Simple inverter circuit plans

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As can be seen in the first diagram below, the configuration is a simple mosfet based designed for amplifying current at +/-60 volts such that the connected transformer corresponds to generate the required 1kva output.

There"s a much easier and efficient way of making a 1 kva inverter circuit using the following 4017 PWM version circuit. Since the PWM is created directly through the 4017 output, the PWMs are much accurate and the waveform is uniform and does not depend on any external adjustments.

The previous original article which is continued in the following paragraphs also discusses a 1000 watt inverter circuit, however, this circuit being a linear amplifier is not so efficient, and may result in a lot of dissipation.

Remember, you must first try and confirm the working of the inverter using single MOSFETs on each channel. Once the working is confirmed then you can add more number of MOSFETs in parallel to upgrade the power capacity of the inverter to 1000 watts

Q1, Q2 forms the initial differential amplifier stage which appropriately raises the 1vpp sine signal at its input to a level which becomes suitable for initiating the driver stage made up of Q3, Q4, Q5.

The mosfets are also formed in the push pull format, which effectively shuffles the entire 60 volts across the transformer windings 50 times per second such that the output of the transformer generates the intended 1000 watts AC at the mains level.

It is made up of a couple of opamps and a few other passive parts. It must be operated with voltages between 5 and 12. This voltage should be suitably derived from one of the batteries which are being incorporated for driving the inverter circuit.

The below given diagram shows a simple sine wave generator circuit which may be used for driving the above inverter circuit, however since the output from this generator is exponential by nature, might cause a lot of heating of the mosfets.

All resistors are 1/8 watts, 1%, MFRR1 = 14K3 (12K1 for 60Hz),R2, R3, R4, R7, R8 = 1K,R5, R6 = 2K2 (1K9 for 60Hz),R9 = 20KC1, C2 = 1uF, TANT.C3 = 2uF, TANT (TWO 1uF IN PARALLEL)C4, C6, C7 = 2?u2/25V,C5 = 100u/50v,C8 = 22uF/25VA1, A2 = TL 072

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