Venus T5c series

SATA RAID

User Manual

Model: DS-2350C

(For 3.5” SATA)

Model: DS-2250C

(For 2.5” SATA)

amselectronics

1. Features of Venus T5c mini

- **All Aluminum design**
- **Plug & play, hot swappable, Support Windows, Mac & Linux**
- **Built-in DIP Switch RAID mode setting**
- **LED indicators (for AC Power, HDD Error, HDD Access)**
- **Double Security handle lock**
- **Port Multiplier -- support up to 5 x 2.5" SATA HDD**
- **Built-in JMB393 Hardware RAID controller**
- **Transfer rate: 3Gb/s(eSATA)、5Gb/s(USB3.0)**
- **5 X 5 cm FAN X1— super air ventilation**
- **Buzzer Alarm for overheating**
- **20W, AC 100~240V, 50/60Hz**
- **Dim: 5.5(L) X 3.1(W) X 4.9(H) inches**
- **Weight: 1.35 lbs (enclosure only)**

--- Front Panel--- (See Figure 6)

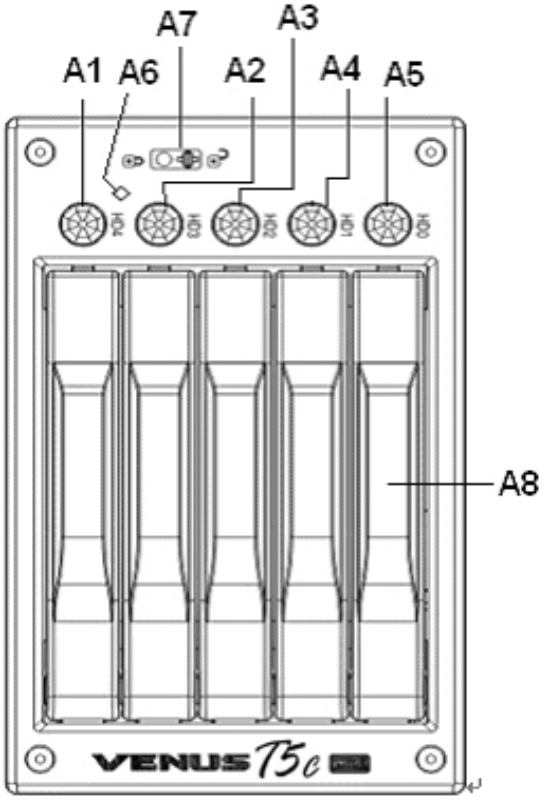


Figure 6

A1 ~ A5 :Front panel "Push-Open" Button

a) **Function: Push forward to open the front HDD front panel.**

b) **LED Indication:**

See LED Status description on page 5 & 6.

A 6: Power/System LED

Power on → Solid blue

Power off → No indication

A7: Mechanical lock :

To Open or Lock the front panels.

Note:

When push It to "un-lock" position, you can open the front panels by pressing the "push-Open button. While it is in the "lock" position, the 5 front panels are locked and cannot be open when you press the "push-open" button.

Note: Do not try to press down the "push-open button while it is locked. Any inappropriate use of it may cause the damage of the mechanical lock.

A8: Front Panel

--Rear View--- (see Figure 7)

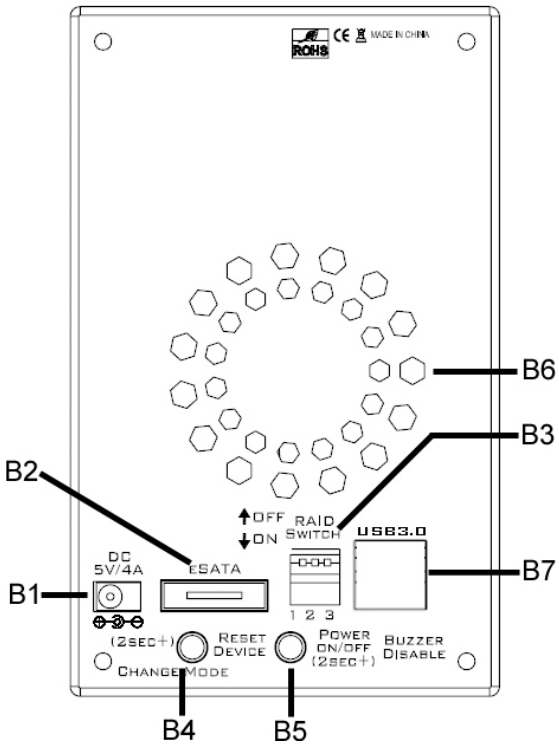


Figure 7

B1: Power Input (+5V ⊕—◎—⊖ 4A)

B2: E-SATA port

B3: Raid Setting DIP Switch

(*7 Raid Mode: Raid 0, 10, 3, 5, JBOD, Single, Clone)

B4: Reset Device / Change Mode Button

1. Reset Device: Press it less than 2 seconds

2. Change Mode: Press it over 2 seconds

B5: Buzzer Disable Button / Power Switch Button

1. Buzzer disable : Press it less than 2 seconds

2. Power Switch : Press it over than 2 seconds

B6：Air ventilation holes

B7：USB3.0 port

---LED Status---

Action	Message	color
LED Indicator (HDD0-HDD4) [see figure 6, A1~A5]		
Light On	Hard Drive Installed	Blue
Light Off	Hard Drive uninstalled	No
Light On	Hard Drive Fail	Red
Flash	Hard Drive Access	Blue
Power / System LED Indicator [see figure 6, A6]		
Light On	Power starting	Blue
Light On	System is ready	Purple
Light Off	Power is OFF	No

Raid Status	LED Indicator	[see figure 6, A1~A5]
RAID10	Access	Blue/Flash
	rebuilding	Blue & Red/Flash
RAID3	Access	Blue/Flash
	rebuilding	Blue & Red /Flash
RAID5	Access	Blue/Flash
	rebuilding	Blue & Red /Flash
JBOD (Large)	Access	Blue/Flash
Clone	Access	Blue/Flash
	Clone	Blue & Red /Flash
RAID	Access	Blue/Flash

2. DIP Switch and RAID Mode cross reference

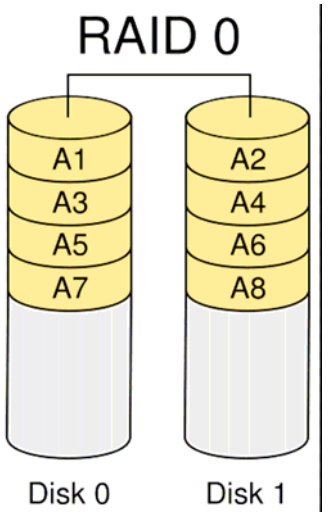
User can configure any RAID mode as below by DIP switch and apply change by Change Mode button.

RAID Mode	Dip Switch		
	1	2	3
RAID 0	ON	ON	ON
RAID 10	ON	ON	OFF
JBOD (Large)	ON	OFF	ON
RAID 3	ON	OFF	OFF
Clone	OFF	ON	ON
RAID 5	OFF	ON	OFF
Reserved	OFF	OFF	ON
Normal (Single)	OFF	OFF	OFF

∗**PS:** When DIP-SW is RAID10, 2 HDDs is RAID1 Mode and 4 HDDs is RAID10 Mode.

2.1 RAID 0 for High Performance

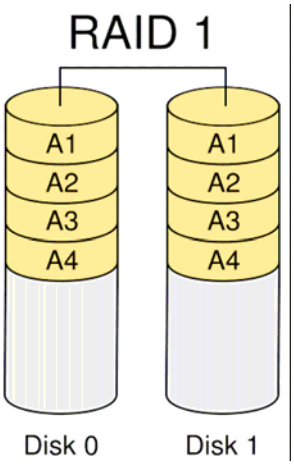
RAID 0(or Stripe) is the segmentation of logically sequential data, such as a single file, so that segments can be assigned to multiple hard disks in a round-robin fashion and thus written concurrently. (If any hard disk becomes defective, information stored in this RAID0 will be invalid.)



2.2 RAID 1 (Mirror) for High Security

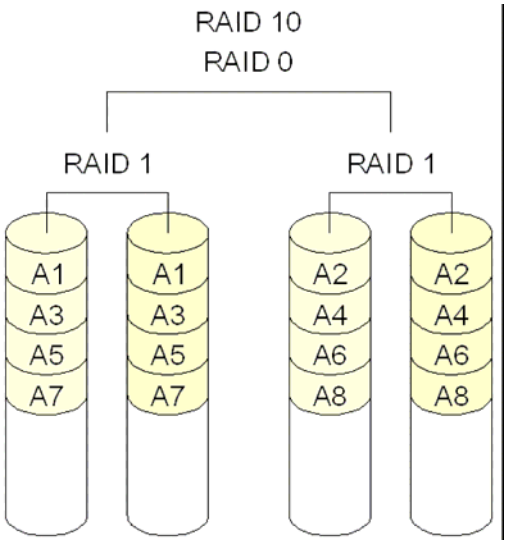
Mirror or RAID 1 is the replication of data onto separate hard disks in real time to ensure continuous availability. Take a RAID 1 system with two hard disks as an example, data in a hard disk will be exactly the same as the data in another hard disk.

(Failure in a hard disk, Host controller still could read/write data. Users have to replace the defect hard disk. T5 will enter on-line-auto-rebuild mode automatically)



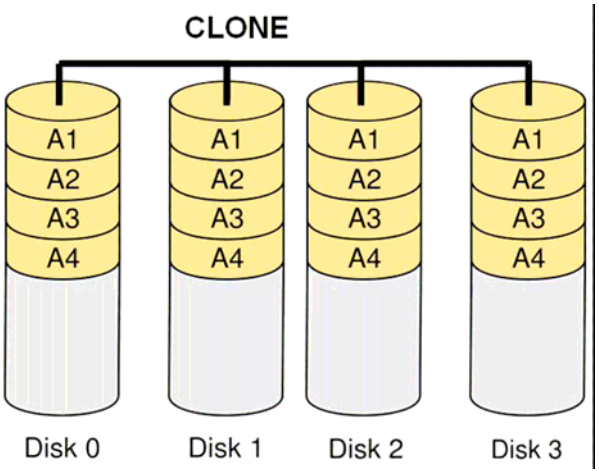
2.3 Stripe + Mirror (RAID 10) for High Performance and High Security

T5 could be configured to support Stripe and Mirror at the same time, i.e. RAID 10. Take four hard drives RAID 10 as an example. Hard drive 0 and hard drive 1 could act as Mirror 1. Hard drive 2 and hard drive 3 could act as Mirror 1 too. 2350ESR then configure these two Mirrors as Stripe.



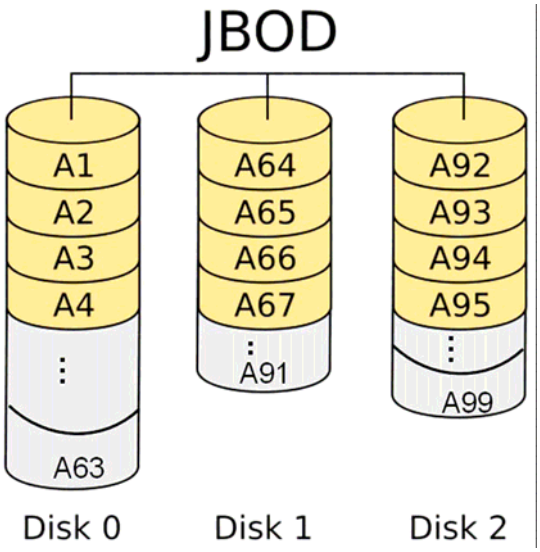
2.4 Clone

The action of Clone is similar to RAID 1. However, all of the hard disks will be the mirrors. For example, in a four hard drives Clone environment, data in each hard drive will be same. This mode is useful especially when users would like to copy data from a hard drive to several hard drives at the same time.



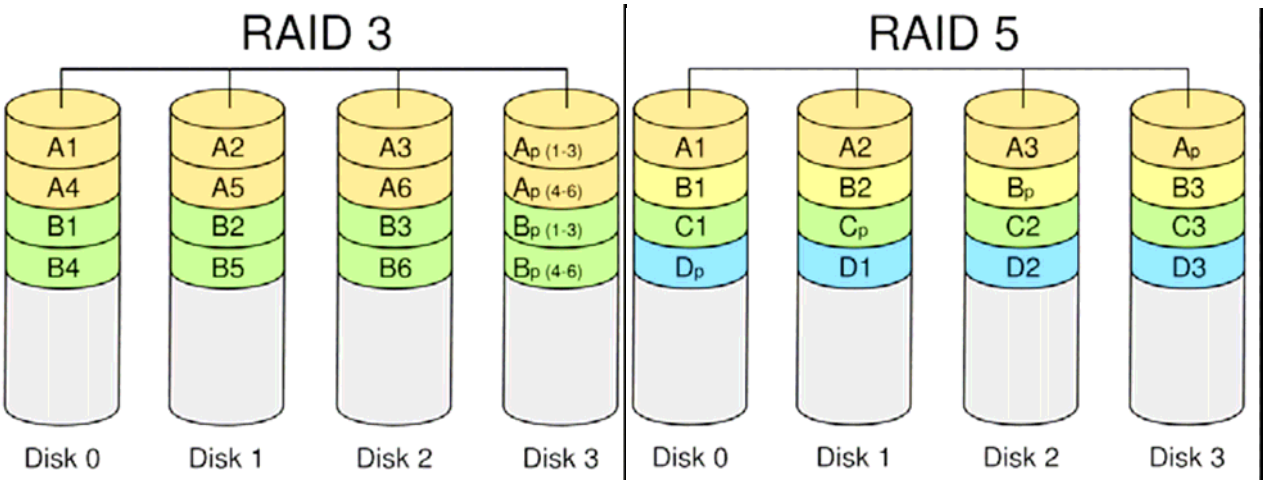
2.5 JBOD (Concatenating)

This mode is also named Concatenating. In this mode, T5 will concatenate all of the hard drives into a single hard drive with larger capacity. For example, if three 500GB hard disks is connected to T5 in concatenating mode, user will get a single hard disk with capacity of 1,500 GB.



2.6 Parity Protection

XOR engine in T5 generate parity block. In RAID 3 mode, Parity Block will be stored in the same hard drive. While in RAID 5 mode, Parity Block will be spread over all of the different hard drives.



T5 will also make use of same size disk space in each hard disk under RAID 3/5 condition. (Failure in a hard disk will cause T5 enter degrade mode. Host controller still could read/write data thru T5 normally without knowing any defects. Users have to replace the defective hard disk. T5 then will enter on-line-auto-rebuild mode automatically.)

2.7 Normal Mode (Single)

Normal mode means all of the configured hard drives exist and T5 is not in rebuild condition. User can see the original hard drives from the host which supports port multiplier technology. (If the host does not support port multiplier, then you will find only one hard drive on operating system. The RAID tool is useful in this case.)