Gmail

Jonathan Zitelman <jzstagecraft@gmail.com>

Daisy Chaining UPS units.

60 messages

Herrick Goldman <Herrick@hglightingdesign.com> Sat, Dec 9, 2006 at 3:42 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Hey gang,

I'm about to go play in Times Sq with an MA Lite and some Wireless DMX. I'm thinking of putting 4 or 6 Big UPS units in a box and I should be self contained.

IF I plug one UPS into another, into another, will they all fail sequentially in about 30 minute increments? Or do I need to have them all off and just use one at a time, thus having to unplug my gear every time A UPS fails?

-Herrick

--
Herrick Goldman
Lighting Designer, NYC
www.HGLightingDesign.com
917-797-3624
"To the scores of silent alchemists who wreak their joy in darkness and in light bringing magic to life, we bow most humbly. "-CDS

Brian Munroe <bpmunroe@gmail.com> Sat, Dec 9, 2006 at 3:54 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

On 12/9/06, Herrick Goldman <Herrick@hglightingdesign.com> wrote:

> IF I plug one UPS into another, into another, will they all fail sequentially in about 30 minute increments? Or do I need to have them all off and just use one at a time, thus having to unplug my gear every time A UPS fails?

I have never tried this, but I think it should work. Assume four UPSs, A-D, 'A' being furthest from the gear. 'A' would see no line voltage and would power it's outlets from the battery until it could no longer sustain the proper voltage. Then 'A' would turn off and 'B' would detect a loss of line voltage. This should continue until all UPSs were discharged.

I don't know if you would get the advertised 30 minutes per UPS. I think it would depend upon the current draw of the next UPS down the line. I also wonder if unit 'B' would turn on due to an under-voltage situation on unit 'A' before 'A' is discharged.

Backup early and often under this situation.

Brian Munroe
bpmunroe@gmail.com

Dale farmer <dale@cybercom.net> Sat, Dec 9, 2006 at 4:09 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Herrick Goldman wrote:

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ---
>
> Hey gang,

> I'm about to go play in Times Sq with an MA Lite and some Wireless DMX.
> I'm thinking of putting 4 or 6 Big UPS units in a box and I should be self
> contained.
> IF I plug one UPS into another, into another, will they all fail
> sequentially in about 30 minute increments? Or do I need to have them all
> off and just use one at a time, thus having to unplug my gear every time A
> UPS fails?
>
> -Herrick

Danger! Danger Will Robinson!

Some kinds of UPS units can tolerate this, albeit with horrendous loss of efficiency. Others will actually set themselves on fire when you daisy chain them.
For the amount of cash, and weight (batteries are heavy) to purchase and install these units, I think you will get a much better value with one of the small Honda inverter type generators. They operate by using a small gasoline engine to power a DC generator. The DC output is then rectified into a fairly clean AC waveform. They have them in 1K, 2K, and 3kW sizes. Then the really neat trick is this. You can, using their Y cable, have two of them feeding a single outlet.
So, if your load is 1.5 kW, to pick a number semi-randomly, get a pair of the 2kW units and fire them up. Start one, and then the other, they will synchronize themselves automagically. They will share the load just fine, until one runs out of gas. Fill it up, start it up and have it pick up the load. Turn off second one and refuel it, then bring it back online.
Start up one with half a tank of fuel, the other with a full tank, so that they both don't run out at the same time. No down time.
The mufflers on these generators are also rather a lot better than the usual ones you find on portable generators. They are not, by any means, a movie-quiet unit, but putting a noise baffle around them, say a bunch of empty road cases, and you can have a normal voice conversation ten feet away.
Make sure you get the inverter units, not their conventional portable generators that are the same rating. They won't self synchronize, with is the huge win for these generators. Also, they are Honda's, which mean they are not going to self destruct after one hundred hours of operation. Like most of the cheapie home center generators.

--Dale

Herrick Goldman <Herrick@hglightingdesign.com> Sat, Dec 9, 2006 at 4:19 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ----------

> On 12/9/06 4:54 PM, "Brian Munroe" <bpmunroe@gmail.com> wrote:
>
> >
> > Backup early and often under this situation.
> >

Hell Yes! And sorry I missed ya last week. I got a tad busy.
[Quoted text hidden]

Herrick Goldman <Herrick@hglightingdesign.com> Sat, Dec 9, 2006 at 4:28 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ----------

Hmmm...Dale..what kinds of UPS catch fire? Do you have a model? Why would this happen? (I'm sure there's a reason I just don't know why)

I can't bring a gas genny into Times sq in a road box so it all rolls nice and easy. At worst I'll unplug and replug into each UPS as each one dies.

Thanks for the warning. I'll test it at PRG.
[Quoted text hidden]
[Quoted text hidden]

Steven Santos <steven@simplycircus.com> Sat, Dec 9, 2006 at 4:37 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ----------

Only certain makes and models of ups units can be daisy chained. Most UPS's use a simulated sine wave (more of a box than a sine wave) or a step sine wave (several steps) to regulate the alternating current. Chaining these togeather is a bad thing.

Assume the following setup:

Wall
|
UPS1
|

UPS2
|
Load

Here is what ends up happening when you daisy chain 2 models that use simulated or step sine wave together, and if your UPS goes into battery mode:

1. Wall Power to USP1 turns off
2. UPS1 1 will output a modified sinewave.
3. UPS2 will interpret the modified sinewave as a power surge.
4. UPS2 will channel the current back to UPS1.
5. UPS1 basically gets fried and in some cases UPS2 as well.

The same thing will happen if you have UPS1 as a simulated sine wave, and UPS2 is a true sine wave.

Now, you can daisy chain true sine wave UPS machines. A few high-end models even have setups designed for this, complete with communications between the UPS machines that will optimiize up-time.

To find out if your ups units use a true sine wave, a step wave or simulated sine wave you will have to read you user manual or contact your UPS manufacturer.

Steven Santos
Director, Simply Circus, Inc.
Email: Steven@SimplyCircus.com
Mail: PO BOX 620753
Newton, MA 02462
Phone: 781-799-4938
eFax: 309-214-0899
Web: www.SimplyCircus.com
[Quoted text hidden]

Herrick Goldman <Herrick@hglightingdesign.com> Sat, Dec 9, 2006 at 4:49 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Well that helps answer that question.
Why does UPS 2 channel the surge back to UPS 1? Just because it's pissed off?

I suppose I'll just plan to shut down and re-plug as needed.

-H
[Quoted text hidden]
[Quoted text hidden]

Steven Santos <steven@simplycircus.com> Sat, Dec 9, 2006 at 4:54 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> Well that helps answer that question.
> Why does UPS 2 channel the surge back to UPS 1? Just because it's pissed
> off?

The juice has to go someplace. So it sends it back to ground (and to UPS1), just as it would any other surge it encounters.

(hey, I even trimmed the replies this time ;)
[Quoted text hidden]

Steven Santos <steven@simplycircus.com> Sat, Dec 9, 2006 at 4:54 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

I nearly forgot. Some server grade UPS systems come with the ability to daisy chain external batteries instead of complete UPS systems. The Tripp Lite SmartPro UPS systems comes to mind - its even rack mountable (but $$).

Steven Santos

Director, Simply Circus, Inc.
Email: Steven@SimplyCircus.com
Mail: PO BOX 620753
Newton, MA 02462
Phone: 781-799-4938
eFax: 309-214-0899
Web: www.SimplyCircus.com

> -----Original Message-----
[Quoted text hidden]

Jerry Durand <jdurand@interstellar.com> Sat, Dec 9, 2006 at 5:13 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

At 02:54 PM 12/9/2006, Steven Santos wrote:
> I nearly forgot. Some server grade UPS systems come with the ability to
> daisy chain external batteries instead of complete UPS systems. The Tripp
> Lite SmartPro UPS systems comes to mind - its even rack mountable (but $$).

Talking of battery backups...

I have an old rack-mount APC backup that someone broke the front panel on and shorted out the 5V to the switches. I believe this just blew a fuse inside, but haven't ever gotten around to debugging it.

If anyone is interested in mucking around with it, I could probably be talked out of it for a few frosty beverages or such. Contact me off-list.

I don't have the model number handy, but it's 3U high, fits DEEP racks, and is bloody heavy. It came from a client's server farm.

--
Jerry Durand, Durand Interstellar, Inc. www.interstellar.com
219 Oak Wood Way, Los Gatos, California 95032-2523 USA
tel: +1 408 356-3886, USA toll free: 1 866 356-3886
Skype: jerrydurand

FrankWood95@aol.com <FrankWood95@aol.com> Sat, Dec 9, 2006 at 6:14 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

In a message dated 09/12/06 23:14:26 GMT Standard Time,
jdurand@interstellar.com writes:

> >I nearly forgot. Some server grade UPS systems come with the ability to
> >daisy chain external batteries instead of complete UPS systems. The Tripp
> >Lite SmartPro UPS systems comes to mind - its even rack mountable (but $$)
.
This thread, I don't understand. Admitted, I know little about UPS systems,
but I have always understood that they were to ensure the security of a mains
supply to critical equipment. One piece of gear; one UPS.

If I had to design one, it would run off a constantly charged battery all the
time. All that a mains failure would do would be to deprive the battery of
its charging current.

The 'U' in the name has a time factor across it. Maybe it has to hold up just
long enough to ensure an orderly shut down of the system; maybe long enough
to allow the emergency generators to start up. This may take some time. Long
enough to allow the orderly evacuation of an audience, perhaps.

Frank Wood

Robert Graham <photonguide@gmail.com> Sat, Dec 9, 2006 at 7:09 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> This thread, I don't understand. Admitted, I know little about UPS systems,

> but I have always understood that they were to ensure the security of a mains
> supply to critical equipment. One piece of gear; one UPS.

You can connect more than one piece of gear; the amount of battery life you get out of them depends on the total power draw that you're gear is putting on the battery. A single piece of gear just gets you longer battery power.

> If I had to design one, it would run off a constantly charged battery all the
> time. All that a mains failure would do would be to deprive the battery of
> its charging current.

Personally, I thought that's the way they worked, as long as you are on the 'battery side' of the connection. Some UPS's have a surge protected,non-battery buss as well.

> The 'U' in the name has a time factor across it. Maybe it has to hold up just
> long enough to ensure an orderly shut down of the system; maybe long enough
> to allow the emergency generators to start up. This may take some time. Long
> enough to allow the orderly evacuation of an audience, perhaps.

That's generally the purpose of a UPS, in my experience. Though, because of the 'portable' nature of some UPS devices, it is possible to use them as 'portable power' where you may not have a supply, or can't use a generator (as in H's case).

-Rob Graham

Clive Mitchell <bigclive1@ntlworld.com> Sat, Dec 9, 2006 at 7:24 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

In message <list-39558051@prxy.net>, Robert Graham <photonguide@gmail.com> writes
> That's generally the purpose of a UPS, in my experience. Though, because of the 'portable' nature of some UPS devices, it is possible to use them as 'portable power' where you may not have a supply, or can't use a generator (as in H's case).

I used a UPS as a convenient source of mains power in a mobile prop for a short term event. It was to power compact fluorescent candle lamps on a prop cake that a dancer would be jumping from, so the CFL's were a good solution for intensity, style and heat. The rated run time of a cheap UPS is exaggerated and can be taken with a pinch of salt. It depends on the load. I got about 40 minutes run time on a full charge on the unit I used, but we kept a spare handy anyway. It was a cheap and simple fix for an application that would otherwise have required a separate battery, charger, inverter and control circuit.

Technically speaking you could get a cheap UPS and fit a higher capacity external battery, but care would have to be taken in terms of the unit being capable of producing fatal voltage levels and the relationship between the high voltage side and the battery connections.

--
Clive Mitchell
http://www.bigclive.com

Charlie Fraser <charlie@charliefraser.com> Sat, Dec 9, 2006 at 7:30 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Herrick, Why wouldn't you get 1 UPS unit and a generator behind it? A UPS should only be used to give enough time to shut the equipment down gracefully or until a transfer to an emergency power source. I would not use a UPS as an alternative power source. I have always sworn by APC for UPS's they have very small to very large UPS's. Also why daisy chair when you can size the UPS to your specific requirements?

Charlie
[Quoted text hidden]

Herrick Goldman <Herrick@hglightingdesign.com> Sat, Dec 9, 2006 at 7:44 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

I need portable power in a hostile environment (hostile to getting work done) for short durations. Like looking at pre-programmed cues from far away. The reason I don't get larger UPS's is I use a rental house. Typical UPS's from NYC rental houses are indeed APC and last about 30 minutes. They weigh about 20lbs and are the about 6"x12"x5"

I do this trick all the time in arenas when I have Moving lights all over the place and don't want to be dragging a tail around. I make my light Board wireless and power off of UPS. This time I want a longer duration as I'm

walking/rolling 8 blocks with my setup.

On 12/9/06 8:30 PM, "Charlie Fraser" <charlie@charliefraser.com> wrote:

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ----------
>
> Herrick, Why wouldn't you get 1 UPS unit and a generator behind it? A
> UPS should only be used to give enough time to shut the equipment down
> gracefully or until a transfer to an emergency power source. I would not
> use a UPS as an alternative power source. I have always sworn by APC
> for UPS's they have very small to very large UPS's. Also why daisy chair
> when you can size the UPS to your specific requirements?
>
>
[Quoted text hidden]

Dale farmer <dale@cybercom.net> Sat, Dec 9, 2006 at 8:54 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Herrick Goldman wrote:

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ----------
>
> I need portable power in a hostile environment (hostile to getting work
> done) for short durations. Like looking at pre-programmed cues from far
> away. The reason I don't get larger UPS's is I use a rental house. Typical
> UPS's from NYC rental houses are indeed APC and last about 30 minutes. They
> weigh about 20lbs and are the about 6"x12"x5"
>
> I do this trick all the time in arenas when I have Moving lights all over
> the place and don't want to be dragging a tail around. I make my light Board
> wireless and power off of UPS. This time I want a longer duration as I'm
> walking/rolling 8 blocks with my setup.
>
> On 12/9/06 8:30 PM, "Charlie Fraser" <charlie@charliefraser.com> wrote:
>
>> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
>> ----------
>>
>> Herrick, Why wouldn't you get 1 UPS unit and a generator behind it? A
>> UPS should only be used to give enough time to shut the equipment down
>> gracefully or until a transfer to an emergency power source. I would not
>> use a UPS as an alternative power source. I have always sworn by APC
>> for UPS's they have very small to very large UPS's. Also why daisy chair
>> when you can size the UPS to your specific requirements?

Right. Generator unfriendly venue. I'd go with several UPS units, and just shut down the board each time as you swap it out. I'd do load testing of the UPS units in the shop first. A fresh new battery set will last considerably longer than an old worn out battery. Also note that many UPS units will not cold start. i.e. Unit turned off, not plugged in. Turn it on and it will not generate AC. Has to be plugged into a live wall plug, turned on, then unplugged. May be able to use the nearly dead UPS as a source to start the fully charged UPS. Also note that cold batteries will not provide as much juice as warm batteries.

What is the total power load? You may get better mileage from one of the the 12 volt inverters made for the automotive market and lugging along a couple of deep cycle marine batteries.

--Dale

Herrick Goldman <Herrick@hglightingdesign.com> Sat, Dec 9, 2006 at 9:06 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Power load hmmm maybe 5 amps?

But hmm marine batteries wired together.....

Scene 1: 3 LD Tech types with knives and surefire flashlights on belts at 3
in the morning in Times Sq. Wool Navy style hats, fingerless gloves. Rolling
a heavy wooden box with a mysterious gray machine with touch screens and a
ton of buttons (one says "Push to Erect"). And a transmitter with blinking
LEDs.

We cut to POV of a young Police Officer who has been watching drunks trip in
the snow all night, it's a few days before New Years and the CIA/FBI types

have already taped all the manholes.

"excuse me folks...what's in the box? "

"Why Nothing Officer, We're just controlling those giant lights over there on that building, see I can make them pan and tilt" (sound effect of screeching brakes as 12 syncrolites blind the drivers of 2 taxis and a trash truck)

"Um yeah...open the box kid" ...."Batteries!!??.....This looks like a bomb"

Yeah that's what I need. Thanks I'll take my chances with cold UPS bricks and 20 minute cueing sessions. :)

_H

>>>
> Right. Generator unfriendly venue. I'd go with several UPS units,
> and just shut down the board each time as you swap it out. I'd do load
> testing of the UPS units in the shop first. A fresh new battery set
> will last considerably longer than an old worn out battery. Also note
> that many UPS units will not cold start. i.e. Unit turned off, not
> plugged in. Turn it on and it will not generate AC. Has to be plugged
> into a live wall plug, turned on, then unplugged. May be able to use
> the nearly dead UPS as a source to start the fully charged UPS. Also
> note that cold batteries will not provide as much juice as warm batteries.
>
> What is the total power load? You may get better mileage from one of
> the the 12 volt inverters made for the automotive market and lugging
> along a couple of deep cycle marine batteries.
>
> --Dale
>
>
>

[Quoted text hidden]

Bill Sapsis <bill@sapsis-rigging.com> Sat, Dec 9, 2006 at 9:15 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Hey Herrick. What do you think the cop will say when Mikey comes strolling through with a couple of road cases with 1-ton hoists in them?

I think this is one gig I'm glad I'll be away during it all.

Bill S.

ETCP Certified Rigger - Theatre
ETCP Council Member
www.sapsis-rigging.com
800.727.7471
267.278.4561 mobile
[Quoted text hidden]

Robert Graham <photonguide@gmail.com> Sat, Dec 9, 2006 at 9:21 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Having a cop or two in the family, its likely not the wired together batteries that will cause alarm from the cops. Its the big rolling boxes and burly guys in navy caps, and your presence where "he doesn't think you should be anyway."

The wired batteries and blinky lights only give him/her an excuse to slap cuffs on you as a precaution.

Shouldn't there be some sort of sensible permitting or notification if you're doing something that would otherwise be legal?

-Rob Graham

On 12/9/06 10:06 PM, "Herrick Goldman" <Herrick@HGLightingDesign.com> wrote:

[Quoted text hidden]

Herrick Goldman <Herrick@hglightingdesign.com> Sat, Dec 9, 2006 at 9:23 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

"Mikey" better be done before 3am so I can actually play!

Besides he's got the easy job.... (kidding).

-H

On 12/9/06 10:15 PM, "Bill Sapsis" <bill@sapsis-rigging.com> wrote:

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ---
>
> Hey Herrick. What do you think the cop will say when Mikey comes strolling
> through with a couple of road cases with 1-ton hoists in them?
>
> I think this is one gig I'm glad I'll be away during it all.
>
> Bill S.
>
> ETCP Certified Rigger - Theatre
> ETCP Council Member
> www.sapsis-rigging.com
> 800.727.7471
> 267.278.4561 mobile

[Quoted text hidden]

Herrick Goldman <Herrick@hglightingdesign.com> Sat, Dec 9, 2006 at 9:27 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

On 12/9/06 10:21 PM, "Robert Graham" <photonguide@gmail.com> wrote:

>
> Shouldn't there be some sort of sensible permitting or notification if
> you're doing something that would otherwise be legal?
>
> -Rob Graham
>

I'm sure there should be. I'm also sure we'll have Lanyards by then, but re-permitting is not acceptable to the client (for fear of denial of) and most of the permitting ,except the acrobats rappelling down the sides of the building, has been done already. Worst case Scott and Mikey get 30 days in the slammer. Best case they have to pay $25. Seriously that's the statute. :)

[Quoted text hidden]

Bill Nelson <billn@peak.org> Sun, Dec 10, 2006 at 8:03 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

>> I'm about to go play in Times Sq with an MA Lite and some Wireless DMX.
>> I'm thinking of putting 4 or 6 Big UPS units in a box and I should be
>> self contained.
>>
>> IF I plug one UPS into another, into another, will they all fail
>> sequentially in about 30 minute increments? Or do I need to have them all
>> off and just use one at a time, thus having to unplug my gear every time
>> A UPS fails?

I assume these are all true UPS units, so they rectify the incoming signal and store the power in a battery bank. The rectified power or battery bank is used to power an inverter.

The problem with chaining a bunch of UPS units is the end efficiency drops off pretty rapidly. With individual 99% efficiency - 6 units chained means the output power is less than 95% of what you feed into the first UPS. And no UPS is 99% efficient.

If 90% efficient and we start out will all units fully charged, only the DC to AC inverter efficiency in the first UPS is of concern, since the rest of that UPS is not used. If that is 98% - the end efficiency is about 58% for 6 chained units.

As each UPS fails, the efficiency of the remaining string increases.

But remember that the manufacturer's efficiency rating is usually at full load and using linear loads. Computers/electronics are not linear, nor is a UPS. At 20% of full load with linear loads - the efficiency is typically in the 75%-85% range. With non-linear loads, it is worse. With 80% operational efficiency - the end output power available from the power supplied by the first UPS is only around 30%.

A better way would be to do without the UPS units in the first place. Consider an inverter and switchable battery banks. Even better would be a battery chain with enough capacity that no switching was necessary.

Bill

Herrick Goldman <Herrick@hglightingdesign.com> Sun, Dec 10, 2006 at 12:23 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Thanks Brian, I'll look into it.

On 12/10/06 1:06 PM, "b Ricie" <b_ricie@yahoo.com> wrote:

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ---
>
> Herrick,
> I have a powerpack 400plus made by xantrex that I use
[Quoted text hidden]

FrankWood95@aol.com <FrankWood95@aol.com> Sun, Dec 10, 2006 at 12:31 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

In a message dated 10/12/06 01:25:01 GMT Standard Time,
bigclive1@ntlworld.com writes:

> Technically speaking you could get a cheap UPS and fit a higher capacity
> external battery, but care would have to be taken in terms of the unit
> being capable of producing fatal voltage levels and the relationship
> between the high voltage side and the battery connections.

The problems I see with this are two. First, the inverter part of it may not handle the bigger load, if that's what you're trying to do. Second, the charger part may not be man enough for a bigger battery.

As a rule, all these devices make full mains voltage, which is transformer isolated from the battery. This can certainly be lethal, however big the battery. The important side of the battery connections would be the size of the cables. Remember that 1KW is about 80A at 12V.

Frank Wood

FrankWood95@aol.com <FrankWood95@aol.com> Sun, Dec 10, 2006 at 12:37 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

In a message dated 10/12/06 03:27:37 GMT Standard Time,
Herrick@HGLightingDesign.com writes:

> I'm sure there should be. I'm also sure we'll have Lanyards by then, but
> re-permitting is not acceptable to the client (for fear of denial of) and
> most of the permitting ,except the acrobats rappelling down the sides of
the
> building, has been done already. Worst case Scott and Mikey get 30 days in
> the slammer. Best case they have to pay $25. Seriously that's the statute.

For doing what?

Frank Wood

Chris Warner <cdw.lighting@gmail.com> Sun, Dec 10, 2006 at 1:41 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Just find out what the DC buss voltage is, and put multiiple strings of batteries in parallel. I believe that 5 or 6 batteries strings in parallel will be effective. If you know that a 500va UPS will sustain a 500VA load for 30 minutes, find the Ah rating of the battery and multiply by the run time you want. The danger here is that the charger will only charge them at whatever the rating of the charger is. In central inverter systems it's not uncommon for them to have 5, 6, 7 strings of batteries, however; they also have 20-30 amp chargers in the bigger ones.

YMMV
Chris
[Quoted text hidden]

Jerry Durand <jdurand@interstellar.com> Sun, Dec 10, 2006 at 1:59 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

At 11:41 AM 12/10/2006, Chris Warner wrote:
> Just find out what the DC buss voltage is, and put multiiple strings of batteries in parallel. I believe that 5 or 6 batteries strings in parallel will be effective. If you know that a 500va UPS will sustain a 500VA load for 30 minutes, find the Ah rating of the battery and multiply by the run time you want. The danger here is that the charger will only charge them at whatever the rating of the charger is. In central inverter systems it's not uncommon for them to have 5, 6, 7 strings of batteries, however; they also have 20-30 amp chargers in the bigger ones.

The charger in a UPS is normally a slow charge since it's assumed there's a long time between uses.

Simple, charge the batteries while disconnected with an external charger and then hook up fully charged ones.

Also, most UPS units sold now are really stand-by supplies. They pass the mains power through and constantly trickle-charge the battery. On power failure, they switch a mechanical relay over and start generating their own power. It's rare to see a true UPS (mains to DC, DC back to mains), but if you have one they can also be used to convert 50Hz to 60Hz. The last time I had to convert 60Hz to 50Hz I had to rent a motor-generator that sat outside and hummed away. You know, 12KW motor-generator sets are BIG.
[Quoted text hidden]

Clive Mitchell <bigclive1@ntlworld.com> Sun, Dec 10, 2006 at 1:31 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

In message <list-39590173@prxy.net>, FrankWood95@aol.com writes
> The problems I see with this are two. First, the inverter part of it may not handle the bigger load, if that's what you're trying to do. Second, the charger part may not be man enough for a bigger battery.

It's for a fairly light load. Longevity was the issue. The charger would simply take a lot longer to charge the battery, but that could be charged externally anyway. In this application I guess a fat truck battery and a common inverter 12V to 120V unit would be a good option.
[Quoted text hidden]

Clive Mitchell <bigclive1@ntlworld.com> Sun, Dec 10, 2006 at 1:25 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

In message <list-39561822@prxy.net>, Robert Graham <photonguide@gmail.com> writes
> Its the big rolling boxes and burly guys in navy caps,

Navy caps? As in colour or style?
[Quoted text hidden]

Steven Santos <steven@simplycircus.com> Sun, Dec 10, 2006 at 2:28 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> Just find out what the DC buss voltage is, and put multiiple strings of
> batteries in parallel.

Unless the control circuts are designed for this, your asking for trouble.

Yes, high end UPS boxes will do this. They will also have ports for plugging in the extra batteries. Low and mid end units can be fried doing this.

UPS units use various electronics to regulate the power. On most mid and low end units these are often contained on a single board within the unit. They also tend to fry when you bring them out of the designed specs.

Instead of an off-the-shelf UPS, it seems to me that you could use a 12 volt battery (or series of batteries) wired to a voltage meter, a voltage regulator, then to a true sine wave inverter.

Chris Warner <cdw.lighting@gmail.com> Sun, Dec 10, 2006 at 4:22 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Steven Santos wrote:
> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ---
>
> > Just find out what the DC buss voltage is, and put multiiple strings of
> > batteries in parallel.
>
> Unless the control circuts are designed for this, your asking for trouble.

Huh? All the ups cares about is that the voltage is the same. Most off the smaller off the shelf inverters are a single 12v battery. Larger ones are 4 12v batteries in series. The only trouble is the charger, if the batteries are asking for more current than the charger is capable of delivering, the pass transistor in the charger will be destroyed.

> Yes, high end UPS boxes will do this. They will also have ports for
> plugging in the extra batteries. Low and mid end units can be fried doing
> this.

The charger probably, if the batteries had gone through a deep cycle. Otherwise it will just take a lot longer to bring them up.

> UPS units use various electronics to regulate the power. On most mid and
> low end units these are often contained on a single board within the unit.
> They also tend to fry when you bring them out of the designed specs.

Again the inverter electronics don't care, it's the charger that is the problem. In many cases you can bypass the charger in the system with a pair of steering diodes, then put in an external charger. The problem is that legally you are modifying a UL listed device. But in this circumstance, I would probably put the batteries in fully charged, and then let the inverter run on them. When I was done I would charge on a separate charger.
> Instead of an off-the-shelf UPS, it seems to me that you could use a 12 volt
> battery (or series of batteries) wired to a voltage meter, a voltage
> regulator, then to a true sine wave inverter.

That would depend on how much runtime you wanted. You can buy an off the shelf inverter for about 90 dollars, and a couple of good batteries, I would recommend Power PRC 1290, or PRC1250's, probably 2 or three, some wiring to get the battery terminals onto the bigger batteries and something to put the batteries on. Probably less than a true sine wave inverter.

YMMV
Chris

Jerry Durand <jdurand@interstellar.com> Sun, Dec 10, 2006 at 4:59 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

At 02:22 PM 12/10/2006, Chris Warner wrote:
> That would depend on how much runtime you wanted. You can buy an off the shelf inverter for about 90 dollars, and a couple of good batteries, I would recommend Power PRC 1290, or PRC1250's, probably 2 or three, some wiring to get the battery terminals onto the bigger batteries and something to put the batteries on. Probably less than a true sine wave inverter.

Also, putting batteries in parallel lowers the current draw from each one, extending the battery life (batteries do better at lower amp draws than higher ones).

[Quoted text hidden]

Chris Warner <cdw.lighting@gmail.com> Sun, Dec 10, 2006 at 6:39 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Jerry Durand wrote:
> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ---
>
> At 02:22 PM 12/10/2006, Chris Warner wrote:
> > That would depend on how much runtime you wanted. You can buy an off the shelf inverter for about 90 dollars, and a couple of good batteries, I would recommend Power PRC 1290, or PRC1250's, probably 2 or three, some wiring to get the battery terminals onto the bigger batteries and something to put the batteries on. Probably less than a true sine wave inverter.
>
> Also, putting batteries in parallel lowers the current draw from each one, extending the battery life (batteries do better at lower amp draws than higher ones).

Yep, hence my suggestion of adding external batteres in parrallel. I maintianed Central inverter systems for 3 years of my life, 2 and 3 string systems mostly, 48V - 480Vdc busses. SCary things those 480V systems.

CB <psyd@cox.net> Sun, Dec 10, 2006 at 11:50 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

>(hey, I even trimmed the replies this time ;)

As the msot vocal digester on the subject (at least on the list, you should hear some of the stuff flung about off-list!), thank you. It really makes understanding what you're posting quite a bit clearer.
Chris "Chris" Babbie
Location Sound
MON AZ

Delete key training and post trimming done by appointment. Rates negotiable, will trade for typing lessons/ADD treatment...

CB <psyd@cox.net> Sun, Dec 10, 2006 at 12:04 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

>We cut to POV of a young Police Officer who has been watching drunks trip in
>the snow all night, it's a few days before New Years and the CIA/FBI types
>have already taped all the manholes.

Trade the wool hats for jester's hats (multicolored, with bells and such) and no law enforcement will mess with you. All you have to do is to look to silly to be an organised terrorist orgnization, and you've got it licked. Cops are wierd like that.
Ask the desk seargeant that found the fireguys for me today when I showed up in complete chavalier's duds. I set off the metal detector, but he never did ask me why, or to empty my pockets, nothing. Just went to work trying to contact the guys at the firehouse next door for me. Present day analogy to the SEP and the converse of the peril sensitive sunglasses.
[Quoted text hidden]

Steven Santos <steven@simplycircus.com> Sun, Dec 10, 2006 at 8:08 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> >> Just find out what the DC buss voltage is, and put multiiple strings of
> >> batteries in parallel.
>
> > > Unless the control circuts are designed for this, your asking
> for trouble.
>
> > Huh? All the ups cares about is that the voltage is the same.

<snip>

> ...The only trouble is the charger, if
> the batteries are asking for more current than the charger is capable of
> delivering, the pass transistor in the charger will be destroyed.

Exactly. Now what you are overlooking is that most UPS boxes built nowadays puts all of the control circuts on the same little physical board. Fry one part and you fry the whole thing. Some of the parts involved in voltage regulation on low end units also fry easily (and again, same board, same issue).
[Quoted text hidden]

Bill Nelson <billn@peak.org> Sun, Dec 10, 2006 at 10:01 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

>> Also, putting batteries in parallel lowers the current draw from each
>> one, extending the battery life (batteries do better at lower amp
>> draws than higher ones).
>>
> Yep, hence my suggestion of adding external batteres in parrallel. I
> maintianed Central inverter systems for 3 years of my life, 2 and 3
> string systems mostly, 48V - 480Vdc busses. SCary things those 480V
> systems.

I am reading this thread in reverse order, so someone may have already replied to my earlier suggestion of doing away with the UPS and just using battery strings and an inverter.

When connecting battery strings in parallel, it is wise to put a blocking diode in each string to prevent reverse flow (which would charge a string where the voltage got a bit low). Make sure the diode can handle the current requirements of the system.

Also, being able to swap in a spare inverter would be a nice precaution.

Bill

Bill Nelson <billn@peak.org> Sun, Dec 10, 2006 at 10:09 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> It's for a fairly light load. Longevity was the issue. The charger
> would simply take a lot longer to charge the battery, but that could be
> charged externally anyway. In this application I guess a fat truck
> battery and a common inverter 12V to 120V unit would be a good option.

If the inverter will function properly even with an input voltage around 9 volts, consider using a deep cycle battery - such as for a sailboat or a golf cart.

I taught sailing on a boat once where one of the batteries failed. It took 4 people to lift the battery out of the battery well and install the replacement. That sucker was HEAVY.

Bill

Herrick Goldman <Herrick@hglightingdesign.com> Sun, Dec 10, 2006 at 10:12 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

On 12/10/06 11:01 PM, "Bill Nelson" <billn@peak.org> wrote:
>Make sure the diode can handle the
> current requirements of the system.
>
> Also, being able to swap in a spare inverter would be a nice precaution.
>
> Bill
>
>

You guys are great! I mean really I love you. But you're the definition of

Good + Cheap. You picked those two.

Guys I've got a 6 figure budget and no time. I just wanted to know if I could daisy chain UPS devices. Apparently I can't. I'm pretty much going to use what the rental house has. Or I may even find some AC trickling out of the bottom of a lamp post.

I know you are all having fun trying to invent new ways for me to use diodes and batteries and stuff... But if you ever saw me build stuff, you'd know that ain't gonna happen. :)

Thanks for all the input. When I'm stuck somewhere after a nuclear attack and I can't find McGyver anywhere I'll re-read this thread.

Carry on.

_herrick
[Quoted text hidden]

Bill Nelson <billn@peak.org> Sun, Dec 10, 2006 at 10:20 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> You guys are great! I mean really I love you. But you're the definition of
> Good + Cheap. You picked those two.
>
> Guys I've got a 6 figure budget and no time. I just wanted to know if I
> could daisy chain UPS devices. Apparently I can't. I'm pretty much going
> to
> use what the rental house has. Or I may even find some AC trickling out of
> the bottom of a lamp post.

The problem with UPS devices is that there is a lot of stuff (meaning weight) that you don't need for your application.

> I know you are all having fun trying to invent new ways for me to use
> diodes
> and batteries and stuff... But if you ever saw me build stuff, you'd know
> that ain't gonna happen. :)

When I suggested the parallel battery strings, I did not know your current requirements. Since they are modest, you can probably get by with one large deep cycle battery.

Or, if you need more time and can tolerate a short interruption of signal - use two batteries. Tie the negatives of the batteries together and run the bus/s to the negative inverter input. The positive inverter input bus/s would have a battery clip on the battery end. To change batteries, just move the battery clip to the new battery. No diodes needed.

You could also probably get by with putting the two batteries in parallel without any protective diodes. Then, no interruption of power would occur.

Bill

Herrick Goldman <Herrick@hglightingdesign.com> Sun, Dec 10, 2006 at 10:36 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Sorry for not trimming but the byplay is pretty funny.

BILL SPEAK ENGLISH!!!! I'm not making frankenstein's monster. I'm calling PRG and asking what UPS they have and I'm renting a few. Along with 4 trucks of gear. Then I'll use those UPS's. Thanks for the solutions, but no way am I going to sears in NYC and carrying 2 marine batteries out and getting in a cab to go to radio shack. I have a show to design and prep. :)

You're like Indiana Jones when that guy comes out with the Flashy Saber. I've got the gun and I'm just gonna rent some stuff off of someone's shelf. Your solution is cool and would look great and make my HS Physics teacher proud whe I told him I built it in my garage. "But I don't even have a garage, you can call home and ask my wife!"

There that oughtta be enough pop culture references for the rest of the night.

Thanks for the input. :)

_herrick
[Quoted text hidden]
[Quoted text hidden]

Steven Santos <steven@simplycircus.com> Sun, Dec 10, 2006 at 10:38 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Well now, since you have $$ to spend, then take a look at Triplite. Those UPS systems have the ability to daisychain external batteries to the UPS. Simple plug and play - just plug however many batteries you need into the daisy chain ports and go.

Steven Santos
Director, Simply Circus, Inc.
Email: Steven@SimplyCircus.com
Mail: PO BOX 620753
Newton, MA 02462
Phone: 781-799-4938
eFax: 309-214-0899
Web: www.SimplyCircus.com

> -----Original Message-----
> From: Stagecraft [mailto:stagecraft@theatrical.net]On Behalf Of Herrick
> Goldman
> Sent: Sunday, December 10, 2006 11:13 PM
> To: Stagecraft
> Subject: Re: Daisy Chaining UPS units.
>
>
[Quoted text hidden]

Bill Nelson <billn@peak.org> Sun, Dec 10, 2006 at 10:48 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> BILL SPEAK ENGLISH!!!! I'm not making frankenstein's monster. I'm calling
> PRG and asking what UPS they have and I'm renting a few. Along with 4
> trucks of gear. Then I'll use those UPS's. Thanks for the solutions, but
> no way am I going to sears in NYC and carrying 2 marine batteries out and
> getting in a cab to go to radio shack. I have a show to design and prep.
> :)

Heh, heh! I thought I was speaking English.

Find out from the rental shop how long the UPS units you rent will run on the internal batteries. If not long enough, hopefully they will have external ports for adding batteries. I believe Triplite has such UPSs.

> You're like Indiana Jones when that guy comes out with the Flashy Saber.
> I've got the gun and I'm just gonna rent some stuff off of someone's
> shelf.

My favorite scene of the movie. He just got an expression on his face that said, to me, "I don't have time to mess with this!", then blew the sucker away.

Bill

Joe Saint <joe@imcdlighting.com> Sun, Dec 10, 2006 at 10:57 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

HG,

My simple bit of advice is to rent a spare UPS. As someone who has rented a few hundred UPS's from PRG, I can tell you that not every one of them is equal. When it's 2 in the morning and your UPS fails, you will be glad to have a spare.

When are you programming onsite? I'll try to stop by.

Joe Saint
President
IMCD Lighting
646-415-7588
www.imcdlighting.com

-----Original Message-----
From: Stagecraft [mailto:stagecraft@theatrical.net] On Behalf Of Herrick Goldman
Sent: Sunday, December 10, 2006 11:37 PM
To: Stagecraft
Subject: Re: Daisy Chaining UPS units.

[Quoted text hidden]

Brian Munroe <bpmunroe@gmail.com> Sun, Dec 10, 2006 at 11:12 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

On 12/10/06, Herrick Goldman <Herrick@hglightingdesign.com> wrote:

> . "But I don't even have a
> garage, you can call home and ask my wife!"
>
> There that oughtta be enough pop culture references for the rest of the
> night.

Wow. A CDB reference (Charlie Daniels Band). There's something you don't see every day.

Brian Munroe
bpmunroe@gmail.com

Don Rowe <TechDir@comcast.net> Mon, Dec 11, 2006 at 12:30 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

I've actually done this and had it work but here is the trick..... I used one really good UPS and 2 cheap ones that are really battery backups not power regulators or the UPS's that can twell your computer to shut down. The last UPS was a really good one that did the power modulation and battery backup. I simulated some power failures and got more than enough run time out of the system to be happy. Oddlly enough though I did notice a loss of time the 2 cheap UPS's were 25 min batteries and the good one said 45min. By themselves that is what I got but chained I ended up with 1 hour and 15ish minutes of run time. Not totally sure why that happened but it wasn't a big deal to me. Hope that helps some.

Bill Nelson <billn@peak.org> Mon, Dec 11, 2006 at 12:38 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> backup. I simulated some power failures and got more than enough run time
> out of the system to be happy. Oddlly enough though I did notice a loss of
> time the 2 cheap UPS's were 25 min batteries and the good one said 45min.
> By themselves that is what I got but chained I ended up with 1 hour and
> 15ish minutes of run time. Not totally sure why that happened but it
> wasn't a big deal to me. Hope that helps some.

It happened because the UPS's were probably not run at full rated load. Also, the final UPS is not a linear load. You would be lucky if you get 80% efficiency.

Bill

Chris Warner <cdw.lighting@gmail.com> Mon, Dec 11, 2006 at 3:32 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

ACtually Bill, what happens is te string that is low, will stop delivering current. That is the phenomenon I am used to seeing in production UPS systems.

Chris
[Quoted text hidden]

Chris Warner <cdw.lighting@gmail.com> Mon, Dec 11, 2006 at 3:35 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

[Quoted text hidden]
A steering diode in series with the Batteries Eliminates that problem. My understanding from teh original post was that this UPS would never see utility current except to get it running. I which case a steering diode capable of handing some 50 amps, biased in the direction of current flow into the inverter will solve that problem, however; for a one time, we want power without a genny solution addng batteries is an easy solution.

Chris

Clive Mitchell <bigclive1@ntlworld.com> Mon, Dec 11, 2006 at 6:32 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

In message <list-39610405@prxy.net>, Bill Nelson <billn@peak.org> writes
> Find out from the rental shop how long the UPS units you rent will run on the internal batteries. If not long enough, hopefully they will have external ports for adding batteries. I believe Triplite has such UPSs.

Make sure you get a genuine loaded run figure. The big rental house UPS units often don't get switched off after a show has wrapped and can end up sitting about with a minimal charge in them, which isn't good for their batteries.
[Quoted text hidden]

Clive Mitchell <bigclive1@ntlworld.com> Mon, Dec 11, 2006 at 6:30 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

In message <list-39609346@prxy.net>, Herrick Goldman <Herrick@HGLightingDesign.com> writes
> Guys I've got a 6 figure budget and no time. I just wanted to know if I could daisy chain UPS devices. Apparently I can't. I'm pretty much going to use what the rental house has. Or I may even find some AC trickling out of the bottom of a lamp post.

Are you limited to the type of desk you can use? It could be possible to find one that runs off a wall wart that might be OK taking power directly from a battery without a converter. If a laptop this is still possible if you could get a battery pack with a similar voltage to the original PSU.

Failing that I'd go with the big car battery and a small efficient voltage converter designed to run small appliances from your cigarette lighter socket.

I've tapped into lamp-posts before for other applications. A bit naughty, don't get caught and just realise that sometimes their wiring is a bit old and rotten, generally very wet and things that oughtn't to be live just might be. :)
[Quoted text hidden]

Herrick Goldman <Herrick@hglightingdesign.com> Mon, Dec 11, 2006 at 6:50 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Precisely!

On 12/10/06 11:48 PM, "Bill Nelson" <billn@peak.org> wrote:

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

>
> My favorite scene of the movie. He just got an expression on his face that
> said, to me, "I don't have time to mess with this!", then blew the sucker
> away.
>
[Quoted text hidden]

Herrick Goldman <Herrick@hglightingdesign.com> Mon, Dec 11, 2006 at 6:52 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

You do in my house. :)

On 12/11/06 12:12 AM, "Brian Munroe" <bpmunroe@gmail.com> wrote:

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ---
>
> On 12/10/06, Herrick Goldman <Herrick@hglightingdesign.com> wrote:
>
>> . "But I don't even have a
>> garage, you can call home and ask my wife!"
>>
>> There that oughtta be enough pop culture references for the rest of the
>> night.
>
> Wow. A CDB reference (Charlie Daniels Band). There's something you
> don't see every day.
>
> Brian Munroe
> bpmunroe@gmail.com
>

[Quoted text hidden]

Bill Nelson <billn@peak.org> Mon, Dec 11, 2006 at 11:41 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> ACtually Bill, what happens is te string that is low, will stop
> delivering current. That is the phenomenon I am used to seeing in
> production UPS systems.

True, the problem occurs when you add another fully charged string in parallel with the others. Or, one of the strings develops a fault, such as a shorted cell.

Bill

CB <psyd@cox.net> Mon, Dec 11, 2006 at 5:07 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> Or I may even find some AC trickling out of
>the bottom of a lamp post.

Ehm, this may just be the skweek in me talking here, but I've 'modified' quite a bit of sound kit to operate on DC, just by putting a DC connector on a battery and throwing the wall wart back in the case. IIUC, you're just powering the console and transmitter? Would I be correct in guessing that both will be taking the 120VAC that you plan to feed them and turning it into some flavor (and it's most commonly 12V with sound kit) of DC anyhoo? This may be a bit simpler than you first expected.

[Quoted text hidden]

FrankWood95@aol.com <FrankWood95@aol.com> Mon, Dec 11, 2006 at 1:20 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

In a message dated 11/12/06 18:35:29 GMT Standard Time, psyd@cox.net writes:

> Ehm, this may just be the skweek in me talking here, but I've 'modified'
> quite a bit of sound kit to operate on DC, just by putting a DC connector
> on a battery and throwing the wall wart back in the case. IIUC, you're
> just powering the console and transmitter? Would I be correct in guessing
> that both will be taking the 120VAC that you plan to feed them and turning
> it into some flavor (and it's most commonly 12V with sound kit) of DC
> anyhoo? This may be a bit simpler than you first expected.

It may also be more difficult. I have seen many different voltages specified. 4.5V, 6V, 9V, 12V all come to mind. The external power supply often doubles

as a charger for the internal batteries, if any. Finding the connectors may also be hard.

Before you try this, read the manual.

I agree that the 'wall-warts' are a PITA. This goes double if you travel between the UK and Europe, since all the warts have the local connector built in. A friend of mine in France, who rents holiday property on the UK market, actually installed all UK outlets in them. I myself have a more or less permanent 4-way set of UK outlets pluggd in, for mobile 'phones, laptops, screwdrivers, cameras and the like.

Frank Wood

Chris Warner <cdw.lighting@gmail.com> Mon, Dec 11, 2006 at 11:22 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

> True, the problem occurs when you add another fully charged string in parallel with the others. Or, one of the strings develops a fault, such as a shorted cell.
>
> Bill

I couldn't see adding a fully charged string to another string under load. When I would test battery strings in a UPS, I would start by reading the individual voltages when the batteries had been on a float charge for usually 24+ hours (the point when the charger is just maintaining the voltage on the charger and delivering almost no current at all). Then I would break the strings one at a time and load test the batteries individually. This test would allow me to determine which string was faulty. When the inverters ran under load and a battery when open or shorted a cell, the string that failed would stop delivering current completely, and the batteries in the string would stay at an elevated voltage until the string that was stronger would eventually reach the voltage potential of the failed battery string. It's a good idea to check UPS systems routinely to evaluate the health of the battery strings in the system. Rarely did I see a string of batteries last longer than 5 years. In fact what I saw was that most batteries in an enviroment over 70 deg F, and with a float voltage over 2.25 volts per cell failed within 2 years.

YMMV Chris Warner

CB <psyd@cox.net> Tue, Dec 12, 2006 at 6:23 AM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

>I've got some time. If you can pay my airfare, room, board and per
>diem. :-D

Hey! No weezin' the gig!
Oh, and per diem is to cover room and board...
[Quoted text hidden]

Herrick Goldman <Herrick@hglightingdesign.com> Tue, Dec 12, 2006 at 2:11 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

Ya know, If you had gotten on a plane yesterday morning I coulda gotten your airfare paid for some free holiday shopping and a round or two at DBA.
[Quoted text hidden]
[Quoted text hidden]

Stephen Litterst <litterst.stagecraft@gmail.com> Tue, Dec 12, 2006 at 2:18 PM
Reply-To: Stagecraft <stagecraft@theatrical.net>
To: Stagecraft <stagecraft@theatrical.net>

For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>

CB wrote:

> For info, archives & UNSUBSCRIBE, see <http://stagecraft.theprices.net/>
> ---
>
> I've got some time. If you can pay my airfare, room, board and per diem. :-D

> Hey! No weezin' the gig! Oh, and per diem is to cover room and board...

Oh sure, if you want to sell yourself short. :)

Steve L.

--

Stephen Litterst Technical Operations Supervisor
litterst@udel.edu Center for the Arts
302/831-0601 University of Delaware