

SERVICE INFORMATION

AMIS1202P POWER AMPLIFIER

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* Over the years there have been a number of revisions to this model



Australian Monitor

INSTALLATION SERIES

Clever Features, Contractor Friendly




AMIS1202P **2 x 120w Power Amplifier**

Operating Manual

AMIS1202P, 2 x 120 Watt Power Amplifier

Product Description

The AMIS1202P is a dual 120 watt power amplifier designed for commercial installations. The one unit contains two independent 120 watt amplifiers for either stereo or dual zone applications. The AMIS1202P can be used for either low impedance (4 or 8 ohm) or 70/100v line speaker systems per channel. The amplifier can be mounted in a standard 19" equipment rack (rack ears supplied) or it can be used on a shelf or table. The AMIS1202P features a line level input (with parallel output) per channel and is normally used with mixers, mixer amplifiers or other power amplifiers.

 <p>CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN</p> <p>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.</p>	 <p>This symbol 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 to persons.</p>
<p>WARNING ! TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.</p>	 <p>This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.</p> <p>Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.</p> <p>To prevent electric shock, match wide blade of plug to wide slot, fully insert.</p>

Front Panel Features



Power Switch

The black rocker switch on the right hand side of the front panel is used to switch the amplifier on and off. The 'up' position is on. When the amplifier is connected to an appropriate AC power source and is switched on, the blue power LED will illuminate. This switch will not switch DC power on or off in DC operation. In DC operation mode, the amplifier is always on and the blue power LED will always be illuminated.

On LED

The blue "On" LED above the power switch will illuminate when the amplifier is connected to mains power and is switched on. In 24vdc operation the LED will always be on.

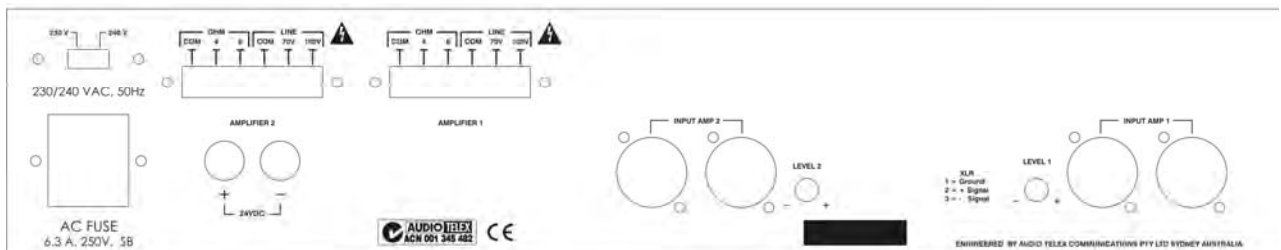
Signal LED

The green "Signal" LED's located next to the On LED indicate that the AMIS1202P is receiving audio signal via its line level inputs. One LED is provided per channel. The signal LED's are a simple way of trouble-shooting installations especially in multi amplifier projects. At a glance the signal LED's will indicate that audio is reaching the amplifier.

Rack Mounting

The AMIS1202P is supplied with rack ears attached to allow mounting within a standard 19" equipment rack. As is the case with almost all audio products, adequate ventilation and air flow is required. When installing multiple AMIS amplifiers within the one rack, it is recommended that at least one rack unit of ventilation space is left between every two amplifiers. For table or shelf mounting, the rack ears can be removed using a screwdriver. Once the rack ears are removed, please reinstall the screws.

Rear Panel Features



AC Power Inlet

The operating voltage is 230/240 VAC @ 50 Hz. The 3 pin IEC power inlet is located on the bottom left of the rear panel and accepts a standard mains power lead fitted with an IEC connector. Before plugging in a

power lead, please check the rear panel of the amplifier to ensure that the voltage switch is set correctly for your part of the world.

The inlet is equipped with an in-built AC fuse holder fitted with an 4 Amp slow blow fuse plus a spare fuse.



Please ensure that the mains power cord is disconnected before attempting to check or replace this fuse. Power consumption is 400 VA (max).

230V/240V Slide Switch

The operating voltage of the amplifier is user selectable between 230V and 240V via a slide switch located on the right of the AC inlet. This switch should be set to match the AC voltage of your country

24 Volt DC Power Inlet

The AMIS1202P feature optional 24VDC power to run off a battery back-up if required. This is connected via the rear terminal strip. The front panel Power Switch will not switch DC power 'on' or 'off' in DC operation. In this mode the amplifier is always 'on'.

Speaker Output Terminal Strip

Located on the top left of the rear panel are the speaker output terminal strips. A terminal strip is provided for each of the two amplifiers. Reading from left to right, the connections per terminal strip are:

COM Common or “-” for low impedance speaker loads (4 or 8 ohms).

4 The “+” for 4 ohm speaker loads (use with common)

8 The “+” for 8 ohm speaker loads (use with common)

COM Common or “-” for 70v or 100v speaker loads (maximum load of 80 ohms at 100v)

70 The “+” for 70v line speaker loads (use with common)

100 The “+” for 100v line speaker loads (use with common)

Please ensure that the correct “Common” is used. Low impedance and 70/100v loads can be used simultaneously but please pay careful attention to the overall speaker load. When used individually, the low impedance load should be 4 ohms or higher while the 100v line load should not fall below 80 ohms per amplifier. When both low impedance and 70/100v outputs are used simultaneously on the one amplifier, ensure that neither output is loaded to maximum.

Level Control

Located next to the XLR input/output is a recessed screwdriver adjustable level control. One is provided per amplifier channel. The level control is an input attenuation control normally used to match the amplifier to a wide variety of input signals. In essence, the amplifier is designed to receive a 700mv input signal however the level control can be used to increase the level for lower signals or decrease the level for higher input signals. In normal use, the level control is used as a ‘set and forget’ master level control for the amplifier.

XLR Audio Input and Parallel Output

The AMIS1202P includes both male and female 3 pin XLR connectors per channel. While the female is normally used as the input to the amplifier, both XLR’s are connected in parallel so either will work. When signal is connected to one XLR, the other XLR becomes a line level output allowing the input signal to be distributed (split) to other amplifiers. In some projects, the same input may be looped through to multiple amplifiers using this method. Up to 6 amplifiers can be looped together without any noticeable loss in level. A distribution amplifier should be used when more than 6 amplifiers need to be looped.

The XLR’s are wired as follows: **Pin 1:** Shield. **Pin 2:** Hot, +, Positive. **Pin 3:** Cold, -, Negative

Fuse Sizes

Mains, 230VAC: 4 Amperes Slow Blow.



Notes:

The DC fuse is located on the circuit board. This is a feature of the AMIS series amplifier, which is equipped with a current limiting circuit preventing excessive DC current, thus eliminating the risk of blowing high tensions fuses. In the unlikely event that the DC fuse actuates, the output transistors should be checked, as it is probable that the amplifier has been subjected to very extreme conditions.



Important Safety Information

1. **Save the carton and packing material even if the equipment has arrived in good condition.** Should you ever need to ship the unit, use only the original factory packing.
2. **Read all documentation before operating your equipment.** Retain all documentation for future reference.
3. **Follow all instructions** printed on unit chassis for proper operation.
4. **Do not spill water or other liquids into or on the unit,** or operate the unit while standing in liquid.
5. **Make sure power outlets conform to the power requirements** listed on the back of the unit.
6. **Do not use the unit if the electrical power cord is frayed or broken.** The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
7. **Always operate the unit with the AC ground wire connected** to the electrical system ground. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.
8. **Mains voltage must be correct and the same as that printed on the rear of the unit.** Damage caused by connection to improper AC voltage is not covered by any warranty.
9. **Have gain controls on amplifiers turned down during power-up** to prevent speaker damage if there are high signal levels at the inputs.
10. **Power down & disconnect units from mains voltage before making connections.**
11. **Never hold a power switch in the “ON” position if it won’t stay there itself!**
12. **Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.**
13. **Do not block fan intake or exhaust ports.** Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, weathersheet,

carpet, or completely enclosed rack. If the unit is used in an extremely dusty or smoky environment, the unit should be periodically “blown free” of foreign matter.

14. **Do not remove the cover.** Removing the cover will expose you to potentially dangerous voltages. There are no user serviceable parts inside.

15. **Do not drive the inputs with a signal level greater than that required to drive equipment to full output.**

16. **Do not connect the inputs / outputs of amplifiers or consoles to any other voltage source,** such as a battery, mains source, or power supply, regardless of whether the amplifier or console is turned on or off.

17. **Do not run the output of any amplifier channel back into another channel’s input. Do not parallel- or series-connect an amplifier output with any other amplifier output.**

Australian Monitor is not responsible for damage to loudspeakers for any reason.

18. **Do not ground any red (“hot”) terminal. Never connect a “hot” (red) output to ground or to another “hot” (red) output!**

19. **Non-use periods.** The power cord of equipment should be unplugged from the outlet when left unused for a long period of time.

20. **Service Information** Equipment should be serviced by qualified service personnel when:

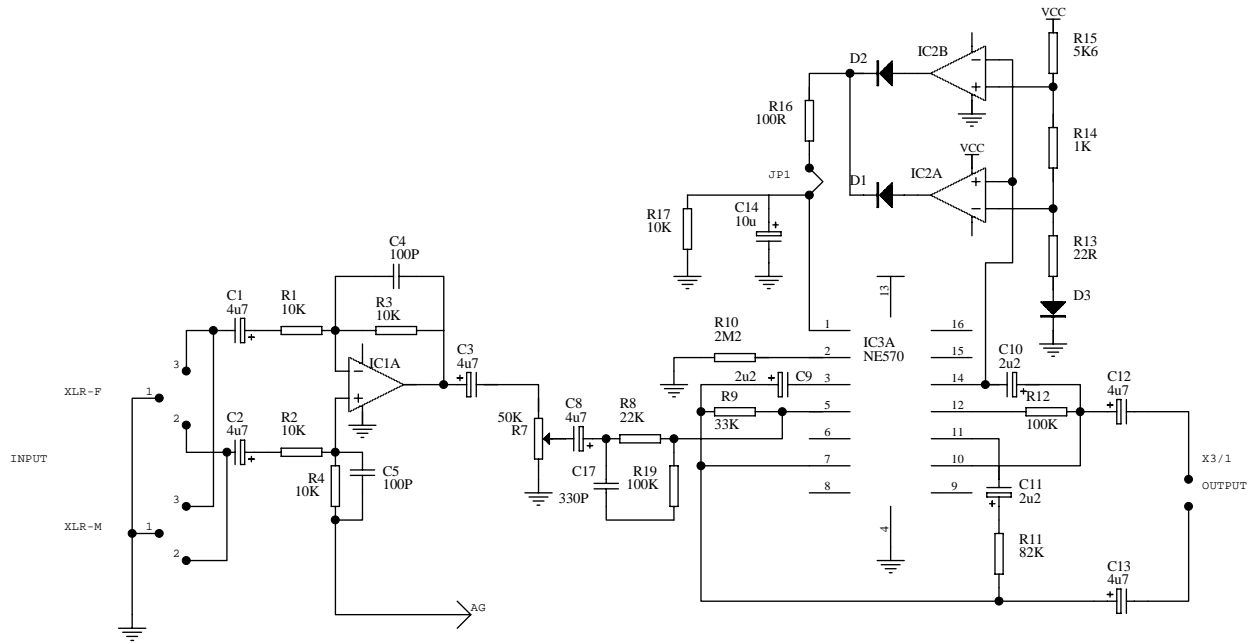
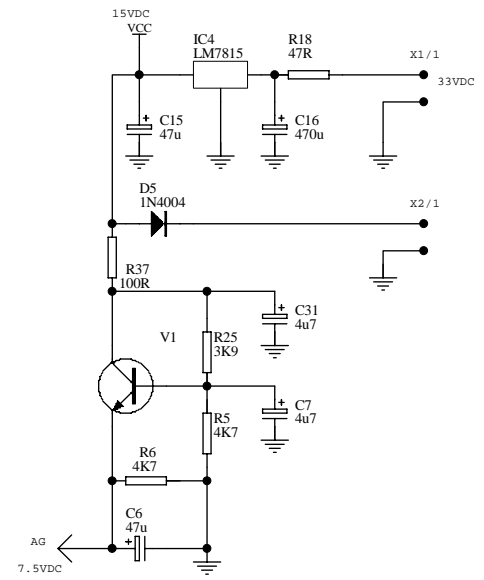
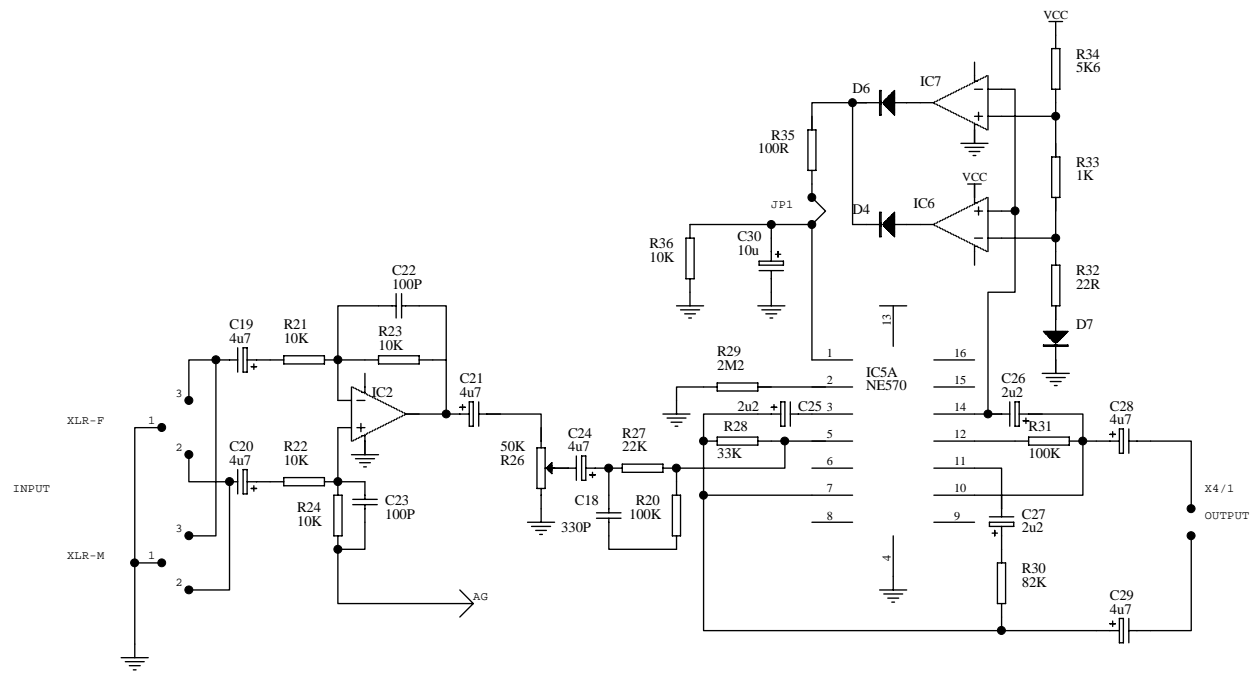
- A. The power supply cord or the plug has been damaged.
- B. Objects have fallen, or liquid has been spilled into the equipment
- C. The equipment has been exposed to rain
- D. The equipment does not appear to operate normally, or exhibits a marked change in performance
- E. The equipment has been dropped, or the enclosure damaged.

Engineered in Sydney, Australia

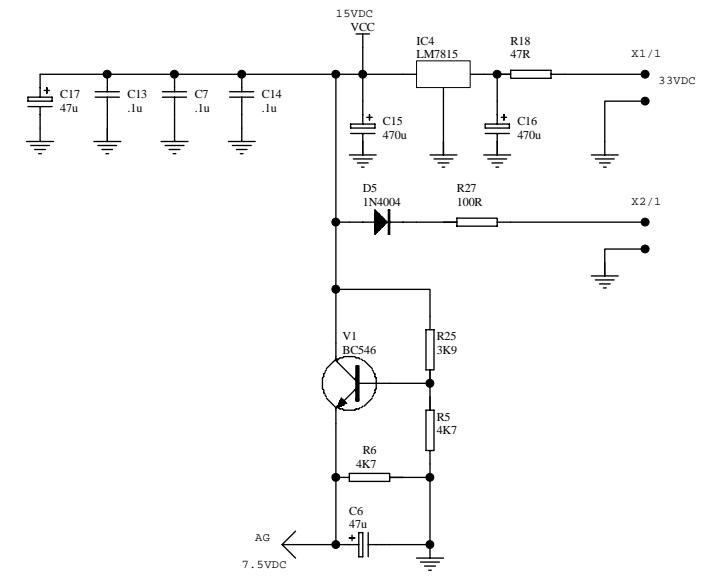
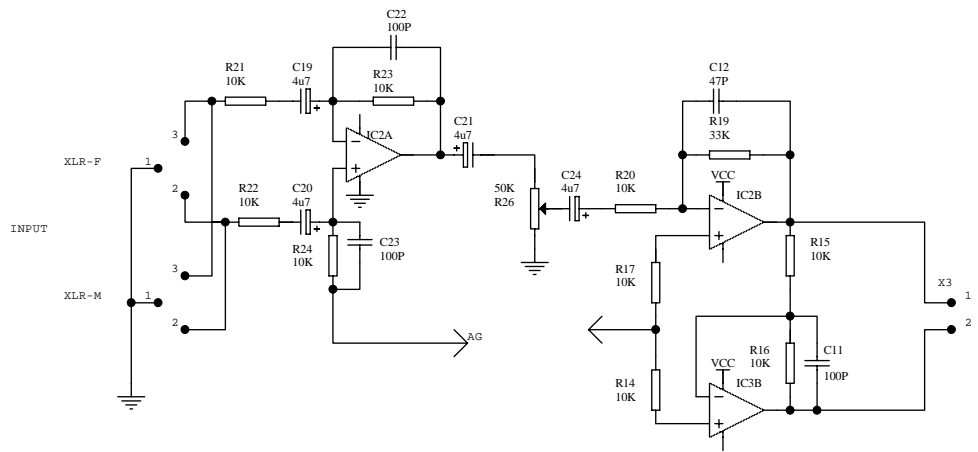
www.australianmonitor.com.au

International Sales & Corporate Head Office

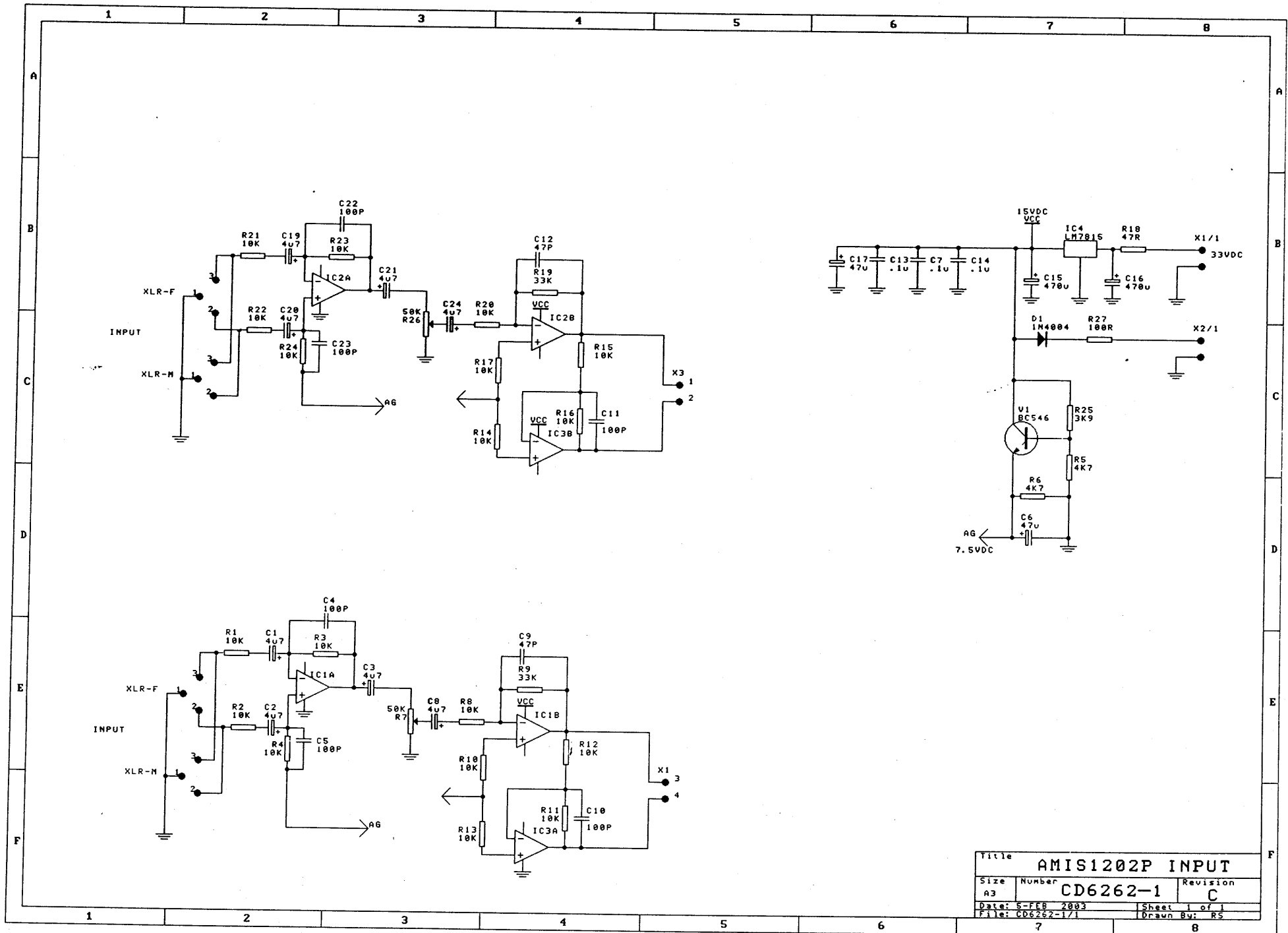
Private Bag 149, Silverwater NSW 1811
149 Beaconsfield Street, Silverwater NSW 2128
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E-mail: international@australianmonitor.com



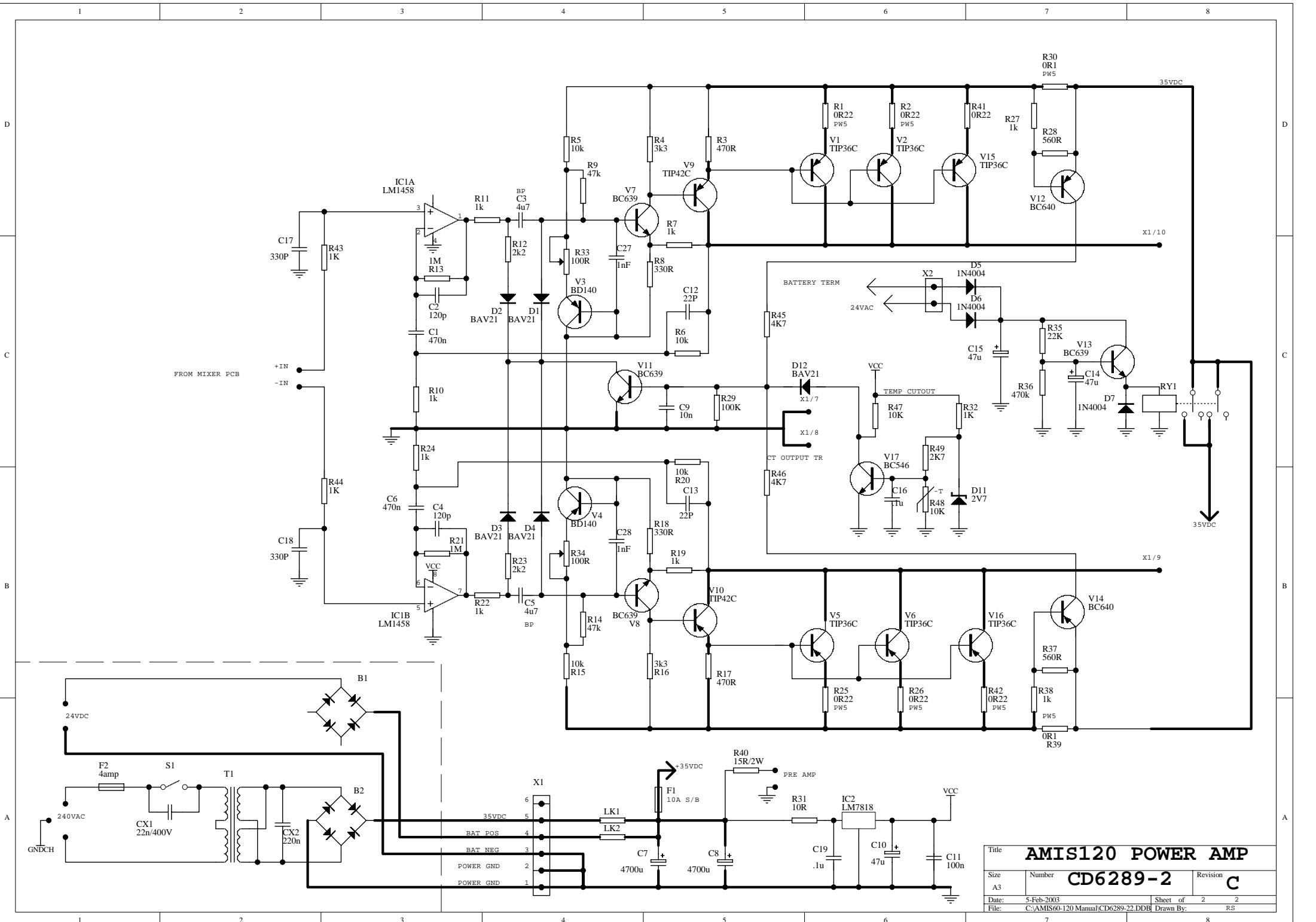
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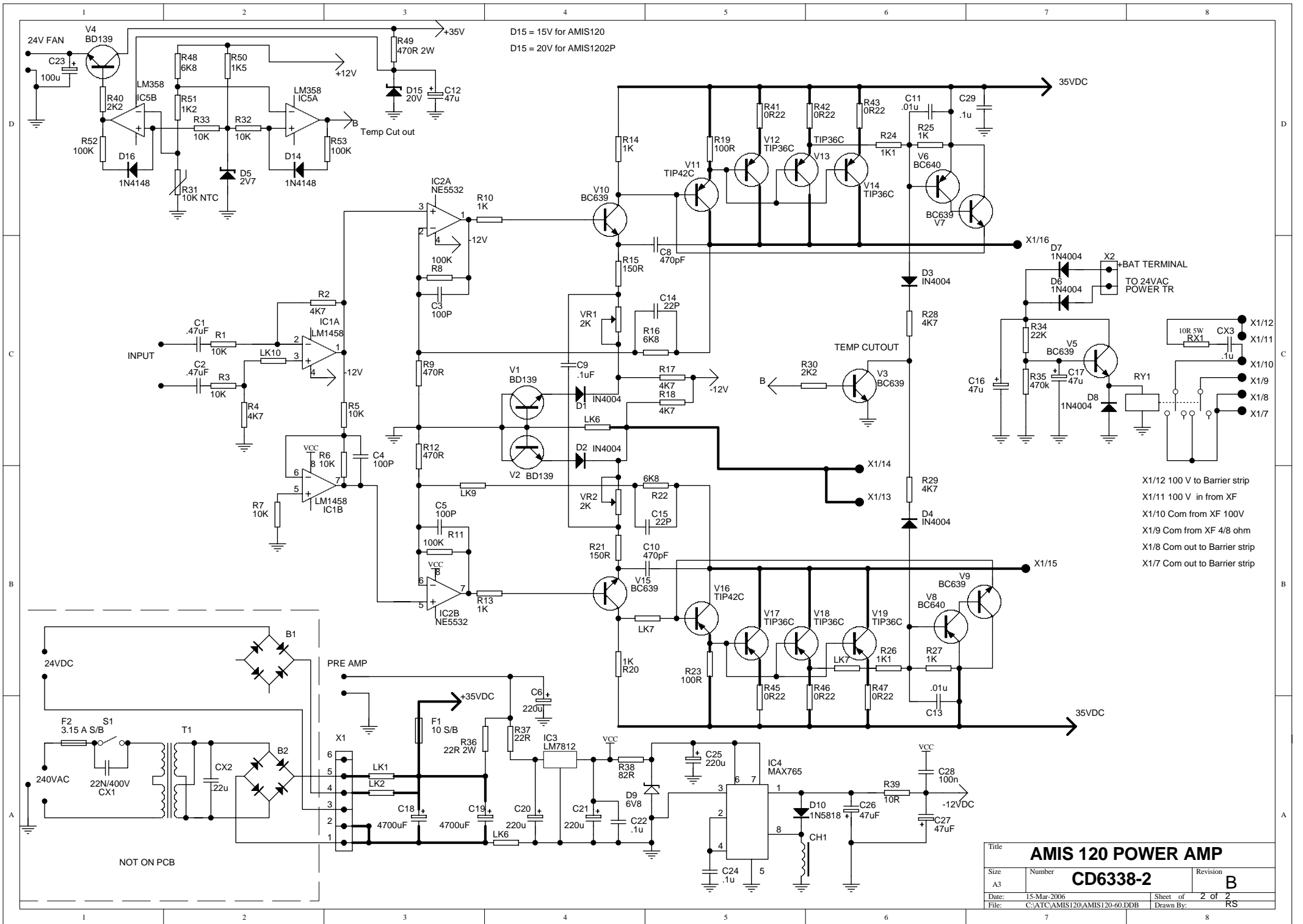
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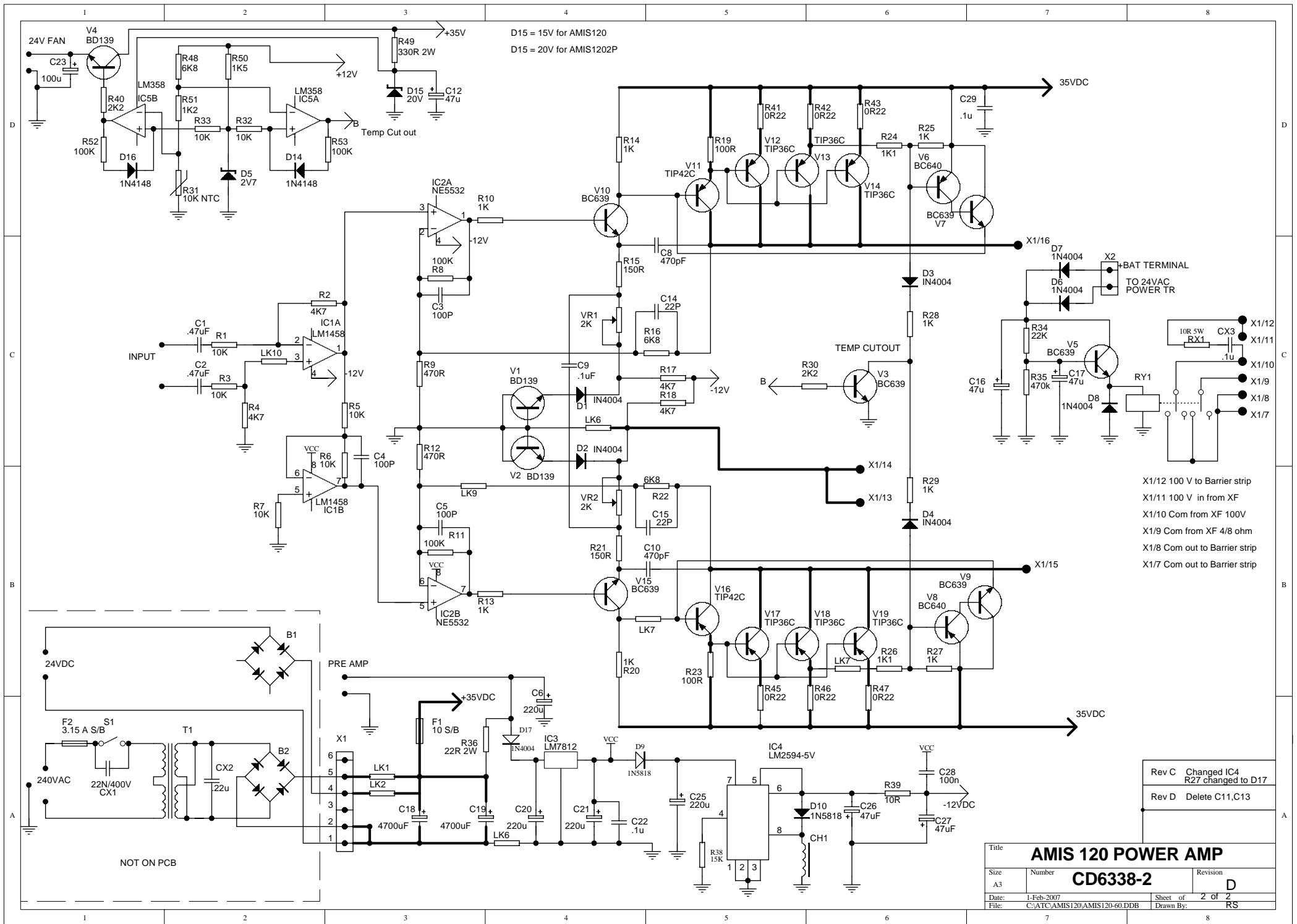
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Size	Number	Revision			
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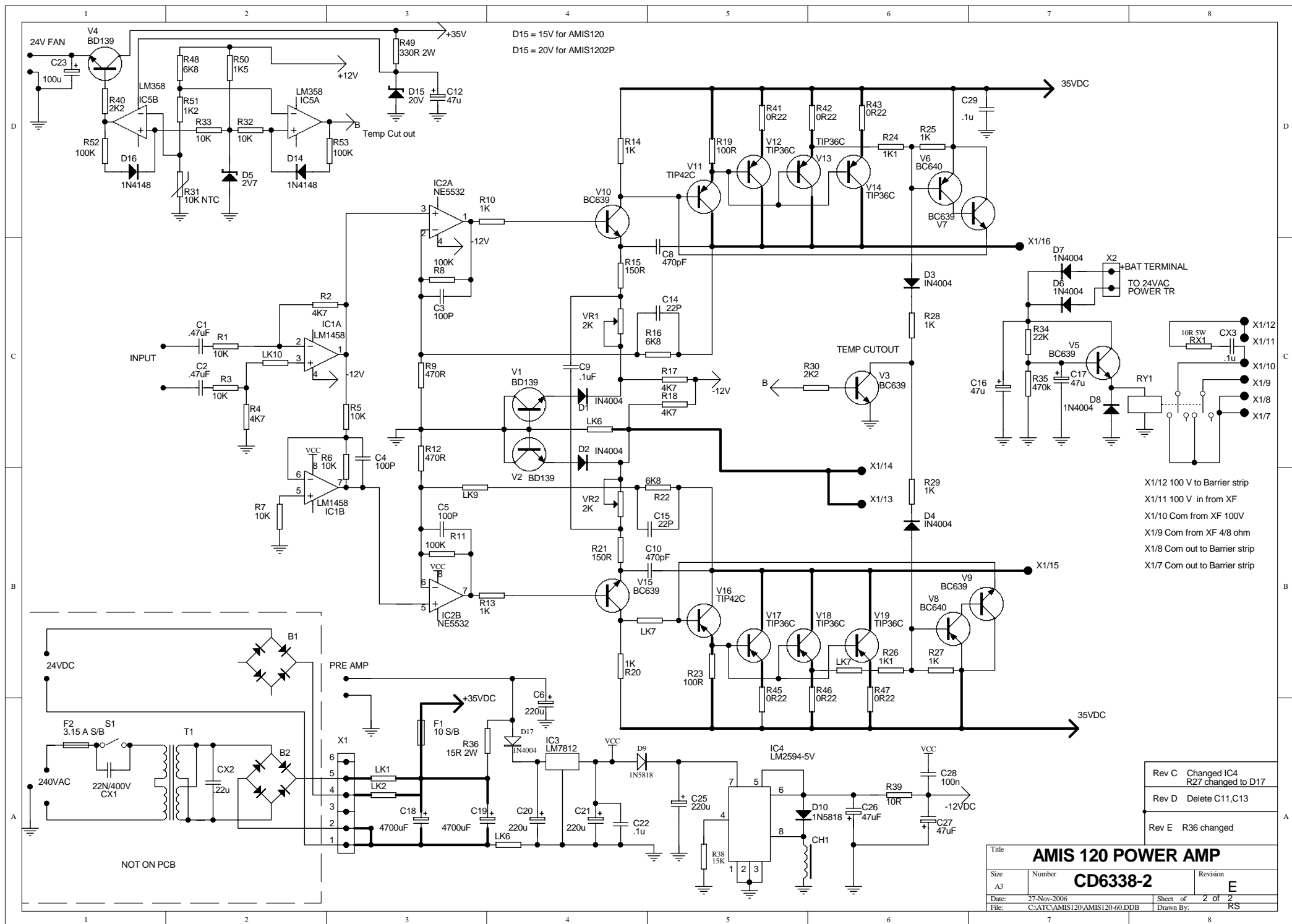


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Date: 5-Feb-2003	Sheet of 2	2
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Title		
AMIS 120 POWER AMP		
Size	Number	Revision
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File:	C:\ATC\AMIS120\AMIS120-60.DDB	Drawn By: RS



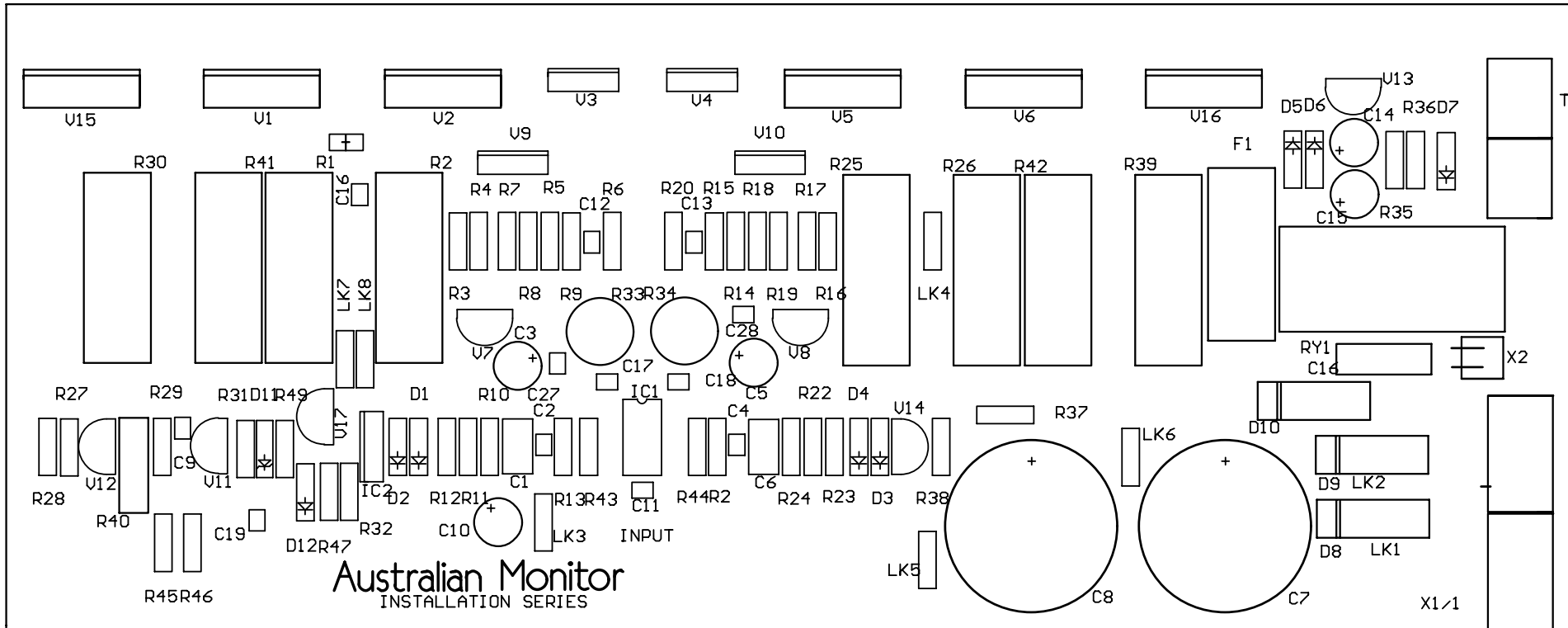


D15 = 15V for AMIS120
 D15 = 20V for AMIS1202P

NOT ON PCB

- Rev C Changed IC4 R27 changed to D17
- Rev D Delete C11, C13
- Rev E R36 changed

Title AMIS 120 POWER AMP		
Size A3	Number CD6338-2	Revision E
Date: 27-Nov-2006	Sheet of 2 of 2	Drawn By: RS
File: C:\ATC\AMIS120\AMIS120-60.DDB		



OUTPUT
TRANSFORMER
OUTPUT
GND-CT
GND-CT

24VAC
OR 35VDC
24VAC
+ BAT
GND-BAT
GND-CT
POWER TRANSFORMER
GND-CT

X1/1

Subject: AMIS1202P
Issue date: 02/11/04.

It has been reported that under certain installation circumstances, the AMIS1202P can reach a high operating temperature, however the amplifier will rarely fail or cutout.

Audio Telex Communications has a modification which can be carried out to facilitate a cooler running amplifier.

If you are experiencing any thermal issues with any AMIS1202P please contact your local ATC office to arrange modification required.

The modification will include two thermally controlled fans. ATC will pay for the modification and return freight to your local ATC office.

The AMIS1202P will not exhibit these high operating temperatures in most circumstances.

If there are any questions regarding this change, please contact technical support either by e.mail: service@audiotelx.com.au
Or by fax: (612) 97379543

Australian Monitor Service Bulletin



AMIS Mixer Amplifiers

AMIS Booster Amplifier

Start-Up Issues in Extreme Cold Conditions

12 March 2012

Applicable Models

This bulletin applies to the AMIS250 and AMIS250P models, and older versions of the AMIS60, AMIS120, AMIS120P, AMIS120XL, AMIS1202P and AMIS480P models.

For Information Only

This bulletin is intended for service technicians only and is to be applied when presented with models exhibiting the issue identified below.

Known Issue

In extreme cold conditions the models listed may not operate when turned on. A small number of reported instances have been recorded in regions of extreme cold, typically when the unit temperature is less than 10°C.

In some instances, the failure to start can lead to failure of the main bridge rectifier also.

This issue is limited to AMIS products using the Maxim MAX765CPA inverter IC.

The range of AMIS60 and AMIS120 models stopped using this part several years ago so this issue is limited to the older models.

Identification

If you have one of the models listed above that has presented with the described issue then inspect the part fitted (IC4) on the main amplifier board. If this part is a MAX765CPA then the cold start issue may be resolved by replacing this part with a MAX765EPA part.

Later models are fitted with an LM2594 part that does not exhibit cold start issues.

Solution

An alternate part is available with wider operating temperature specifications.

The alternate part MAX765EPA is fully compatible with the original part MAX765CPA and may be exchanged if required.

Replacement Wide Temperature Range Component				
Temp. Range	Package	Maxim Part	Mouser	Digikey
-40° to +85 ° C	DIP8	MAX765EPA	700-MAX765EPA	MAX765EPA+-ND

Notes

The MAX765 and LM2594 parts are not directly interchangeable.

Australian Monitor Service Bulletin

AMIS120 Mixer Amplifier
 AMIS120XL Mixer Amplifier
 AMIS120P Booster Amplifier
 AMIS1202P Booster Amplifier
 12V Regulator Capacitors

13 March 2012

Applicable Models

This bulletin applies to AMIS120, AMIS120P, AMIS120XL and AMIS1202P models manufactured prior to March 2012.

For Information Only

This bulletin is intended for service technicians only and is to be applied when repairing failed amplifiers. This bulletin does not apply to functional units.

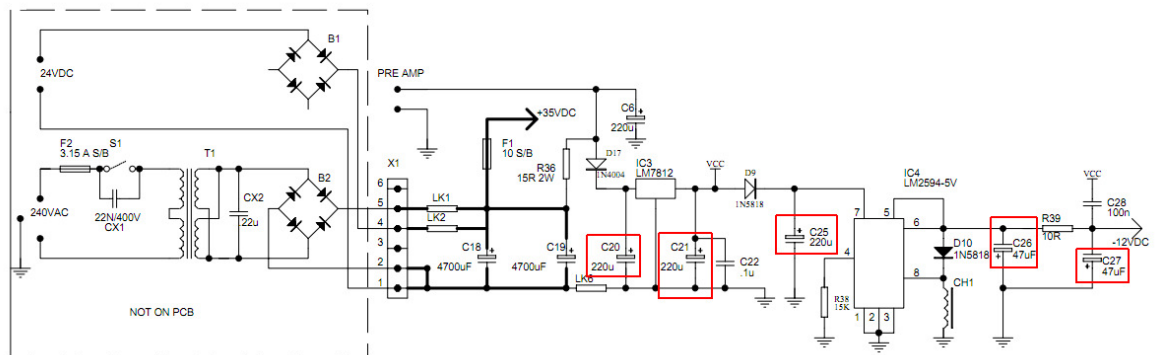
Known Issue

A larger than expected number of failures have been observed once these models have been in service for a number of years, due to the failure of a number of electrolytic capacitors in the negative 12V power supply inverter.

When the negative inverter circuit falls out of specification the amplifier may exhibit a large DC offsets at turn on, resulting in failure of the main AC bridge rectifier.

Solution

Replacement of the electrolytic capacitors in the negative 12V inverter section with higher operating temperature low impedance parts is recommended in the interest of longevity and reliable operation. Replace the critical components as per the table below.



Designators	Value	Voltage	Temperature Rating	Special Attributes	Recommended Part	
					Panasonic	Element14
C20, C21, C25	220uF	35V	105°C	Low ESR	EEUFC1V221	9692282
C26, C27	47uF	35V	105°C	Low ESR	EEUFC1V470	1848447

Notes

- All models manufactured March 2012 or later are fitted with higher specification parts and should therefore provide improved longevity and reliability.
- The Panasonic parts recommended may be substituted with other brand components of similar specification.

Australian Monitor Service Bulletin



AMIS120 Mixer Amplifier
AMIS120XL Mixer Amplifier
AMIS120P Booster Amplifier
AMIS1202P Booster Amplifier
Bridge Rectifier Upgrade

13 March 2012

Applicable Models

This bulletin applies to AMIS120, AMIS120P, AMIS120XL and AMIS1202P models manufactured prior to March 2012.

For Information Only

This bulletin is intended for service technicians only and is to be applied when replacing failed bridge rectifiers.

This bulletin does not apply to functional units.

Known Issue

A small number of bridge rectifier failures at power on have been observed.

Details

- i. Failure of the electrolytic capacitors in the positive and negative 12V regulators result in a large DC offsets at turn on, resulting in failure of the main AC bridge rectifier.
- ii. It is believed that RoHS compliant 35A bridge rectifiers are not as reliable as the earlier non-RoHS equivalents. We have therefore decided to increase the rating from 35A to 50A to provide additional headroom under turn on conditions.

Solution

- i. Replace the electrolytic capacitors in the 12V regulator section as per service bulletin AM-SB-120313.
- ii. When replacing a failed AC bridge rectifier, substitute the original 35A bridge with a 50A model as indicated in the table below.

		Model	VRRM	I(AV)	Terminals
✘	Original Part	KBPC3504	400V	35A	0.25" FASTON terminals
✔	Replacement Part	KBPC5004	400V	50A	0.25" FASTON terminals

Notes

- All models manufactured March 2012 or later are fitted with the 50A replacement part.
- Part number KBPC5006 may also be fitted (50A 600V).