

Re: Need electronic experts pointers...

Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2004-10/3361.html>

From: Suraj Singh (surajs21_at_yahoo.com)

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Here is a simple circuit for an DC-AC Inverter for beginner.

<http://www.aaroncake.net/circuits/inverter.htm>

I have two comments based on your description:

1. For a 500 Watt output you need to draw $500/12 = \sim 40A$ from a 12 v battery which is quite high for a transistor/MOSFET switch to handle without too much power wastage. So think of using 48V battery.
2. Square wave is not recommended for inductive loads such as motor, fridge.

Seraphina Lee <seraphina_lee_my@hotmail.com> wrote in message news:<1skdl01a0l415cseq3ob914k7403gve6li@4ax.com>...

> *Dear all,*

>

> *I am an electronic hobbyist... beginner :) ... and have mainly
> theoretical knowledge of electronics. I've decided to design and
> build, what i call, a BBU. I'm not sure if this is going to tedious
> but i'm willing to give it a try. I've found so far 1 schematic
> diagram and the reason i'm posting here is because i would like to
> gather more pointers regarding the BBU or perhaps links to any other
> 'royalty free' schematic diagrams which fulfils the following;-*

>

> *Design Philosophy*

> *The purpose of this Battery Back-up Unit (BBU) is for the back-up of
> equipment such as (aquarium... maybe fridges at a later stage)
> especially motor loads during power outage. During normal conditions,
> the battery will be charged through a 13A switch socket outlet. The
> equipment will be attached in series with this BBU unit. When a power
> disruption occurs, this unit will cut out the charging unit and will
> deliver power to the load via a Lead Acid Battery which is on stand-by
> mode. There will be an interruption during this switch over. When the
> power supply is available, the BBU will switch the load supply from
> Battery to main power supply. Then the battery charger will charge the
> battery that has been consumed. When the battery is fully charged,
> trickle charging mode will be selected automatically to ensure a
> healthy battery for next power outage.*

>

> *Tech Details*

- > *Battery Charger input source: 240VAC 50Hz 13A Plug-Top**
- > *Battery Charger Output Current: 5A*
- > *Charging Algorithm: 1. Trickle Charge 2. Bulk Charge 3. Over-Charge*
- > *4. Float Charge*
- > *Battery: Lead Acid 12VDC (Maintenance Free Battery)*
- >
- > *Inverter*
- > *DC Input: 12VDC***
- > *Rated Continuous Power Output: 500W*
- > *Max Surge Power Output: 1000W*
- > *AC Output Waveform: Square Wave*
- > *AC Output source: 240VAC 50Hz 13A Switch Socket Outlet**
- > *Frequency Output: 50Hz*
- >
- > *Options*
- > **Variable input 220 – 240VAC 50Hz*
- > **Variable input 110 – 120VAC 60Hz*
- > ***24VDC*
- >
- > *Would appreciate it if some kind soul out there could point to me to a*
- > *site (which either sells or gives out free schematic diagrams) which*
- > *does the above. Other pointers / tips before start of work would also*
- > *be appreciated even though many have told me that it's extremely*
- > *simple to create :) It's always the case of 'easier said than done' to*
- > *me..*
- >
- > *Many Thanks,*
- > *Seraphina L.*
- > *seraphina_lee_my@yahoo.com*