

DESIGNS DEPARTMENT HANDBOOK

No. 3.250(80)

AM5/33 Mixer Amplifier

C O N T E N T S

1. INTRODUCTION
2. PERFORMANCE SPECIFICATION
 - 2.1 Power Supplies
 - 2.2 A.C. Performance
3. CIRCUIT DESCRIPTION
4. MAINTENANCE

D R A W I N G S

Circuit	D 49837 A2
Parts List	D 49838 A4
P.B. Comp. Loc.	D 49843 A2

DESIGNS DEPARTMENT HANDBOOK

No. 3.250(80)

AM5/33 Mixer Amplifier

1. INTRODUCTION

The AM5/33 contains two identical circuits each of which consists of three differential input amplifiers whose outputs are mixed and taken to a non-inverting amplifier output stage.

Input 1, which is designed to be fed from a microphone channel has unity gain but inputs 2 and 3, which are fed with Echo Return signal have an overall loss of -15 dB.

The amplifier is contained on a 3U BMM unsupported card. The card is designed for use in the PA6/87 module of the EP10/18 Radio Continuity Suite.

2. PERFORMANCE SPECIFICATION

2.1 Power Supplies

±12 volt at 60 mA.

2.2 A.C. Performance

Maximum output	0 dB		
Gain	Input 1	Input 2	Input 3
	0 dB	-15 dB	-15 dB
Input impedance	20 kΩ		
Frequency response	40 Hz-15 kHz ±0.03 dB w.r.t. 1 kHz		
Noise	-80 dB ₄		
Distortion	Less than 0.1% T.H.D. at 0 dB		

3. CIRCUIT DESCRIPTION

The AM5/33 carries two identical circuits. In this circuit description only one half will be referred to.

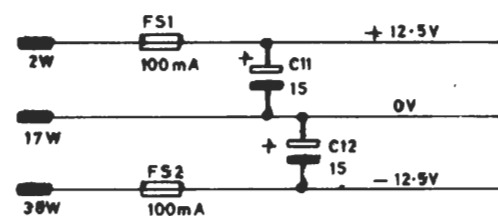
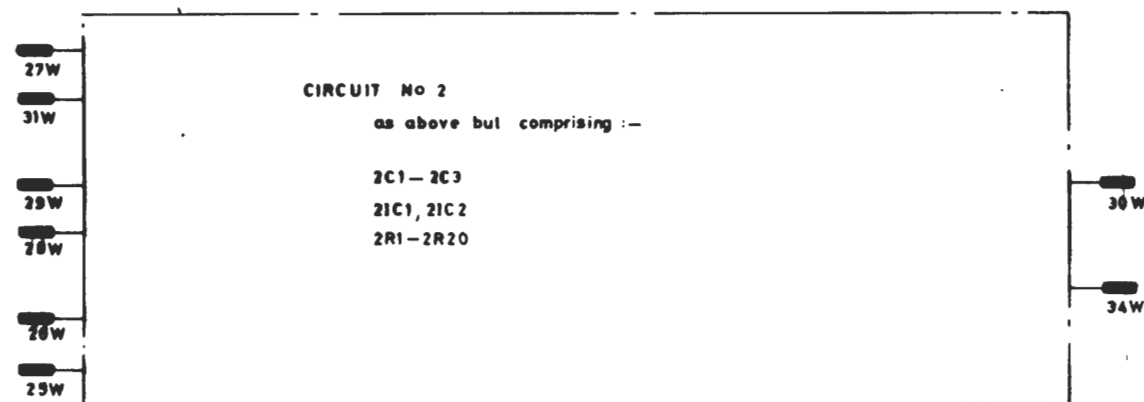
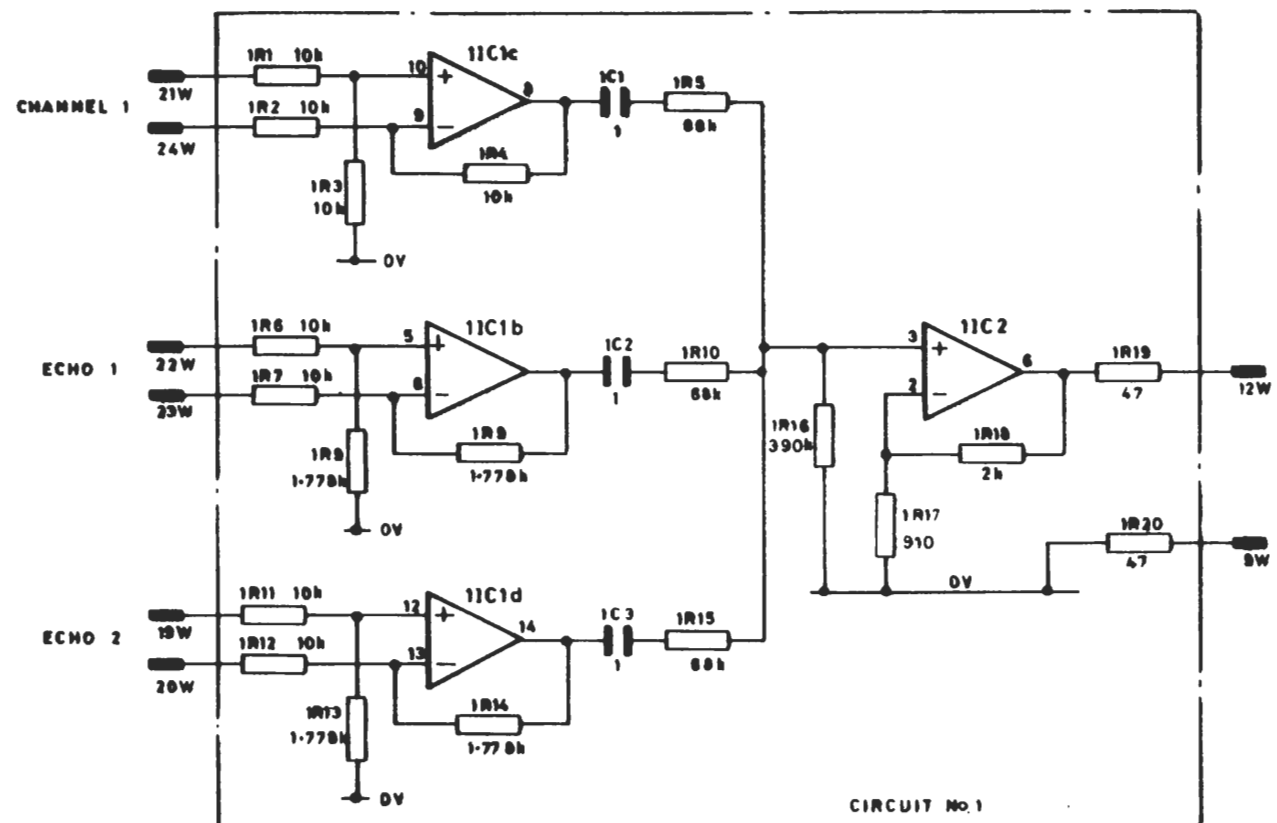
IC1b, c and d form three differential input amplifiers. Amplifier 1 has unity gain and amplifiers 2 and 3 have a gain of -15 dB. The outputs of these amplifiers are mixed and fed to IC2a, a non-inverting

output amplifier with a gain of 12 dB.

4. MAINTENANCE

If a fault occurs the d.c. conditions should be checked first. The supply currents should not exceed those given in 2.1 The output pin of each integrated circuit amplifier should be at 0V \pm 20 mV.

D49837A2



CIRCUIT REF.	SUPPLY PINS		No OF PARTS	TYPE
	+12.5V	-12.5V		
11C1 21C1	4	11	4	HA1-4741-5
11C2 21C2	7	4	1	LF356N

PARTS LIST D49838A4

SCALE - 0

THIRD ANGLE PROJECTION

ORIGINAL FRAME SIZE
400mm x 574mm

CHANGE
1 30.10.80

BBC This drawing/specification is the property of the British Broadcasting Corporation and may not be reproduced or disclosed to a third party in any form without the written permission of the Corporation.

DS/A2 1

AM5/33

MIXER AMPLIFIER
CIRCUIT

All dimensions in millimetres unless otherwise stated
Normal tolerances
no decimal place — 1 mm unless
one decimal place — 0.3 mm otherwise
two decimal places — 0.1 mm stated

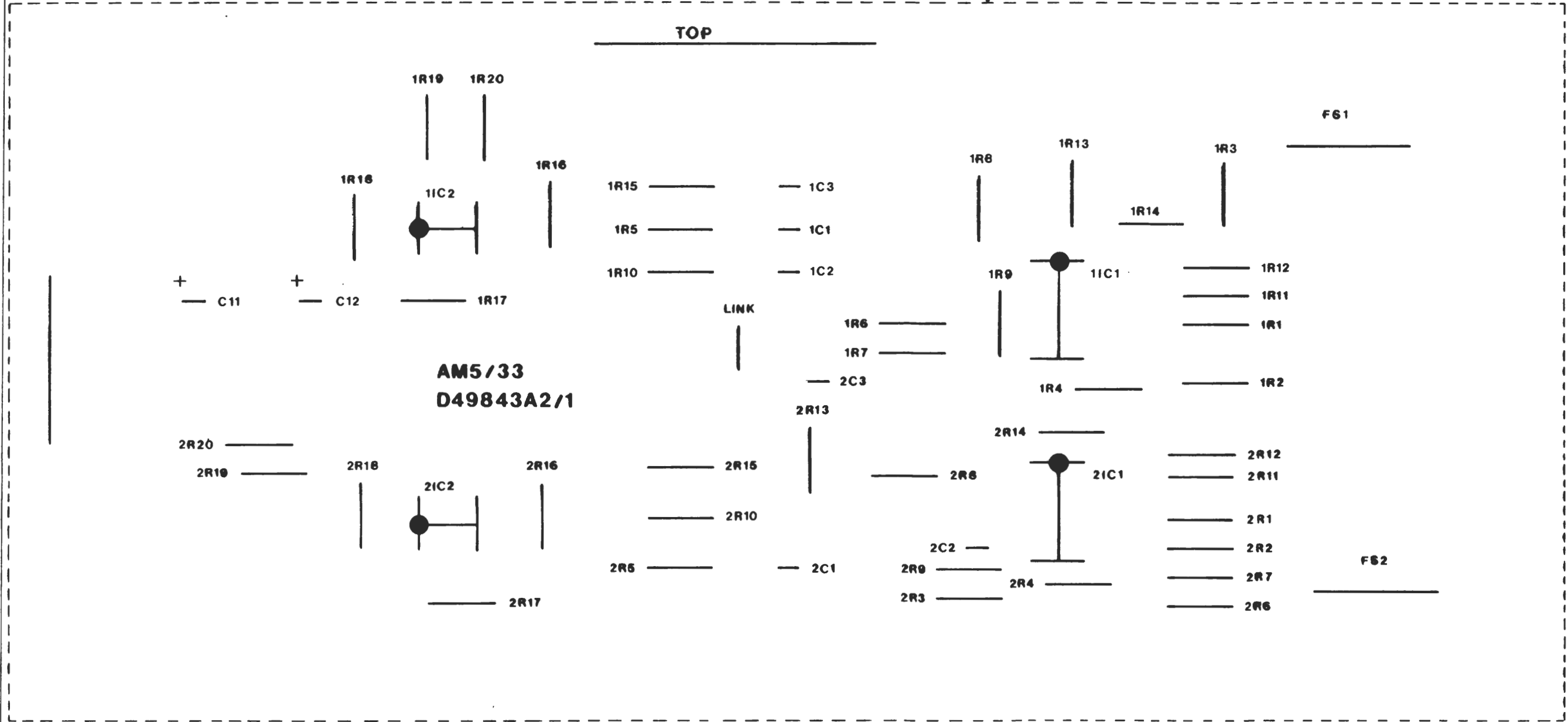
DRN	GRD	DESIGNS DEPARTMENT
TCD		
CKD		
APPD		

D49837A2

D49843A2

MINIMUM SIZE TO CUT NEGATIVE

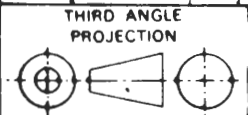
TOP



CHARACTERS & LINES TO BE PRINTED IN WHITE
PRINTED WIRING ON REVERSE SIDE OF BOARD IS D49842A2

SCALE 2:1

SCALE: 0



ORIGINAL FRAME SIZE
400mm x 574mm

CHANGE
30.10.80

BBC This drawing/specification is the property of the British Broadcasting Corporation and may not be reproduced or disclosed to a third party in any form without the written permission of the Corporation.

DS/A2.1

ISS

AM5/33

PRINTED BOARD
COMPONENT LOCATION

All dimensions in millimetres unless otherwise stated
Normal tolerances
no decimal places — 1 mm unless
one decimal place — 0.3 mm otherwise
two decimal places — 0.1 mm stated

DRN GRB
TCD
CKD
APPD

DESIGNS DEPARTMENT

D49843A2