
First Production PCB M12368 iss. 5?

d.c. feedback
R11 is Limiter for ESL57 Speakers

Input ground must be connected to chassis at DIN socket to prevent oscillation - R39 C12

M12368 iss. 7 PCBs were used for serial numbers from ?? to 9000

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QUAD 405 - M12333 iss. 3

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M12368 iss.9 PCBs used for serial numbers from 9000 to 29000

R11 is Limiter for ESL57 Speakers

Input ground must be connected to chassis at DIN socket to prevent oscillation see - R39 C12

Note: This point is connected to input ground but ideally should be connected to other side of R2

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QUAD 405 - M12333 iss. 4

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Input ground must be connected to chassis at DIN socket to prevent oscillation see - R39 C12

R11 is Limiter for ESL57 Speakers

M12368 iss. 9 &10 PCBs used for serial numbers from 29000 to 59000 iss. 10 PCBs same as issue 9 except power transistor pads modified for production.
M12565 iss. 3 PCBs were used for serial numbers 59001 to 62500 and 57301 to 57600.
M12565 iss. 5 PCBs (QUAD 405-2) were used for serial numbers from 62501 to 66699.
M12565 iss. 6 PCBs (QUAD 405-2) were used for serial numbers from 69700 to 72500.
M12565 iss. 7 PCBs (QUAD 405-2) were used for serial numbers from 72501 to 82999 and 83000 to 84999 with voltage selector omitted

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M12565 iss. 7 PCBs (QUAD 405-2) used for serial numbers from 85000 onward - Note input earth change with phono input connectors.
Components marked in green are changes or additions to the original n.f. = not fitted and Link = remove and wire across.

For original sensitivity 0.5V for 100W fit R4 = 1.6k and C2 = 100uF

As shown sensitivity is 1V for 100W

For sensitivity of 1.5V for 100W fit R4 = 4.7k and C2 = 33uF

Note the 2 different ground symbols either side of R2 - probably to prevent internal hum loops - The input ground connects to the chassis at the input DIN socket and originally the other side of R2 connects to chassis via the bolt in the heatsink - Even if you do not provide a formal ground wire to the 0V speaker terminal as I show you should ensure that both sides of R2 are at the same potential - If one ground is missing the voltage at the speaker terminals will be about 20mV if both grounds are in place it should be less than 1mV - Both grounds should be connected to chassis

Tr3 should be bypassed base-emitter as shown and it should then be possible to safely remove C19 fitted across Tr10 collector-base on the solder side of the PCB - If you are not sure bypass Tr3 and leave C19

Components marked in grey with blue reference designators should be removed to disable current limiting - This should be done in conjunction with a change of Tr9 and Tr10 to higher power devices like MJ15003

Tr3 should be bypassed base-emitter as shown and if fitted across Tr10 collector-base on the solder side of the PCB - If you are not sure bypass Tr3 and leave C19

C19 can be removed if Tr3 is bypassed but if you cannot check for stability leave it in place

For original sensitivity 0.5V for 100W fit R4 = 1.6k and C2 = 100uF

As shown sensitivity is 1V for 100W

For sensitivity of 1.5V for 100W fit R4 = 4.7k and C2 = 33uF

Note the 2 different ground symbols either side of R2 - probably to prevent internal hum loops - The input ground connects to the chassis at the input DIN socket and originally the other side of R2 connects to chassis via the bolt in the heatsink - Even if you do not provide a formal ground wire to the 0V speaker terminal as I show you should ensure that both sides of R2 are at the same potential - If one ground is missing the voltage at the speaker terminals will be about 20mV if both grounds are in place it should be less than 1mV - Both grounds should be connected to chassis

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M12368 PCBs to DCD Mod-3

1 Sept 2008  Drawn: K. Snook  Checked:
Note: This is only a schematic - It has been implemented as a mod to 12368 iss.10 and 12565 iss.7 PCBs but the circuit can oscillate at VHF radio frequencies which do not appear at the output but can put the transistors in compression - increasing the distortion and dissipation.

lookout for updates and refer to my website for further information.

Note: The “Current Dumpers” Tr9 and Tr10 are complimentary Darlington transistors — This layout WILL NOT work with low hfe output devices due to the base current required — The “Current Dumpers” can be made complimentary MOSFETs if D13 and D6 are changed for resistors but care must be taken to ensure that the Source-gate voltage can be obtained within the limits of Tr7 and Tr108 current drive.