



File E158873

Vol X13

Authorization Page 1

Issued: 2020-07-22

Revised: 2023-05-02

FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT
(AZOT, AZOT7)

Manufacturer:	SEE ADDENDUM FOR MANUFACTURER LOCATIONS
Applicant: (813307-003)	105140 (Party Site) Hanwha Vision Co Ltd 6, Pangyo-ro 319beon-gil, Bundang-gu Seongnam-si Gyeonggi-do 13488 KR
Listee/Classified Company: (813307-003)	105140 (Party Site) SAME AS APPLICANT

Use of the Mark

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party. The UL Contracting Party for Follow-Up Services is listed in the addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

It is the responsibility of the Applicant, Manufacturer(s), and Listee/Classified Company to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL LLC, or any authorized licensee of UL LLC.

Additional Responsibilities

Additional responsibilities, duties and requirements for the Applicant and Manufacturers are defined under Additional Resources at the following website: <https://www.ul.com/fus>. Manufacturers without Internet access may obtain the current version of these documents from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of these documents or the Follow-Up Service Terms referenced below, please contact UL's Customer Service at <https://www.ul.com/aboutul/locations/>, select a location and enter your request, or call the number listed for that location.

Acceptance of Follow-Up Services

The Applicant and the specified Manufacturer(s) and any Listee/Classified Company in this Follow-Up Service Procedure must agree to receive Follow-Up Services from UL Contracting Party. If your applicable service agreement is a Global Services Agreement ("GSA"), the Applicant, the specified Manufacturer(s), and any Listee/Classified Company will be bound to a Service Agreement for Follow-Up Services upon the earliest by any Subscriber of a) use of the prescribed UL Mark, b) acceptance of the factory inspection, or c) payment of the Follow-Up Service fees. The Service Agreement incorporates such GSA, this Follow-Up Service Procedure and the Follow-Up Service Terms which can be accessed by clicking the following link: <https://www.ul.com/resources/contracts/follow-up-service-terms>. In all other events, Follow-Up Services will be governed by and incorporate the terms of your applicable service agreement and this Follow-Up Service Procedure.

Use and Ownership of the Follow-Up Service Procedure

This Follow-Up Service Procedure, and any subsequent revisions, is the property of UL and is not transferable. This Follow-Up Service Procedure contains confidential information for use only by the Applicant, the specified Manufacturer(s), and representatives of UL and is not to be used for any other purpose. It is provided to the Subscribers with the understanding

that it is not to be copied, either wholly or in part unless specifically allowed, and that it will be returned to UL, upon request.

Definition of Terms

Capitalized terms used but not defined herein have the meanings set forth in the GSA and the applicable Service Terms or any other applicable UL service agreement.

No Third Party Liability

UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages arising out of or in connection with the use or reliance upon this Follow-Up Service Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL LLC or an authorized licensee of UL LLC, including UL Contracting Party, and the Manufacturer(s).

Certification Body

UL LLC has signed below solely in its capacity as the certification body to indicate that this Follow-Up Service Procedure fulfills the requirements for certification documentation issued by the certification body. The certification body's accreditation status for the applicable certification scheme and identification of the accreditation body can be found at <https://www.ul.com/resources/accreditation>.

Deborah Jennings-Conner
VP Regulatory Services
UL LLC

LOCATION

135422 (Party Site)
D-TECH CO LTD
173-25 Saneop-ro Gwonseon-gu
Suwon-si Gyeonggi-do 16648 KR
Factory ID: D
UL Contracting Party for above site is: UL GmbH

1846102 (Party Site)
HANWHA VISION VIETNAM COMPANY LIMITED
Lot O-2 Que Vo Industrial Zone extended area Nam Son Ward
Bac Ninh VN
Factory ID: V
UL Contracting Party for above site is: UL GmbH

2467434 (Party Site)
KCE Co Ltd
KCE B/D 34, Annam-ro 369beon-gil Bupyeong-gu
Incheon 21312 KR
Factory ID: C
UL Contracting Party for above site is: UL GmbH

(100578-786) 241273 (Party Site)
OIC KOREA CO LTD
5F, 12 Annam-ro 369beon-gil Bupyeong-gu
Incheon 21312 KR
Factory ID: O
UL Contracting Party for above site is: UL GmbH

2637173 (Party Site)
KOSTEM CO.,Ltd.
4-74, 228, Haan-ro
Gwangmyeong-si Gyeonggi-do KR
Factory ID: KOS
UL Contracting Party for above site is: UL GmbH



Multiple Listing Correlation Sheet

ML FILE NO. E482654

Issued: 2022-11-30
Revised: 2023-03-21

MULTIPLE LISTING
of
AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT
(AZOT, AZOT7)
for

[1566244] QOGNIFY LTD

Basically Listed for:

[105140] HANWHA VISION CO LTD

MARKING: Same as that described in Follow-Up Service Procedure and/or Report except for Multiple Listee's name, file number, Trademark / Tradename, when applicable, and product designation. The Control Number remains 9T96.

LITERATURE: If literature is packaged with the Multiple Listed product(s) it shall be in compliance with the requirements outlined in the appropriate UL Standard(s).

Basically Listed products covered by Procedure and/or Reports under File No. E158873, Volume X13

Products Covered	Report Date	Basic Applicant's (Supplier's) Product Designation	Multiple Listee's Product Designation
NETWORK VIDEO ENCODER	A6125-UL	SPE-1630	NVE4016

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Product Type	Model/Type Reference	Report Reference #	Status
NETWORK VIDEO RECORDER	XRN-6410B4, XRN-3210B4	E158873-A6027-UL	
NETWORK VIDEO RECORDER	PRN-6410B4, PRN-3210B4, XRP-4210B4, PRN-6400B4, PRN-3200B4	E158873-A6028-UL	
NETWORK VIDEO RECORDER	XRN-6410DB4	E158873-A6029-UL	
NETWORK VIDEO RECORDER	PRN-6410DB4, XRP-4310DB4, PRN-6400DB4	E158873-A6030-UL	
NETWORK CAMERA	PNM-9002VQ	E158873-A6031-UL	
NETWORK CAMERA	XNF-9010RV, XNF-9010RVM, XNF-9010RS	E158873-A6032-UL	
NETWORK CAMERA	PNM-9000QB	E158873-A6033-UL	
NETWORK CAMERA	XNP-9300RW, XNP-8300RW, XNP-6400RW	E158873-A6034-UL	
NETWORK CAMERA	TNV-8010C, TNV-8011C	E158873-A6035-UL	
OUTDOOR NETWORK CAMERA	PNM-8082VT	E158873-A6036-UL	
THERMAL CAMERA	TNM-3620TDY	E158873-A6037-UL	
DIGITAL VIDEO RECORDER	HRX-1621* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6038-UL	
NETWORK CAMERA	PNM-9022V	E158873-A6039-UL	
NETWORK CAMERA	PNM-9322VQP	E158873-A6040-UL	
DIGITAL VIDEO RECORDER	HRX-821* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6041-UL	
NETWORK I/O BOX	SPM-4210	E158873-A6042-UL	
NETWORK VIDEO RECORDER	XRN-2011*, XRN-2010*, XRN-3010*, XRN-1610*, XRN-2010P/DM, XRN-3010P/DM, XRN-3010A, XRN-2011A, XRN-2010A, XRN-1610A (* is blank or N or P: N=NTSC, P=PAL)	E158873-A6043-UL	
PUBLIC VIEW MONITOR	SMT-2730PV	E158873-A6044-UL	
PUBLIC VIEW MONITOR	SMT-3230PV	E158873-A6045-UL	
CAMERA HOUSING	SHB-9000H	E158873-A6046-UL	
PUBLIC VIEW MONITOR	SMT-1030PV	E158873-A6047-UL	
NETWORK CAMERA	XNP-9250R, XNP-8250R, XNP-6400R	E158873-A6049-UL	
NETWORK CAMERA	XNP-9250, XNP-8250, XNP-6400	E158873-A6050-UL	
NETWORK CAMERA	ONO-9081R	E158873-A6051-UL	
NETWORK CAMERA	ONV-9081R	E158873-A6052-UL	
NETWORK VIDEO RECORDER	XRN-1620B2	E158873-A6053-UL	

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NETWORK VIDEO RECORDER	XRN-1620SB1	E158873-A6054-UL	
NETWORK VIDEO RECORDER	XRN-820S	E158873-A6055-UL	
NETWORK CAMERA	SCO-6020	E158873-A6056-UL	
NETWORK CAMERA	TNF-9010	E158873-A6057-UL	
NETWORK VIDEO RECORDER	PRN-3210B2, PRN-1610B2, XRN-6410RB2, XRN-3210RB2, XRN-6410B2, XRN-3210B2, PRN-3200B2, PRN-3205B2, PRN-1600B2, PRN-1605B2	E158873-A6058-UL	
NETWORK CAMERA	PNB-A6001	E158873-A6059-UL	
NETWORK CAMERA	PND-A6081RV, PND-A6081RF	E158873-A6060-UL	
NETWORK CAMERA	PNO-A6081R	E158873-A6061-UL	
LENS MODULE	SLA-T2480*, SLA-T2480V*, SLA-T4680*, SLA-T4680V*, SLA-T4680D, SLA-T4680DW, SLA-T4680DS, SLA-T2415, SLA-T2815B, SLA-T2480A, SLA-T2480VA, SLA-T4680A, SLA-T4680VA (* is blank or N or P: N = NTSC, P=PAL)	E158873-A6062-UL	
NETWORK CAMERA	PNV-A6081R	E158873-A6063-UL	
NETWORK CAMERA	XNB-6001*, XNB-H6240A, XNB-H6242A	E158873-A6064-UL	
NETWORK THERMAL CAMERA	TNO-3030T, TNO-3020T, TNO-3010T, TNO-3040T, TNO-3050T	E158873-A6067-UL	
NETWORK CAMERA	QNP-6320, QNP-6250, QNP-6251	E158873-A6068-UL	
NETWORK CAMERA	QNP-6320H, QNP-6250H, QNP-6251H	E158873-A6069-UL	
NETWORK CAMERA	XNV-C9083R, XNV-C8083R, XNV-C7083R, XNV-C6083R, XNV-C6083	E158873-A6070-UL	
NETWORK CAMERA	TID-600R	E158873-A6071-UL	
DIGITAL VIDEO RECORDER	HRX-1632, HRX-835	E158873-A6072-UL	
LED MONITOR	SMT-4343	E158873-A6073-UL	
NETWORK CAMERA	TNO-7180R, TNO-7180RLP	E158873-A6075-UL	
NETWORK CAMERA	XND-C9083RV, XND-C8083RV, XND-C7083RV, XND-C6083RV	E158873-A6076-UL	
NETWORK CAMERA	PNM-9031RV	E158873-A6077-UL	
NETWORK CAMERA	QNO-7082R	E158873-A6078-UL	
NETWORK CAMERA	QND-7082R	E158873-A6080-UL	
NETWORK CAMERA	QNV-7082R	E158873-A6081-UL	
NETWORK CAMERA	XNO-C9083R, XNO-C8083R, XNO-C7083R, XNO-C6083R	E158873-A6082-UL	
NETWORK CAMERA	XNV-9083R, XNV-8083R, XNV-8093R, XNV-6083R	E158873-A6083-UL	
NETWORK CAMERA	XND-9083RV, XND-8083RV, XND-8093RV, XND-6083RV	E158873-A6084-UL	
NETWORK CAMERA	QNO-7032R, QNO-7022R, QNO-7012R	E158873-A6088-UL	

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NETWORK CAMERA	XNB-9003, XNB-8003, XNB-6003	E158873-A6089-UL	
NETWORK CAMERA	XNO-9083R, XNO-8083R, XNO-6083R	E158873-A6091-UL	
NETWORK CAMERA	QNV-7012R, QNV-7022R, QNV-7032R	E158873-A6092-UL	
NETWORK CAMERA	QND-7012R, QND-7022R, QND-7032R	E158873-A6093-UL	
NETWORK CAMERA	QNP-6320R, QNP-6250R	E158873-A6094-UL	
NETWORK CAMERA	XNV-6123R	E158873-A6100-UL	
NETWORK CAMERA	XNO-6123R	E158873-A6101-UL	
NETWORK CAMERA	LNO-6072R	E158873-A6102-UL	
NETWORK CAMERA	LNV-6012R, LNV-6022R, LNV-6032R, ANV-L6012R	E158873-A6103-UL	
NETWORK CAMERA	LNV-6072R	E158873-A6104-UL	
NETWORK CAMERA	LND-6012R, LND-6022R, LND-6032R	E158873-A6105-UL	
NETWORK CAMERA	LND-6072R	E158873-A6106-UL	
NETWORK CAMERA	LNO-6012R, LNO-6022R, LNO-6032R, ANO-L6012R, ANO-L6022R	E158873-A6107-UL	
NETWORK CAMERA	ANO-L7022R, ANO-L7012R	E158873-A6108-UL	
NETWORK CAMERA	TNV-7010RC, TNV-7011RC	E158873-A6109-UL	
NETWORK CAMERA	ANV-L7012R	E158873-A6110-UL	
NETWORK CAMERA	XNZ-6320A	E158873-A6111-UL	
NETWORK CAMERA	QNP-6320HS	E158873-A6112-UL	
NETWORK CAMERA	PNM-A9083RVD, PNM-A7083RVD, PNM-C12083RVD, PNM-C7083RVD	E158873-A6113-UL	
NETWORK VIDEO RECORDER	ARN-1610S	E158873-A6114-UL	
NETWORK CAMERA	XNZ-L6320A	E158873-A6115-UL	
NETWORK VIDEO RECORDER	QRN-1630S, XRN-815S	E158873-A6116-UL	
NETWORK CAMERA	ANO-L7082R, ANO-L6082R	E158873-A6117-UL	
THERMAL NETWORK CAMERA	TNM-C4940TD, TNM-C4950TD, TNM-C4960TD, TNM-C4940TDR, TNM-C4942TDR	E158873-A6118-UL	
NETWORK CAMERA	ANE-L7012R, ANE-L6012R	E158873-A6119-UL	
NETWORK CAMERA	PNM-12082RVD, PNM-7082RVD	E158873-A6120-UL	
NETWORK CAMERA	ANV-L7082R, ANV-L6082R	E158873-A6121-UL	
DIGITAL VIDEO RECORDER	HRX-1635	E158873-A6122-UL	
DIGITAL VIDEO RECORDER	HRX-835A	E158873-A6123-UL	
NETWORK CAMERA	XNF-9013RV	E158873-A6124-UL	
NETWORK VIDEO ENCODER	SPE-1630	E158873-A6125-UL	
NETWORK VIDEO RECORDER	QRN-430S, ARN-410S	E158873-A6126-UL	
NETWORK VIDEO RECORDER	XRN-420S	E158873-A6127-UL	

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NETWORK VIDEO RECORDER	QRN-830S	E158873-A6128-UL	
NETWORK VIDEO RECORDER	ARN-810S	E158873-A6129-UL	
NETWORK CAMERA	XNV-9083RZ, XNV-8083RZ, XNV-6083RZ	E158873-A6130-UL	
DIGITAL VIDEO RECORDER	HRX-434	E158873-A6131-UL	
NETWORK CAMERA	XNV-8083Z, XNV-6083Z	E158873-A6132-UL	
NETWORK VIDEO ENCODER	SPE-420	E158873-A6133-UL	
NETWORK CAMERA	XNB-6002, XNB-H6244A	E158873-A6134-UL	
DIGITAL VIDEO RECORDER	HRX-435	E158873-A6135-UL	
DIGITAL VIDEO RECORDER	HRX-1634	E158873-A6136-UL	
VIDEO DECODER	SPD-152	E158873-A6137-UL	
NETWORK CAMERA	PNM-C9022RV	E158873-A6138-UL	
PENDANT SPEAKER	SPA-P100W, SPA-P100B	E158873-A6139-UL	
SECURITY LED MONITOR	SMT-2212	E158873-A6140-UL	
DIGITAL VIDEO RECORDER	ARD-1610	E158873-A6142-UL	
DIGITAL VIDEO RECORDER	ARD-810, ARD-410	E158873-A6144-UL	
NETWORK CAMERA	PNV-A6081R-E2T, PNV-A6081R-E1T	E158873-A6150-UL	
USB JOYSTICK CONTROLLER	SPC-2001	E158873-A6151-UL	
NETWORK CAMERA	MGC-D8080LI, MGC-D8080	E158873-A6153-UL	
NETWORK CAMERA	QNO-C9083R, QNO-C8083R	E158873-A6154-UL	
NETWORK CAMERA	QNV-C9083R, QNV-C8083R	E158873-A6155-UL	
NETWORK CAMERA	XNP-C9303RW, XNP-C8303RW, XNP-C6403RW	E158873-A6158-UL	
NETWORK CAMERA	XNP-C9253R, XNP-C8253R, XNP-C6403R	E158873-A6159-UL	
NETWORK CAMERA	XNP-C9253, XNP-C8253, XNP-C6403	E158873-A6160-UL	
NETWORK CAMERA	TNV-C7013RC	E158873-A6161-UL	
NETWORK CAMERA	MGC-F9010LI	E158873-A6162-UL	
NETWORK CAMERA	PNM-C32083RVQ, PNM-C16083RVQ	E158873-A6163-UL	
NETWORK CAMERA	QNV-C9011R, QNV-C8011R, QNV-C8012	E158873-A6164-UL	
ANALOG CAMERA	ACE-8020R, ACE-6020R	E158873-A6165-UL	
ANALOG CAMERA	ACV-8081R, ACV-8080R	E158873-A6166-UL	
ANALOG CAMERA	ACO-8020R, ACO-6020R	E158873-A6167-UL	
NETWORK CAMERA	ANE-L7012L	E158873-A6168-UL	
NETWORK CAMERA	IFS02-B12-OIB4	E158873-A6169-UL	
NETWORK CAMERA	IFS02-D12-OIB4	E158873-A6170-UL	
NETWORK CAMERA	IFS08-D13-ATB4	E158873-A6175-UL	
NETWORK CAMERA	PNM-C34404RQPZ	E158873-A6178-UL	
NETWORK CAMERA	PNO-A9311R	E158873-A6179-UL	

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NETWORK CAMERA	PNM-C16013RVQ	E158873-A6180-UL	
LENS MODULE	SLA-T2480WDA	E158873-A6181-UL	
NETWORK CAMERA	IFS05-D12-ATB4	E158873-A6182-UL	
NETWORK CAMERA	IFS02-D12-ATB4	E158873-A6183-UL	
NETWORK CAMERA	IFS02-C10-OIB4	E158873-A6184-UL	
NETWORK CAMERA	IFS05-C10-OIB4	E158873-A6185-UL	
NETWORK CAMERA	IFS08-C23-OIB4	E158873-A6186-UL	
NETWORK CAMERA	IFS08-B13-OIB4	E158873-A6187-UL	
NETWORK CAMERA	IFS05-D12-OIB4	E158873-A6188-UL	
NETWORK CAMERA	IFS08-D13-OIB4	E158873-A6189-UL	
LENS MODULE	SLA-T2480WA	E158873-A6191-UL	
NETWORK CAMERA	IFS05-B12-OIB4	E158873-A6192-UL	
Network Video Recorder	XRN-6420DB4	E158873-A6193-UL	
Network Video Recorder	XRN-6420B4, XRN-3220B4	E158873-A6194-UL	
NETWORK CAMERA	IFS05-B31-OIB4	E158873-A6196-UL	
Public View Monitor	SMT-2731PV	E158873-A6197-UL	
ANALOG CAMERA	HCF-8011RV	E158873-A6198-UL	
NETWORK THERMAL CAMERA	TNO-C3032TRA, TNO-C3010TRA, TNO-C3020TRA, TNO-C3030TRA, TNO-C3012TRA, TNO-C3022TRA	E158873-A6199-UL	
Public View Monitor	SMT-3231PV	E158873-A6200-UL	

UL TEST REPORT AND PROCEDURE

Standard:	UL 62368-1, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1:19, 3rd Ed, 2021-10-22 (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-6420B4, XRN-3220B4
Rating:	100-240 Vac, 50/60 Hz, 2.7 A
Applicant Name and Address:	HANWHA VISION 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.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared By: SeohwanKim / Project Handler Reviewed By: Sungil Kim / 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 was supplied by AC mains and consist of main board, 16 hard disk-drive and numerous components mounted on PCB.

Model Differences

XRN-6420B4 Model with 64 channels

XRN-3220B4 Model with 32 channels

Test Item Particulars

Product group	end product
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	16 or 20 A;
Equipment mobility	stationary
Over voltage category (OVC)	OVC II
Class of equipment	Class I
Special installation location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified Tma (°C)	40
IP protection class	IPX0
Power systems	TN
Altitude during operation (m)	5000 m
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	Max. 25.70 kg (with HDD 16 EA)

Technical Considerations

- ☐ The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 40
- ☐ 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 : +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 output ports
- ☐ The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual

Additional Information

4790938835

- Tests were not considered necessary to determine compliance with Standard UL 62368-1, 3rd Ed, 2021-10-22 and CAN/CSA C22.2 No. 62368-1:19, 3rd Ed, 2021-10-22 based upon previous evaluation under the IEC 62368-1: 2018 for the CB Scheme Test Certificate, Ref. Certi. DK-146175-UL and Report Ref. No. C23IA055-M0A0 dated 2023-10-16 were prepared by UL International Demko A/S, Borupvang 5A, DK-146175 Ballerup, Denmark.

- Maximum Normal Load: Front USB load: 5.0 Vdc, 0.5 A (2 EA), Rear USB load: 5.0 Vdc, 0.9 A (2 EA) and connected with HDD (16 EA) HDD were saving all data

Additional Standards

The product fulfills the requirements of: N/A

Markings and Instructions

Clause Title	Marking or Instruction Details
See Installation Instructions	The symbol 
Equipment identification marking – Manufacturer identification	Listee's or Recognized Company's 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)
Class I equipment -Terminal for main protective earthing	Provided adjacent to the main protective earthing terminal  (IEC 60417-5019)

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
-	-	-	-	-	-	-
BD1.2	Earthing Continuity Test Exemptions – This test is not required for the following models:					
BD1.3	Electric Strength Test Exemptions – This test is not required for the following models:					
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.					

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

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 Supply	DELTA ELECTRONICS INC	DPS-500AB-33 XX (X = 0-9, A-Z or blank)	Input: 100-240 V~, 47- 63 Hz, 8.0 A; Output: +5Vdc, 20 A, +3.3Vdc, 24 A, +12Vdc1, 25 A, +12Vdc2, 25 A, -12Vdc, 0.5 A, -5Vdc, 0.3 A, +5Vsb, 3 A, Total power for all outputs: 500 W	QQGQ2/8	UL (E131881)	
Power cord set	LONGWELL	LP-30B + SVT 18AWG X 3C+ LS-13	Detachable, min 1.5 m, max. 2.4 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.	ELBZ7	UL (E55349)	
Power cord set - Alternate	WEIHAI HONG LIN ELECTRONIC CO LTD	HL-002S + SVT 18AWG X 3C + HL- 004	Detachable, min 1.5 m, max. 2.4 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.	ELBZ7	UL (E254927)	
Power cord set - Alternate	KOREA KDK CO LTD	KKP-30 + SVT 3/18AWG + KKS- 16A	Detachable, Min. 1.5 m, Max. 2.4 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.	ELBZ7	UL (E58075)	

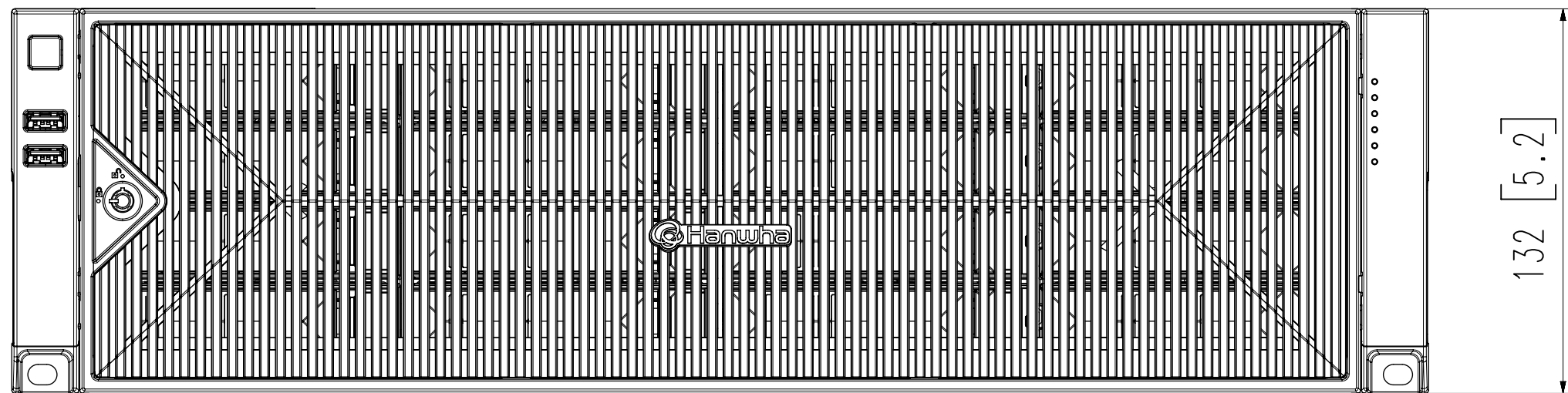
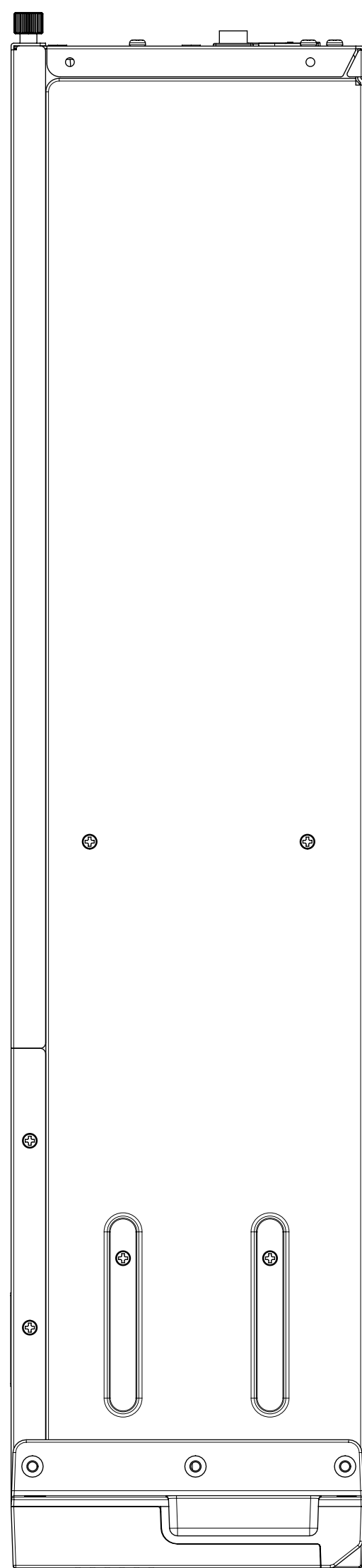
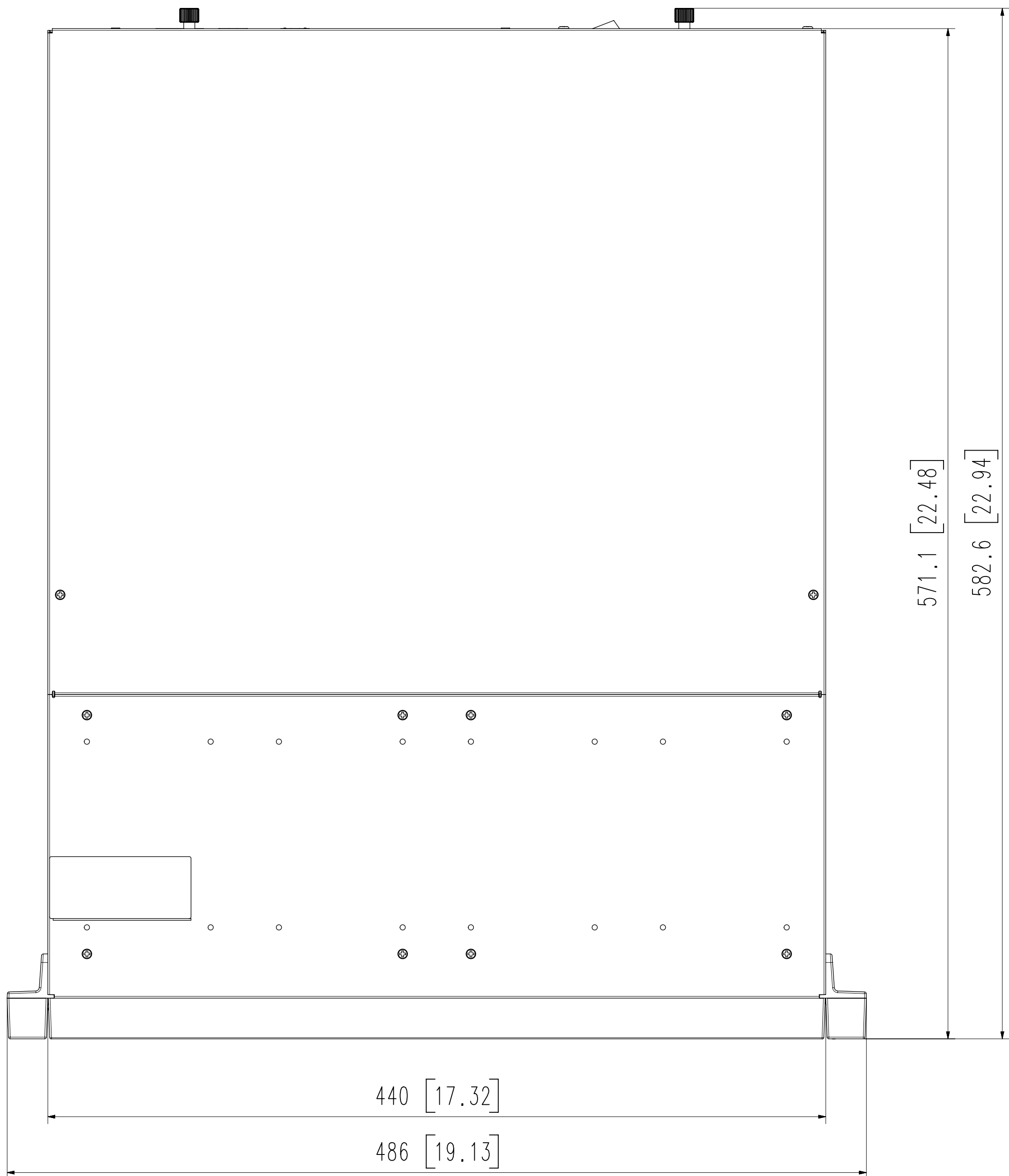
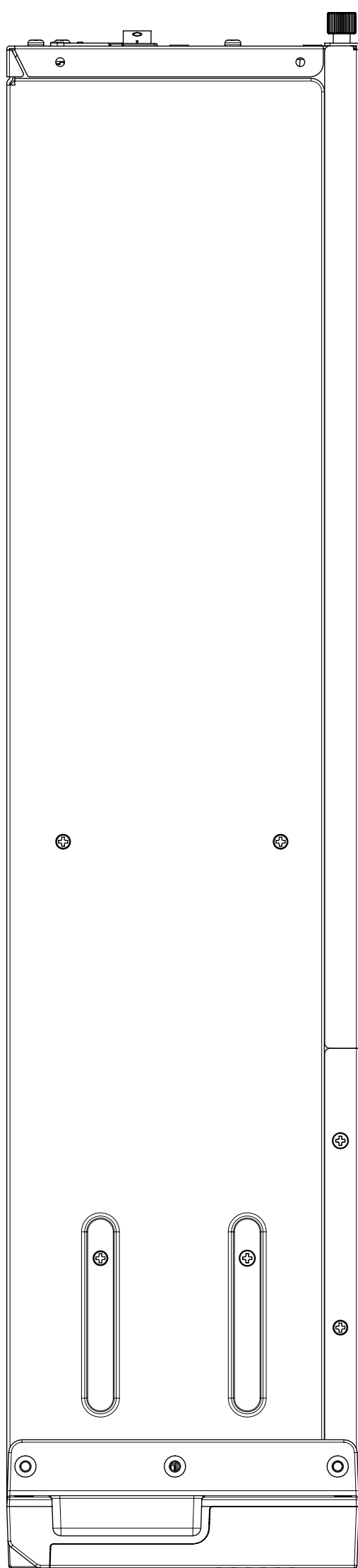
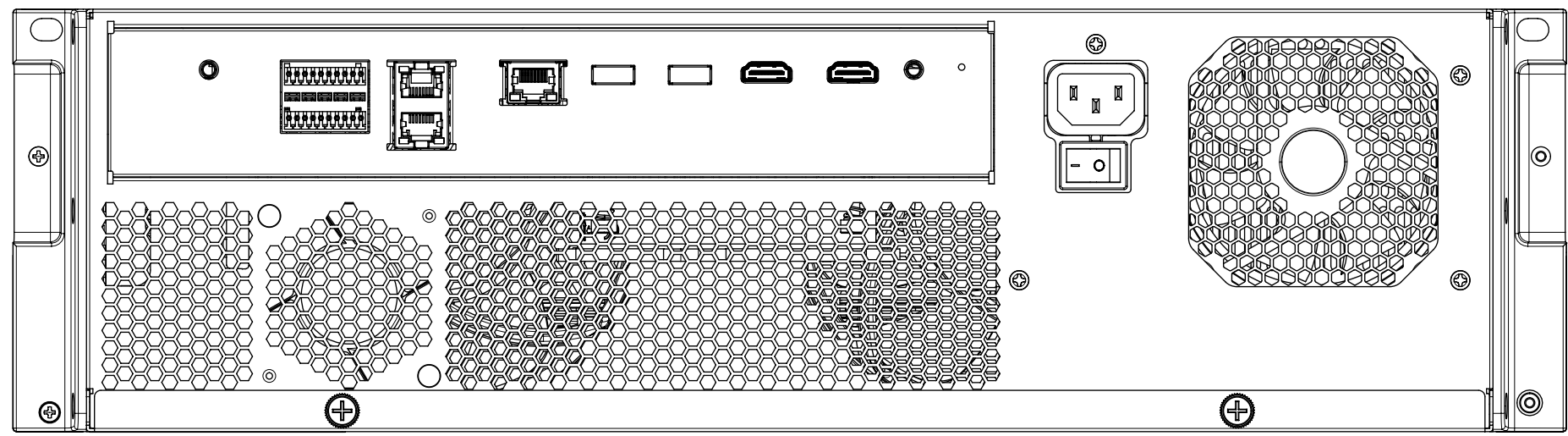
Power cord set - Alternate	CHANGZHOU HONG CHANG ELECTRONICS CO LTD	DTII-3P-15+UL SVT 18AWG/3C +DTII-3P-04	Detachable, Min. 1.5 m, Max. 2.4 m long, rated 125 V, 10 A, 18/3 AWG, 105 deg. C, SVT type flexible cord. One end with NEMA 5-15P other end with appliance coupler.	ELBZ7	UL (E205766)	
Case-Top (Metal)	Interchangeable	Interchangeable	SGCC, Min. 1.0 mm thickness, see enclosure for more dimension.	-	-	
Case-Bottom (Metal)	Interchangeable	Interchangeable	SECC, Min. 1.2 mm thickness, see enclosure for more dimension.	-	-	
Case-Rear (Metal)	Interchangeable	Interchangeable	SECC, Min. 1.0 mm thickness, see enclosure for more dimension.	-	-	
Side Bracket(Metal)	Interchangeable	Interchangeable	Aluminum, Min. 3.5 mm thickness, see enclosure for more dimension.	-	-	
Front frame(Metal)	Interchangeable	Interchangeable	Aluminum, Min. 5.0 mm thickness, see enclosure for more dimension.	-	-	
Front Cover(Plastic)	LOTTE CHEMICAL CORPORATION	NH-1035(+)	Min. 3.5 mm thickness, rated Min. V-0, 80 deg. C	QMFZ2/8	UL (E115797)	
Side Cover(Plastic)	LOTTE CHEMICAL CORPORATION	NH-1035(+)	Min. 1.8 mm thickness, rated Min. V-0, 80 deg. C	QMFZ2/8	UL (E115797)	
USB Protection IC (USB 2.0 : U20, U21)	DIODES INC	AP2182A (Type: AP2182ASG-13)	Rated 2.7–5.5 Vdc, 1.5 A	QVGS2	UL (E322375)	

/ USB 3.0 :U30, U31)						
DC Fan (Main board)	COOLER MASTER CO LTD	FA09025H12(S)(P) B	Rated voltage: DC 12 V, Rated current: 0.28 A, speed: 4700±10 %RPM	GPWV2/8	UL (E319075)	
DC Fan (near main board)	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO., LTD	MF60251V1-1Q(Y) (Type: MF60251V1-1Q03U-S99)	Rated voltage: DC 12 V, Rated current: 0.08 A, speed: 4500±15 %RPM	GPWV2/8	UL (E77551)	
DC Fan (near HDD)	DONGGUAN PROTECHNIC ELECTRIC CO LTD	MG(a)12012(j)(e)-(f)25 (Type: MGT12012XR-W25)	Rated voltage:DC 12 V, Rated current: 0.52 A, speed: 2700±10 % RPM	GPWV2/8	UL (E187236)	
Lithium Battery (CN24)	WUHAN LIXING (TORCH) POWER SOURCE CO LTD	CR2032	Lithium / manganese dioxide (Coin), Non-rechargeable, 3.0 Vdc, Abnormal Charging Current 10 mA.	BBCV2	UL (MH26236)	
Reverse Current Protection Circuit for Lithium Coin Battery (CN24)	Interchangeable	Interchangeable	Diode (D16, Max reverse voltage 30 V, Max reverse current 1.0 A) and resistor (R268, 1.0 kohm) in series.	-	-	
Internal Wiring (secondary)	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; Min. 30 V, 80 deg. C	AVLV2/8	UL	
Cable	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; Min. 30 V, 80 deg. C	AVLV2/8	UL	
FFC cable	Interchangeable	Interchangeable	Marked VW-1; Min. 60 V, 105 deg. C	-	UL	
Label	Interchangeable	Interchangeable	Suitable for use on each type of surface to	PGDQ2 or PGJ12	UL	

			which applied, rated for maximum and minimum surface temperature specified, or Min. 40 deg. C if not specified.			
PWB	HANNSTAR BOARD CORP	MV-4	Min. V-0, 130 deg. C	ZPMV2/8	UL (E89382)	
PWB - Alternate	EXPRESS ELECTRONICS LTD	14MV0	Min. V-0, 130 deg. C	ZPMV2/8	UL (E157925)	
PWB - Alternate	KI JOO INDUSTRIAL CO LTD	KJ3-V-0-1	Min. V-0, 130 deg. C	ZPMV2/8	UL (E111636)	
PWB - Alternate	Interchangeable	Interchangeable	Min. V-0, 130 deg. C	ZPMV2/8	UL	

Enclosures

Type	Supplement Id	Description
Photographs	03-01	Overview-1
Photographs	03-02	Overview-2
Photographs	03-03	Front view
Photographs	03-04	Rear view
Photographs	03-05	Internal view
Photographs	03-06	Internal SMPS view
Photographs	03-07	Internal SMPS view-2
Photographs	03-08	Mainboard top view
Photographs	03-09	Mainboard bottom view
Photographs	03-10	SW RAID CARD view-1
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Photographs	03-12	SATA-L board view
Photographs	03-13	SATA-L board view
Photographs	03-14	SATA-R board view
Photographs	03-15	SATA-R board view
Photographs	03-16	Mainboard near Fan view
Photographs	03-17	HDD FAN view
Photographs	03-18	Label(XRN-3220B4)
Photographs	03-19	Label(XRN-6420B4)
Diagrams	04-01	Appearance
Manuals	06-01	Manual



3	MODEL 2	
2	XRN-3220B4	'23.08.22
1	XRN-6420B4	'23.08.22
No.	MODEL NAME	DATE

NETWORK VIDEO RECORDER

Product Specification Manual

XRN-6420DB4/XRN-6420B4/XRN-3220B4



Network Video Recorder

Product Specification Manual

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Disclaimer
Hanwha Vision makes the best to verify the integrity and correctness of the contents in this document, but no formal guarantee shall be provided. Use of this document and the subsequent results shall be entirely on the user's own responsibility. Hanwha Vision reserves the right to change the contents of this document without prior notice.

- ❖ Design and specifications are subject to change without prior notice.
You can download the latest version from the Hanwha Vision web site. (www.HanwhaVision.com)
- ❖ 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.

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 Vision retains the copyright on this manual.
- This manual cannot be copied without Hanwha Vision'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 severe internal burns in just 2 hours and can lead to death.
- Keep new 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 or the body, seek immediate medical attention.

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/pièce de monnaie. Si la pile de type bouton/pièce de monnaie est avalée, elle peut causer de graves brûlures internes en seulement 2 heures et peut entraîner la mort.
- Gardez les piles neuves et usagées hors de portée des enfants. Si le compartiment de la pile ne se ferme pas correctement, cessez d'utiliser le produit et gardez-le d'atteinte 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, restarting 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-6420DB4/XRN-6420B4/XRN-3220B4
P2P	XRN-6420DB4/XRN-6420B4/XRN-3220B4
Alarm	XRN-6420DB4/XRN-6420B4/XRN-3220B4
RAID	XRN-6420DB4/XRN-6420B4/XRN-3220B4
Distributed recording	XRN-6420DB4/XRN-6420B4/XRN-3220B4
iSCSI	XRN-6420DB4/XRN-6420B4/XRN-3220B4
AI compatible function	XRN-6420DB4/XRN-6420B4/XRN-3220B4
Joystick	XRN-6420DB4/XRN-6420B4/XRN-3220B4
Extended monitor	XRN-6420DB4/XRN-6420B4/XRN-3220B4
Power supply redundancy	XRN-6420DB4
Failover	XRN-6420DB4/XRN-6420B4/XRN-3220B4

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overview

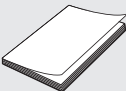
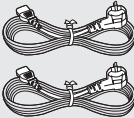
FEATURES

The product records video and audio from network cameras to a hard disk, and enables playback from the hard disk. It also provides remote monitoring environment for video and audio over the network using a remote computer.

- Supports AI search (Person, Face, Vehicle, License Plate)
- Supports BestShot view
- Supports instant viewer
- Bookmark function
- Thumbnail function
- View camera event list in real time
- Convenient event rule setup
- Various sequence (layout, page) functions
- Extended search period
- Convenient log search
- Supports thermal imaging camera/PTZ linked camera
- Supports a range of 4K camera resolutions
- Outputs a 4K high definition image using HDMI
- Supports dual monitor output (expand, duplicate)
- Record and play video
- Record and play audio
- Supports ONVIF Profile S standard and RTP / RTSP protocols
- Display the HDD operation status by HDD SMART
- HDD overwrite enabled
- Function to export using USB memory and external hard disk
- Simultaneous play of 32, 64 channels
- View multi-channel time line when playing videos
- Various Search Modes (Time, Event, Smart, Text, Export, ARB)
- ARB support (configuration feature for saving period by channel)
- Various recording modes (Normal, Event, Scheduled Recording)
- Alarm Input / Output
- Remote monitoring function by Windows Network Viewer
- Live monitoring of the network camera
- Installation Wizard Function (Recorder, Web Viewer)
- Supports the remote monitoring feature by DDNS/P2P support (Wisenet Viewer/Wisenet mobile)
- Provides smartphone event alarm (sending real-time event messages)

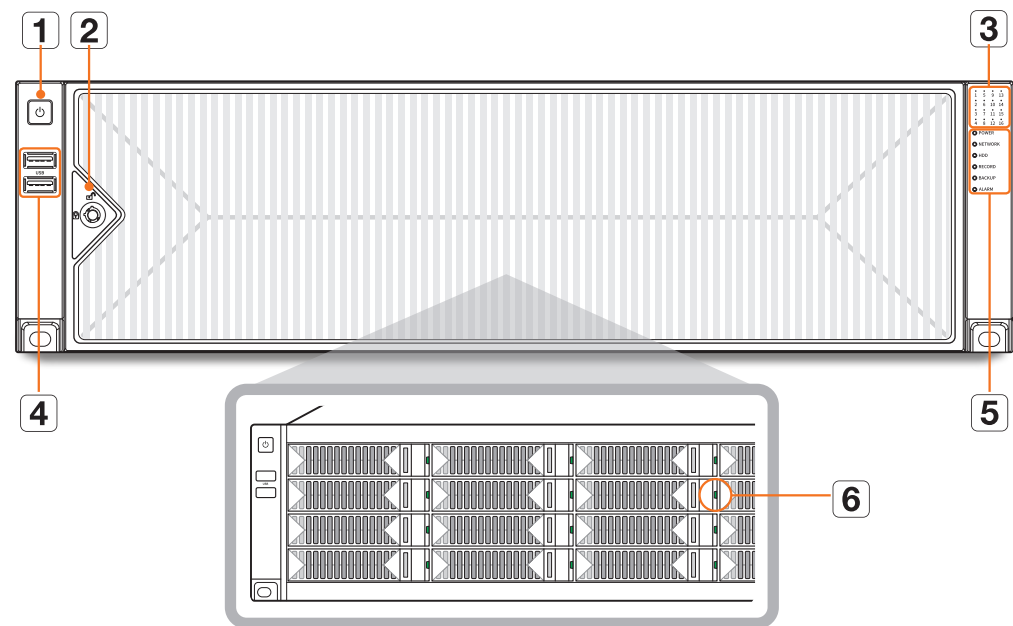
PACKAGE CONTENTS

Please unwrap the product, and place the product on a flat place or in the place to be installed.
Please check the following contents are included in addition to the main unit.

		
Recorder	Mouse	Quick Guide
		
Power Cable (2 ea) (XRN-6420DB4)	Power Cable (1 ea) (XRN-6420B4/XRN-3220B4)	Terminal Block (2 ea)
		
Front Cover Lock Key	HDD Fixing Screw (64 ea)	Anti-slip Rubber Pad
		
Hard Disk Number Sticker		

overview

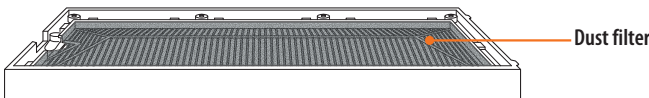
PART NAMES AND FUNCTIONS (FRONT)



Name		Functions
6	Individual LED lamp of the hard disk	You can check the operation status of each hard disk by opening the front cover of the recorder.
		- RAID Mode - Flashing green light : Hard disk operating - Red light : Hard disk failed or removed - Yellow light : Hard disk recovering - Single hard disk mode - Flashing green light : Hard disk operating

Front dust filter

There is a dust filter mounted inside the front cover. Dust in the filter can cause airflow problems, which may increase the temperature of the recorder and hard disk. Clean the dust filter regularly.

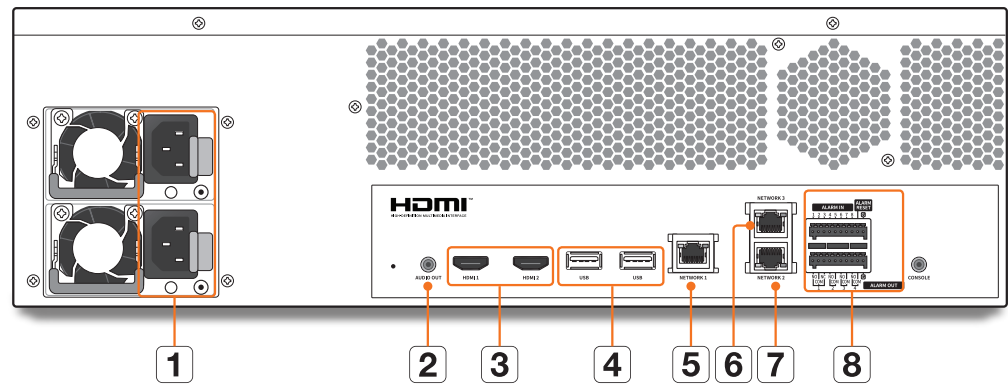


Name		Functions
1	Power	It is used to turn on the power.
2	HDD door lock key	This is a locking device used to restrict access to the HDD. Use the product key provided when you purchased the product.
3	Hard disk location display	Displays the location where the hard disk is mounted.
4	USB	Connects the USB devices. (500mA current limit, USB 2.0) Connect a dongle for a wireless keyboard or mouse to the front USB port.
5	LED Indicator	POWER : Shows the power ON/OFF status.
		NETWORK : Displays both network connection and data transfer status.
		HDD : Displays the operation status of the hard disk. - Yellow light : Rebuilding in RAID mode - Red light : An error of the hard disk in RAID mode - Flashing green light : Hard disk operating
		RECORD : Lights on when recording is in progress.
		BACKUP : The LED will light up when the Export Recorded Video is in operation.
		ALARM : Lights on when an event occurs.

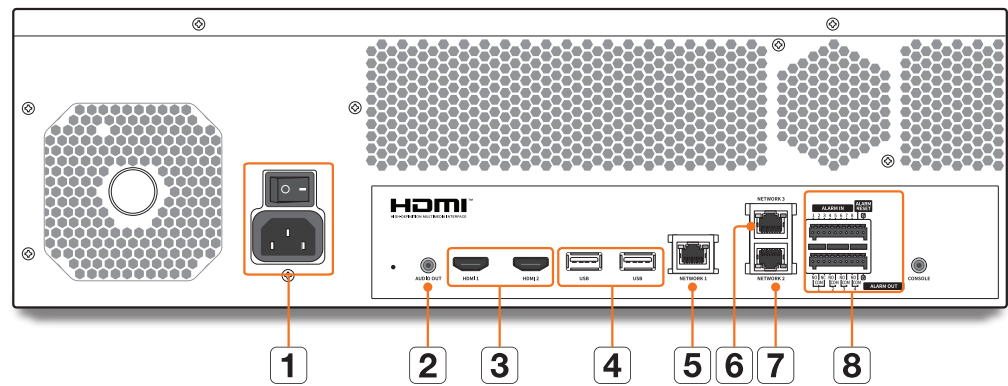
overview

PART NAMES AND FUNCTIONS (REAR)

XRN-6420DB4



XRN-6420B4/XRN-3220B4



Name		Functions
1	Power	Terminal to connect power to. (XRN-6420DB4) - With duplex power supply, even if you connect only one power supply, it can operate properly. - SMPS buzzer will sound when a problem occurs during operation.
	Power/Power Switch	A terminal to connect the power and a switch to turn the power on and off. (XRN-6420B4/XRN-3220B4)
2	AUDIO OUT	Audio signal output port.
3	HDMI 1, 2	HDMI connector port. - HDMI 1: Up to 3840 x 2160 30 Hz-supporting terminal to connect the primary monitor. - HDMI 2: Up to 3840x2160 30 Hz-supporting terminal to connect a secondary monitor.
4	USB	Connects the USB devices. (USB 3.0 supported)
5	NETWORK 1	Port for camera connections; it receives video from a camera.
6	NETWORK 3	Port to make a connection to the external iSCSI.
7	NETWORK 2	Port recommended for connection with a network, web viewer.
8	ALARM	- ALARM IN : Alarm input ports. (1~8 CH) - ALARM RESET : Alarm reset port. - ALARM OUT : Alarm output ports. (1~4 CH)

- 
 - When connecting the AC power cord or turning on the power switch, there may be a luminous (light) phenomenon inside the SMPS. This phenomenon is the normal operation of the SMPS protection element.
 - CONSOLE is designed for the service repair purpose only.

installation

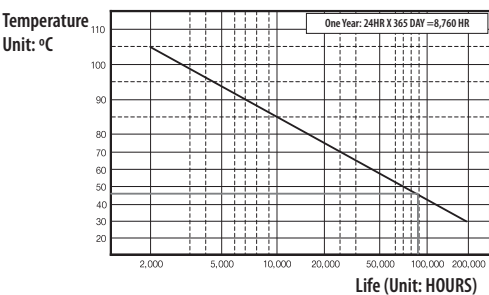
Please take note of the followings before using this product.

- 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.



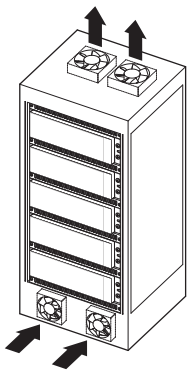
[Figure 1]

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 (Tma) 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).



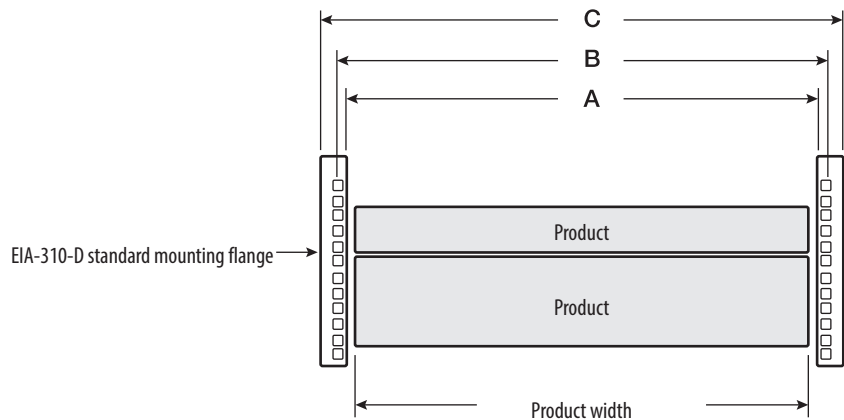
[Figure 2]

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



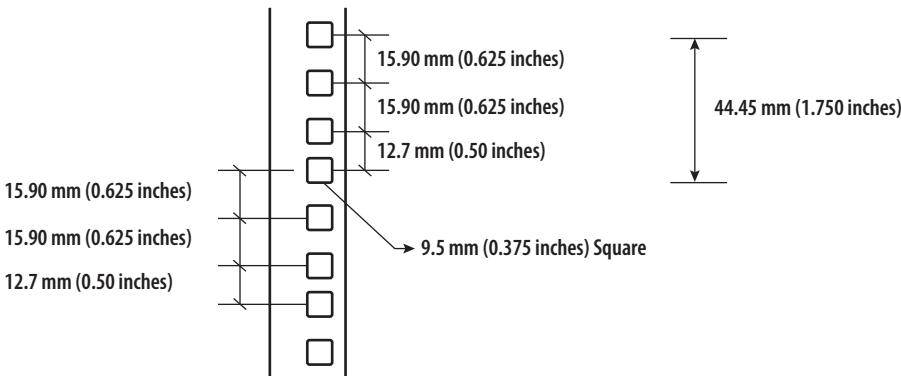
• Notable dimensions

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

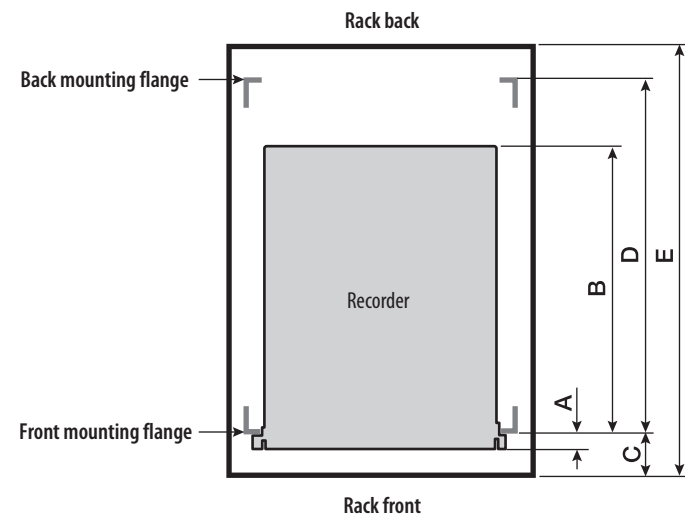
• Flange mounting holes (square holes are recommended for XRN-6420/XRN-3220 series)

While EIA-310-D standard allows the mounting flange holes to be round, square, or tapped (threaded), the XRN-6420/XRN-3220 series is only designed to work with round or square holes, but not tapped holes.

• Square mounting holes



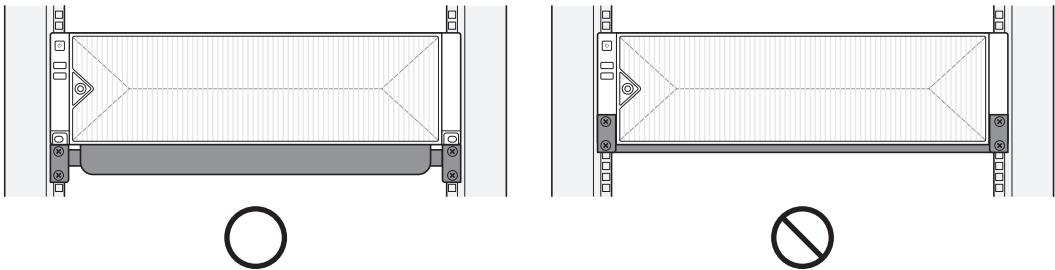
Recommended rack dimensions



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

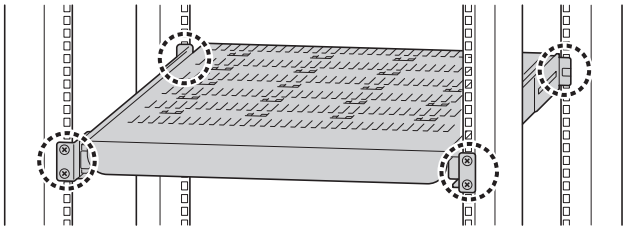
Precautions when selecting shelves

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.

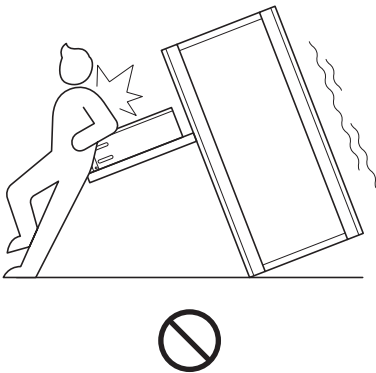
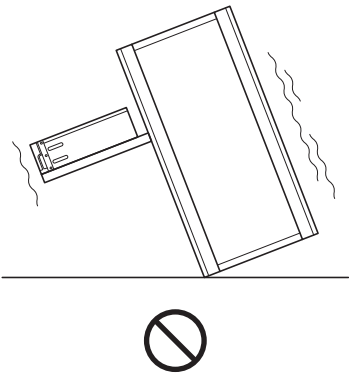
- A shelf needs to be secured with at least 4 screws.



Precautions when using sliding shelves

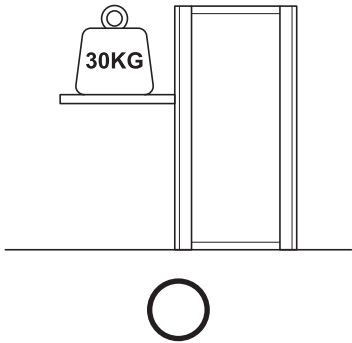
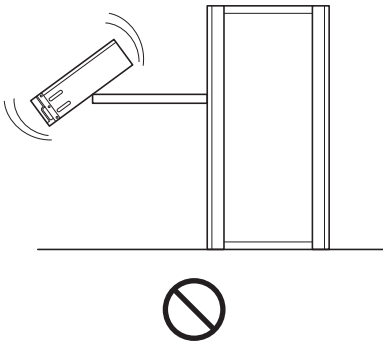
When removing a shelf, fix the rack to the ground so that it does not get toppled.

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



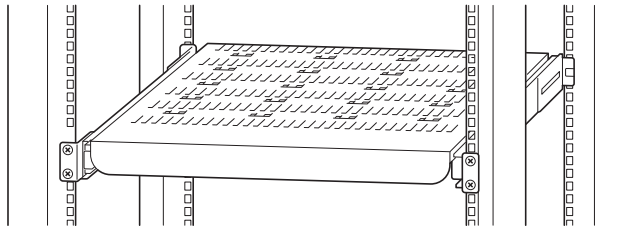
When sliding in/out the shelf, be careful not to drop the product.

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

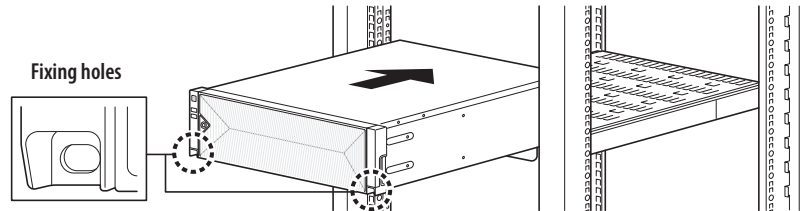


How to install rack

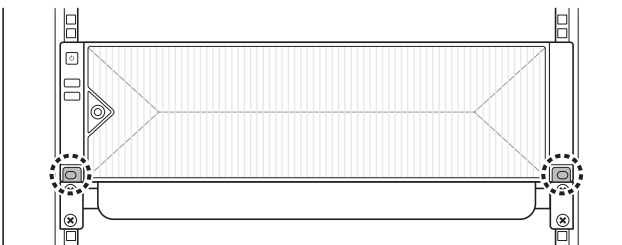
- 1 Mount the fixed or sliding shelf onto the 19-inch rack.
 - See the manual provided by the manufacturer for installing the fixed shelf.



- 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.
 - The front cover can only be opened through the product manager.

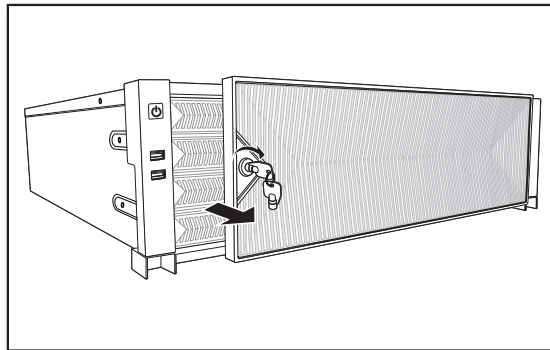
installation

Installing the HDD

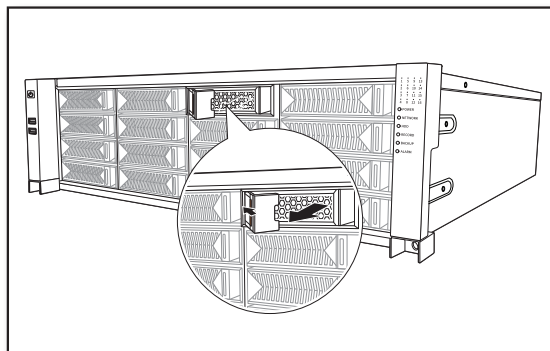


- If you are adding a new or previously used HDD to this product in addition to the HDD(s) originally installed, format the new HDD manually in the set before use.
To learn how to format, see "Device/Format" in the User Manual.

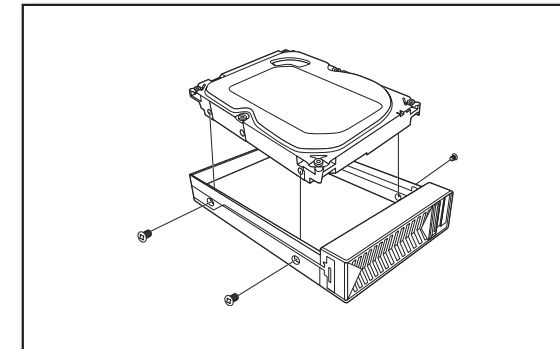
1. Use the front cover lock key to unlock the cover. Grab the front cover with both hands and pull it to the left to remove it.



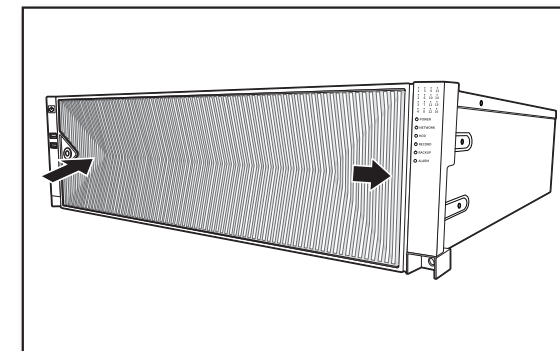
2. Press the orange button on the hard disk bracket to the left and pull forward to separate the main body and the hard disk bracket.



3. Mount a HDD in the HDD bracket and screw it in using the screws provided.



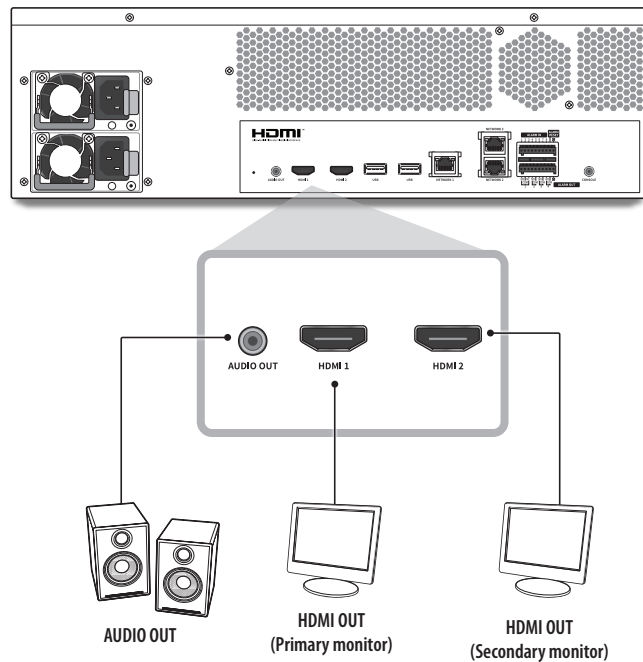
4. Once the HDD is mounted in the bracket, push the bracket into the main body and close the front cover.
 - Fit the front cover into the right notch of the main body, then press and close until you hear a 'click'.
 - Use the front cover lock key to lock the front cover so that it does not get separated.



connecting with other device

CONNECTING TO AN EXTERNAL DEVICE

■ The following figures are based on Model **XRN-6420DB4**.



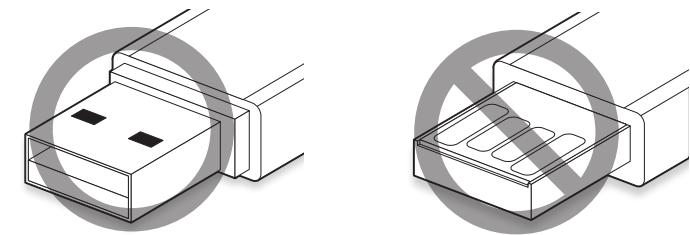
■ Unrated or improper power source may cause damage to the system. Ensure that you use only the rated power source before pressing the POWER button.

CONNECTING THE USB

1. On the front of the product, there is a USB port.
2. You can connect a USB HDD, USB memory or mouse to the USB port.
3. If your USB HDD is connected to the system, it can be detected and set up by following the steps in **"Setup > Setting the Device > Storage Device"** of the User Manual.
4. The product supports hot plugging function that enables connecting/disconnecting USB devices while in operating the system.



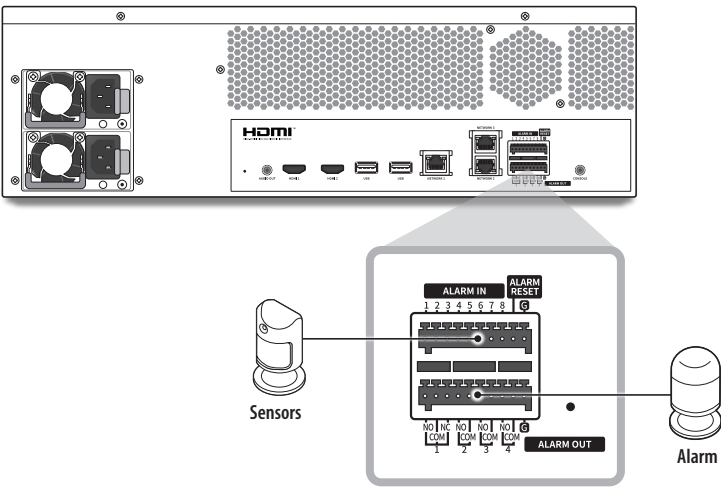
- If the USB device for Export Recorded Video is not formatted in the recorder, format it as FAT32 on the PC.
- Some USB devices may fail to function properly due to compatibility issue, please check the device before using.
- Only USB storage devices that comply with the standards (having a metal cover) are guaranteed for data transfer.
- In case if the USB device's electric contacts have been worn out, data transfer between the devices may not properly function.



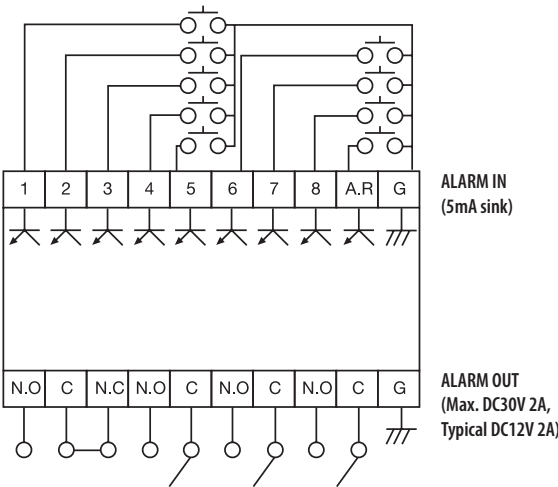
connecting with other device

CONNECTING THE ALARM INPUT/OUTPUT

The Alarm In/Out port at the back is composed of the following.



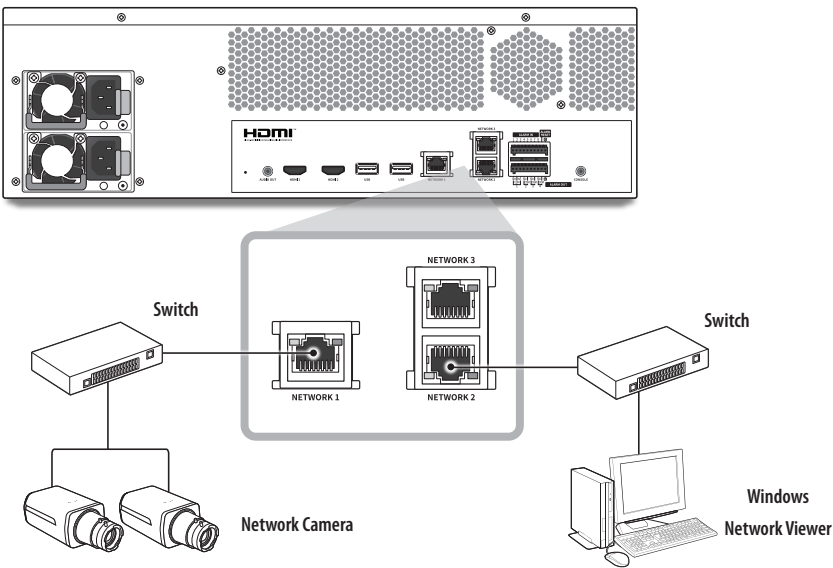
- ALARM IN 1 ~ 8 : Alarm Input Port
- ALARM RESET : On receiving an Alarm Reset signal, the system cancels the current Alarm Input and resumes sensing.
- ALARM OUT 1 ~ 4 : Alarm Output Port



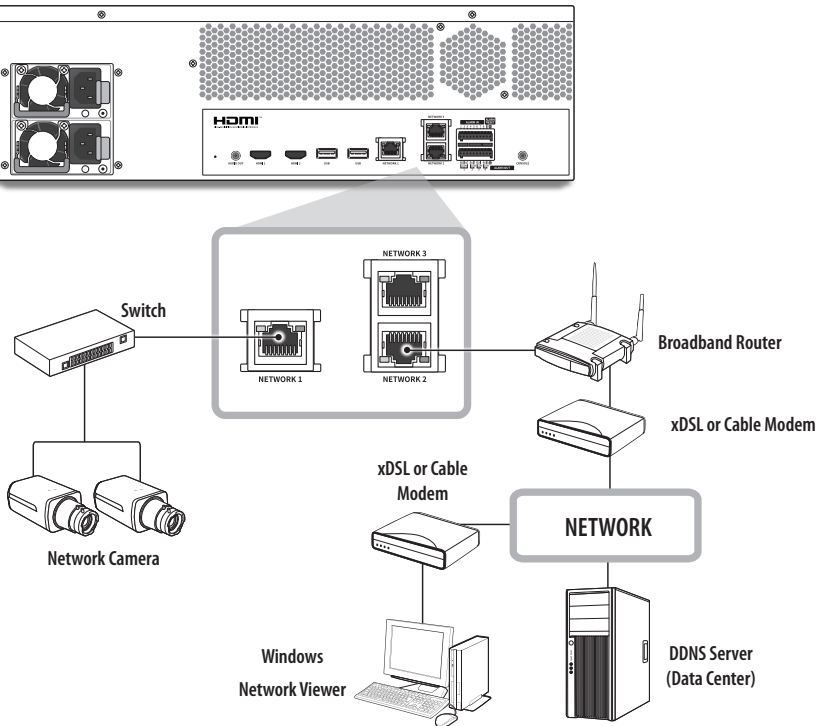
CONNECTING THE NETWORK

■ For more information about network connection, see "Setting the Network" in the User Manual.

Network connection via Ethernet (10/100/1000BaseT)



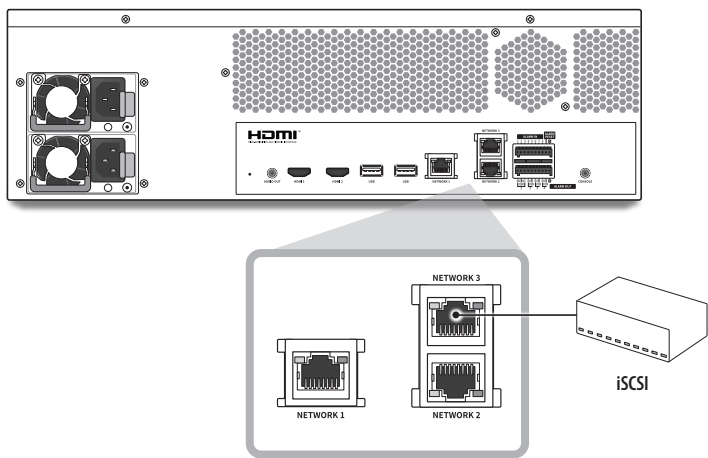
Network connection via router



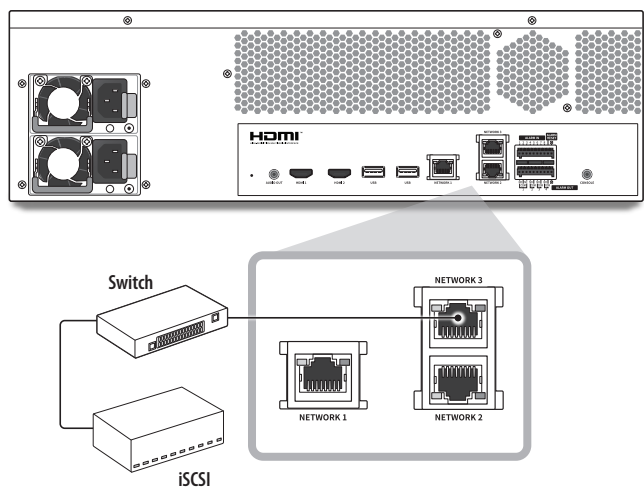
connecting with other device

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 Vision 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 Vision'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.





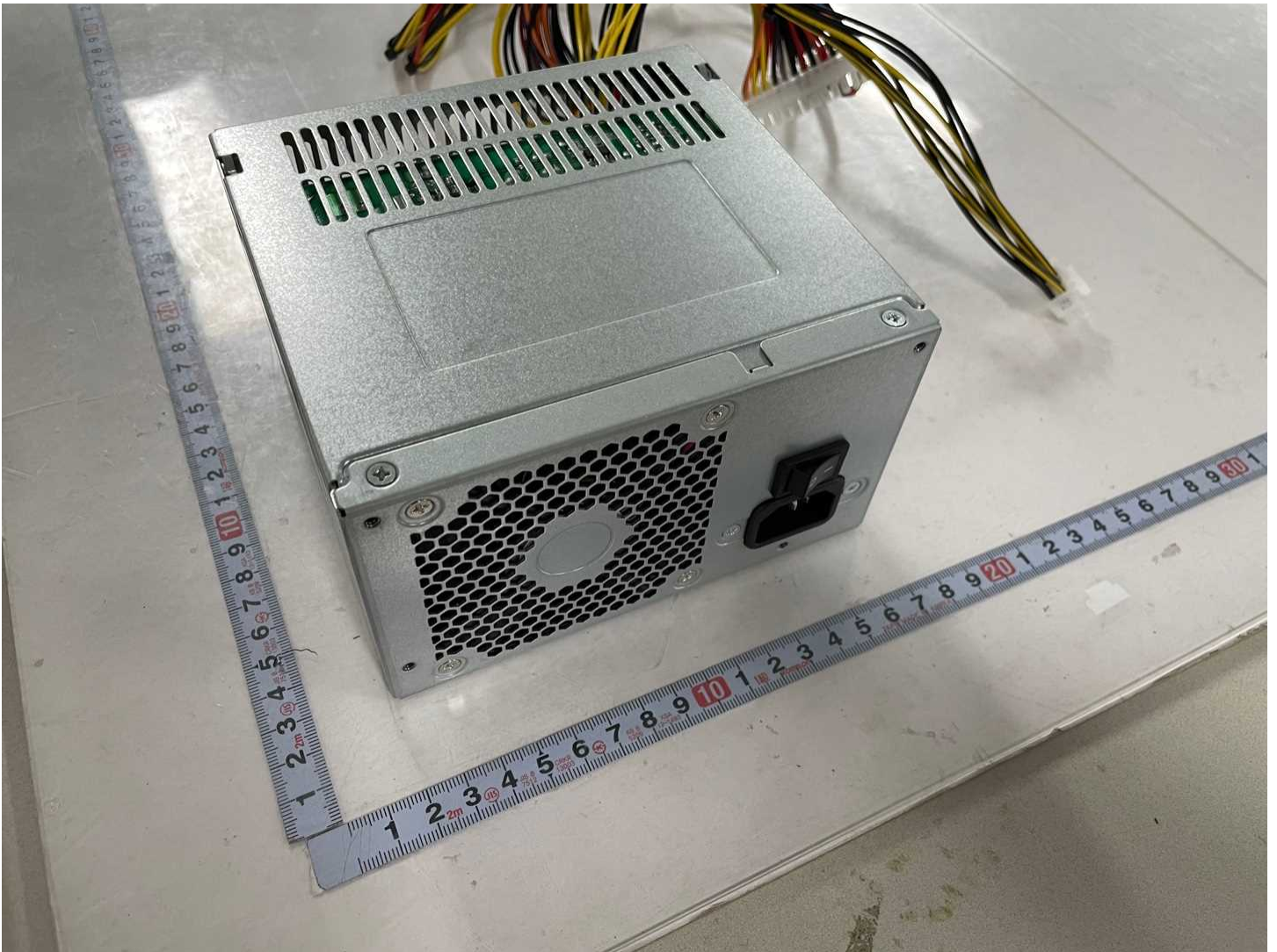


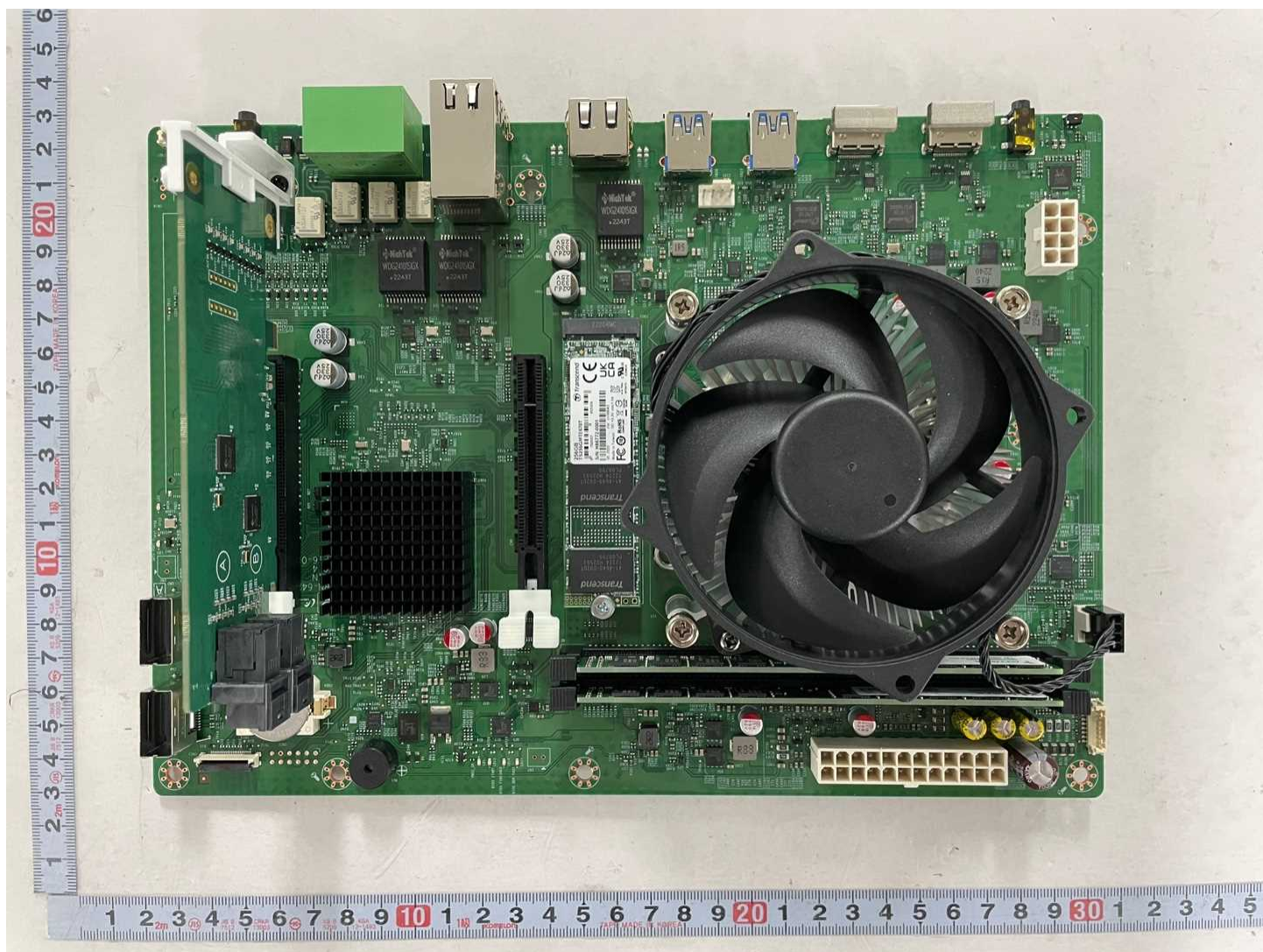


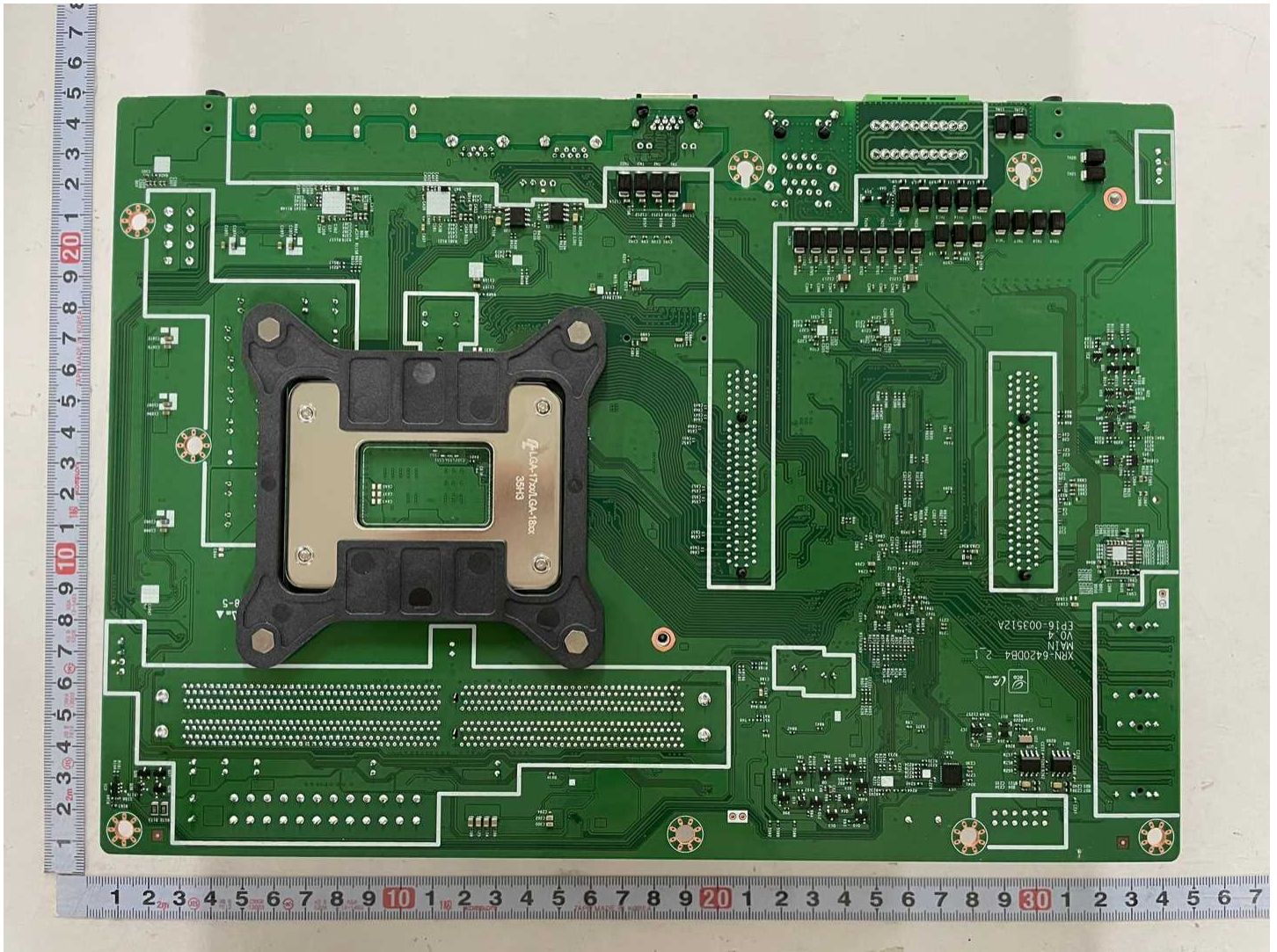


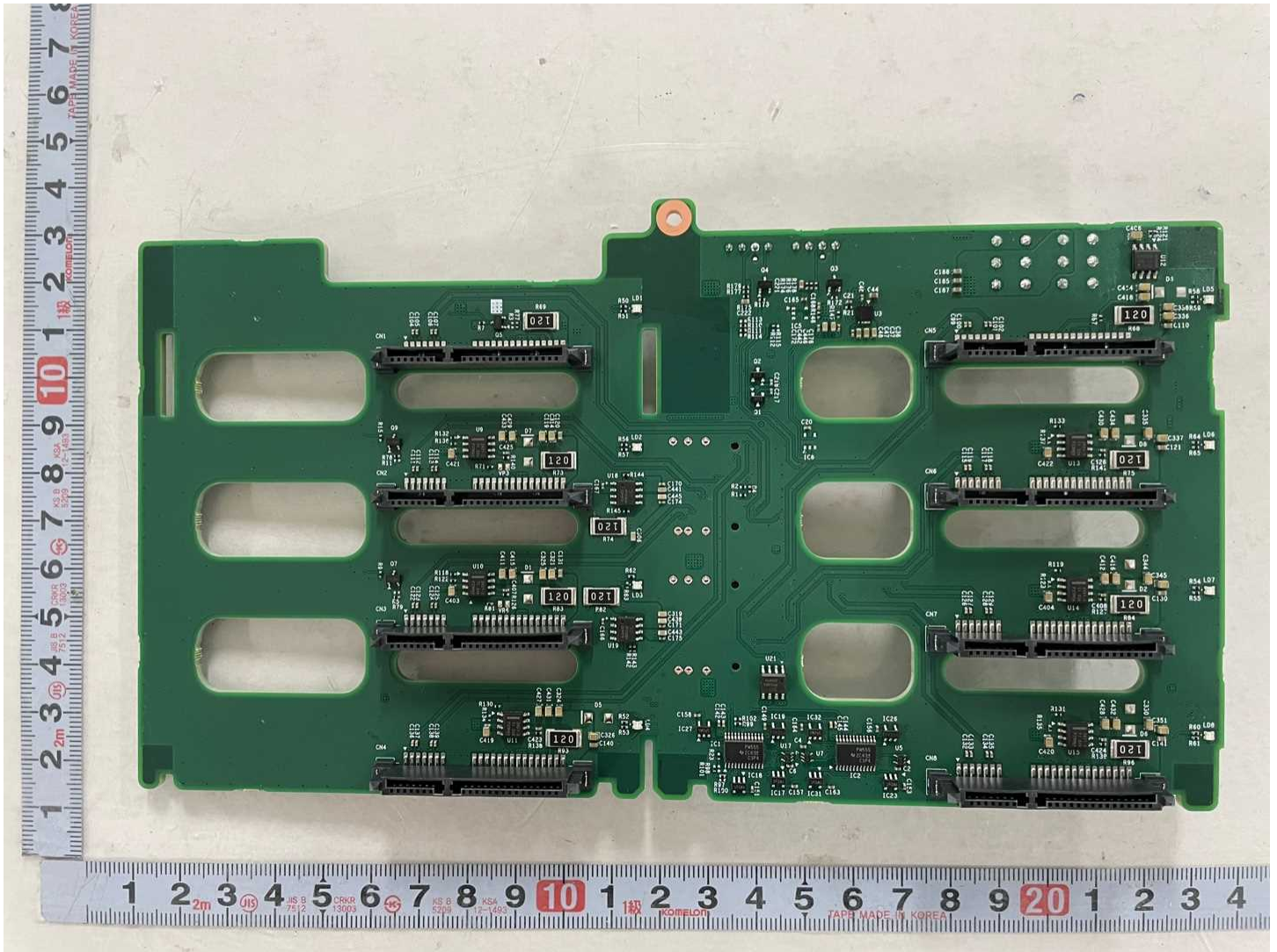


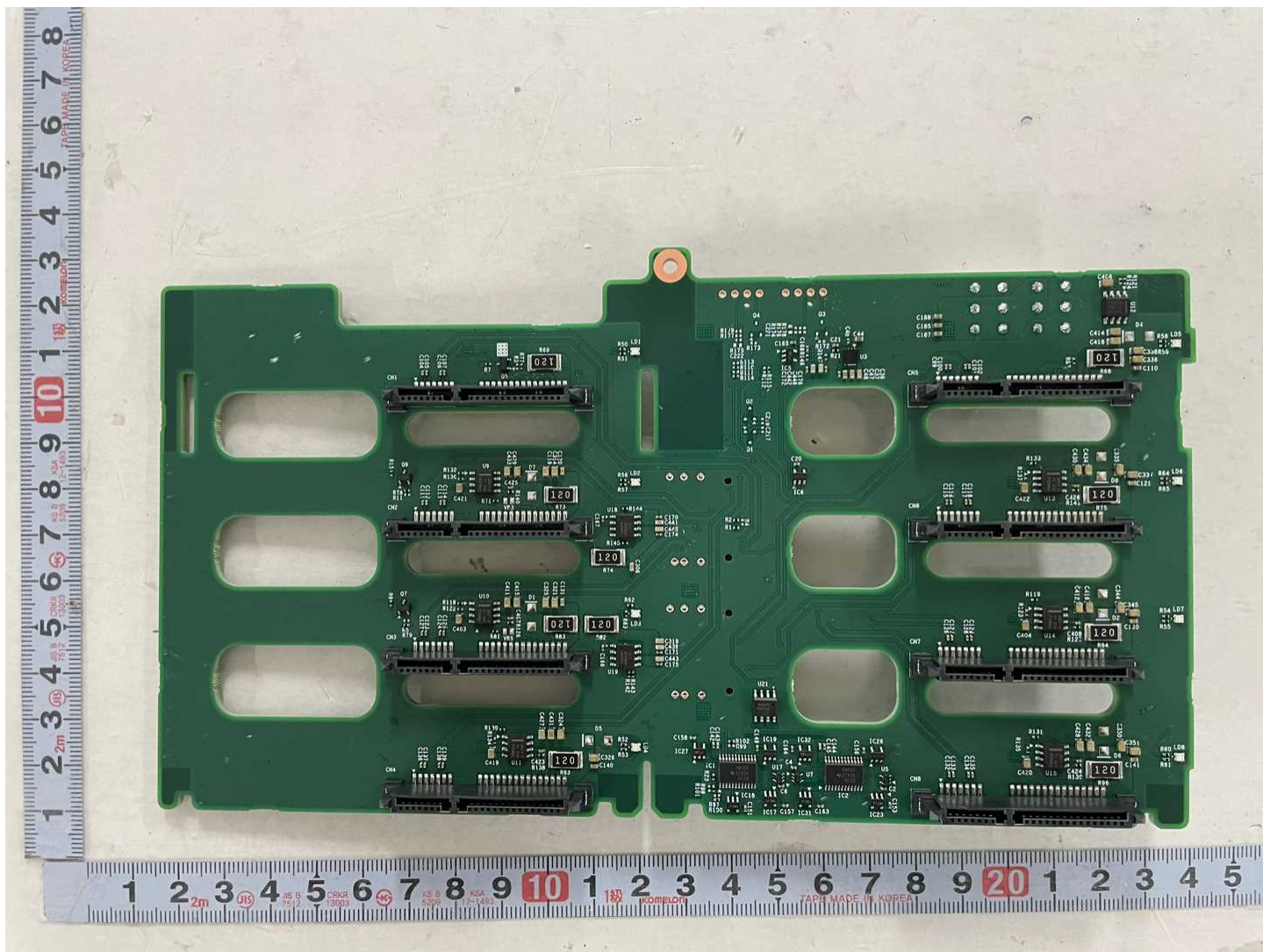


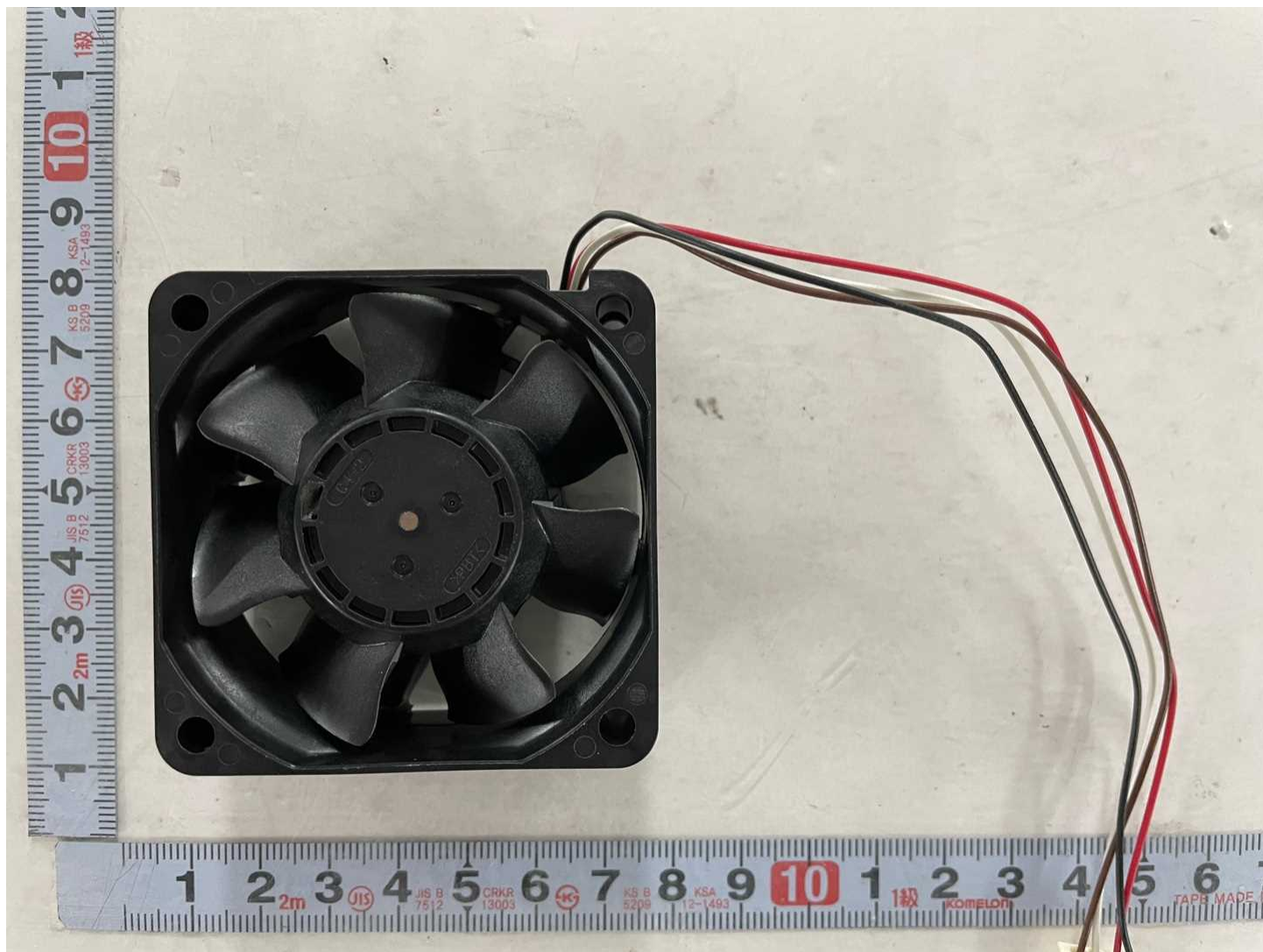














 S/N: Serial No. MAC ADDRESS 1: XX-XX-XX-XX-XX-01  MAC ADDRESS 2: XX-XX-XX-XX-XX-02 MAC ADDRESS 3: XX-XX-XX-XX-XX-03	XRN-3220B4/KAP  S/N: Serial No. MAC ADDRESS 1: XX-XX-XX-XX-XX-01  MAC ADDRESS 2: XX-XX-XX-XX-XX-02 MAC ADDRESS 3: XX-XX-XX-XX-XX-03
NETWORK VIDEO RECORDERWR MODEL: XRN-3220B4 AC 100-240V~ 50/60Hz 2.7A M/C: XRN-3220B4/KDO Fac. ID: D  DATE S/N: Serial No. 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 Vision Co., Ltd.	      I.T.E. US LISTED 9T96 E158873     PT03-002663T

 S/N: Serial No. 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	XRN-6420B4/KAP  S/N: Serial No. 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
NETWORK VIDEO RECORDER MODEL: XRN-6420B4 AC 100-240V~ 50/60Hz 2.7A M/C: XRN-6420B4/KAP Fac. ID: D  DATE S/N: Serial No. 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 Vision Co., Ltd.	  I.T.E. US LISTED 9T96 E158873  PT03-002663T