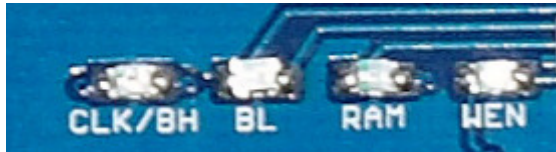


# Introduction

- Hyperion card is ***the Saturn 128KB*** compatible and No slot clock compatible function in it.
- It compatible with the Saturn 128KB and have four blocks of Saturn 128K so, ***total 512KB*** and ***battery backup non-volatile memory*** card.
- ***Hyperion 512K+RAM*** chip has integrated own battery for ***data backup*** and ***clock*** function.
- Card provid external battery socket so, even some of SRAM(ex. K6X4008 DIP32pins) could be used as non-volatile memory. It is very useful with ***Pseudo DISK***(For it setup, please refer the saturn manual)
- This memory card can be used same as ***16KB*** language memory card for APPLE ][ + 48KB and some of copy program detected ***128KB memory***.

# LED indicators and switch



It will show *the card status*.

When card works or received request, it change the LED. 2<sup>st</sup>

Each LED light means as below.

(From Left)

- **CLK/BH, BL:** Present block set of 128K
- **RAM:** When RAM access
- **WEN:** RAM ready for write



- No Slot Clock Enable/OFF

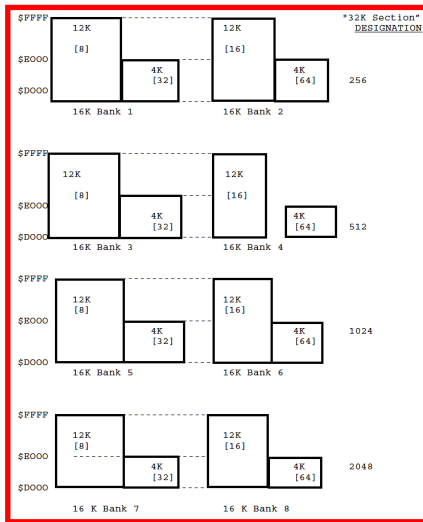
Only want to use as RAM card; set to Down to OFF

Want to use RAM card and Clock set to Up Enable

	<b>BH, BL</b>
1 <sup>st</sup>	<b>10</b>
2 <sup>st</sup>	<b>11</b>
3 <sup>rd</sup>	<b>00</b>
4 <sup>th</sup>	<b>01</b>

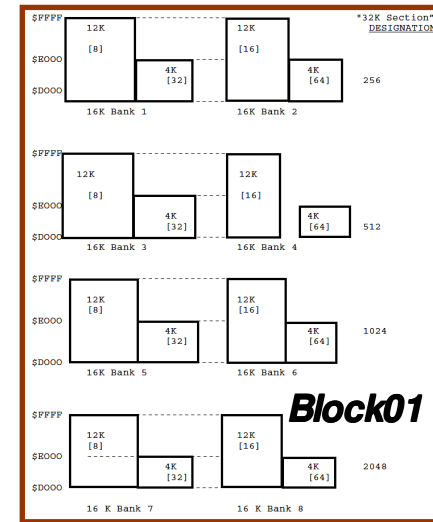
1 ; LED ON  
0 ; LED OFF

# Hyperion 512K memory structure



- Saturn 128KB have 8 pieces of 16K bank
- Each bank could be changed read on \$C0n4,5,6,7,C,D,E,F (n: slot number+8)

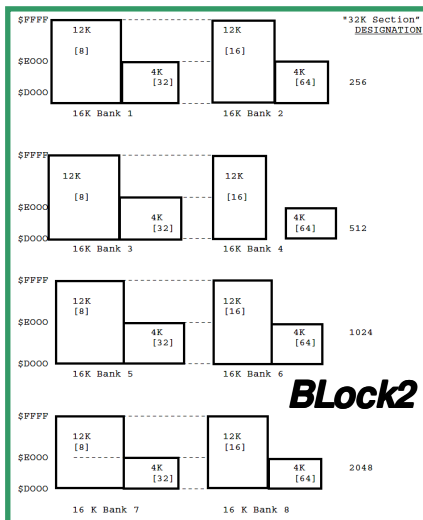
**BBlock0 (Same as Saturn 128K)**



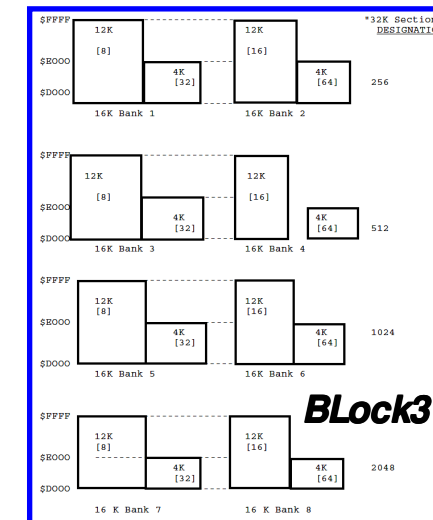
•Hyperion card could select one of 128K Saturn area by write I/O Address.  
**\$Cn01: 0, 1, 2, 3**  
 (n; slot number)

Example , When it Slot# 1.  
**]POKE 49409,{0,1,2,3}**  
 Or  
**\*C101:{0,1,2,3}**

When it be changed, it act as another Saturn 128K memory card in it, Hence You can use as you change to another pseudo disk with this simple command function.



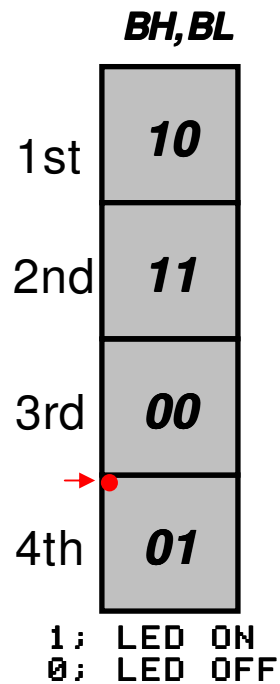
**BBlock2**



**Block01**

**BBlock3**

# Important information to R/W extended memory block.

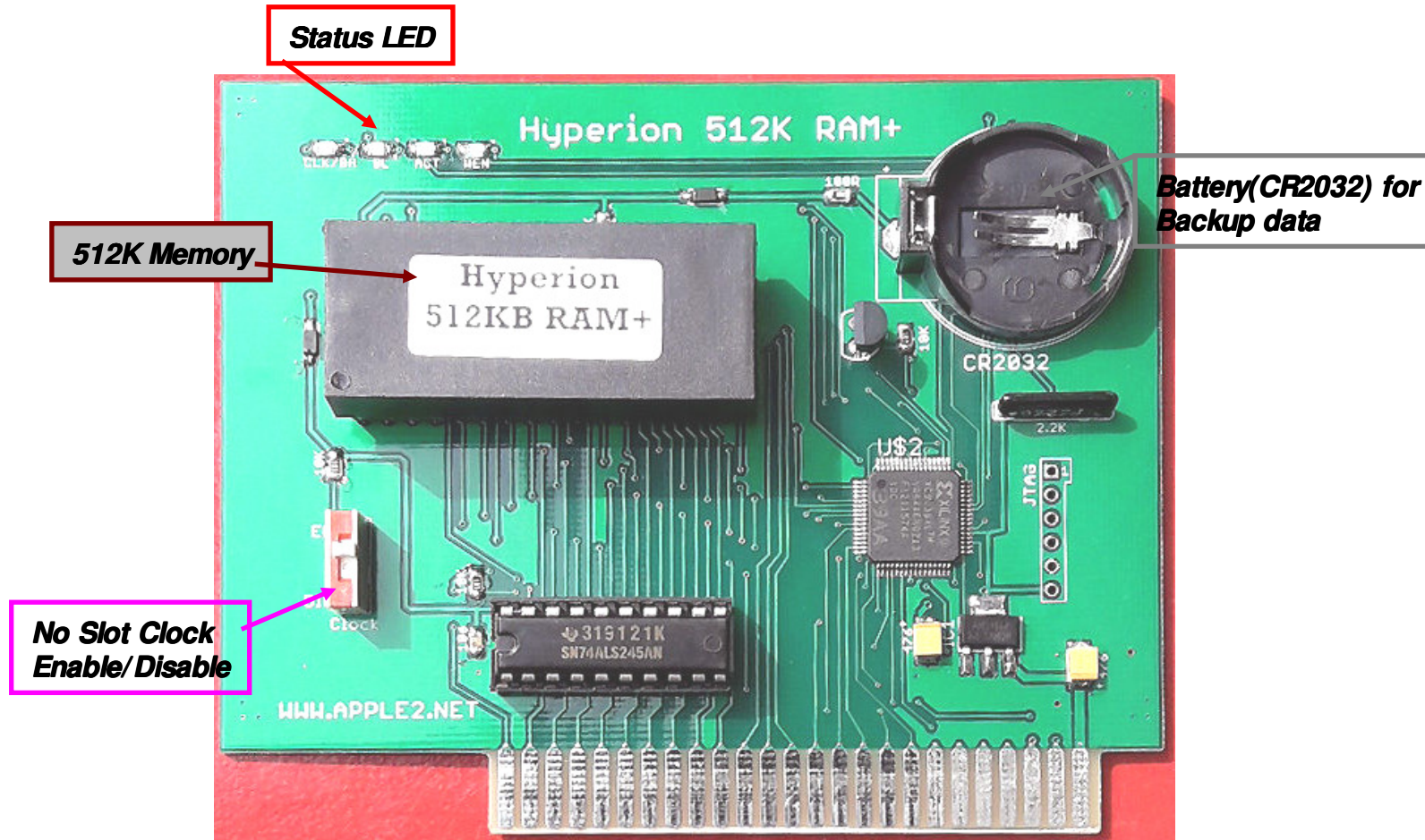


- Due to integrated the No Slot clock function in the card, No Slot clock driver try to write some of location in memory card to read/find the clock hence some of data are may corrupted while the access No slot clock. it happen even read time.
- It only happen some address on the first page(256bytes)of **4th** block.
- So, if you want use the **4th** extended memory blocks, you have to consider to avoid the first page.(Only a few bytes may corrupted but, it's depend on your slot number) \$n00 \$n01 data may destroy (n: is slot number) so 1<sup>st</sup> slot is Hyperion card, then memory location of 100,101 may corrupted. But, if own No slot clock driver, I can't say which address they will use.. So, please just **give it up the first 256 bytes**.
- **OFF the clock by switch** , it will stop the No slot clock driving signal so all **memory area are safe** but, deactivate the No Slot Clock.

# Other information

- **CTRL+ Reset** doesn't reset Saturn Banks but, Hyperion Block set to 1<sup>st</sup> Block. So, programmed **Reset vector** could be used with this card.
- **Hyperion 512K+RAM** has integrated battery but, if you lost data after power OFF, this time is to put new a CR2032 cell in battery holder. with this external battery may hold data about 200hours with the Hyperion 512K+ RAM.
- If you want very long time data backup memory, please change the 512K memory chip to a **K6X4008** DIP32pin type. The batter can hold data more than 3 years (I guess 10 years would be OK!) but of course, the RAM chip doesn't have real time clock (NSC).
- If you connect it on **SLOT0**, the **No slot clock** can't activated because of No I/O address is possible to communicate it. The No Slot Clock searching from slot 1~7 to find the hidden clock. But Slot 0 has no slot signal.
- For more information or question, Please contact me by email ([quick09@gmail.com](mailto:quick09@gmail.com))

# Hyperion 512K RAM+



# Warranty

- ***Components values may changed without notice.***
- ***Warranty is 3 months and not included shipping costs. After this period may charged costs for repair service.***
- ***Disassemble or modification may expire the warranty.***
- ***If you have any question or concerns, please email me [quick09@gmail.com](mailto:quick09@gmail.com)***
- ***Thank you very much***

Thank you!

