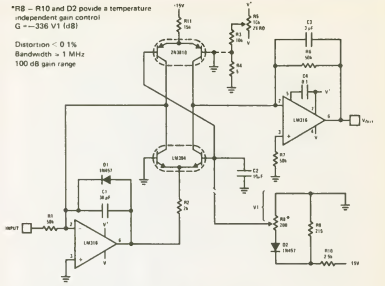


Fig. 6-1. Voltage-controlled variable gain amplifier (NS).

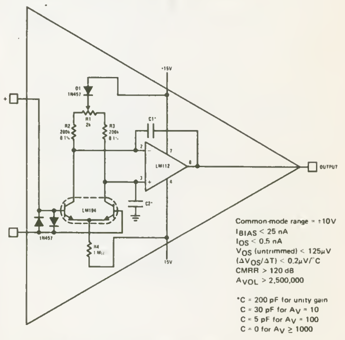


Fig. 6-2. Precision low-drift operational amplifier (NS).

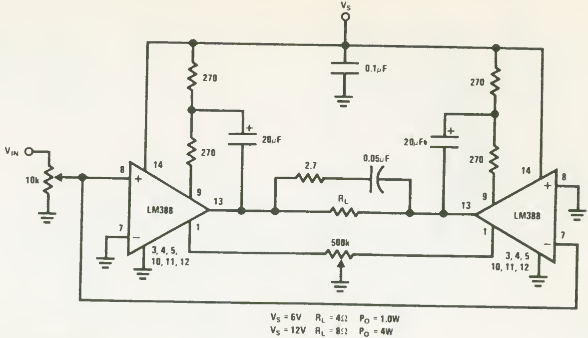


Fig. 6-3. Bridge amplifier (NS).

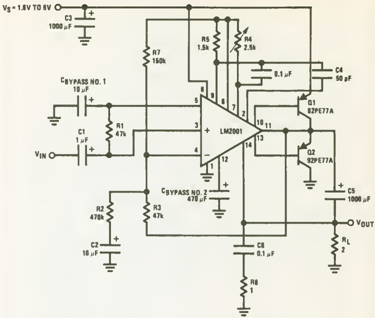


Fig. 6-4. Power amplifier with Av of approximately 100 (NS).

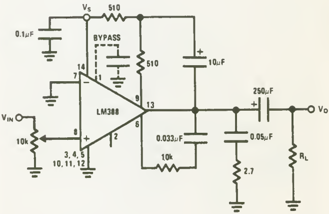


Fig. 6-5. Amplifier with bass boost (NS).

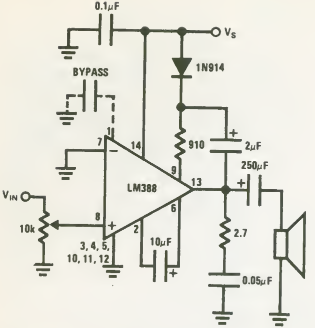


Fig. 6-6. Amplifier with a gain of 200 and minimum C_B (NS).

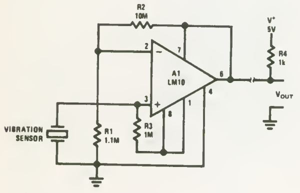


Fig. 6-7. Remote amplifier (NS).

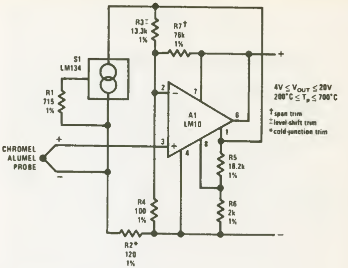


Fig. 6-8. Remote thermocouple amplifier (NS).

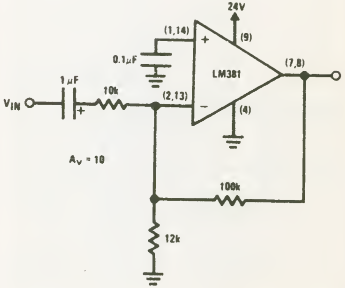


Fig. 6-9. Ultra-low distortion amplifier with Av of 10, THD less than 0.05 percent and VOUT of 3 volts rms (NS).

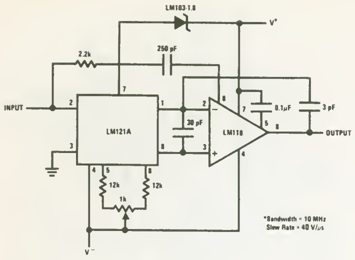


Fig. 6-10. High-speed inverting amplifier with low drift (NS).

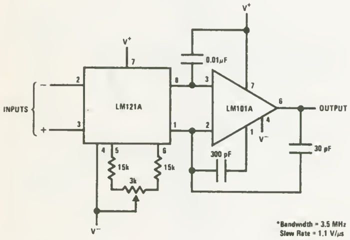


Fig. 6-11. Medium-speed, general-purpose amplifier (NS).

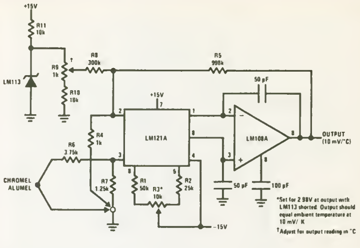


Fig. 6-12. Thermocouple amplifier with cold junction compensation.

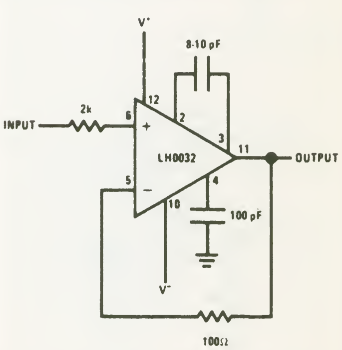


Fig. 6-13. Unity gain amplifier (NS).

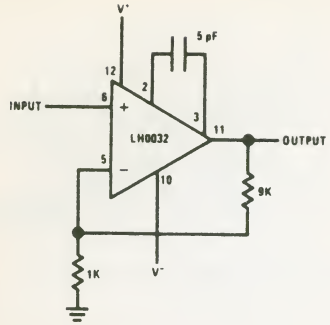


Fig. 6-14. A 10X buffer amplifier (NS).

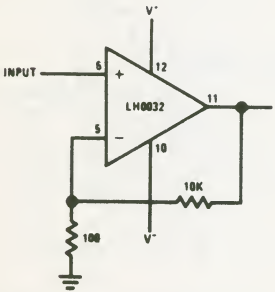


Fig. 6-15. A 100X buffer amplifier (NS).

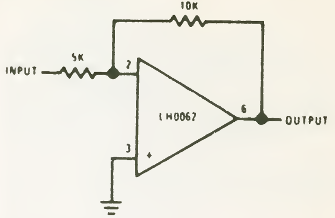


Fig. 6-16. Fast summing amplifier (NS).

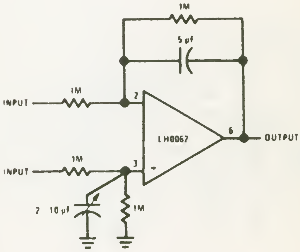


Fig. 6-17. Differential amplifier (NS).

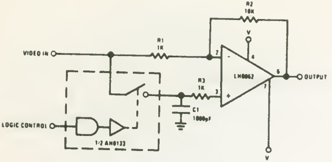


Fig. 6-18. Video DC restoring amplifier (NS).

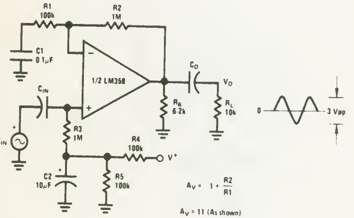


Fig. 6-19. An AC-coupled noninverting amplifier (NS).

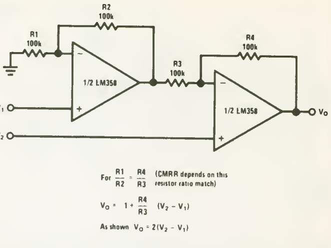


Fig. 6-20. High input impedance, DC differential amplifier (NS).

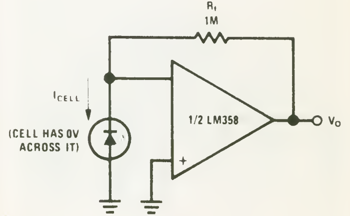


Fig. 6-21. Photovoltaic cell amplifier (NS).

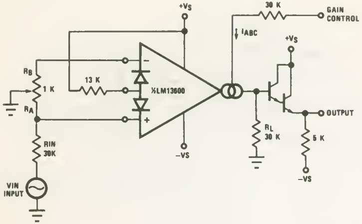


Fig. 6-22. Voltage-controlled amplifier (NS).

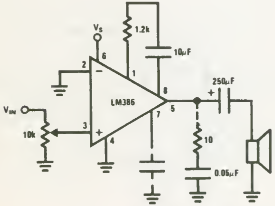


Fig. 6-23. Amplifier with gain of 50 (NS).

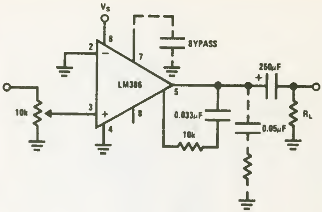


Fig. 6-24. Amplifier with bass boost (NS).

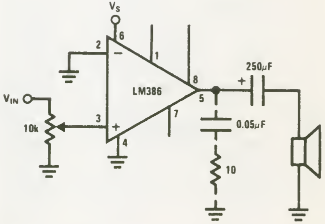
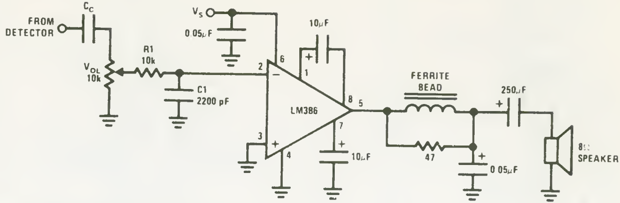


Fig. 6-25. Amplifier with a gain of 20 and minimum parts (NS).



Note 1: Twist supply lead and supply ground very tightly.
Note 2: Twist speaker lead and ground very tightly.
Note 3: Ferrite bead is Ferroxcube K5-001-001/3B with 3 turns of wire.
Note 4: R1C1 band limits input signals.
Note 5: All components must be spaced very close to IC.

Fig. 6-26. Power amplifier for an AM radio (NS).

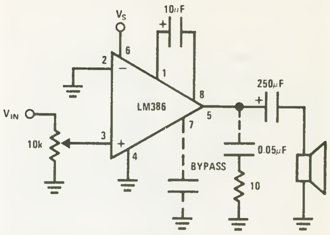


Fig. 6-27. Amplifier with gain of 200 (NS).

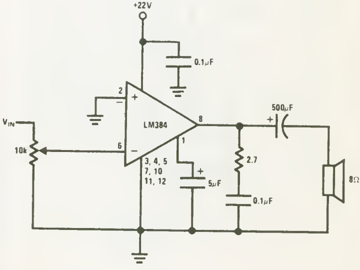


Fig. 6-28. Typical 5-watt amplifier (NS).

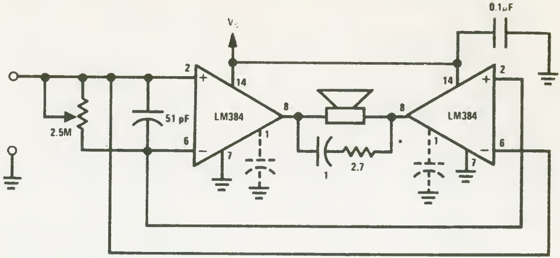


Fig. 6-29. Bridge amplifier (NS).

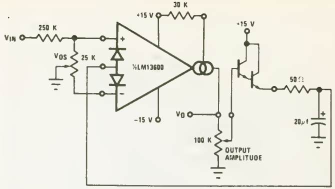


Fig. 6-30. Automatic gain control amplifier (NS).

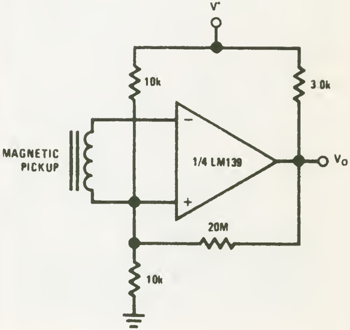


Fig. 6-31. Transducer amplifier (NS).

D1, D2—HEP R0052
D3—HEP R0053
T1, T3—HEP S3001
T2—HEP S5014
T4—HEP S7003
T5—HEP S7002
C1, C3—10μF, 15V, electrolytic
C2—200μF, 6V, electrolytic
C4—50μF, 25V, electrolytic
C5—4000μF, 50V, electrolytic
All resistors 1/2W unless
otherwise stated
R1—10kΩ
R2, R3, R4, R9—4.7kΩ
R5—68kΩ
R6—220Ω
R7—50kΩ, trimmer pot
R8—47Ω
R10—2.2kΩ
R11, R12—470Ω
R13, R14—0.27Ω, 5W
SP1—4Ω, 50W speaker capability
Hardware, HEP TO-3 Heat Sink— Mica Insulators, Lafayette 32P05390V

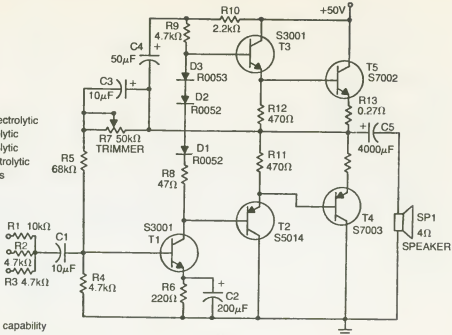


Fig. 6-32. Hi-fi power amplifier.

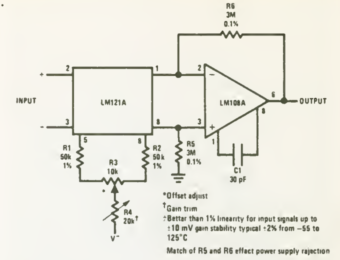


Fig. 6-33. Gain of 1000 instrumentation amplifier (NS).

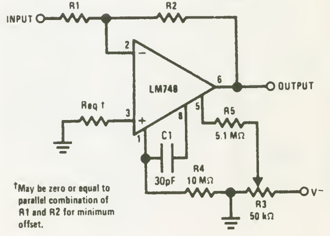
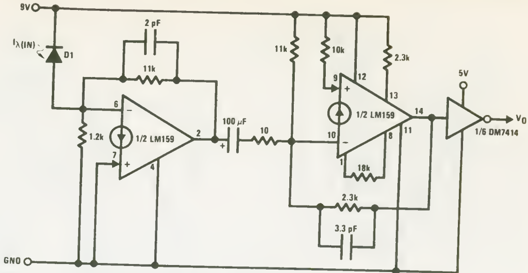


Fig. 6-34. Inverting amplifier with balancing circuit (NS).



D1~RCA N-Type Silicon P-I-N Photodiode

- Frequency response of greater than 10 MHz
- If slow rise and fall times can be tolerated the gate on the output can be removed. In this case the rise and the fall time of the LM359 is 40 ns.
- $T_{PDL} = 45$ ns, $T_{PDH} = 50$ ns—T^2L output

Fig. 6-35. Photodiode amplifier (NS).

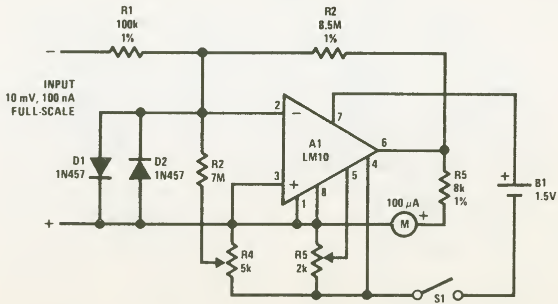


Fig. 6-36. Meter amplifier (NS).

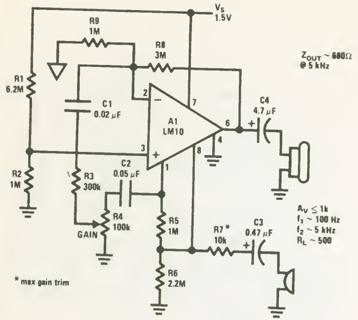


Fig. 6-37. Microphone amplifier (NS).

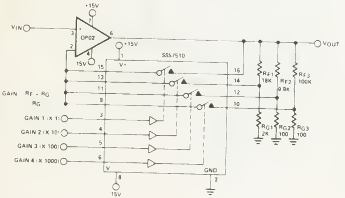


Fig. 6-38. Amplifier with digitally programmable gains. (PM).

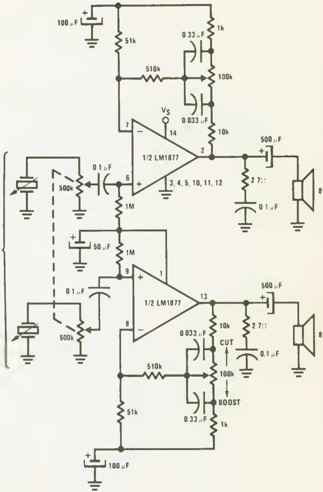


Fig. 6-39. Stereo phonograph amplifier with bass tone control (NS).

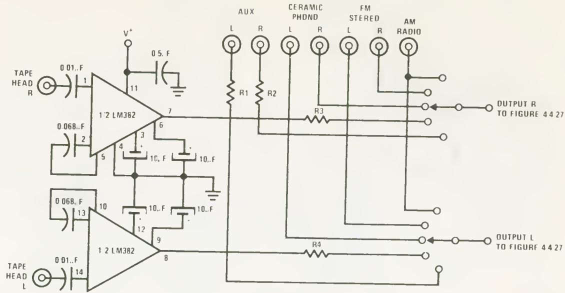


Fig. 6-40. A 2-channel tape-playback amplifier with signal switching (NS).

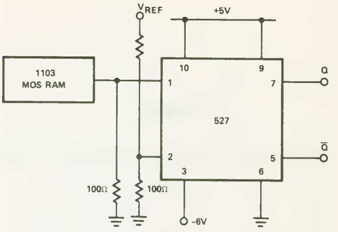


Fig. 6-41. MOS memory sense amplifier (S).

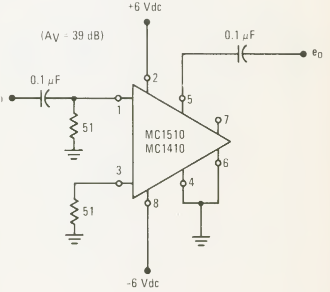


Fig. 6-42. Single-stage, wideband amplifier (M).