

# Advantech TIPD product FAQ

## MIC-5345D RTC Sync Limitation

Applicable model list	MIC-5345D
Model name version	N/A
BIOS Version	N/A

### Description:

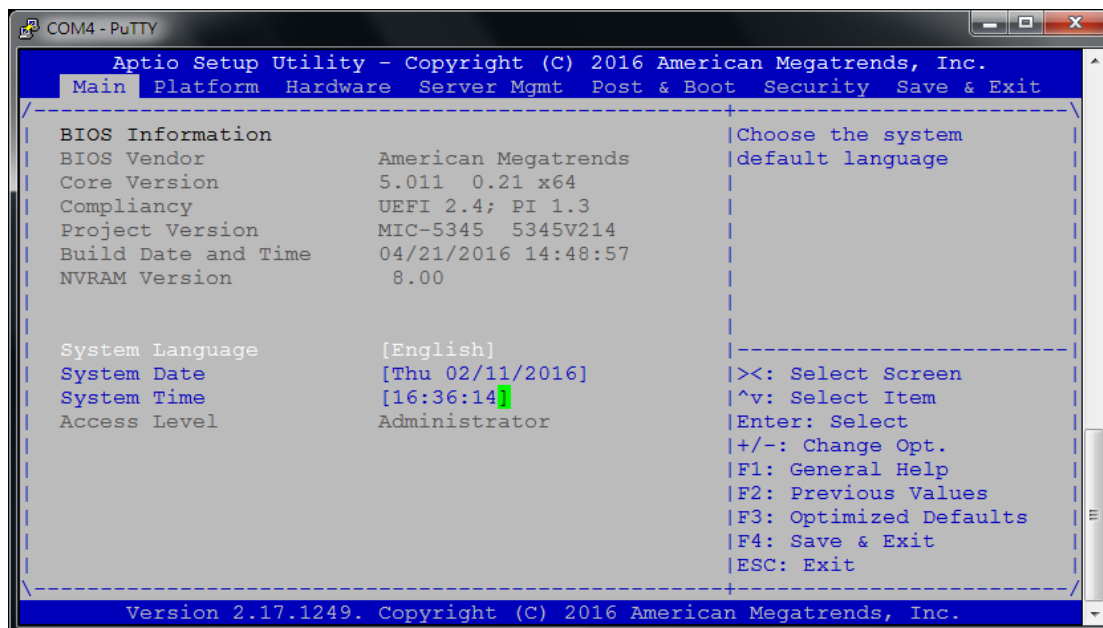
**There's a limitation on MIC-5345D that BIOS time is not counting when blade is off (Power Cut).**

MIC-5345D (Dual CPU) : RTC power source Super CAP

MIC-5345S (Single CPU) : RTC power source Battery

**@ RTC sync feature was Disabled (0x03) ---- > BIOS time is ceased (Stop Counting) , plz skip this setting**

// Before - Check BIOS Time



// Boot into OS

```
[root@mic-5345 ~]# uname -a
```

```
Linux mic-5345 3.10.0-862.9.1.el7.x86_64 #1 SMP Mon Jul 16 16:29:36 UTC 2018 x86_64 x86_64 x86_64  
GNU/Linux
```

```
[root@mic-5345 ~]# ipmitool raw 0x2e 0x41 0x39 0x28 0x00 0x07 0x00  
39 28 00 03 (Already Disabled)
```

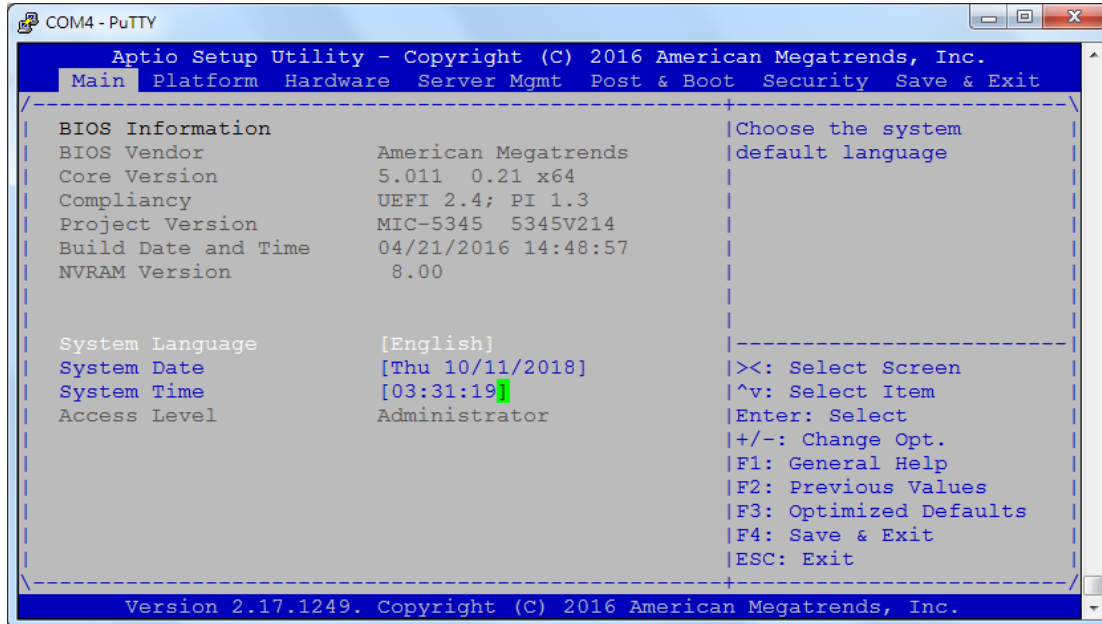
```
[root@mic-5345 ~]# date
```

```
Thu Oct 11 03:28:02 UTC 2018
```

```
[root@mic-5345 ~]# hwclock -w
```

```
[root@mic-5345 ~]#  
[root@mic-5345 ~]# hwclock -r  
Thu 11 Oct 2018 03:28:40 AM UTC -0.953623 seconds  
[root@mic-5345 ~]# reboot (Reboot into BIOS)
```

// After - Check Time again before power off the blade (Remove DC), then leave the blade for > 2 hrs



```
[root@mic-5345 ~]# uname -a  
Linux mic-5345 3.10.0-862.9.1.el7.x86_64 #1 SMP Mon Jul 16 16:29:36 UTC 2018 x86_64 x86_64 x86_64  
GNU/Linux  
[root@mic-5345 ~]# date  
Thu Oct 11 03:34:39 UTC 2018  
[root@mic-5345 ~]# hwclock -r  
Thu 11 Oct 2018 03:34:42 AM UTC -0.567369 seconds  
[root@mic-5345 ~]# ipmitool sel time get  
01/01/1970 00:21:58  
[root@mic-5345 ~]# ipmitool raw 0x2e 0x41 0x39 0x28 0x00 0x07 0x00  
39 28 00 03  
[root@mic-5345 ~]# poweroff
```

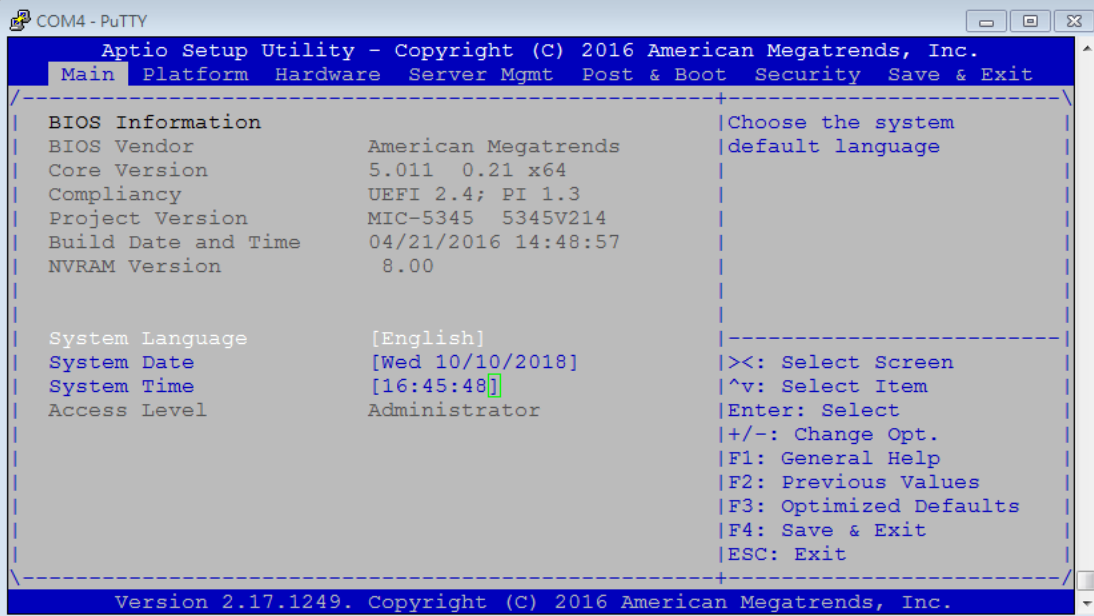
// -----Cut AC power / Wait 2 more hours (11:35 TW ~ 15:17) >>> [No time counting in BIOS](#)

```
[root@mic-5345 ~]# date  
Thu Oct 11 03:39:01 UTC 2018  
[root@mic-5345 ~]# hwclock -r  
Thu 11 Oct 2018 03:39:05 AM UTC -0.364323 seconds  
[root@mic-5345 ~]# ipmitool sel time get  
01/01/1970 00:02:30
```

//----- It's known limitation on MIC-5345D (雙 CPU 5345 關機 RTC 不跳是正常的)

@ Setting = 0x02 ; SEL time can be overwritten by BIOS (改 BIOS 時間 >> SEL time 會被更新)

// Change time in BIOS menu



```
COM4 - PuTTY
Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
Main Platform Hardware Server Mgmt Post & Boot Security Save & Exit

BIOS Information
BIOS Vendor American Megatrends
Core Version 5.011 0.21 x64
Compliance UEFI 2.4; PI 1.3
Project Version MIC-5345 5345V214
Build Date and Time 04/21/2016 14:48:57
NVRAM Version 8.00

System Language [English]
System Date [Wed 10/10/2018]
System Time [16:45:48]
Access Level Administrator

|Choose the system
|default language
|
|-----|
|><: Select Screen
|^v: Select Item
|Enter: Select
|+/-: Change Opt.
|F1: General Help
|F2: Previous Values
|F3: Optimized Defaults
|F4: Save & Exit
|ESC: Exit

Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc.
```

//Check time in OS

```
[root@mic-5345 ~]# date
Wed Oct 10 16:47:30 UTC 2018
[root@mic-5345 ~]# hwclock -r
Wed 10 Oct 2018 04:47:36 PM UTC -0.547387 seconds
[root@mic-5345 ~]# ipmitool sel time get
10/10/2018 16:47:39
[root@mic-5345 ~]# ipmitool raw 0x2e 0x41 0x39 0x28 0x00 0x07 0x00
39 28 00 02
```

//----- Leave it over night (放置一夜) ... system time is up-to-date

```
[root@mic-5345 ~]# uname -a
Linux mic-5345 3.10.0-862.9.1.el7.x86_64 #1 SMP Mon Jul 16 16:29:36 UTC 2018 x86_64 x86_64 x86_64
GNU/Linux
[root@mic-5345 ~]# date
Thu Oct 11 11:42:07 UTC 2018
[root@mic-5345 ~]# hwclock -r
Thu 11 Oct 2018 11:42:16 AM UTC -0.516171 seconds
[root@mic-5345 ~]# ipmitool sel time get
10/11/2018 11:42:22
[root@mic-5345 ~]#
```

### BIOS only update SEL time when leaving BIOS setup menu, means update by command "hwclock -w" only update RTC but won't trigger BIOS to overwrite IPMC time.

### There're three workarounds for keeping MIC-5345D RTC time when RTC sync has been set to 0x02 or 0x04

(1) Set BIOS time at 1<sup>st</sup> boot --> Save & Exit

(2) Set IPMC SEL time in OS through command "ipmitool sel time set "MM/DD/YYYY hh:mm:ss"". The time will be updated in next reboot

ex. Set SEL time (This command is only available when RTC sync is **NOT** set to 00h)

```
# ipmitool sel time set "10/11/2018 16:00:30" or
```

```
# ipmitool sel time set "`date '+%m/%d/%Y %H:%M:%S'`"
```

ex. Check SEL time

```
# ipmitool sel time get
```

(3) Add coin battery to treat MIC-5345D as MIC-5345S (Hardware rework is required, please contact Sales for RMA arrangement or T – product number )