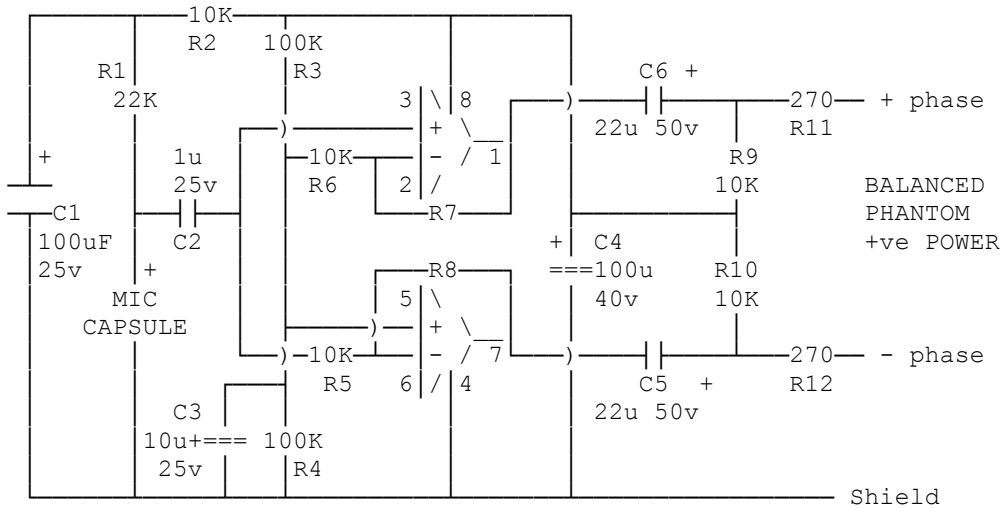


Subject: Phantom Bal Mic Preamp+Gun Mic

From: G8MNY@GB7CIP.#32.GBR.EU
 To : TECH@WW

By G8MNY (Correction Oct 04)
 Phantom powered Mic Preamp +12 to +48v with balanced 600Ω O/P Z.



Any 8 pin dual opamp e.g. CA3240, LM358N, MC1458C, NE5532N, NJM4558, OPA2604AP, TL072, TL082, etc,

Gain of each phase = $R7 \text{ or } R8 / 10K$
 Typical values $R7=R8= 100K$, gives 10x gain/phase, x20 overall gain (26dB).

The polarity of the C2 in series with the electret mic depends on the DC bias level needed for the particular mic capsule. So test the relative DC levels before inserting capacitor.

The value of R9 & R10 can be changed to better suit the phantom powering voltage eg 12v use 4K7, 48v use 22K.

LF tailoring can be incorporated if C2 in series with the mic can be reduced to about 0.1uF. Also the 2 O/P Cs (C5,C6) are reduced, values depend on external load.

WHAT DOES WHAT.

- R11&R12 condition O/P Z to approx 600Ω, & supply some RFI & spike suppression.
- R9&R10 with C4 decouple the DC phantom IC supply from outgoing line AF.
- R2 with C1 decouple the DC supply for the mic.
- R1 supplies DC current to the mic.
- C2 passes mic AF into R5 load, & hence determines LF response.
- R3,R4 & C3 provide a decoupled ½ DC rail bias point for the op amp.
- R5, R8 & R6, R7 provide the 2 opamp voltage Negative Feed Back, setting gain.
- C5 & C6 pass O/P AF into the line.

