

Marshall

AMPLIFICATION

EL 34

**FEBRUARY 1994
CONVERSION
MANUAL FOR
50 & 100 WATT
MODELS**

5881

**THE ENCLOSED MODIFICATION SHOULD
ONLY BE CARRIED OUT BY QUALIFIED
ENGINEERS**

Research and Development

5881

Introduction

Section 1 1959 SLP and 1987X models.

Section 2 SL-X models 2500, 2100.

Section 3 30th Anniversary models
6100 & 6101.

Section 4 JCM900 Dual Reverb models.

IMPORTANT NOTICE

This handbook is for the reference and use by qualified personnel only.
Marshall Amplification plc cannot accept any responsibility for any misuse or damage,
however caused, at the hands of third party personnel.

**Models 1959 SLP and 1987X
(also most JCM800 and before
50 & 100 watt models)**

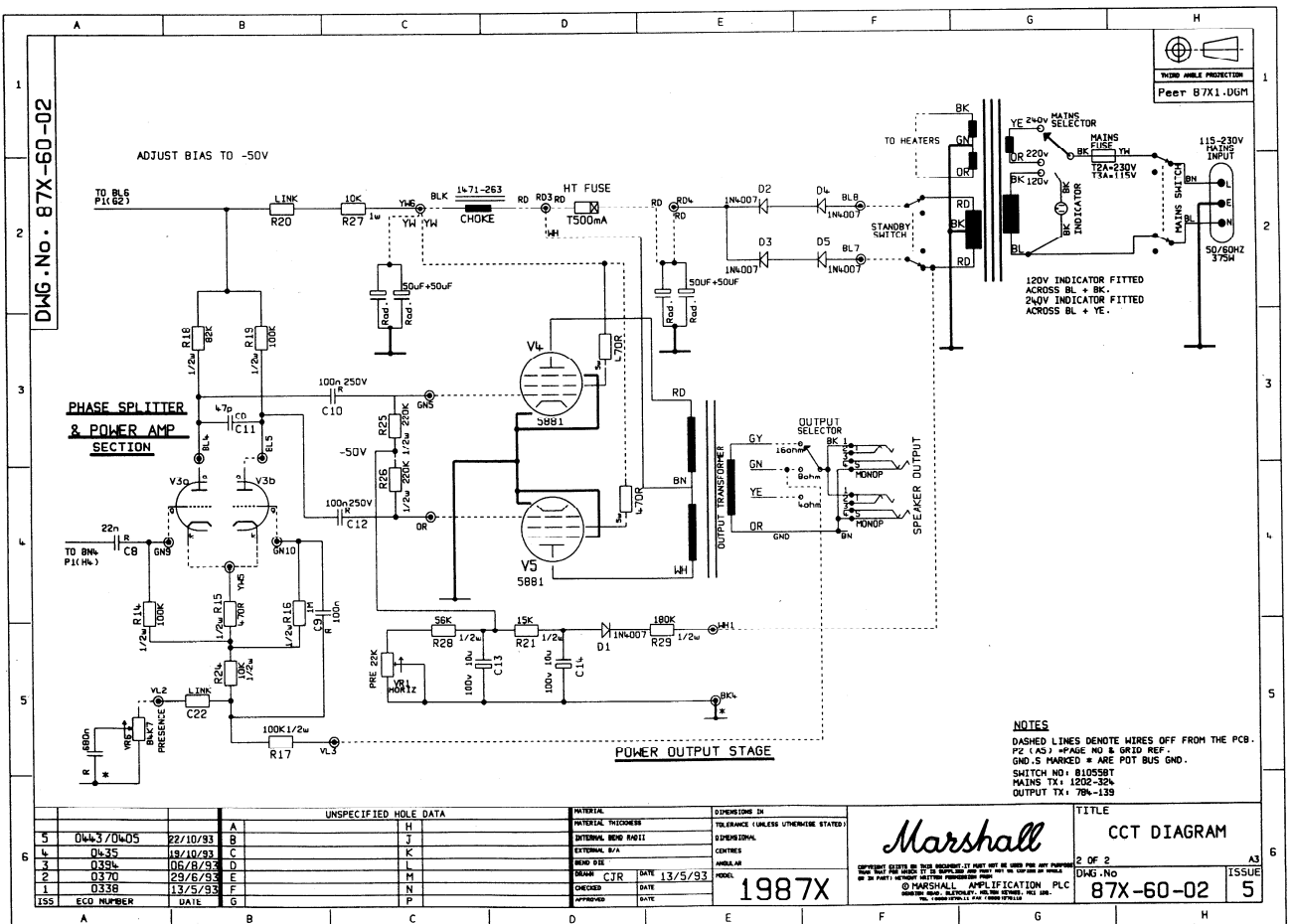
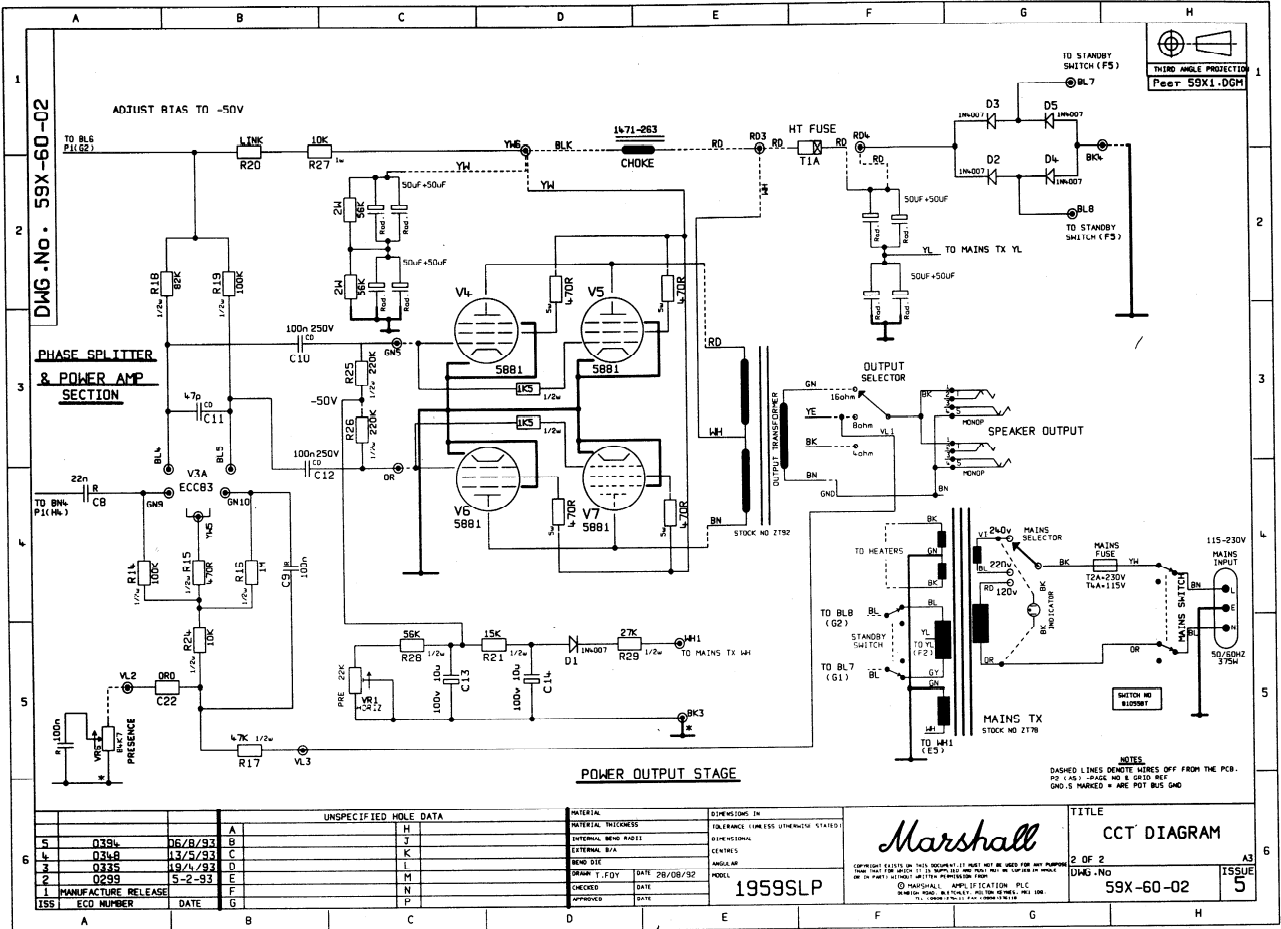
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1959X Conversion					
EL34 Power Valves to 5881 Power Valves					
Resistors	Stock No.	Qty	Description	New Value	Old Value
	* R76	1	R14	100K, 1/2 watt	1M, 1/4 watt
		1	R20	Link	10K, 1 watt
	R73	1	R28	56K, 1/2 watt	47K, 1/4 watt
	4	Screen Grid Resistors	470Ω, 5 watt	1KΩ, 5 watt	
Capacitors	TC1	2	C10, C12	100n,250v	22n,250v

1987X Conversion					
EL34 Power Valves to 5881 Power Valves					
Resistors	Stock No.	Qty	Description	New Value	Old Value
	* R76	1	R14	100K, 1/2 watt	1MΩ, 1/2 watt
	R190	1	R29	180KΩ, 1/2 watt	220KΩ, 1/2 watt
	R45	2	Screen Grid Resistors	470Ω, 5 watt	1KΩ, 5 watt
Capacitors	TC1	2	C10, C12	100n,250v	22n,250v

* Do not change this resistor on the following models: 2205, 2210, 4140, 4145, 4150 and Artiste models.
Set bias to approx -50 volts.



2500, 2100 SL-X Models

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2500, 2100 SL-X Conversion					
EL34 Power Valves to 5881 Power Valves					
	Stock No.	Qty	Description	New Value	Old Value
Resistors	R111	1	R23	100K $\frac{1}{4}$ watt	91K Ω , $\frac{1}{4}$ watt
	R129	1	R28	56K, $\frac{1}{4}$ watt	68K Ω , $\frac{1}{4}$ watt
	R116	1	R29	10K $\frac{1}{4}$ watt	27K Ω , $\frac{1}{4}$ watt
	R34	1	R30	10K, 1 watt (metal oxide)	22K Ω , 1 watt
	R45	4	*R31, R32, R33, R34	470 Ω , 5 watt	1K, 5 watt

Fit a 33K (ST No. R113) in parallel with a 4n7 (ST No. C134) between the 4 Ohm tap on the output transformer and the Violet wire (i.e. cut violet wire and fit cap and resistor in) See circuit diagram).

Remove link on HT can so that there is only 50 μ f of smoothing (i.e. Fit brown and Red wires to one tag. Brown from output transformer and Red from Rd2 on PCB SL-X a-60-00).

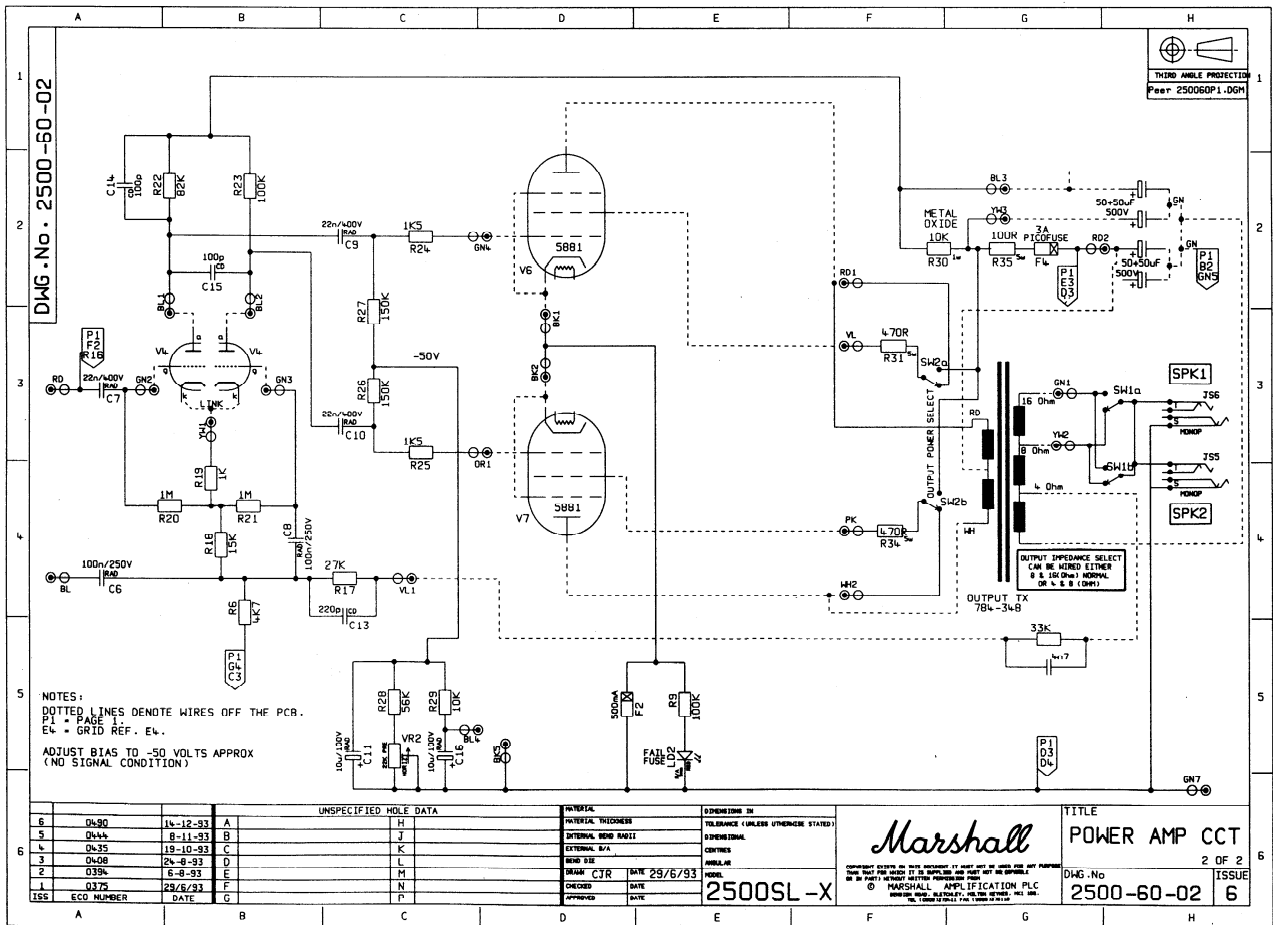
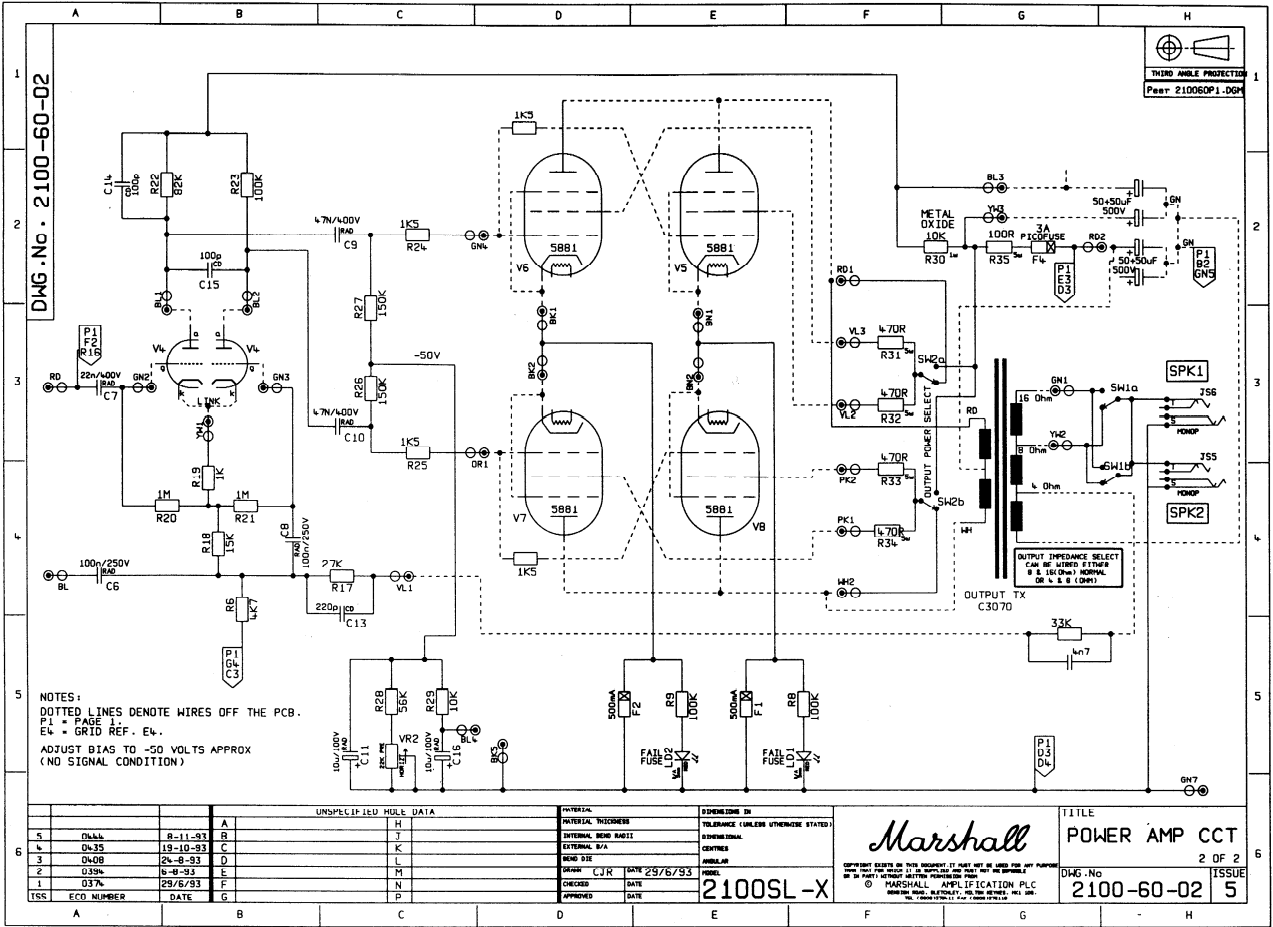
* Omit R32 & R33 on 2500's.

2500, 2100 SL-X Conversion					
5881 Upgrade *See Introduction note					
	Stock No.	Qty	Description	New Value	Old Value
Resistors	R41	1	R18	15K, $\frac{1}{4}$ watt	10K Ω , $\frac{1}{4}$ watt
	R122	1	R19	1K, $\frac{1}{4}$ watt	470 Ω , $\frac{1}{4}$ watt
	R108	1	R20	1M, $\frac{1}{4}$ watt	100K, $\frac{1}{4}$ watt
	R91	1	R26, R27	150K Ω , $\frac{1}{4}$ watt	220K Ω , $\frac{1}{4}$ watt
Capacitors	TC4	2	C9, C10 2500's Only	22n,400v	100n, 250v
	TC5	2	C9, C10 2100's Only	47n,400v	100n, 250v

Fit a 33K (ST No. C114) in Parallel with a 4n7 (ST No. C134) between the 4 Ohm tap on the output transformer and the Violet wire (i.e. Cut the Violet wire and fit cap and resistor in) See circuit diagram).

Remove link on HT can so that there is only 50 μ f of smoothing (i.e. Fit Brown and Red wire to one tag. Brown from output transformer and Red from Rd2 on PCB SL-Xa-60-00).

Set bias to approx -50 volts.



30th Anniversary models 6100 & 6101

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30th Anniversary 6100/6101 Conversion					
EL34 Power Valves to 5881 Power Valves					
Resistors	Stock No.	Qty	Description	New Value	Old Value
	R45	4	R251, R252, R253, R254	470Ω, 5 watt	1KΩ, 5 watt
	R111	1	R231	100KΩ, 1/4 watt	91KΩ, 1/4 watt
	R91	2	R234, R235	150KΩ, 1/4 watt	220KΩ, 1/4 watt
	R113	1	R212,	33KΩ, 1/4 watt	22KΩ, 1/4 watt
	R149	1	R249	1K5, 1 watt	820Ω, 1 watt
		1	R239	Link	470Ω, 5 watt
	R10	1	R236	2K2Ω, 5 watt	6K8Ω, 1 watt
Capacitors	C471	2	C215, C216	47μ, 450v	220μf, 400 volts
	C29R	1	C226	22μf, 25v	1μf, 63 volts
		1	C231	Removed	47μf, 450 volts

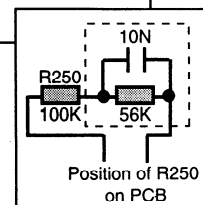
Fit a 56K (ST No. R129) in parallel with a 10n (ST No. C135), fitted in series with R250. (See Diagram below).

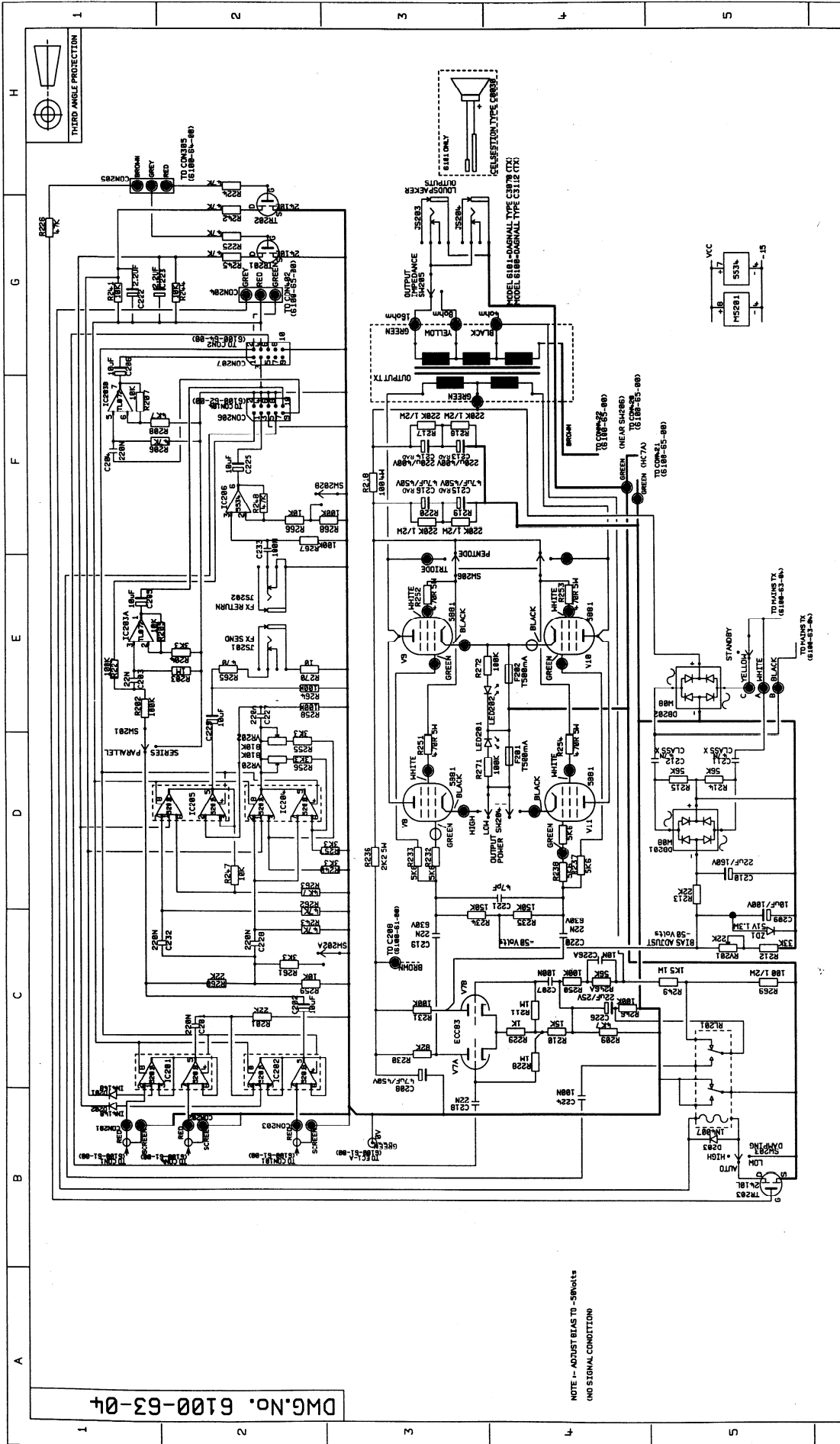
30th Anniversary 6100/6101 Conversion					
5881 Upgrade *See Introduction note					
Resistors	Stock No.	Qty	Description	New Value	Old Value
	R91	2	R234, R235	150K, 1/4 watt	220KΩ, 1/4 watt
	R41	1	R210	15K, 1/4 watt	10KΩ, 1/4 watt
	R113	1	R212	33K, 1/4 watt	22KΩ, 1/4 watt
	R108	1	R228	1MΩ, 1/4 watt	100KΩ, 1/4 watt
	R122	1	R229	1K, 1/4 watt	470KΩ, 1/4 watt
	R149	1	R249	1K5, 1 watt	820Ω, 1 watt
Capacitors	C222		C219, C220	22n, 680v	100n, 250v
	C29R		C226	22μ, 25v	1μf, 63v

Fit a 56K in parallel with a 10n fitted in series with R250 (56K ST No. R129, 10n ST No. C135). (See Diagram Right).

Change R58 on Pre-amp circuit to 10K 2W (R299).

Set bias to approx -50 volts.





DWG.No. 6100-63-04

NOTE - ADJUST BIAS TO -50volts (NO SIGNAL CONDITION)

TITLE
POWER AMP CCT
 DWG.No
6100-63-04
 ISSUE
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DIMENSIONS IN TOLERANCE UNLESS OTHERWISE STATED	
INTERNAL TOLERANCES	DIMENSIONAL
EXTERNAL TOLERANCES	CERTIF.
EXTERNAL DIA	ANAL.
INTERNAL DIA	MODEL
DRAWN T.F.	DATE 15/07/52
CHECKED	DATE
APPROVED	DATE

UNSPECIFIED HOLE DATA	
A	H
B	J
C	K
D	L
E	M
F	N
G	P

7	04-36	26/10/53
6	04-41	19/10/53
5	04-35	15/10/53
4	04-08	24-8-53
3	03-14	6-8-53
2	02-49	15/07/52
155	ECO NUMBER	DATE

JCM 900; Dual Reverb all models.

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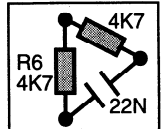
Dual Reverb Conversion EI34 Power Valves to 5881 Power Valves

	Stock No.	Qty	Description	New Value	Old Value
Resistors	R45	4	*R31, R32, R33, R34	470Ω, 5 watt	1K or 2K2 5watt
	R34	1	R30	10K 1 watt (metal oxide)	22K, 1 watt
	R8	1	R29	8K2, 1/4 watt	15K, 1/4 watt
	R133	1	R28	68K, 1/4 watt	56K, 1/4 watt
	R111	1	R23	100K, 1/4 watt	91K, 1/4 watt
	R112	1	R17	47K, 1/4 watt	100K, 1/4 watt

Fit a 56K (ST No. R129) in parallel with a 10n (ST No. C135) between the 4 Ohm tap on the output transformer and the Violet wire (i.e. Cut Violet wire and fit cap and resistor in) See circuit diagram).

Fit a 4K7 (ST No. R118) in series with a 22n (ST No. C136) across R6, 4100a, 4500 only. (See diagram)

Remove link on HT can so that there is only 50μf of smoothing (i.e. Fit Brown and Red wires to one tag, Brown from output transformer and Red from Rd2 on PCB SL-X a-60-00).



* Omit R32 & R33 for 50 watt models.

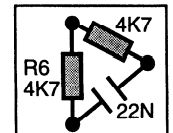
Dual Reverb Conversion 5881 Upgrade *See Introduction note

	Stock No.	Qty	Description	New Value	Old Value
Resistors	R112	1	R17	47KΩ, 1/4 watt	100KΩ, 1/4 watt
	R41	1	R18	15KΩ, 1/4 watt	10KΩ, 1/4 watt
	R122	1	R19	1KΩ, 1/4 watt	470Ω, 1/4 watt
	R108	1	R20	1MΩ, 1/4 watt	100KΩ, 1/4 watt
	R91	2	R26, R27	150K, 1/4 watt	220KΩ, 1/4 watt
Capacitors	C14	2	C13, C14	100P Disc	Omitted
	TC4	2	C10, C9 50 watt models	22n, 400v	100n, 250v
	TC5	2	C10, C9 100 watt models	47n, 400v	100n, 250v

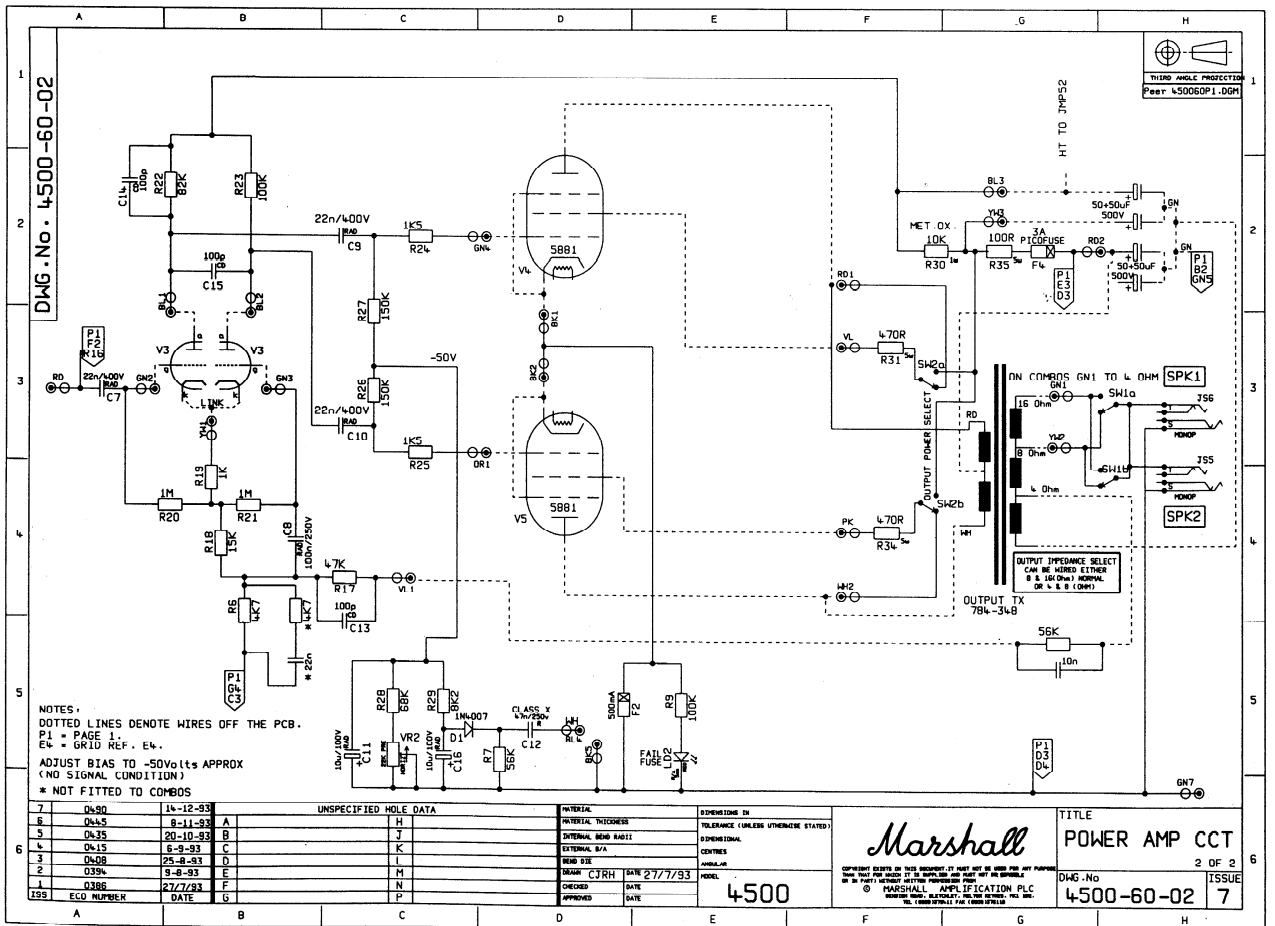
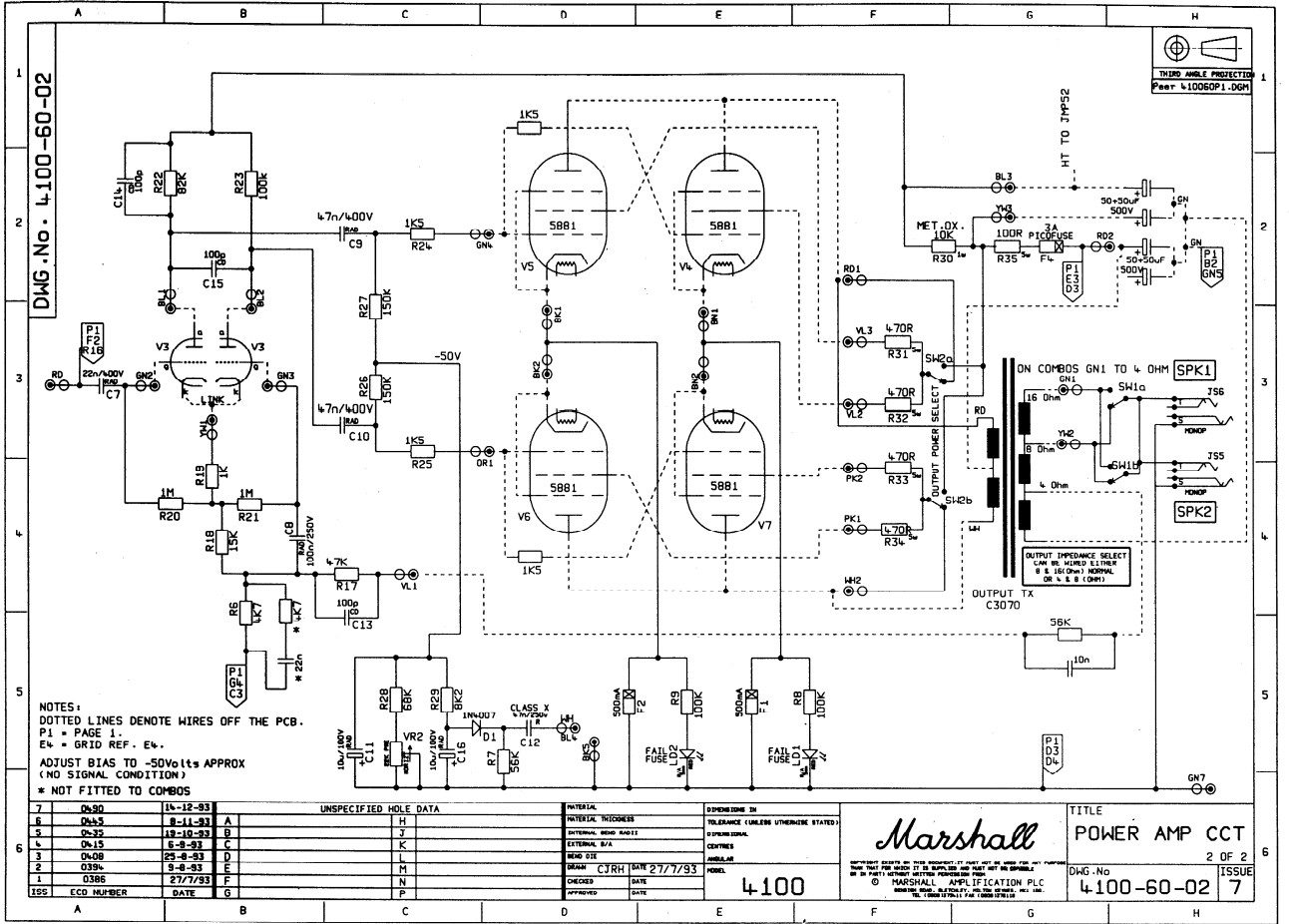
Fit a 56K (ST No. R129) in parallel with a 10n (ST No. C135) between the 4 Ohm tap on the output transformer and the Violet wire (i.e. Cut Violet wire and fit cap and resistor in) See circuit diagram).

Fit a 4K7 (ST No. R118) in series with a 22n (ST No. C136) across R6 4100 & 4500 only. (See diagram)

Remove link on HT can so that there is only 50μf of smoothing (i.e. fit Brown and Red wires to one tag. Brown from output transformer and Red Rd2 on PCB SL-X a-60-00).



Set bias to approx -50 volts.



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Whilst the information contained herein is correct at the time of publication, due to our constant improvement and development, Marshall Amplification plc reserve the right to alter specifications without prior notice.

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