SERVICE INFORMATION

AMC+120
MIXER AMPLIFIER

CONTENTS:

Australian Monitor
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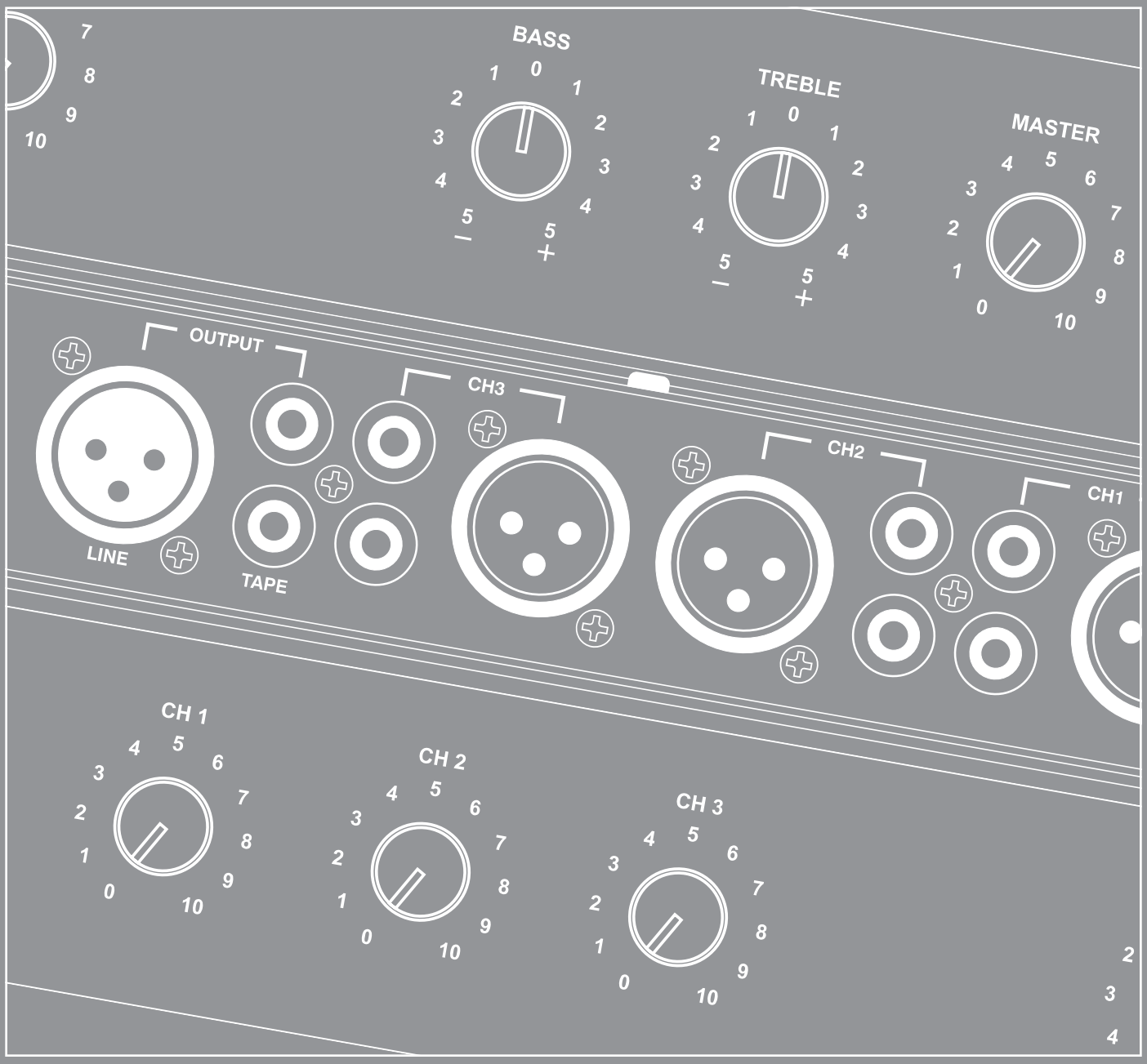
www.australianmonitor.com.au

Australian Monitor
INSTALLATION SERIES

AMC+ SERIES

30W/60W/120W/250W MIXER AMPLIFIERS
INSTALLATION AND OPERATION MANUAL



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 and 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 Inc 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.

The Australian Monitor AMC+ series of amplifiers takes the heritage and reliability of our famous AMIS series amplifiers and integrates these features into low cost amplifiers for applications where reliability is everything, but the more elaborate features of our AMIS series are not required.

Available in 30, 60, 120 and 250 watt versions, the AMC+ series are 2 RU mixer amplifiers, featuring 70/100 volt line and 4 ohm outputs, and 4 universal mic/line inputs.

Master volume and overall treble and bass controls are provided, along with Vox triggered muting (defeatable), giving channel 1 priority over inputs 2, 3 and 4. There is also the facility to add a tone generator card.

The Australian Monitor AMC+ series gives the contractor a low cost alternative in applications that are price sensitive, but still require a high quality of sound reproduction and reliability.

AUS, EUR, USA

Rev A: 1st Apr 2005
Rev B: 6th Jun 2006
Rev C: 26th May 2008

WARNING!

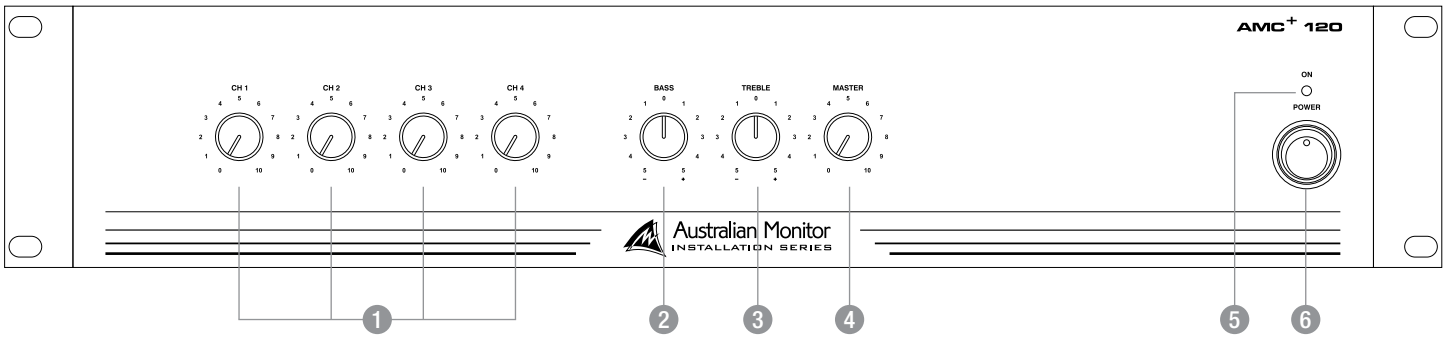
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK
DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operational and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarised) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure. To prevent electric shock, match wide blade of plug to wide slot, fully insert.

FRONT PANEL



1 CH 1–4

These control the levels for each channel input.

2 Bass

There is 12dB of cut and boost at 100Hz.

3 Treble

There is 9dB of cut and boost at 10kHz.

4 Master

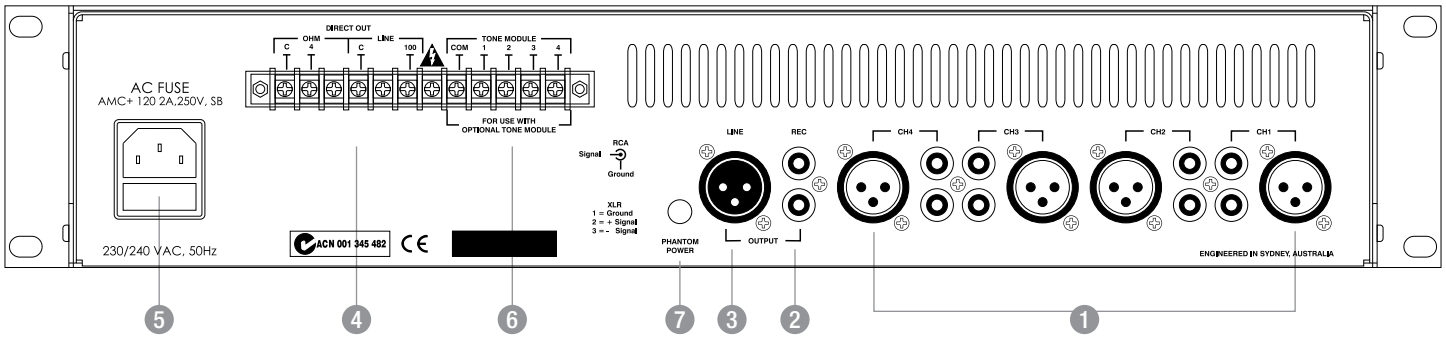
This controls the overall mixed output level.

5 On

This LED indicates the unit is powered “on”.

6 Power

This switch switches power on or off the mains. The up position is on.



1 CH 1–4

Each channel input section has two inputs: XLR input – This is a balanced microphone input. It has an input sensitivity of 1mV. RCA input – This is an unbalanced line level input. It has an input sensitivity of 150mV. The two RCA sockets are summed to mono internally.

2 REC Output

The REC output is on unbalanced RCA connectors. The output level is 150mV into 10kohm at rated output. The output is dual mono.
The REC output is not affected by the MASTER volume control or the BASS and TREBLE controls.
The REC output does not receive the tone signal if the optional tone generator module is installed.

3 Line Output

The LINE output is on a balanced XLR connector. The output level is 0.775V into 1k at rated output.

Note: When wiring the LINE output as unbalanced, Pin2 should be wired as hot and Pin1 should be wired as ground/ shield. Do not wire Pin3.

4 Direct Out

The speaker connections are on the 12 pole terminal strip. There is a low impedance output (OHM) and a distributed line voltage output (LINE). 70V out is available on 115V models. 100V out is available on 230V/240V models.

Minimum Impedance	AMC+30	AMC+60	AMC+120	AMC+250
Distributed Line Output				
70V (115V version)	166ohm	83ohm	41ohm	20ohm
100V (230/240V version)	333ohm	166ohm	83ohm	40ohm
Low Impedance Output				
(both versions)	4ohm	4ohm	4ohm	4ohm

Note: Only connect one output – either Distributed Line or Low Impedance per channel.
Do not connect LowZ and 70/100V at the same time.

The output strip comes fitted with a touch-proof cover held in place by two M3 machine screws with flat and spring washers.

5 IEC Mains Input Socket

This is a standard IEC 3 pin socket. It accepts a standard IEC mains cable, provided. The fuse draw at 5 contains the mains fuse and a spare. The mains fuse is a time lag (slow blow) HRC 20mm x 5mm ceramic type fuse.

The ratings are:	AMC+30	AMC+60	AMC+120	AMC+250
230V/240V model	0.5A	1.6A	2A	2.15A
115V model	1A	3.15A	4A	6.3A

Always replace the fuse with one of the same value and type.

Note: Always disconnect power to the amplifier before replacing fuses.

6 (Optional) Tone Module

These terminals are for use with an optional tone module (not supplied). Use Australian Monitor ATC5488 module.

7 Phantom Power

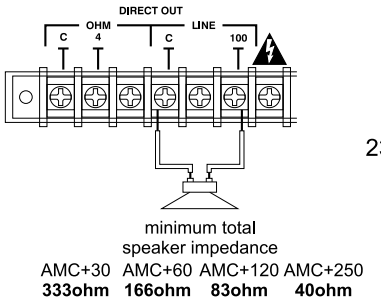
12V phantom power is available for condenser or electret microphones on the XLR input when this switch is pushed in.

INSTALLATION

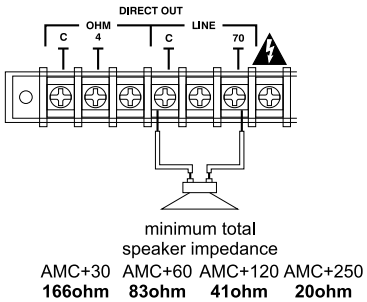
Mounting
When rack mounting, it is advisable to allow 1 rack space above and below the amplifier. When multiple amplifiers are mounted in a rack, exhaust fans should be used on the rack. Airflow for cooling the AMC30, AMC60 and AMC120 is by convection from bottom to top. Airflow for cooling the AMC250 is by fan from front to side.

Direct Output
The output terminal strip accepts wire sizes from 16-22AWG (1.5mm2 – 0.35mm2) or spade lugs. The following table should be used as a guideline for cable sizes. Regulations in your area may require different gauged wire and should be checked before using.

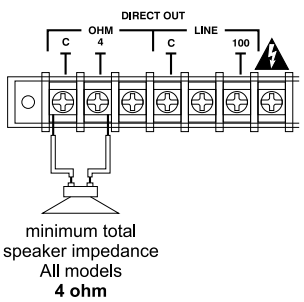
Output	Distance	Wire Size			
		AMC+30	**AMC+60**	**AMC+120**	**AMC+250**
100V	Up to 50m	AWG26(0.12mm²)	AWG26(0.12mm²)	AWG24(0.2mm²)	AWG22(0.35mm²)
	50m–200m	AWG24(0.2mm²)	AWG20(0.5mm²)	AWG18(0.75mm²)	AWG16(1.5mm²)
	Over 200m	AWG20(0.5mm²)	AWG18(0.75mm²)	AWG16(1.5mm²)	AWG13(2.5mm²)
70V	Up to 50m	AWG26(0.12mm²)	AWG24(0.2mm²)	AWG22(0.35mm²)	AWG18(0.75mm²)
	50m–200m	AWG20(0.5mm²)	AWG18(0.75mm²)	AWG16(1.5mm²)	AWG13(2.5mm²)
	Over 200m	AWG18(0.75mm²)	AWG16(1.5mm²)	AWG13(2.5mm²)	AWG10(6.0mm²)
4 ohm	Up to 10m	AWG18(0.75mm²)	AWG18(0.75mm²)	AWG18(0.75mm²)	AWG18(0.75mm²)
	10m–30m	AWG13(2.5mm²)	AWG13(2.5mm²)	AWG13(2.5mm²)	AWG13(0.35mm²)
	Over 30m	Not Recommended	Not Recommended	Not Recommended	Not Recommended



230/240V version



115V version



Both versions

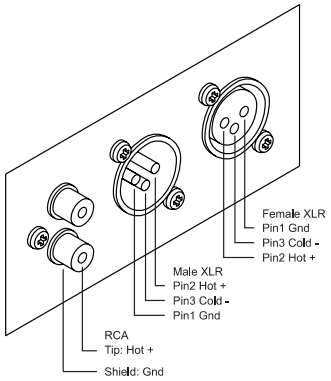
Note: Only connect one output – either Distributed Line or Low Impedance.

Line Output
The LINE output XLR can be used to connect up to 6 booster amplifiers. Balanced wiring (shielded pair cable) is recommended.

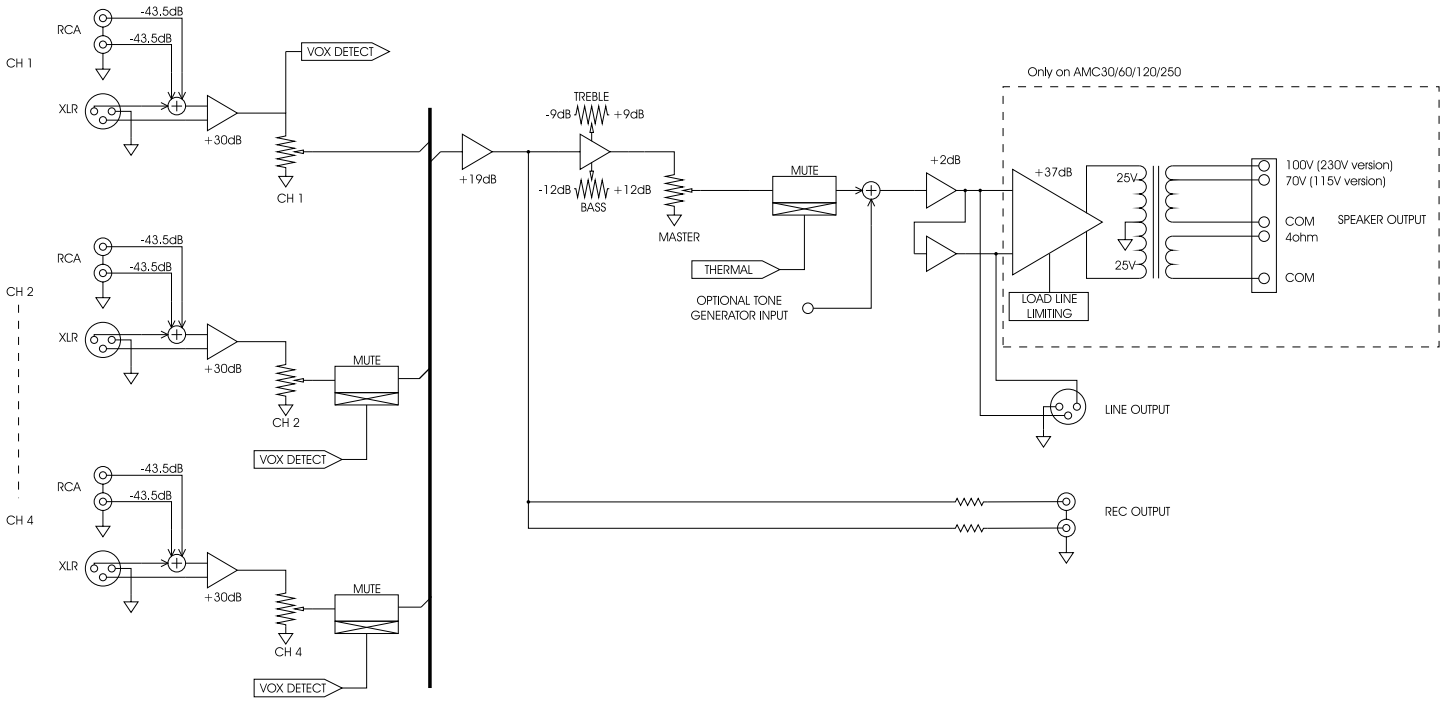
Note: When wiring the LINE output as unbalanced, Pin2 should be wired as hot and Pin1 should be wired as ground/shield. Do not wire Pin3.

REC Output
The REC output wiring should be kept as short as possible.

Input Connections
For wiring balanced in, pin 2 is hot. Unbalanced wiring on the microphone inputs is not recommended. Balanced input wiring (shielded pair cable) is recommended. Unbalanced RCA wiring should be keep as short as possible.



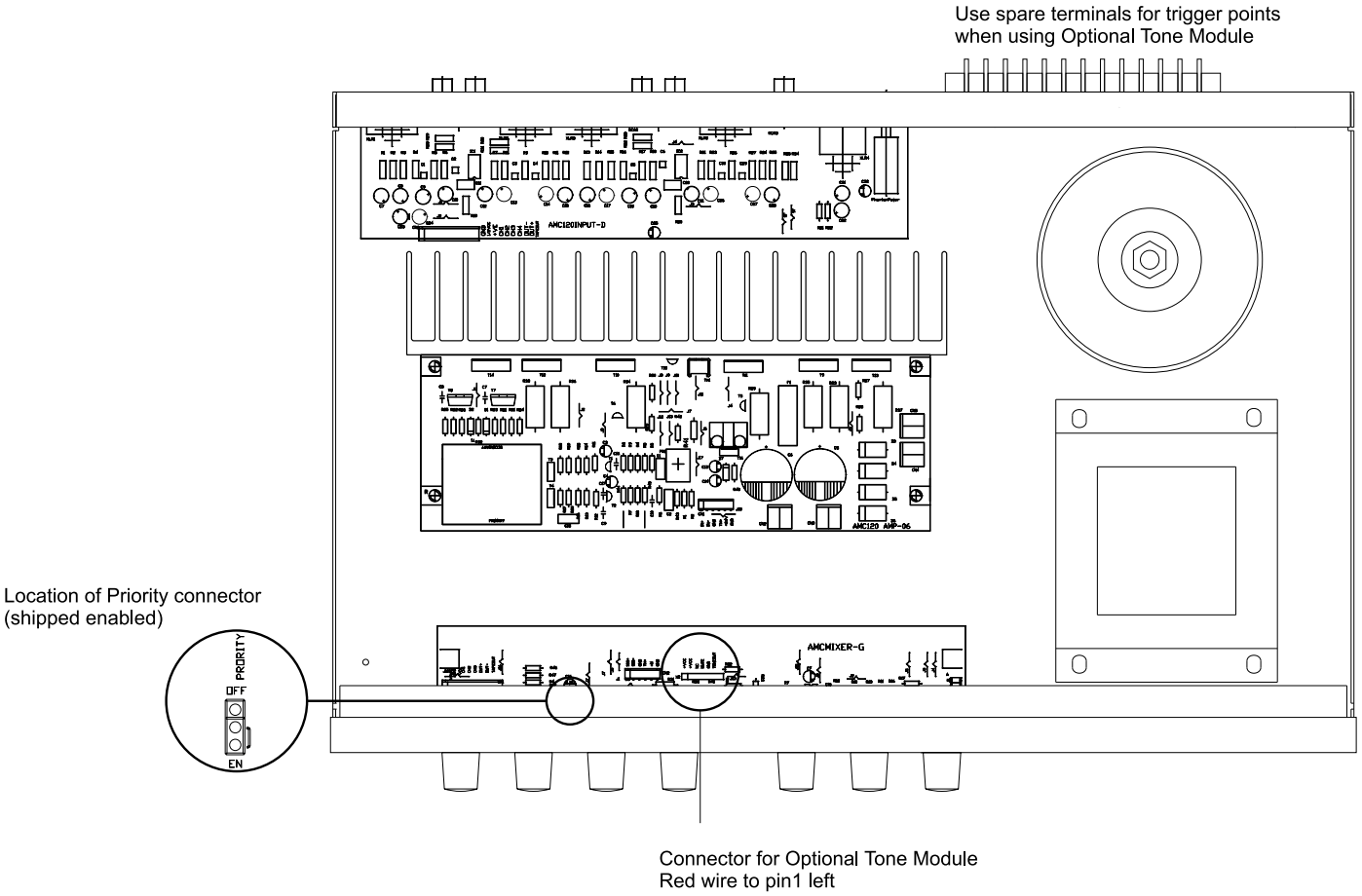
Troubleshooting Guide		
Trouble	**Likely Cause**	**Remedy**
Power LED not on	Power not reaching amplifier	Check power switch is on Check mains connection Check mains fuse
Distorted sound	Output is short circuit Input is overloaded Output is being over driven Bass control is turned up	Check speaker loads for shorts Reduce input level at source Reduce volume levels on front panel Reduce Bass control level
No sound but amp is on	Volume controls down Amplifier has overheated (AMC+60, AMC+120 AMC+250 only) DC fuse(s) blown	Check volume controls Check for obstructions above and below Make sure the amplifier is well ventilated Refer product to local Australian Monitor dealer
No sound from channels 2 and 3	Priority function is being used	Remove signal (disconnect input) from channel 1 OR Disable priority function (see Internal Adjustments)
Tones do not sound when triggered	Tone generator module not installed	Purchase optional Tone generator module

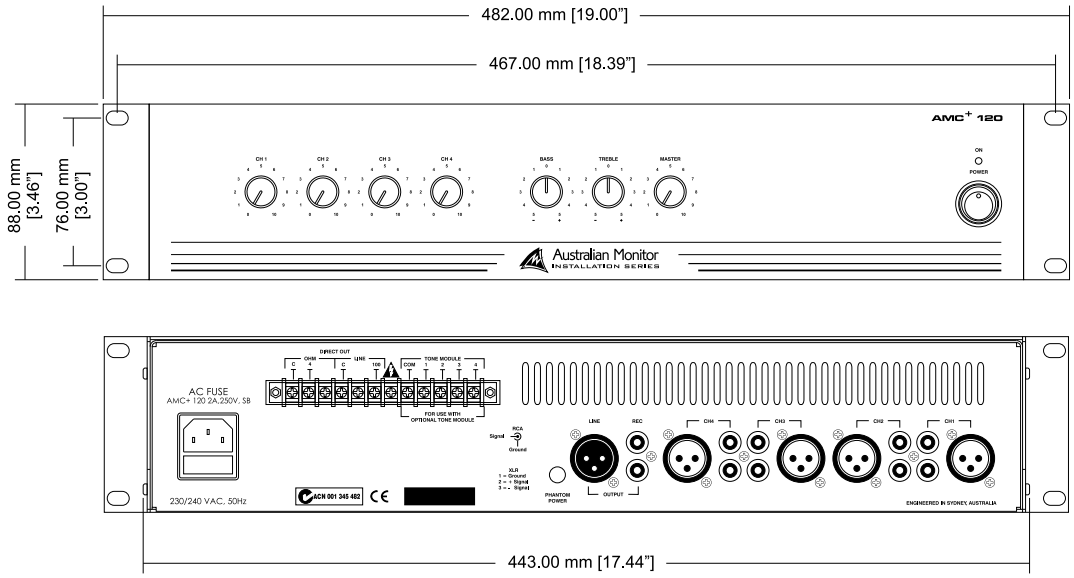


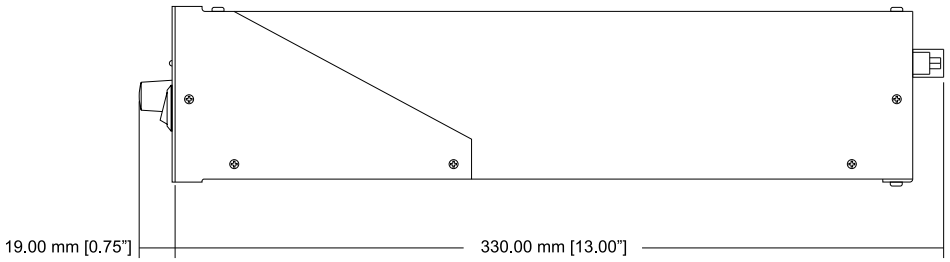
PRIORITY

Channel 1 will mute channels 2, 3 and 4. This will only occur when signal appears on channel 1, irrespective of the channel volume control.

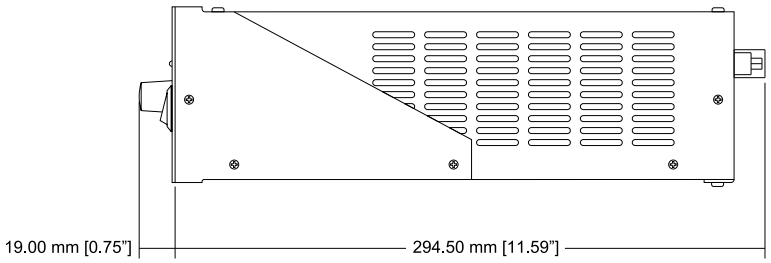
Priority can be disabled. (See below). The release time is approx. 3 secs and is NOT adjustable. The mute depth is approx. 40dB and is not adjustable.







AMC250



AMC30/60/120

SPECIFICATIONS

		AMC+ 30	AMC+ 60	AMC+ 120	AMC+ 250
POWER OUTPUT (0.5%THD, 1KHZ)		30W	60W	120W	250W
S/N RATIO		> 75dBr	> 75dBr	> 80dBr	>85dBr
POWER BANDWIDTH (-3dB +1dB)		85Hz-15kHz	75Hz-15kHz	75Hz-15kHz	30Hz-20kHz
FUSES	MAINS (115V)	1.0A	3.15A	4A	6.3A
	MAINS (230/240V)	0.5A	1.6A	2A	3.15A
	DC	1.6A (x2)	4A	8A	10A (x2)
OUTPUT REGULATION		96%	93%	93%	90%
SIZE (WXHXD)		482 x 88 x 190mm 19" x 3.5" x 7.5"	482 x 88 x 281mm 19" x 3.5" x 11.1"	482 x 88 x 281mm 19" x 3.5" x 11.1"	482 x 88 x 384mm 19" x 3.5" 15.1"
NET WEIGHT		6.0kg 13.2lb	8.5kg 18.7lb	10.5kg 23.1lb	11.5kg 25.3lb
SHIPPING WEIGHT		7.5kg 16.5lb	10.5kg 23.1lb	12.5kg 27.6lb	14kg 30.8lb
SHIPPING DIMENSIONS (WXHXD)		510 x 145 x 297mm 20.1" x 5.7" x 11.7"	525 x 175 x 385mm 20.7" x 6.9" x 15.2"	525 x 175 x 385mm 20.7" x 6.9" x 15.2"	525 x 185 x 470mm 20.7" x 7.3" x 18.5"
MAINS CURRENT DRAW (240V)					
	FULL POWER	0.35A	0.66A	1.20A	2.53A
	1/3 POWER	0.23A	0.44A	0.80A	1.61A
	1/8 POWER	0.17A	0.32A	0.55A	1.10
	IDLE	0.08A	0.13A	0.15A	0.15A
MAINS CURRENT DRAW (115V)					
	FULL POWER	0.73A	1.38A	2.50A	5.28A
	1/3 POWER	0.48A	0.92A	1.67A	3.36A
	1/8 POWER	0.35A	0.67A	1.15A	2.30A
	IDLE	0.17A	0.27A	0.31A	0.31A
THERMAL OUTPUT (W)					
	FULL POWER	38W	67W	128W	259W
	1/3 POWER	33W	63W	118W	231W
	1/8 POWER	26W	51W	91W	168W
	IDLE	11W	19W	26W	26W
THERMAL OUTPUT (BTU/HR)					
	FULL POWER	130	229	437	884
	1/3 POWER	113	215	403	788
	1/8 POWER	90	172	311	573
	IDLE	38	65	89	89

**1/3 and 1/8 power levels relate to voltage changes, not load changes.*

COMMON TO ALL MODELS

THD (1KHz, -1dB)		Better than 0.5%
MIC INPUT	SENSITIVITY	1mV @ 200ohm
	IMPEDANCE	1k3 ohm
	HEADROOM	77mV (37dB)
AUX INPUT	SENSITIVITY	0.5V+/@100kohm
	IMPEDANCE	>200kohm
	HEADROOM	> 15V (>30dB)
TONE CONTROL	BASS @ 100HZ	+/- 12 dB
	TREBLE @ 10KHZ	+/- 9 dB
LINE OUT	NOMINAL OUTPUT	0.775V @ 1kohm
	OUTPUT IMPEDANCE	100ohm
REC OUT	NOMINAL OUTPUT	250mV @ 10kohm
	OUTPUT IMPEDANCE	1kohm

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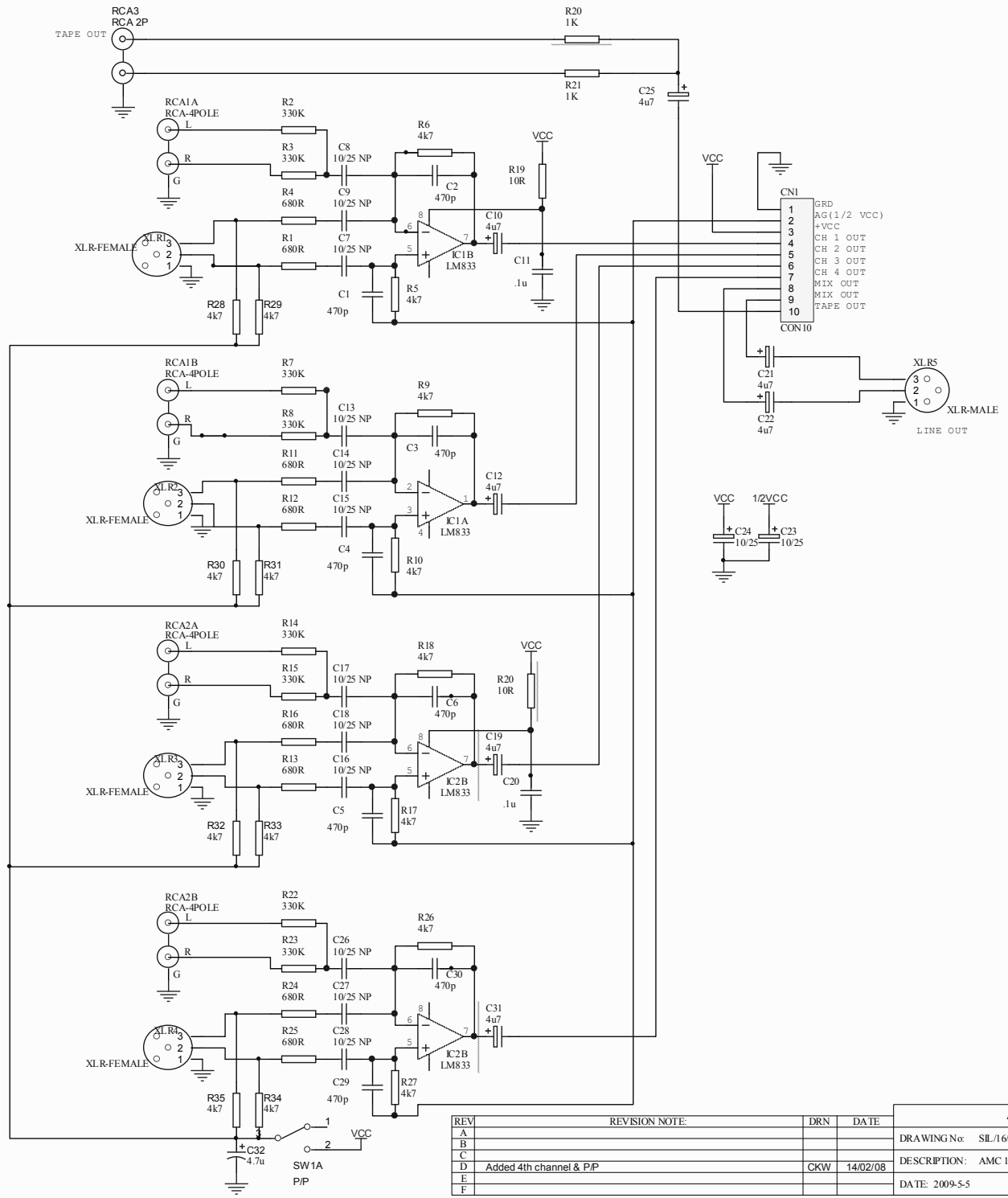


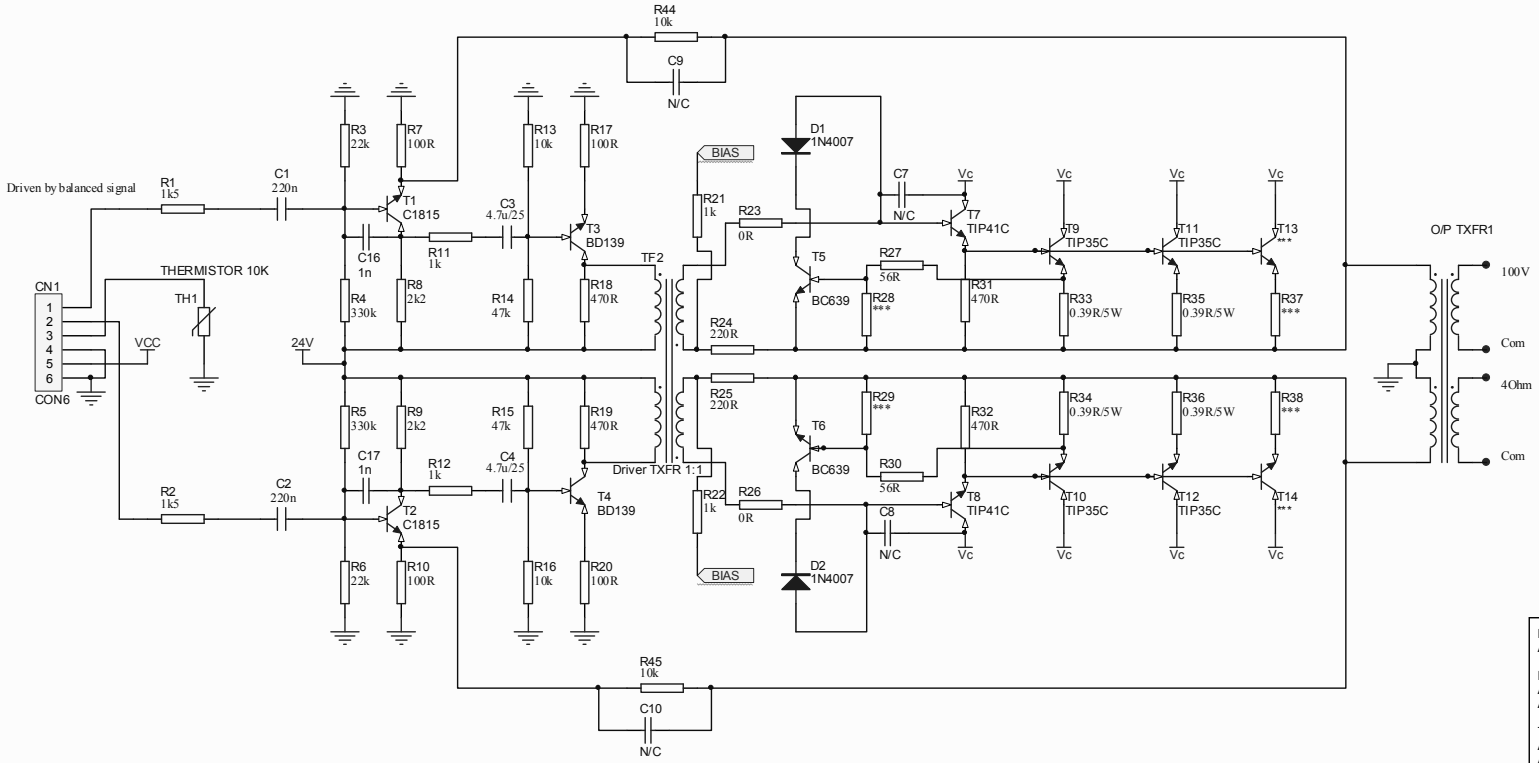
REV	REVISION NOTE:	DRN	DATE
A			
B			
C			
D	Added 4th channel & P/P	CKW	14/02/08
E			
F			

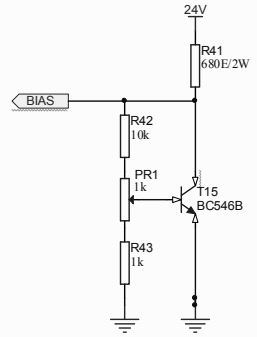
AUSTRALIAN MONITOR

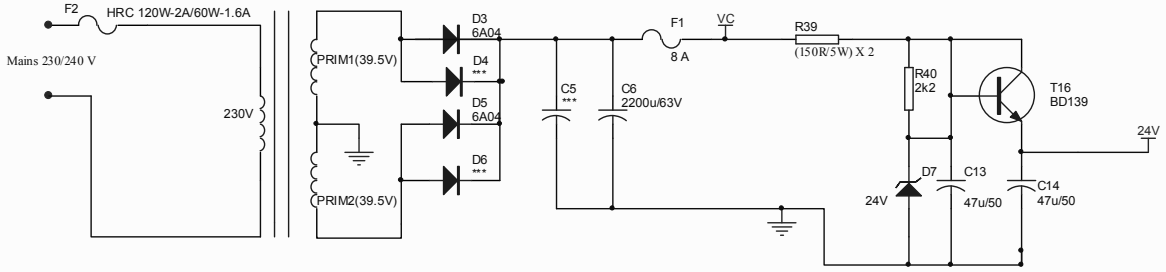
DRAWING No: SIL/16/0339

DESCRIPTION: AMC 120/60/30 MIC INPUT

DATE: 2009-5-5 | DRAWN BY: | SHEET 1 of 1







Model Variations ***
AMC+60 / AMC+120

D4, D6
AMC60 - N/C
AMC120 - 6A04

T13, T14
AMC60 - N/C
AMC120 - TIP35C

R37, R38
AMC60 - N/C
AMC120 - 0.39R/5W

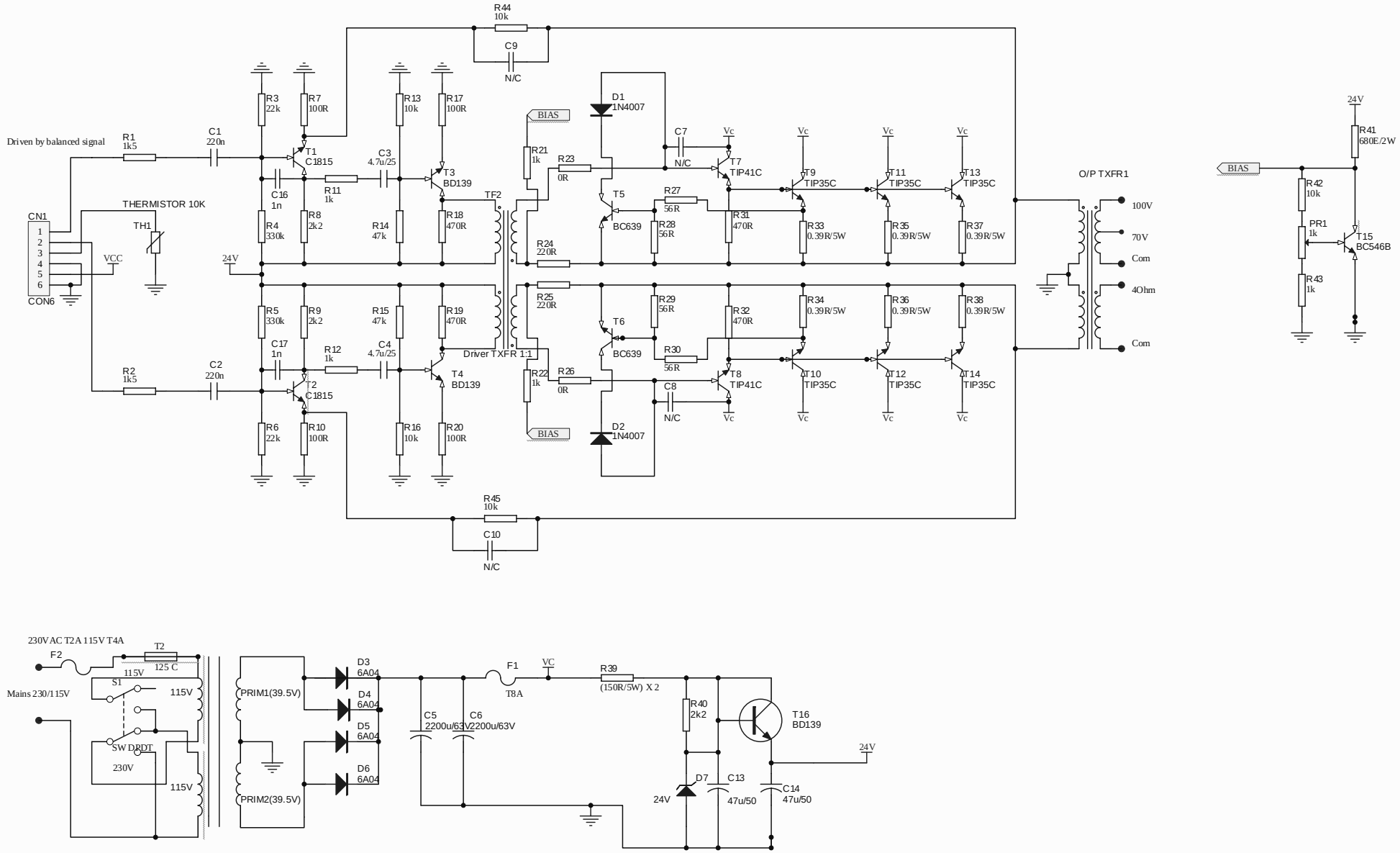
C5
AMC60 - N/C
AMC120 - 2200uF/63V

R28, R29
AMC60 - 150R
AMC120 - 56R

REV	REVISION NOTE:	DRN	DATE
A			
B			
C			
D			
E			
F	Increased gain, removed 230/240V switch, removed zobel	CKW	22/05/08

AUSTRALIAN MONITOR

DRAWING No: AMC60_120Amp		
DESCRIPTION: AMC 60/120 Amp		
DATE: 2009-5-5	DRAWN BY:	SHEET 1 of 1



Title		
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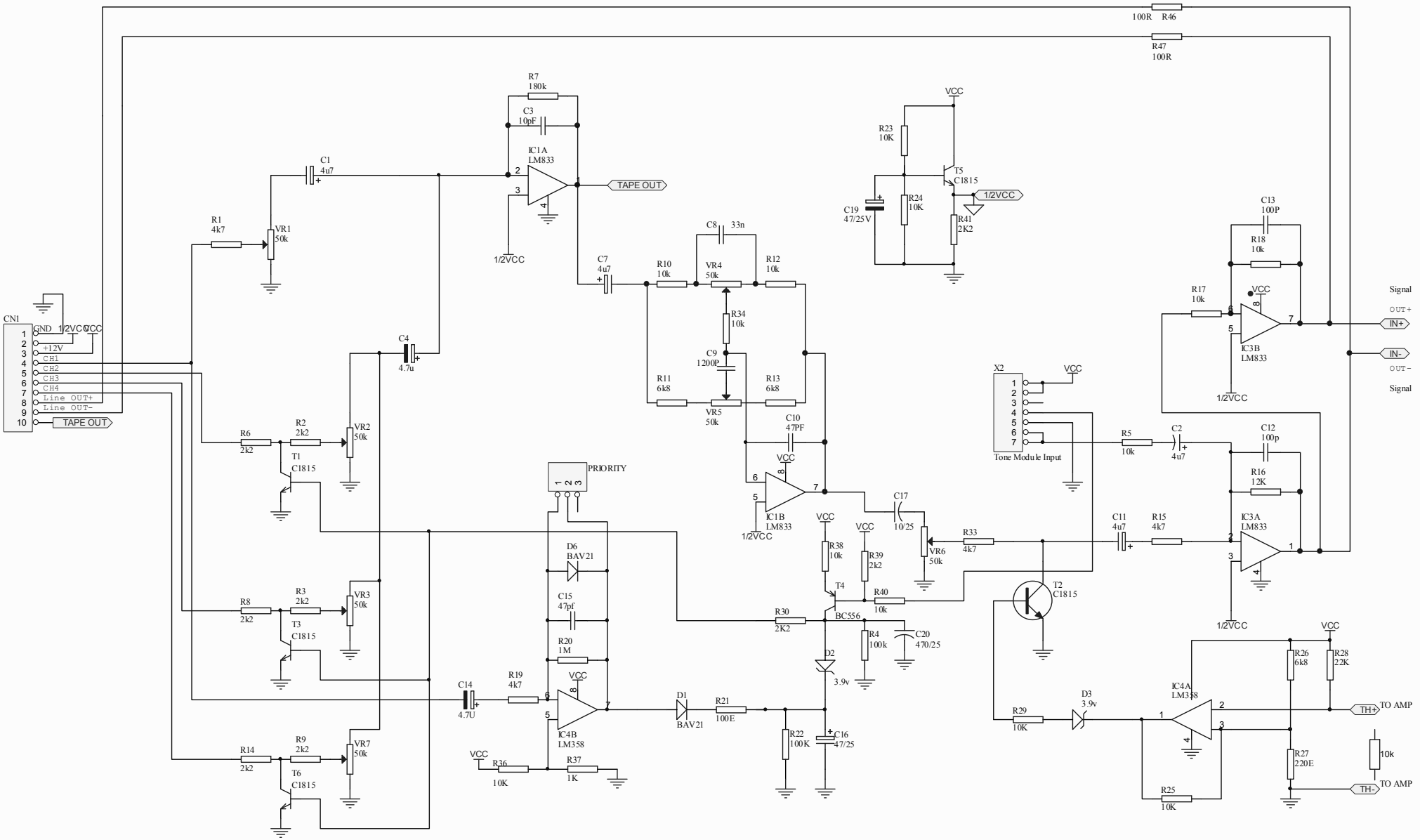


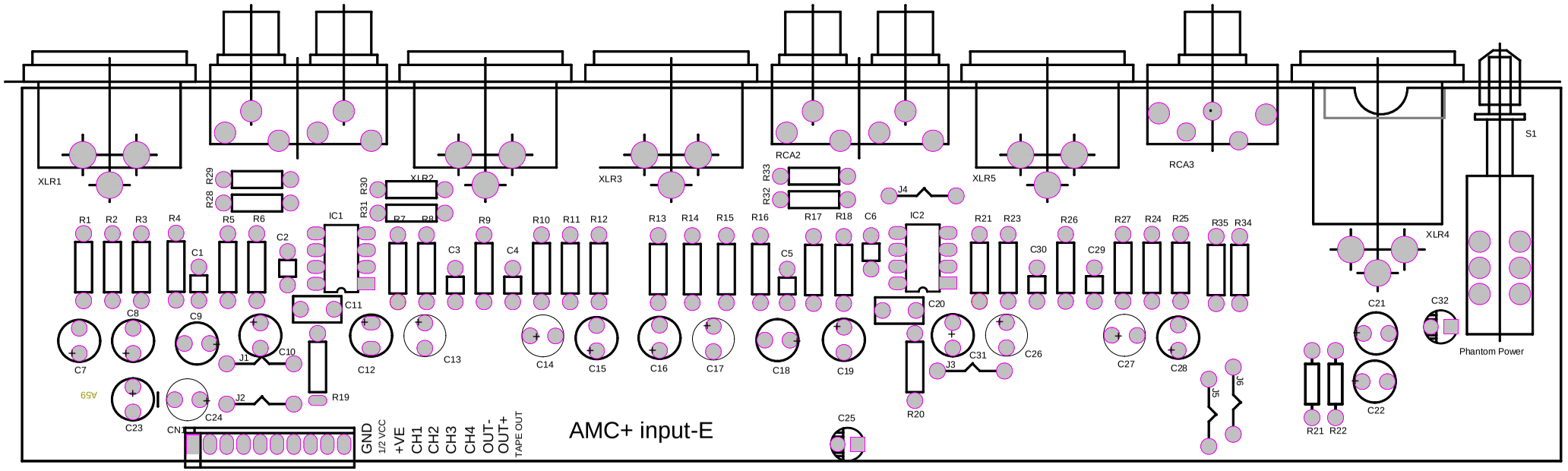
REV	REVISION NOTE:	DRN	DATE
G	Changed gain R16 22k->12k, C12 220p->100p, R19 1k->4k7	CKW	22/05/08
A			
B			
C			
D			
E			
F	Changed to 4 channels	CKW	15/02/08

AUSTRALIAN MONITOR

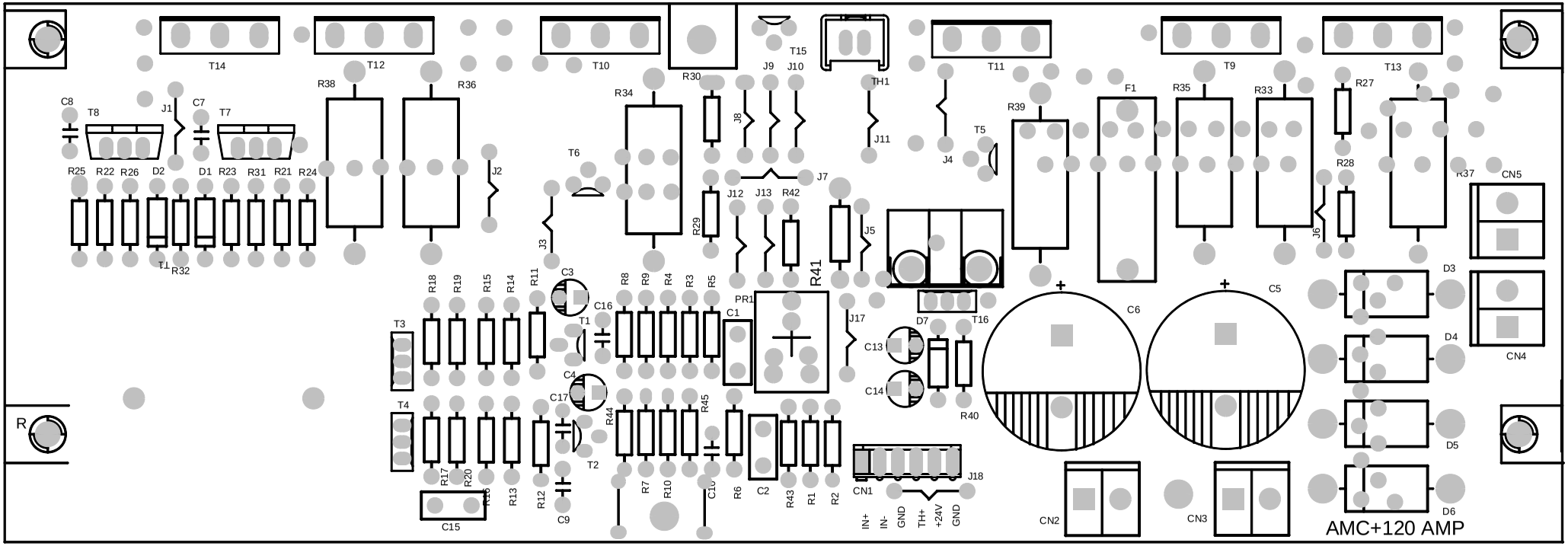
DRAWING No: SIL/16/0345

DESCRIPTION: AMC Mixer

DATE: 2009-5-5 | DRAWN BY: | SHEET 1 of 1


XLR1
XLR2
XLR3
RCA2
XLR5
RCA3
XLR4
S1
Phantom Power
IC1
IC2
J1
J2
J3
J4
CN1
GND
1/2 VCC
+VE
CH1
CH2
CH3
CH4
OUT-
OUT+
TAPE OUT
AMC+ input-E

J12
VCC
GND
VCC
CH1
CH2
CH3
OUT+
OUT-
TAPE OUT
CN1
J16
R1
R6
R8
R14
VR1
R2
T1
T3
J18
C14
R30
C1
D2
R21
D1
R20
D6
R19
R4
R22
R47
R46
VR2
R3
C15
EN
OFF
PRIORITY
C16
R36
R37
J7
IC4
R25
R28
R26
R27
VR3
R9
J1
SIG+
SIG-
GND
TH+
+M
GND
CN2
C21
J10
D4
R31
J9
X2
T4
+VCC
+VCC
NC
MUTE
GND
TONE OUT
R38
R39
R40
VR7
C4
C20
R24
R5
J13
R32
T5
C19
R23
J17
J14
C2
J10
R7
C3
2K2
J15
R41
VR4
C7
J8
IC1
C8
C10
R12
R34
D3
VR5
J2
R10
R29
R13
C9
R11
R16
T2
R15
C12
R17
C11
R33
J5
IC3
VR6
J3
J4
J3
C13
C17
R18
CN3
K
A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T12
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C8
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R38
R36
R34
J8
J11
J4
T5
R39
F1
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R33
R27
R25
R22
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D2
D1
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R31
R21
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T6
J2
J3
J7
J12
J13
R42
R29
J5
R28
J6
R37
CN5
T1
R32
R18
R19
R15
R14
R11
C3
R8
R9
R4
R3
R5
PR1
R41
C1
J17
D7
T16
C5
C6
D3
T3
C16
T1
C13
D4
CN4
C4
C17
R44
R45
C14
R40
T4
T2
D5
R
R17
R20
R16
R13
R12
R7
R10
C10
R6
C2
R43
R1
R2
CN1
J18
C15
C9
IN+
IN-
GND
TH+
+24V
GND
CN2
CN3
D6
AMC+120 AMP

TEST PROCEDURE XXXX-1

MODEL: AMC+120P

Rev A 22/09/08 Original

Outline

1. Physical checks
2. Set up amplifier for test
    - 2.1. Fuse check
    - 2.2. Connections
    - 2.3. Reset controls
3. Power up
    - 3.1. Voltages
    - 3.2. Bias setup
4. Initial AC Checks
    - 4.1. Signal check and gain of amp
    - 4.2. Emitter current check
    - 4.4. Outputs
    - 4.5. Phantom power
5. THD
6. Sensitivity
    - 6.1. Input
7. Bandwidth
8. Phase
9. Current Limit
10. Noise floor / SNR
11. Fan/Thermal check
12. Final check for damage
13. Factory setting
14. Listening Test
    - 14.1. Switch on thump
    - 14.2. Audio quality
    - 14.3. Current Limit

Test Procedure

VISUAL INSPECTION STAGE

1. Physical checks

- All screws for tightness (esp. bridge rectifier and transistor bolts), referring to the torque setting of the manufacturing tools
- Capacitors for polarity
- Earth connection for good contact, using multimeter (XLR GND to AC earth)
- Power transistors for shorts to heat sink using a multimeter
- All wiring points for good contacts (soldering and crimping)

PRETESTING

PRE TESTING SETUP REQUIREMENT

a) Oscilloscope
b) Variac
c) Multimeter
d) Load [4ohm]
e) Signal generator
f) Phantom power jig

2. Set up amplifier for test :

2.1. Fuse check

2 x AC fuses (2A), 20x5mm
1 x DC fuses (8A), 20x5mm

2.2. Connections

Connect amplifier to:
Variac (0Vac)
Signal generator (mic1, no signal)
Resistive load (4ohm on 4ohm terminal) with meters/oscilloscope

2.3. Reset controls:

Volume control to minimum
PR1 (preset) on the amplifier PCB CCW

3. Power up :

Turn on power switch and adjust voltage to 230VAC. Watch current meter for excess current draw.

(P/F) Current shall not exceed 0.5Aac.

3.1. Voltages

Measure the following DC voltages with a multimeter referenced to mains safety earth or the chassis.

(P/F)

	Pass Range
DC power supply	47.5VDC – 55.0VDC
Input PCB rail (ICp8)	11.0.0VDC – 13.0VDC
Input PCB ½rail (ICp1)	5.0VDC – 6.0VDC
Input PCB gnd (ICp4)	-0.1VDC – +0.1VDC

3.2. Bias setup

Put a multimeter across an emitter resistor.

(P/F) Slowly adjust the preset PR1 so that you get 4.5mVDC (+/-0.5mVDC) reading.

Check Quiescent Voltage across all Emitter resistors.

(P/F) The emitter resistor voltages shall be 4.5mVDC (+/-2.0mVDC).

[Setup for next test]

4. Initial AC Checks :

4.1. Signal check and gain of amp

Setup

Signal generator = 260mVAC, 1kHz
Signal in = XLR
Master pot = max (CW)
Output metering = 4ohm out
Load = 4ohm

Procedure

Turn up volume control to full. Watch for irregularities with output.

(P/F) Output voltage shall be 21.9VAC +/-2VAC.

4.2. Emitter current check

Setup

Signal generator = 260mVAC, 1kHz
Signal in = XLR
Master pot = max (CCW)
Output metering = 4ohm out
Load = 4ohm

Procedure

Set output to 15VAC using master volume control. Check voltage across emitter resistors of power devices.

(P/F) Voltage shall be between 150mVDC – 250mVDC.

4.3. Outputs

Setup

Signal generator = ~260mVAC adjusted for 21.9V out with pots max, 1kHz
Signal in = XLR
Master pot = max (CW)
Output metering = 4ohm out
Load = 4ohm

Procedure

Using a multimeter check the following:

(P/F)

	Pass Range
100V line	90VAC – 110VAC

Measure on the terminal block.

Remove all inputs and connections. Attach tested tag. Turn all volume pots to min.

FINAL TESTING

REQUIREMENTS FOR FINAL TESTING:

a) THD meter
b) Load 80Ω
c) Multimeter
d) Oscilloscope
e) Microphone
f) Variac

5. THD

Setup

Signal generator = 260mVAC, 1kHz
Signal in = XLR
Master pot = min (CW)
Output metering = 100Vout
Load = 80ohm

Procedure

Turn up master pot to 70VAC (+/-1.0VAC) on output. Measure THD.

(P/F) Reading shall be < 0.5%.

Values to be recorded:

		Value	Pass Range
5.	THD		0% – 0.5%

6. Sensitivity

6.1. Inputs

Setup

Signal generator = 260mVAC, 1kHz
Signal in = XLR
Master pot = max (CW)
Output metering = 100Vout
Load = 80ohm

Procedure

Set channel pot to max.

(P/F) The output reading shall be 100VAC (+/- 10VAC).

7. Bandwidth

Setup

Signal generator = 260mVAC, 1kHz
Signal in = XLR
Master pot = max (CW)
Output metering = 100Vout
Load = 80ohm

Procedure

Set the volume pot so the output is 70VAC. Adjust the frequency on the signal generator down till the output is 50VAC.

(P/F) The frequency shall be <75Hz.

Adjust the frequency on the signal generator up till the output is 50VAC.

(P/F) The frequency shall be >20kHz.

Values to be recorded

		Value	Pass Range
7a.	Bandwidth - low		<75Hz
7b.	Bandwidth - high		>20kHz

8. Phase

Setup

Signal generator = 260mVAC, 1kHz
Signal in = XLR
Master pot = max (CW)
Output metering = 100Vout
Load = 80ohm

Procedure

Attach channel 2 of the CRO to the input. Make sure the CRO is being triggered by the input. Look at each output on channel 1 of the CRO. The CRO ground should be connected to the common both for the low impedance outputs and the line outputs.

(P/F) The signals on the CRO shall be in phase for all outputs (100V, 4Ω).

9. Current Limit

Setup

Signal generator = 260mVAC, 1kHz
Signal in = XLR
Master pot = min (CCW)
Output metering = 100Vout
Load = 80ohm

Procedure

Change the load to 40ohms. Increase the signal such that at ~65VAC you can see the overload protection coming on with a rounding of the sine wave. If it is there then reduce the voltage to 30VAC out. Short the unit for ~10sec. Release the shorting link and check for the output.

(P/F) The output shall be reading 30VAC +/-1V.

10. Noise floor / SNR

Setup

Signal in = none
Master pot = max
Output metering = 100Vout
Load = 80ohm

Procedure

Put dummy lid on. Check for Hum & Noise.

(P/F) The output shall be reading < 3.2mVAC (-90dBr ref 100V).

Values to be recorded

		Value	Pass Range
10.	Noise floor		0mV – 3.2mV

11. Fan/Thermal check

Setup

Signal generator = 260mVAC, 1kHz
Signal in = XLR
Master pot = max (CW)
Output metering = 100Vout

Load = 80ohm

Procedure

Adjust volume pot to an output reading of 70VAC. Connect a thermometer to the temperature sensor. Wait the unit to heat up. A heat gun may be used to speed up the heating of the heatsink.

(P/F) The output shall mute to < 10V at a temp between 90–115degC

Values to be recorded

		Value	Pass Range
11b.	Thermal cutout		90degC – 115degC

12. Final check for damage

Disconnect from test bench and inspect for scratches on external paint.

13. Factory setting

Set up the unit for default factory setting as below:

Pot positions:

a) Master volume : min

Attach tested sticker.

LISTENING TEST

REQUIREMENTS FOR LISTENING TEST SETUP:

a) CD Player
b) mixer
c) Speaker

14. Listening Test

Connect amplifier to the setup
Keep all pots full, tone at center.

14.1. Switch on thump

Switch on the set and check for any ON Thump. Ensure unit does not thump. Check that no low frequencies are audible. Make all pots minimum.

14.2. Audio quality

Check CD Player output.

14.3. Current Limit

Short the output with signal ON. Signal should mute and return.

	AMC+ Parts	
Circuit boards	**Part Number**	**Factory code**
Input board	AMC+IB	
Mixer board	AMC+120MB	B06044
AMC+30 output board	AMC+30OPB	B03048
AMC+60 output board	AMC+60OPB	B06047
AMC120+ mixer board	AMC+120MB	B06044
AMC+120 output board	AMC+120OPB	B012046
AMC+250 output board	AMC+250OPB	BR025001
Transformers		
AMC+30 mains transformer	AMC+30TX	BR030123
AMC+30 output transformer	AMC+30OT	BR030124
AMC+60 mains transformer	AMC+60TX	BD6041
AMC+60 output transformer	AMC+60OT	BD060127
AMC+120 mains transformer	AMC+120PTX	BD0642
AMC+120 drive transformer	BR0120036	BR0120036
AMC+120 output transformer	AMC+120OT	BR0120125
AMC+250 mains transformer	AMC+250TX	BR0250140
AMC+250 output transformer	AMC+250OT	BR0250141
AMC+250 drive transformer	BR0120036	BR0120036

Australian Monitor Service Bulletin

AMC+ Mixer and Booster Amplifiers

Mains Fuses

20 February 2012

Applicable Models

This bulletin applies to AMC+30, AMC+60, AMC+120 and AMC+250 Mixer Amplifiers and the AMC+120P, AMC+1202P and AMC+250P Booster Amplifiers manufactured prior to 2012.

Known Issue

The AMC+ range of mixer amplifiers and AMC+ booster amplifier have experienced a higher than acceptable incidences of mains fuse failures at turn on.

Details

AMC+ products manufactured prior to 2012 are fitted with inferior Chinese fuses.

Solution

The problem can easily be rectified by placing the existing mains fuse with name brand quality fuses available from Element14 as follows:

	115V Operation (North America)		**230V Operation (Australia/Europe)**	
Model	**Fuse Rating**	**Element14**	**Fuse Rating**	**Element 14**
AMC+30	T1A	1123115	T500mA	1123121
AMC+60	T3.15A	1123119	T1.6A	1123113
AMC+120	T4A	1123120	T2A	1123118
AMC+120P				
AMC+250	T8A	1123125	T4A	1123120
AMC+250P				
AMC+1202P				

All fuses are Cooper Bussman 250VAC rated, slow-blow ceramic HRC type M205 cartridge.

All future production models will be fitted with these fuses.

Procedure

1. Remove the mains lead from the amplifier.
2. Remove the fuse holder drawer that is part of the IEC mains input socket.
3. Remove the two existing fuses (one of these is a spare fuse).
4. Install two M205 size fuses as per the operating voltage above.
5. Reinstall the drawer.