

PHONIC

MAR 2/4/6

SERVICE MANUAL



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contents

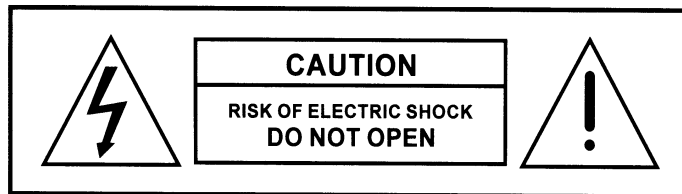
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SAFETY FIRST!

WARNING - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

WATER AND ELECTRICITY DO NOT MIX. Keep this unit away from water. If water or other liquids are spilled on or into this unit, unplug the power cord immediately from the wall socket (with DRY HANDS) and get a qualified service technician to check it out before using. Keep this unit away from heaters, radiators and other heat producing devices.

DO NOT ATTEMPT TO SERVICE THIS UNIT. ONLY A QUALIFIED SERVICE TECHNICIAN SHOULD OPEN THIS UNIT FOR SERVICING.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

KEEP IT CLEAN: Dust, dirt and debris can interfere with the performance of this product. Make a special effort to keep this unit away from dusty, dirty environments. Cover the unit when not in use. Dust it regularly with a soft, clean brush. Careful attention to these details will be time well spent, and this product will reward you with years of trouble free operation.

**Please take the time to read this manual before use.
Store this manual in a safe place so that it is available
should you ever need it again.**

Introduction

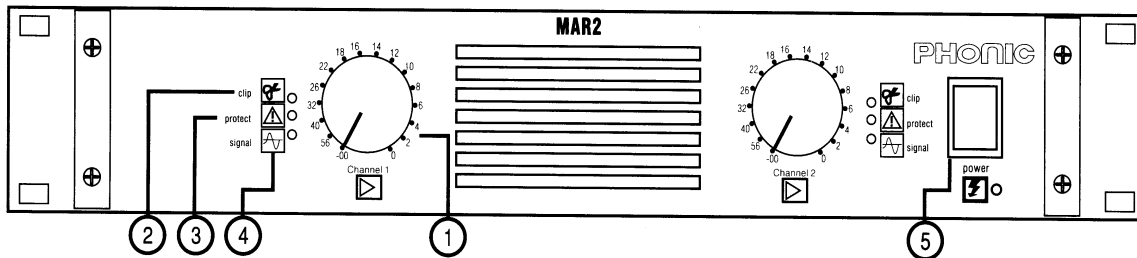
Thank you for choosing an MAR power amplifier from Phonic. These units are designed to provide a good combination of power, audio clarity, reliability and durability. The basic circuit has been kept as simple as possible to reduce the amount of components, thereby shortening the signal path, colouration and the chance of component failure. However, we opted to add what we regard as essential protection against overheating, short circuits and power-on transients.

An efficient heat-dissipation system comprising a high-surface area heatsink coupled with one or two fans (depending on power rating of amp), ensures quiet and reliable cooling.

The sound quality and sturdy construction of the MAR series makes these amps ideal for a multitude of amplification tasks, from installations, mobile DJs, home studios, houses of worship and touring bands.

Since all three amplifiers are similar in operation, this manual serves for all models. However, because the features differ slightly, there is a separate feature by feature explanation for each model. Please take the time to read this manual before connecting and operating your unit, as there is important information contained within. File the manual in a safe place for future reference.

MAR2 Power Amplifier



Front-Panel Description

1. Gain Controls

These two knobs are the level controls for each channel of the amplifier. The gain increases as the knob is turned clockwise. The MAR2 features detented gain controls with dB calibrations to simplify set-up.

2. Clip LED

If an audio signal is amplified beyond the limit of the amplifier, the extremes of the signal will not reach the appropriate levels, giving the appearance of being clipped-off when viewed on an oscilloscope. The audible result is distortion, which in small amounts can lead to repaid ear fatigue, and in larger amounts a harsh and unpleasant breaking up of the sound. The clip LED lights whenever the signal passes the amplifier's limit and distorts. If the clip light is lit or is flashing, the gain should be reduced.

3. Protect LED

The MAR2 features several types of protection to prevent damage to the circuitry during turn-on or fault conditions. The power-on protection relay prevents damaging thumps to the speakers as the power comes on. When the amp is switched on, the protect LED will light for a few seconds, and then go out, indicating that the relay has closed, connecting the speakers to the amplifier.

The protect light will also come on if the speaker terminals are short circuited, or the

impedance of the load between them is too low. In these circumstances, the protect LED will stay lit until the fault condition is rectified.

The amplifier's large heatsinks, vents and fan should provide enough cooling even with a high ambient temperature. However, if the amp overheats, thermal shutdown protects the circuitry until the temperature is reduced to a safe level. Should the amp shutdown for thermal reasons, leave the power connected to the amp, try to improve ventilation, and reduce the gain. Without power, the fan cannot operate, and the amp will require longer to reach a low enough temperature to restart.

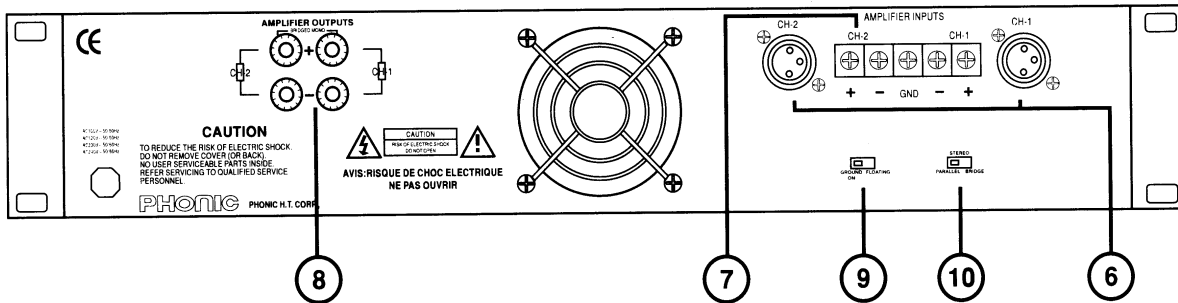
4. Signal Present

Each channel of the MAR2 features a signal light to show that there is an audio signal at the input to the channel. The threshold for the indicator is -30dB, which should be enough that noise doesn't trigger the LED, but a faint audio signal will.

5. Power Switch

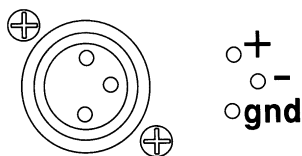
This turns the amp on and off. Although the MAR2 features power-on muting, it is nevertheless good practice to reduce both the gain controls before turning on the amp. The turn on procedure for powering-up an audio system should be to start from the instruments and mixer, and verify operation before moving on to the power amps. Once the amps are on, verify they are receiving a signal and then slowly increase gain.

Back-Panel Description

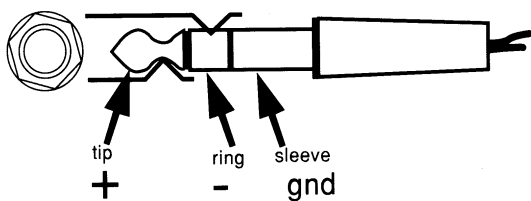


6. NEUTRIK CONNECTOR

Quality Neutrik Connectors are provided for balanced XLR and 1/4" inputs are commonly used for both mobile and installation set-ups. They provide a good combination of ease of connection and resistance to corrosion. The XLR inputs are wired as per the following convention:

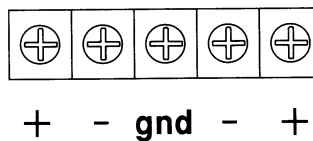


These type of jacks feature on much audio equipment and are convenient if the amp is frequently connected and disconnected, such as for a mobile set-up. The plugs used should be wired as per the following convention:

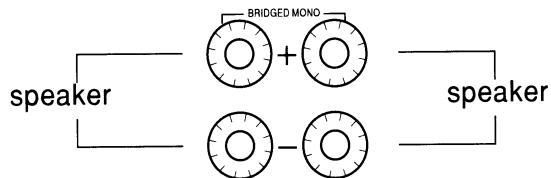


7. Balanced Barrier Strip Inputs

These connection points provide the best option for permanent or long-term installation. Connections should be screwed down tightly to exclude oxygen, and care should be taken to avoid loose strands of wire that may cause short circuits.



8. Binding Post Outputs



These are suitable for banana plugs, spade lugs or bare wires. Spade lugs and bare wires should both be screwed down tightly to exclude oxygen, and care should be taken to avoid loose strands of wire that may cause short circuits.

9. Ground Lift Switch

This switch allows the circuit and chassis grounds to be separated in case of a ground conflict. In normal use the switch should be in the 'ground on' position. Lifting the ground ('floating' position) may resolve the ground conflict, but means that circuit grounding depends on other connected components. Deficiencies in other components' grounding will affect the sound and a serious electric fault with the amplifier could damage other components in the system. For the best combination of safety and performance it is highly recommended to keep the switch in the 'ground on' position.

10. Stereo / Mono Bridge / Parallel Switch

In stereo operation, each channel of the amplifier runs independently with its own signal and speaker(s). However, both channels can be configured to drive a single load with a single signal at twice the power.

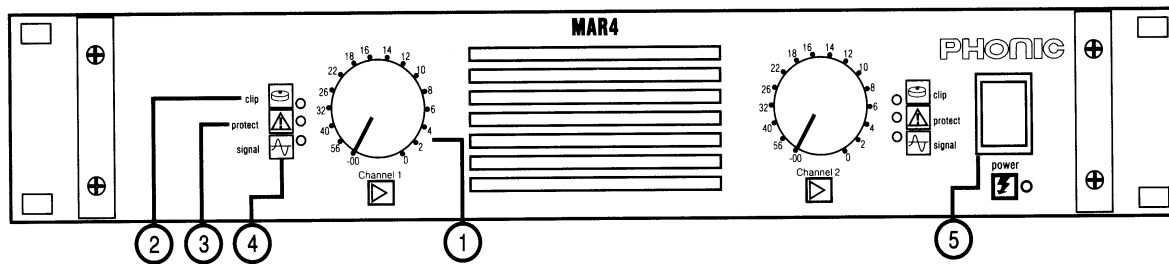
To do this, follow these steps:

1. **switch the amp OFF**
2. put one speaker of not less than 4 ohms impedance across the red (+) output terminals of the amplifier

3. ensure that there is only one input signal connected to channel 1 of the amplifier-channel 2 input must be vacant
4. switch the amplifier to bridged mono (back-panel switch)
5. turn the gain down and turn on the amp
6. verify operation at low gain, and then increase power to desired level, ensuring that the gain controls on each channel are set equally.

IMPORTANT: NEVER SWITCH BETWEEN STEREO AND BRIDGED MONO AND PARALLEL OPERATION WHEN THE AMPLIFIER POWER IS ON.

MAR4 Power Amplifier



Front-Panel Description

1. Gain Controls

These two knobs are the level controls for each channel of the amplifier. The gain increases as the knob is turned clockwise. The MAR4 features detented gain controls with dB calibrations to simplify set-up.

2. Limit LED

If an audio signal is amplified beyond the limit of the amplifier, the extremes of the signal will not reach the appropriate levels, giving the appearance of being clipped-off when viewed on an oscilloscope. The audible result is distortion, which in small amounts can lead to rapid ear fatigue, and in larger amounts a harsh and unpleasant breaking up of the sound which can damage speakers.

The MAR4 has a built-in limiter on each channel to prevent clipping. Should the signal reach a level high enough to cause clipping, the limiter momentarily reduces the level just enough to prevent it. The limit LED lights whenever this occurs.

If your system has a dedicated compressor you may decide to use the limiting function of this instead. Although the limiting function of the MAR4 has no noticeable effect on the sound quality below clipping, some users may seek to disable it. See 13.

3. Protect LED

The MAR4 features several types of protection to prevent damage to the circuitry during turn-on or fault conditions. The power-on protection relay prevents damaging thumps to the speakers as the power comes on. When the amp is switched on, the protect LED will light for a few seconds, and then go out, indicating that the relay has closed, connecting the speakers to the amplifier.

The protect light will also come on if the speaker terminals are short circuited, or the impedance of the load between them is too low. In these circumstances, the protect LED will stay lit until the fault condition is rectified.

The amplifier's large heatsinks, vents and fan should provide enough cooling even with a high ambient temperature. However, if the amp overheats, thermal shutdown protects the circuitry until the temperature is reduced to a safe level. Should the amp shutdown for thermal reasons, leave the power connected to the amp, try to improve ventilation, and reduce the gain. Without power, the fan cannot operate, and the amp will require longer to reach a low enough temperature to restart.

4. Signal Present

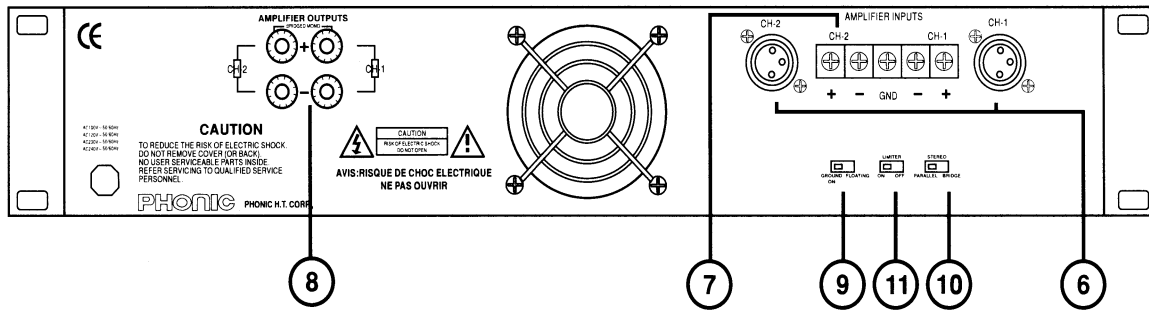
Each channel of the MAR4 features a signal light to show that there is an audio signal at the input to the channel. The threshold for the indicator is -30dB, which should be enough that noise doesn't trigger the LED, but a faint audio signal will.

5. Power Switch

This turns the amp on and off. Although the MAR4 features power-on muting, it is nevertheless good practice to reduce both the gain controls before turning on the amp. The turn on procedure for powering-up an

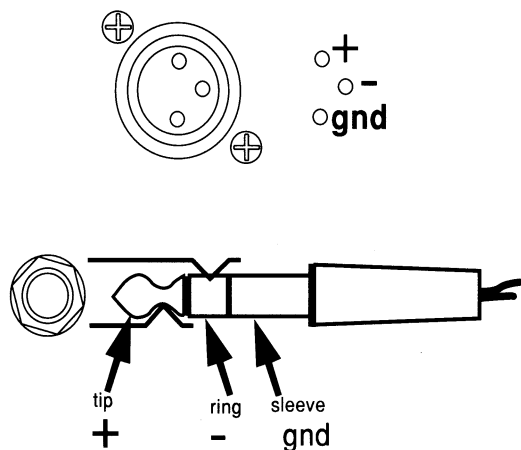
audio system should be to start from the instruments and mixer, and verify operation before moving on to the power amps. Once the amps are on, verify they are receiving a signal and then slowly increase gain.

Back-panel Description



6. NEUTRIK CONNECTOR

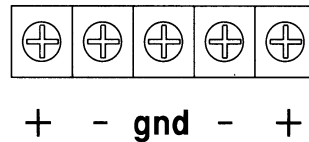
Quality Neutrik Connectors are provided for balanced XLR and 1/4" inputs are commonly used for both mobile and installation set-ups. They provide a good combination of ease of connection and resistance to corrosion. The XLR inputs are wired as per the following convention:



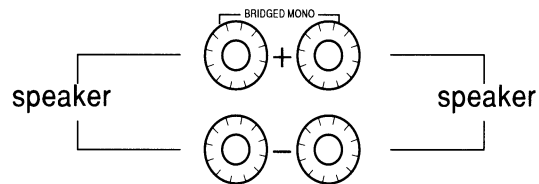
These type of jacks feature on much audio equipment and are convenient if the amp is frequently connected and disconnected, such as for a mobile set-up. The plugs used should be wired as per the above convention.

7. Balanced Barrier Strip Inputs

These connection points provide the best option for permanent or long-term installation. Connections should be screwed down tightly to exclude oxygen, and care should be taken to avoid loose strands of wire that may cause short circuits.



8. Binding Post Outputs



These are suitable for banana plugs, spade lugs or bare wires. Spade lugs and bare wires should both be screwed down tightly to exclude oxygen, and care should be taken to avoid loose strands of wire that may cause short circuits.

9. Ground Lift Switch

This switch allows the circuit and chassis grounds to be separated in case of a ground conflict. In normal use the switch should be in the 'ground on' position. Lifting the ground ('floating' position) may resolve the ground conflict, but means that circuit grounding depends on other connected components. Deficiencies in other components' grounding will affect the sound and a serious electric fault with the amplifier could damage other components in the system. For the best combination of safety and performance it is highly recommended to keep the switch in the 'ground on' position.

10. Stereo / Mono Bridge / Parallel Switch

In stereo operation, each channel of the amplifier runs independently with its own signal and speaker(s). However, both channels can be configured to drive a single load with a single signal at twice the power.

To do this, follow these steps:

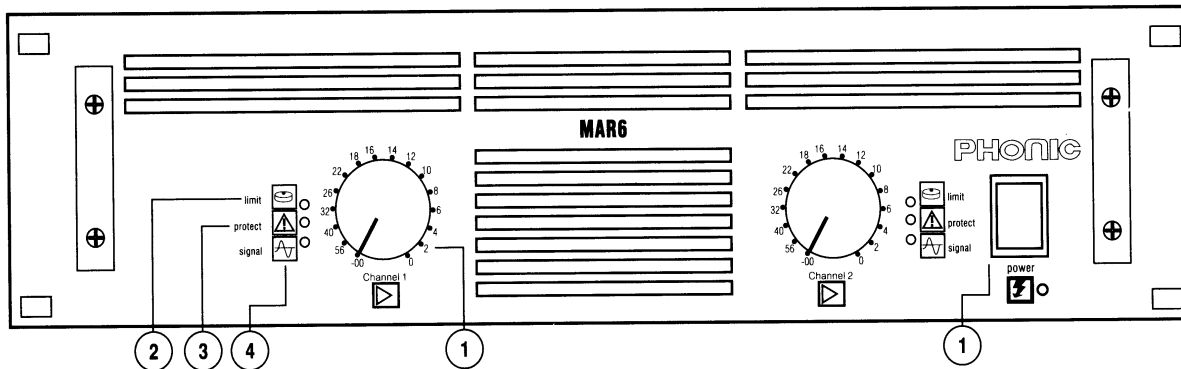
1. **Switch the amp OFF**
2. put one speaker of not less than 4 ohms impedance across the red (+) output terminals of the amplifier
3. ensure that there is only one input signal connected to channel 1 of the amplifier-channel 2 input must be vacant
4. switch the amplifier to bridged mono (back-panel switch)
5. turn the gain down and turn on the amp
6. verify operation at low gain, and then increase power to desired level, ensuring that the gain controls on each channel are set equally.

IMPORTANT: NEVER SWITCH BETWEEN STEREO AND BRIDGED MONO AND PARALLEL OPERATION WHEN THE AMPLIFIER POWER IS ON.

11. Limiter On / Off Switch

In cases where a dedicated compressor / limit unit precedes the MAR 4, some users may seek to disable the on-board limiting. Flicking the switch to the off position removes the limiting from both channels of the amplifier.

MAR6 Power Amplifier



Front-Panel Description

1. Gain Controls

These two knobs are the level controls for each channel of the amplifier. The gain increases as the knob is turned clockwise. The MAR6 features detented gain controls with dB calibrations to simplify set-up

2. Limit LED

If an audio signal is amplified beyond the limit of the amplifier, the extremes of the signal will not reach the appropriate levels, giving the appearance of being clipped-off when viewed on an oscilloscope. The audible result is distortion, which in small amounts can lead to rapid ear fatigue, and in larger amounts a harsh and unpleasant breaking up of the sound which can damage speakers.

The MAR6 has a built-in limiter on each channel to prevent clipping. Should the signal reach a level high enough to cause clipping, the limiter momentarily reduces the level just enough to prevent it. The limit LED lights whenever this occurs.

If your system has a dedicated compressor you may decide to use the limiting function of this instead. Although the limiting function of the MAR6 has no noticeable effect on the sound quality below clipping, some users may seek to disable it. See 13.

3. Protect LED

The MAR6 features several types of protection to prevent damage to the circuitry during turn-on or fault conditions. The power-on protection relay prevents damaging thumps to the speakers as the power comes on. When the amp is switched on, the protect LED will light for a few seconds, and then go out, indicating that the relay has closed, connecting the speakers to the amplifier.

The protect light will also come on if the speaker terminals are short circuited, or the impedance of the load between them is too low. In these circumstances, the protect LED will stay lit until the fault condition is rectified.

The amplifier's large heatsinks, vents and push-pull design fan should provide enough cooling even with a high ambient temperature. However, if the amp overheats, thermal shutdown protects the circuitry until the temperature is reduced to a safe level. Should the amp shutdown for thermal reasons, leave the power connected to the amp, try to improve ventilation, and reduce the gain. Without power, the fan cannot operate, and the amp will require longer to reach a low enough temperature to restart

4. Signal Present

Each channel of the MAR6 features a signal light to show that there is an audio signal at

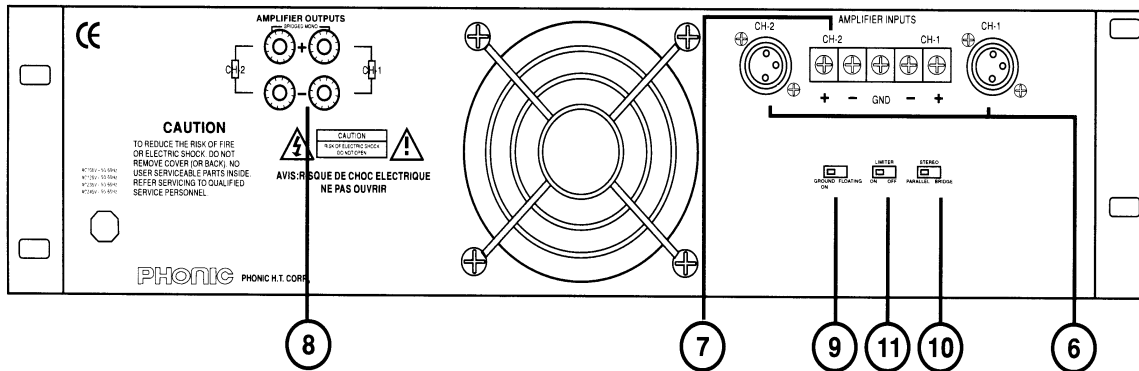
the input to the channel. The threshold for the indicator is -30dB, which should be enough that noise doesn't trigger the LED, but a faint audio signal will.

5. Power Switch

This turns the amp on and off. Although the MAR6 features power-on muting, it is nevertheless good practice to reduce both the gain controls before turning on the amp.

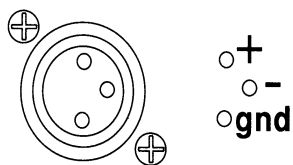
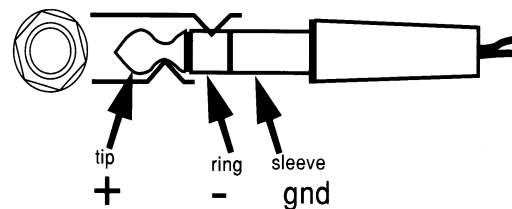
The turn on procedure for powering-up an audio system should be to start from the instruments and mixer, and verify operation before moving on to the power amps. Once the amps are on, verify they are receiving a signal and then slowly increase gain.

Back-Panel Description



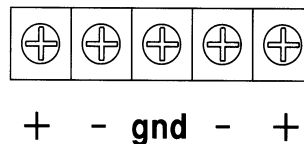
6. NEUTRIK CONNECTOR

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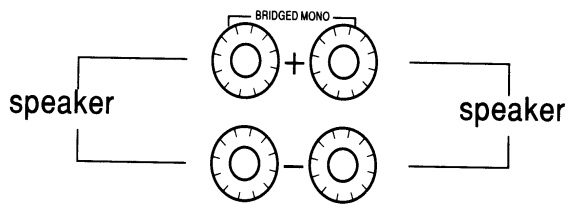
These type of jacks feature on much audio equipment and are convenient if the amp is frequently connected and disconnected, such as for a mobile set-up. The plugs used should be wired as per the following convention:

7. Balanced Barrier Strip Inputs



These connection points provide the best option for permanent or long-term installation. Connections should be screwed down tightly to exclude oxygen, and care should be taken to avoid loose strands of wire that may cause short circuits.

8. Binding Post Outputs



These are suitable for banana plugs, spade lugs or bare wires. Spade lugs and bare wires should both be screwed down tightly to exclude oxygen, and care should be taken to avoid loose strands of wire that may cause short circuits.

9. Ground Lift Switch

This switch allows the circuit and chassis grounds to be separated in case of a ground conflict. In normal use the switch should be in the 'ground on' position. Lifting the ground ('floating' position) may resolve the ground conflict, but means that circuit grounding depends on other connected components. Deficiencies in other components' grounding will affect the sound and a serious electric fault with the amplifier could damage other components in the system. For the best combination of safety and performance it is highly recommended to keep the switch in the 'ground on' position.

10. Stereo / Mono Bridge / Parallel Switch

In stereo operation, each channel of the amplifier runs independently with its own signal and speaker(s). However, both

channels can be configured to drive a single load with a single signal at twice the power.

To do this, follow these steps:

1. **Switch the amp OFF**
2. put one speaker of not less than 4 ohms impedance across the red (+) output terminals of the amplifier
3. ensure that there is only one input signal connected to channel 1 of the amplifier-channel 2 input must be vacant
4. switch the amplifier to bridged mono (back-panel switch)
5. turn the gain down and turn on the amp
6. verify operation at low gain, and then increase power to desired level, ensuring that the gain controls on each channel are set equally.

IMPORTANT: NEVER SWITCH BETWEEN STEREO AND BRIDGED MONO AND PARALLEL OPERATION WHEN THE AMPLIFIER POWER IS ON.

11. Limiter On / Off Switch

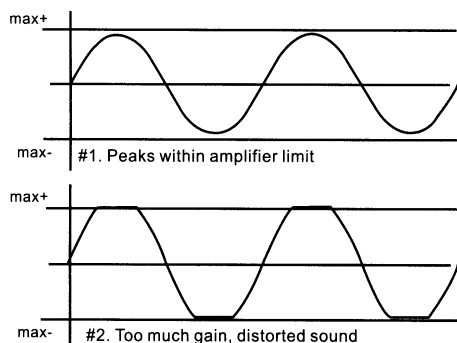
In cases where a dedicated compressor / limit unit precedes the MAR 6, some users may seek to disable the on-board limiting. Flicking the switch to the off position removes the limiting from both channels of the amplifier.

Audio Practice

Gain

This is the factor by which an input signal is amplified (increased) or attenuated (reduced) when passing through an amplifier. Gain is generally measured in decibels (dB) which is a logarithmic ratio of input to output. Unity or zero gain means that the signal comes out at the same level that it went in.

With all this gain available, it may seem tempting to turn the amp up to full to get the loudest sound possible. And why is it that smaller amps have roughly the same gain even though they are less powerful? The answer is that an amp can only amplify up to a certain point, which depends on its power rating. Past this point, the output just distorts in what is called clipping. The peaks of the signal are 'clipped' as they exceed the limit.



Noise

Noise is typified by a hissing sound. It is present in all analogue electronics due to random thermal vibration of atoms within the components, although good circuit design and proper operation reduces this to a minimum.

Gain structure, i.e. how gain is set throughout the signal path, is very important in minimising noise. Most audio signals go through several gain stages such as input trim, fader gain, main fader gain, EQ and compressor gain, and power amplifier gain. If the

the signal is boosted early on to a high level, any noise subsequently picked up will be relatively small, in comparison to the audio signal (i.e. higher S/N or sound to noise ratio).

If the gain is low early on, the noise will be relatively loud compared to the signal, and when amplified at the power amp more gain must be used to make the signal reach required levels. This gain also acts on the noise, hence a noisier final sound. Of course, care must be taken not to set the gain too high, this will cause clipping distortion (see first section on 'Gain').

Hum and Buzz

Hum typically is a lower pitched sound of around 50 or 60Hz, depending on the AC supply. If the hum is very loud, this is generally caused by bad connections - check cables and plugs for faults.

Lifting the Ground

In other cases, a ground conflict between the chassis and the circuit ground can induce hum. This happens when a magnetic field induces a small voltage in the casing of the amp, making it slightly different in potential from the circuit ground. This sounds more subtle than it would be for a bad connection, but if it is present in very high-spec establishments, it may be eliminated by 'lifting the ground'. This is accomplished by moving the back-panel switch from the 'ground on' position to the 'floating' position. The electronic ground is then dependent on other connected components. For the best safety protection and protection of other components, it is strongly advised to keep the switch in the 'ground on' position.

Balanced Lines

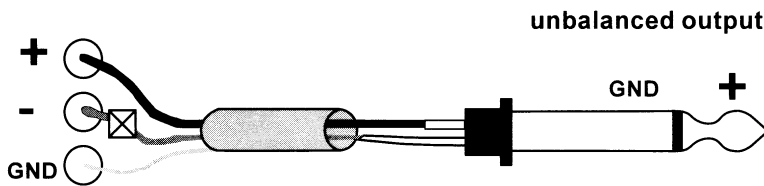
Power transformers and other devices which cause magnetic fields can induce hum in xxxxx

audio cables. This can be best combated by using balanced lines where inputs and outputs permit. Balanced lines use two conductors plus a shield (ground) to send a positive and negative version of the audio signal down the line. These are in close proximity and therefore pick-up the same hum or interference. At the input, the inverted (-) signal is flipped back and mixed with the original, cancelling any hum or interference.

Since all the inputs of the MAR amps are balanced, accepting signals from a balanced output is no problem. Should the output be unbalanced, the cable should be wired as follows to ensure the best possible performance. This applies to XLR, 1/4" and barrier strip inputs alike:

The variable resistor is to ensure an impedance balance between the positive and negative inputs, and should be adjusted until

amplifier inputs



Where \square is a variable resistor, adjustable between 0 and 600 ohms.

any hum is at a minimum.

Balanced lines are also the most effective means of reducing or eliminating RF or 'radio frequency interference'. Long unbalanced cable runs are likely to pick up radio signals. While these will be at a low level, they can be easily audible once they are amplified through a gain stage. This also applies to inputs to your mixer, so use balanced inputs to that where possible.

Losses Due to Cable Runs

To connect the speakers to the amplifier, some type of cable must be used. This cable must be able to carry the signal some distance with the minimum amount

of degradation along the way. Unlike earlier stages in the audio chain, the signal is at a relatively high level, and so is relatively immune to noise, RF interference and hum. However, power losses and a reduction in damping factor (the ability of the amp to control the speaker accurately) can occur, and these depend on a number of factors:

- cable gauge - the higher the gauge, the smaller the cross-section of each conductor in the wire. This gives the signal more resistance and therefore results in more power loss and a reduction in damping factor. For best performance use 8, 10 or 12 gauge cables as opposed to 16 or 18 gauge.
- cable length - the longer the cable, the higher the losses. For best performance use the shortest possible cable (i.e. don't use a 100ft cable to connect to an amp that is only 20ft from the speakers).
- speaker load - a 4 ohm load will have double the power loss associated with an 8 ohm load and half the damping factor.

The difference that these factors can make is significant. For example, an MAR amp with 5ft of 12 gauge cable and an 8 ohm load will have a power loss of 0.2% and a damping factor of 142. The same load with a 40ft, 10 gauge cable will have a power loss of 1% and a damping factor of 67. Increasing the cable length to 320ft of 8 gauge, the losses are 5% and the damping factor is just 18.2.

Overload

It may seem an obvious point to make, but overloading speakers can permanently damage them, so care should be taken to select speakers capable of handling the RMS and peak output of the amp. If the system uses a crossover, ensure that the

high frequency 'tweeter' cabinets are not driven with signals of a lower frequency than they are designed for, either by wrongly setting the crossover, or by hum which appears in the amp or anywhere between the crossover and the amp.

Another overload which should be avoided is that of the human ear. Observe health and safety regulations where necessary regarding levels and exposure times.

Bridged-Mono Operation

The amp comes factory-configured for stereo operation. In this mode, each channel drives a separate speaker load with a separate signal. However, in some circumstances, it may be necessary or desirable to drive a single load at a higher level. This can be achieved using the amp in bridged-mono mode.

What this essentially does is uses one signal in positive polarity through one terminal and negative through the other. The combined voltage across the terminals is then twice what it would be between a positive terminal and speaker ground (0 V). This is analogous to two cars driving towards each other at 50mph; the relative speed between the two is actually 100mph.

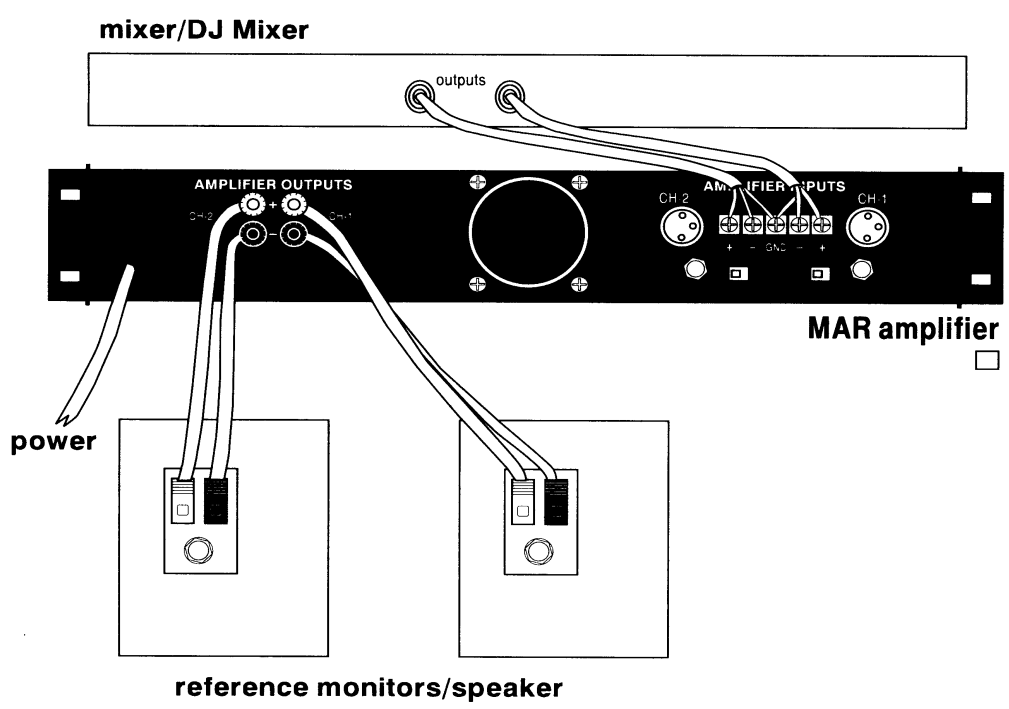
Note that in this way, a load of twice the impedance can be driven at twice the power compared to stereo operation (see specifications).

In order to configure the MAR amplifier for bridged-mono operation, follow the instructions listed under bridged mono, 12 in each amplifier's description (front half of manual).

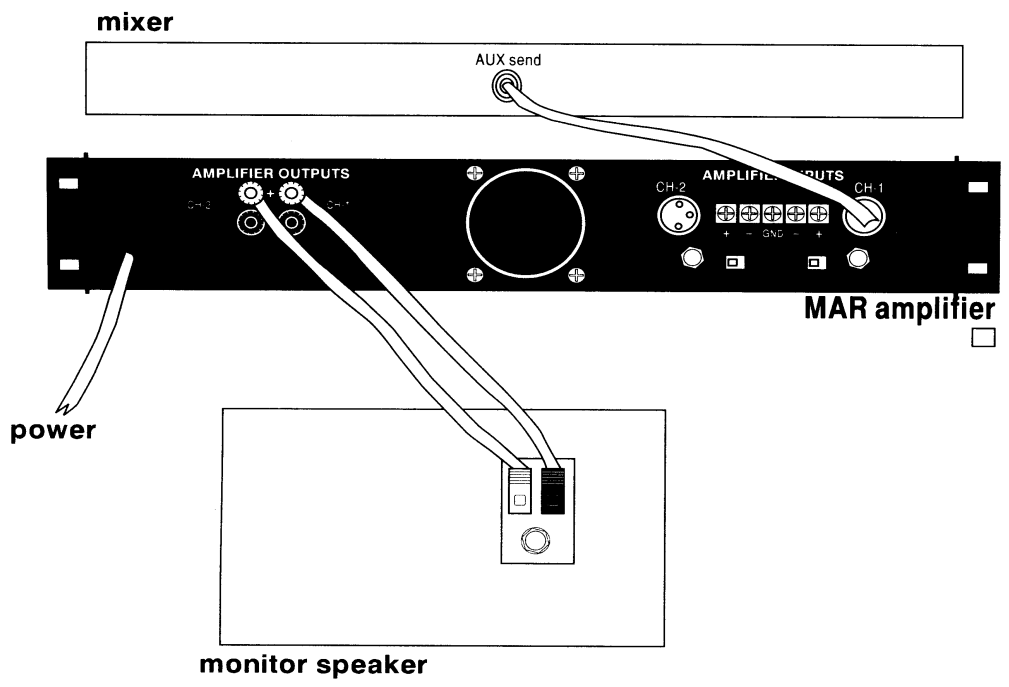


The speaker outputs of the MAR Series can be high enough to constitute a shock hazard (especially in bridged mono mode). Always make speaker connections with the power off, and ensure that there are no loose strands to cause short-circuits.

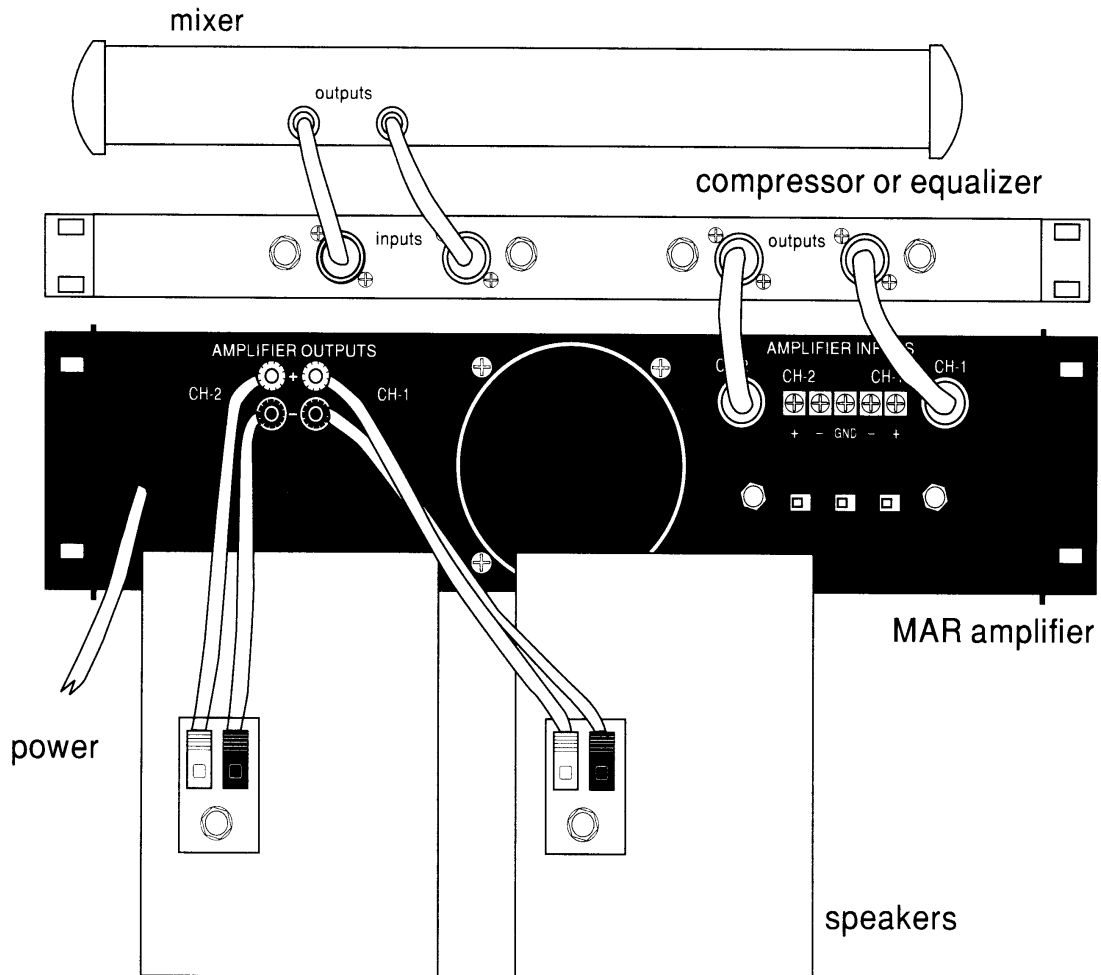
Hook-up#1 Home studio Reference Amplifier/Mobile DJ Stereo PA



Hook-up#2 Monitor Amplifier



Hook-up#3 Monitor Amplifier

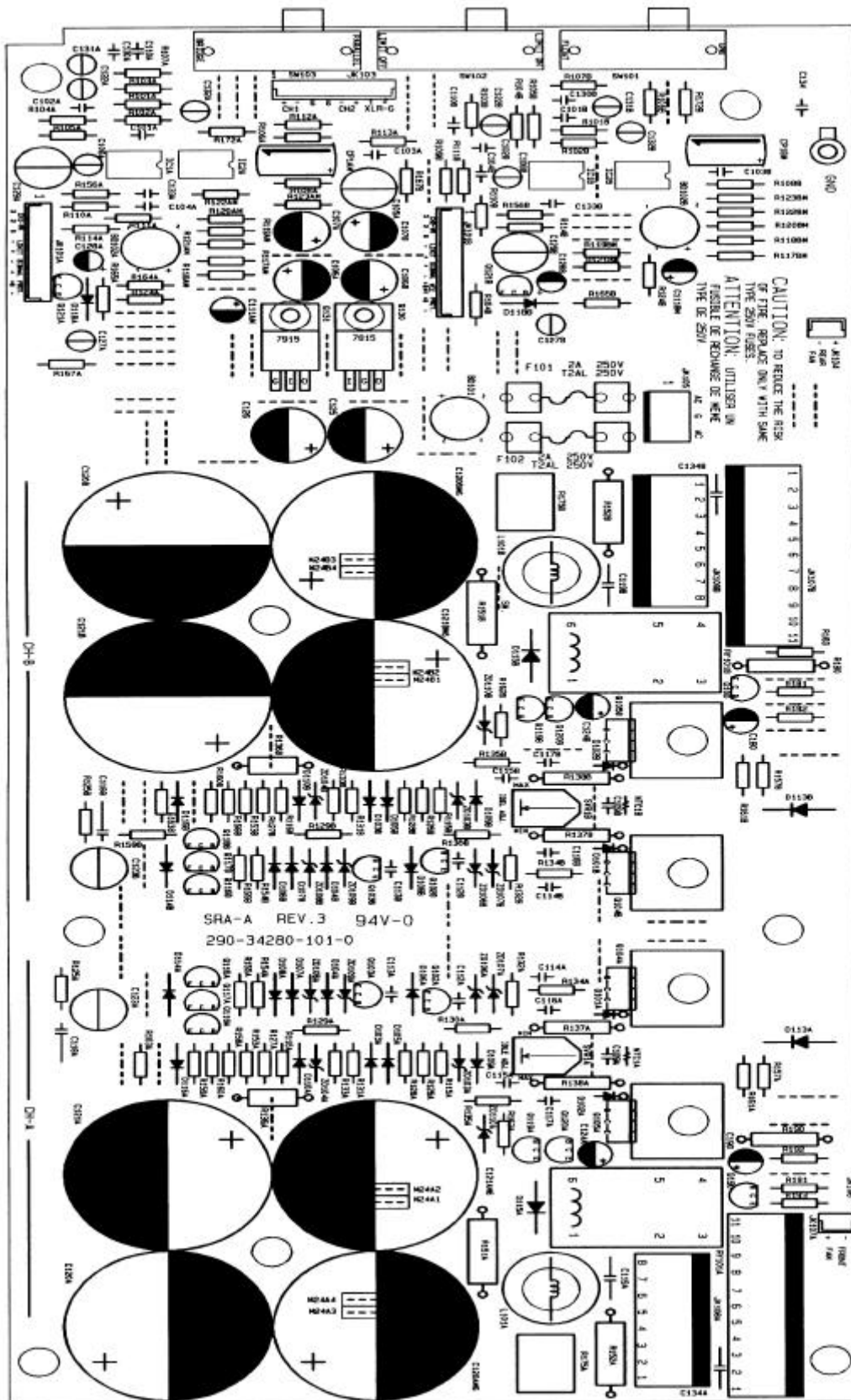


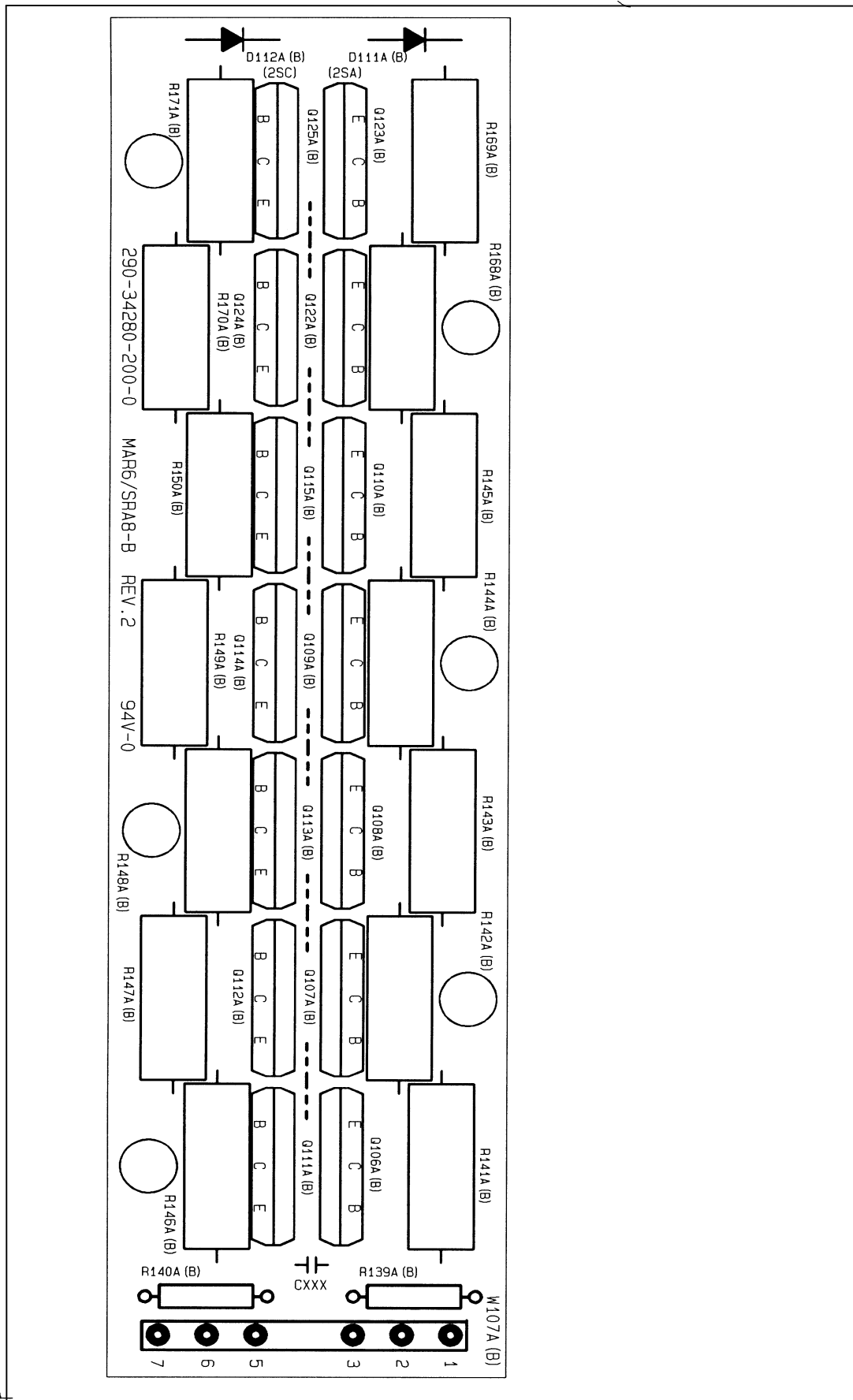
Specifications

	MAR 6	MAR 4	MAR 2
Frequency response (8 ohms , 20Hz - 20kHz @ 1 W)	+0, -1dB	+0, -1dB	+0, -1dB
Total harmonic distortion	0.1%	0.1%	0.1%
Signal to noise ratio	>105dB	>105dB	>105dB
Slew rate	20V/us	20V/us	20V/us
Damping factor	>200	>200	>200
Crosstalk	80dB	80dB	80dB
Rated Power (per channel RMS Watts, both channels driven)			
2 ohms, 1kHz, 1% THD	1000W	550W	300W
4 ohms, 20Hz-20kHz, 0.1% THD	600W	400W	200W
8 ohms, 1kHz, 1% THD	400W	270W	150W
8 ohms, 20Hz-20kHz, 0.1% THD (bridged mono operation)	360W	240W	130W
4 ohms, 1kHz, 1% THD	2000W	1100W	540W
8 ohms, 1kHz, 1% THD	1300W	850W	420W
Input sensitivity 8 ohms, 1kHz, @ rated power	1.22 V RMS	1.22 V RMS	1.22 V RMS
Input impedance unbalanced (inverting polarity) @ 1kHz	10k ohms	10k ohms	10k ohms
balanced @ 1kHz	20k ohms	20k ohms	20k ohms
Protection circuits load short protection	1.0 ohms	1.0 ohms	1.0 ohms
load short: current limit	4.5 A	4.5 A	4.5 A
Power requirements country)	115 V / 60Hz, 220 V / 50 Hz, 240 V / 50 Hz (depending on		
Residual noise 8 ohms, volume at min.	0.4mV	0.4mV	0.4mV
Intermodulation distortion 8 ohms, 1kHz @ 1W	0.1%	0.1%	0.1%
Dimensions (mm)	480 x 132 x 440	480 x 87 x 435	480 x 87 x 435
Weight	17.4 Kg Net 21 Kg Gross	14.4 Kg Net 17 Kg Gross	12.5 Kg Net 15 Kg Gross

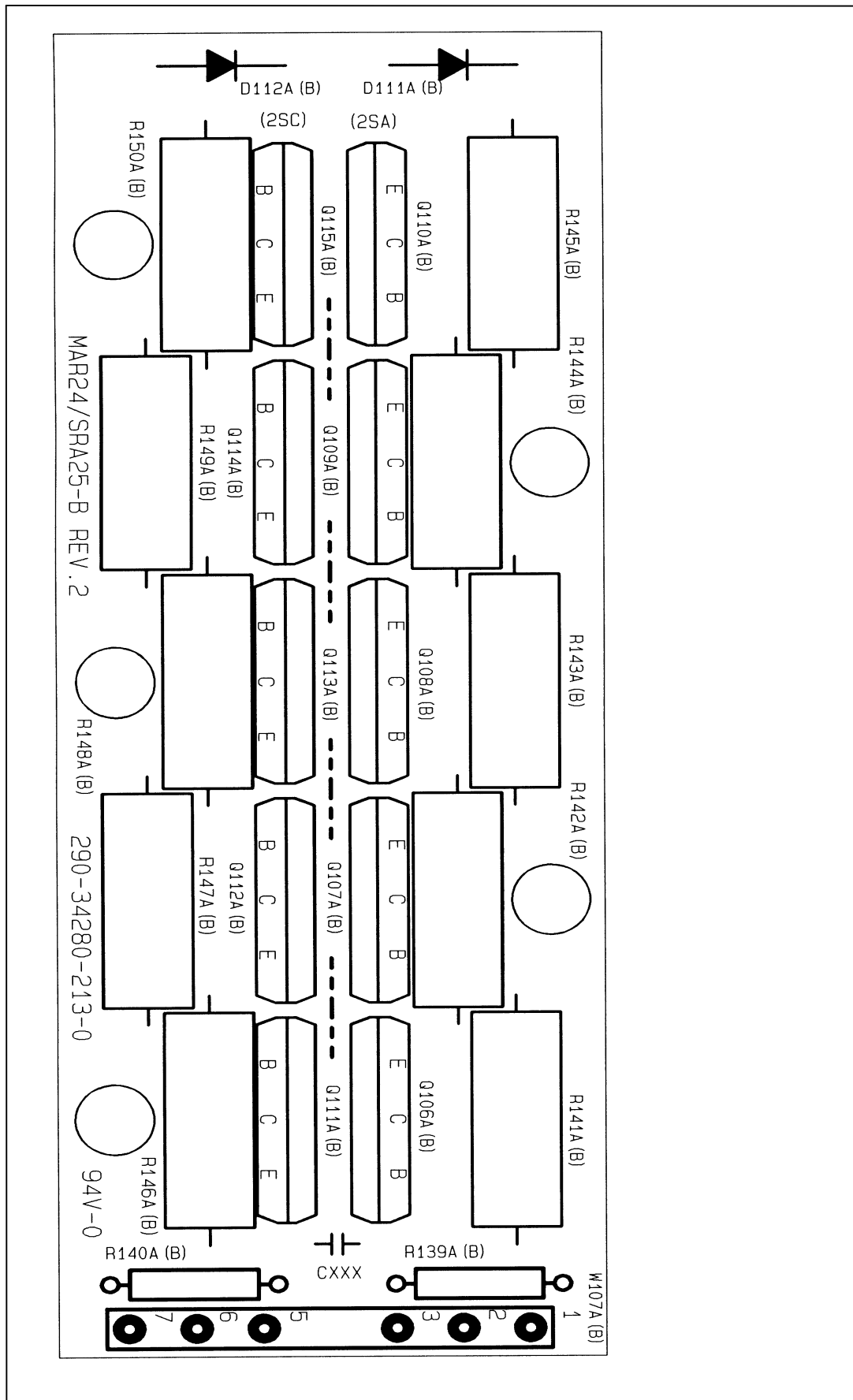
E & OE. Due to continual product development, all features and specifications subject to change without notice.

PC-Board Layout MAR2/4/6 MAIN BOARD (PCB-A)



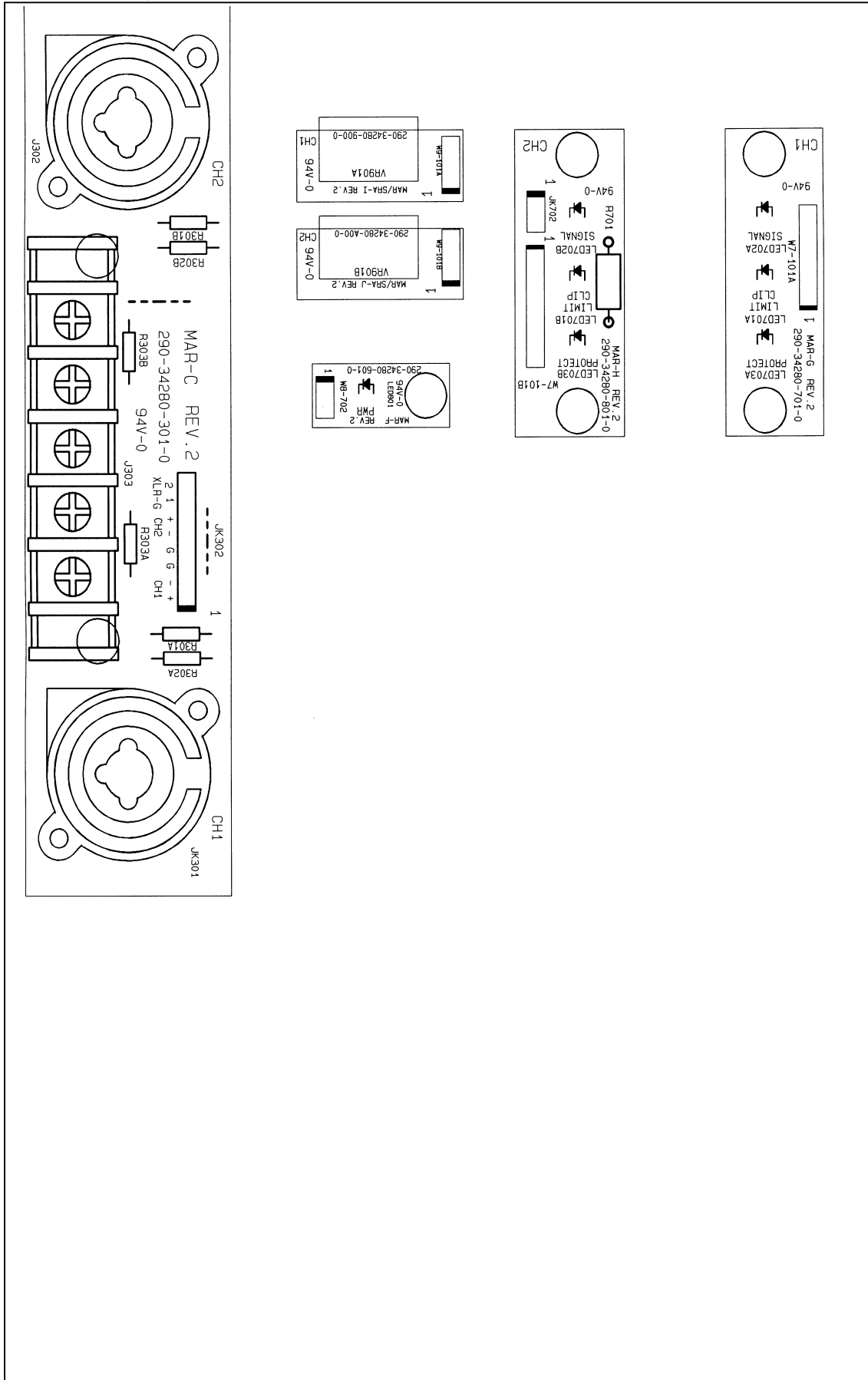


PC-Board Layout MAR2/4/6 POWER TR CH-2 BOARD (PCB-B)

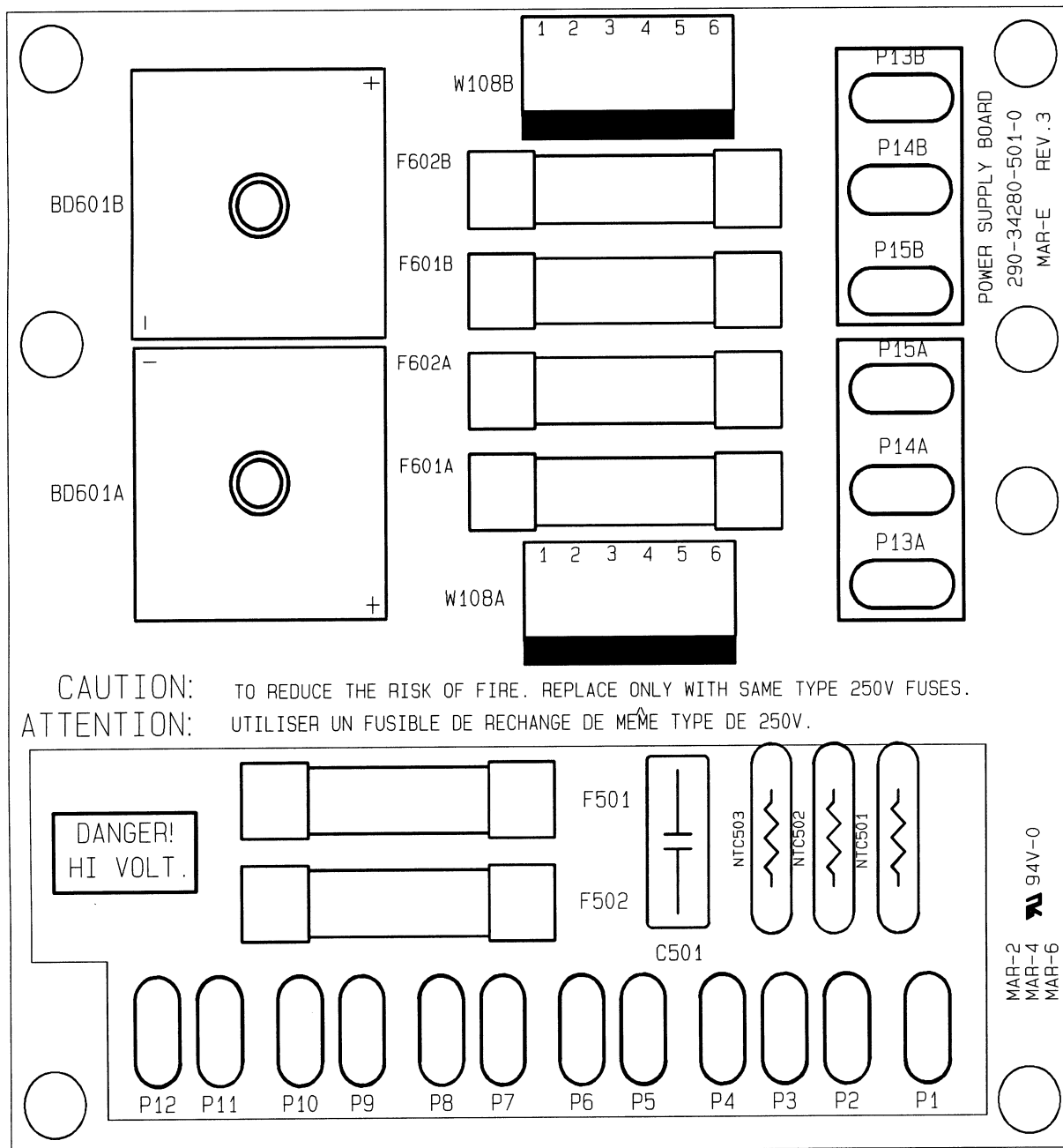


PC-Board Layout

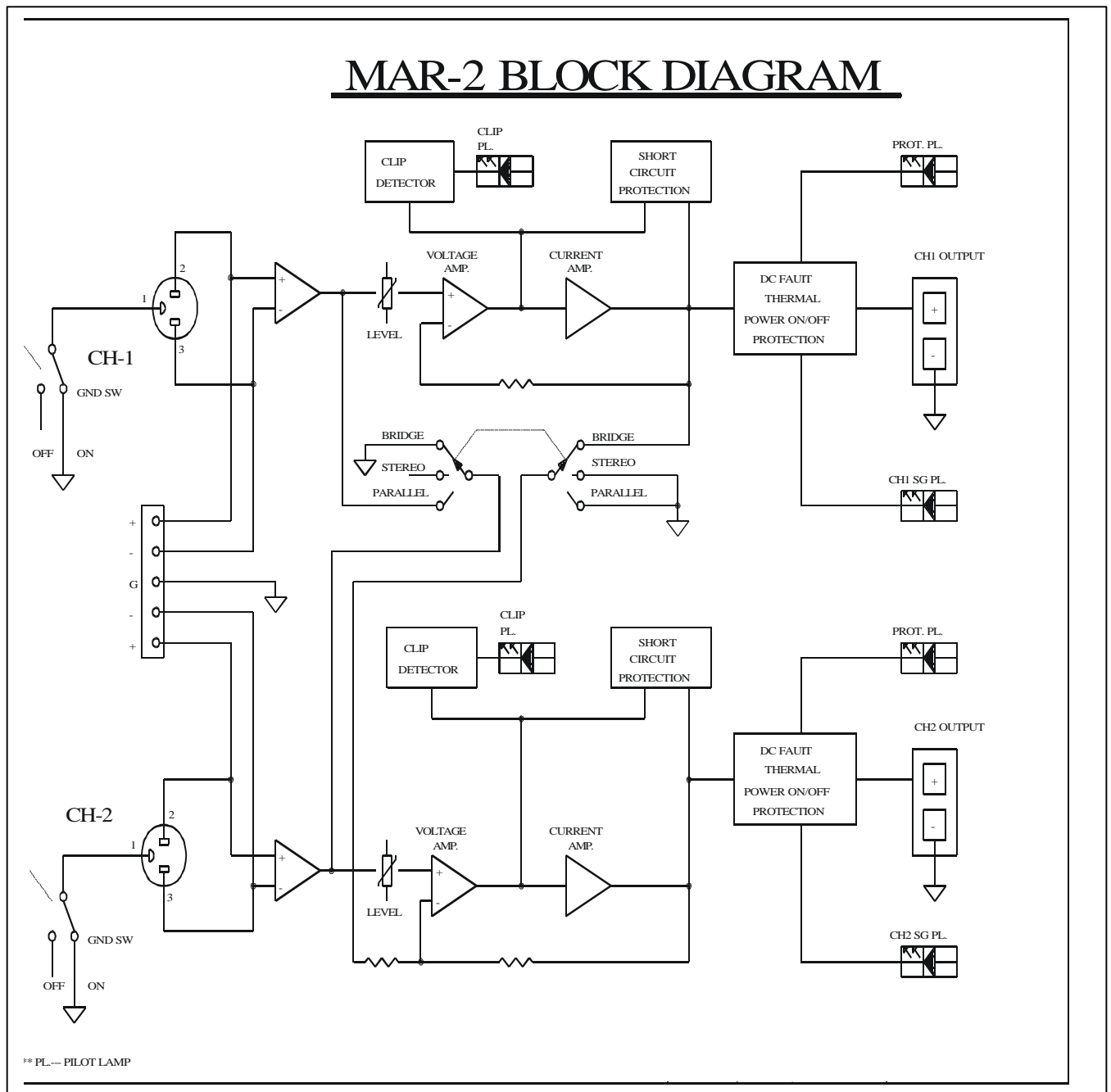
MAR2/4/6 POWER TR CH-2 BOARD (PCB-B)



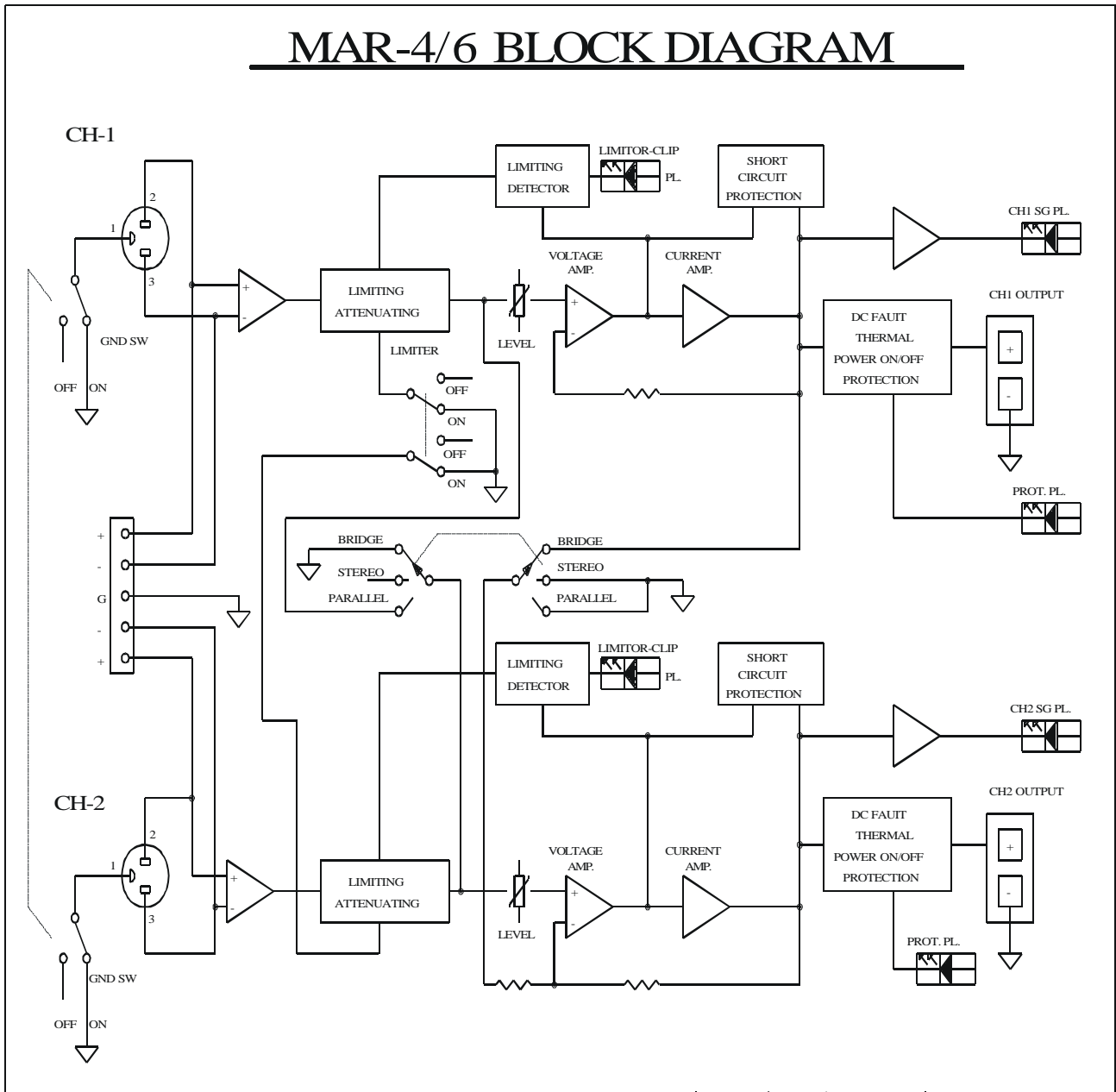
PC-Board Layout MAR2/4/6 PRIMARY BOARD (PCB-E)



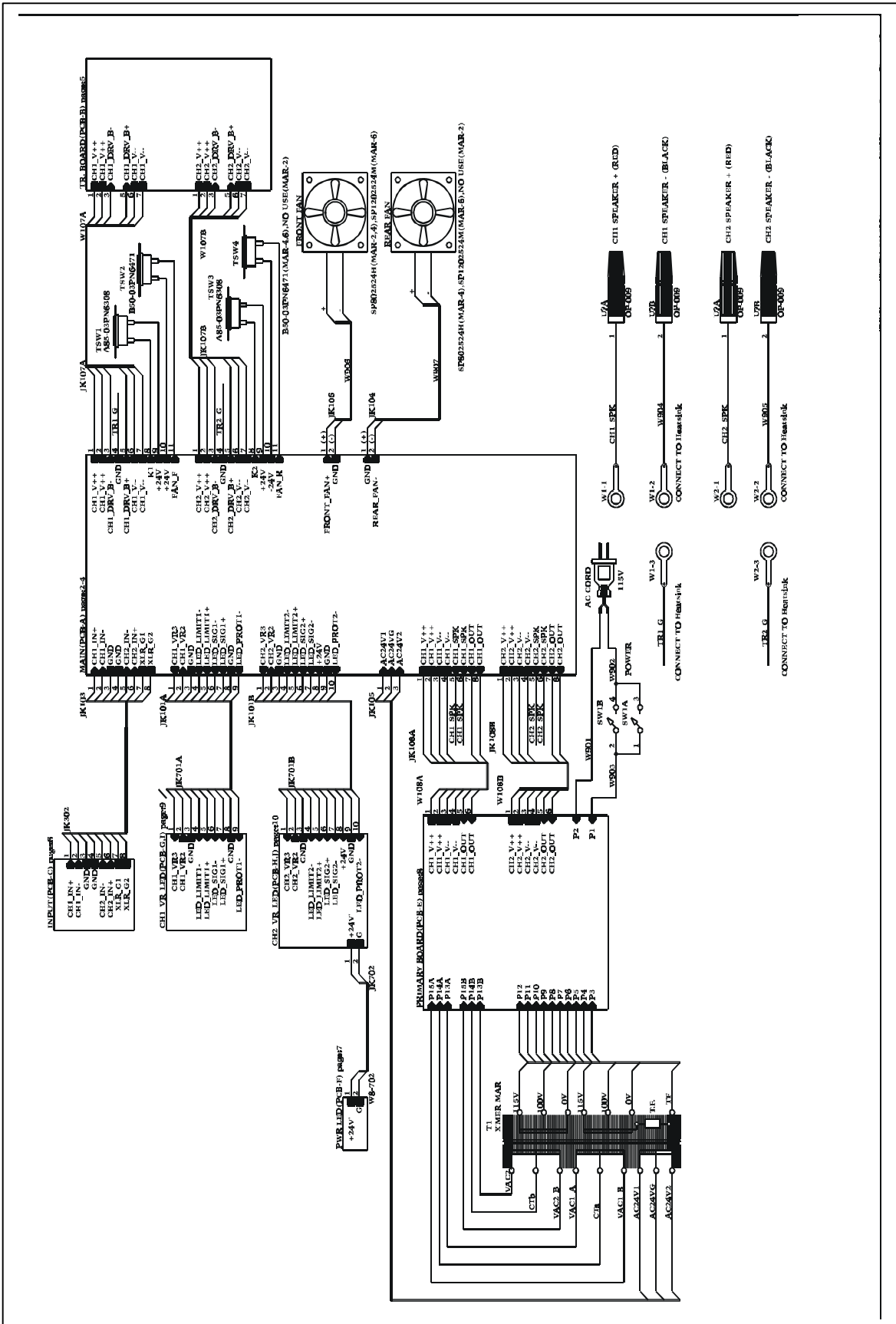
BLOCK DIAGRAM MAR2



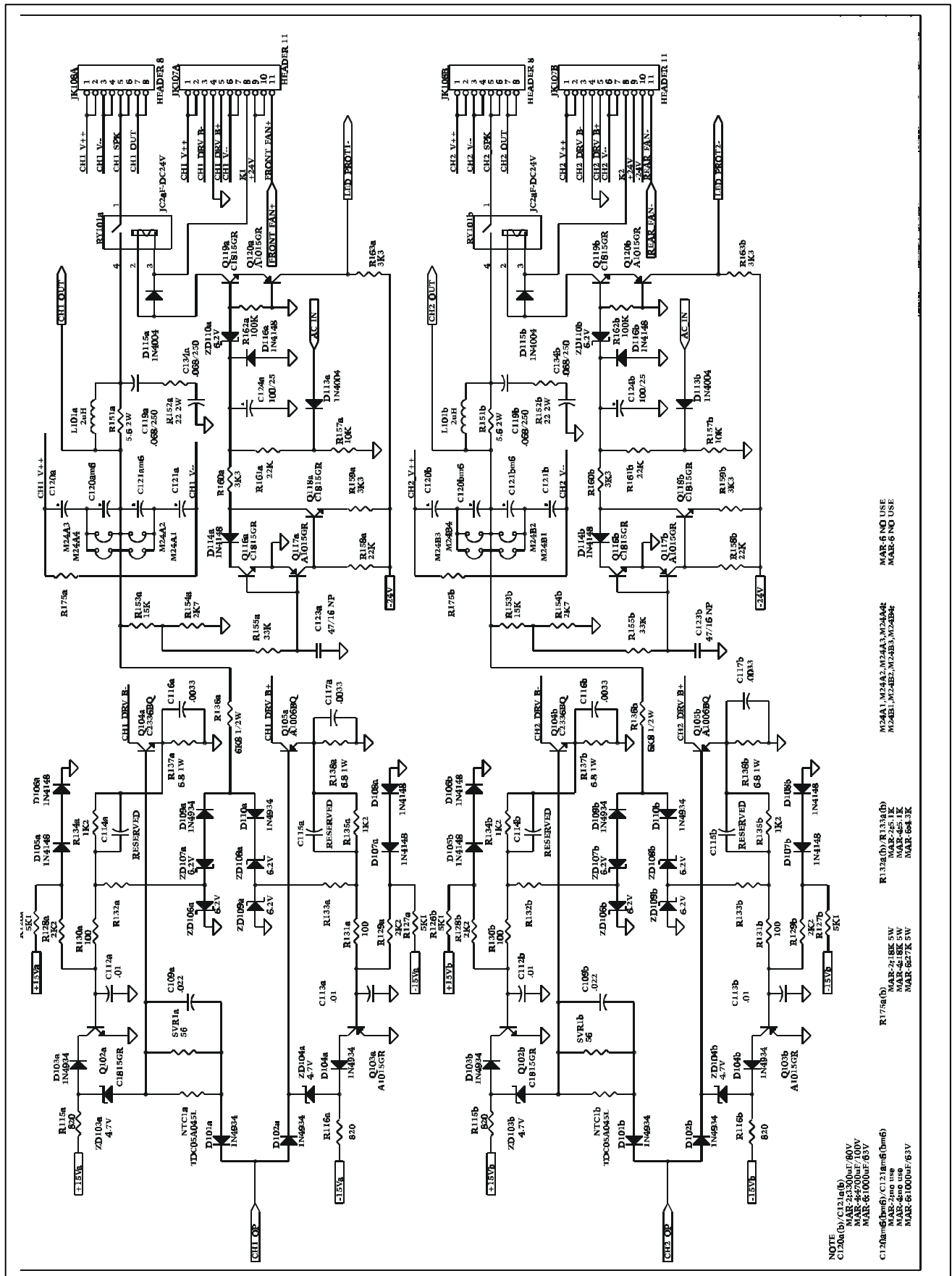
BLOCK DIAGRAM MAR4/6



Schematic Diagram 1 MAR2/4/6POWER AMPLIFIER



Schematic Diagram 3 MAR2/4/6 MAIN BOARD (PCB-A)



NOTE
 C120a(b)/C121a(b)
 MAR-23300uF/80V
 MAR-44700uF/100V
 MAR-66100uF/63V
 C120a(b)/C121a(b)
 MAR-23300uF/80V
 MAR-44700uF/100V
 MAR-66100uF/63V

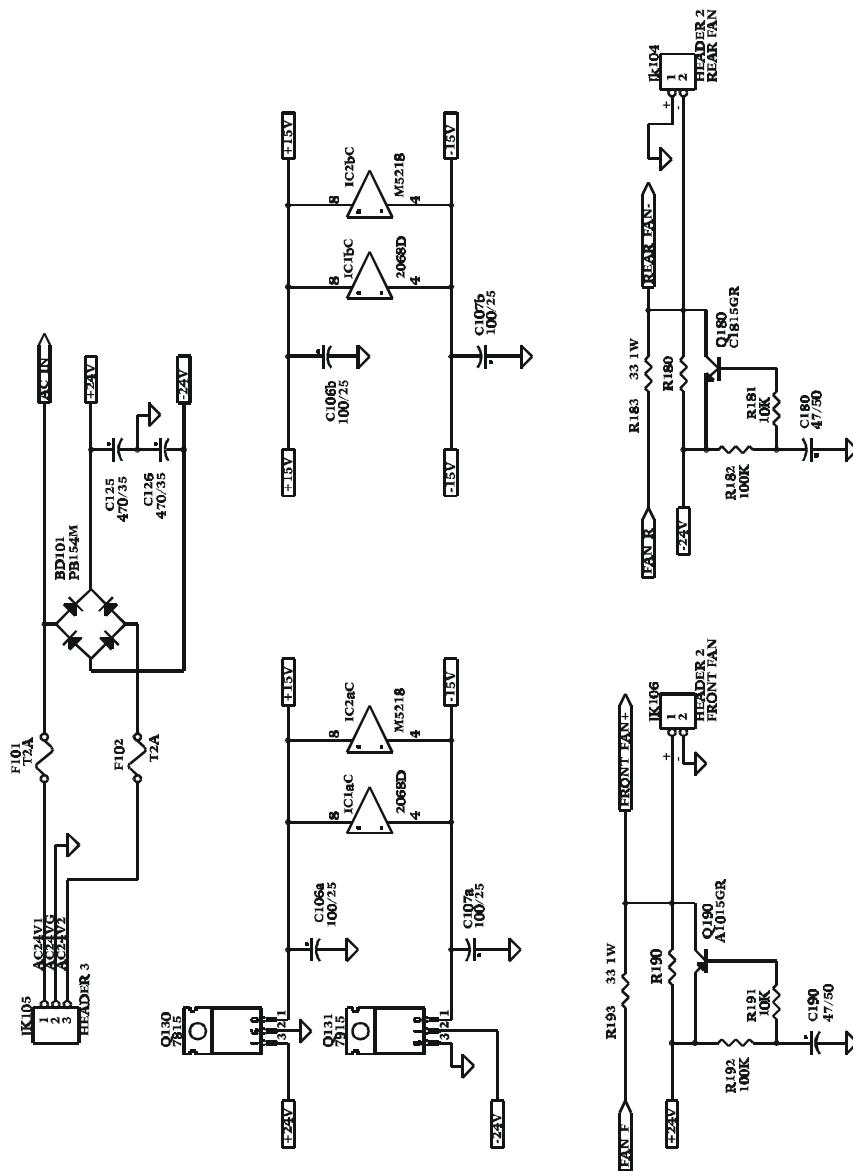
MAR-NO USE
 MAR-6 NO USE

M24A1, M24A2, M24A3, M24A4
 M24B1, M24B2, M24B3, M24B4

R132a(b), R133a(b)
 MAR-2418K 5W
 MAR-2418K 5W
 MAR-6627K 5W

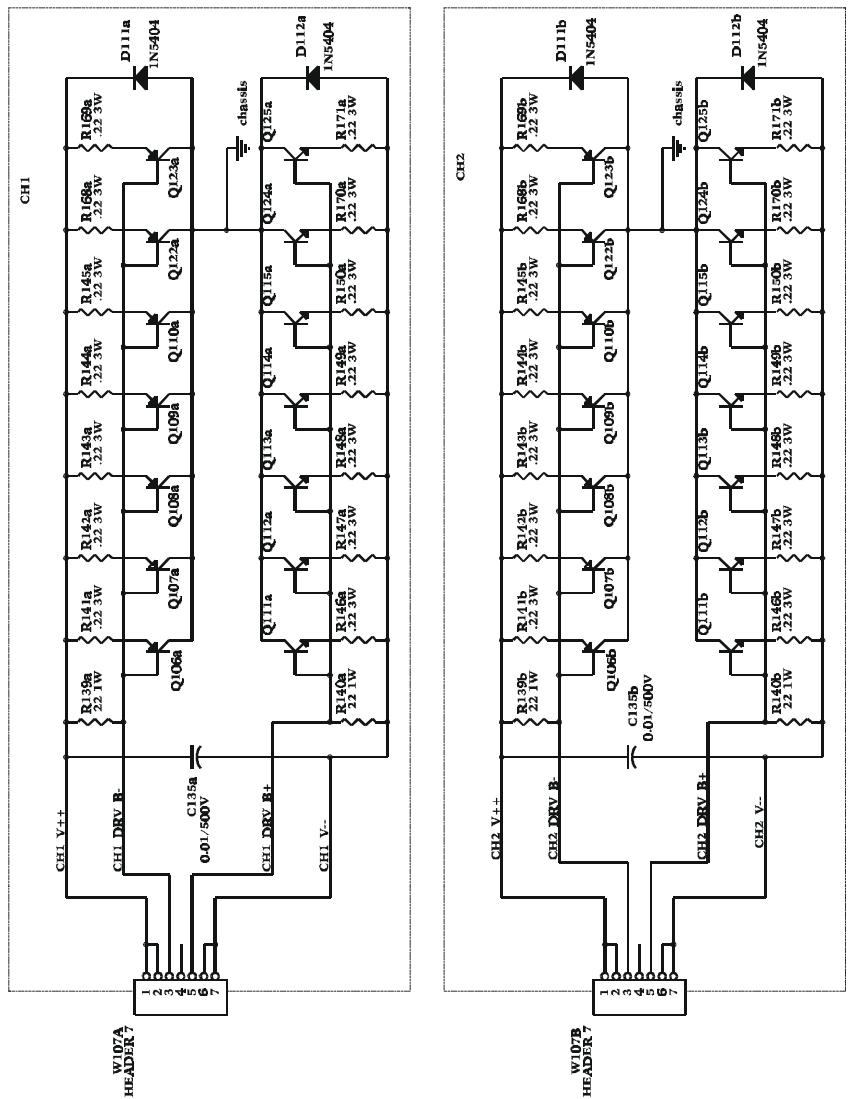
R177a(b)
 MAR-2418K 5W
 MAR-2418K 5W
 MAR-6627K 5W

Schematic Diagram 4 MAR2/4/6 MAIN BOARD (PCB-A)



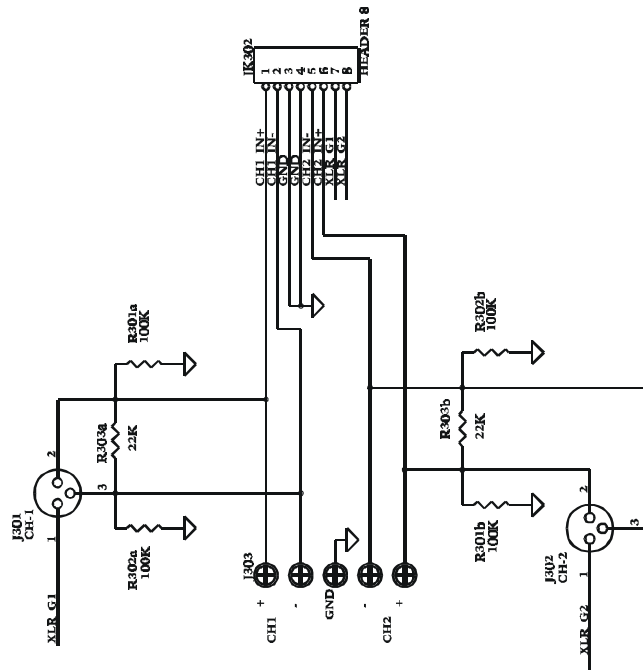
R180,R190:
 MAR-24270 2W
 MAR-61250 2W

Schematic Diagram 5 MAR2/4/6 POWER TR BOARD (PCB-B)

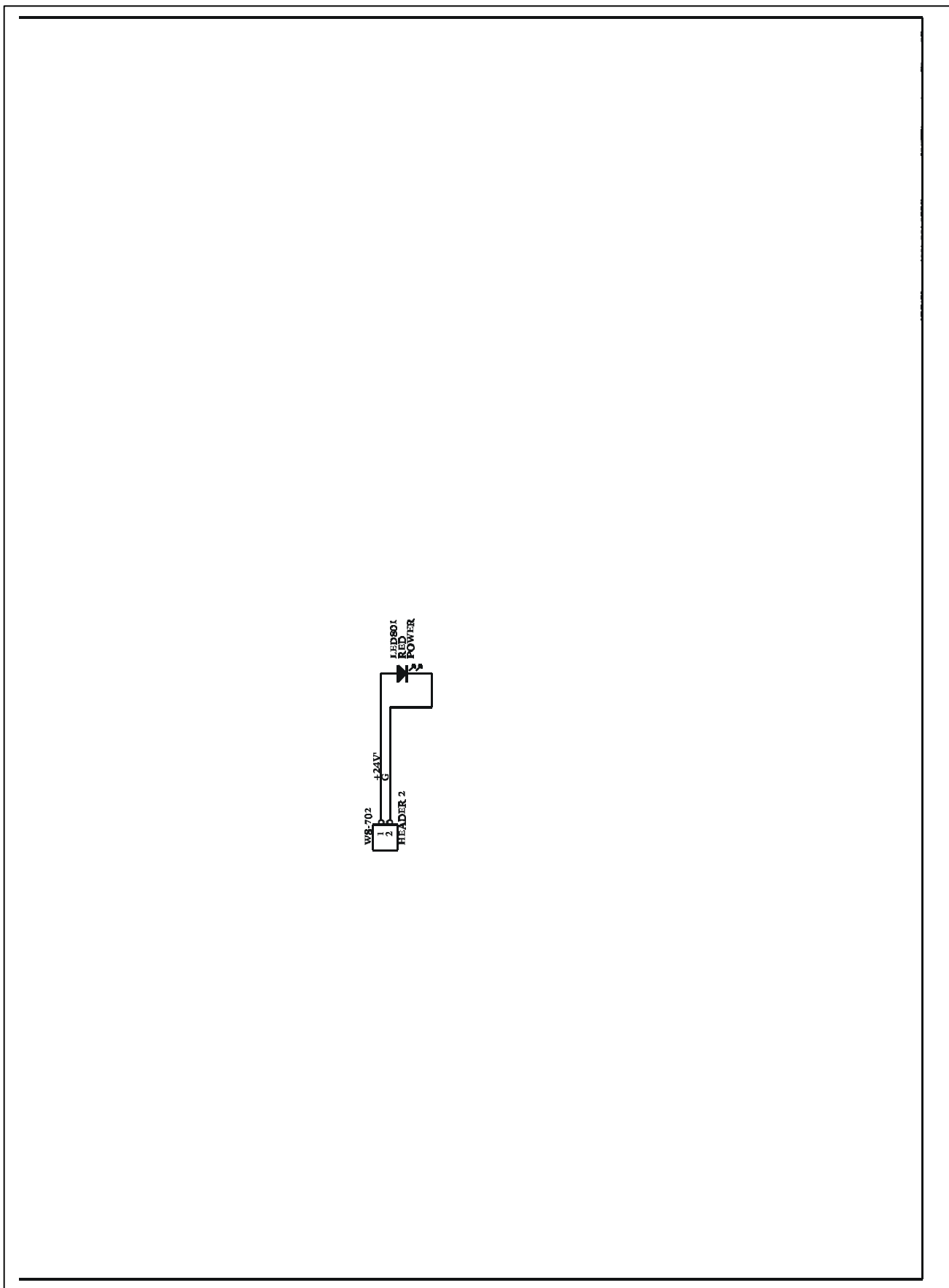


- MAR.2 Q107:Q1092SA1302-O
- MAR.2 Q112:Q1425C3281-O
- MAR.2 Q106-Q110:2SA1302-O
- MAR.2 Q111-Q115:2SC3281-O
- MAR.2 Q106-Q110:Q122-Q124:2SA1553-O
- MAR.2 Q111-Q115:Q124-Q125:2SC4039-O

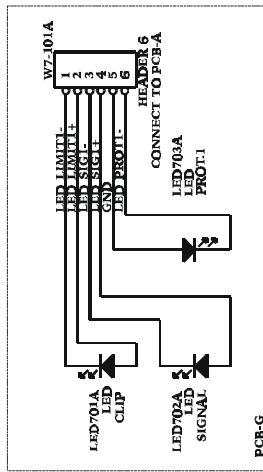
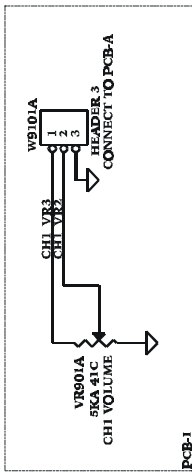
Schematic Diagram 6 MAR2/4/6 INPUT BOARD (PCB-C)



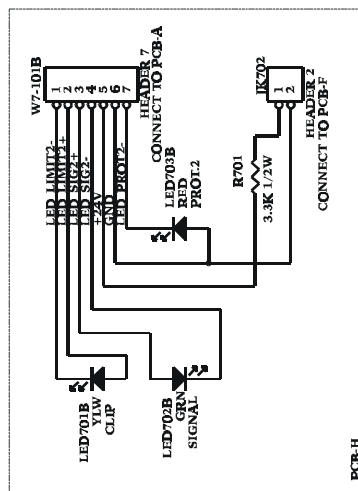
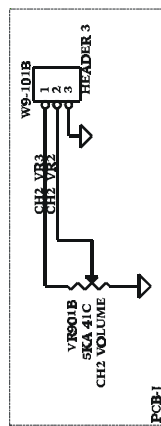
Schematic Diagram 7 MAR2/4/6 CH-2 VR BOARD (PCB-F)



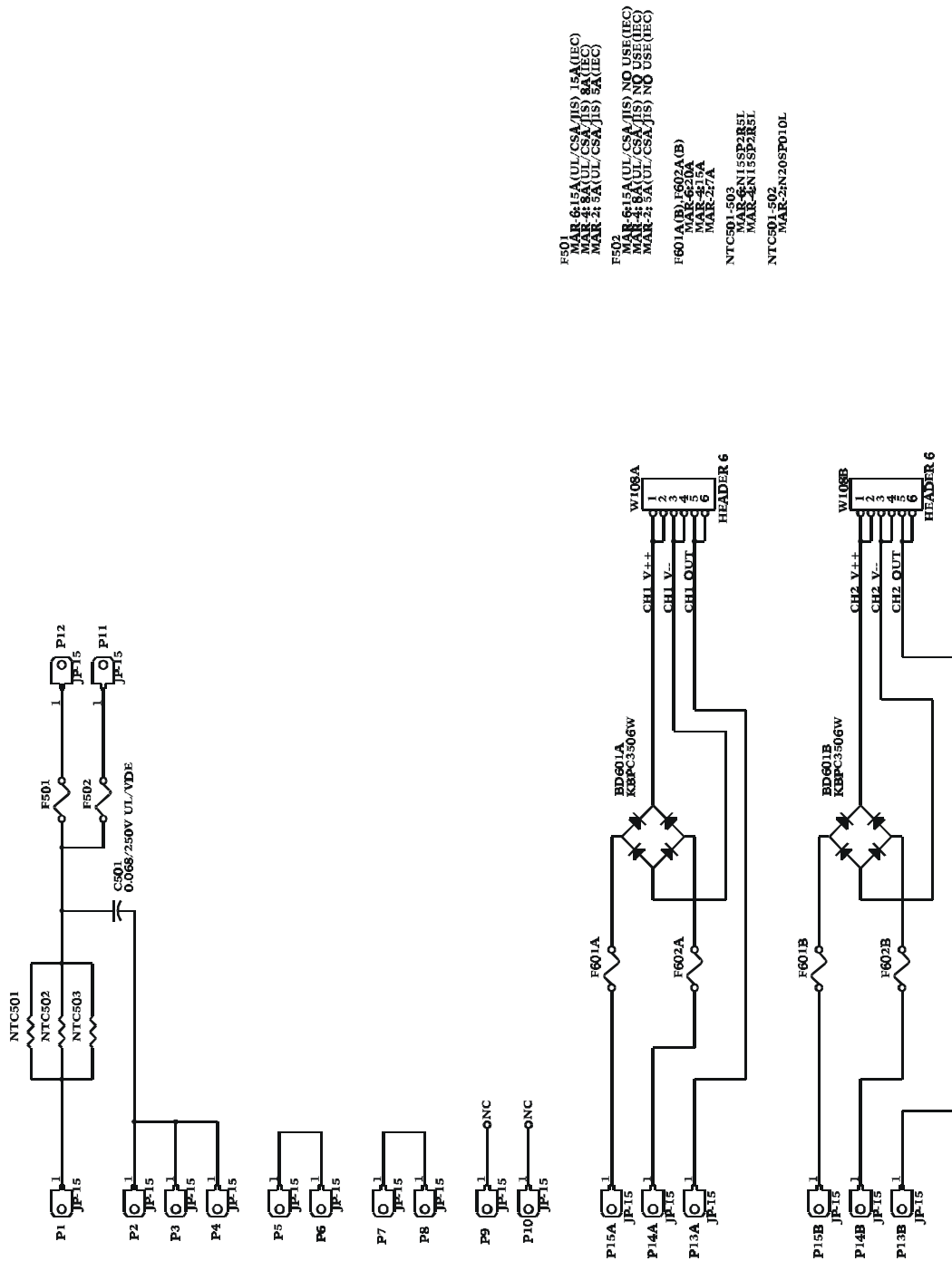
Schematic Diagram 8 MAR2/4/6 CH1 VR BOARD (PCB-G,I)



Schematic Diagram 9 MAR2/4/6 CH-2 VR BOARD (PCB-H,J)



Schematic Diagram 10 MAR2/4/6 PRIMARY BOARD (PCB-E)



- F501 MAR-615A(UL/CSA/IS) JSA(IEC)
MAR-615A(UL/CSA/IS) SA(IEC)
MAR-215A(UL/CSA/IS) SA(IEC)
- F502 MAR-615A(UL/CSA/IS) NO USE(IEC)
MAR-615A(UL/CSA/IS) NO USE(IEC)
MAR-215A(UL/CSA/IS) NO USE(IEC)
- F601A(B), F602A(B)
MAR-615DA
MAR-215DA
MAR-217A
- NTC501, 503
MAR-2N15SP2R5L
MAR-2N15SP2R5L
- NTC501, 502
MAR-2N20SP010L

Parts List Schematic Diagram 2 MAR-2/4/6 MAIN BOARD (PCB-A)

Ref.	PHONIC Part #	Description
BD102A, BD102B	090-10000-000-0	SEMI, DIODE, BRIDGE, PB154
C101A, C101B, C102A, C102B, C103A, C103B	042-680A4-050-0	CAP, CERAMIC, TYPE2, 50V, 68pF, 5%
C104A, C104B	042-390A4-050-0	CAP, CERAMIC, TYPE2, 250V, 39pF, 5%
C105A	032-47688-0A0-0	CAP, ELEC, NP, 85C, 100V, 47 μ F, +80%, -20%
C108A, C108B, C132A, C132B	032-47626-0A0-0	CAP, ELEC, NP, 85C, 16V, 47 μ F, 20%
C110A, C110B, C130A, C130B	042-10124-050-0	CAP, CERAMIC, TYPE2, 50V, 100pF, 5%
C111AM, C111BM	030-47628-0A0-0	CAP, ELEC, 85C, 16V, 47 μ F, +80%, -20%
C118A, C118B	046-10224-000-0	CAP, MYLAR, 250V, 0.001 μ F, 5%
C122A, C122B, C131A, C131B	032-10636-0A0-0	CAP, ELEC, NP, 85C, 25V, 10 μ F, 20%
C127A, C127B	032-22586-0A0-0	CAP, ELEC, NP, 85C, 100V, 2.2 μ F, 20%
C128A, C128B	030-10626-0A0-0	CAP, ELEC, 85C, 16V, 10 μ F, 20%
C129A, C129B	032-22736-0A0-0	CAP, ELEC, NP, 85C, 25V, 200 μ F, 20%
C133A, C133B	042-39024-050-0	CAP, CERAMIC, TYPE2, 50V, 39pF, 5%
CP1AM, CP1BM (MAR4/6 USE)	010-00001-010-0	RES, CDS, P873-G35-552
D118A, D118B	090-02000-020-0	SEMI, DIODE, DETECTOR, 1N4148
IC1A, IC1B	160-00001-400-0	IC, NJM353D JRC
IC2A, IC2B	160-00001-000-0	IC, M5218
JK101A	211-10091-130-0	CONN, 1/4", WAFER, SOCKET, 9-PIN
JK101B	211-10101-080-0	CONN, 1/4", WAFER, SOCKET, 10-PIN, 2532-10
JK103	211-10081-060-0	CONN, 1/4", WAFER, SOCKET, 8-PIN, 2532-08
Q121A, Q121B	121-00000-200-0	SEMI, TRANSISTOR, PNP, 2SA1015, GR
R101A, R101B, R104A, R104B	006-22022-400-0	RES, MF, 1/4W, 22K, \pm 1%
R102A, R102B, R105A, R105B	006-16222-400-0	RES, MF, 1/4W, 16.2K, \pm 1%
R103A, R103B, R107A, R107B, R112A,	000-10126-400-0	RES, CF, 1/4W, 100, 5%
R106A, R172B, R164A, R164B	000-33226-400-0	RES, CF, 1/4W, 3.3K, 5%
R108A, R108B	000-56326-400-0	RES, CF, 1/4W, 56K, 5%
R109B	000-15326-400-0	RES, CF, 1/4W, 15K, 5%
R110A, R110B	006-43002-400-0	RES, MF, 1/4W, 430, \pm 1%
R110A, R110B (MAR4 USE)	006-29402-400-0	RES, MF, 1/4W, 294, \pm 1%
R110A, R110B (MAR6 USE)	006-24302-400-0	RES, MF, 1/4W, 243, \pm 1%
R111A, R111B	006-15022-400-0	RES, MF, 1/4W, 15K, \pm 1%
R113A	000-22326-400-0	RES, CF, 1/4W, 22K, 5%
R114A, R114B	000-10426-400-0	RES, CF, 1/4W, 100K, 5%
R117AM, R117BM	000-56026-400-0	RES, CF, 1/4W, 56, 5%
R121AM, R121BM, R122AM, R122BM	000-11326-400-0	RES, CF, 1/4W, 11K, 5%
R123AM, R123BM, R124A, R124B		
R125A, R125B	000-75026-400-0	RES, CF, 1/4W, 75, 5%
R156A, R156B	000-22226-400-0	RES, CF, 1/4W, 2.2K, 5%
R165A, R165B	000-12326-400-0	RES, CF, 1/4W, 10K, 5%
R167A, R167B, R119AM, R119BM, R120AM, R120BM	000-10326-400-0	RES, CF, 1/4W, 10K, 5%
R172A, R106B	000-10226-400-0	RES, CF, 1/4W, 1K, 5%
SW101, SW103	210-01203-050-0	SW, SLIDE, SSFZ22-07
SW102 (MAR4/6 USE)	210-01203-050-0	SW, SLIDE, SSFZ22-07

Parts List Schematic Diagram 3 MAR2/4/6 MAIN BOARD (PCB-A)

Ref.	PHONIC Part #	Description
C109A, C109B	046-22304-003-0	CAP, MYLAR, 50V, 0.022 μ F, 5%
C112A, C112B, C113A, C113B	046-10304-060-0	CAP, MYLAR, 50V, 0.01 μ F, 5%
C116A, C116B, C117A, C117B	046-33204-060-0	CAP, MYLAR, 50V, 0.0033 μ F, 5%
C119A, C119B, C134A, C134B	046-68325-000-0	CAP, MYLAR, 250V, 0.068 μ F, 10%
C120A, C120B, C121A, C121B (MAR4 USE)	030-48888-030-0	CAP, ELEC, 85C, 100V, 4700 μ F, +80%, -20%
C120A, C120B, C121A, C121B, (MAR2 USE)	030-13387-000-0	CAP, ELEC, 85C, 80V, 3300 μ F, +80%, -20%
C120A, C120AM6, C120B, C120BM6,	030-10968-001-0	CAP, ELEC, 85C, 63V, 10000 μ F, +80%, -20%
C120A, C120AM6, C120B, C120BM6,	030-10968-001-0	CAP, ELEC, 85C, 63V, 10000 μ F, +80%, -20%
C121A, C121AM6, C121B, C121BM6 (MAR6 USE)		
C123A, C123B	032-47626-0A0-0	CAP, ELEC, NP, 85C, 16V, 47 μ F, 20%
C124A, C124B	030-10738-0A0-0	CAP, ELEC, 85C, 25V, 100 μ F, +80%, -20%
D101A, D101B, D102A, D102B	090-02003-020-0	SEMI, DIODE, DETECTOR, 1N4934
D103A, D103B, D104A, D104B,	090-02003-020-0	SEMI, DIODE, DETECTOR, 1N4934
D109A, D109B, D110A, D110B		
D105A-D108A, D105B-D108B,	090-02000-020-0	SEMI, DIODE, DETECTOR, 1N4148
D114A, D114B, D116A, D116B		
D113A, D113B, D115A, D115B	090-00007-020-0	SEMI, DIODE, RECT, 400V, 1A, 1N4004
JK107A, JK107B	211-10114-000-0	CONN, 1/4", WAFER, SOCKET, 11-PIN, 396111
JK108A, JK108B	121-10084-020-0	CONN, 1/4", WAFER, SOCKET, 8-PIN
L101A, L101B	075-20082-000-0	INDUCTOR, 2.4uH, \pm 10%, 1.7mm
M24A1-M24A4, M24B1-M24B4 (MAR2/4 USE0)	382-20010-010-0	TINNER, WIRE, 10mm, D0.6
NTC1A, NTC1B	011-450A0-000-0	RES, THERMAL, TDC05A045L
Q102A, Q102B, Q116A, Q116B,	120-00000-800-0	SEMI, TRANSISTOR, NPN, 2SC1815, GR
Q118A, Q118B, Q119A, Q119B		
Q103A, Q103B, Q117A, Q117B, Q120A, Q120B	121-00000-200-0	SEMI, TRANSISTOR, PNP, 2SA1015, GR
Q104A, Q104B	120-00008-000-0	SEMI, TRANSISTOR, NPN, 2SC 2336-BQ
Q104A, Q104B, Q105A, Q105B	313-00000-060-0	WASHER, RUBBER, TO-2203
Q104A, Q104B, Q105A, Q105B	314-00000-050-0	BUSHES, 602S(V.0)
Q105A, Q105B	121-00005-700-0	SEMI, TRANSISTOR, PNP, 2SA 1006-BQ
R115A, R115B, R116A, R116B	000-82126-400-0	RES, CF, 1/4W, 820, 5%
R126A, R126B, R127A, R127B	000-51226-400-0	RES, CF, 1/4W, 5.1K, 5%
R128A, R128B, R129A, R129B	000-22226-400-0	RES, CF, 1/4W, 2.2K, 5%
R130A, R130B, R131A, R131B	000-10126-400-0	RES, CF, 1/4W, 100, 5%
R132A, R132B, R133A, R133B (MAR2/4 USE)	000-51226-400-0	RES, CF, 1/4W, 5.1K, 5%
R132A, R132B, R133A, R133B (MAR6 USE)	000-43226-400-0	RES, CF, 1/4W, 4.3K, 5%
R134A, R134B, R135A, R135B	000-12226-400-0	RES, CF, 1/4W, 1.2K, 5%
R136A, R136B	000-68236-400-0	RES, CF, 1/2W, 6.8K, 5%
R137A, R137B, R138A, R138B	006-68084-400-0	RES, MF, 1W, 6.8K, \pm 5%
R151A, R151B	006-56085-400-0	RES, MF, 2W, 5.6K, \pm 5%
R152A, R152B	006-22075-440-0	RES, MF, 1/16W, 2.2K, \pm 5%
R153A, R153B	000-15326-400-0	RES, CF, 1/4W, 15K, 5%
R154A, R154B	000-33226-400-0	RES, CF, 1/4W, 3.3K, 5%
R155A, R155B	000-33326-400-0	RES, CF, 1/4W, 33K, 5%
R157A, R157B	000-10326-400-0	RES, CF, 1/4W, 10K, 5%
R158A, R158B, R161A, R161B	000-22326-400-0	RES, CF, 1/4W, 22K, 5%
R159A, R159B, R160A, R160B, R163A, R163B	000-27226-400-0	RES, CF, 1/4W, 2.7K, 5%
R162A, R162B	000-10426-400-0	RES, CF, 1/4W, 100K, 5%
R175A, R175B (MAR2/4 USE)	003-18023-600-0	RES, CEMENT, 5W, 18K, 5%,
R175A, R175B (MAR6 USE)	003-27023-600-0	RES, CEMENT, 5W, 27K, 5%,
RY101A, RY101B	076-02421-000-0	RELAY, JC2AF-DC24V
SVR1A, SVR1B	000-56026-400-0	RES, CF, 1/4W, 56, 5%
ZD103A, ZD130B, ZD104A, ZD104B	090-01472-020-0	SEMI, DIODE, ZENER, 4.7V, 0.5W, 5%
ZD106A-ZD110A, ZD106B-ZD110B	090-01622-000-0	SEMI, DIODE, ZENER, 6.2V, 0.5W, \pm 10%

Parts List Schematic Diagram 4 MAR2/4/6 MAIN BOARD (PCB-A)

Ref.	PHONIC Part #	Description
BD101	090-10000-000-0	SEMI, DIODE, BRIDGE, PB154
C106A, C106B, C107A, C107B	030-10738-0A0-0	CAP, ELEC, 85C, 25V, 100 μ F, +80%, -20%
C125, C126	030-47748-000-0	CAP, ELEC, 85C, 35V, 470 μ F, +80%, -20%
C180, C190	030-47658-0A0-0	CAP, ELEC, 85C, 50V, 47 μ F, +80%, -20%
F101*2, F102*2	281-00000-020-0	FUSE, CLIP, FH-1206
IC1A, IC1B	160-00001-400-0	IC, NJM353D JRC
IC2A, IC2B	160-00001-000-0	IC, M5218
JK104 (MAR4/6 USE)	211-10021-150-0	CONN, 1/4", WAFER, SOCKET, 2-PIN, 5267-02A
JK105	211-10034-021-0	CONN, 1/4", WAFER, SOCKET, 3-PIN, 8673-03
JK106	211-10021-150-0	CONN, 1/4", WAFER, SOCKET, 2-PIN, 5267-02A
Q130	160-00005-000-0	IC, UA7815, FAIRCHILD
Q131	160-00002-900-0	IC, UA7915, FAIRCHILD
Q180	120-00000-800-0	SEMI, TRANSISTOR, NPN, 2SC1815, GR
Q190	121-00000-200-0	SEMI, TRANSISTOR, PNP, 2SA1015, GR
R180 (MAR4/6 USE)	005-22126-400-0	RES, MDF, 2W, 220, \pm 5%
R181, R191	000-10326-400-0	RES, CF, 1/4W, 10K, 5%
R182, R192	000-10426-400-0	RES, CF, 1/4W, 100K, 5%
R183 (MAR4/6 USE)	005-33016-400-0	RES, MDF, 1W, 33, \pm 5%
R190	005-27126-400-0	RES, MDF, 2W, 270, \pm 5%
R193	005-33016-400-0	RES, MDF, 1W, 33, \pm 5%

Parts List MAR2/4/6 MAIN BOARD (PCB-A)

Ref.	PHONIC Part #	Description
MAIN BOARD MAR2	F34-00000-001-0	MAR2, PCB-A
MAIN BOARD MAR4	F34-00001-001-0	MAR4, PCB-A
MAIN BOARD MAR6	F34-10000-001-0	MAR6, PCB-A
PCB-A	G34-00000-001-0	MAR2/4/6, PCB-A, MAIN BOARD
	290-34280-101-0	PCB, MAR-A
R136A*2-R138A*2, R136B*2-R138B*2, R151A*2/B*2, R152A*2/B*2, R180*2, R190*2, R183*2, R193*2	315-00016-000-0	GND, LUG, JG-6L
	322-05000-100-0	TUBE, 5mm*D1
J*67	382-20010-010-0	TINNER, WIRE, 10mm, D0.6
J*2	382-20012-510-0	TINNER, WIRE, 12.5mm, D0.6
TRANS HEATSINK*4	526-10050-110-0	HEAT SINK, MAR2
	590-53006-100-0	SCREW, MACHINE, SET, SCR, M3.0*6, NI
TRANS IC*6	590-53010-100-0	SCREW, MACHINE, SET, SCR, M3.0*10, NI
TRANS IC*6	610-60300-501-0	WASHER, PAN, SPR, D3.0*D7.0*0.5, NI
TRANS IC*2	615-10641-630-0	COPPER, RIVET, HEX, L=35, M3, CU
TRANS IC*2 (MAR6 USE)	615-10053-620-0	COPPER, RIVET, HEX, L=17, M3
	H34-10002-002-0	MAR2/4/6, PCB-A

Parts List Schematic Diagram 5 MAR2/4/6 POWER TR BOARD (PCB-B)

Ref.	PHONIC Part #	Description
C135A, C135B	042-10386-050-0	CAP, CERAMIC, TYPE2, 500V, 0.01 μ F, 20%
D111A, D111B, D112A, D112B	090-00016-000-0	SEMI, DIODE, RECT, 1N5404
Q106A-Q110A, Q106B-Q110B (MAR4 USE)	121-00006-000-0	SEMI, TRANSISTOR, PNP, 2SA1302-0, GR
Q106A-Q110A, Q106B-Q110B, Q122A, Q122B, Q123A, Q123B (MAR6 USE)	121-00006-000-0	SEMI, TRANSISTOR, PNP, 2SA1553-0, GR
Q107A, Q107B, Q109A, Q109B (MAR2 USE)	121-00006-000-0	SEMI, TRANSISTOR, PNP, 2SA1302-0, GR
Q111A-Q115B, Q111B-Q115B (MAR4 USE)	120-00008-600-0	SEMI, TRANSISTOR, NPN, 2SC3281-0
Q111A-Q115B, Q111B-Q115B, Q124A, Q124B, Q125A, Q125B (MAR6 USE)	120-00008-600-0	SEMI, TRANSISTOR, NPN, 2SC4029-0
Q112A, Q112B, Q114A, Q114B (MAR2 USE)	120-00008-600-0	SEMI, TRANSISTOR, NPN, 2SC3281-0
R139A, R139B, R140A, R140B	006-22074-400-0	RES, MF, 1W, 22, 5%
R141A-R150A, R141B-R150B (MAR4 USE)	003-22092-602-0	RES, CEMENT,3W, 0.22, 5%,
R141A-R150A, R141B-R150B, R168A-R171A, R168B-R171B (MAR6 USE)	003-22092-602-0	RES, CEMENT,3W, 0.22, 5%,
R142A, R142B, R144A, R144B, R147A, R147B, R149A, R149B (MAR2 USE)	003-22092-602-0	RES, CEMENT,3W, 0.22, 5%,

Parts List MAR2/4/6 POWER TR BOARD (PCB-B)

Ref.	PHONIC Part #	Description
POWER TR BOARD MAR2	F34-00000-003-0	MAR2, PCB-B
POWER TR BOARD MAR4	F34-00000-003-1	MAR4, PCB-B
POWER TR BOARD MAR6	F34-00000-003-2	MAR6, PCB-B
FRONT FAN SW, REAR FAN SW	210-10050-020-0	SW, THERMAL, US-602SYTFQL, 50/40
CHA-RELAY, CHB-RELAY	210-10085-010-0	SW, THERMAL, US-602XYTFQL, 85/75
GND*1	212-10010-550-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 170mm
CH2 SPEAKER GND	212-10010-560-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 300mm
CH1_TR	212-10110-090-0	CONN, 1/4", WAFER, PLUG, 11-PIN, 800mm
CH2_TR	212-10110-100-0	CONN, 1/4", WAFER, PLUG, 11-PIN, 350mm
PCB-B*2	290-34280-210-0	PCB, MAR2/4-B
PCB-B*2 (MAR6 USE)	290-34280-200-0	PCB, MAR6-B
	321-00000-070-0	CABLE, TIE, HW-100mm
	322-01000-100-0	TUBE, 10mm*D1
	382-20010-010-0	TINNER, WIRE, 10mm, D0.6
	526-10054-110-0	HEAT SINK, MAR2
	526-10049-110-0	HEAT SINK, MAR6
	526-10056-110-0	HEAT, SINK, LINK
LINK HEATSINK*4	590-43008-200-0	SCREW, MACHINE, SET, SCR, M3.0*8, BLK
TMP/SW*8	590-53006-100-0	SCREW, MACHINE, SET, SCR, M3.0*6, NI
POWER IC*28	590-53010-100-0	SCREW, MACHINE, SET, SCR, M3.0*10, NI
	590-54008-100-0	SCREW, MACHINE, SET, SCR, M4.0*8, NI
	610-30400-501-0	WASHER, TOOTH, D4*D8.5*0.5, NI
POWER IC*28	610-60300-501-0	WASHER, PAN, SPR, D3.0*D7.0*0.5, NI

Parts List Schematic Diagram 6 MAR2/4/6 INPUT BOARD (PCB-C)

Ref.	PHONIC Part #	Description
J301, J302	211-03300-170-0	CONN, 1/4",XLR-JACK, NCJ6FK-V, NEUTRIK
J303	211-24500-001-0	CONN, 1/4", SCREW, TERMINAL, 5-PIN
JK302	212-10080-340-0	CONN, 1/4", WAFER, PLUG, 8-PIN, 140mm
R301A, R301B, R302A, R302B	000-10426-400-0	RES, CF, 1/4W, 100K, 5%
R303A, R303B	000-22326-400-0	RES, CF, 1/4W, 22K, 5%

Parts List MAR2/4/6 INPUT BOARD (PCB-C)

Ref.	PHONIC Part #	Description
INPUT BOARD MAR2/4/6	F34-00000-004-0	MAR2/4/6, PCB-C
PCB-C	290-34280-301-0	PCB, MAR-CFGHIJ
	382-20010-010-0	TINNER, WIRE, 10mm, D0.6
TERMINAL*4	590-53006-200-0	SCREW, MACHINE, SET, SCR, M3.0*6, BLK
TERMINAL*2	615-10053-620-0	COPPER, RIVET, HEX, L=17, M3
MAR2/4/6 PCB-C INPUT BOARD A/I	H34-00002-004-0	MAR2/4/6, PCB-C

Parts List Schematic Diagram 7 MAR2/4/6 CH-2 VR BOARD (PCB-F)

Ref.	PHONIC Part #	Description
CLIP LED801	100-00010-030-1	LED, SE3011, RED, 3mm
W8-702	212-10022-610-0	CONN, 1/4", WAFER, PLUG, 2-PIN, 120mm

Parts List Schematic Diagram 8 MAR2/4/6 CH1 VR BOARD (PCB-G,I)

Ref.	PHONIC Part #	Description
LED701A	100-00040-030-0	LED, EL204YT, YELLOW
LED702A(SIG)	100-00050-110-0	LED, EL204GT, GREEN
LED703A	100-00010-030-1	LED, SE3011, RED, 3mm
VR901A	022-50230-080-0	RES, SIGNAL, ROTARY, 20mm, 5KA
W7-101A + W9-101A	212-10090-270-0	CONN, 1/4", WAFER, PLUG,9-PIN, 450mm

Parts List Schematic Diagram 9 MAR2/4/6 CH-2 VR BOARD (PCB-H,J)

Ref.	PHONIC Part #	Description
JK702	212-10022-610-0	CONN, 1/4", WAFER, PLUG, 2-PIN, 120mm
LED701B	100-00040-030-0	LED, EL204YT, YELLOW
LED702B(SIG)	100-00050-110-0	LED, EL204GT, GREEN
LED703B	100-00010-030-1	LED, SE3011, RED, 3mm
VR901B	022-50230-080-0	RES, SIGNAL, ROTARY, 20mm, 5KA
W7-101B + W9-101B	212-10100-240-0	CONN, 1/4", WAFER, PLUG, 10-PIN, 800mm

Parts List Schematic Diagram 10 MAR2/4/6 PRIMARY BOARD (PCB-E)

Ref.	PHONIC Part #	Description
BD601A, BD601B	090-10008-100-0	SEMI, DIODE, BRIDGE, KBPC, 3506W
C501	058-68325-100-0	CAP, LINE, 250V, 0.068 μ F, 20%, MEX-683K
F501*2, F502*2, F601A*2, F601B*2, F602A*2, F602B*2	281-00000-010-0	FUSE, CLIP, FH-1208,
F501, F502 (MAE2 USE)	280-5028B-000-0	FUSE, 5A (VERSION 250V ONLY), UL/CSA/JIS S
F501, F502 (MAE4 USE)	280-8028B-000-0	FUSE, 8A (VERSION 250V ONLY), UL/CSA/JIS S
F501, F502 (MAR6 USE)	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B (MAE2 USE)	280-7028B-000-0	FUSE, 7A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B (MAE4 USE)	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B (MAR6 USE)	280-2028B-000-0	FUSE, 20A (VERSION 250V ONLY), UL/CSA/JIS S
NTC501, NTC502	012-10020-010-0	RES, NTC, TERMSTOR, N20SP010L
NTC501, NTC502, NTC503 (MAR4/6 USE)	012-250B0-010-0	RES, NTC, TERMSTOR, N15SP2R5L
P1-P12, P13A-P15A, P13B-P15B	315-00012-000-0	LUG, PIN, JP-15
PCB-E	290-34280-501-0	PCB, MAR1, POWER-PANEL
W108A, W108B	211-10064-000-0	CONN, 1/4", WAFER, SOCKET, 6-PIN, 396106

Parts List MAR2/4/6 PRIMARY BOARD (PCB-E)

Ref.	PHONIC Part #	Description
PRIMARY BOARD MAR2	F34-00000-005-0	MAR2, PCB-E
PRIMARY BOARD MAR4/6	F34-00000-006-0	MAR4/6, PCB-E
	526-10053-110-0	HEAT SINK, MAR2
	590-24020-200-0	SCREW, MACHINE, BID, SCR, M4*20, BLK
U-HEATSINK*2	600-00403-510-0	NUT, HEX, M4,0*3.5, NI
U-HEATSINK*2	610-30400-501-0	WASHER, TOOTH, D4*D8.5*0.5, NI

Parts List MECHANISM MAR2/4/6

T1	070-2027B-800-0	POWER, TRANSFORMER, MAR4
T1	070-2028B-800-0	POWER, TRANSFORMER, MAR6
T1	070-2029B-800-0	POWER, TRANSFORMER, MAR2
POWER SW	210-03201-070-0	SEE, SAW, SWITCH
CHA, CHB	211-17000-410-0	BINDING POST BP-47-2P
POWER CORD	212-10010-541-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 150mm
POWER, CORD, GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
P/CORD & P/SW	212-10022-601-0	CONN, 1/4", WAFER, PLUG, 2-PIN, 300mm
POWER SW	212-10022-621-0	CONN, 1/4", WAFER, PLUG, 2-PIN, 400mm
CH1_POWER	212-10080-350-0	CONN, 1/4", WAFER, PLUG, 8-PIN, 400mm
CH2_POWER	212-10080-360-0	CONN, 1/4", WAFER, PLUG, 8-PIN, 650mm
F501, F502 (MAR4 USE)	280-1038B-000-0	FUSE, 10A (VERSION 250V ONLY)
F601A, F601B, F602A, F602B (MAR4 USE)	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY)
	280-20263-001-0	FUSE, 2A (VERSION 250V ONLY)
F101, F102 (MAR4 USE)	280-2026B-001-0	FUSE, 2A (VERSION 250V ONLY)
F601A, F601B, F602A, F602B (MAR6 USE)	280-20386-001-0	FUSE, 20A (VERSION 250V ONLY)
F501, F502	280-5028B-000-0	FUSE, 5A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B	280-7028B-000-0	FUSE, 7A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	321-00000-020-0	CABLE, TIE, 140mm
	321-00000-070-0	CABLE, TIE, HW-100mm
	322-24501-600-0	TUBE, 45mm*D16
Front Fan (MAR6 USE)	347-00000-220-0	FAN, SP1202524m, 24VDC
Front Fan	347-00000-300-0	FAN, SP802524H, 24VDC
(MAR4/6 USE)	370-08010-733-0	POWER, CORD, 125V, 10A, 2.5m, 3P
	370-08810-702-0	POWER, CORD, 120V, 20A, 2.5m, 3P
(MAR6 USE)	510-10910-100-0	PANEL, MAR2, PHONIC
	510-10920-100-0	PANEL, MAR6, PHONIC
(MAR4 USE)	511-11140-100-0	BACK, PLANK, MAR4, PHONIC
(MAR6 USE)	511-11150-100-0	BACK, PLANK, MAR4, PHONIC
(MAR6 USE)	511-11160-100-0	BACK, PLANK, MAR6, PHONIC
(MAR2/4 USE)	516-10120-000-0	TOP, COV, MAR6, PHONIC
	516-10130-000-0	TOP, COV, MAR2/4, PHONIC
Rear Handhold (MAR6 USE)	517-10670-100-0	BOTTOM, COVER, MAR2.4.6, PHONIC
Front Handhold	524-10001-120-0	HANDLE, 100, BLK
	524-20001-110-0	HANDLE, 66, BLK
	525-00009-100-0	FEET, D26.5*11, BLK
(MAR4/6 USE)	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
	527-14000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, S
(MAR6 USE)	528-00000-000-0	FAN, NET, WHT, PWA2200, 8"
	528-00001-000-0	FAN, NET, WHT, PWA2400, 12"
(MAR6 USE)	528-20004-000-0	FAN, NET, BLK, 130*65
	528-20004-001-0	FAN, NET, BLK, 130*110
	540-10280-200-0	KNOB, ROTARY, D40*19.2, BLK / WHT
(MAR6 USE)	550-10042-200-0	CHASSIS, MAR2, PHONIC
	550-10043-200-0	CHASSIS, MAR6, PHONIC
	551-10072-200-0	BRACKET, BRKT, MAR350, BLK
	552-10174-200-0	FIXED, LOCKING, CABLE, MAR2, BLK
	552-10174-480-0	FIXED, LOCKING, CABLE
(MAR6 USE)	552-60001-200-0	FIXED, ADHESIVE
	552-60001-420-0	FIXED, ADHESIVE
	553-10032-490-0	SHIELD, PIATE, VR, INSULATOR
(MAR4 USE)	560-10910-100-0	CARTON, MAR2, 577*530*195
(MAR6 USE)	560-10910-200-0	CARTON, MAR4, 577*530*195
	560-10920-100-0	CARTON, MAR6, 582*539*250
	561-10870-100-0	GIFT, BOX, 565*517*170, MAR2
(MAR6 USE)	561-10880-100-0	GIFT, BOX, 577*527*225, MAR6
	567-10015-001-0	EPE+PAPER-PANEL, SIDE, 505*155*100, MAR2/4
(MAR6 USE)	567-10016-001-0	EPE+PAPER-PANEL, SIDE
	568-00003-000-0	BAG, PLASTICS, 240*340*0.05, #10
	568-20018-000-0	BAG, PLASTICS, 630*630*0.07
	572-00000-100-0	DRYER, 10g

BOT.COV.GND*1	573-10060-010-0	LABEL-NO., SERIAL, PHONIC
	573-10063-012-0	LABEL, M.I.C.,50*10mm
	573-10124-010-0	LABEL, GND, MAR2
F501	573-10125-010-0	LABEL, ETL, ROLAND, 116742, MAR/SA, 119301
F601A, F601B, F602A, F602B	573-20329-010-0	LABEL, FUSE, 5A, 250V(12*2.5),
F501, F502 (MAR4/6 USE)	573-20330-010-0	LABEL, FUSE, 7A, 250V(12*2.5),
F601A, F601B, F602A, F602B (MAR6 USE)	573-20334-010-0	LABEL, FUSE, 15A, 250V(12*2.5),
	573-20336-010-0	LABEL, FUSE, 20A, 250V(12*2.5),
(MAR6 USE)	573-20338-000-0	LABEL, SUBWOOFER, ETL
F601A, F601B, F602A, F602B (MAR4 USE)	573-20338-010-0	LABEL, SUBWOOFER, ETL
PANEL*4	573-60022-010-0	LABEL, FUSE, 10A, 250V(12*2.5),
FAN FRONT*4	574-34280-110-0	OWNER'S, MANUAL, MAR246, PHONIC
FAN FIXED*4	590-03006-200-0	SCREW, MACHINE, FLT, SCR, M3.0*6, BLK
LED PCB*5, MAIN PCB*8, POWER PCB*4	590-43008-100-0	SCREW, MACHINE, PAN, M3.0*8, BLK
MAIN PCB*8, POWER PCB*4, MEUTRIK*4, VR	590-53004-200-0	SCREW, MACHINE, SET, SCR, M3.0*4, BLK
SHIELD PLATE*2	590-53006-100-0	SCREW, MACHINE, SET, SCR, M3.0*6, NI
FAN NET*4	590-53006-200-0	SCREW, MACHINE, SET, SCR, M3.0*6, BLK
GND*1	590-53012-200-0	SCREW, MACHINE, SET, M3.0*12, BLK
HEATSINK*6 REAR-HANDHOLD*4 WIRE-FEXED	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
PANEL*2	590-54010-200-0	SCREW, MACHINE, SET, M4.0*10, BLK
	591-53006-200-0	SCREW, TAPPING, SET, D3.0*6, BLK
	591-54010-200-0	SCREW, TAPPING, SET, D4.0*10, BLK
VR SHIELD PLATE*2 FAN*4	600-00302-210-0	NUT, HEX, M3.0*2.2, NI
GND*4 WIRE-FEXED PANEL*2	600-00403-510-0	NUT, HEX, M4.0*3.5, NI
	600-00602-010-0	NUT, HEX, M6.2*2.0, ZN
HANDHOLD*4	600-00605-000-0	NUT, HEX, M6.2*5.0, ZN
FAN*4	610-00408-001-0	WASHER, PLA, D4.0*8.0*1.0, NI
GND*1 WIRE*2	610-30400-501-0	WASHER, TOOTH, D4*D8.5*0.5,NI
	610-60401-001-0	WASHER, PAN, SPR, D4*D7.6*1.0, NI
BINDING POST*4	610-60501-001-0	WASHER, PAN, SPR, D5*D9*1.0, NI
HANDHOLD*4	610-60601-001-0	WASHER, PAN, SPR, D6*D12*1.0, NI
	615-10001-130-0	ERATH, BOSS, 2+5, NI
	615-10002-130-0	ERATH, BOSS, 10+5, NI
MAIN PCB*8	615-10032-620-0	COPPER, RIVET, HEX, L=10
POWER PCB*4	615-20039-620-0	HEX, BOSS, L=15, M3
HANDHOLD*4	616-36050-200-0	BOLT, M6.0*50, BLK
	618-14180-662-0	PIN, SPEC, FIXED, SR-2, WHITE
(MAR2/4 USE)	630-00040-200-0	INSULATION, PVC, D40, BLK
(MAR6 USE)	630-00055-200-0	INSULATION, PVC, D55, BLK
	B34-28010-230-1	MAR2, PHONIC, AC, 120V, UL/CSA
(MAR4 USE)	B34-29010-230-1	MAR4, PHONIC, AC, 120V, UL/CSA
(MAR6 USE)	B34-30010-230-1	MAR6, PHONIC, AC, 120V, UL/CSA

Parts List Power Requirement Classification AC240V SAA MAR2

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F501	280-5028B-000-0	FUSE, 5A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B	280-7028B-000-0	FUSE, 7A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-12040-839-0	POWER, CORD, 250V, 10A, 2.5m, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20327-010-0	LABEL, FUSE, T5AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20328-010-0	LABEL, FUSE, T7AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC100V JIS MAR2

F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F501, F502	280-5028B-000-0	FUSE, 5A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B	280-7028B-000-0	FUSE, 7A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-24610-602-0	POWER, CORD, 100V, 12A, 2.5m, 2P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20329-010-0	LABEL, FUSE, 5A, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20330-010-0	LABEL, FUSE, 7A, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-100-0	SCREW, MACHINE, SET, SCR, M4.0*8, NI

Parts List Power Requirement Classification AC240V SA MAR2

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F501, F502	280-5028B-000-0	FUSE, 5A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B	280-7028B-000-0	FUSE, 7A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-12020-829-0	POWER, CORD, 240V, 3A, 6P6F
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20327-010-0	LABEL, FUSE, T5AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20328-010-0	LABEL, FUSE, T7AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC240V BS MAR2

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F501, F502	280-5028B-000-0	FUSE, 5A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B	280-7028B-000-0	FUSE, 7A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-26B40-439-1	POWER, CORD, 230V, 13A, 2.5m, BS, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20327-010-0	LABEL, FUSE, T5AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20328-010-0	LABEL, FUSE, T7AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC240V CE MAR2

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F501, F502	280-5028B-000-0	FUSE, 5A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B	280-7028B-000-0	FUSE, 7A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-23060-939-0	POWER, CORD, 250V, 10/16A, 2.5m, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20327-010-0	LABEL, FUSE, T5AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20328-010-0	LABEL, FUSE, T7AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC240V SAA MAR4

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F601A, F601B, F602A, F602B	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F501, F502	280-8028B-000-0	FUSE, 8A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-12040-839-0	POWER, CORD, 250V, 10A, 2.5m, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20331-010-0	LABEL, FUSE, T8AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20332-010-0	LABEL, FUSE, T15AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC100V JIS MAR4

F501, F502	280-1038B-001-0	FUSE, 10A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
	280-2026B-001-0	FUSE, 2A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-24810-602-0	POWER, CORD, 125V, 15A, 2.5m, 2P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20334-010-0	LABEL, FUSE, 15A, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
	573-60022-010-0	LABEL, FUSE, 10A, 250V, (12*2.5)
GND*1	590-54008-100-0	SCREW, MACHINE, SET, SCR, M4.0*8, NI

Parts List Power Requirement Classification AC240V SA MAR4

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F501, F502	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
	280-8028B-000-0	FUSE, 8A, 250V, UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-15020-829-0	POWER, CORD, 250V, 15A, 1.0mm*3, 2.5m, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20331-010-0	LABEL, FUSE, T8AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20332-010-0	LABEL, FUSE, T15AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC240V BS MAR4

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F501, F502	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
	280-8028B-000-0	FUSE, 8A, 250V, UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-26B40-439-1	POWER, CORD, 230V, 13A, 2.5m, BS, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20331-010-0	LABEL, FUSE, T8AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20332-010-0	LABEL, FUSE, T15AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC240V CE MAR4

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F501, F502	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
	280-8028B-000-0	FUSE, 8A, 250V, UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-23610-902-0	POWER, CORD, 230V, 15A, 2.5m, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
	543-10110-120-0	KNOB, ROTARY, BUSHING, D6.0, GRY
F501	573-20331-010-0	LABEL, FUSE, T8AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20332-010-0	LABEL, FUSE, T15AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC240V SAA MAR6

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F501	280-5028B-000-0	FUSE, 5A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B	280-7028B-000-0	FUSE, 7A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-12040-839-0	POWER, CORD, 250V, 10A, 2.5m, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20327-010-0	LABEL, FUSE, T5AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20328-010-0	LABEL, FUSE, T7AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC100V JIS MAR6

F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F501, F502	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F601A, F601B, F602A, F602B	280-2028B-000-0	FUSE, 20A (VERSION 250V ONLY), UL/CSA/JIS S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-24810-602-0	POWER, CORD, 125V, 15A, 2.5m, 2P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20334-010-0	LABEL, FUSE, 15A, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20336-010-0	LABEL, FUSE, 20A, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-100-0	SCREW, MACHINE, SET, SCR, M4.0*8, NI

Parts List Power Requirement Classification AC240V SA MAR6

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F501, F502	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F601A, F601B, F602A, F602B	280-20386-000-0	FUSE, 20A (VERSION 250V ONLY), UL/CSA S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-15020-829-0	POWER, CORD, 250V, 15A, 1.0mm*3, 2.5m, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20332-010-0	LABEL, FUSE, T15AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20335-010-0	LABEL, FUSE, T20AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC240V BS MAR6

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F501, F502	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F601A, F601B, F602A, F602B	280-20386-000-0	FUSE, 20A (VERSION 250V ONLY), UL/CSA S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-26B40-439-1	POWER, CORD, 230V, 13A, 2.5m, BS, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20332-010-0	LABEL, FUSE, T15AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20335-010-0	LABEL, FUSE, T20AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L

Parts List Power Requirement Classification AC240V CE MAR6

POWER CORD GND	212-10010-571-0	CONN, 1/4", WAFER, PLUG, 1-PIN, 60mm
F501, F502	280-1538B-000-0	FUSE, 15A (VERSION 250V ONLY), UL/CSA/JIS S
F101, F102	280-20263-000-0	FUSE, 2A (VERSION 250V ONLY), VDE S
F601A, F601B, F602A, F602B	280-20386-000-0	FUSE, 20A (VERSION 250V ONLY), UL/CSA S
C*3	307-00000-070-0	CONNECTOR, CORD, C5
	370-23610-902-0	POWER, CORD, 230V, 15A, 2.5m, 3P
	527-11000-000-0	STRAN, RELIEF, BUSHING, 6W3-4, R
F501	573-20332-010-0	LABEL, FUSE, T15AL, 250V(12*2.5),
F601A, F601B, F602A, F602B	573-20335-010-0	LABEL, FUSE, T20AL, 250V(12*2.5),
	573-60013-000-0	LABEL-NO., SERIAL, MAR1, CE
GND*1	590-54008-000-0	SCREW, MACHINE, SET, SCR, M4.0*8, ZN
	619-06380-320-0	PLA, RIVET, ST-3L