

Product Operation Manual

MSHDVS4CHD 4CH Network Digital Video Server



Microseven Systems, Inc.

Walnut, California 91789, USA



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Notes:

Please read the following label before connecting or operating the equipment.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>Notes: Please not move the cover (or back) to reduce the danger of electric shock. No part inside can be repaired by users. Refer servicing to qualified personnel.</p>		



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of exposed wiring within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to people

The serial number of this product can be found on the top of the unit. Please note the serial number of this unit in the space provide and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model: _____

Product Ne _____

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1. Preface

MSHDVS4CHD 4CH network digital video server is a digital product based on network transmission, which adopts embedded real-time multi-tasking operating systems (RTOS) and embedded CPU processor, and with the function of video signal and audio signal synchronization compression.

The compressed data is transmitted by network to realize real-time video and audio preview. The system can be scheduled efficiently. Code solidify in FLASH enables more stable and reliable system operation.

The excellent H.264 algorithm ensures less data redundancy, which is more suitable for network transmission, provide RS-485 interface and alarm input and output interfaces.

MSHDVS4HD can be equipped with built-in hard disk to IDE HDD 500 GB.

2. Key Features

2.1 Hardware

- 1 channel RS485
- 4 alarm input/output
- 4 BNC video input
- 1 RCA audio input
- 1 RJ45 Ethernet port
- 1 USB port
- 1 power port
- 1 channel RS485

2.2 Software

- Adopts H.264 video compression format and G.711 audio compression format, provides 4-channel video/audio collection, compression and transmission.
- Provides I/O control to realize alarm input/output
- PTZ control function
- Provides management of user, log and alarm report
- QCIF/CIF image adjustable, allows NTSC/PAL switch; maximum frame rate: 120fps for NTSC, and 100fps for PAL; Bit stream: 100Kbps-3Mbps
- Alarm functions: alarm input signal, motion detection, alarm linkage output.
- Intercom: two-way audio intercommunication.
- Static IP, provides Web Server, supports TCP and UDP multicast.
- Supports PPPOE; support online upgrade, built-in watch dog.
- Support recording & storage of hard disk;

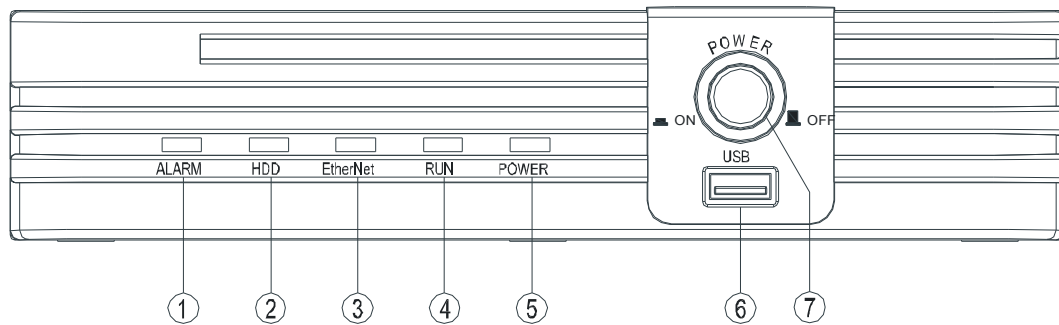
3. Notes

- A. Keep away from the high-temperature objects and places
- B. Avoid direct exposure to sunlight
- C. Do not put it at wet places
- D. Do not install at the violently shook places
- E. Do not put any other equipment on the video server
- F. Video server should be installed in a well-ventilated place, and not to block the equipment vents;
- G. Make sure the power cable is well connected before turning on the power switch.
- H. Confirm whether install the hard disk during the initial installation, and notice the line jump to the main disk status;
- I. Do not open the box without any professional personnel, please contact manufacturer when malfunction happens.

4. Instructions for Main Parts

4.1 Front Board

A. Definition of Front Board

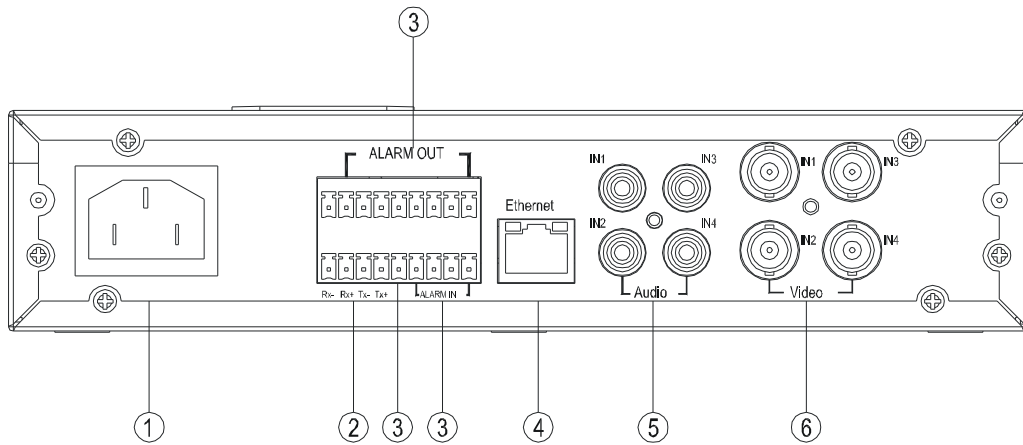


- ① Alarm indicator **【ALARM】**
- ② Network indicator **【Ethernet】**
- ③ Hard Disk indicator **【HDD】**
- ④ System Status indicator **【RUN】**
- ⑤ Power indicator **【POWER】**
- ⑥ USB port
- ⑦ Power switch button

B. Indicator Status

POWER (Red)	Normal-On	Power on
	Normal-Off	Power off
RUN (Green)	Flittering	Normal operating procedures
	Normal-On/ Normal-Off	Abnormal operating procedures
Ethernet (Green)	Normal-On	Network connected
	Normal-Off / Flittering	Network unconnected
HDD (Green)	Flittering	HDD in writing / reading
	Normal-Off	HDD no working
ALARM (Red)	Normal-On	Alarm signal
	Normal-Off	No alarm signal

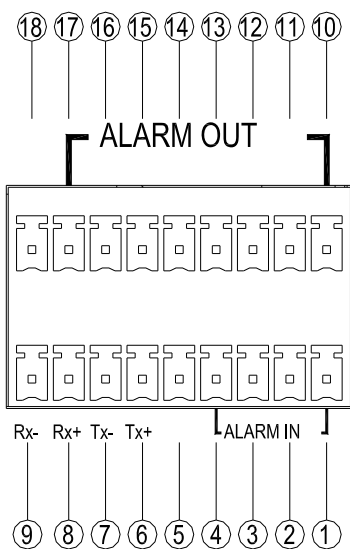
4.2 Rear Board



- ① Power in
- ② RS-485 interface
- ③ Alarm input/output interface
- ④ Network interface
- ⑤ Audio input interface
- ⑥ Video input interface

4.3 Alarm Port and RS485 Port

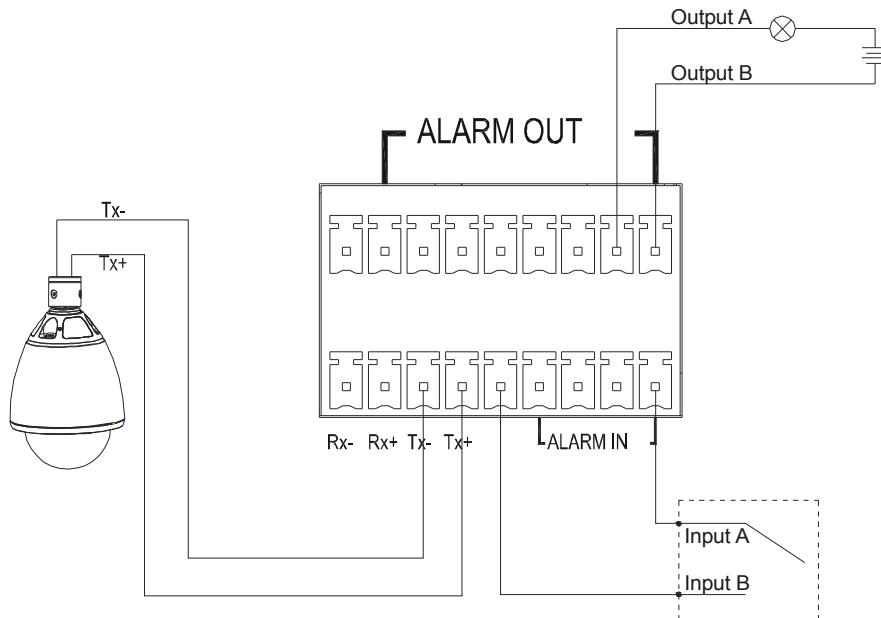
A. Alarm input/output and RS485 port definition



- ① Alarm input 1
- ② Alarm input 2
- ③ Alarm input 3
- ④ Alarm input 4
- ⑤ Alarm input public terminal
- ⑥ RS485 sending (Tx+)
- ⑦ RS485 sending (Tx-)
- ⑧ RS485 receiving (Rx+)
- ⑨ RS485 receiving (Rx-)
- ⑩ Alarm output public terminal
- ⑪ Alarm output 1
- ⑫ Alarm output2 public terminal
- ⑬ Alarm output 2
- ⑭ Alarm output3 public terminal
- ⑮ Alarm output 3
- ⑯ Alarm output4 public-end
- ⑰ Alarm output 4
- ⑱ Reserve

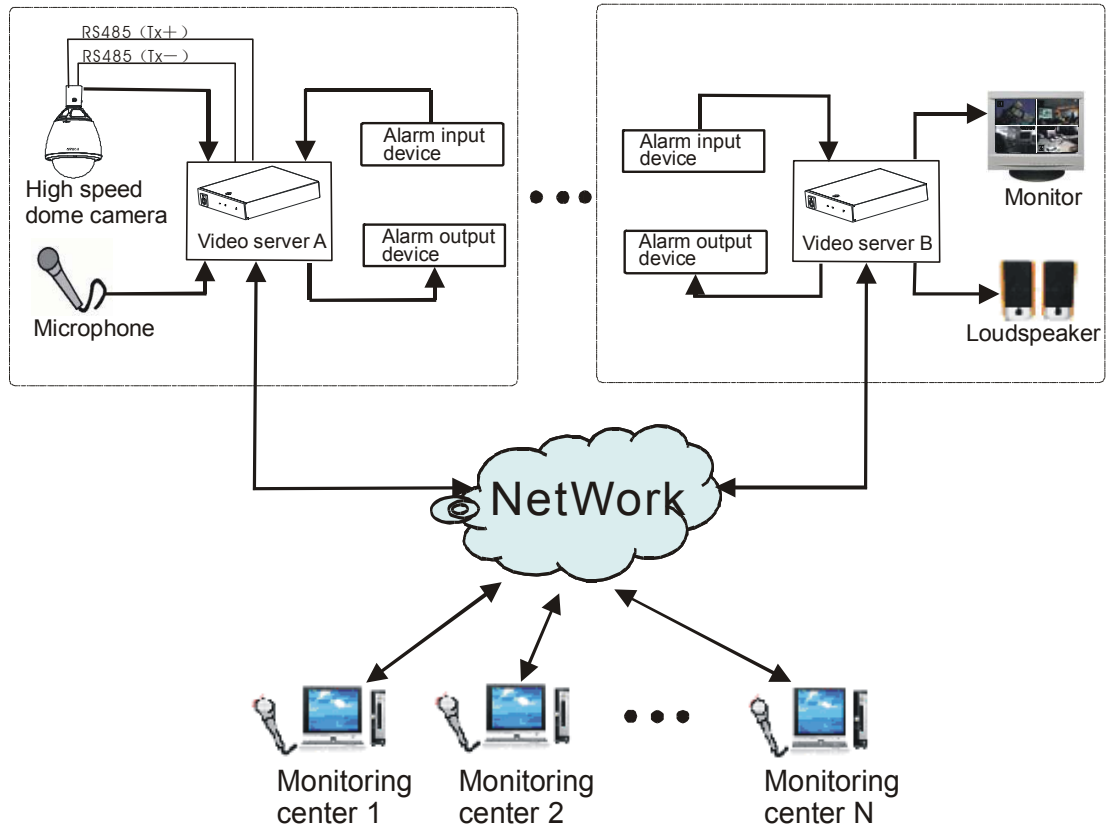
B. Sketch Map for Alarm input/output and RS-485 Port

Note: Both the alarm input and output are I/O, A and B are the 2 ends of the I/O.



5. Setup & Application

The following is the basic system chart of MSHDVS4CHD network video server.



5.1 Hardware Setup Steps

Step 1	Checking product and accessories
Step 2	Hard disk setup
Step 3	Set up video server
Step 4	Connect the equipment to network by RJ45 port
Step 5	Connect video source to video input port
Step 6	Connect audio source to audio input port
Step 7	Connect speed dome or PTZ to RS485 port
Step 8	Connect the alarm input/output equipments to alarm port
Step 9	Supply power, equipment running.

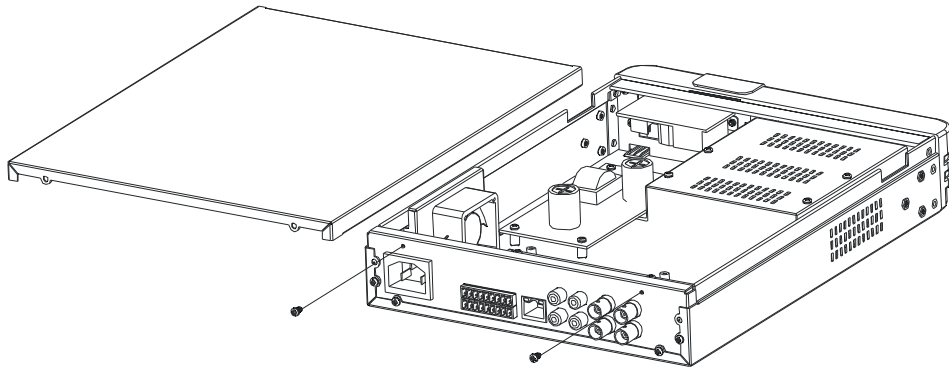
5.2 Checking product and accessories

☞ Please check whether the product and accessories are complete.

- ① Network video server 1pcs
- ② Power cable 1pcs
- ③ Network cable 1pcs
- ④ Operation manual on the CD
- ⑤ Software CD 1pcs

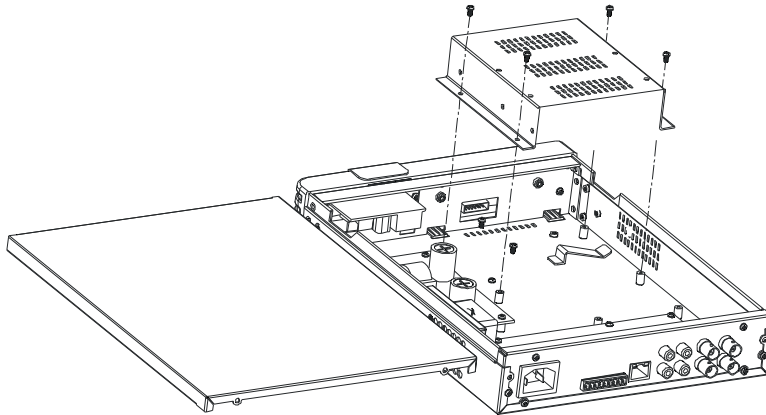
5.3 Hard Disk Setup

- A. Turn off the power
- B. Screw off the screw on the top cover, and remove the top cover, which shows as follows:

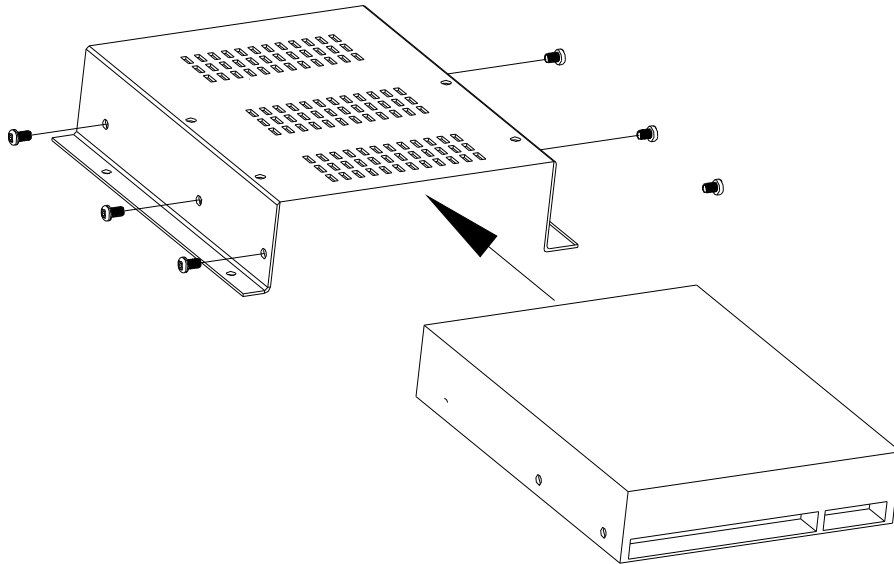


- ① Screw
- ② Top cover
- ③ Box

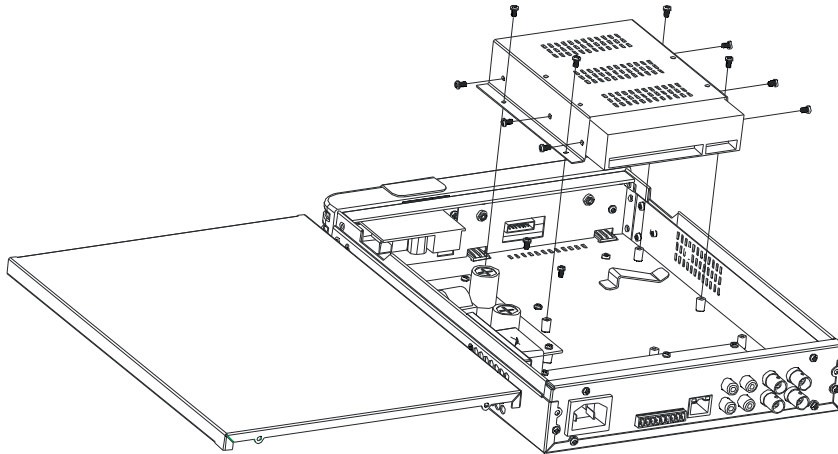
- C. Screw off the screw on the hard disk bracket, and remove hard disk bracket.



D. Fix the hard disk onto the bracket with the HDD fixed screws (keep the power port and IDE port backward)



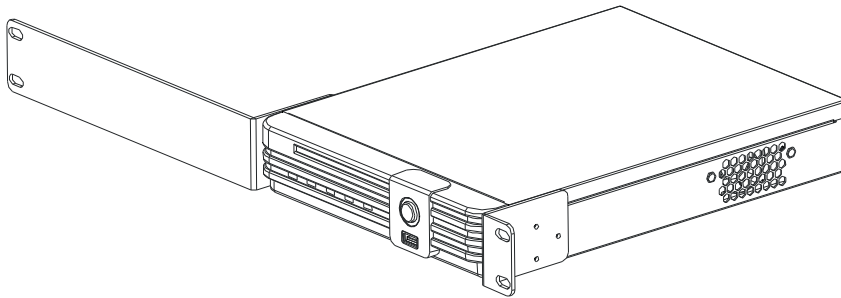
E. Install HDD bracket, and tighten the HDD fixed screws.



- F. Connect the cable of the HDD IDE port.
- G. Connect the HDD power.
- H. Install the top cover, and tighten the fixed screws on the top cover.

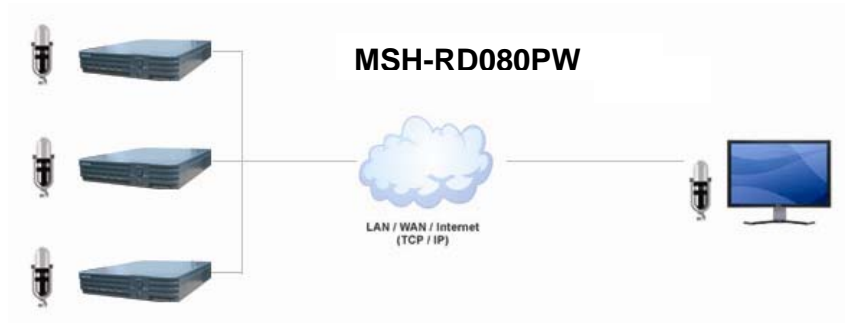
5.4 Installation on Cabinet

- ☞ Install the MSHDVS4CHD to the mounting rack with the mounting brackets and 6 screws.
 - A. Turn off the power.
 - B. Remove the 4 rubber mat.
 - C. Install the brackets onto the 2 sides of MSHDVS4CHD separately, and fix it with 6 screws (M3*10).



- D. Install the MSHDVS4CHD to the mounting rack with mounting brackets, and fix it with the 4 screws (accessories not included).

6. Basic System Diagram and Operating Circumstance



Operating environment

After the equipment installed and connected to the network, it should be operated on Server Software Platform of Microseven Digital Video Server.

7. Specifications

Item	Sub-item	Index
Video	Video Input	4 channel NTSC/PAL, 1Vpp 75Ω (BNC)
	Image Compression Standard	H.264
	Resolution	QCIF: 176*144(PAL), 176*120 (NTSC) CIF: 352*288(PAL), 352*240 (NTSC)
	Frame rate	Max: 100fps(PAL), 120fps(NTSC)
	Bit Stream	100Kbps ~ 3Mbps, CBR/VBR adjustable
	LOGO overlay	Support character and time overlay on image
Audio	Audio Input	4 channel, RCA interface, microphone or other audio input, single track
	Audio Sampling Rate	8KHz
	Audio Compression Rate	32Kbps
	Audio Compression Standard	G.711
PTZ/Communication	RS485	1, can connect to RS-485 equipments, control the speed dome or PTZ
Network	Interface	One RJ45, 10M/100M self-adjustable, connect Ethernet switch or Ethernet HUB, etc.
	Protocol	TCP/IP, UDP/IP, HTTP, FTP, ICMP, Telnet, IGMP, PPPOE, DDNS, DNS, DHCP
	IE Application	Built-in web server, allows IE browsing and controlling

	Network Time Check	Provide the interface for network time checking
	Equipment Search	Support equipment searching by Ethernet broadcasting
Alarm	Motion Detection Alarm	1-9 level available for sensitivity and 16x12 areas for detecting
	I/O Status Alarm	4 channel input/output, switch signal
Safety	User Administration	Provide multi-level user administration
	Built-in Watchdog	Timing detection of chips & software work status, auto system reset
	Remote reposition	Realize remote reposition through network
Others	Power Supply	AC110V/60Hz AC220V/50Hz 2A
	Power Consumption	<35W
	Working temperature	-10°C - +50°C
	Working Humidity	≤ 95%

8. Common Questions & Answers

- ☞ **Q: System operation could not be activated, the power indicator does not light.**
A: Check if the power is connected, and if the input voltage is normal.
- ☞ **Q: Network indicator does not light and cannot login the system.**
A: Check if the network is connected, and if the net line is inserted properly.
- ☞ **Q: One channel of image cannot be displayed normally.**
A: Please check if video source and video input interface are well connected.
- ☞ **Q: PTZ cannot be controlled.**
A: Please check if the video server and RS-485 interface are well connected.
- ☞ **Q: Unable to upgrade or failed in upgrade.**
A: Check if the network is connected and the path of the upgraded files are correct, and check if there is any access authority allowed.

Note: Please contact us at support@microseven.com if above problems still cannot be solved by following this manual.