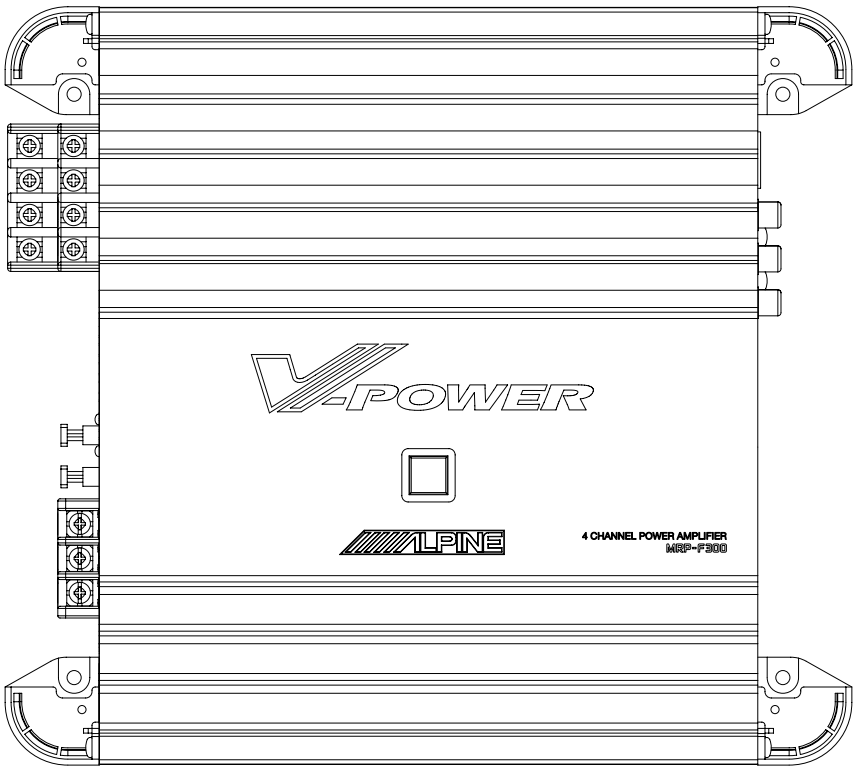
ALPINE

SERVICE MANUAL

4 CHANNEL POWER AMPLIFIER



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MRP-F300

<Cautions for Safe Repair Work>

The following cautions will prevent accidents in the workplace and will ensure safe products.
*The symbols indicate caution is needed to prevent injuries and damage to property.
The symbols and their meanings follow.

Warning	If you ignore this symbol and handle the product incorrectly or unsafely, serious injury or death may result.
Caution	If you ignore this symbol and handle the product incorrectly or unsafely, injury or only material damage may result.

*The following symbols indicate two levels of cautions.

	When you see this symbol, you have to be very careful.
	When you see this symbol, you have to follow the instructions there.

Warning

Do not look squarely into the laser light coming from the pickup. You may loose you sight.	**Fuse Caution** Always use a designated fuse. Use of an incorrect fuse may result in a fire.

Caution

Do not allow wiring to be caught in the screw/chassis. If wiring is caught in the screw/chassis, it may cause a short circuit, resulting in a fire.	**Battery Caution** Use the designated battery. Confirm the correct polarity and seat of the battery. An incorrect battery or an improperly connected or seated battery may result in a fire.
High Temperature Caution Touching the heat sink may cause severe burns.	**Designated Parts Caution** Look up the part list and ensure that only designated parts are used to prevent problems or accidents.
Reverse Power Supply Connections or Misconnections Caution Reverse power supply connections or misconnections may cause ignition problems and smoke may result.	**Wiring Caution** Ensure that the wiring is correct when rewiring to prevent problems with ignition/breakdown.
Soldering Caution Hot solder from solder splash may cause severe burns.	**Wear Gloves** Wear gloves to prevent electrical shocks or injury from the end face of the metal.

Contents

NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

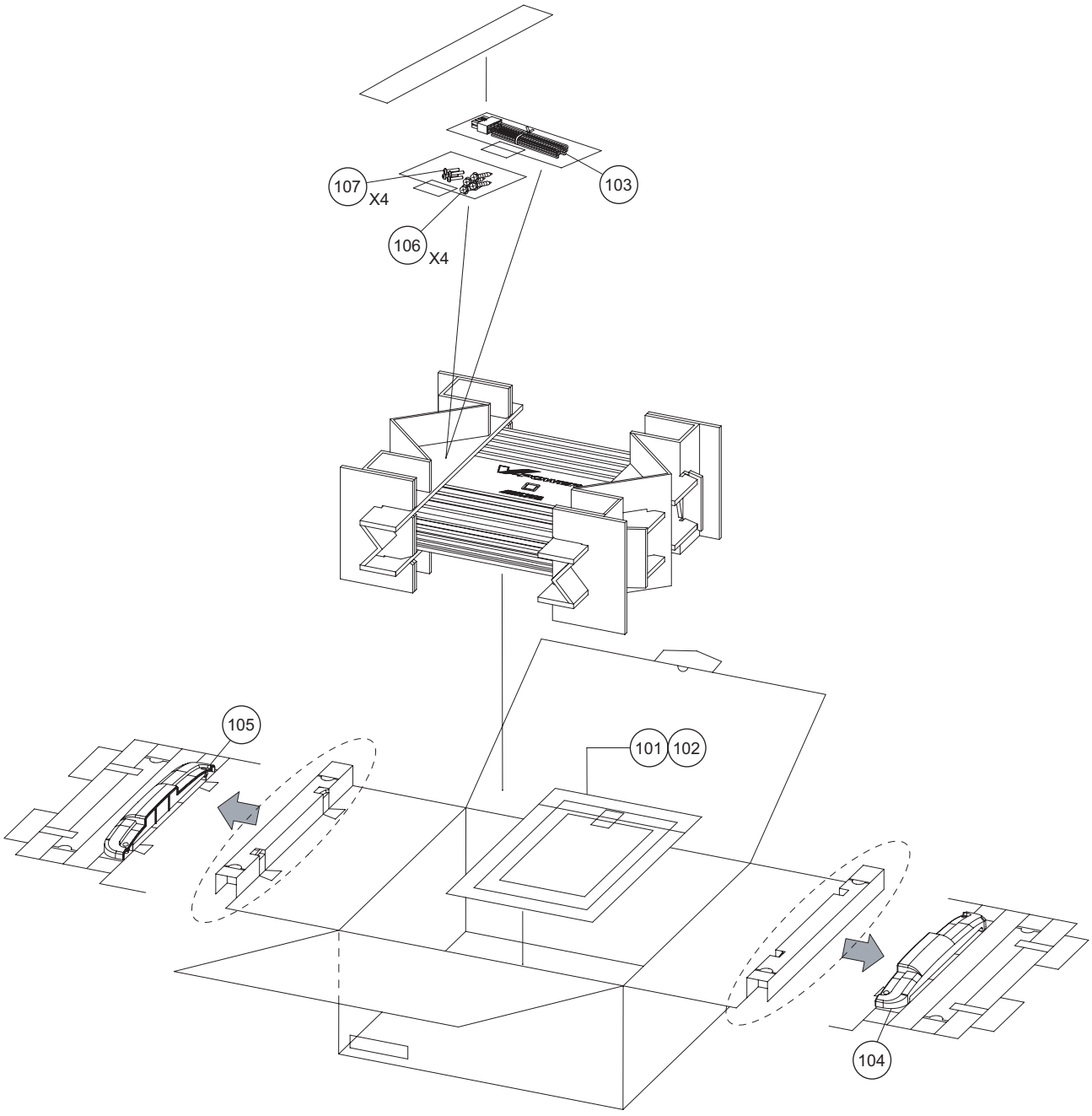
Packing Assembly Parts List

Symbol No.	Part No.	Description
#1 101	68-10872Z24	MANUAL,OWNER'S(AO)
$1 101	68-10872Z25	MANUAL,OWNER'S(GO)
%1 101	68-10872Z25	MANUAL,OWNER'S(GO)
&1 101	68-10872Z27	MANUAL,OWNER'S(AOCH)
$1 102	68-10872Z26	MANUAL,OWNER'S(IGS)

Symbol No.	Part No.	Description
103	01E23875S01	ASSY,CONN 8P
104	15E40539S01	COVER,PLATE-R
105	15E40540S01	COVER,PLATE-L
106	03E40419S01	SCR,M4X20(BLK)
107	03E39167S01	SCR,M3X12(P)(BLK)

NOTE : #1 : For North American Model Only, $1 : For European Model Only, %1 : For General Foreign Model Only,
&1 : For Chinese Model Only, Others : Common.

Packing Method View



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Specifications

Power Output	(20Hz to 20kHz, 4ohm x 4ch, 1.0% T.H.D. (14.4V))	50W
	(20Hz to 20kHz, 2ohm x 4ch, 1.0% T.H.D. (14.4V))	75W
	(20Hz to 20kHz, 4ohm(BTL) x 2ch, 1.0% T.H.D. (14.4V))	150W
Input Sensitivity	(Ref.Output 50W/4ohm, Speaker Input)	Gain VR MAX : 0.4V±4dB Gain VR MIN : 8.0V±3dB
	(Ref.Output 50W/4ohm, RCA Input)	Gain VR MAX : 0.2V±4dB Gain VR MIN : 4.0V±3dB
Pre Out Level	(Ref.1kHz, 10kohm Load, Input 0.5Vrms)	0.5±0.1V
Frequency Response	(Ref.Output 1W, Ref.Frequency : 1kHz 0dB)	10Hz : -1.0~0dB 50kHz : -1.0~0dB
	Pre Out Frequency Response (Input Signal Level : 0.5Vrms, 10kohm Load)	20Hz : 0±1dB 20kHz : 0±1dB
Channel Separation	(1kHz, 4ohm x 4ch, 1W, Input shorted)	55dB
S/N Ratio	(1kHz, 4ohm x 4ch, 50W, Input shorted)	90dB
Residual Noise	(Input short, 4ohm Load)	3.0mV
Output Offset Voltage	(No Signal)	0V±50mV
Remote On Voltage	(1W Output)	6.2±1V
Current Drain	(No Signal)	1.5A
	(50W x 4, 4ohm Load)	23±5A
	(Remote Current Drain)	1.1±0.3mA
	(Back up Current Drain)	0.1mA
Input Impedance	(Reference)	RCA Input : 14.66k ohm±10% Speaker Input : 14.9k ohm±10%
Fuse Requirement		25A(Peak) x 2 (For Battery Line)
Power Source		DC14.4V (11 to 16V)
Dimensions (W x H x D)		270 x 60 x 241.8mm
Weight		2.56kg

NOTE : Due to Continuing product improvement, specifications and designs are subject to change without notice.

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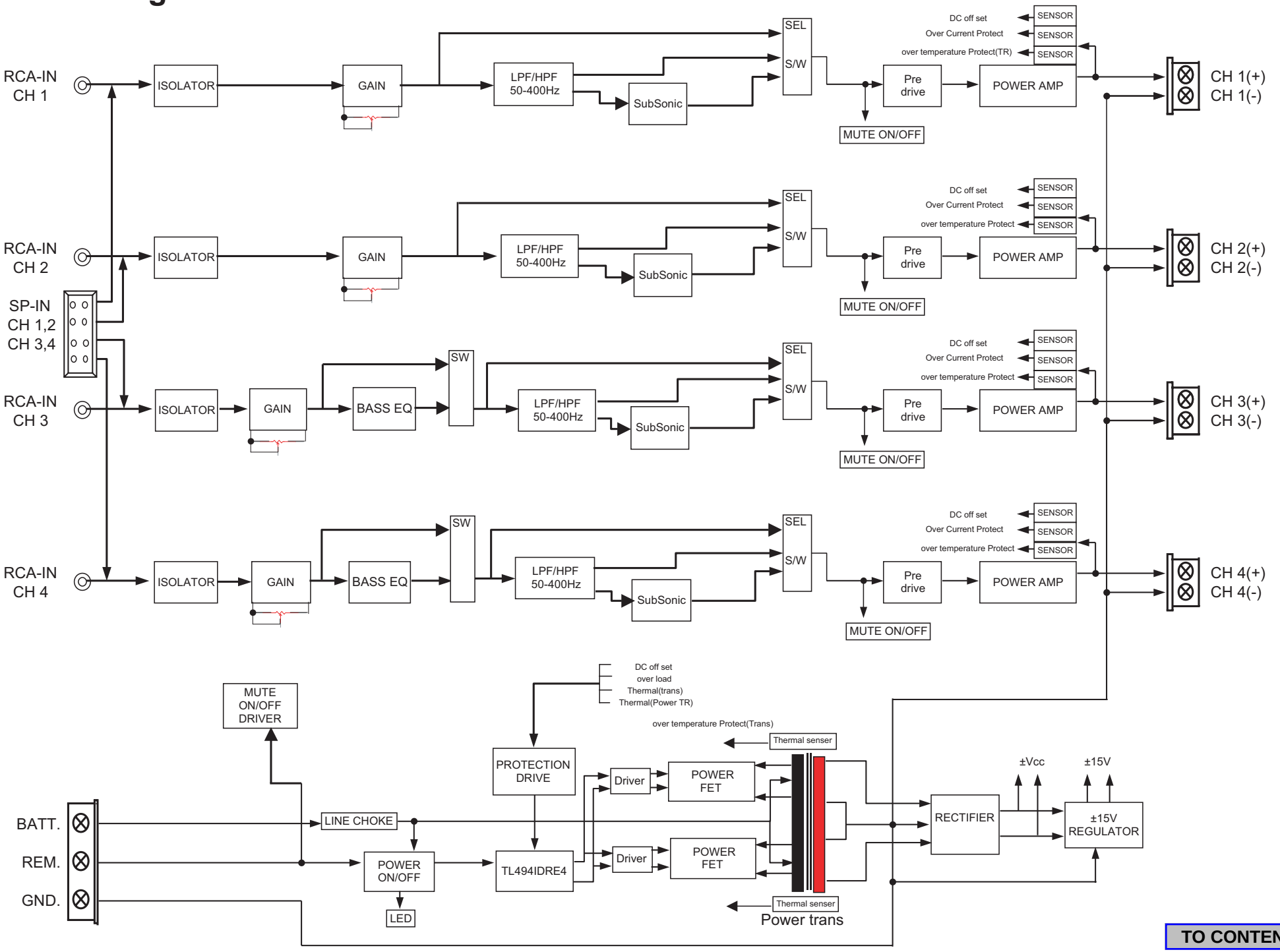
Block Diagram



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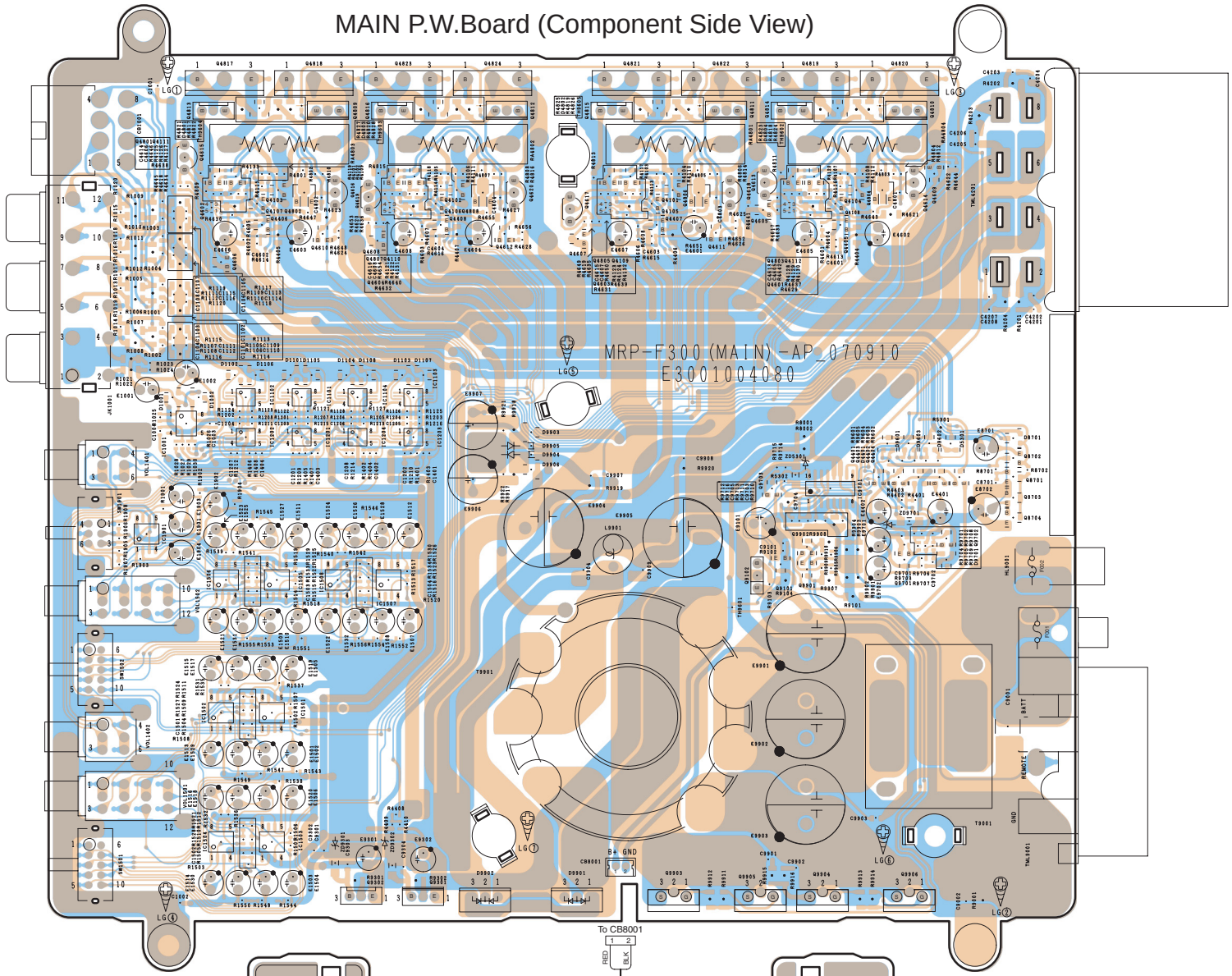
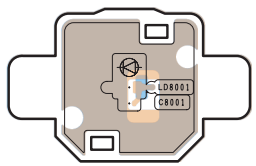
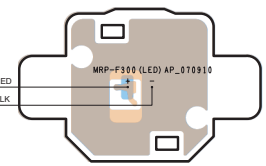
MAIN P.W.Board (Component Side View)



LED P.W.Board
(Component Side View)





LED P.W.Board
(Foil Side View)

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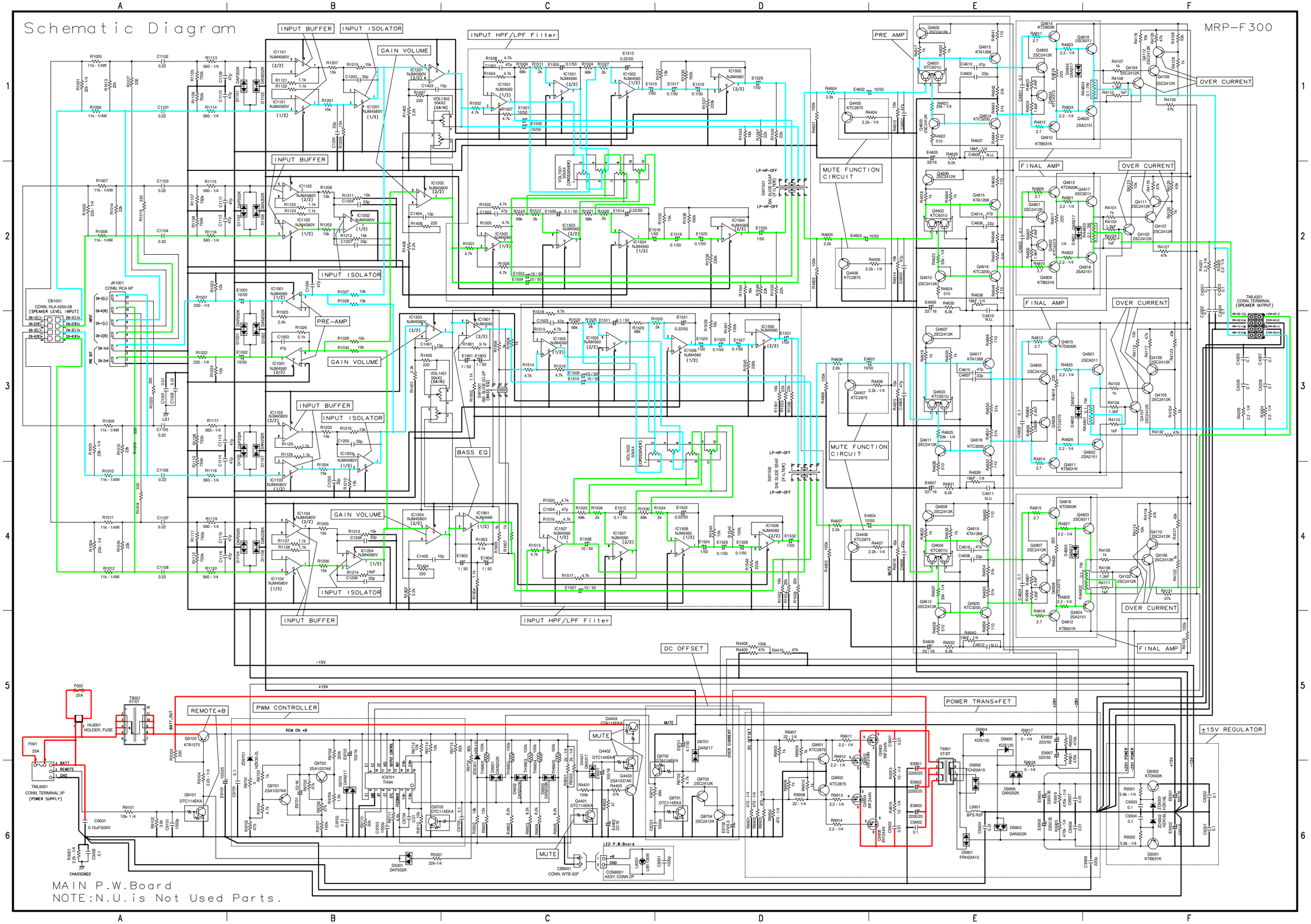
Orange Color Pattern:Component Side Pattern
Blue Color Pattern:Foil Side Pattern

Schematic Diagram

MRP-F300



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Terminal Voltage of IC/TR

Ref.No.	1	2	3	4	5	6	7	8
IC1001	4.1mV	4.0mV	3.6mV	-15.16V	3.1mV	3.9mV	5.2mV	15.06V
IC1101	64.0mV	63.1mV	63.6mV	-15.15V	63.7mV	63.5mV	63.3mV	15.05V
IC1102	64.5mV	63.7mV	63.7mV	-15.15V	64.6mV	63.8mV	63.8mV	15.05V
IC1103	62.5mV	62.5mV	63.1mV	-15.15V	62.1mV	61.8mV	61.8mV	15.05V
IC1104	62.9mV	62.4mV	62.8mV	-15.15V	63.2mV	62.6mV	62.5mV	15.05V
IC1201	3.1mV	33.8mV	33.7mV	-15.15V	2.9mV	2.4mV	1.1mV	15.05V
IC1202	2.5mV	33.7mV	34.0mV	-15.15V	2.3mV	1.9mV	-1.6mV	15.05V
IC1203	3.24mV	33.3mV	33.3mV	-15.15V	3.3mV	2.7mV	1.6mV	15.05V
IC1204	3.01mV	33.3mV	33.3mV	-15.15V	2.8mV	2.5mV	-0.1mV	15.05V
IC1501	3.2mV	2.9mV	2.5mV	-15.16V	2.9mV	3.2mV	3.0mV	15.06V
IC1502	2.1mV	3.7mV	3.3mV	-15.16V	12.6mV	12.9mV	12.9mV	15.06V
IC1503	3.4mV	1.7mV	1.1mV	-15.16V	2.9mV	3.7mV	3.1mV	15.06V
IC1504	0.1mV	3.8mV	3.3mV	-15.16V	14.2mV	12.7mV	12.7mV	15.06V
IC1505	3.3mV	3.0mV	2.7mV	-15.16V	3.0mV	3.6mV	3.1mV	15.06V
IC1506	2.4mV	3.8mV	3.3mV	-15.16V	13.0mV	13.3mV	13.3mV	15.06V
IC1507	3.5mV	2.6mV	2.1mV	-15.16V	3.1mV	3.5mV	3.6mV	15.06V
IC1508	1.3mV	4.2mV	3.2mV	-15.16V	13.1mV	13.1mV	13.1mV	15.06V
IC1901	0.1mV	0.4mV	0.1mV	-15.16V	1.7mV	2.7mV	2.3mV	15.06V

Ref.No.	1	2	3	4	5	6	7	8
IC9701	1.59V	2.51V	88.2mV	2.51V	1.66V	3.82V	0V	14.32V
	9	10	11	12	13	14	15	16
	0.71	0.70V	14.32V	14.32V	5.0V	5.0V	2.51V	40.5mV

Ref.No.	E	C	B
Q4101	-36.1mV	15.67V	-35.7mV
Q4102	-36.1mV	15.67V	-35.7mV
Q4103	-36.1mV	15.67V	-35.7mV
Q4104	-36.1mV	15.67V	-35.7mV
Q4105	-35.51mV	0.95V	-34.9mV
Q4106	-35.51mV	0.95V	-34.9mV
Q4107	-35.51mV	0.95V	-34.9mV
Q4108	-35.51mV	0.95V	-34.9mV
Q4109	0.47V	15.59V	0.69V
Q4110	0.47V	15.59V	0.69V
Q4111	0.47V	15.59V	0.69V
Q4112	0.47V	15.59V	0.69V
Q4401	92.0mV	4.98V	92.3mV
Q4402	14.39V	4.88V	4.91V
Q4403	3.8mV	4.89V	4.91V
Q4404	-7.53V	14.39V	14.37V
Q4405	3.7mV	3.2mV	-7.53V
Q4406	3.7mV	3.2mV	-7.53V
Q4407	3.7mV	3.2mV	-7.53V
Q4408	3.7mV	3.2mV	-7.53V
Q4605	34.02V	34.64V	34.64V
Q4606	34.02V	34.64V	34.64V
Q4607	34.02V	34.64V	34.64V
Q4608	34.02V	34.64V	34.64V
Q4609	-34.2V	-33.58V	-33.58V

Ref.No.	E	C	B
Q4610	-34.2V	-33.58V	-33.58V
Q4611	-34.2V	-33.58V	-33.58V
Q4612	-34.2V	-33.58V	-33.58V
Q4613	28.05V	1.108V	28.02V
Q4614	-27.95V	-1.15V	-27.86V
Q4615	28.05V	1.108V	28.02V
Q4616	-27.95V	-1.15V	-27.86V
Q4617	28.05V	1.108V	28.02V
Q4618	-27.95V	-1.15V	-27.86V
Q4619	28.05V	1.108V	28.02V
Q4620	-27.95V	-1.15V	-27.86V
Q4801	0.42V	1.09V	1.09V
Q4802	-1.16V	0.43V	-0.55V
Q4803	0.42V	1.09V	1.09V
Q4804	-1.16V	0.43V	-0.55V
Q4805	0.42V	1.09V	1.09V
Q4806	-1.16V	0.43V	-0.55V
Q4807	0.42V	1.09V	1.09V
Q4808	-1.16V	0.43V	-0.55V
Q4809	-1.15V	-24.97V	-1.15V
Q4810	-1.15V	-24.97V	-1.15V
Q4811	-1.15V	-24.97V	-1.15V
Q4812	-1.15V	-24.97V	-1.15V
Q4813	0.52V	25.03V	1.09V
Q4814	0.52V	25.03V	1.09V

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Ref.No.	E	C	B
Q4815	0.52V	25.03V	1.09V
Q4816	0.52V	25.03V	1.09V
Q4817	-30.2mV	25.01V	0.52V
Q4818	-33.3mV	-25.05V	-0.57mV
Q4819	-30.2mV	25.01V	0.52V
Q4820	-33.3mV	-25.05V	-0.57mV
Q4821	-30.2mV	25.01V	0.52V
Q4822	-30.5mV	-25.05V	-0.57mV
Q4823	-30.2mV	25.01V	0.52V
Q4824	-24.7mV	-25.05V	-0.57mV
Q8701	4.1mV	15.06V	4.5mV
Q8702	4.3mV	15.1V	15.07V
Q8703	-31.9mV	15.13V	1.2mV
Q8704	1.2mV	15.13V	31.2mV
Q9101	3.8mV	0.058V	3.3V
Q9102	14.4V	14.37V	13.74V
Q9301	-15.27V	-25.1V	-15.83V
Q9302	15.07V	25.08V	15.7V
Q9701	4.01V	5.01V	14.37V
Q9702	3.61V	5.01V	15.07V
Q9703	3.7mV	40.7mV	2.16V
Q9901	3.9mV	0.91V	0.26V
Q9902	3.9mV	0.91V	0.26V

Ref.No.	G	D	S
Q9903	0.80V	14.37V	1.3mV
Q9904	0.80V	14.37V	1.3mV
Q9905	0.80V	14.37V	1.3mV
Q9906	0.80V	14.37V	1.3mV

Ref.No.	1	2	3	4	5
Q4601	-0.112V	-0.714V	-0.114V	33.15V	33.15V
Q4602	-0.112V	-0.707V	-0.113V	33.21V	33.21V
Q4603	-0.112V	-0.711V	-0.113V	33.22V	33.22V
Q4604	-0.107V	-0.702V	-0.107V	33.23V	33.23V

[Measuring Conditions]

1. Power Supply Voltage : DC 14.4V
2. Measuring Meter : Digital Multi Voltmeter
3. Measuring Point Reference : Between GND
4. Measuring Condition : No Signal Input

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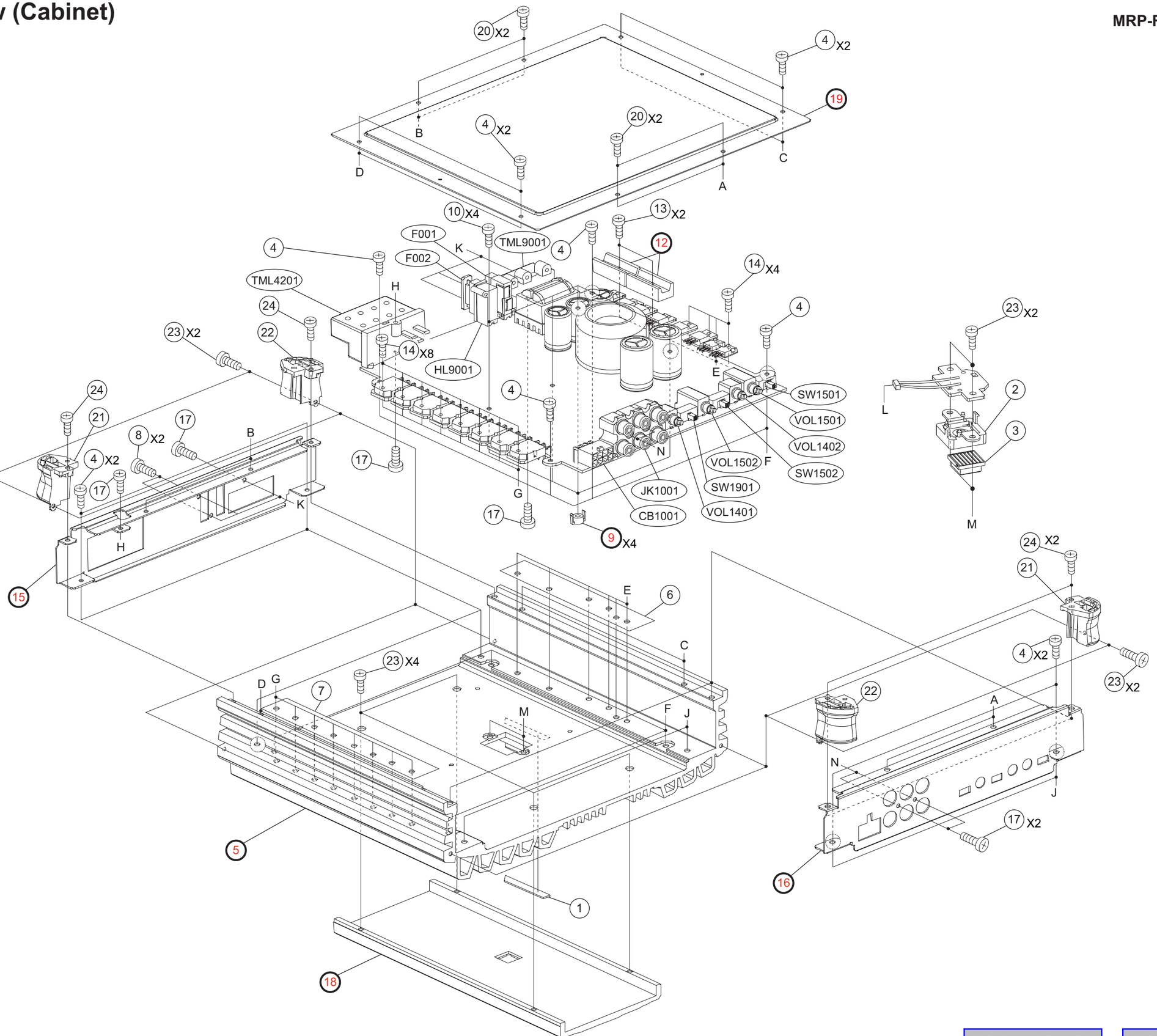
Exploded View (Cabinet)



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