



User Manual

DVS-500

**Industrial Compact Platform for
PC Based Video Surveillance**

Trusted ePlatform Services

ADVANTECH

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 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

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Packing List

Before setting up the system, check that the items listed below are included and in good condition. If items received do not match those in the table, please contact your dealer immediately.

- Item 
- Box

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, have the equipment checked by service personnel:
 - The power cord or plug is damaged.
 - Liquid has spilled into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment does not work well, or you cannot get it to work according to the user's manual.
 - The equipment has been dropped and damaged.
 - The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
16. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Wichtige Sicherheitshinweise

1. Bitte lesen sie Sich diese Hinweise sorgfältig durch.
2. Heben Sie diese Anleitung für den späteren Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie Keine Flüssig-oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.
4. Die NetzanschlusSteckdose soll nahe dem Gerät angebracht und leicht zugänglich sein.
5. Das Gerät ist vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Verletzungen hervorrufen.
7. Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor überhit-zung schützt. Sorgen Sie dafür, daB diese Öffnungen nicht abgedeckt werden.
8. Beachten Sie beim. AnschluB an das Stromnetz die AnschluBwerte.
9. Verlegen Sie die Netzanschlusleitung so, daB niemand darüber fallen kann. Es sollte auch nichts auf der Leitung abgestellt werden.
10. Alle Hinweise und Warnungen die sich am Geräten befinden sind zu beachten.
11. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
12. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. elektrischen Schlag auslösen.
13. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von autorisiertem Servicepersonal geöffnet werden.
14. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:
 15. Netzkabel oder Netzstecker sind beschädigt.
 16. Flüssigkeit ist in das Gerät eingedrungen.
 17. Das Gerät war Feuchtigkeit ausgesetzt.
18. Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
19. Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
20. Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.
21. **VOSICHT:** Explosionsgefahr bei unsachgemaben Austausch der Batterie.Ersatz nur durch denselben oder einem vom Hersteller empfohlene-mahnlichen Typ. Entsorgung gebrauchter Batterien navh Angaben des Herstellers.
22. **ACHTUNG:** Es besteht die Explosionsgefahr, falls die Batterie auf nicht fach-männische Weise gewechselt wird. Verfangan Sie die Batterie nur gleicher oder entsprechender Type, wie vom Hersteller empfohlen. Entsorgen Sie Batterien nach Anweisung des Herstellers.
23. Der arbeitsplatzbezogene Schalldruckpegel nach DIN 45 635 Teil 1000 beträgt 70dB(A) oder weiger.

Haftungsausschluss: Die Bedienungsanleitungen wurden entsprechend der IEC-704-1 erstellt. Advantech lehnt jegliche Verantwortung für die Richtigkeit der in diesem Zusammenhang getätigten Aussagen ab.

Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from your PC chassis before you work on it. Don't touch any components on the CPU card or other cards while the PC is on.
- Disconnect power before making any configuration changes. The sudden surge of power as you connect a jumper or install a card may damage sensitive electronic components.

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Chapter 1

General Information

1.1 Introduction

The DVS-500 is a high performance video surveillance platform with a compact industrial chassis. Its cooling system has been optimally designed to improve thermal conditions, and it has lower acoustics when installing multiple video capture cards and hard drives. Combined with an industrial main board with longevity support, the DVS-500 offers a wide range of performance requirements from the Celeron D to the Core 2 Duo processors. The optional remote control module helps the system integrator add easy interactive functions to their DVR applications. Advantech's quality assurance integration test and certification for different video capture cards give the system the best reliability for 24x7 operation. The compact size, minimum noise and rugged design makes it the ideal platform for applications like retail, community, factory, or Small and Medium Enterprises.

1.2 Specifications

General

- **Construction:** Heavy duty steel chassis
- **Indicators on front panel:** LEDs for Power
- **Disk drive capacity:** two internal 3.5"± HDD
- **Switches on Rear:** Power switch
- **Cooling system:** One easy-to-replace 18.15 CFM cooling fans and two Air Filters.
- **Air filters:** three 110 x 44 mm filters on the rear plate
- **Riser card:** supports up to two PCI add-in cards
- **Weight:** 8.3 kg (18.3 lb) entire system including a 220 W power supply
- **Dimensions (W x H x D):** 370 X 88 x 370 mm (14.6" x 3.5" x 14.6")

1.3 Power Supply Options

Table 1.1: Power Supply Options

Part Number	Specifications					
	Watt	Input	Output	Mini-Load	Safety	MTBF
1757000878	180W	AC 100~240 V	+5 V @ 16 A, +3.3 V @ 14 A, +12 V @ 14 A, -12 V @ 0.5 A, +5 Vsb @ 2 A	+5 V @ 0.3 A, +3.3 V @ 0.3 A, +12 V @ 1.5 A	UL TUV CE CCC CB	100,000 hours @ 25° C
1757001517	220 W	AC 100~240 V	+5 V @ 16 A, +3.3 V @ 14 A, +12 V1 @ 16A, +12 V2 @ 10A, -12 V @ 0.8 A, +5 Vsb @ 2.5 A	+5 V @ 0.5 A, +3.3 V @ 0.5 A, +12 V @ 1.0 A	UL TUV CE CCC CB	100,000 hours @ 25° C

1.4 Dimensions

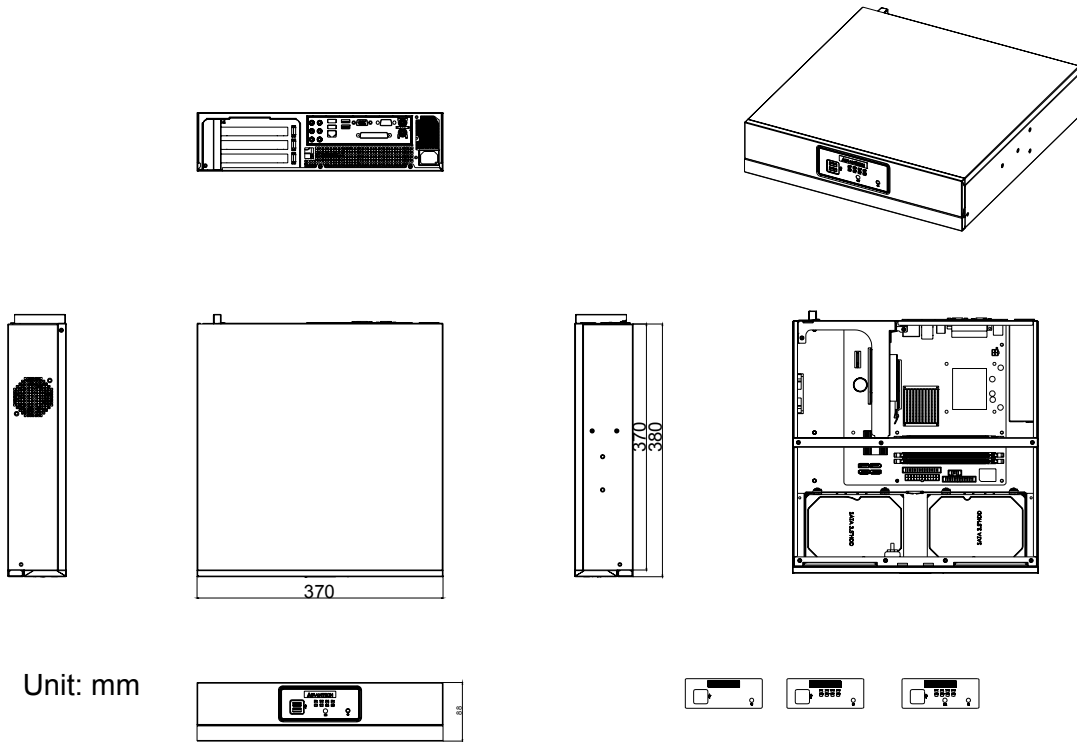


Figure 1.1 Dimension Diagram

1.5 Exploded Diagram

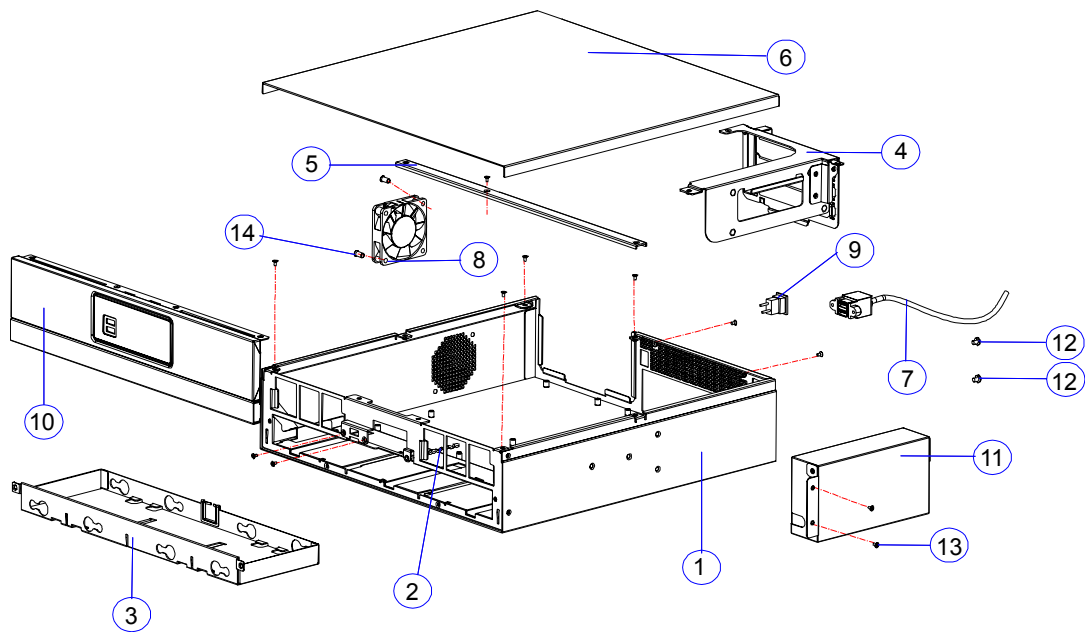


Figure 1.2 Exploded Diagram

- 1: Chassis
- 2: Filter
- 3: Drive bay
- 4: Riser bracket
- 5: Bracket linking bar
- 6: Cover
- 7: 2 port vertical USB connector
- 8: Cooling fan
- 9: Power switch button
- 10: Front mechanical part
- 11: Power supply
- 12: Screw
- 13: Screw
- 14: Screw

Chapter 2

System Setup

2.1 System Installation

Warning! Before starting the installation process, be sure to shut off all power to the chassis. Do this by turning off the power switch, and unplugging the power cord from the power outlet. When in doubt, consult with an experienced technician.



2.1.1 Removing the top cover

First, remove the chassis cover.

The top cover is fixed to the chassis by three thumbscrews.

To remove the top covers:

1. Release two thumbscrews on the rear upper side of the chassis.
2. Release one thumbscrew on the left side of the chassis.
3. Lift the cover.



Figure 2.1 Top cover screw

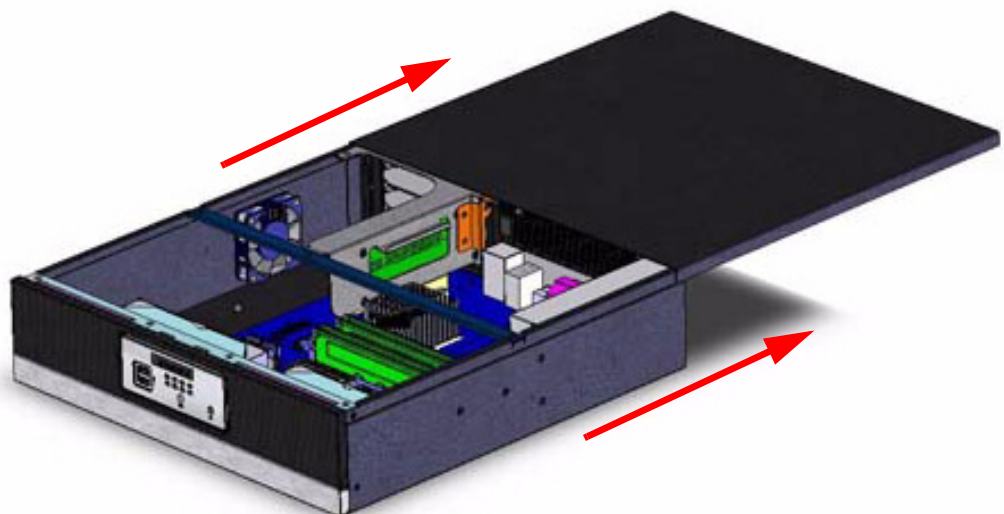


Figure 2.2 Top removal direction

2.1.2 Chassis front and rear sections



Figure 2.3 Front view of the DVS-500

The LED indicator is on the right side of the front cover, indicating the power status. The 2 x USB connectors are on the left side of the front panel.



Figure 2.4 Standard bezel of the DVS-500

USB connectors: You can use these connectors to connect any USB interface device to the system.

The back of the unit includes an M/B rear window, 2-slot I/O brackets and 1-D-I/O module option.



Figure 2.5 Rear view of the DVS-500

2.2 Drive Bay Installation

The Standard Drive Bay of the DVS-500 can hold 2 x 5.25" disk drives. To install:

1. Remove the top cover
2. Undo the four screws holding the front bezel to the frame.
3. Lift the front bezel from the main chassis.
4. Remove the two screws securing the drive bay.
5. Remove the drive bay from the chassis.
6. Insert the drives into their proper locations in the drive bay and secure them with the screws provided.
7. Connect the disk drive power and signal cables.



Figure 2.6 Inside view of the DVS-500

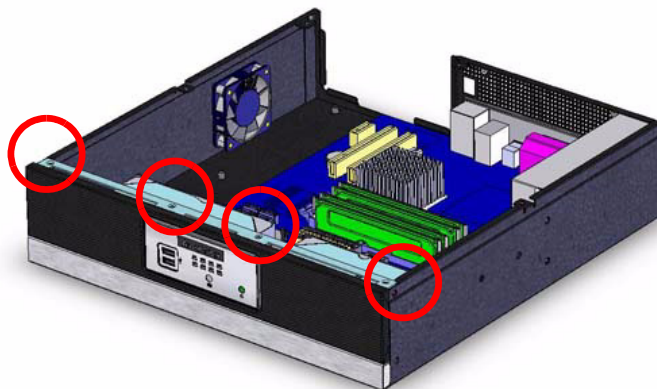


Figure 2.7 Remove four screws from the frame

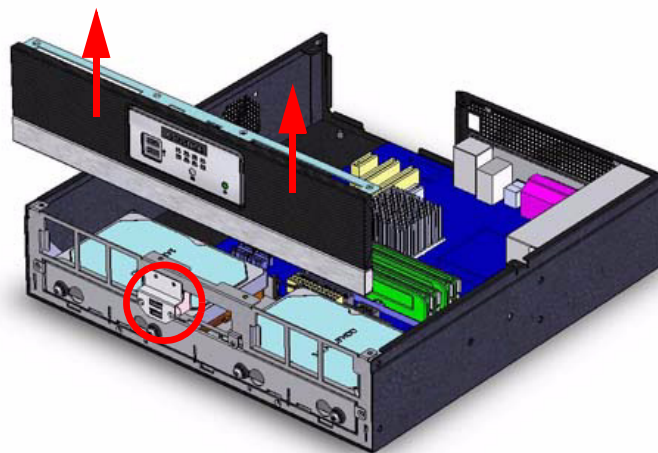


Figure 2.8 Lift up and remove from the frame

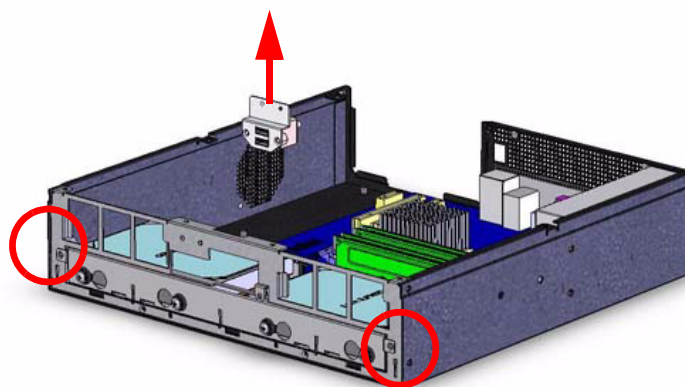


Figure 2.9 Remove two screws from drive bay

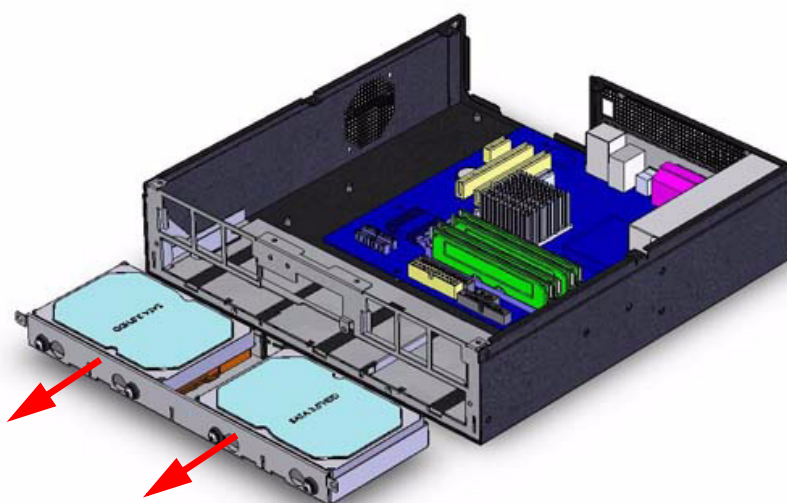


Figure 2.10 Remove drive bay from main chassis

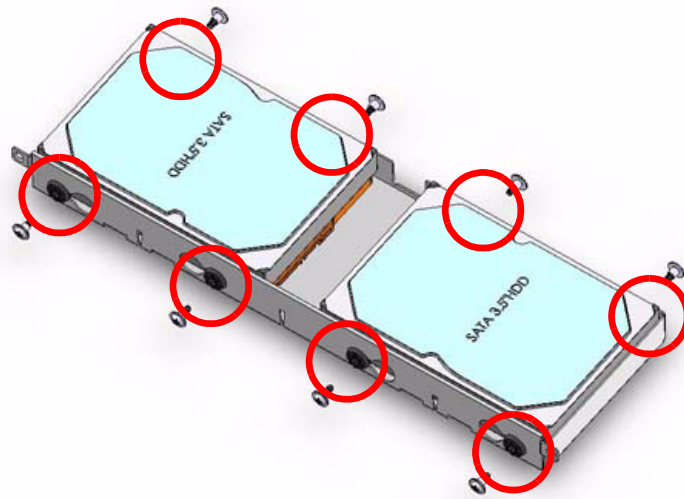


Figure 2.11 Remove 4/8 screws from drive bay with one/two HDD(s)

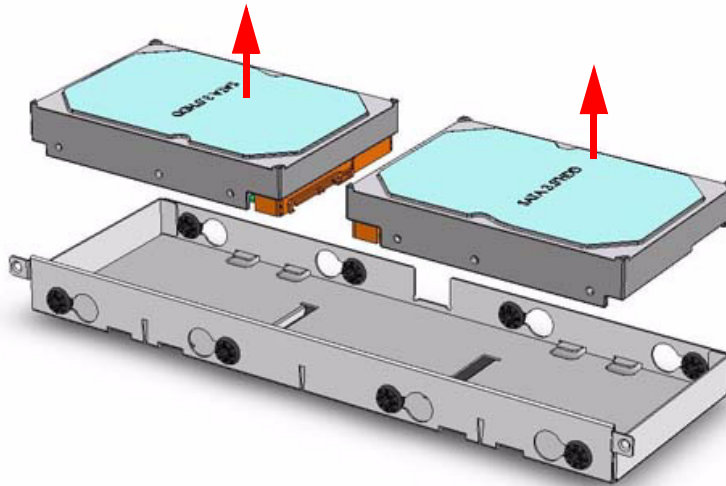


Figure 2.12 Lift HDD(s) from drive bay

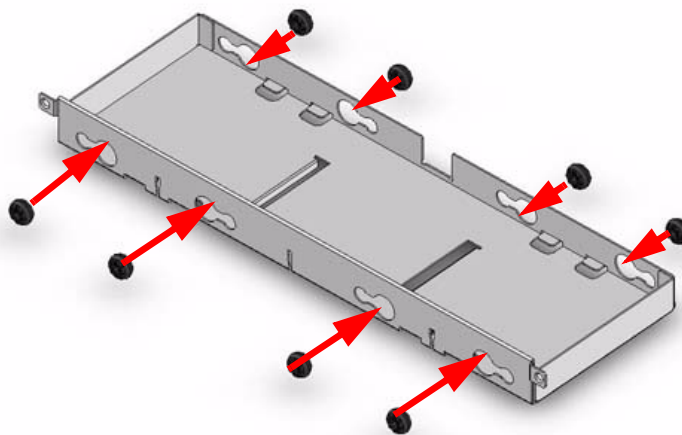


Figure 2.13 Securing HDD to the drive bay

2.3 Motherboard Installation

The DVS-500 product, without an internal M/B, has no power supply and a momentary switch on the front panel. The momentary switch is suitable for use with an ATX power supply such as a 180W or 220W Flex type.

Please plug the 20-pin ATX power connector to your ATX M/B, and then connect the POWER SW wire to your ATX M/B to finish the installation. Please refer to your ATX M/B installation guide for correct connection.



Figure 2.14 Inside view of the DVS-500

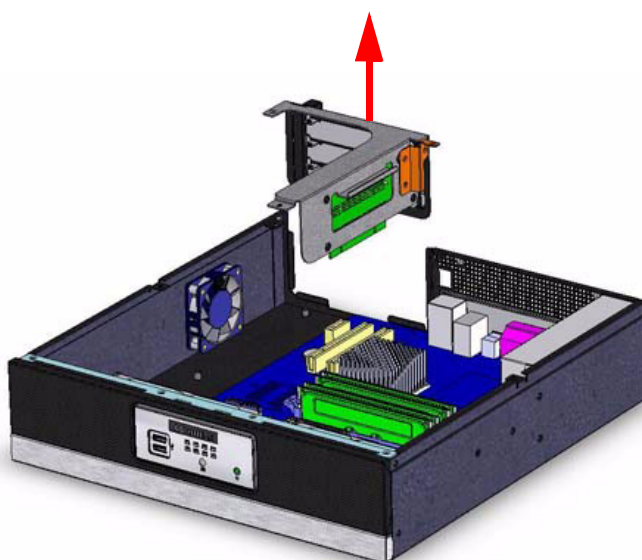


Figure 2.15 Lift Riser bracket

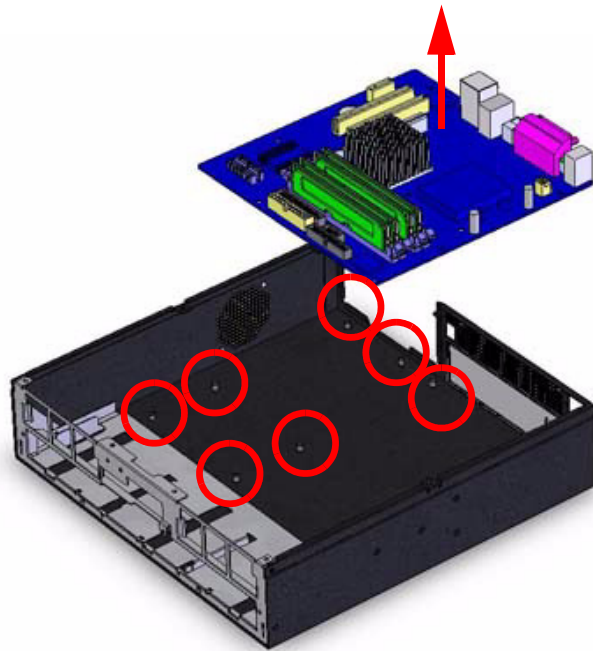


Figure 2.16 Release all screws from M/B and Lift M/B

2.3.1 System status LED

The System Status LED is displayed below:



Figure 2.17 Standard bezel of the DVS-500

The LED bezel only has one LED indicator which indicates power status. The LED is green when the power supply is working normally.



Figure 2.18 The customized bezel of the DVS-500

These two types of bezel are available upon request, with eight LED Indicators of which the use is decided by cable connections. There is a maximum of eight signal devices supported by the LED indicators.

2.3.2 Power status LED

The Power Status LED indicates the status of the voltage signals.

LED	Description	Light	No light
+3.3V	+3.3V signal	Normal	No output
+5V	+5V signal	Normal	No output
+12V	+12V signal	Normal	No output
-5V	-5V signal	Normal	No output
-12V	-12V signal	Normal	No output

When an LED fails to light, it indicates a problem with one of the voltage signals. Check to make sure that the power supply connector is properly attached to the motherboard. If the problem persists, consult an experienced technician.

2.3.3 Power supply

The DVS-500 power supply supports both a full range of connectors and an inner cooler system without any mechanical modifications.



Figure 2.19 DVS-500 power supply top view

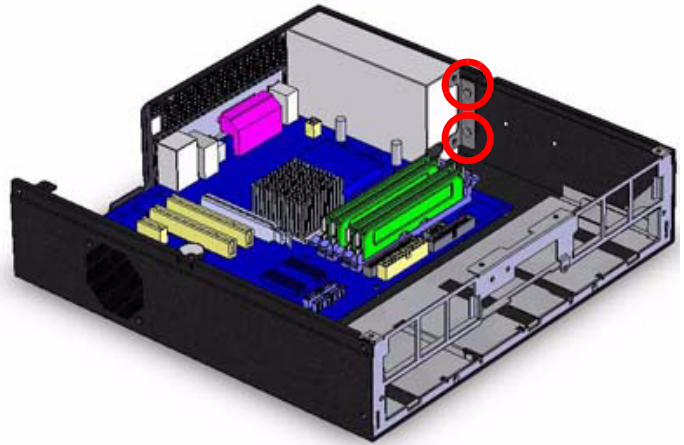


Figure 2.20 DVS-500 power supply



Figure 2.21 Rear view release screws from power supply

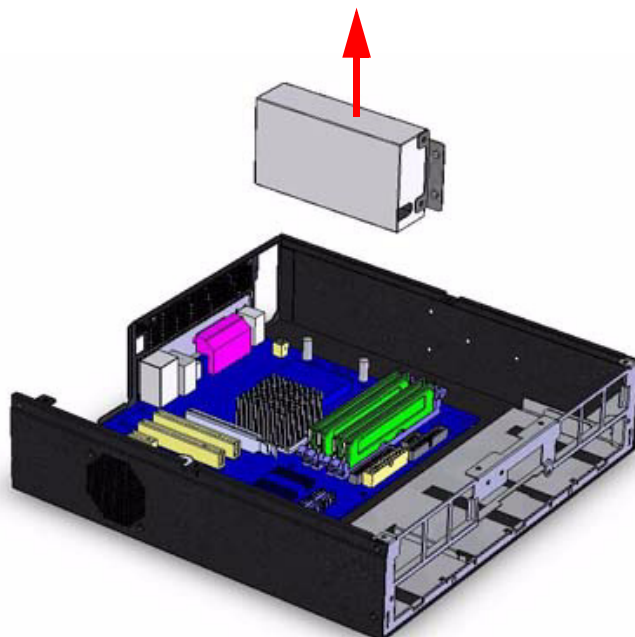


Figure 2.22 Lift the power supply

2.3.4 Cooling fan, filter

There is one cooling fan located inside the chassis. The cooling fan is easy to maintain and provides adequate cooling to the system by blowing air inward. If the cooling fan fails, the user will see that the fan on the left side of the system has stopped. A defective fan should be replaced immediately; please refer to Figure 2.23. The connector is a standard motherboard fan-plug. Additionally, if the filter is blocked with dust or other particles, please refer to Figure 2.24 which describes the procedure for replacing a filter. Finally, if the inner power supply fan fails, please replace it with another to ensure the system will work reliably.

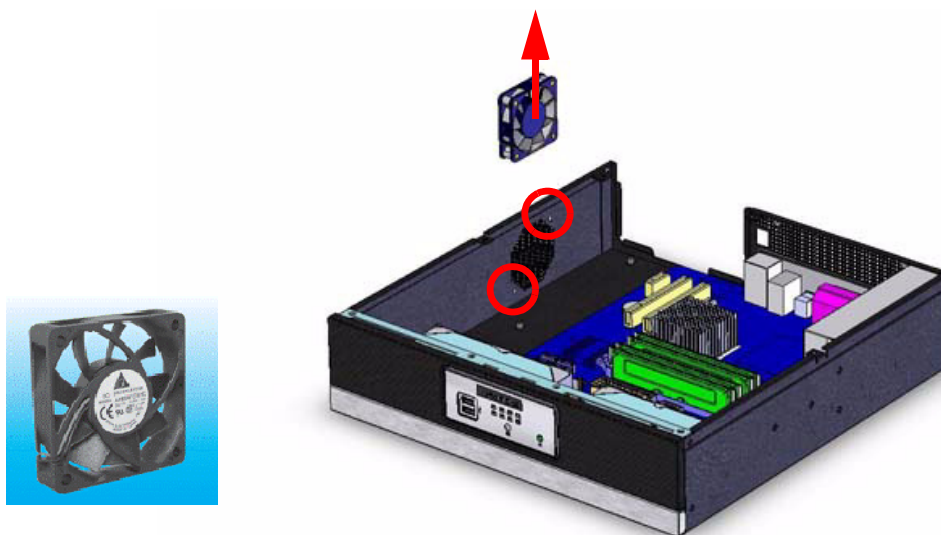


Figure 2.23 Remove the system fan from main chassis

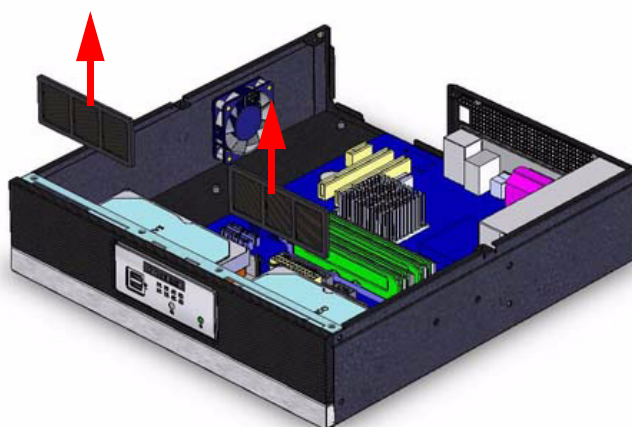


Figure 2.24 Remove filters from main chassis

Appendix **A**

Exploded Diagram

A.1 Exploded Diagram

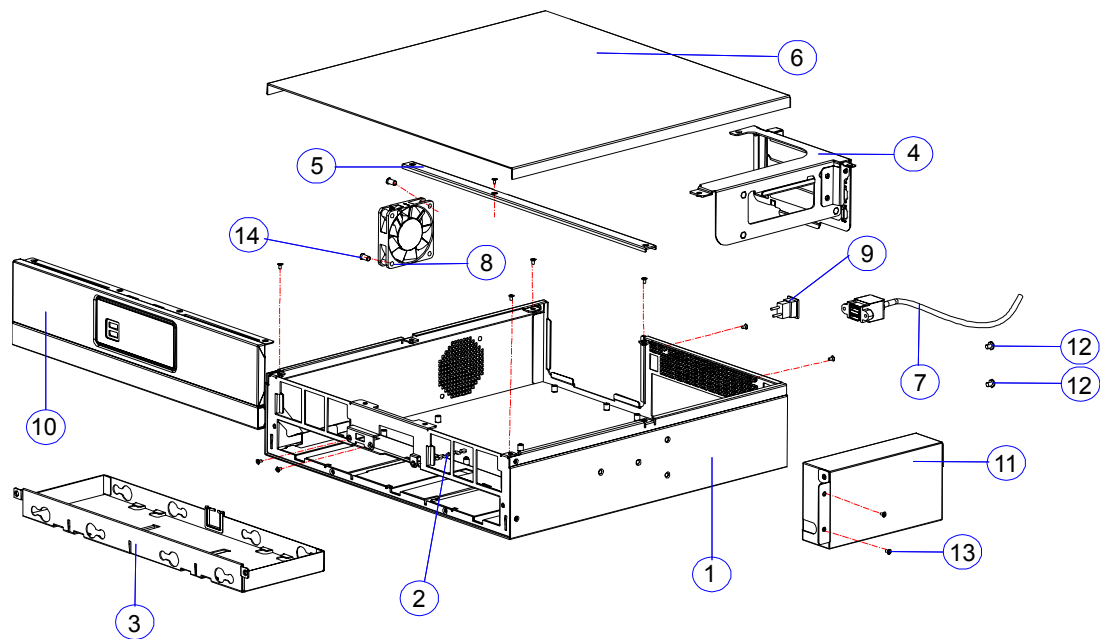


Figure A.1 Exploded Diagram

- 1: Chassis
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- 10: Front mechanical part
- 11: Power supply
- 12: Screw
- 13: Screw
- 14: Screw

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