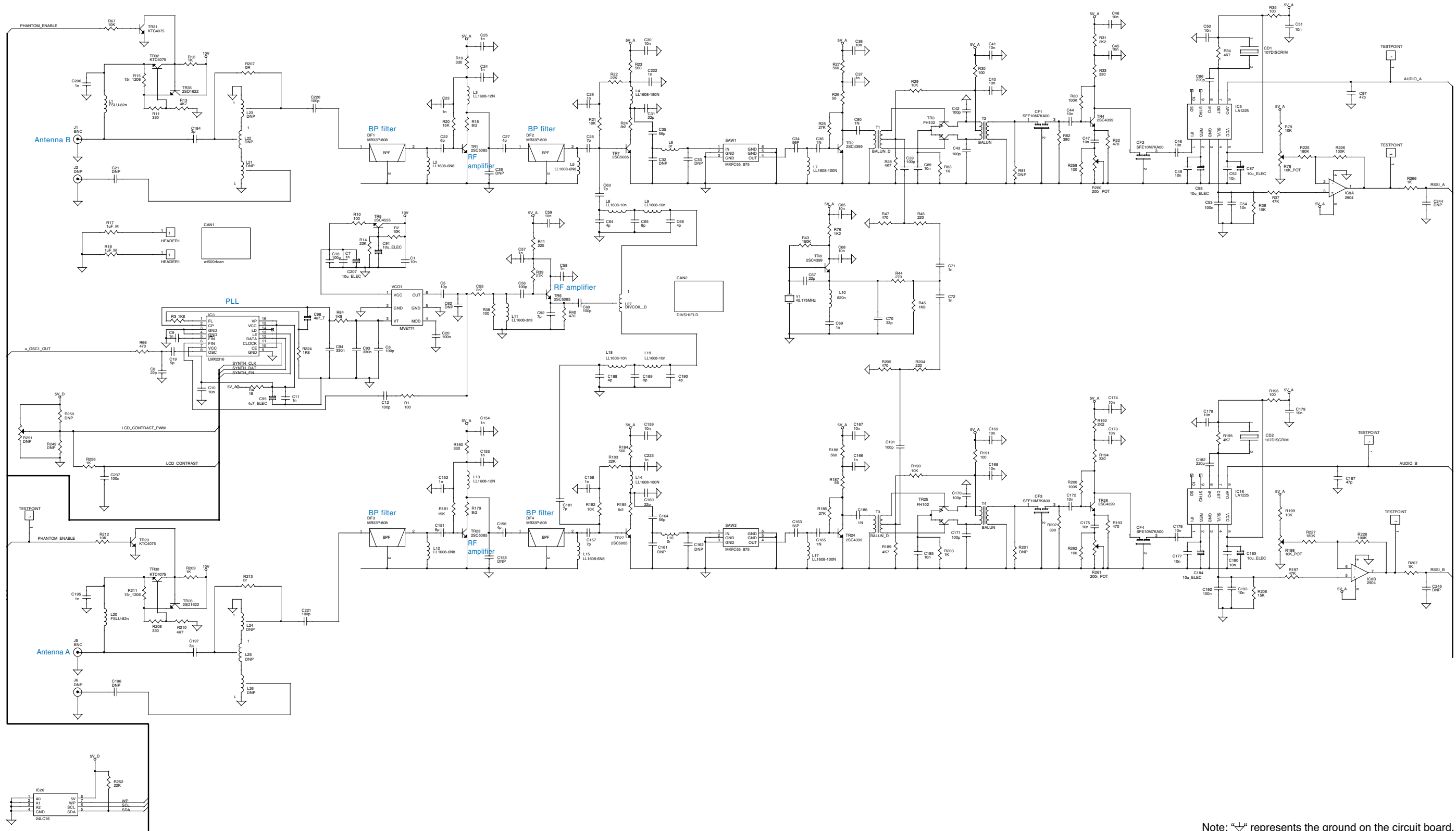
	A	B	C	D
VC01	MV684	MV684	MV774	MV774
DF1,2,3,4	MBF705	MBF735	MBF812	MBF848

Note: "⊥" represents the ground on the circuit board.

1 2 3 4 5 6 7 8 9 10 11 12 13

A
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• MAIN PCB (Section A)

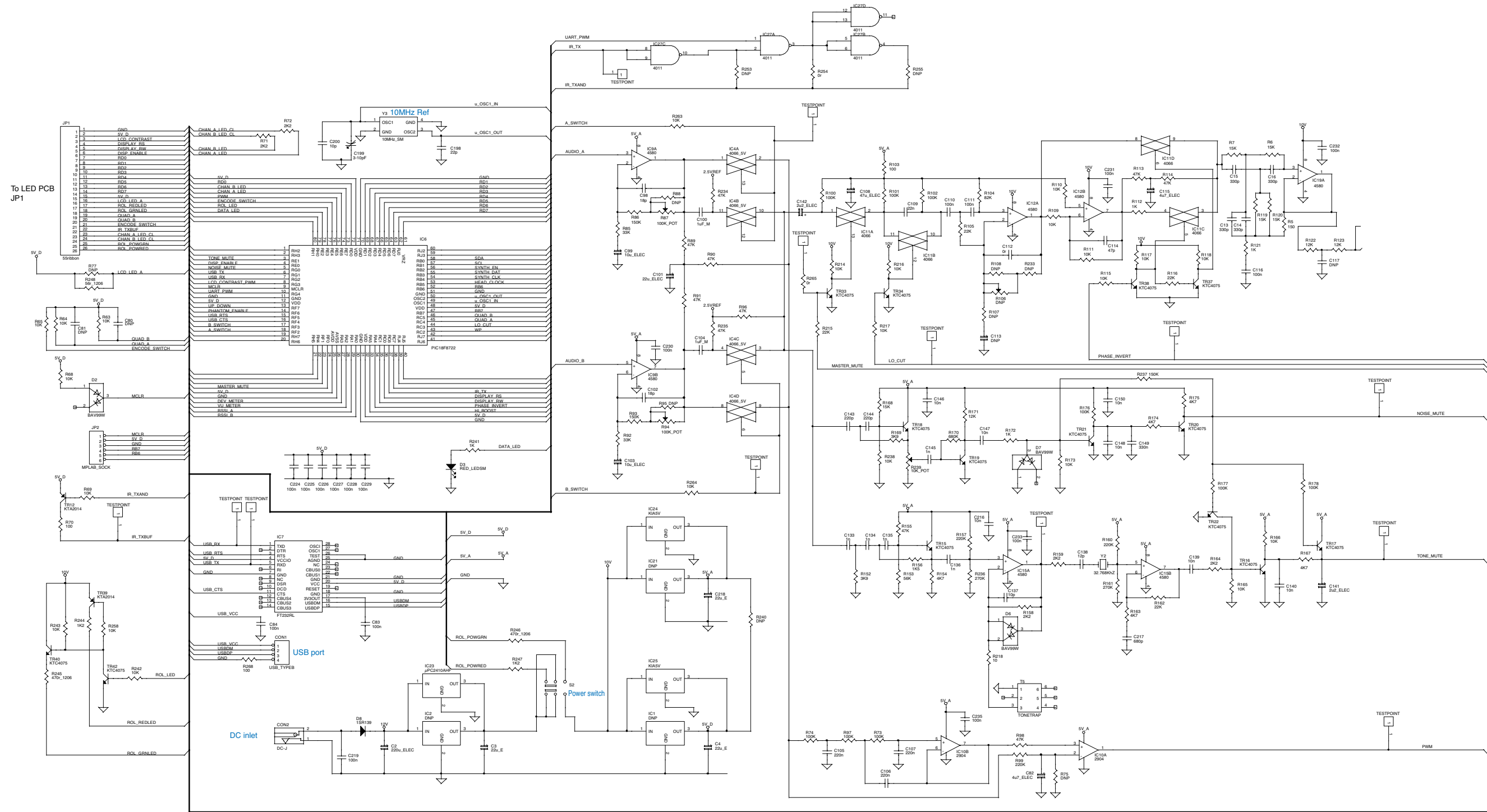


Note: "⏚" represents the ground on the circuit board.

1 2 3 4 5 6 7 8 9 10 11 12 13

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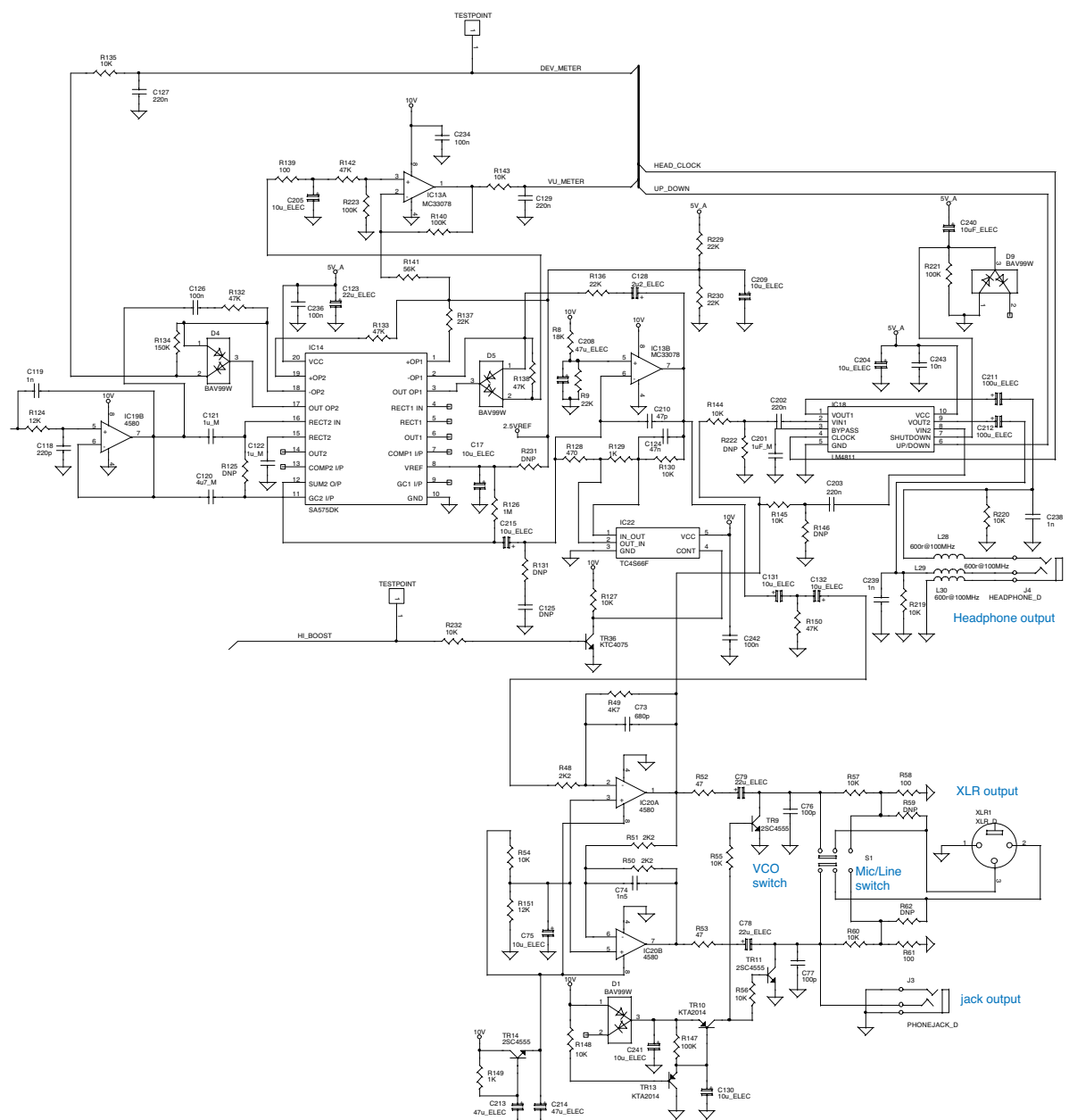
• MAIN PCB (Section B)



Note: "⏏" represents the ground on the circuit board.

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• MAIN PCB (Section C)



Note: "⏏" represents the ground on the circuit board.

1 2 3 4 5 6 7 8 9 10 11 12 13

A • LED PCB

B

C

D

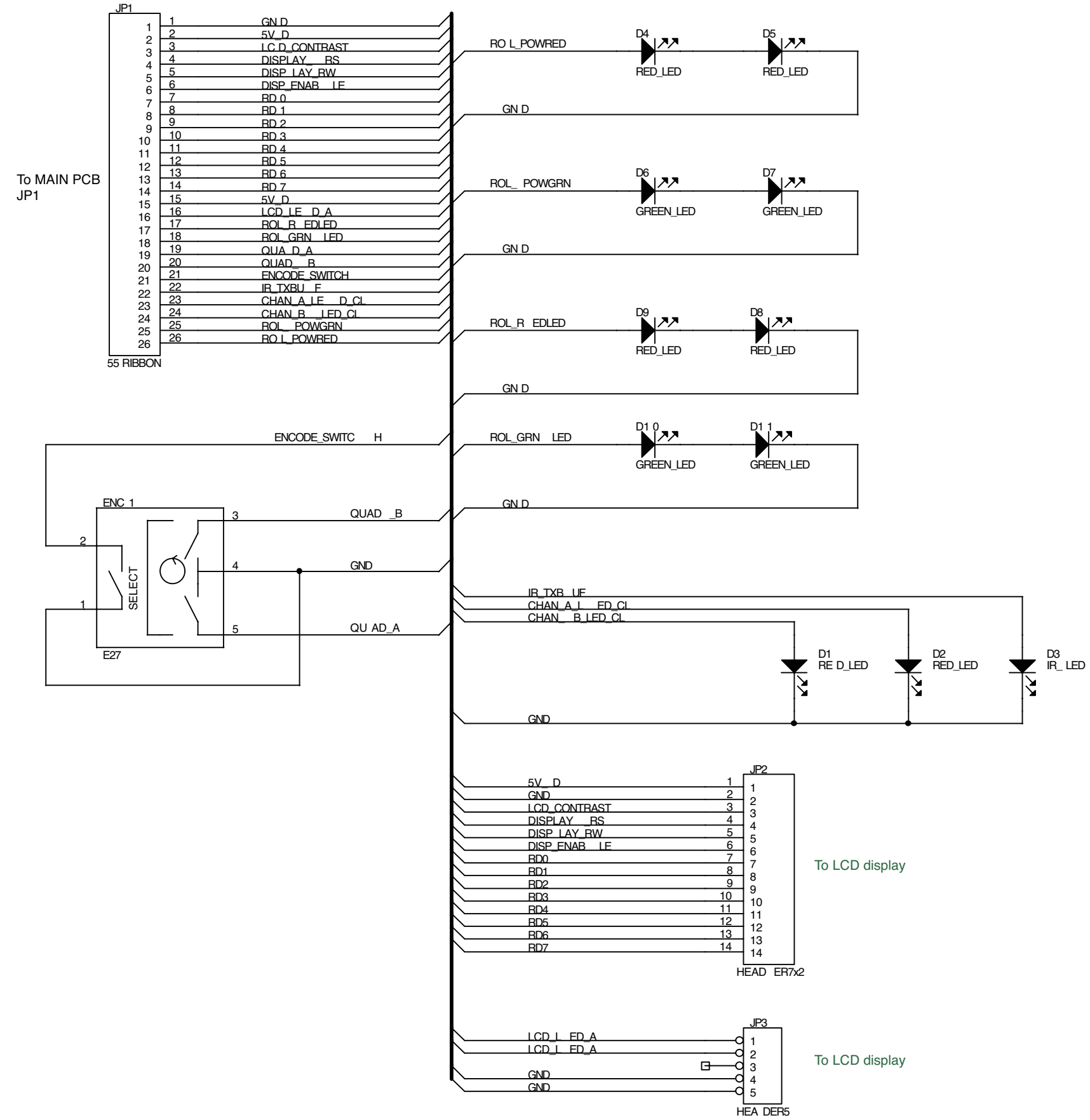
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MOUNTING DIAGRAMS AND PARTS LIST

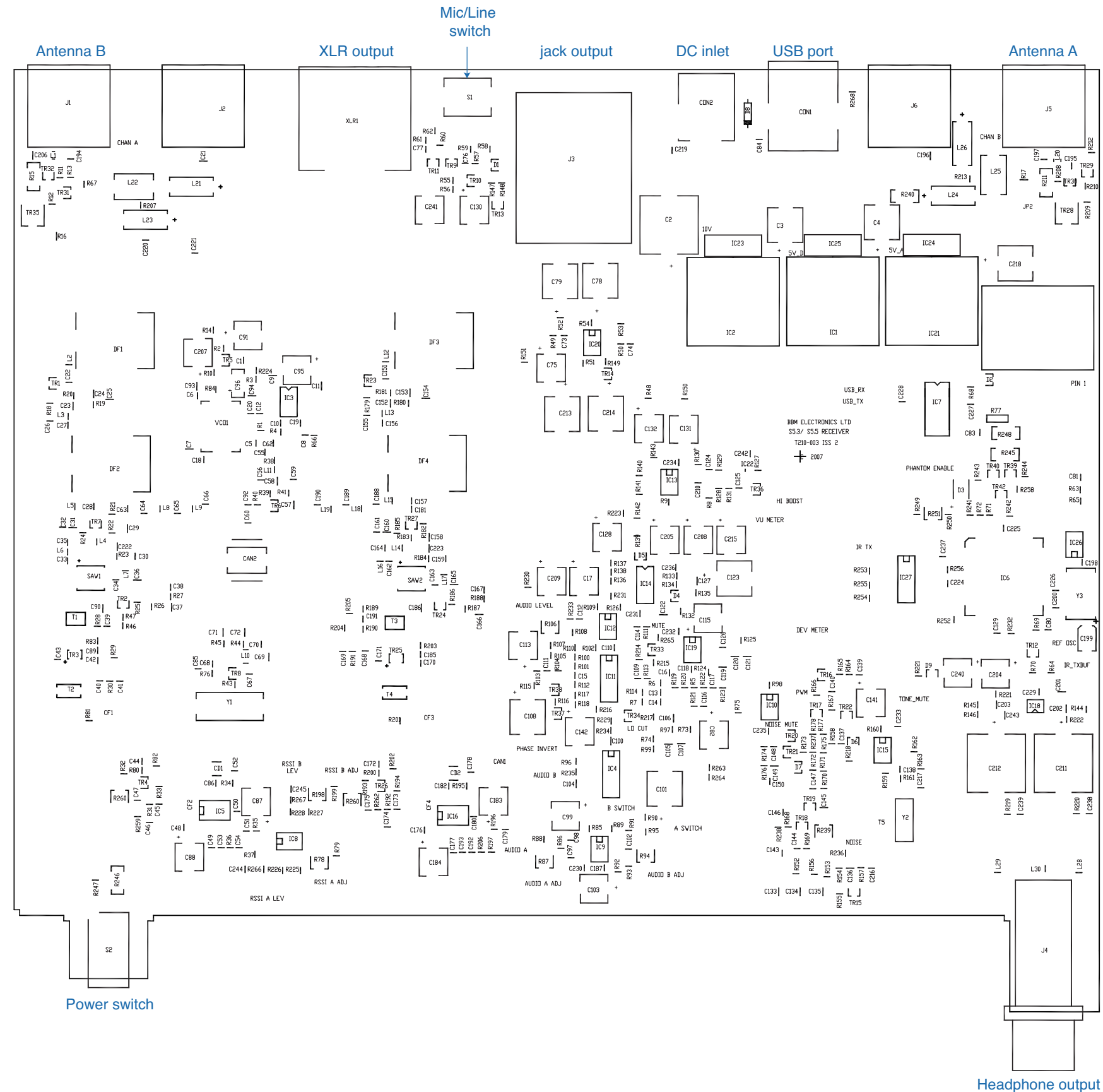
• MAIN PCB

Type	Part Code	Description
A1	Z3340	PCB ASSY, MAIN S55RX-A11
B2	Z3349	PCB ASSY, MAIN S55RX-B2
C1	Z3341	PCB ASSY, MAIN S55RX-C11
D3	Z3342	PCB ASSY, MAIN S55RX-D3

• PARTS LIST (MAIN PCB)

Designator	Part Code	Description
C1	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C2	113-32-981-6X	CAPACITOR, MVK 35VC 220M J10
C3	113-42-389-5X	CAPACITOR,MVJ35VC22MF F60
C4	113-42-389-5X	CAPACITOR,MVJ35VC22MF F60
C5	113-40-628-3X	CAPACITOR, U0603C100JNT
C6	113-40-640-5X	CAPACITOR,U0603C101JNT
C7	D13-40-032-6X	CAPACITOR,U0603C102JNT
C8	113-40-632-0X	CAPACITOR,U0603C220JNT
C9	D13-40-032-6X	CAPACITOR,U0603C102JNT
C10	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C11	D13-40-032-6X	CAPACITOR,U0603C102JNT
C12	113-40-640-5X	CAPACITOR,U0603C101JNT
C13	113-40-646-1X	CAPACITOR,U0603C331JNT
C14	113-40-646-1X	CAPACITOR,U0603C331JNT
C15	113-40-646-1X	CAPACITOR,U0603C331JNT
C16	113-40-646-1X	CAPACITOR,U0603C331JNT
C17	113-32-978-2X	CAPACITOR,J 16VC 10M D60
C18	113-40-640-5X	CAPACITOR,U0603C101JNT
C19	113-40-623-8X	CAPACITOR,U0603C050CNT
C20	113-40-676-0X	CAPACITOR,B0603R104KNT
C21	---	DUMMY
C22	113-40-624-5X	CAPACITOR,U0603C060DNT
C23	D13-40-032-6X	CAPACITOR,U0603C102JNT
C24	D13-40-032-6X	CAPACITOR,U0603C102JNT
C25	D13-40-032-6X	CAPACITOR,U0603C102JNT
C26	---	DUMMY
C27	113-40-622-3X	CAPACITOR, U0603C040CNT
C28	113-40-625-4X	CAPACITOR, U0603C070DNT
C29	D13-40-032-6X	CAPACITOR,U0603C102JNT
C30	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C31	113-40-632-0X	CAPACITOR, U0603C220JNT
C32	---	DUMMY
C33	---	DUMMY
C34	113-40-637-5X	CAPACITOR, U0603C560JNT
C35	113-40-637-5X	CAPACITOR, U0603C560JNT
C36	D13-40-032-6X	CAPACITOR,U0603C102JNT
C37	D13-40-032-6X	CAPACITOR,U0603C102JNT
C38	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C39	113-40-640-5X	CAPACITOR,U0603C101JNT
C40	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C41	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C42	113-40-640-5X	CAPACITOR,U0603C101JNT
C43	113-40-640-5X	CAPACITOR,U0603C101JNT
C44	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C45	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C46	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C47	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C48	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C49	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C50	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C51	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C52	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C53	113-40-676-0X	CAPACITOR,B0603R104KNT
C54	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C55	112-80-305-8X	RESISTOR,1608 2.2OHM(J) TAPING
C56	113-40-640-5X	CAPACITOR,U0603C101JNT
C57	D13-40-032-6X	CAPACITOR,U0603C102JNT
C58	D13-40-032-6X	CAPACITOR,U0603C102JNT
C59	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C60	113-40-640-5X	CAPACITOR,U0603C101JNT
C62	---	DUMMY
C63	113-40-625-4X	CAPACITOR,U0603C070DNT
C64	113-40-622-3X	CAPACITOR,U0603C040CNT
C65	113-40-626-5X	CAPACITOR,U0603C080DNT
C66	113-40-622-3X	CAPACITOR,U0603C040CNT
C67	113-40-632-0X	CAPACITOR,U0603C220JNT
C68	113-40-664-5X	CAPACITOR,1608 50V 10NF TAP
C69	D13-40-032-6X	CAPACITOR,U0603C102JNT
C70	113-40-634-2X	CAPACITOR,U0603C330JNT
C71	D13-40-032-6X	CAPACITOR,U0603C102JNT

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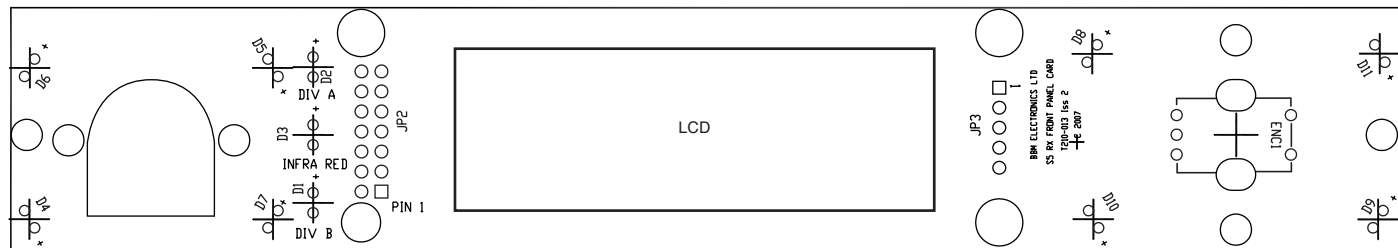


* The parts not listed are not supplied.

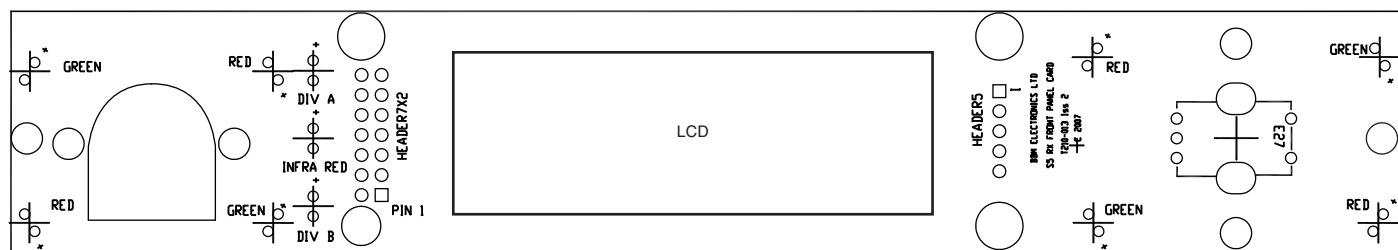
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• **LED PCB** (Part code : Z3172)

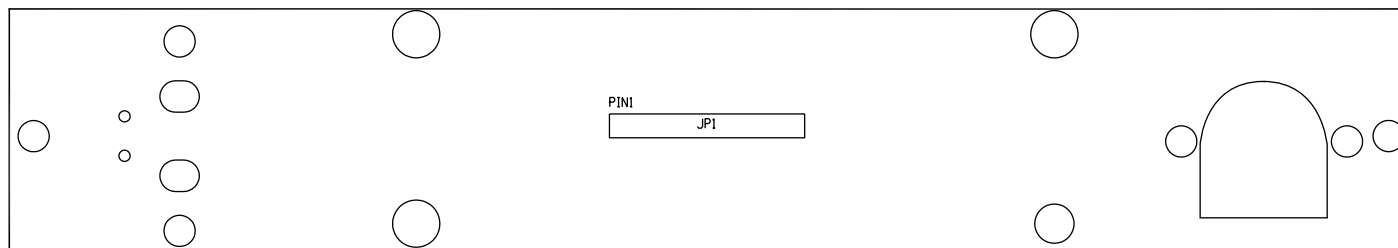
Silk screen drawing (Viewed from parts mounting side)



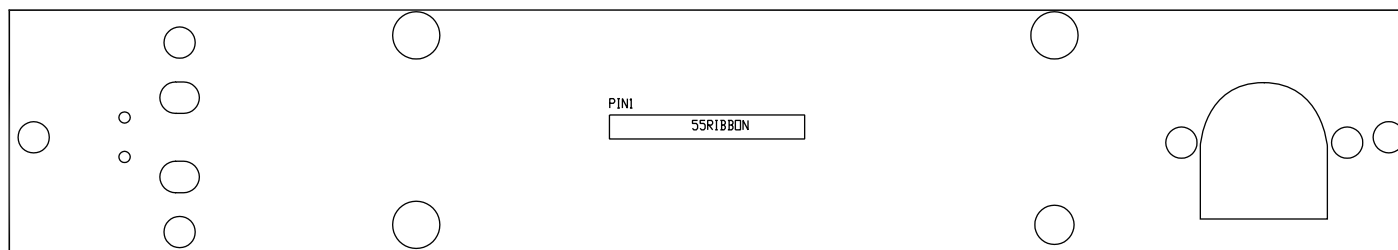
Parts layout drawing (Viewed from parts mounting side)



Silk screen drawing (Viewed from Conductor side)



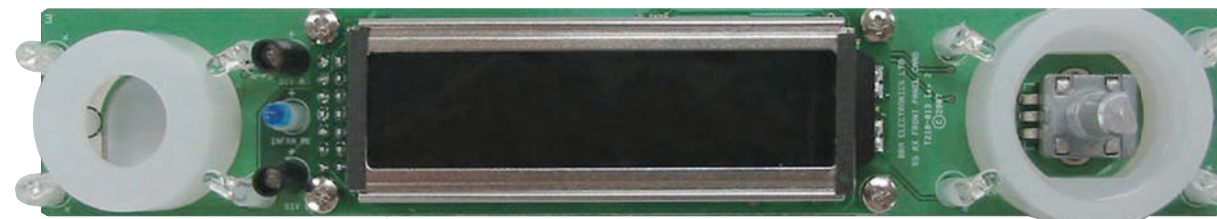
Parts layout drawing (Viewed from Conductor side)



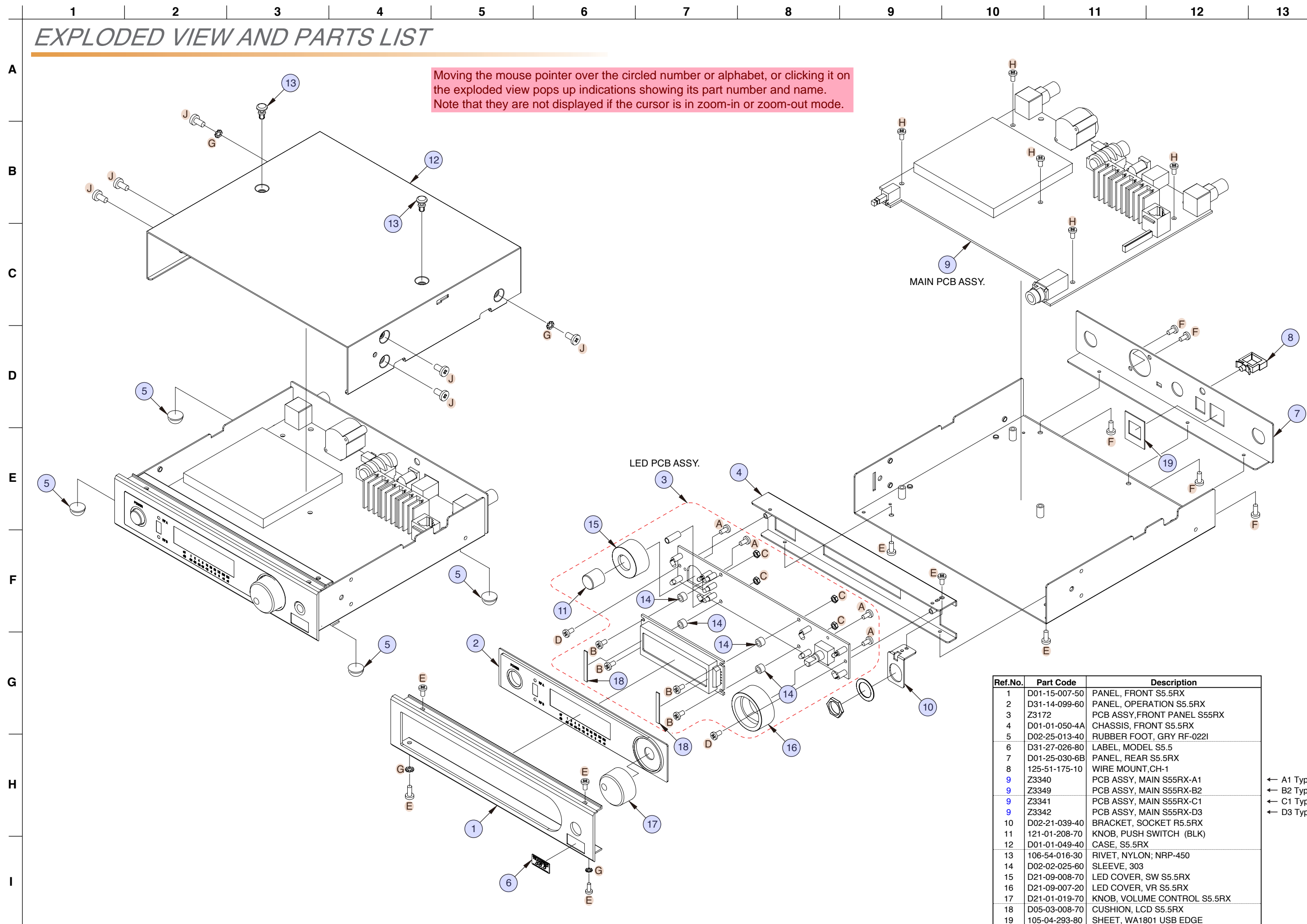
• **PARTS LIST** (LED PCB)

Designator	Part Code	Description
D1	D11-08-042-10	LED, L-934SRC-G(RE D)
D2	D11-08-042-10	LED, L-934SRC-G(RE D)
D3	D17-04-005-60	LED, TSUS4300
D4	D11-08-042-10	LED, L-934SRC-G(RE D)
D5	D11-08-042-10	LED, L-934SRC-G(RE D)
D6	D11-08-041-80	LED, L-934CGCK(GRN)
D7	D11-08-041-80	LED, L-934CGCK(GRN)
D8	D11-08-042-10	LED, L-934SRC-G(RE D)
D9	D11-08-042-10	LED, L-934SRC-G(RE D)
D10	D11-08-041-80	LED, L-934CGCK(GRN)
D11	D11-08-041-80	LED, L-934CGCK(GRN)
ENC1	D12-01-001-20	POT., 10K OHM (A),
JP1	D23-36-005-2X	CONNECTOR, 26FMN-BMTTN-A-TF
JP2	D24-04-041-20	CONNECTOR, 2011-2*07G00S/3/4B
JP3	D24-04-032-6A	CONNECTOR,2011-1*05G00S
LCD	D11-15-002-10	MODULE, LCD WG14432D-TT1-NB5#002

LED PCB ASSY. (Part code : Z3172)

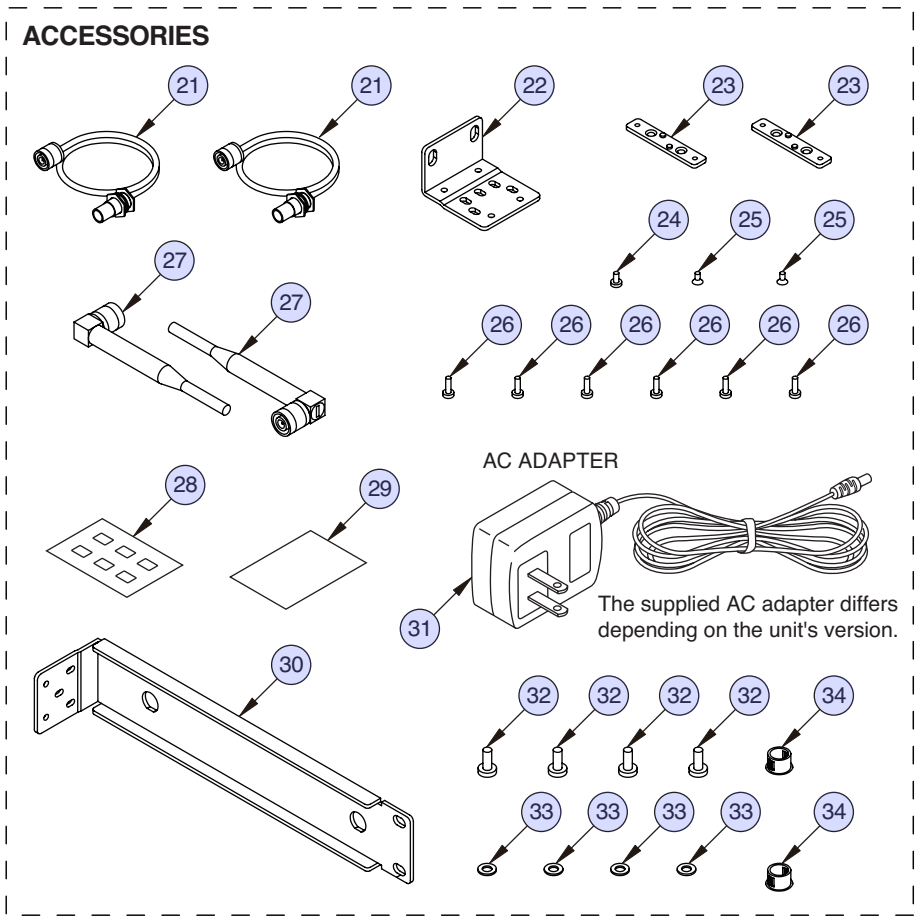


EXPLODED VIEW AND PARTS LIST



Moving the mouse pointer over the circled number or alphabet, or clicking it on the exploded view pops up indications showing its part number and name. Note that they are not displayed if the cursor is in zoom-in or zoom-out mode.

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· ACCESSORIES

Ref.No.	Part Code	Description
21	D25-31-029-30	CONNECTION CABLE, BNC WR050
22	D02-21-038-70	RACK MOUNT BRACKET, MB-15B
23	106-03-832-90	BRACKET, JOINT S5.5RX
24	106-03-832-90	SCREW, BINDER HEAD M3*6 BLK.
25	606-05-101-30	O.H. SCREW M3*6 FE NI
26	D06-03-028-40	B.H. SCREW 3*10 NI
27	D02-12-012-30	ANTENNA, S55RX-A1
28	131-14-280-60	COLOR MARK, WT1804
29	D31-14-153-90	LABEL, FUNCTION A1
29	D31-14-161-40	LABEL, FUNCTION B2
29	D31-14-161-40	LABEL, FUNCTION C1
29	D31-14-146-50	LABEL, FUNCTION D3
30	D02-21-037-20	PANEL, DUMMY S5.5RX
31	D00-07-020-60	AC ADAPTOR, PSU-US
31	D00-07-018-50	AC ADAPTOR, PSU-EU
32	D06-31-003-80	B.H. TAPPING SCREW 5*12 BLK
33	106-52-120-90	FLAT FIBER WASHER 5.2*10
34	D21-01-020-10	COVER, ANTENNA S5.5RX

← Product (MB-15B)
← A1 Type
← B2 Type
← C1 Type
← D3 Type
← A1 Type
← C1, D3 Type

· SCREWS

Ref.No.	Part Code	Description
A	106-60-102-40	P.H. SCREW 2*5BT NI
B	D06-03-027-90	B.H. SCREW 2.6*10 NI
C	D06-35-111-60	NUT 2.6 NI
D	D06-01-220-30	P.H. SCREW 2.6*4 NI
E	106-61-614-50	B.H. SCREW 3*6 BT FE
F	106-61-632-50	+B.H. SCREW B-TIGHT 3*8 BK
G	506-80-062-10	LOCK WASHER M3 EXTERNAL
H	106-03-812-70	B.H. SCREW M3*6 FE CR3
J	106-03-832-90	B.H. SCREW M3*6 FE BLK

* The parts not listed are not supplied.