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SAFETY00-00



SAFETY00-10

Rev.2

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SAFETY SUMMARY

The hazard warnings which appear on the warning labels on the machine or in the manual have one of the following alert headings consisting of a safety alert symbol and a signal word, DANGER, WARNING, CAUTION or NOTICE.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

A DANGER:

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

🚹 WARNING :

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION:

Indicates a hazardous situation which, if not avoided, could result in minor or

moderate injury.

NOTICE

Indicates a hazardous situation which, if not avoided, could result in damage

not related to personal injury.

1. **A** General Safety Precautions

Read the following safety guidelines carefully and follow them when you conduct maintenance of the machine.

1.1 Before Starting Maintenance

- Maintenance of machine must be done only by trained and qualified field engineers.
- Read and follow the safety guidelines and procedures in this manual and the related manuals.
- In this manual and on the machine, hazard warnings are provided to aid you in preventing or reducing the risk of death, personal injury, or product damage.
 - Understand and follow these hazard warnings fully.
- Then warning labels become dirty or start peeling off, replace them.
- If any physical accident such as abnormal noise, smell, smoke or falling down occurs on the storage system while running, immediately power off.
- Keep in mind that the hazard warnings in this manual or on the machine cannot cover every possible case, as it is impossible to predict and evaluate all circumstances beforehand.
 Be alert and use your common sense.
- About the handling of the battery for timers built in Controller Board and the battery installed in FMD.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

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SAFETY01-20



SAFETY SUMMARY (Continued)

1.2 General Safety Guidelines

Read the following safety guidelines carefully and following them when you conduct maintenance of the machine.

Don't use the materials which is outside specification

- Use the spare parts, consumable and materials for maintenance which are specified in the manual; otherwise, personal injury or damage of the machine, as well as deterioration of the product's quality, may result.
- Use only with designated Battery.
 May cause overheating, fire or bursting.

Keep the maintenance area neat and tidy

• Always put away parts, materials or tools when not in use.

Handling of heavy weight parts

- When lifting anything heavy, hold it close to yourself and keep your back erect, to prevent injury to your back or spine.
- When lifting anything heavy with a CAUTION indication, use a proper lifting tool or handle it by two or more personnel.

Prevention of electric shock

- Before starting work, make sure that, unless otherwise specifically instructed, there is no potential electric hazard in the maintenance area such as insufficient grounding or a wet floor.
- Unless otherwise specifically instructed, cut off all power sources to the machine before starting maintenance. Just switching off the machine power supplies is usually not enough.
- Do not perform telephone line construction in thunderstorm.

Preventing being caught by rotating or moving parts

- Do not supply power to any device with rotating or moving parts which are not properly cover.
- Tuck in your tie, scarf, shirt, or any other loose clothing so that it will not be caught by a rotating or moving part.



SAFETY SUMMARY (Continued)

Prevention of machine damage

- Use the special tools and instruments, specified for the work in the manual or commercially available tools and instruments which fit the purpose.
- Use measurement instruments and powered tools which are properly calibrated or periodically inspected.
- Before finishing your work, make sure that all parts removed during maintenance have been installed back in their original positions in the machine. Make sure that no tool or foreign material is left in the machine.

Cautionary notes on works for a machine with the power turned on

The works concerned are those to be done for the storage system while the storage system power is turned on.

- When you do the work, fully take care not to touch live electric parts so that you should not get an electric shock
- Take enough care not to touch heat sinks immediately after a PCB is pulled out because they are very hot.
- While doing the work, take care not to drop a tool, a screw, or the like that can cause a short circuit.
- While doing the work, take care not to damage a wire or have it pinched.
- When moving anything heavy, be sure to do the moving by two persons after making sure that there is no obstacle around you, and take enough care not to cause an electric shock or short circuit by touching / dropping it to/on a live electric circuit.
- Be careful of a head injury or the like when operating with the tray for CE Laptop PC installed on the rear side of the DKC.

Precautions for using the storage system

- For this product, use a set of power supply cords included in this product. Do not use a set of power supply cords included in this product for other products. Otherwise, unexpected failures or accidents may be caused.
- If you take notice of unusual smell, abnormal heat generation, or smoke emission, shut off the power feed to the equipment and inform the maintenance engineer of it. Leaving such conditions unattended will cause an electric shock or fire.
- Do not give any shock to the equipment and parts by dropping or hitting them against something, otherwise it will cause an electric shock, fire, an injury, or failure.
- Do not get on the equipment instead of a footstool. Avoid using the equipment for any use other than its original purpose.
 - Otherwise, an injury or failure will be caused.
- Putting a heavy material on the equipment will result in an injury or failure due to falling.

 Do not put any heavy material on the equipment. Further, the storage system may not operate normally.
- Do not put a vessel with water or a tiny metallic article such as a paper clip on the storage system. If the water or the article falls into the storage system and the storage system is used leaving it as it is, an electric shock, an emission of smoke, or a fire can be caused.

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SAFETY01-40



SAFETY SUMMARY (Continued)

- Route cables so that they do not catch your feet.
 If your feet are caught by cables and you fall over, this can cause personal injury.
- Do not put any heavy material on cable. Do not put cables near any apparatus that generates heat. The cable coating will break, resulting in an electric shock, fire, or failure.
- Do not use the storage system in a moist or dusty place. An electric shock or a fire may be caused because the insulation will be deteriorated.
- Make sure that no foreign particles are stuck on the power plug and then insert it securely to its root. Remove such foreign particles if they are found because they will cause a fire. Improper insertion will cause an unexpected plug slip-out, resulting in a loss of important data.
- Cool air is taken in from the air vent on the front of the storage system and exhaust air is expelled from the vent on the rear to prevent the temperature from rising inside the storage system. If the vents are blocked by placing any object in front of or against the vents, the temperature will rise inside the storage system, resulting in an electric shock or fire.
- Do not put any metallic material such as clip or any combustible material such as paper into the equipment from the air vent. It will cause an electric shock or fire.
- When a failure occurs in the storage system, take action according to this manual.

SAFETY01-50



SAFETY SUMMARY (Continued)

1.3 Procedures in an Emergency

1.3.1 For Electric Shock

- Do not panic. Do not become another victim through contact with the injured person.
- First, shut off the electric current passing through the victim.
 Use the power-off switch if there is one, or otherwise a normal power-off switch.
 If this cannot be done, push the victim away from the source of the electric current by using a nonconductive object such as a dry wooden stick.
- Then, call an ambulance.
- If the victim is unconscious, artificial respiration may be necessary.

 A proper method for performing artificial respiration or resuscitation should be learned beforehand.
- If the victim's heart is not beating, cardio-pulmonary resuscitation should be performed by a trained and qualified person.

1.3.2 For Outbreak of Fire

- First, shut off all the power from the machine using the power-off switch if there is one, or the normal power-off switch.
- If the fire continues burning after the power is shut off, take suitable actions including the use of a fire extinguisher or a call for the fire department.

SAFETY02-10



SAFETY SUMMARY

2. A Hazard Warning Statements

The following are the hazard warning statements contained in this manual.

2.1 **A DANGER Statements**

- Do not disassemble the case, do not modify it, or do not peel off the label. There are high voltage parts inside: If you attempt any of these actions, you may get an electrical shock or burn.
- Do not disassemble the battery; this may cause short circuits inside or outside of the battery. If the components are exposed to the air, the battery may cause overheat, burst or ignite. Disassembling the battery may expose you to its alkaline solution, which can be dangerous.
- Do not cut the output cable. Do not modify the connector. If you attempt any of these actions, you may get an electrical shock or burn. A short-circuit may cause abnormal chemical reactions inside the battery which leads to overheating, bursting or ignition.
- Follow the instructions when you recharge the battery pack. If you recharge it in a way different from specified here, it may cause the following problems: The battery may become charged excessively; excessive current may be produced; or the battery cannot be recharged. As a result, the battery may leak, become overheated, burst, or ignite.
- Do not use excessive force when you connect the battery pack to the charger or other devices. If you cannot connect it easily, check the positive and negative are correct for the connector. If you connect the battery in reverse, it will be charged incorrectly and abnormal chemical reactions may occur inside. As a result, the battery may become overheated, burst or ignite.
- Do not connect the battery to a power receptacle. If you apply an excessive amount of voltage to the battery, it may produce excessive current making the battery overheat, burst or ignite.
- Do not use or leave the battery where the temperature can become high, such as, near a fire or a heating element. High temperatures may damage the battery's separator, which may cause short circuit, making it overheat, burst or ignite.
- Do not incinerate the battery pack or heat it. If you do so, the insulator may melt, the safety fuse/mechanism may be damaged, or the electrolyte may gush out. As a result, the battery may become burst, explode or ignite.
- Do not connect the negative terminal to the positive with metal wire. Do not carry or store the battery with other metal parts. This may cause a short circuit or produce excessive current which can cause the battery to leak, overheat, burst or ignite.
- Do not let the battery become wet by soaking it in the water or seawater. If the battery gets wet, a short circuit may occur and an excessive amount of current may be produced causing abnormal chemical reactions inside. As a result, the battery may become overheated, burst or ignite.

(REP03-02-10)

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SAFETY SUMMARY

- Do not nail the battery, hit it with a hammer, or stamp on it. The battery may be broken or dented and a short circuit may occur inside. As a result, the battery may become overheated, burst or ignite.
- Do not solder directly to the battery. If you do so, heat will melt the insulator and damage the safety fuse/mechanism. As a result, the battery may leak or may become overheated, burst or ignite.
- Do not recharge the battery where there is a high temperature, such as near a fire.

 This may cause abnormal chemical reactions inside the battery and it may become overheated, burst or ignite. High temperatures may also cause deterioration of performance/life of the battery.
- Do not place the battery pack in the microwave oven or under high pressure. Either of these actions will rapidly heat the battery or break its seals: As a result, the battery may become overheated, burst or ignite.
- If you find anything strange or unusual with the battery when you use/carry/store it, remove the battery from the device and stop using it. For example, strange smells, strange colors, or deformation are a sign you must stop using the battery.
- If it takes longer than the specified time to complete recharging, stop recharging the battery: Otherwise, the battery may become overheated, burst or ignite.
- If the battery leaks and gets into your eyes, immediately flush your eyes with clean water (tap water) and do not rub your eye. Then visit the doctor immediately. If you do not seek any treatment for your eyes, problems may occur later. Because the battery uses highly concentrated alkaline as electrolyte, it may burn or you may lose your sight if it contacts your skin or eyes. If the battery's liquid contacts your skin or eyes, you must flush them with plenty of clean water and visit the doctor at once.

(REP03-02-20)

2.2 / WARNING Statements

• If the Storage System falls when the elevator of the lifter is at a high position, a personal injury will be caused.

Perform the positioning, fastening, or other handlings very carefully.

(INST02-06-30)

• When doing a hot replacement of a part, do not wear metallic accessories or a watch so as to avoid an electric shock. Be careful not to touch any of live parts with a screwdriver, etc.

(REP01-01-20)

• Hazardous voltage:

Contact could cause electric shock or burn. Turn off all related breakers and discharge residual voltage, as shown below. (Follow next procedures.)

(REP02-17-20, REP02-17-160, REP02-17-310, REP02-17-490, REP02-17-780, REP02-19-20, REP02-22-20)



SAFETY SUMMARY (Continued)

2.3 CAUTION Statements

• Attach or remove the Front Bezel carefully following the procedure. Otherwise, you may hurt your fingers by pinching them.

(INST01-04-10, REP02-02-10)

- Be careful of the workers on the other side when pulling out or storing the DB60.
- Do not pull out multiple DB60s at a time because the rack may fall over.
- Do not put objects on the DB60 which has been pulled out of the rack or use it as working space because the rack may fall over.

(INST01-04-60, INST03-03-90, INST04-03-110, REP02-02-60, REP02-03-80)

• Open or close the door carefully following the procedure. Otherwise, you may hurt your fingers by pinching them.

(INST01-04-100, REP02-02-100)

- The unpacking should be done by two or more workers to prevent turning over of the Storage System or being caught under the Storage System.
- Work carefully because the mass of the single CBXSS/CBSS is about 44 kg, CBXSL/CBSL is about 46 kg, CBLH is about 75 kg, DBS is about 23 kg, DBL is about 27 kg, DB60 is about 90 kg, DBF is about 38 kg, and CHBB is about 40 kg.

(INST02-04-10)

• Dropping the Controller Board may cause injury. Keep hands securely on array. Be aware of the red line marked on the Controller Board top - when sliding the Controller Board out of the rail terminal past this mark, keep a firm hold on the Controller Board.

(INST03-12-60, INST03-12-130, REP02-04-60, REP02-04-150, REP02-04-280, REP02-04-320, REP02-04-420, REP02-05-60, REP02-05-100, REP02-05-210, REP02-05-240, REP02-05-340, REP02-06-70, REP02-06-90, REP02-06-190, REP02-08-290, REP02-10-220, REP02-17-40, REP02-17-190, REP02-22-40, REP02-22-90)

• Dropping the Controller Board might cause injury. Hold the Controller Board firmly with your hands. (REP02-04-460, REP02-05-380, REP02-06-230, REP02-08-340, REP02-10-260)

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SAFETY SUMMARY (Continued)

• Dropping the Controller Board may cause injury. Be aware of the red line marked on the Controller Board top - when sliding the Controller Board out of the array past this mark, keep a firm hold on the Controller Board.

(INST02-05-70, INST02-05-80, INST02-05-170, INST02-08-80, INST02-08-100, INST02-08-200, INST03-07-60, INST03-07-100, INST03-07-230, INST03-07-270, INST04-07-60, INST04-07-110, INST04-07-220, INST04-07-250, REP02-25-60)

- Rack mounting and lifter operation should only be conducted by a person who has been trained and qualified since the Storage System could turn over or a worker could be caught under the Storage System.
- Be sure to perform the operation with two or more workers.
- Work carefully because the mass of the single CBXSS/CBSS is about 44 kg, CBXSL/CBSL is about 46 kg, CBLH is about 75 kg, DBS is about 23 kg, DBL is about 27 kg, DB60 is about 90 kg, DBF is about 38 kg, and CHBB is about 40 kg.

(INST02-06-10, REP02-02-110)

- Rack mounting and lifter operation should only be conducted by a person who has been trained and qualified since the Storage System could turn over or a worker could be caught under the Storage System.
- Operate the valve slowly when opening it. If it is opened quickly, the elevator of the lifter descends rapidly and may cause personal injury.
- Be sure to perform the operation with two or more workers.
- Work carefully because the mass of the single CBXSS/CBSS is about 44 kg, CBXSL/CBSL is about 46 kg, CBLH is about 75 kg, DBS is about 23 kg, DBL is about 27 kg, DB60 is about 90 kg, DBF is about 38 kg, and CHBB is about 40 kg.
- Be sure to install it in order from the bottom to prevent the falling of the rack when you install the Storage System on the rack.

(INST02-06-30)

- Do not move the lifter away from the rack frame nor lower the elevator until the red line on the label affixed on the Storage System enters the rack frame across the end of it. Otherwise, falling of the Storage System may be caused. See SAFETY SUMMARY "3. Position of Safety Indications" for label. (INST02-06-30)
- When attaching or removing the cover, be careful not to hold the rear edge of the cover (hatched area in the figure below). Otherwise, you might get your fingers pinched.

(REP02-04-430, REP02-04-450, REP02-05-350, REP02-05-370, REP02-06-200, REP02-06-220, REP02-08-310, REP02-08-330, REP02-10-230, REP02-10-250)

Be careful of the mass:
 Work carefully because the mass of the DB60 is about 90 kg.

(INST02-06-50, INST03-04-370, INST04-04-380)



SAFETY SUMMARY (Continued)

Be careful of falling over and dropping:
 To prevent Drive Box from falling over and dropping, the installation work must be done by two or more personnel.

(INST02-06-50, INST03-04-150, INST03-04-370, INST03-04-530, INST04-04-200, INST04-04-380, INST04-04-580, REP02-17-400, REP02-17-590, REP02-17-650)

- Make sure that there is no scratch or flaw on a power cable. It can cause an electric shock or even a fire.
- When inserting the power cable in the connector of PDU, have it inserted completely, and then fix it with a cable clamp, etc. If it is loosened, the connection is damaged, and it causes an electric shock or fire.

(INST02-10-310, INST02-10-330)

• Be careful of the mass:

Work carefully because the mass of the DBS is about 23 kg and DBL is about 27 kg.

(INST03-04-150, INST04-04-200)

• Be careful of the mass:

Work carefully because the mass of the DBF is about 38 kg.

(INST03-04-530, INST04-04-580)

• When removing a Controller Board of the CBLH, be sure to remove BKMFs first because the mass of the Controller Board is about 19 kg.

(INST03-07-210, INST04-07-200, REP02-04-260, REP02-05-190)

Use only with designated Battery.
 May cause overheating, fire or bursting.

(REP02-08-60, REP02-08-160, REP02-08-210)

• Hazardous rotating mechanism:

Can cause injury if touched. Stay clear of it when machine is running.

Be careful of your hairs, ties, scarves and shirts not to be caught in the rotating part.

(REP02-07-40, REP02-08-50, REP02-08-150)

• Be careful of the mass:

Work carefully because the mass of the Controller Chassis is about 29 kg.

(REP02-17-90, REP02-17-240)

• Be careful of the mass:

Work carefully because the mass of the Drive Box is about 13 kg.

(REP02-17-400)

SAFETY02-60



SAFETY SUMMARY (Continued)

• Be careful of the mass:

Work carefully because the mass of the DB60 is about 34 kg.

(REP02-17-590, REP02-17-650)

• Be careful of the mass:

Work carefully because the mass of the DBF is about 10 kg.

• Be careful of falling over and dropping:

To prevent DBF from falling over and dropping, the installation work must be done by two or more personnel.

(REP02-17-850)

• Dropping the Storage System may cause injury. Keep hands securely on array. Be aware of the red line marked on the Storage System top - when sliding the Storage System out of the rail terminal past this mark, keep a firm hold on the Storage System.

(REP02-22-80)

• Watching for short-circuits:

A Short-circuit may cause a fire.

Never insert metal or the like into the cable connector or a short-circuit may occur.

(REP02-15-50, REP02-15-120, REP02-15-180, REP02-15-250, REP02-15-310, REP02-15-380, REP02-16-60, REP02-16-150, REP02-16-230, REP02-20-90, REP02-20-180, REP02-20-270)

• Be careful of a hot part:

A Flash Module Drive that has been just removed from the system in operation has a hot part on its top surface. Be careful not to touch the hot part.

(INST04-03-130, REP02-03-130)



2.4 Warning Labels Pasted on the Equipment

In this equipment, warning labels at pasted on portions requiring special care.

The following are the symbols contained in warning labels.

Table 2-1 Description of Symbol Mark

Symbol mark	Description
	Do not disassemble the equipment.
Â	Take full care to handle the heavy equipment.
	Handling prohibition cautions in the status with static electricity.
(P)	Putting something on the subsystem (loading) is prohibited.
	Be careful of your fingers to be caught.
	Be careful not to get your fingers caught in movable parts.
<u>M</u>	Be careful of hot parts.
	Be careful of fall.



SAFETY SUMMARY (Continued)

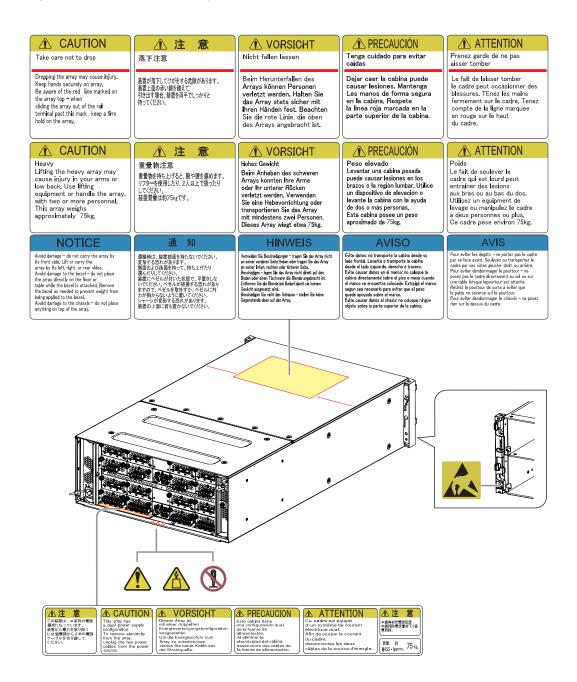
3. A Position of Safety Indications

The position of the safety indications is shown below.

The safety indications are found on equipment bodies. Read them carefully to obey the instructions before staring the work.

3.1 CBLH1

Figure 3-1 Position of Safety Indications on CBLH1



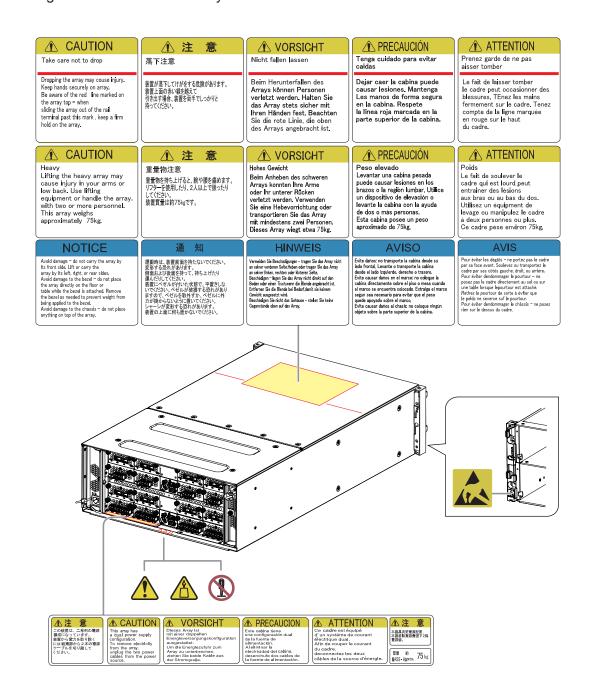
SAFETY03-20



SAFETY SUMMARY (Continued)

3.2 CBLH2

Figure 3-2 Position of Safety Indications on CBLH2



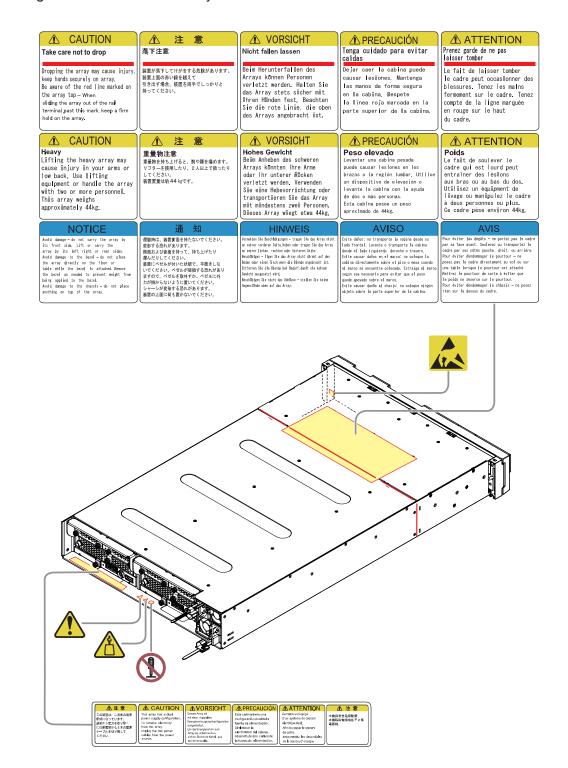
SAFETY03-30



SAFETY SUMMARY (Continued)

3.3 CBSS

Figure 3-3 Position of Safety Indications on CBSS

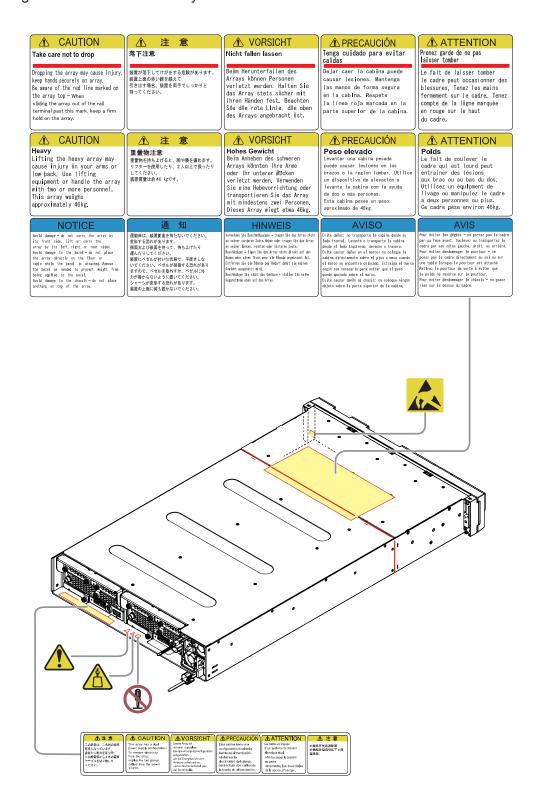




SAFETY SUMMARY (Continued)

3.4 CBSL

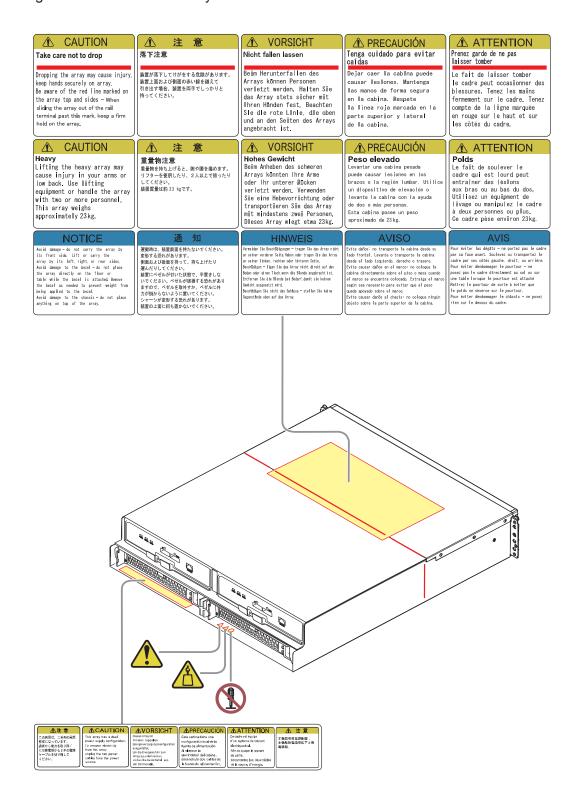
Figure 3-4 Position of Safety Indications on CBSL





3.5 DBS

Figure 3-5 Position of Safety Indications on DBS



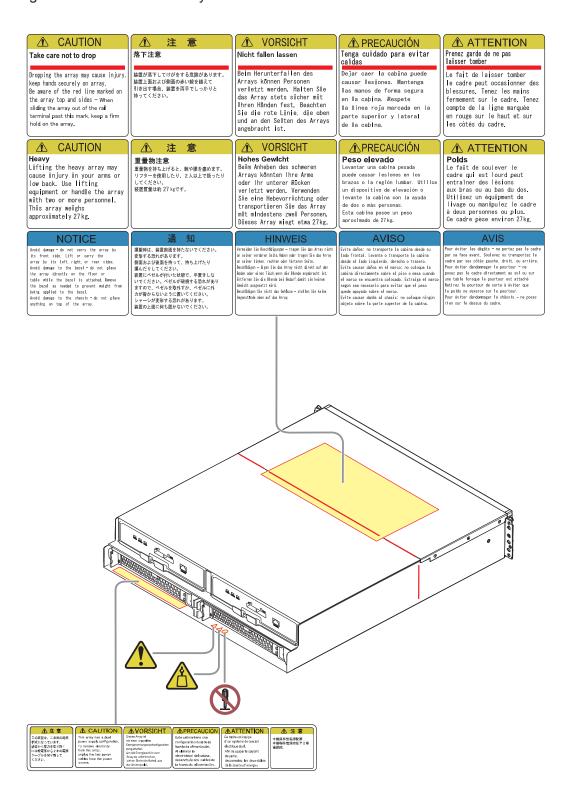
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SAFETY SUMMARY (Continued)

3.6 DBL

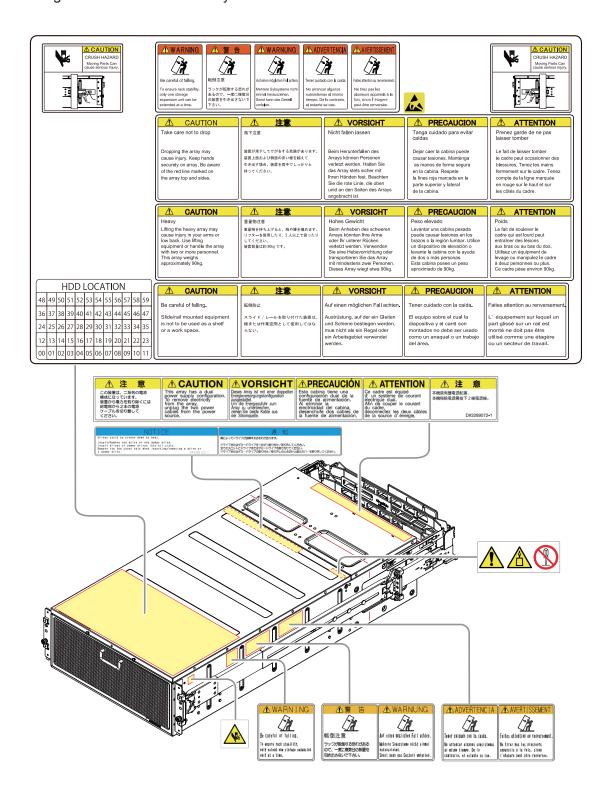
Figure 3-6 Position of Safety Indications on DBL





3.7 DB60

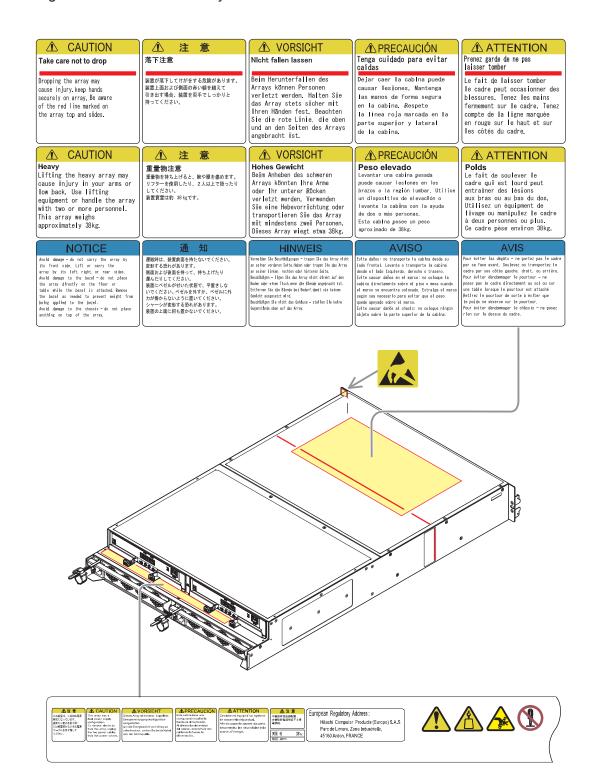
Figure 3-7 Position of Safety Indications on DB60





3.8 DBF

Figure 3-8 Position of Safety Indications on DBF



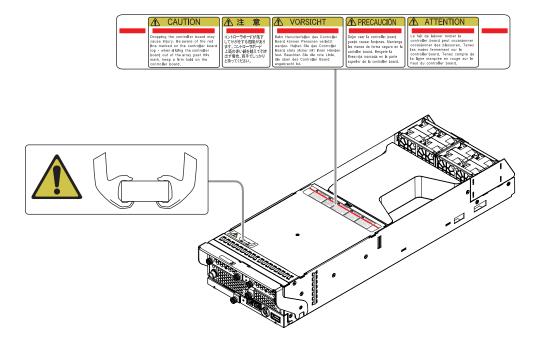


SAFETY SUMMARY (Continued)

3.9 Controller Board

1. For CBLH1/CBLH2

Figure 3-9 Position of Safety Indications on Controller Board for CBLH1/CBLH2



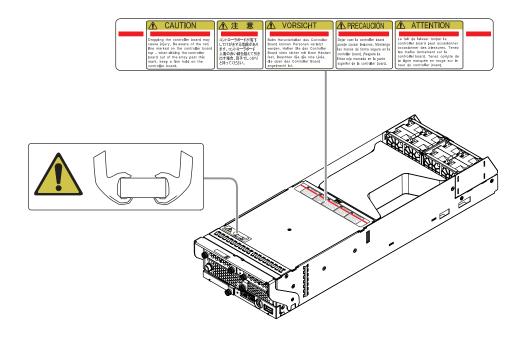
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SAFETY SUMMARY (Continued)

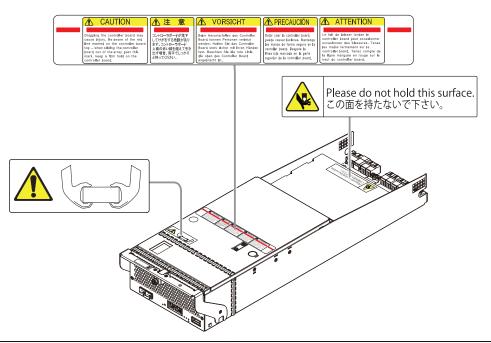
2. For CBSS/CBSL

Figure 3-10 Position of Safety Indications on Controller Board for CBSS/CBSL

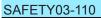


3. For CBXSS/CBXSL

Figure 3-11 Position of Safety Indications on Controller Board for CBXSS/CBXSL



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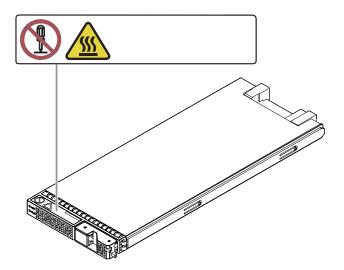


SAFETY SUMMARY (Continued)

3.10 Drive

1. For DBF

Figure 3-12 Position of Safety Indications on Drive for DBF



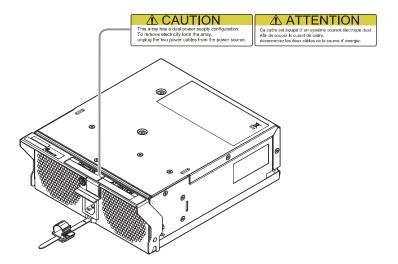


SAFETY SUMMARY (Continued)

3.11 Power Unit

1. For DB60

Figure 3-13 Position of Safety Indications on Power Supply for DB60

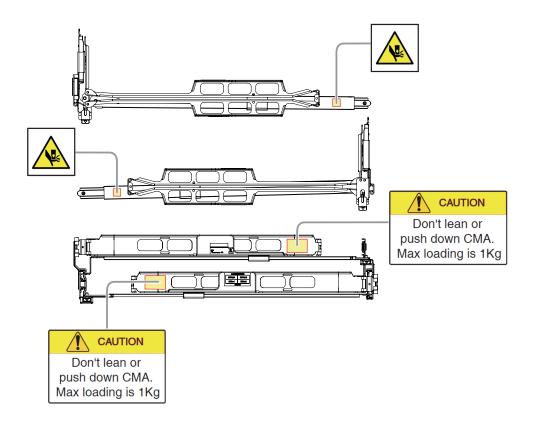




SAFETY SUMMARY (Continued)

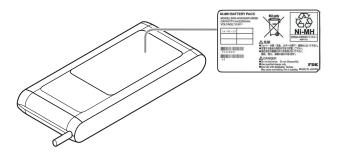
3.12 CMA

Figure 3-14 Position of Safety Indications on CMA for DB60



3.13 Battery

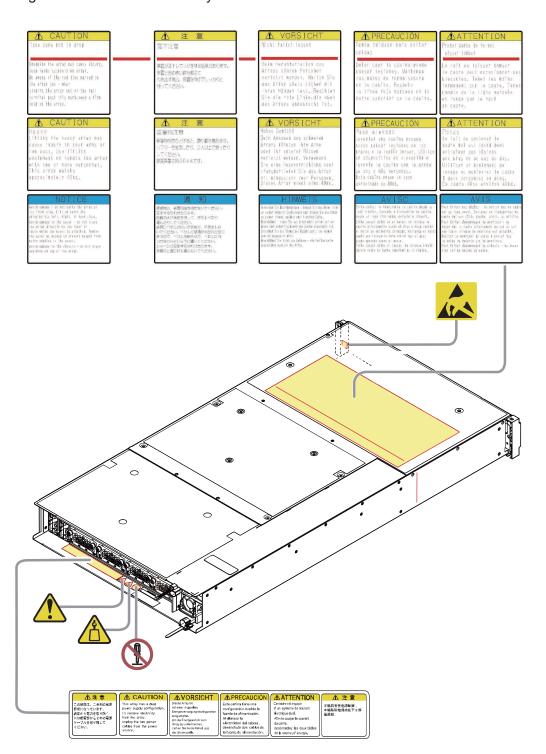
Figure 3-15 Position of Safety Indications on Battery





3.14 Channel Board Box

Figure 3-16 Position of Safety Indications on Channel Board Box

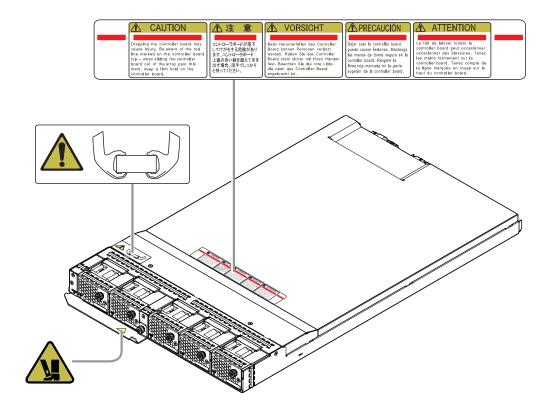




SAFETY SUMMARY (Continued)

3.15 Switch Package (SWPK)

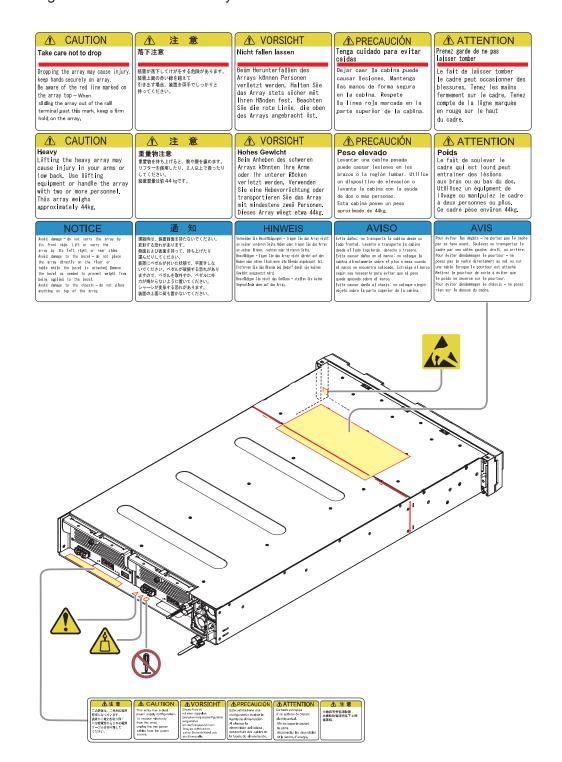
Figure 3-17 Position of Safety Indications on Switch Package





3.16 CBXSS

Figure 3-18 Position of Safety Indications on CBXSS





3.17 CBXSL

Figure 3-19 Position of Safety Indications on CBXSL

