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Subject: Apple IIe mod is unknown  
Posted by [Anonymous](#) on Fri, 07 Sep 2018 00:27:59 GMT  
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Originally posted by: cb meeks

I just got another Apple IIe motherboard (board only) for \$9.99. So no complaints. :-D

On the board, it has an EPROM (UV light) on C66. However, it has a riser card under it. I took off the EPROM and there is some IC that I can't make out. The numbers are almost completely gone.

<https://www.dropbox.com/s/y23zqe9bgdkvs6t/A2e.png?dl=0>

I don't have the ability to power it on at the moment but I probably will this weekend. There is another EPROM on C67 but this one is not on a riser card.

I can get some better pics later but I thought I would see if anyone knew of a common mod this could be.

Assuming the board works, I guess I will find out later.

Thanks for any info.

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Subject: Re: Apple IIe mod is unknown  
Posted by [dempson](#) on Fri, 07 Sep 2018 01:30:30 GMT  
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cb meeks <cbmeeks@gmail.com> wrote:

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> complaints. :-D  
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Based on the height, and assuming it has a ~16 pin chip inside the socket, it is probably a "No Slot Clock", which uses the PROM/EPROM variant of the Dallas SmartWatch chip. There is a battery inside the body of the socket extender which may be long dead.

The NSC works by recognising an unusual pattern of addresses accesses then accepting commands and data via the low order bit of the address bus or delivering data via the low order bit of the data bus (blocking

that signal from the PROM/EPROM), otherwise passes everything through. It has a driver which is installed in ProDOS to replace the standard Thunerclock driver.

- > I don't have the ability to power it on at the moment but I probably will
- > this weekend. There is another EPROM on C67 but this one is not on a
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- > Assuming the board works, I guess I will find out later.
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- > Thanks for any info.

--

David Empson  
dempson@actrix.gen.nz

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Subject: Re: Apple IIe mod is unknown  
Posted by [Anonymous](#) on Fri, 07 Sep 2018 02:05:25 GMT  
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Originally posted by: cb meeks

On Thursday, September 6, 2018 at 9:30:32 PM UTC-4, David Empson wrote:

- > cb meeks <cbmeeks@gmail.com> wrote:
- >
- >> I just got another Apple IIe motherboard (board only) for \$9.99. So no
- >> complaints. :-D
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>> Thanks for any info.  
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>  
> --  
> David Empson  
> dempson@actrix.gen.nz

Ah! You may be right. I managed to pull it out and the bottom looks thick like there could be a battery inside. I don't see any way of looking inside without destroying it.

This weekend I will test it out. Assuming that's the case, is there another option for replacing the battery?

Also, do you think the custom ROM in C67 would be related?

<https://www.dropbox.com/s/az1p2qgddm0z2jx/Photo%20Sep%2006%20C%2010%2000%2002%20PM.jpg?dl=0>

Thanks!

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Subject: Re: Apple Ile mod is unknown  
Posted by [dempson](#) on Fri, 07 Sep 2018 09:05:05 GMT  
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cb meeks <cbmeeks@gmail.com> wrote:

> On Thursday, September 6, 2018 at 9:30:32 PM UTC-4, David Empson wrote:  
>> cb meeks <cbmeeks@gmail.com> wrote:  
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> thick like there could be a battery inside. I don't see any way of  
> looking inside without destroying it.

>

> This weekend I will test it out. Assuming that's the case, is there  
> another option for replacing the battery?

We used Dallas SmartSockets and SmartWatches at work many years ago and  
I was never aware of a way of opening them to replace the battery  
without destroying them.

> Also, do you think the custom ROM in C67 would be related?

Not likely. The code to talk to the No Slot Clock cannot run from the  
PROM/EPROM in the same socket - it has to be running elsewhere so all  
accesses to the address space of the socket are under control of the  
clock driver for the duration of the clock read or write operation.

> <https://www.dropbox.com/s/az1p2qgddm0z2jx/Photo%20Sep%2006%20C%2010%2000%2002%20PM.jpg?dl=0>

I can't read the number on the chip in the photo but it should be a DS1216 if it is a Dallas Semiconductor SmartWatch.

Further confirmation: the "E" silk-screened onto the circuit board next to the chip is the suffix Dallas used for the PROM/EPROM variant of the SmartWatch. I found the data sheet:

<https://pdfserv.maximintegrated.com/en/ds/DS1216-DS1216H.pdf>

We used the "C" variant (for static RAM chips) in our products at my work somewhere around the early 1990s.

--

David Empson  
dempson@actrix.gen.nz

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Subject: Re: Apple Ile mod is unknown  
Posted by [Anonymous](#) on Fri, 07 Sep 2018 11:16:19 GMT  
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Originally posted by: cb meeks

On Friday, September 7, 2018 at 5:05:07 AM UTC-4, David Empson wrote:

> cb meeks <cbmeeks@gmail.com> wrote:

>

>> On Thursday, September 6, 2018 at 9:30:32 PM UTC-4, David Empson wrote:

>>> cb meeks <cbmeeks@gmail.com> wrote:

>>>>

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>  
> <https://pdfserv.maximintegrated.com/en/ds/DS1216-DS1216H.pdf>  
>  
> We used the "C" variant (for static RAM chips) in our products at my

> work somewhere around the early 1990s.  
>  
> --  
> David Empson  
> dempson@actrix.gen.nz

Awesome. Thanks for your help on this. I will more then likely replace it with something else as I don't like having a 20+ year old dead battery in my computer. :-)

I don't have a case for this motherboard anyway so I may just use it as a bench PC.

I assume I should be able to find the original ROM's online and maybe put in new chips. I don't have a way of erasing the UV EPROM's.

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Subject: Re: Apple Ile mod is unknown  
Posted by [Anonymous](#) on Fri, 07 Sep 2018 12:41:33 GMT  
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Originally posted by: cb meeks

On Thursday, September 6, 2018 at 8:28:01 PM UTC-4, cb meeks wrote:

> I just got another Apple Ile motherboard (board only) for \$9.99. So no complaints. :-D  
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> I can get some better pics later but I thought I would see if anyone knew of a common mod this could be.  
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> Assuming the board works, I guess I will find out later.  
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> Thanks for any info.

UPDATE. That's definitely a NOSLOT Clock. I even found a picture of it in the Sophistication & Simplicity book.

Thanks

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Subject: Re: Apple IIe mod is unknown  
Posted by [Anonymous](#) on Fri, 07 Sep 2018 14:22:14 GMT  
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Originally posted by: frank\_o\_rama

Looks like both your CD and EF ROMs are aftermarket, as well as your video ROM. Might have custom code and fonts?

Make sure to straighten out any pin headers before firing it up. Your modulator header looks like it might have a couple pins shorting out.

You can test the board (if the ROM code is original) with only power by looking for a blink on the LED on the bottom right of your first picture. It's connected to the speaker line and will flash if there's a beep with no speaker connected.

Manila Gear makes a replacement NSC with battery headers if you're not into "fly surgery".  
<https://manilagear.com/product/no-slot-clock/>

Or if you are....

[http://www.minuszerodegrees.net/5160/ds1216e/ds1216e\\_battery\\_warning.htm](http://www.minuszerodegrees.net/5160/ds1216e/ds1216e_battery_warning.htm)

f

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Subject: Re: Apple IIe mod is unknown  
Posted by [Anonymous](#) on Fri, 07 Sep 2018 20:53:27 GMT  
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Originally posted by: R.Kiefer.SPAEM

cb meeks wrote:

> I just got another Apple IIe motherboard (board only) for \$9.99. So no  
> complaints. :-D

A IIe Rev.A board build in Malaysia with datecode 8328. Nice :-)

Are there any other pics from Rev.A boards? Mine is "Made in Singapore" with datecode 8252. And it's a bit different. I.e. there is no jumper block J19.

Regards  
Ralf

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Subject: Re: Apple IIe mod is unknown

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Posted by [Anonymous](#) on Sat, 08 Sep 2018 01:35:57 GMT

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Originally posted by: cb meeks

On Friday, September 7, 2018 at 4:53:29 PM UTC-4, Ralf Kiefer wrote:

> cb meeks wrote:

>

>> I just got another Apple IIe motherboard (board only) for \$9.99. So no

>> complaints. :-D

>

> A IIe Rev.A board build in Malaysia with datecode 8328. Nice :-)

>

> Are there any other pics from Rev.A boards? Mine is "Made in Singapore"

> with datecode 8252. And it's a bit different. I.e. there is no jumper

> block J19.

>

> Regards

> Ralf

Hmm. Sorry, I don't know much about the various revisions. Is there anything special (rare) about my board? I have several other Apple IIe's but I'm not sure of their revision numbers or dates. But now I'm curious.

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Subject: Re: Apple IIe mod is unknown

Posted by [Anonymous](#) on Sat, 08 Sep 2018 08:35:03 GMT

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Originally posted by: R.Kiefer.SPAEM

cb meeks wrote:

> Hmm. Sorry, I don't know much about the various revisions. Is there

> anything special (rare) about my board? I have several other Apple

> IIe's but I'm not sure of their revision numbers or dates. But now I'm

> curious.

Rev.A boards don't have Double Hires graphics. If you use a 80col/64k board in the AUX slot, the jumper must be open.

AFAIK they were produced just for some months (6 months?).

Regards

Ralf

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Subject: Re: Apple IIe mod is unknown  
Posted by [Anonymous](#) on Sat, 08 Sep 2018 20:08:02 GMT  
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Originally posted by: cb meeks

On Saturday, September 8, 2018 at 4:35:06 AM UTC-4, Ralf Kiefer wrote:

> cb meeks wrote:

>

>> Hmm. Sorry, I don't know much about the various revisions. Is there  
>> anything special (rare) about my board? I have several other Apple  
>> IIe's but I'm not sure of their revision numbers or dates. But now I'm  
>> curious.

>

> Rev.A boards don't have Double Hires graphics. If you use a 80col/64k  
> board in the AUX slot, the jumper must be open.

>

> AFAIK they were produced just for some months (6 months?).

>

> Regards

> Ralf

Oh wow. I didn't know that. Does anyone know how many Rev A boards were made?

In fact, I would be curious on all of the revision numbers sold.

Thanks!

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Subject: Re: Apple IIe mod is unknown  
Posted by [Anonymous](#) on Sat, 08 Sep 2018 21:16:06 GMT  
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Originally posted by: James Davis

About the battery/ies: I thought I read somewhere once that they could be easily replaced from underneath the inner chip by pulling it out of its socket first. But, after seeing all these pictures and documents about it, I doubt IIRC! :-)

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Subject: Re: Apple IIe mod is unknown  
Posted by [Michael Black](#) on Sat, 08 Sep 2018 22:42:02 GMT  
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On Sat, 8 Sep 2018, James Davis wrote:

> About the battery/ies: I thought I read somewhere once that they could  
> be easily replaced from underneath the inner chip by pulling it out of

> its socked first. But, after seeing all these pictures and documents  
> about it, I doubt IIRC! :-)  
>

I have a vague memory of that sort of clock being available with an external battery. But it's been a long time, and I don't even remember if it was the same sort of clock or some other clock.

It doesn't really matter since the poster seems to have one where the battery is internal, so whatever else there might have been won't help him here.

Michael

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Subject: Re: Apple IIe mod is unknown  
Posted by [dempson](#) on Sun, 09 Sep 2018 00:22:03 GMT  
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Michael Black <mblack@pubnix.net> wrote:

> On Sat, 8 Sep 2018, James Davis wrote:

>  
>> About the battery/ies: I thought I read somewhere once that they could  
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>> its socked first. But, after seeing all these pictures and documents  
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> I have a vague memory of that sort of clock being available with an  
> external battery. But it's been a long time, and I don't even remember if  
> it was the same sort of clock or some other clock.

The Dallas memory backup/clock chip used in the No Slot Clock was certainly sold separately and could be used with an external battery.

At my work we used the integrated SmartSocket or SmartWatch as a retrofit in earlier circuit boards to make the static RAM nonvolatile and to add a real time clock when needed, but later designs used a separate controller chip and battery on the main circuit board.

I don't know offhand if anyone made some kind of No Slot Clock variant for the Apple II with that arrangement, e.g. a small interposing circuit board which plugged into one of the PROM sockets and had the battery on a protruding ledge, plus a socket for the PROM.

> It doesn't really matter since the poster seems to have one where the  
> battery is internal, so whatever else there might have been won't help him  
> here.

--

David Empson  
dempson@actrix.gen.nz

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