SERVICE INFORMATION

AMC120
MIXER AMPLIFIER

CONTENTS:

OPERATION MANUAL

SCHEMATIC DIAGRAMS

BOARD OVERLAYS

TEST PROCEDURE

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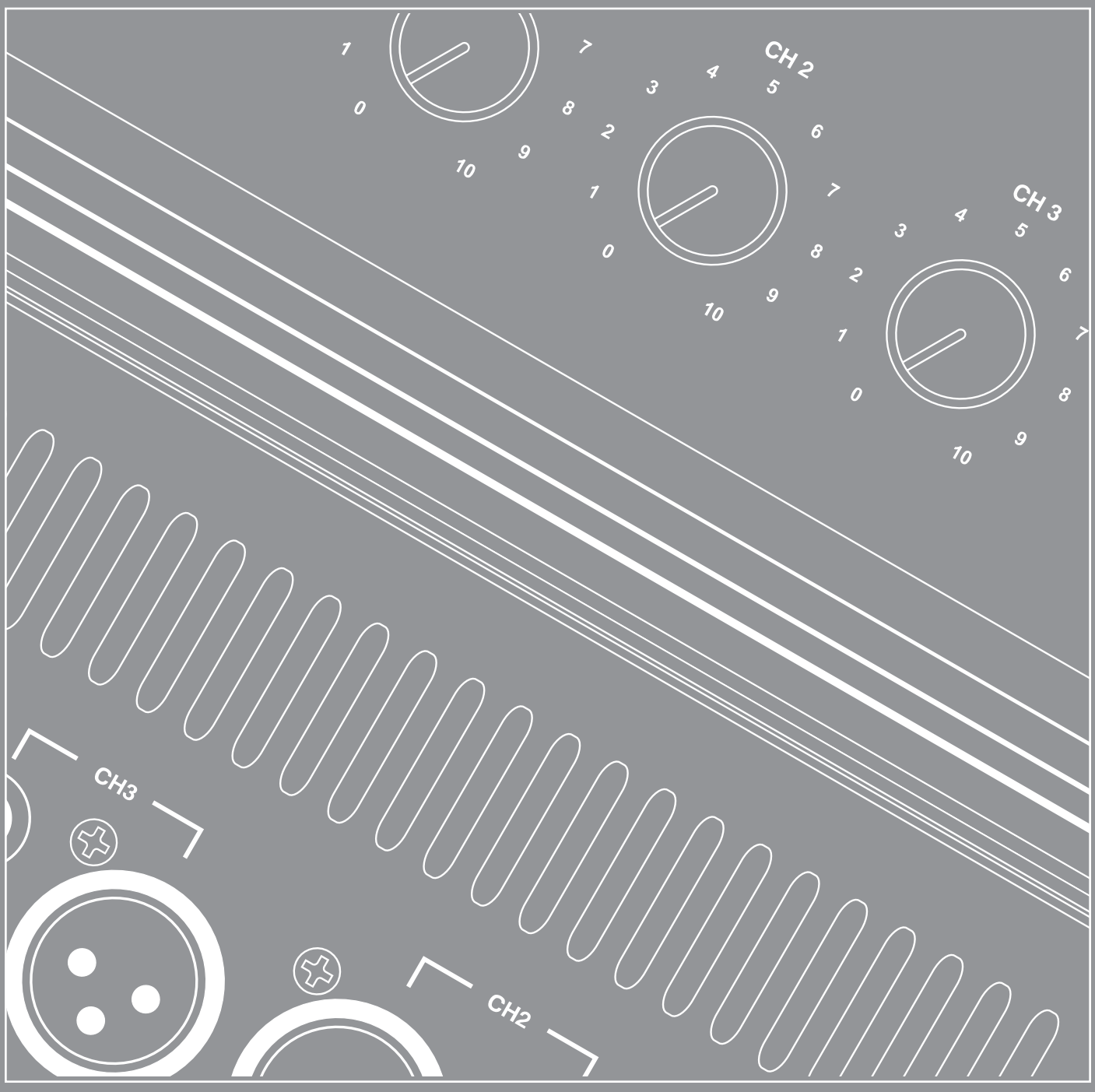
Australian Monitor
INSTALLATION SERIES

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 & 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.

INTRODUCTION AND CONTENTS

The Australian Monitor AMC series of amplifiers takes the heritage & reliability of our famous AMIS series amplifiers & 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 & 250 watt versions, the AMC series are 2 RU mixer amplifiers, featuring 70/100 volt line & 4 ohm outputs, & 3 universal mic/line inputs

Master volume & overall treble & bass controls are provided, along with Vox triggered muting (defeatable), giving channel 1 priority over inputs 2 & 3. 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 & reliability.

AUS, EUR, USA

Rev A: 1st Apr 2005
Rev B: 6th Jun 2006

WARNING!

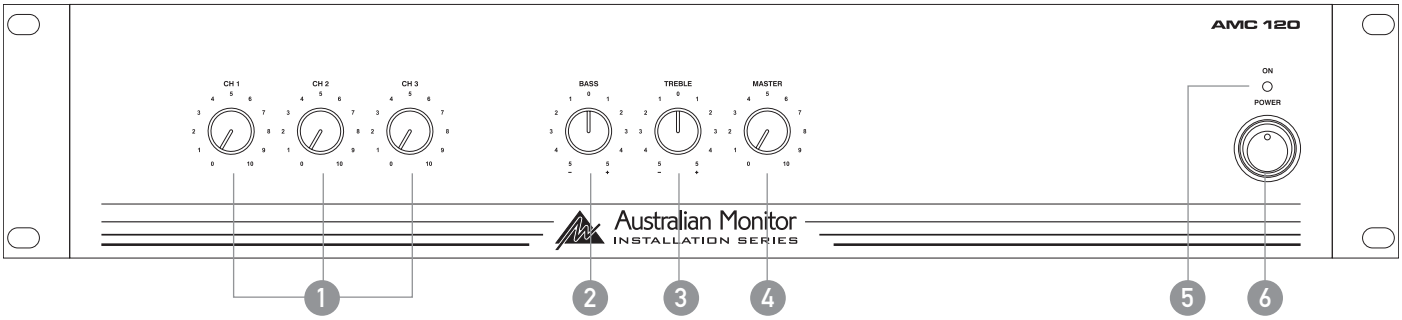
TO REDUCE THE RISK OF FIRE OR ELECTRIC HOCK
DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

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 1-3

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.

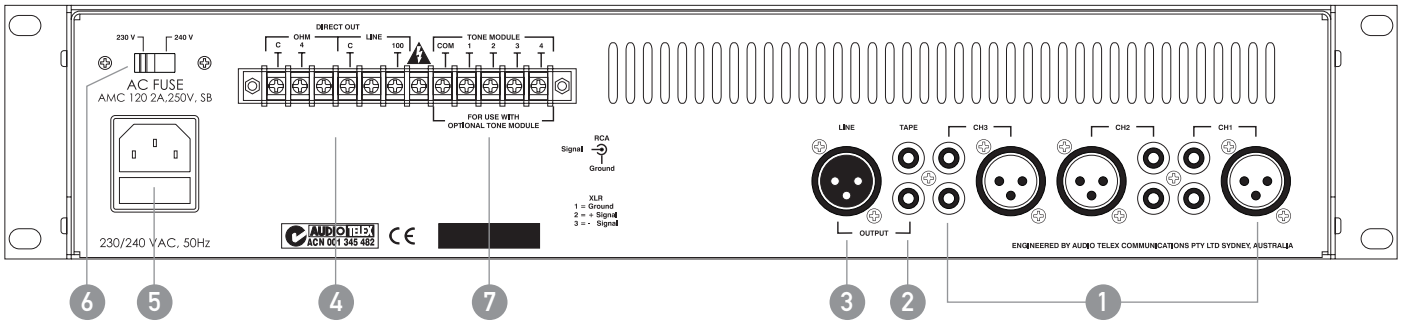
5 ON

This LED indicates the unit is powered “on”.

6 POWER

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

REAR PANEL



1 CH 1-3

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 500mV. The two RCA sockets are summed to mono internally.

2 TAPE OUTPUT

The TAPE output is on unbalanced RCA connectors. The output level is 150mV into 10kohm at rated output. The output is dual mono.
The TAPE output is not affected by the MASTER volume control or the BASS and TREBLE controls. The TAPE 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 1V 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

	AMC30	AMC60	AMC120	AMC250
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 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:

	AMC30	AMC60	AMC120	AMC250
230V/240V model	0.5A	1.6A	2A	3.15A
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 VOLTAGE SELECT SWITCH

(only on 230V/240V models) This switch is used to select the mains voltage for your region.

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

7 (OPTIONAL) TONE MODULE

These terminals are for use with an optional tone module (not supplied).

INSTALLATION

MOUNTING

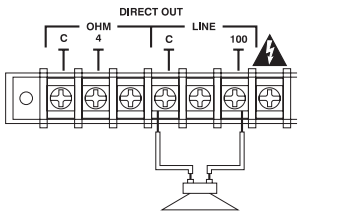
When rack mounting, it is advisable to allow 1 rack space above and below the amplifier. When multiple amplifiers are mounted in a rack, exhaust fans should be used on the rack. Airflow for cooling the AMC30, AMC60 & AMC120 is by convection from bottom to top. Airflow for cooling the AMC250 is by fan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

OUTPUT CONNECTIONS

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.

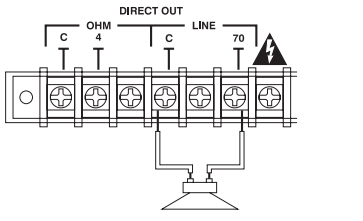
OUTPUT	DISTANCE	WIRE SIZE			
		AMC30	AMC60	AMC120	AMC250
100V	Up to 50m	AWG26(0.12mm2)	AWG26(0.12mm2)	AWG24(0.2mm2)	AWG22(0.35mm2)
	50m–200m	AWG24(0.2mm2)	AWG20(0.5mm2)	AWG18(0.75mm2)	AWG16(1.5mm2)
	Over 200m	AWG20(0.5mm2)	AWG18(0.75mm2)	AWG16(1.5mm2)	AWG13(2.5mm2)
70V	Up to 50m	AWG26(0.12mm2)	AWG24(0.2mm2)	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

minimum total speaker impedance

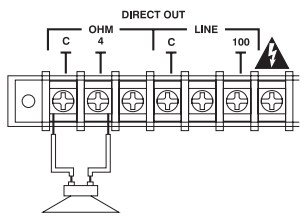
AMC30	AMC60	AMC120	AMC250
333ohm	**166ohm**	**83ohm**	**40ohm**



115V version

minimum total speaker impedance

AMC30	AMC60	AMC120	AMC250
166ohm	**83ohm**	**41ohm**	**20ohm**



Both versions

minimum total speaker impedance
All models
4 ohm

NOTE: Only connect one output - either Distributed Line or Low Impedance.

LINE OUTPUT

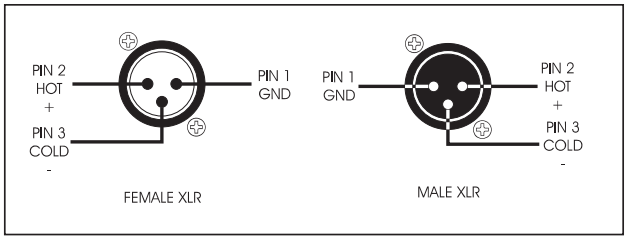
he LINE output XLR can be used to connect up to 6 booster amplifiers. Balanced wiring (shielded pair cable) is recommended.

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.

TAPE OUTPUT

The TAPE output wiring should be kept as short as possible.

INPUT CONNECTIONS

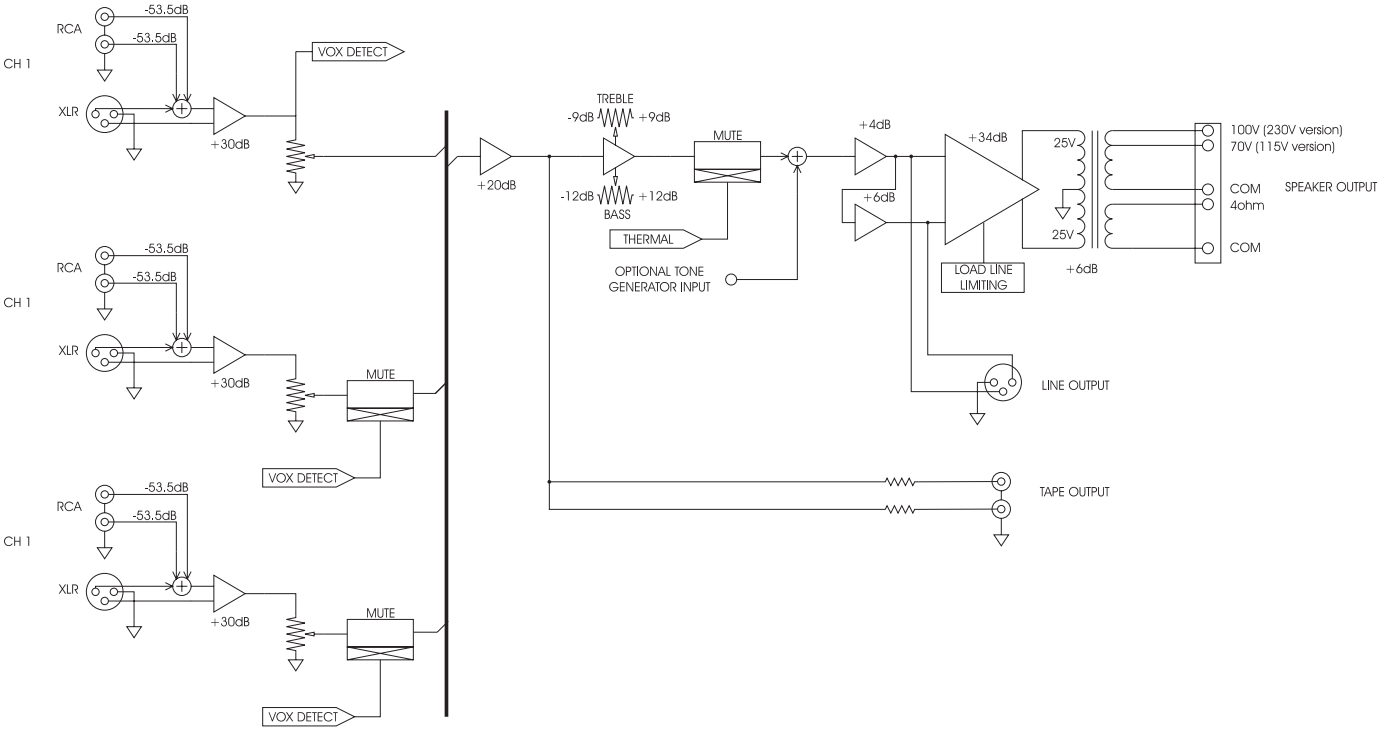


For wiring balanced in, pin 2 is hot. Unbalanced wiring on the microphone inputs is not recommended. Balanced input wiring (shielded pair cable) is recommended. Unbalanced RCA wiring should be keep as short as possible.

TROUBLESHOOTING & BLOCK DIAGRAM

TROUBLESHOOTING GUIDE

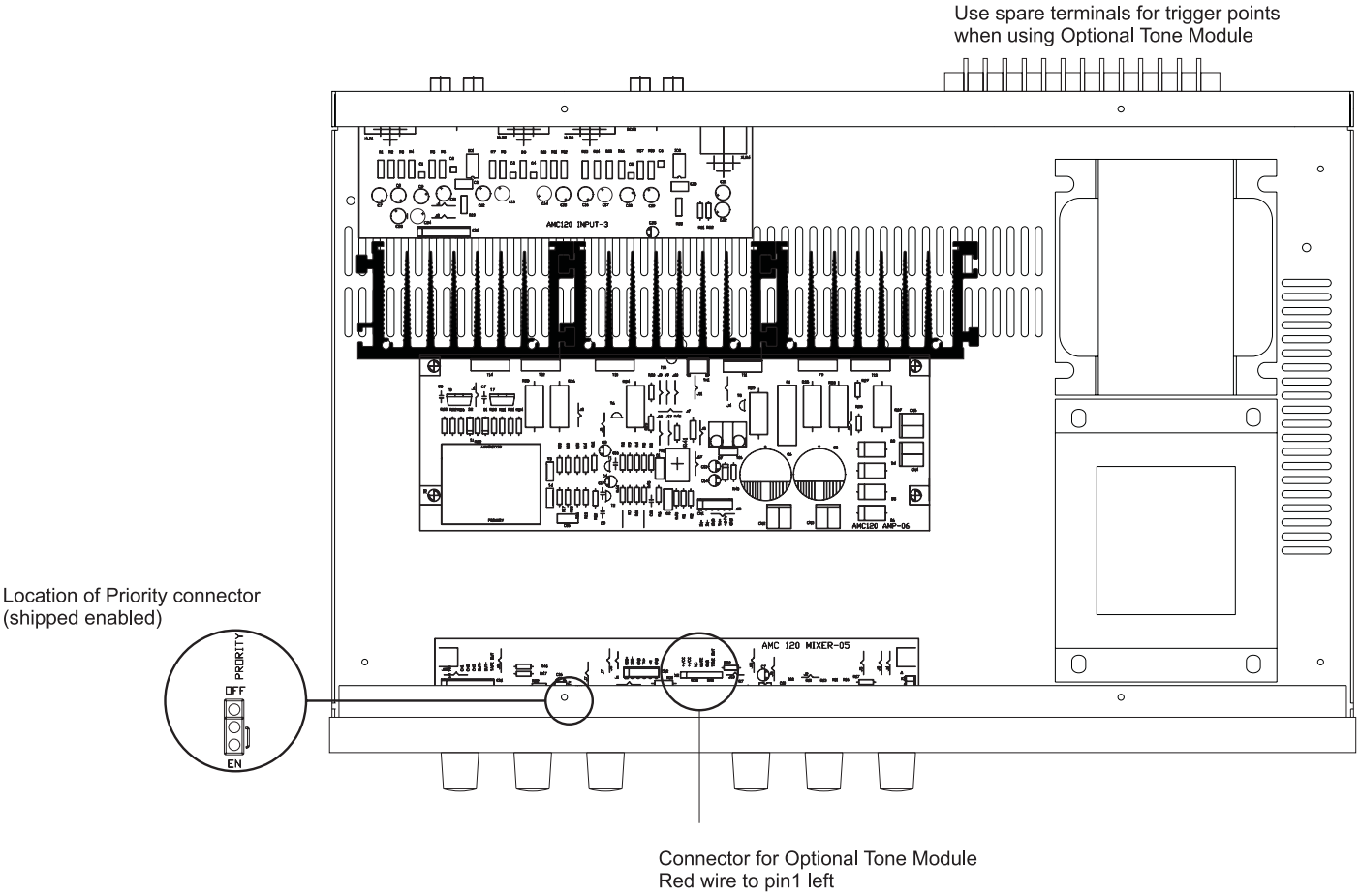
TROUBLE	LIKELY CAUSE	REMEDY
Power LED not on	Power not reaching amplifier Check mains connection Check mains fuse	Check power switch is on
Distorted sound	Output is short circuit	Check speaker loads for shorts
	Input is overloaded	Reduce input level at source
	Output is being over driven	Reduce volume levels on front panel
	Bass control is turned up	Reduce Bass control level
No sound but amp is on	Volume controls down	Check volume controls
	Amplifier has overheated (AMC60, AMC120 AMC250 only)	Check for obstructions above and below Make sure the amplifier is well ventilated.
	DC fuse(s) blown	Refer product to local Australian Monitor dealer
No sound from channels 2 & 3	Priority function is being used	Remove signal (disconnect input) from channel 1 OR Disable priority function (see Internal Adjustments)
Condenser microphone does not work	Amplifier does not have phantom power	Purchase an external power supply OR Upgrade to the AMIS range of amplifiers
Tones do not sound when triggered	Tone generator module not installed.	Purchase optional Tone generator module



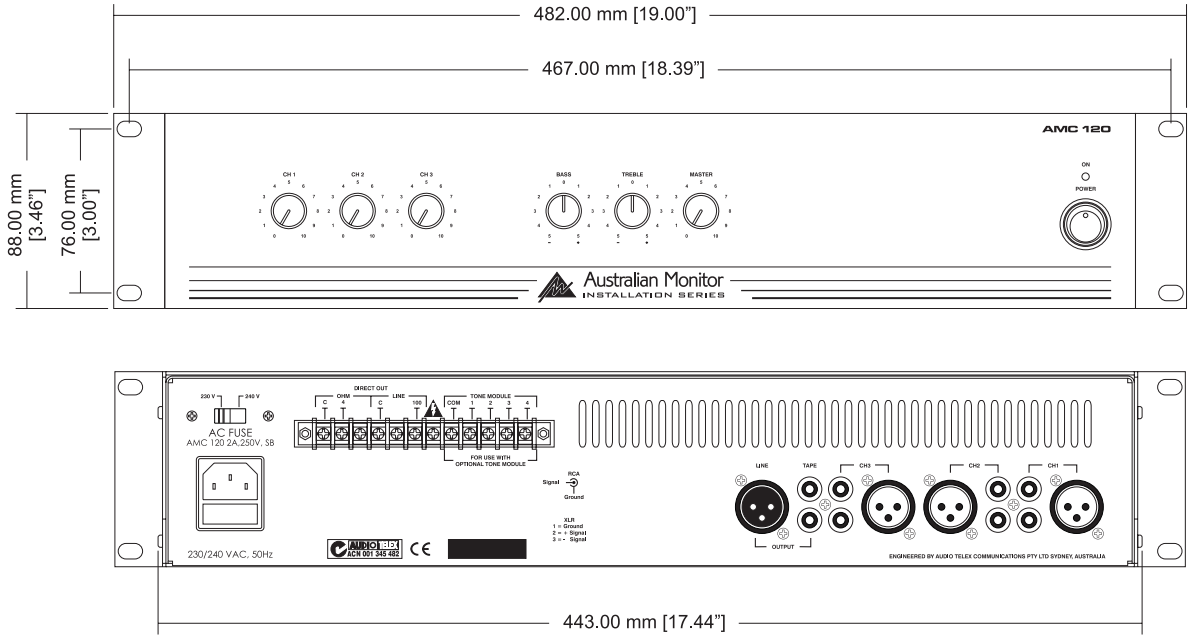
FUNCTIONAL NOTES & INTERNAL ADJUSTMENTS

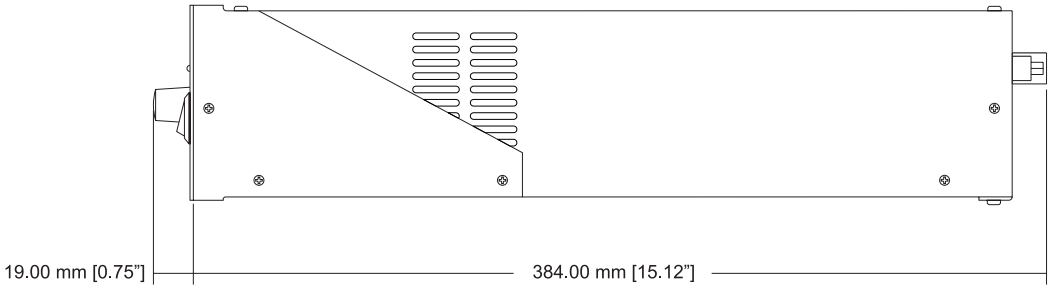
PRIORITY

Channel 1 will mute channels 2 and 3. 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.

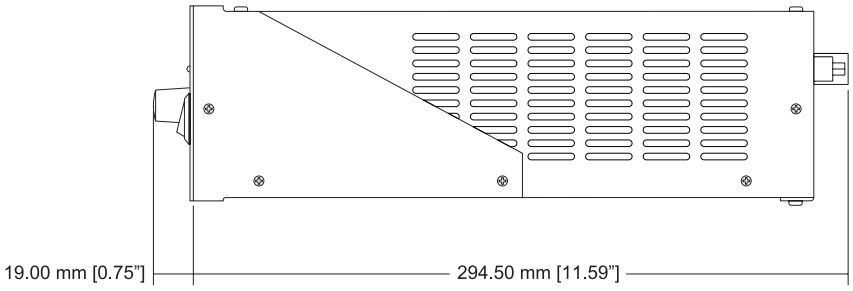


DIMENSIONS

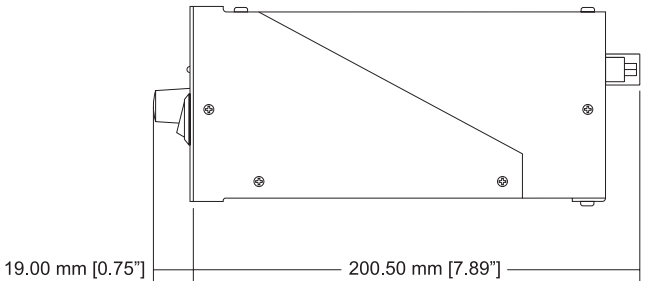




AMC250



AMC60/120



AMC30

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)		482x88x190mm 19"x3.5"x7.5"	482x88x281mm 19"x3.5"x11.1"	482x88x281mm 19"x3.5"x11.1"	482x88x384mm 19"x3.5"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)		510x145x297mm 20.1"x5.7"x11.7"	525x175x385mm 20.7"x6.9"x15.2"	525x175x385mm 20.7"x6.9"x15.2"	525x185x470mm 20.7"x7.3"x18.5"
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	1.10A
	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

SPECIFICATIONS

		AMC 30	AMC 60	AMC 120	AMC 250
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	1V @ 1kohm
	OUTPUT IMPEDANCE	100ohm
TAPE OUT	NOMINAL OUTPUT	300mV @ 10kohm
OUTPUT	IMPEDANCE	10kohm

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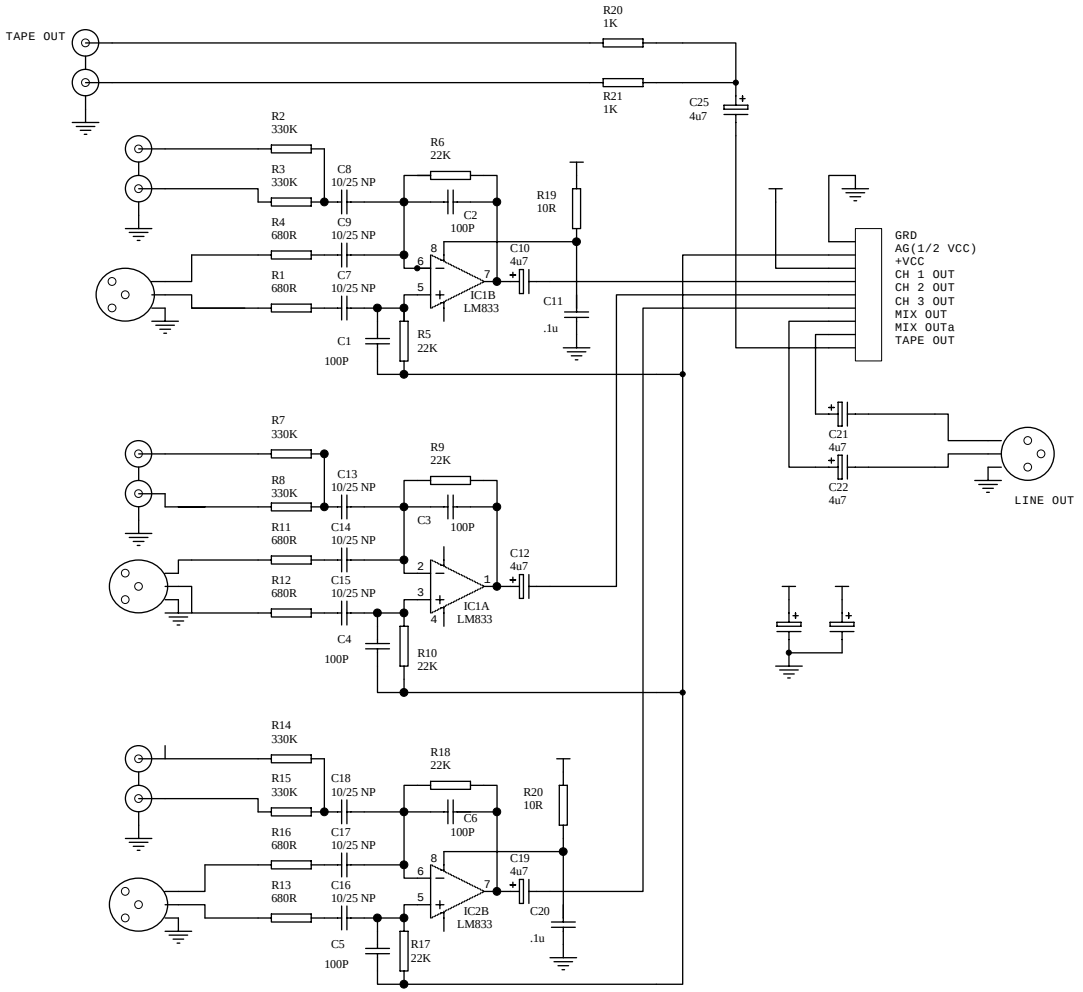
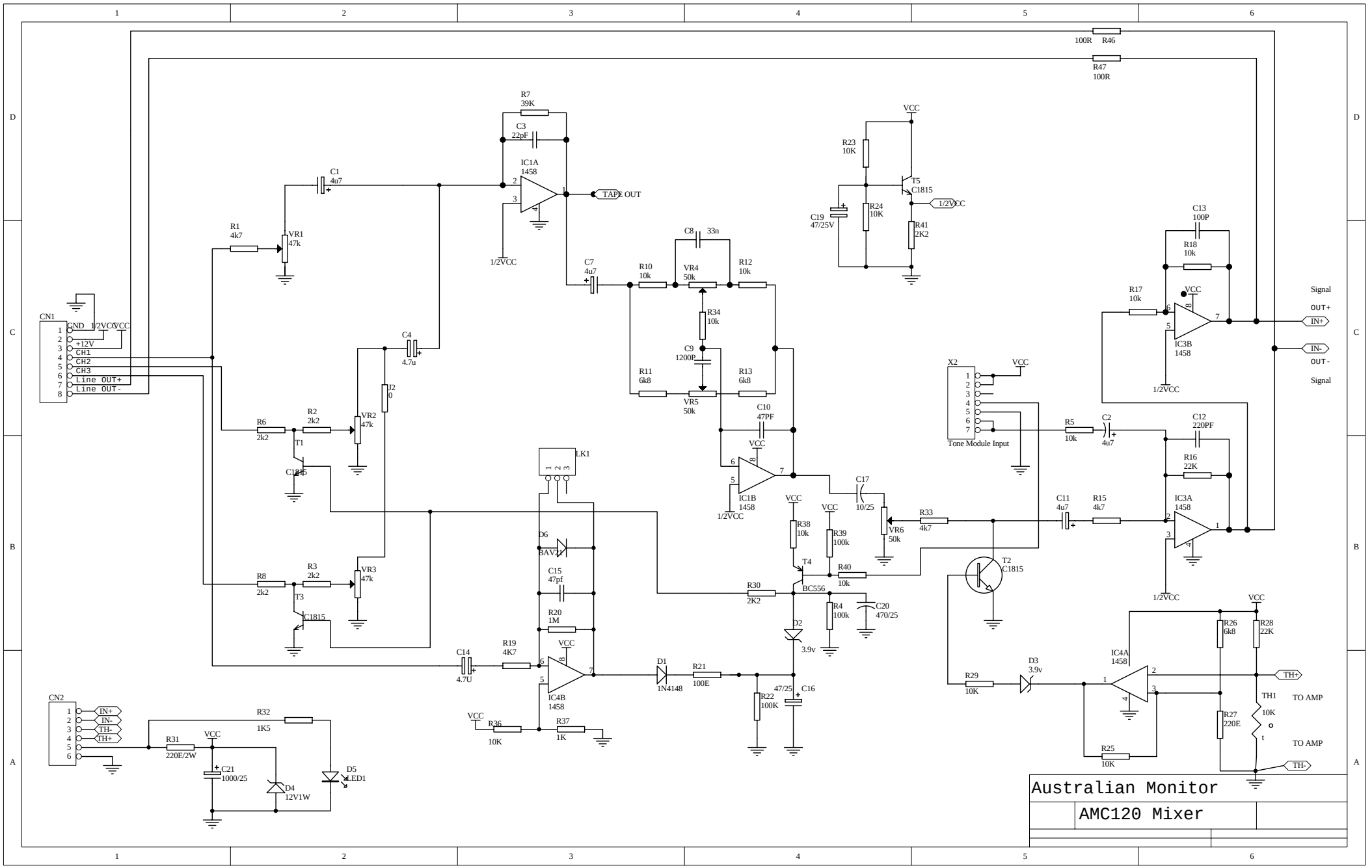
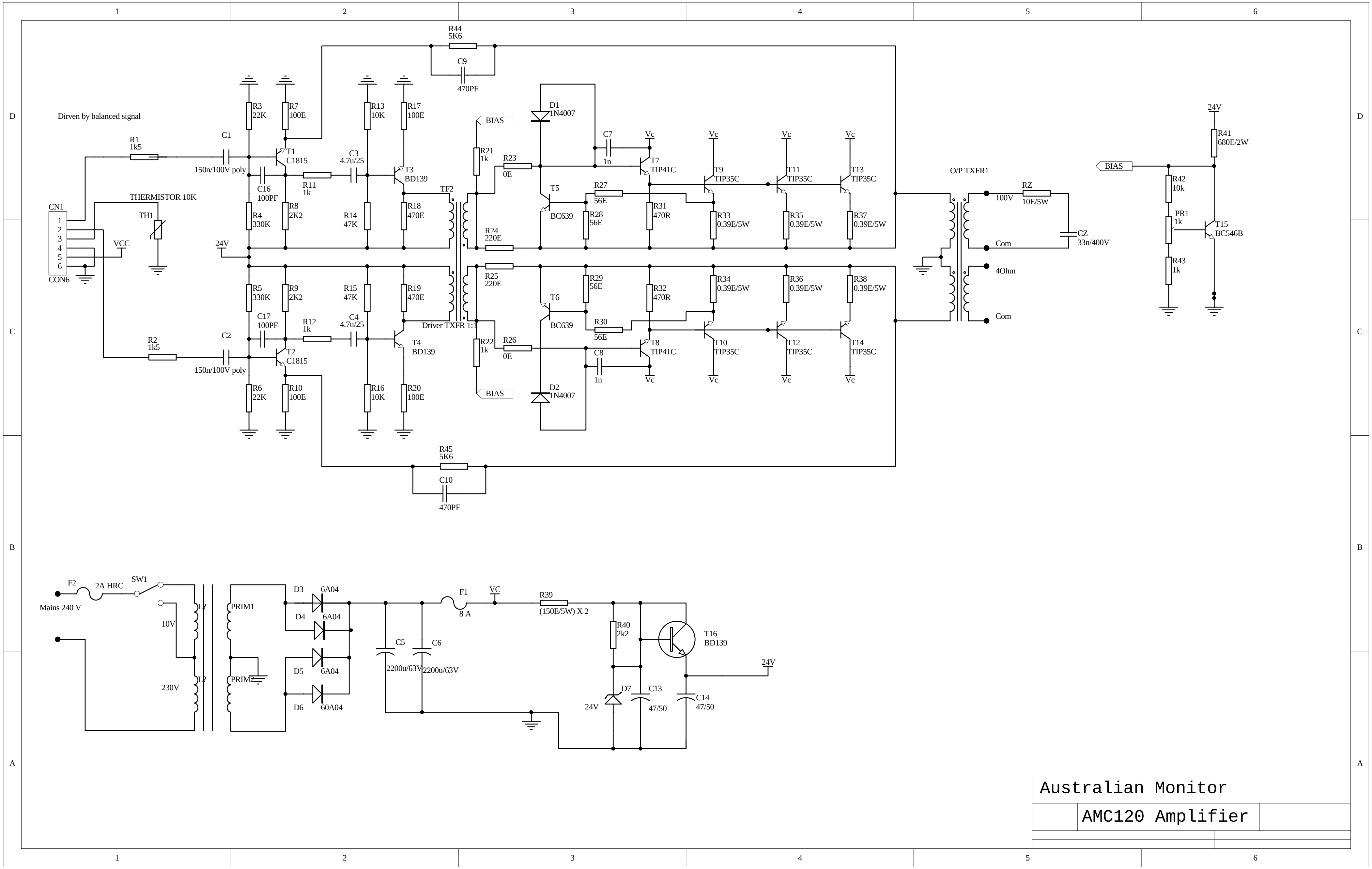
XLR-FEMALE 1



Australian Monitor		
	AMC120 Mic Input	C


CN1
GND
1/2VCC
VCC
+12V
CH1
CH2
CH3
Line OUT+
Line OUT-
R1 4k7
VR1 47k
C1 4u7
R7 39K
C3 22pF
IC1A 1458
TAPE OUT
1/2VCC
C4 4.7u
J2 0
R2 2k2
VR2 47k
R6 2k2
T1
C1815
R3 2k2
VR3 47k
R8 2k2
T3
C1815
C8 33n
C7 4u7
R10 10k
VR4 50k
R12 10k
R34 10k
C9 1200P
R11 6k8
R13 6k8
VR5 50k
C10 47PF
IC1B 1458
C17 10/25
VR6 50k
R33 4k7
LK1
D6 BAV21
C15 47pf
R20 1M
R19 4K7
C14 4.7U
IC4B 1458
D1 1N4148
R21 100E
R22 100K
C16 47/25
R36 10K
R37 1K
R38 10k
R39 100k
T4 BC556
R40 10k
R30 2K2
R4 100k
C20 470/25
D2 3.9v
R23 10K
T5 C1815
C19 47/25V
R24 10K
R41 2K2
R46 100R
R47 100R
X2
Tone Module Input
R5 10k
C2 4u7
C11 4u7
R15 4k7
IC3A 1458
C12 220PF
R16 22K
C13 100P
R18 10k
R17 10k
IC3B 1458
Signal
OUT+
IN+
IN-
OUT-
Signal
T2 C1815
D3 3.9v
R29 10K
IC4A 1458
R26 6k8
R28 22K
TH+
TH1 10K
R27 220E
R25 10K
TO AMP
TO AMP
TH-
CN2
IN+
IN-
TH-
TH+
R31 220E/2W
R32 1K5
C21 1000/25
D4 12V1W
D5 LED1
Australian Monitor
AMC120 Mixer



Dirven by balanced signal
R1 1k5
C1 150n/100V poly
R3 22K
R7 100E
T1 C1815
C16 100PF
R11 1k
C3 4.7u/25
R13 10K
R17 100E
T3 BD139
R8 2K2
R4 330K
R14 47K
R18 470E
TF2
THERMISTOR 10K
TH1
CN1
CON6
1 2 3 4 5 6
VCC
24V
R5 330K
R9 2K2
R15 47K
R19 470E
C17 100PF
R12 1k
C4 4.7u/25
T4 BD139
T2 C1815
R2 1k5
C2 150n/100V poly
R6 22K
R10 100E
R16 10K
R20 100E
Driver TXFR 1:1
R44 5K6
C9 470PF
R45 5K6
C10 470PF
BIAS
R21 1k
R23 0E
R24 220E
R25 220E
R22 1k
R26 0E
D1 1N4007
D2 1N4007
T5 BC639
T6 BC639
R27 56E
R28 56E
R29 56E
R30 56E
C7 1n
C8 1n
Vc
T7 TIP41C
T8 TIP41C
R31 470R
R32 470R
T9 TIP35C
T11 TIP35C
T13 TIP35C
T10 TIP35C
T12 TIP35C
T14 TIP35C
R33 0.39E/5W
R35 0.39E/5W
R37 0.39E/5W
R34 0.39E/5W
R36 0.39E/5W
R38 0.39E/5W
O/P TXFR1
RZ 10E/5W
100V
Com
CZ 33n/400V
4Ohm
Com
24V
R41 680E/2W
R42 10k
PR1 1k
R43 1k
T15 BC546B
F2 2A HRC
SW1
Mains 240 V
10V
230V
L2
PRIM1
PRIM2
D3 6A04
D4 6A04
D5 6A04
D6 60A04
C5 2200u/63V
C6 2200u/63V
F1 8 A
VC
R39 (150E/5W) X 2
R40 2k2
T16 BD139
24V
D7 24V
C13 47/50
C14 47/50
Australian Monitor
AMC120 Amplifier

D:(Changed for tone module CKT)

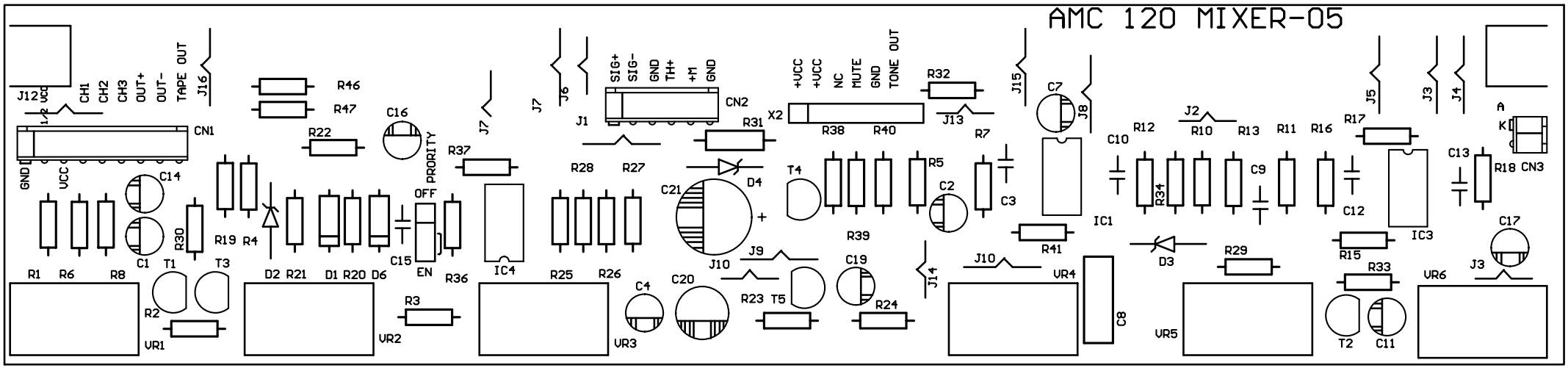
E:ADDED R 41

DATE: 26/12/04

LEGEND LAYER

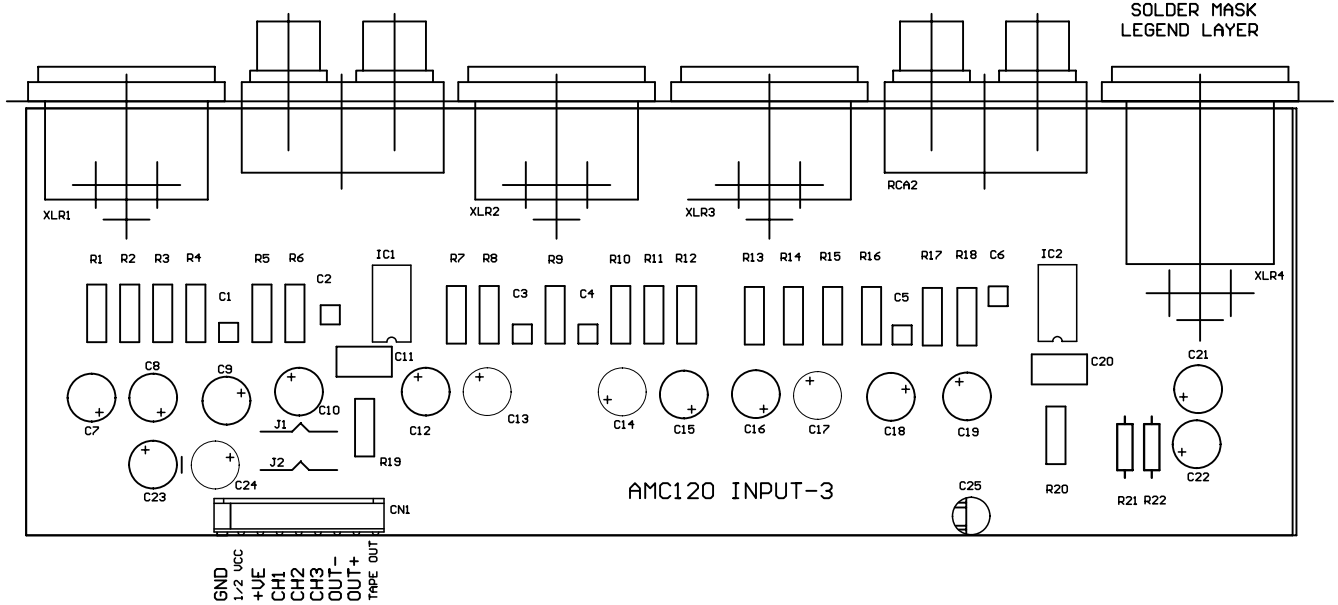
PCB SIZE: 206mm X 47.5mm

DRN BY: DERICK

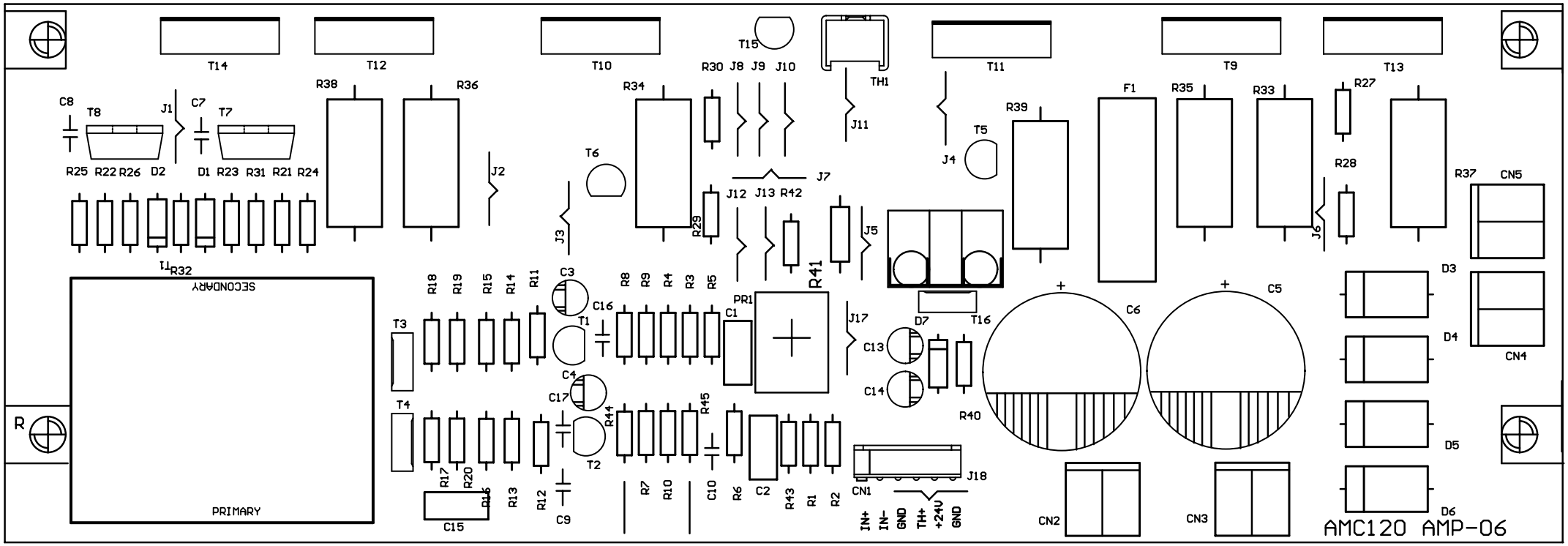


(19/02/05)

SOLDER MASK
LEGEND LAYER



LEGEND LAYER



Date: 19/01/05

(R41 CHANGED TO 1W)

TEST PROCEDURE MODEL - AMC 120

1. Perform physical inspection (Visual Inspection stage).

1.1 Check:

- All screws for tightness (esp. transistor bolts),
- Capacitors for polarity,
- Earth connection for good contact (XLR GND to AC earth),
- Power transistors for shorts to heatsink,
- All wiring points for good contacts (soldering and crimping)

PRETESTING

PRE TESTING SETUP REQUIREMENT

a Oscilloscope.
b Variac.
c Multimeter.
d Load [4Ω]
e Signal generator.

2. Set up amplifier for test (Pretesting stage).

2.1. Check

- AC fuses (2A), 20mm HRC
- DC fuses (8A), 20mm HRC

2.2. Connect amplifier to:

- Variac (0Vac),
- Signal generator (mic1, no signal),
- Resistive load (4Ω on 4Ω terminal).

2.3. Reset controls:

- Volume controls to minimum,
- Bass/treble control to center,
- PR1 (presets) Amplifier PCB fully clockwise.

3. Power up

3.1 Turn on power switch and adjust voltage to 230VAC. Watch current meter for excess current draw. Current should not exceed 0.5A.
3.2 Check DC power supply at fuses. Should be approx. +49V (±1.5V)
3.4 Check DC voltage on mixer board. Should be approx. 12V(±0.5V)
3.5 Check 1/2 VCC on mixer board should be 5.4 VDC (± 0.5)
3.6 Measure DC voltages on IC of mixer & input PCB's, p8 12V (±5%), p4 0V (±100mV), p1 5.4V (± 5%).
3.7 Put a multimeter across R32 the meter read 0mV then slowly adjust the preset PR1 so that you get 4.5mV ± 0.5mV. Check Quiescent Voltage across all Emitter resistors.

4. AC Check

4.1 Set signal generator to 1mV. Turn up Mic1 volume control to full. Watch for irregularities with output.
4.2 Set output to 15V using master volume control. Check voltage across Emitter resistors (on power devices)

4.3 Voltage should be between 400mV – 500mV. Min and max values should be between 33% of the average value (i.e. min/max=0.5).
4.4 Turn master up to full. set sensitivity of mike input to 1mV.
4.5 Check the output of all channels should be 22V (± 0.1V).
4.6 Check 100V(+- 5V) at 100V terminal .
4.7 Check tape outputs (L and R) 250mV (±25mV) (Measure on RCA socket).
4.8 Check line outputs. Approx. (1.2V ± 0.12V).
4.9 Check Tone module operation.

FINAL TESTING

Requirements for final testing

a. Neutric.
b. Load 80Ω.
c. Oscilloscope
d. Microphone
e. Variac

5 Performance Test.

5.1 Check Noise should be less then 10mV (all pot mid) i.e. S/N >80dBr
5.2 Check mike sensitivity (CH1-CH3) = 1mV out put =100V (± 5V)
5.3 Check AUX sensitivity (CH1-CH3)= 5000mV out put =100V (± 5V)
5.4 Check the Power bandwidth – (68Hz ±5Hz – 15KHz ± 2KHz).
5.5 Check Bass control @ 100HZ = ±12dB (TOL ±1dB) and treble @ 10kHz = ± 9.5dB (tol.±1dB)

	Cut	Boost
Bass	0.4V	70V
Treable	0.3V	32V

5.6 Check that input signal and output signal are in same phase by comparing CH 1 AUX Input and all other Outputs (4Ω , 100V)

6 Priority check

6.1 Plug microphone into input 1 and oscillator to input 3. Check for muting of channel 3.
6.2 Make Disable/Enable link to disable position Check that CH1 does not mute CH3.Return Disable/Enable link to Enable position

7 Over load Test

7.1 Make Output Load 40E Increase the signal till you get 1% the output VTG should be 60V ± 3V.
7.2 Keeping the signal ON, short the output for one Sec and remove, the output should drop and return back without any distortion or damage to any components. Make the output loads normal to 80E.
7.3 Reset volumes to minimum.
7.4 Disconnect from test bench and inspect for scratches on external paint.

8 Factory setting of links:

a. VOX Muting: Enable
b. All pot Center

THERMAL CHECK

9 Connect load to the amplifier apply signal such that you get 42Vat out put. Check for thermal shut off at 97°C (± 5C) for quick temperature rise we can heat the heatsink by heat gun.

LISTENING TEST

10 Insulation test and High voltage test to be carried out as per UL Standard Procedure.

Requirements for Listening Test Setup :

a. CD Player
b. Speaker
c. Microphone

11 Listening test

11.1 Keep all pot full tone at center, switch ON the set and check for ON thump and also check that no low frequencies are audible. Make all Channel Pots minimum.
11.2 Check CD Player (AUX) output for all channels and tone control for all channels.
11.3 Check Priority function: CH 1 over CH2 & 3.
11.4 Short the output with signal ON Signal should mute and return back.