



Jaesoon Kang
HANWHA TECHWIN SECURITY VIETNAM CO LTD
LOT O-2 QUE VO INDUSTRIAL ZONE EXTENDE
BAC NINH VIETNAM

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Subject: **Procedure And/Or Report Material**

The following material resulting from the investigation under the above numbers is enclosed.

Issue

<u>Date</u>	<u>Vol</u>	<u>Sec</u>	<u>Pages</u>	<u>Revised Date</u>
		X13	Index Page(s)	
2020/07/28	X13	A6029	Add New Proc/Report Sect	

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Mr. NguyenManh Hung, UL Inspection Center Vietnam, 16TH FLOOR, ROOM 1605 MAPLETREE BUSINESS CENTRE, 1060 NGUYEN VAN LINH ROAD TAN PHONG WARD,

DISTRICT 7, HO CHI MINH CITY, VIETNAM TEL: +84 862 564422 M: +84 9061 39966
EMAIL:nguyenmanh.hung@ul.com

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

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UL INSPECTION CENTER 864

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<u>Product Type</u>	<u>Model/Type Reference</u>	<u>Report Reference #</u>	<u>Status</u>
NETWORK VIDEO RECORDER	XRN-6410B4, XRN-3210B4	E158873-A6027-UL	
NETWORK VIDEO RECORDER	PRN-6410B4, PRN-3210B4, XRP-4310B4	E158873-A6028-UL	
NETWORK VIDEO RECORDER	XRN-6410DB4	E158873-A6029-UL	
NETWORK VIDEO RECORDER	PRN-6410DB4, XRP-4310DB4	E158873-A6030-UL	

UL TEST REPORT AND PROCEDURE

Standard:	UL 62368-1, 2nd Ed, 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1-14, 2nd Ed-(Audio/video, information and communication technology equipment Part 1: Safety requirements)
Certification Type:	Listing
CCN:	AZOT, AZOT7 (Audio/video, Information and Communication Technology Equipment)
Complementary CCN:	N/A
Product:	NETWORK VIDEO RECORDER
Model:	XRN-6410DB4
Rating:	100-240Vac, 50/60 Hz, 2.7 A x 2
Applicant Name and Address:	HANWHA TECHWIN CO LTD 6, PANGYO-RO 319BEON-GIL, BUNDANG-GU SEONGNAM-SI GYEONGGI-DO 13488 KOREA

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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Prepared By: Lawrence Lee / Project Handler Reviewed By: ByeongUk Lee / Reviewer

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

- i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
- ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
- iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

NETWORK VIDEO RECORDER.

This unit consist of R/C (QQJQ2/8) power supply, DC Fan, main board, maximum 16 hard disk-drives (optional) and numerous components mounted on PWB.

This unit connect CCTV cameras using 64 or 32 channels through Network ports.

Model Differences

N/A

Test Item Particulars

Classification of use by	Ordinary person
Supply Connection	AC Mains
Supply % Tolerance	+10%/-10%
Supply Connection – Type	pluggable equipment type A - appliance coupler
Considered current rating of protective device as part of building or equipment installation	20 A; building;
Equipment mobility	movable rack-mounting
Over voltage category (OVC)	OVC II
Class of equipment	Class I
Access location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified maximum operating ambient (°C)	40
IP protection class	IPX0
Power Systems	TN
Altitude during operation (m)	2000 m or less
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	HDD Mounted (1 EA):14.80 kg HDD Full Mounted (16 EA): 24.55 kg

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 40 °C
- The product is intended for use on the following power systems : TN
- Considered current rating of protective device as part of the building installation (A) : 20
- Mains supply tolerance (%) or absolute mains supply values : +10%/-10%
- The equipment disconnect device is considered to be : Appliance inlet
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS) : All accessible connectors
- The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual

Additional Information

4789490674

- Max. Normal Load: Continuous operation with the followings.

1. Hard disk-drive 16 EA connected and record video data as manufacturer provided.
2. Front USB port (2 EA): 0.5 A each
3. Rear USB port (2 EA): 0.9 A each
4. 64 Channel network Camera connected as manufacturer provided.

Additional Standards

The product fulfills the requirements of: N/A

Markings and Instructions

Clause Title	Marking or Instruction Details
Equipment identification marking – Manufacturer identification	Listee's or Recognized companys name, Trade Name, Trademark or File Number
Equipment identification marking – model identification	Model Number
Equipment rating marking – ratings	"Input Ratings (voltage, frequency/dc, current/power)", "Output Ratings (voltage, frequency/dc, current/power)"
Replaceable batteries	"CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions."/"ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Mettre au rebus les batteries usagées selon les instructions." (Marking) Alternatively, symbol   (ISO 7000-0434 and/or ISO 7000-1641) on product where visible, with the above wording in the instruction manual.

Class I equipment -Terminal for
main protective earthing



(IEC 60417-5019)

Provided adjacent to the main protective earthing terminal

Special Instructions to UL Representative

N/A

BD1.0	TABLE: Production-Line Testing Requirements					
BD1.1	Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.					
Model	Component	Removable parts	Test probe location	Test V rms	Test V dc	Test Time, s
N/A	N/A	N/A	N/A	N/A	N/A	N/A
BD1.2	Earthing Continuity Test Exemptions – This test is not required for the following models:					
	N/A					
BD1.3	Electric Strength Test Exemptions – This test is not required for the following models:					
	N/A					
BD1.4	Electric Strength Test Component Exemptions – The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test.					
	N/A					

BE1.0	Sample and Test Specifics for Follow-Up Tests at UL				
Model	Component	Material	Test	Sample (s)	Test Specifics
N/A	N/A	N/A	N/A	N/A	N/A

4.1.2	TABLE: List of critical components					Pass
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Product Category CCN(s)	Mark(s) of conformity	Supplement ID
Power cord set	Weihai Hong Lin Electronic Co., Ltd.	HL-002S + SVT 18AWG X 3C + HL- 004	Detachable, Min 1.5 m, Max. 4.5 m long, rated 125 V, 10 A, 18/3 AWG, 105 deg.C, SVT type flexible cord. One end with NEMA 5-15P other end with appliance coupler.	ELBZ	UL (E254927)	
Power cord set - Alternate	Longwell	LP-30B + SVT 18AWG X 3C+ LS-13	Detachable, Min. 1.5 m, Max. 4.5 m long, rated 125 V, 10 A, 18/3 AWG, 60 deg.C, SVT type flexible cord. One end with NEMA 5-15P other end with appliance coupler.	ELBZ	UL (E55349)	
Power cord set - Alternate	CHANGZHOU HONG CHANG ELECTRONICS CO LTD	DTII-3P-11 + UL SVT 18AWG/3C + DTII-3P-04	Detachable, Min. 1.5 m, Max. 4.5 m long, rated 125 V, 10 A, 18/3 AWG, 105 deg.C, SVT type flexible cord. One end with NEMA 5-15P other end with appliance coupler.	ELBZ	UL (E205766)	
Power cord set - Alternate	KOREA KDK CO LTD	KKP-30 + SVT 3/18AWG + KKS- 16A	Detachable, Min. 1.5 m, Max. 4.5 m long, rated 125 V, 7 A, 18/3 AWG, 105 deg.C, SVT type flexible cord. One end with NEMA 1-15 other end with appliance coupler.	ELBZ	UL (E58075)	

SMPS 1, 2	DELTA ELECTRONICS INC	DPS-650AB-16 XX (X=0-9, A-Z or blank)	Input: 100-240 V~, 47- 63 Hz, 8-4 A; Output: 12Vdc, 52.5A, 12VSB, 2.1 A max, Max power 650 W	QQGQ2/8	UL (E131881)	
Metal Enclosure (Top) (Fire / Mech / Elec)	Interchangeable	Interchangeable	Steel, Min. 1.0 mm thickness, see enclosure for more dimension.	-	-	
Metal Enclosure (Bottom) (Fire / Mech / Elec)	Interchangeable	Interchangeable	Steel, Min. 1.2 mm thickness, see enclosure for more dimension.	-	-	
Metal Enclosure (Bracket) (Fire / Mech / Elec)	Interchangeable	Interchangeable	Steel, Min. 1.0 mm thickness, see enclosure for more dimension.	-	-	
Metal Enclosure (Rear) (Fire / Mech / Elec)	Interchangeable	Interchangeable	Steel, Min. 1.0 mm thickness, opening size Max.4.8 mm, see enclosure for more dimension.	-	-	
Front Enclosure (Plastic) (Deco)	LOTTE ADVANCED MATERIALS CO LTD	NH-1035(+)	Min. 1.5 mm thickness, rated V-0, 80 deg.C, No openings, see enclosure for dimension.	QMFZ2/8	UL (E115797)	
Hard disk driver frame (Plastic)	LOTTE ADVANCED MATERIALS CO LTD	NH-1035(+)	Min. 1.5 mm thickness, rated V-0, 80 deg.C	QMFZ2/8	UL (E115797)	
Internal Plastic Part Materials	Interchangeable	Interchangeable	Rated Min. V-2	QMFZ2	UL	

Lithium Battery (BAT1)	WUHAN LIXING (TORCH) POWER SOURCE CO LTD	CR2032	Lithium/manganese dioxide (Coin), Max. Abnormal Charging Current: 10 mA, Max. Abnormal Charging Voltage: 5 Vdc	BBCV2	UL (MH26236)	
Lithium Battery (BAT1) - Alternate	ShenZhen Gaonengda Battery Co., LTD.	CR2032	Lithium/manganese dioxide (Coin), Max. Abnormal Charging Current: 10 mA, Max. Abnormal Charging Voltage: 3.5 Vdc	BBVC2	UL (MH30114)	
Lithium Battery (BAT1) - Alternate	Interchangeable	CR2032	Max. abnormal charging current: 10 mA	BBCV2	UL	
Reverse Current Protection Circuit for Lithium Coin Battery (BAT1)	Interchangeable	Interchangeable	Diode (D22, Max. reverse voltage 30 V, Max. reverse current 10 mA) and resistor (R944, 1.0 kohm) in series.	-	-	
USB Protection IC (USB 2.0: U59, U60 / USB 3.0:U50, U53)	Texas Instruments Inc	TPS2062	Rated 2.7–5.5 Vdc, 1 A	QVGS2	UL (E169910)	
USB Protection IC (USB 2.0: U59, U60 / USB 3.0:U50, U53) - Alternate	DIODES HONG KONG LIMITED	AP2162SG-13	Rated 2.7–5.5 Vdc, 1 A	QVGS2	UL (E322375)	
Hard Disk Driver (HDD) (Optional)	Interchangeable	Interchangeable	Max. 12 Vdc	NWGQ2 or AZOT2	UL	
DC BRUSHLESS FAN (Two provided) for HDD	DONGGUAN PROTECHNIC ELECTRIC CO LTD	MG(a)12012(j)(e)-(f)25(MGT12012XR-W25)	Rated voltage: DC12 V, Rated current: 0.52 A, speed: 2700±10 %RPM	GPWV2	UL (E187236)	
DC BRUSHLESS FAN (Two provided) for HDD -Alternate	Minebeamitsumi INC.	11925S(i)-12P-(d)(e)D-(f)	Rated voltage: DC12 V, Rated Maximum current: 0.50 A, speed: 2800±15 %RPM	GPWV2	UL(E89936)	

DC BRUSHLESS FAN for CPU	FOXCONN TECHNOLOGY CO LTD	PVA080G12Q-(X)yy-yy(PVA080G12Q)	Rated voltage: DC12 V, Rated current: 0.45 A, speed: 4500±8 %RPM	GPWV2	UL (E231557)	
Internal Wiring (secondary)	Interchangeable	Interchangeable	Marked VW-1; Min. 30 V, 80 deg.C	AVLV2	UL	
Connectors and Receptacles (Secondary circuits)	Interchangeable	Interchangeable	Min. V-2	ECBT2	UL	
Connectors and Receptacles (Secondary circuits) - Alternate	Interchangeable	Interchangeable	Copper alloy pins housed in bodies of plastic rated Min. V-2	QMFZ2	UL	
Label	Interchangeable	Interchangeable	Min.40 deg. C, if Max. surface temperature not specified.	PGDQ2 or PGJ12	UL	
PCB	Interchangeable	Interchangeable	V-0, Min. 105 deg.C	ZPMV2/8	UL	

Enclosures

Type	Supplement Id	Description
Photographs	03-01	Front
Photographs	03-02	Rear
Photographs	03-03	Port Front
Photographs	03-04	Port Rear
Photographs	03-05	Internal
Photographs	03-06	SMPS
Photographs	03-07	Main Board
Photographs	03-08	Sub Board for HDD
Schematics + PWB	05-01	RTC battery protection circuit
Miscellaneous	07-01	CRD for Dual Language Requirement
Miscellaneous	07-02	Enclosure Drawing
Miscellaneous	07-03	Label
Miscellaneous	07-04	Manual





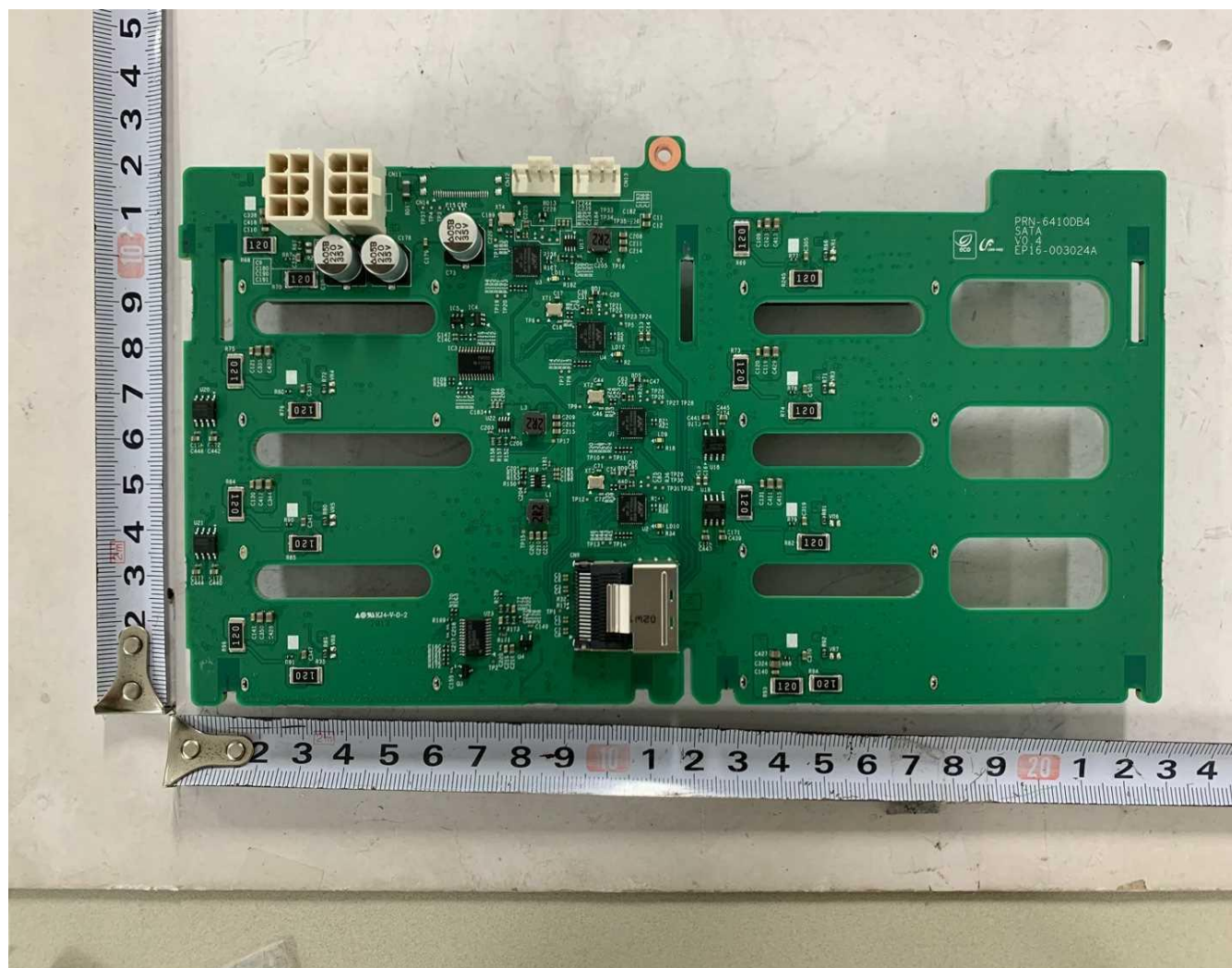


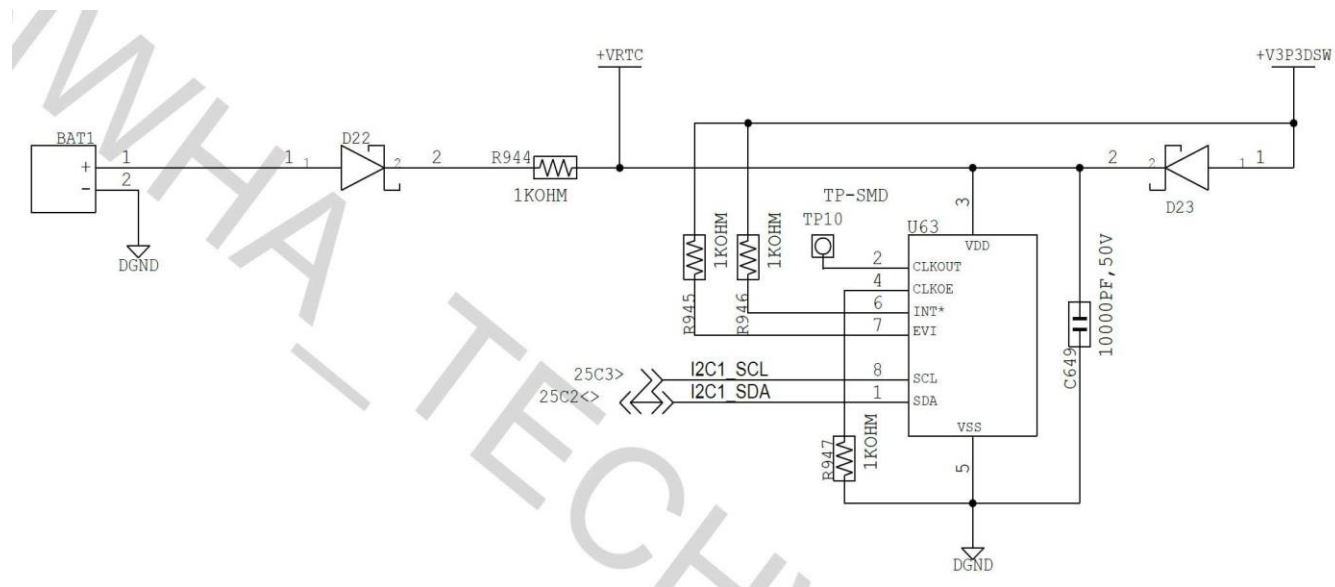












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Compliance

Review

Conducted by:

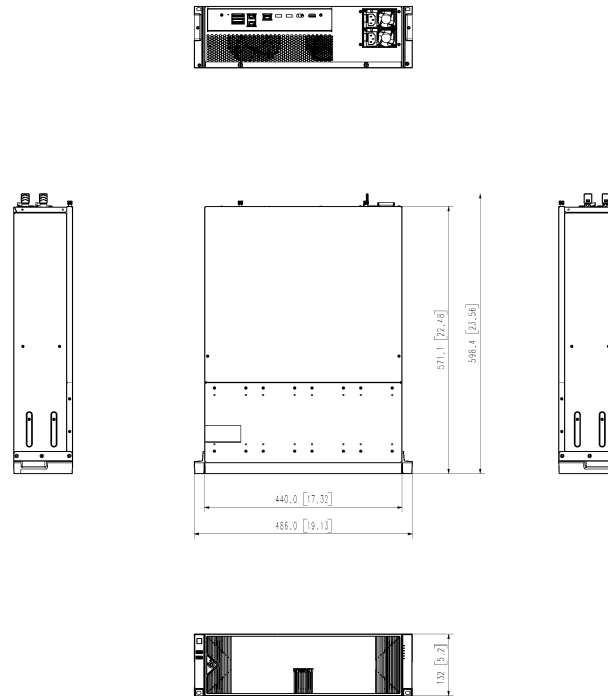
Printed Name

Signature

Date

Clause/Par. Reference and Construction Requirement	Comply			Comments/Measurements	Inst. ID No.
	Yes	No	N/A		
Manufacturer has a method to manage distribution of products, IF all products with the Canadian certification mark are NOT going to include the dual language.	X			Evaluation staff are to only verify that the manufacturer has a method to control distribution. Evaluation staff do not have to record the method of control nor are the evaluation staff expected to verify the effectiveness of the method of control. This requirement to verify that a method exists will be noted in the FUS Procedure. The UL Field Engineer will verify the method during surveillance. If the manufacturer is going to include the dual language on all products with the Canadian certification mark, then this item is N/A; no further action required.	N/A

This parts should not contain any substances which are specified in A800-00338



Appearance Drawing
PRN-6410DB4, XRN-6410DB4
Unit : mm[inches]

NETWORK VIDEO RECORDER

MODEL: XRN-6410DB4

AC 100-240V~ 50/60Hz 2.7A X2

M/C: XRN-6410DB4/KAP Fac. ID: D



DATE S/N: XXXXXXXXXXXXXXXX

MAC ADDRESS 1: XX-XX-XX-XX-XX-01

MAC ADDRESS 2: XX-XX-XX-XX-XX-02

MAC ADDRESS 3: XX-XX-XX-XX-XX-03

CAN ICES-3(A)/NMB-3(A)

MADE IN KOREA

Hanwha Techwin Co., Ltd.



overview

WISENET

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit.
Follow all the safety instructions listed below.
Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean the contaminated area on the product surface with a soft, dry cloth or a damp cloth.
(Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety; if the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



Standards Approvals



* Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



* This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

* This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

* Reorient or relocate the receiving antenna.

* Increase the separation between the equipment and receiver.

* Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

* Consult the dealer or an experienced radio/TV technician for help.

BEFORE START

This manual provides operational information necessary for using the product and contains a description about each component part and its function as well as menu or network settings.
You have to keep in mind the following notices:

- Hanwha Techwin retains the copyright on this manual.
- This manual cannot be copied without Hanwha Techwin's prior written approval.
- We are not liable for any or all losses to the product incurred by your use of non-standard product or violation of instructions mentioned in this manual.
- Prior to opening the case, please consult a qualified technician first. Whenever this is needed power must be removed from the unit.
- Before adding a hard disk drive or external storage (USB memory, USB HDD, etc), check if it is compliant with this product. For the compatibility list, contact the retailer.

Warning

Battery

It is essential that when changing the battery in the unit, the replacement battery must be of the same type otherwise there may be a possibility of an explosion.

The following are the specifications of the battery you are using now.

- Normal voltage : 3V
- Normal capacity : 210mAh
- Continuous standard load : 0.4mA
- Operating temperature : -20°C ~ +60°C
(-4°F ~ +140°F)

CALIFORNIA USA ONLY

This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA. Perchlorate Material - special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

CAUTION

- Connect the power cord into a grounded outlet.
- The Mains plug is used as a disconnect device and shall stay readily operable at any time.
- When the HDD reaches its end of life, the stored video data may be damaged, and not be able to be recovered.
- The HDD status LED on the front of the system continuously blinks to indicate that the system's connection to the HDD is normal. Check the HDD status LED regularly to see if it blinks continuously. Recording may not be possible when there is an HDD failure. Periodically check the recording status and backup important data regularly.
- Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.
- RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
- Do not ingest battery. Chemical Burn Hazard.
- This product contains a coin / button cell battery. If the coin / button cell battery is swallowed, it can cause serious internal burns in just 2 hours and can lead to death.
- Keep raw and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

overviewWISENET

ATTENTION

- IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.
- Ne pas ingérer la pile, risque de brûlure chimique.
- Ce produit contient une pile de type bouton/pile de monnaie. Si la pile de type bouton/pile de monnaie est avalée, elle peut causer de graves brûlures internes en seulement 2 heures et peut entraîner la mort.
- Gardez les piles rechargées et utilisées hors de portée des enfants. Si le compartiment de la pile ne se ferme pas correctement, cessez d'utiliser le produit et contactez le distributeur des enfants.
Si vous suspectez que des piles ont été avalées ou insérées dans une partie du corps, consultez un médecin sans tarder.

System Shutdown

Turning off the power while the product is in operation, or undertaking improper actions may cause damage or malfunction to the hard drive or the product.
Press <OK> on the system shutdown popup window and then remove the power cable to ensure a safe power off. You may want to install a UPS system for safe operation in order to prevent damage caused by an unexpected power stoppage. (Any questions concerning UPS, consult your UPS retailer.)

 * If powered off abnormally, restoring may take more time for restoring data from hard disk drive for proper operation.

Operating Temperature

The guaranteed operating temperature range of this product is 0°C ~ 40°C (32°F ~ 104°F).
This product may not work properly if you run right after a long period of storage at a temperature below the guaranteed one.
Prior to using a device that has been stored for a long period in low temperatures, allow the product to stand at room temperature for a period.
Especially for the built-in HDD in the product, its guaranteed temperature range is 5°C ~ 55°C (41°F ~ 131°F). Likewise, the hard drive may not work at a temperature below the guaranteed one.

Ethernet Port

This equipment is in door use and all the communication wirings are limited to inside of the building.

Security Precautions

The initial administrator ID is "admin" and the password should be set when logging in for the first time.
Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.
Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.

Products supporting each feature

Function	Products
Fan	XRN-6410CB4/XRN-6410B4/XRN-3210B4
P2P	XRN-6410CB4/XRN-6410B4/XRN-3210B4
Alarm	XRN-6410CB4/XRN-6410B4/XRN-3210B4
RAID	XRN-6410CB4/XRN-6410B4/XRN-3210B4
Distributed recording	XRN-6410CB4/XRN-6410B4/XRN-3210B4
iSCSI	XRN-6410CB4/XRN-6410B4/XRN-3210B4
AI function	XRN-6410CB4/XRN-6410B4/XRN-3210B4
Joystick	XRN-6410CB4/XRN-6410B4/XRN-3210B4
Extended monitor	XRN-6410CB4/XRN-6410B4/XRN-3210B4
Power supply redundancy	XRN-6410CB4
Fallover	XRN-6410CB4/XRN-6410B4/XRN-3210B4

installation

WISENET

Please take note of the followings before using this product.

- Do not use the product outdoor.
- Do not spill water or liquid in the connection part of the product.
- Do not impose the system to excessive shock or force.
- Do not pull out the power plug forcefully.
- Do not disassemble the product on your own.
- Do not exceed the rated input/output range.
- Use a certified power cord only.
- For the product with an input ground, use a grounded power plug.

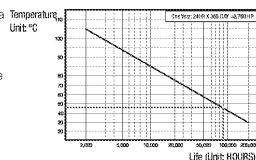


※ Depending on the hard disk configuration and the surrounding temperature, there may be some noise from the product.

CHECKING THE INSTALLATION ENVIRONMENT

This product is a top-notch security device that is equipped with a high-capacity HDD and other key circuit boards.

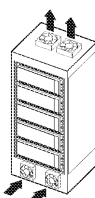
Note that an excessive internal temperature of the product may cause a system failure or a shortened product life (see the right figure). Keep in mind the following instructions before installing the product.



(Figure 1)

When mounting the product on a rack, comply with the following instructions.

1. Please ensure that the rack inside is not sealed.
2. Please ensure the air is circulated through the inlet/outlet as shown in the picture.
3. If you pile up the products or other rack-mount devices as shown in figure 2, secure room for ventilation or install a vent.
4. For natural air convection, place the inlet at the bottom of the rack and the outlet on top.
5. It is strongly recommended that a fan motor is installed at the inlet and the outlet for air circulation.
(Please fit a filter at the inlet to screen dust or foreign substances.)
6. It is recommended to keep the temperature inside the rack or around the product at 25°C.



Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions :

- A) Elevated Operating Ambient** - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.
- B) Reduced Air Flow** - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- C) Mechanical Loading** - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- D) Circuit Overloading** - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- E) Reliable Earthing** - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).



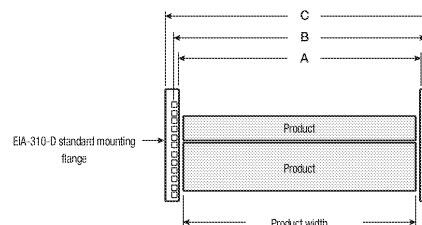
(Figure 2)

INSTALLING THE RACK

Rack installation requirements and reference dimensions

Classification	Requirements
Rack type	19-inch rack of EIA-310-D standard
POST count	4
POST distance	Depth 800 mm

Dimensions of mounting flange



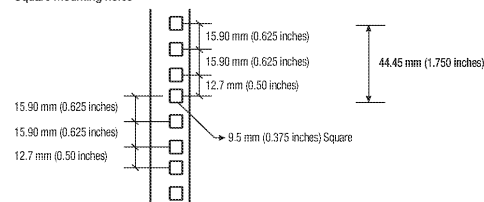
• Notable dimensions

Index	Dimension
A	450 mm (17.717 inches) min.
B	465 mm (18.307 inches) nominal
C	483.4 mm (19.031 inches) min.

• Flange mounting holes (square holes are recommended for XRN-6410 series)

While EIA-310-D standard allows the mounting flange holes to be round, square, or tapped (threaded), the XRN-6410 series is only designed to work with round or square holes, but not tapped holes.

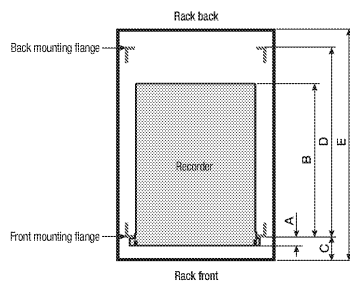
• Square mounting holes



installation

WISENET

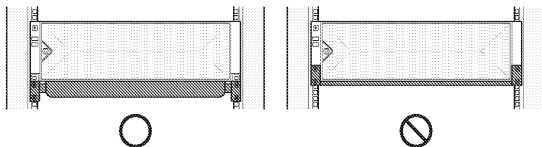
Recommended rack dimensions



Index	Dimension	Description
A	28 mm	Recorder front dimension
B	560 mm	Recorder product dimension
C	51 mm	Offset distance between mounting flange and rack front
D	617~730 mm	Offset distance between mounting flanges
E	800 mm	Rack depth

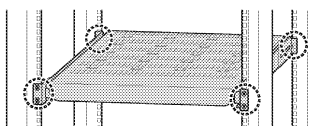
Precautions when selecting shelves

To prevent any problem while installing the recorder, make sure to select a structure where the bottom of the product is mounted.



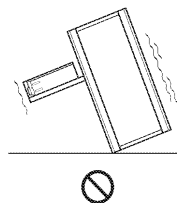
For installation stability, fixed shelf dedicated to 19-inch rack that supports the load of at least 30 kg is recommended.

* A shelf needs to be secured with at least 4 screws.

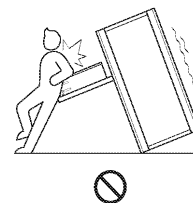


Precautions when using sliding shelves

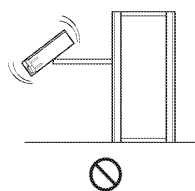
When removing a shelf, fix the rack to the ground so that it does not get toppled.



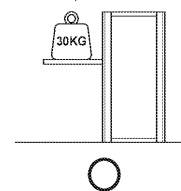
Avoid leaning on the installed product or place an object on it while its shelf is pulled out.



When sliding in/out the shelf, be careful not to drop the product.



Use a shelf that supports the load of at least 30 kg while it is pulled out, and ensure that there is no deformation in the rail part while in use.

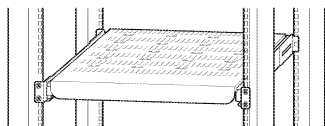


installation

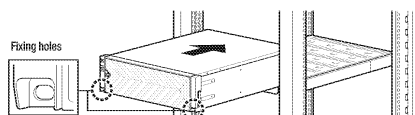
WISENET

How to install rack

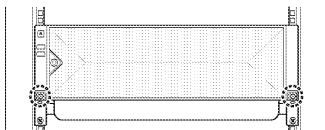
- 1 Mount the fixed or sliding shelf onto the 19-inch rack.
 * See the manual provided by the manufacturer for installing the fixed shelf.



- 2 Place the recorder on the shelf and push it until the left/right fixing holes of the recorder align with the mounting flange holes of the 19-inch rack.
 * Cage nuts must be assembled in the mounting flange holes of the 19-inch rack.



- 3 Insert the screws in the left/right fixing holes of the recorder to secure the recorder.
 * Fixing nuts and cage nuts for the recorder are not shipped with the product. They are separately sold at the place where you purchased the shelf or rack.
 (M6 nuts and cage nuts of head size equal to 12 mm or less are recommended.)



INSTALLING THE HDD

Make sure to unplug the power cord from the wall outlet to prevent possible electric shock, injury or product damage.

Please consult your provider for further information on HDD installation since improper installation or settings may damage the product.

- * Number of HDDs supported : Max. 16 EA
- * Make sure to unplug the power cord from the wall outlet before proceeding with the installation.



* Cautions for data loss (HDD care)

Please pay attention so that the data inside the HDD is not damaged.

Before adding a HDD, please check the compatibility with this product.

HDD is vulnerable to malfunction due to its sensitive nature especially against shock when operating. Please ensure that the HDD is free from such shock.

We are not liable for any damage to the HDD incurred by user's carelessness or miss use.

* Cases might cause damage to HDD or recorded data

To minimize the risk of data loss from a damaged HDD, please backup data as often as possible.

If exposed to shock when disassembling or installing, data stored in the hard disk may be damaged.

A sudden power failure or turning off the product while in HDD operation may damage the hard disk drive.

HDD or files stored inside may be damaged if the main body is moved or impacted during the HDD operation.

Cautions when installing a HDD

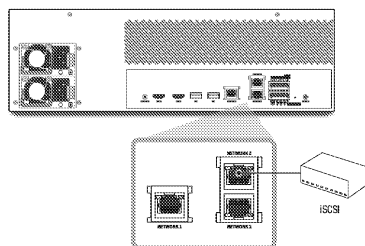
1. Do not apply excessive force to the HDD.
2. Pay attention so as not to lose the disassembly screws or accessories.
 * If the screws or accessories are not put together correctly, the product may breakdown or not operate properly.
3. Please check the HDD compatibility before adding a HDD.
 * Please contact your nearest dealer to obtain the list of compatible devices.
4. If you wish to replace or add an HDD, contact your dealer or our customer service first.
 * Only the product administrator can open the HDD door on the front side.

connecting with other device

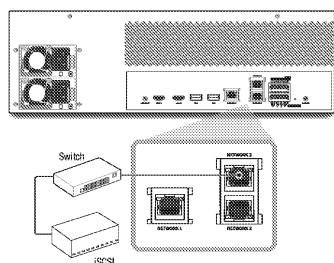
WISENET

Connecting the iSCSI

Directly connecting to the Recorder



A switch can be used for connection



※ Use only switches that are designed exclusively for iSCSI.



Hanwha Techwin cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products.
The Eco mark represents Hanwha Techwin's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.



Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.
To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.