
Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Kim W](#) on Sat, 07 Apr 2007 12:56:34 GMT

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It's a rectifier bridge.

(Or as I call 'em... "rectumfriers").

<http://www.chipdocs.com/datasheets/datasheet-pdf/RECTR/RS201.html>

It's actually not one diode, but four, prewired to convert AC into

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If I were to replace this, I would put a larger capacity
equivalent in it's place. (just get the + & - right, the ~ refers
to the AC input, so it don't matter.)

Stick a 4 amp, 100V unit in it's place, and you'll be right.

THEN, find out what caused it to blow.

Kim

"Rich Lamanna" <richard.lamanna@verizon.net> wrote:

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>and heard a crinkling sound in the back of my preamp rack and later =

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>You guys are great,

>Thanks

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Kim W](#) on Sat, 07 Apr 2007 13:05:45 GMT
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Oops,
Better rethink those specs.
Hell, you can buy a 5 amp, 200 volt rectifier for a couple of dollars from any electronics supplier, so just get one that's rated higher than the one that blew, and can still be readily soldered into its' place.
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Posted by [Kim W](#) on Sat, 07 Apr 2007 13:11:33 GMT
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Subject: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Rich Lamanna](#) on Sat, 07 Apr 2007 13:15:41 GMT
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This is a multi-part message in MIME format.

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Rich Lamanna](#) on Sat, 07 Apr 2007 14:55:17 GMT

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Neil](#) on Sat, 07 Apr 2007 15:44:02 GMT
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Exactly - and if a bridge rectifier shorts, then that means it could have passed current with the wrong polarization on to components past it inline... Rich this is something you ought to just send off for proper repairs - even though it might look like there's only something wrong with one component, it could just as easily be more than that, and then yer fukt as soon as you power-on again with the new bridge recto in place.

If it were an Alesis somethingorother that cost a hundred bucks, then sure why not experiment, but this is a \$1,700 item.

Where'd you get it? New? any chance it's still under warranty or has perhaps barely run out of warranty where the dealer could step in & help you at least get a pro-rated price on the repairs?

Neil

"Edna" <edna@texomaonline.com> wrote:

>"Something else" causing it to blow is probably right. If you just replace

>the rectifier, it may do the same thing again. Maybe a blown semiconductor

>component causing a short to that circuit. Also maybe a shorted filter

>capacitor. Look for burned or dark resistors or burned circuit board to

>trace to a faulty component. Did it blow a fuse or circuit breaker?

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>news:4617a41b@linux...

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?

Posted by [Edna Sloan](#) on Sat, 07 Apr 2007 16:09:42 GMT

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"Something else" causing it to blow is probably right. If you just replace the rectifier, it may do the same thing again. Maybe a blown semiconductor component causing a short to that circuit. Also maybe a shorted filter capacitor. Look for burned or dark resistors or burned circuit board to trace to a faulty component. Did it blow a fuse or circuit breaker?

Edna

"Rich Lamanna" <richard.lamanna@verizon.net> wrote in message news:4617a41b@linux...

> Kim, I like your name for them much better. There are actually 2 of these
> RS202L's side by side, so do you still think it a good idea to ramp up the
> capacity? You say that something else caused it to blow, what could that
> be?

> I wasn't using it at the time. Something I left out is that the power is
> always on when my rack is switched on, which probably isn't a good idea
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> I believe my phantom power was on for most of the channels, again probably
> not a good idea. Thanks for the help. I assume pos and neg are in the same
> direction as the other rectumfrier beside it?

>

> Thanks,

> Rich

>

>

> "Kim W." <no@way.com> wrote in message news:46179502\$1@linux...

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>> It's a rectifier bridge.

>> (Or as I call 'em... "rectumfriers").

>> <http://www.chipdocs.com/datasheets/datasheet-pdf/RECTR/RS201.html>

>> It's actually not one diode, but four, prewired to convert AC into

>> DC. (Usually followed by some hefty electrolytic capacitors.

>> (Oh yeah..... yanks call those "condensers".

>> My guess is that there was something else that caused this to blow.

>> If I were to replace this, I would put a larger capacity

>> equivalent in it's place. (just get the + & - right, the ~ refers

>> to the AC input, so it don't matter.)

>> Stick a 4 amp, 100V unit in it's place, and you'll be right.

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Edna Sloan](#) on Sat, 07 Apr 2007 18:05:49 GMT
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Good advice! I thought it was just a power supply unit.

"Neil" <OIUOIU@OIU.com> wrote in message news:4617bc42\$1@linux...
>

> Exactly - and if a bridge rectifier shorts, then that means it
> could have passed current with the wrong polarization on to
> components past it inline... Rich this is something you ought
> to just send off for proper repairs - even though it might look
> like there's only something wrong with one component, it could
> just as easily be more than that, and then yer fukt as soon as
> you power-on again with the new bridge recto in place.
>
> If it were an Alesis somethingorother that cost a hundred
> bucks, then sure why not experiment, but this is a \$1,700 item.
>
> Where'd you get it? New? any chance it's still under warranty
> or has perhaps barely run out of warranty where the dealer
> could step in & help you at least get a pro-rated price on the
> repairs?
>
> Neil
>
>
>
> "Edna" <edna@texomaonline.com> wrote:
>>"Something else" causing it to blow is probably right. If you just
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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [chuck duffy](#) on Sat, 07 Apr 2007 18:44:31 GMT
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Kim,

Be assured that we yanks call electrolytic capacitors electrolytic capacitors.
We yanks have other terms for wanking, taking the piss, making a bird, and

sex with barnyard animals, but not for electrolytic capacitors.

Chuck

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by Nil on Sat, 07 Apr 2007 19:05:12 GMT
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Neil

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Neil](#) on Sat, 07 Apr 2007 19:24:34 GMT
[View Forum Message](#) <> [Reply to Message](#)

Yes, it could've just gone kablooeey, affecting no other components, but what a bridge rectifier does is to turn the various cycles of AC current into steady & polarized DC. If that thing went kablooeey and created an open circuit in the process, than it's possible no other components were affected; if it kablooied into a short, then whatever components that are next in line after it got a nice dose of AC, which may have caused a subsequent kablooation of those parts as well.

Just 'cause they don't "look" bad, doesn't mean they ain't.

Neil

"Rich Lamanna" <richard.lamanna@verizon.net> wrote:

```
>
>
>Neil, Edna, couldn't the rectifier just have gone Kablooeey? As you say =
>it could be symptomatic of another problem but if you read my last post,
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>I may have been overloading the thing. Looking at the circuit board =
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>
>Thanks,

>Rich
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> "Rich Lamanna" <richard.lamanna@verizon.net> wrote in message =
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>

>

Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Rich Lamanna](#) on Sat, 07 Apr 2007 20:13:12 GMT
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This is a multi-part message in MIME format.

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Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

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Thanks,
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"Rich Lamanna" <richard.lamanna@verizon.net> wrote in message =
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</DIV></BLOCKQUOTE></BODY></HTML>

-----=_NextPart_000_0020_01C77927.4285D120--

Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Rich Lamanna](#) on Sat, 07 Apr 2007 20:15:17 GMT
[View Forum Message](#) <> [Reply to Message](#)

Edna it is a separate power supply unit for the M80.

Rich

"Edna" <edna@texomaonline.com> wrote in message news:4617d077@linux...
> Good advice! I thought it was just a power supply unit.
>
> "Neil" <OIUOIU@OIU.com> wrote in message news:4617bc42\$1@linux...
>>
>> Exactly - and if a bridge rectifier shorts, then that means it
>> could have passed current with the wrong polarization on to
>> components past it inline... Rich this is something you ought
>> to just send off for proper repairs - even though it might look
>> like there's only something wrong with one component, it could
>> just as easily be more than that, and then yer fukt as soon as
>> you power-on again with the new bridge recto in place.

> >
> > If it were an Alesis something or other that cost a hundred
> > bucks, then sure why not experiment, but this is a \$1,700 item.
> >
> > Where'd you get it? New? any chance it's still under warranty
> > or has perhaps barely run out of warranty where the dealer
> > could step in & help you at least get a pro-rated price on the
> > repairs?
> >
> > Neil
> >
> >
> >
> > "Edna" <edna@texomaonline.com> wrote:
> >> "Something else" causing it to blow is probably right. If you just
> >> replace
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> >> capacitor. Look for burned or dark resistors or burned circuit board to
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> >> trace to a faulty component. Did it blow a fuse or circuit breaker?
> >> Edna
> >> "Rich Lamanna" <richard.lamanna@verizon.net> wrote in message
> >> news:4617a41b@linux...
> >>> Kim, I like your name for them much better. There are actually 2 of
> >>> these
> >>> RS202L's side by side, so do you still think it a good idea to ramp up
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> >>> I believe my phantom power was on for most of the channels, again
> >>> probably
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> > same
> >>> direction as the other rectumfrier beside it?
> >>>

> >>> Thanks,
> >>> Rich
> >>>
> >>>
> >>> "Kim W." <no@way.com> wrote in message news:46179502\$1@linux...
> >>>>
> >>>> It's a rectifier bridge.
> >>>> (Or as I call 'em... "rectumfriers").
> >>>> <http://www.chipdocs.com/datasheets/datasheet-pdf/RECTR/RS201.html>
> >>>> It's actually not one diode, but four, prewired to convert AC into
> >>>> DC. (Usually followed by some hefty electrolytic capacitors.
> >>>> (Oh yeah..... yanks call those "condensers".
> >>>> My guess is that there was something else that caused this to blow.
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> >>>> Stick a 4 amp, 100V unit in it's place, and you'll be right.
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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?

Posted by [Rich Lamanna](#) on Sat, 07 Apr 2007 20:25:07 GMT

[View Forum Message](#) <> [Reply to Message](#)

No Edna it didn't blow a fuse or circuit breaker, no burnt or brown marks either on the board.

Rich

"Edna" <edna@texomaonline.com> wrote in message news:4617b541@linux...

> "Something else" causing it to blow is probably right. If you just replace

> the rectifier, it may do the same thing again. Maybe a blown semiconductor

> component causing a short to that circuit. Also maybe a shorted filter

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Edna Sloan](#) on Sat, 07 Apr 2007 21:00:46 GMT
[View Forum Message](#) <> [Reply to Message](#)

This is a multi-part message in MIME format.

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-----=_NextPart_000_00A8_01C7792D.E8534910--

Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?.....PICS

Posted by [Kim W](#) on Sun, 08 Apr 2007 04:24:44 GMT

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This is a multi-part message in MIME format.

---=_linux46186e8c

Content-Type: text/plain

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Hi.

I second the capacitor/regulator idea.

They are cheap and easy to replace, so why not give it a shot.

If anyone's interested, I've attached a couple of pics that show problems that I've had in the past.

First pic shows a capacitor that's been anchored to the circuit board with some kind of contact cement. This is common practice.

With time and heat, this goop can become conductive.

If it was blobbed over exposed wire links or component leads during manufacture, the conductivity can cause the equipment to fail.

(Happened to my SPX90 some years ago). Just scraping it off or carefully cutting it with a scalpel blade fixes the problem.

The second pic shows examples of bad caps that were released, in billions, onto the market, when (allegedly), an unperfected formulation for higher density (smaller packages/higher capacitances) was the subject of industrial espionage, and stolen.

So a huge number of motherboards and other equipment has electros that dry up after only a couple of years, (depending on how hot they get).

In the pic, the cap on the left is actually bulging on the top of the can, and the one on the right has leaked a brown substance on the top.

These should be replaced immediately if you spot them, as they WILL cause failure.

(The pic is actually of a friends' Dell mobo which has become flakey....spontaneous rebooting/blue screens etc...)

Kim

"Edna" <edna@texomaonline.com> wrote:

>

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h2bBD//Z

---=_linux46186e8c--

Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?.....PICS

Posted by [Kim W](#) on Sun, 08 Apr 2007 04:27:54 GMT

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This is a multi-part message in MIME format.

---=_linux46186f4a

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I'll try again with the pics....

"Kim W." <no@way.com> wrote:

>
>
>
>Hi.
>I second the capacitor/regulator idea.
>They are cheap and easy to replace, so why not give it a shot.
>If anyone's interested, I've attached a couple of pics that show
>problems that I've had in the past.
>First pic shows a capacitor that's been anchored to the circuit board
>with some kind of contact cement. This is common practice.
>With time and heat, this goop can become conductive.
>If it was blobbed over exposed wire links or component leads
>during manufacture, the conductivity can cause the equipment to fail.
>(Happened to my SPX90 some years ago). Just scraping it off or
>carefully cutting it with a scalpel blade fixes the problem.
>
>The second pic shows examples of bad caps that were released, in
>billions, onto the market, when (allegedly), an unperfected
>formulation for higher density (smaller packages/higher capacitances) was
>the subject of industrial espionage, and stolen.
>So a huge number of motherboards and other equipment has electros
>that dry up after only a couple of years, (depending on how hot
>they get).
>In the pic, the cap on the left is actually bulging on the top
>of the can, and the one on the right has leaked a brown substance
>on the top.
>These should be replaced immediately if you spot them, as they
>WILL cause failure.
>(The pic is actually of a friends' Dell mobo which has become
>flakey....spontaneous rebooting/blue screens etc...)
>Kim
>
>
>
>"Edna" <edna@texomaonline.com> wrote:
>>
>>
>>Its possible, but not likely, especially if its not a new unit, which =
>>would be more likely to have a defective component. Something caused a
>=
>>current overload through it to burn it up. But apparently not a direct
>=
>>short which would have blown the fuse as well. I've seen many leaky =
>>filter caps do this - these are the large caps that filter the ripple =
>>voltage or small ac component off the DC. A blown voltage regulator is
>=
>>another likely suspect, as far as the PS itself. Can the PS run by =
>>itself w/o being connected to the M80? =20

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Rich Lamanna](#) on Sun, 08 Apr 2007 04:59:37 GMT
[View Forum Message](#) <> [Reply to Message](#)

Gotcha, we'll see what happens when I stick the new rectumfier in there.
Maybe I'll get lucky :-)

Thanks,
Rich

"Neil" <IOUOIU@OIU.om> wrote in message news:4617eff2\$1@linux...

>

> Yes, it could've just gone kablooeey, affecting no other
> components, but what a bridge rectifier does is to turn the
> various cycles of AC current into steady & polarized DC. If
> that thing went kablooeey and created an open circuit in the
> process, than it's possible no other components were affected;
> if it kablooeied into a short, then whatever components that are
> next in line after it got a nice dose of AC, which may have
> caused a subsequent kabloooation of those parts as well.

>

> Just 'cause they don't "look" bad, doesn't mean they ain't.

>

> Neil

>

>

> "Rich Lamanna" <richard.lamanna@verizon.net> wrote:

>>

>>

>>Neil, Edna, couldn't the rectifier just have gone Kablooeey? As you say =

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> >href=3D"mailto:richard.lamanna@verizon.net">richard.lamanna@verizon.net</=
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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Rich Lamanna](#) on Sun, 08 Apr 2007 05:00:36 GMT
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This is a multi-part message in MIME format.

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Content-Transfer-Encoding: quoted-printable

Edna, yes the power supply can run on its own, doesn't need to be =
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Rich

"Edna" <edna@texomaonline.com> wrote in message news:4617f977@linux...
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-----=_NextPart_000_0021_01C77970.EF64B0C0--

Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?

Posted by [Edna Sloan](#) on Sun, 08 Apr 2007 17:03:16 GMT

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This is a multi-part message in MIME format.

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Content-Type: text/plain;

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Because you could mess with the PS w/o affecting the M80. I assume you = have experience with soldering and component removal on PCBs, and I am = assuming the circuit board is only single or double sided. If not, in = either case, I would let a tech do it. Its easy to damage a PCB, and if = its multilayered you cant do much anyway.

Having said that, If you replace just the rectifier, the only load on = it would be from the PS components. I would suggest also replacing the = filter cap(s) on that supply line, since it is the prime suspect in the = PS. (You may need a schematic here). If after this, the rectifier = starts getting too hot again the problem is likely a VR(s) on that line. =

<richard.lamanna@verizon.net> wrote in message news:46186a35@linux...

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-----=_NextPart_000_0020_01C779D5.E490D380--

Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Rich Lamanna](#) on Mon, 09 Apr 2007 11:50:15 GMT
[View Forum Message](#) <> [Reply to Message](#)

This is a multi-part message in MIME format.

-----=_NextPart_000_002D_01C77A73.54283F60

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charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Aaron Allen](#) on Mon, 09 Apr 2007 13:48:48 GMT
[View Forum Message](#) <> [Reply to Message](#)

This is a multi-part message in MIME format.

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Content-Transfer-Encoding: quoted-printable

www.partsexpress.com=20

www.mcmelectronics.com=20

www.digikey.com=20
www.radioshack.com

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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [EK Sound](#) on Mon, 09 Apr 2007 16:16:22 GMT

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I replace them frequently on different pieces of gear. Usually, the diodes short out and take out the fuse. You can simply replace the unit with the same type/rating. If you are concerned about heat (which is generally what kills these in the first place) you could epoxy an aluminum heat sink to the tops of the bridges to help dissipate the heat.

I have replaced literally hundreds of these things and have never seen any collateral damage from them blowing... but I definitely haven't "seen it all"..

David.

Rich Lamanna wrote:

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> PS. By the way I broke down and got a Myspace site now. Check it out.
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>

Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Rich Lamanna](#) on Thu, 12 Apr 2007 00:34:06 GMT
[View Forum Message](#) <> [Reply to Message](#)

Thanks, Dave, have nothing to loose here. I had to order the rectifier, they

didn't have it in stock. Will keep you all posted.

Rich

"EK Sound" <askme@nospam.com> wrote in message news:461a679f@linux...

> I replace them frequently on different pieces of gear. Usually, the
> diodes short out and take out the fuse. You can simply replace the
> unit with the same type/rating. If you are concerned about heat
> (which is generally what kills these in the first place) you could
> epoxy an aluminum heat sink to the tops of the bridges to help
> dissipate the heat.

>
> I have replaced literally hundreds of these things and have never seen
> any collateral damage from them blowing... but I definitely haven't
> "seen it all"..

>
> David.

>
> Rich Lamanna wrote:

> > Neil, Edna, couldn't the rectifier just have gone Kablooey? As you say
> > it could be symptomatic of another problem but if you read my last post,
> > I may have been overloading the thing. Looking at the circuit board
> > carefully, I see no other browned or burned resistors, etc. Maybe I'll
> > send it in, but I might try to fix it myself as it will be only a couple
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72230696>
>>
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Subject: Re: What's this thing that smoldered in my Presonus M80 power supply?
Posted by [Rich Lamanna](#) on Thu, 12 Apr 2007 00:34:51 GMT
[View Forum Message](#) <> [Reply to Message](#)

This is a multi-part message in MIME format.

-----=_NextPart_000_0016_01C77C70.795BF700
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

Thanks Aaron, the rectifier should be here next week.

Rich

"Aaron Allen" <know-spam@not_here.dude> wrote in message =
news:461a4585@linux...
www.partsexpress.com=20
www.mcmelectronics.com=20
www.digikey.com=20
www.radioshack.com

"Rich Lamanna" <richard.lamanna@verizon.net> wrote in message =
news:461a1baf@linux...

Thanks Edna for the help. Will keep you all posted. Anyone know =
where I can order this rectifier online? It might just be easier for me =

to order it as I may not be able to get to the parts place until this = weekend.

Rich

"Edna" <edna@texomaonline.com> wrote in message = news:46192160@linux...

Because you could mess with the PS w/o affecting the M80. I = assume you have experience with soldering and component removal on PCBs, = and I am assuming the circuit board is only single or double sided. If = not, in either case, I would let a tech do it. Its easy to damage a = PCB, and if its multilayered you cant do much anyway.

Having said that, If you replace just the rectifier, the only = load on it would be from the PS components. I would suggest also = replacing the filter cap(s) on that supply line, since it is the prime = suspect in the PS. (You may need a schematic here). If after this, = the rectifier starts getting too hot again the problem is likely a VR(s) = on that line.=20

<richard.lamanna@verizon.net> wrote in message = news:46186a35@linux...

Edna, yes the power supply can run on its own, doesn't need to = be plugged in for it to function. I have it disconnected at the moment. = Why do you ask?

Rich

"Edna" <edna@texomaonline.com> wrote in message = news:4617f977@linux...

Its possible, but not likely, especially if its not a new = unit, which would be more likely to have a defective component. = Something caused a current overload through it to burn it up. But = apparently not a direct short which would have blown the fuse as well. = I've seen many leaky filter caps do this - these are the large caps that = filter the ripple voltage or small ac component off the DC. A blown = voltage regulator is another likely suspect, as far as the PS itself. = Can the PS run by itself w/o being connected to the M80? =20

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