



MP-4100/4200 Mobile DVR



INSTRUCTION GUIDE

www.datavideo-tek.com

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Warnings and Precautions

1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord's rating.
10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:
 - a. When the power cord is damaged or frayed;
 - b. When liquid has spilled into the unit;
 - c. When the product has been exposed to rain or water;
 - d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
 - e. When the product has been dropped or the cabinet has been damaged;
 - f. When the product exhibits a distinct change in performance, indicating a need for service.

Radio and Television Interference

UNITED STATES: The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used in accordance with the instructions in this manual, it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with these instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna;
2. Increase the separation between the equipment and the receiver;
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

If necessary, consult your dealer or an experienced radio/TV technician for help and/or additional suggestions. You may find the following booklet helpful: **How to Identify and Resolve Radio-TV Interference Problems**, booklet number 004-000-00345-4, prepared by the Federal Communications Commission. It is available from the United States Government Printing Office, Washington D.C. 20402.

Note: Changes or modifications not expressly approved by the party responsible for compliance could void the user's right to operate this equipment.

Peripherals used in conjunction with this equipment must be connected via shielded interface cables. Use of unshielded interface cables may result in interference to radio and TV reception, and may void the user's right to operate this equipment.

Declaration of Conformity

Model Number: MP-4100

Trade Name: Datavideo

Responsible: Datavideo Corporation (USA)

Address: 12300-U East Washington Blvd., Whittier CA 90606, USA

Telephone: (562) 696-2324



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.
2. This device must accept any interference received, including interference that may cause undesired operation.

Tech support

It is our goal to make your products ownership a satisfying experience. Our supporting staff is available to assist you in setting up and operating your system. Please refer to our web site www.datavideo-tek.com for answers to common questions, support requests or contact your local office below.

Datavideo Corporation (USA)

12300-U East Washington Blvd., Whittier, CA 90606 USA
Tel: +1 562 696 2324 www.datavideo.us

Datavideo Technologies Europe BV

Californiedreef 263565 BL Utrecht, The Netherlands
Tel: +31 30 261 9656 www.datavideo.info

Datavideo UK Limited

Unit 2 Waterside Business Park, Hadfield, Glossop, Derbyshire SK131BE UK
Tel: +44 1457 851000 www.datavideo.info

Datavideo Technologies Co., Ltd.

10F, 176 Jian-Yi Rd, Chung Ho City, Taipei Hsien, Taiwan 235
Tel: +886 2 8227 2888 www.datavideo.com.tw

Datavideo Technologies China Co.

2F-D, 2 Lane 777, West Guangzhong Rd, Zhabei District, Shanghai, China
Tel: +86 21 5603 6599 www.datavideo.cn

Datavideo Technologies (S) PTE Ltd.

100 Lor 23, Geylang Rd, #01-03 D'Centennial, Singapore 388398
Tel: +65 6749 6866 www.datavideo.sg

The differences between the MP-4100 / MP-4200

This manual covers both MP-4100 & MP-4200 models. Both models are identical in features with the following exceptions:

- | | |
|---------|--|
| MP-4100 | Removable Hard Drive |
| MP-4200 | Fixed Hard Drive (2.5" or 3.5" options – 2.5" recommended for mobile use) |
| MP-4100 | Supplied with RMC-80, "In-dash" Simple remote control unit
RMC-110 is required to initially set up the unit for default time & date, Ethernet address etc. You only need 1 x RMC-110 to set up any number of MP-4100's. |
| MP-4200 | Has RMC-110 full function remote control built in.
RMC-80 simplified remote control is an optional extra. |

FEATURES

20 seconds of pre-event recording

Stand alone NON-PC embedded system offering maximum stability

Simple, easy to use control & user interface

Near DVD quality MPEG2 recording and playback

Video recording with Digital Watermark

MP3-level high quality audio recording (32KHz sampling rate)

Remote control panel

Removable 2.5" Hard Drive facility

Multiple recording modes - alarm event recording and instant recording

Video loss detection with alarm and pre-alarm recording

Firmware upgradeable thru Ethernet

Remote Backup event thru Ethernet

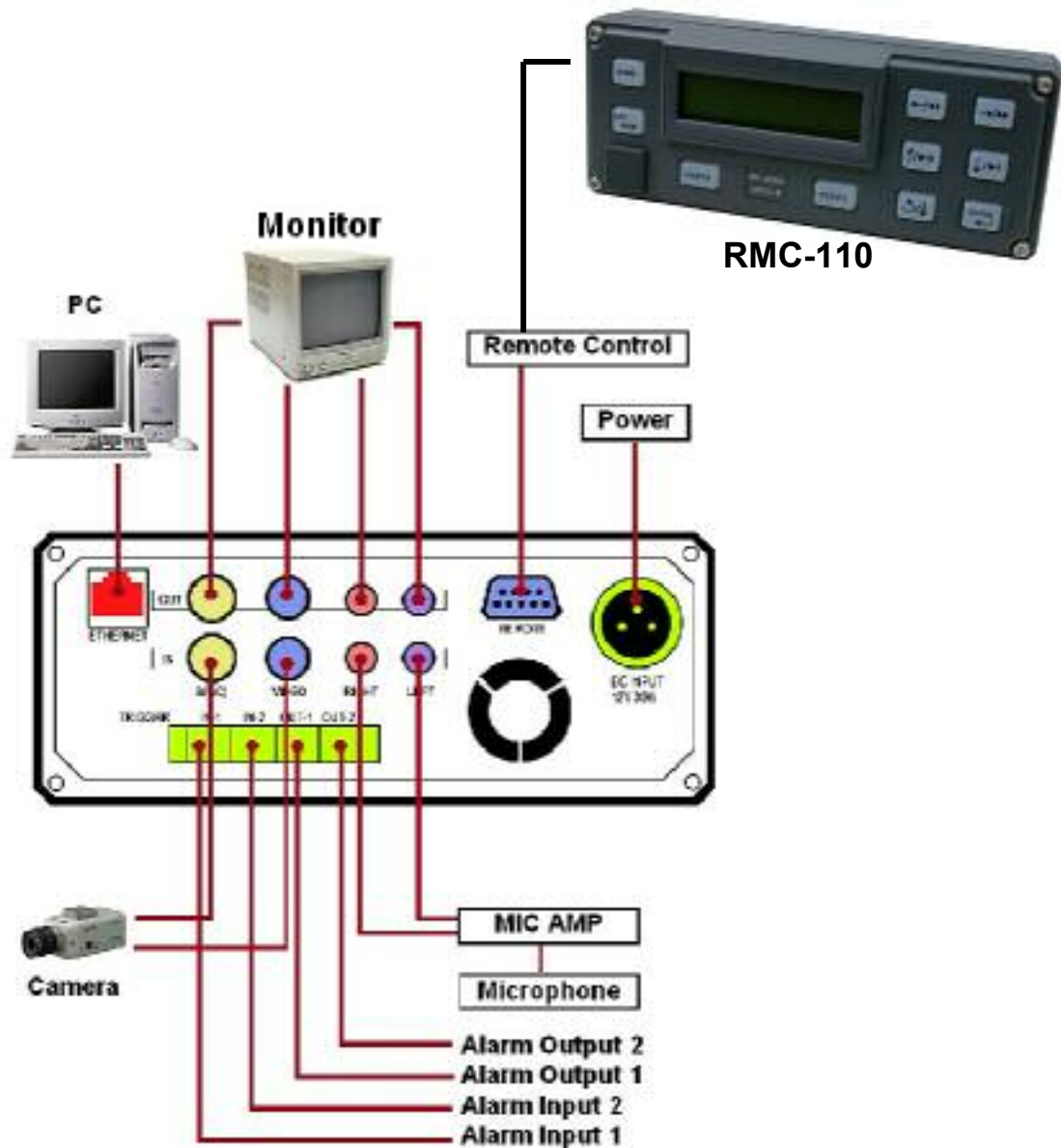
Dual trigger in and out



INSTALLATION

Connect a RMC-110 10-Key Remote Control key pad for system configuration.

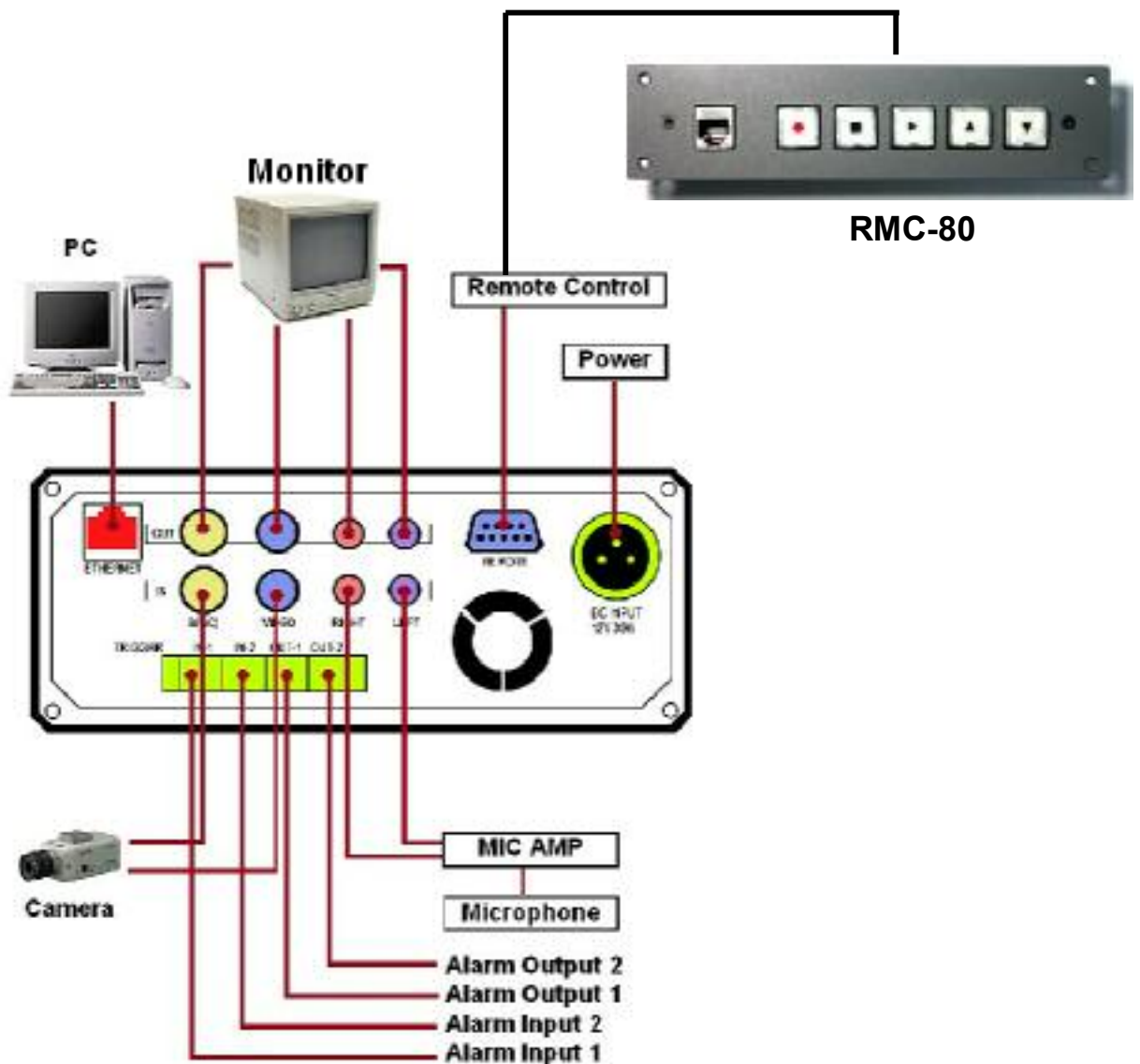
N.B. Ensure that your camera connected and working, or you will get a "Video Loss" event.



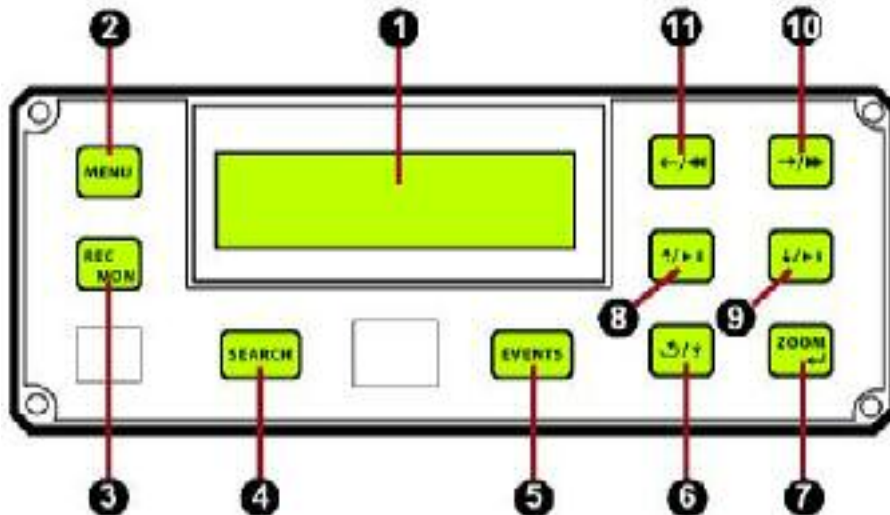
INSTALLATION

Connect a RMC-80 5-Key Remote Control key pad for the application in a vehicle.

N.B. Ensure that your camera connected and working, or you will get a "Video Loss" event.



Introduction of RMC-110 10-Key Remote Control Key Pad



1. LCD: No Function
2. Turn ON / OFF Main Menu
3. Start / End Instant recording, Stop playback, Switch to Monitoring state
4. Turn ON / OFF Main Menu
5. Turn ON / OFF Event List Menu
6. Page down 10% of the entire list, instant Replay, instant Review
7. Select ZOOM in, GO back
8. Move the highlight up, Increase numbers, Switch characters upwards, Play / Pause ZOOM in
9. Move the highlight down, decrease numbers, Switch characters downward, Frame step, ZOOM in
10. Move the highlight right, Page up, Slow motion, Forward 1X – 16X, ZOOM in
11. Move the highlight left, Page down, Rewind 1X – 8X, ZOOM in

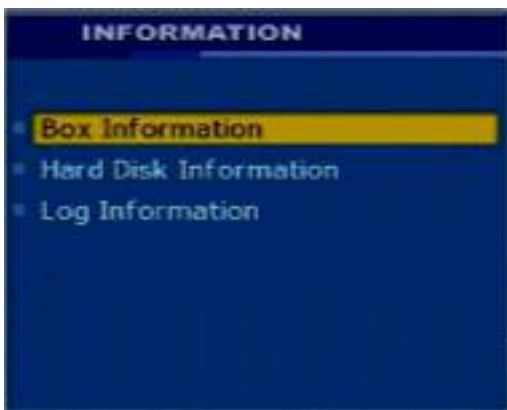
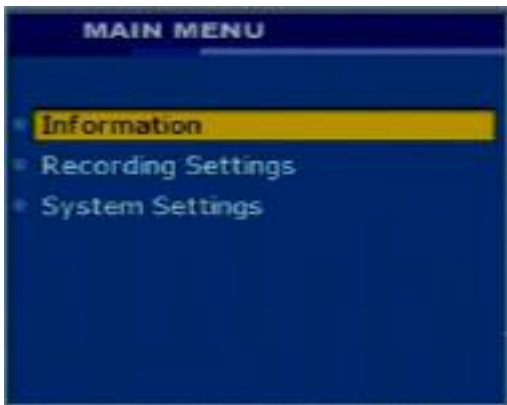
Configure MP-4100 by RMC-110


- Check Box serial number, firmware version and Box IP address

Press on the “MENU”  key on RMC-100 to Pop Up the “Main Menu”.


Select “Information” and press on the  key. You will enter the Information menu.

Select “Box Information” and press on  key to find the Box serial number.





Press on  key to Exit Information

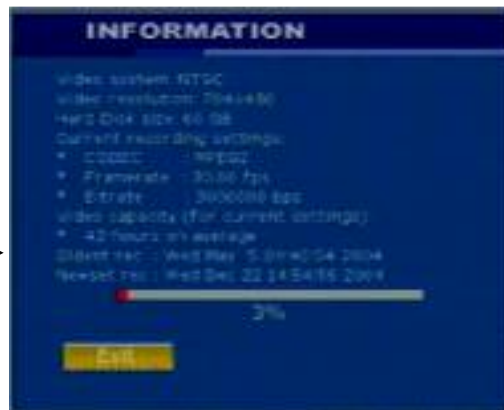
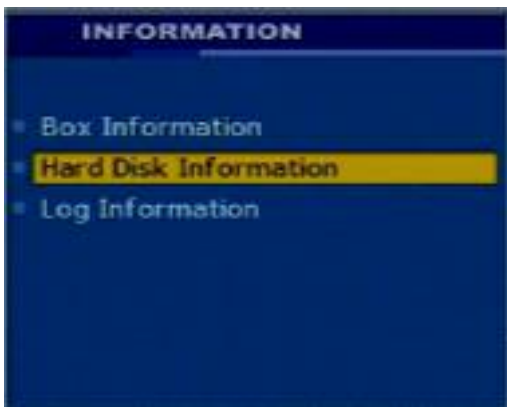
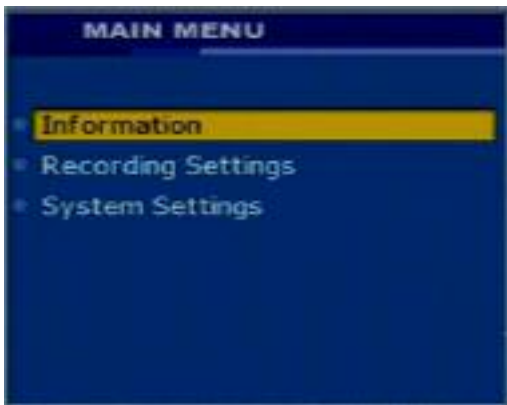
- **Check Hard Disk Info, Video System and Resolution**

Press on the  key to pop up “Main Menu”

Select “Information” and press on the  key, you will enter the Information menu.


Use the  key to move the highlight and Select “Hard Disk Information”.

Press on the  key to check Hard Disk and Video Information




Press on the  key to exit Information

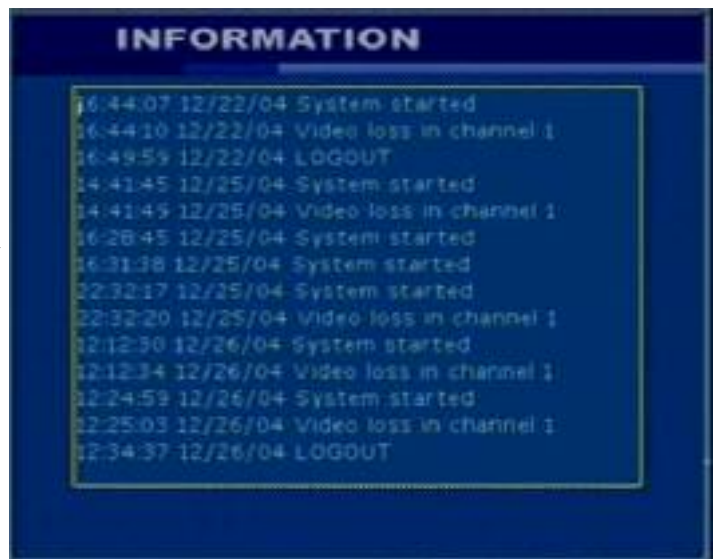
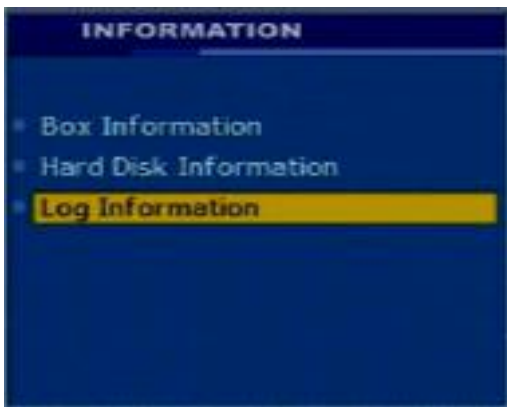
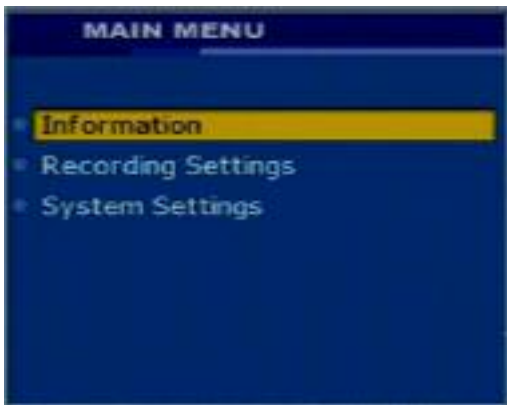
- **Check Log Information**

Press on the  key to popup the “Main Menu”.

Select “Information” and press on the  key to enter “Information menu”.


Use the  key to move the highlight and select “Log Information”.

Press on the  key. You will see Log Information




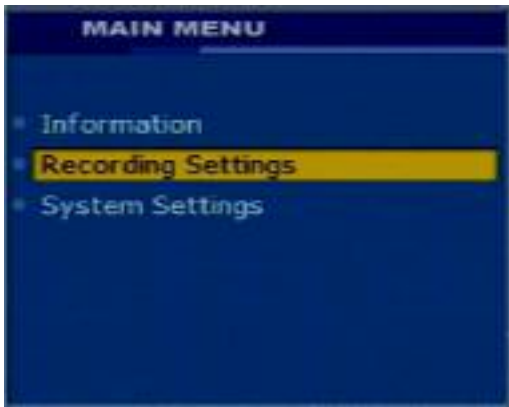
Press on the  key to exit Information

- **Video recording setting**

Press on the  key to pop up “Main Menu”



Use the  key to move the highlight and select “Recording Settings”



Press on the  key to enter “Recording Settings” Menu



Select “Recording Quality”, and then press Enter key



Use the  key to move around. Use the  key to specify each item.

Use the  key to highlight the “Save” button and press on the  key to save and pop up the System Settings menu.

Press on the “MENU” key to end the setup,

Recording Video Quality

There are 4 different bit-rates offered in MP-4100 (directly related to video quality)

Recording Quality	Bit-rate	Quality Level
High	3Mbps	Near-DVD quality
Fine	2Mbps	Super VCD quality
Normal	1.2Mbps	VCD quality
Low	800Kbps	VCR-like quality



Recording Frame Rate?

There are 4 selectable frame rates in MP-4100 which are 30,10, 2 or1 fps for NTSC Video and 25,8.5,1.2,0.8 fps for PAL Video

Frame-rate (fps)	Quality Description
30fps_NTSC 25fps_PAL	Completely smooth motion after recording
10fps_NTSC 8.3fps_PAL	Near smooth motion
2fps_NTSC 1.2fps_PAL	Usually configured for longer recording capabilities
1fps_NTSC 0.8fps_PAL	Usually configured for longer recording capabilities



Recording Time in a 60GB or 80GB HDD

The estimated recording time on a 60GB HDD is about 46 hours with 30fps (NTSC video) and highest video recording quality (D1 resolution of 704 x 480)

Available Space:	60 GB
Frame Rate:	30 fps
Video Quality:	High
Recording Time:	46 Hour

The estimated recording time on a 80GB HDD is about 61 hours with 30fps (NTSC video) and highest video recording quality (D1 resolution of 704 x 480)


Available Space:	80 GB
Frame Rate:	30 fps
Video Quality:	High
Recording Time:	61 Hour


The estimated recording time on a 120GB HDD is about 92 hours with 30fps (NTSC video) and highest video recording quality (D1 resolution of 704 x 480)

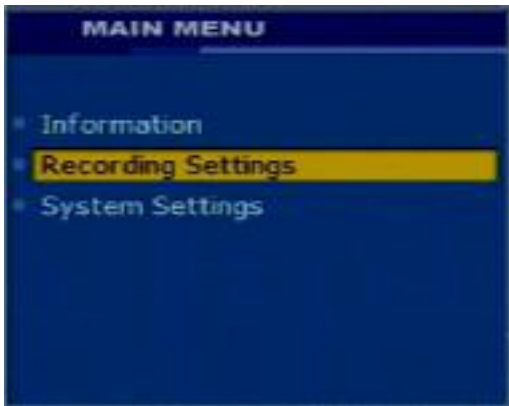
Available Space:	120 GB
Frame Rate:	30 fps
Video Quality:	High
Recording Time:	92 Hour


Alarm Settings


Press on the  key on RMC-110 to pop up “Main Menu”.

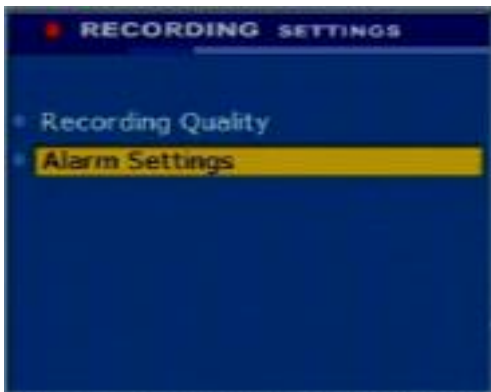
Use  key to move the highlight and select “Recording Settings”.



Press on the  key to enter “Recording Settings” Menu





Use the  key to move the highlight and select “Alarm Settings”.

Press on the  key to enter “Alarm Settings” Menu





Use the  key to move around. Use the  key to specify each item.

Use the  key to highlight the “Save” button and press the  key to save and pop up the System Settings menu.


Press on the “MENU” key to end the setup.

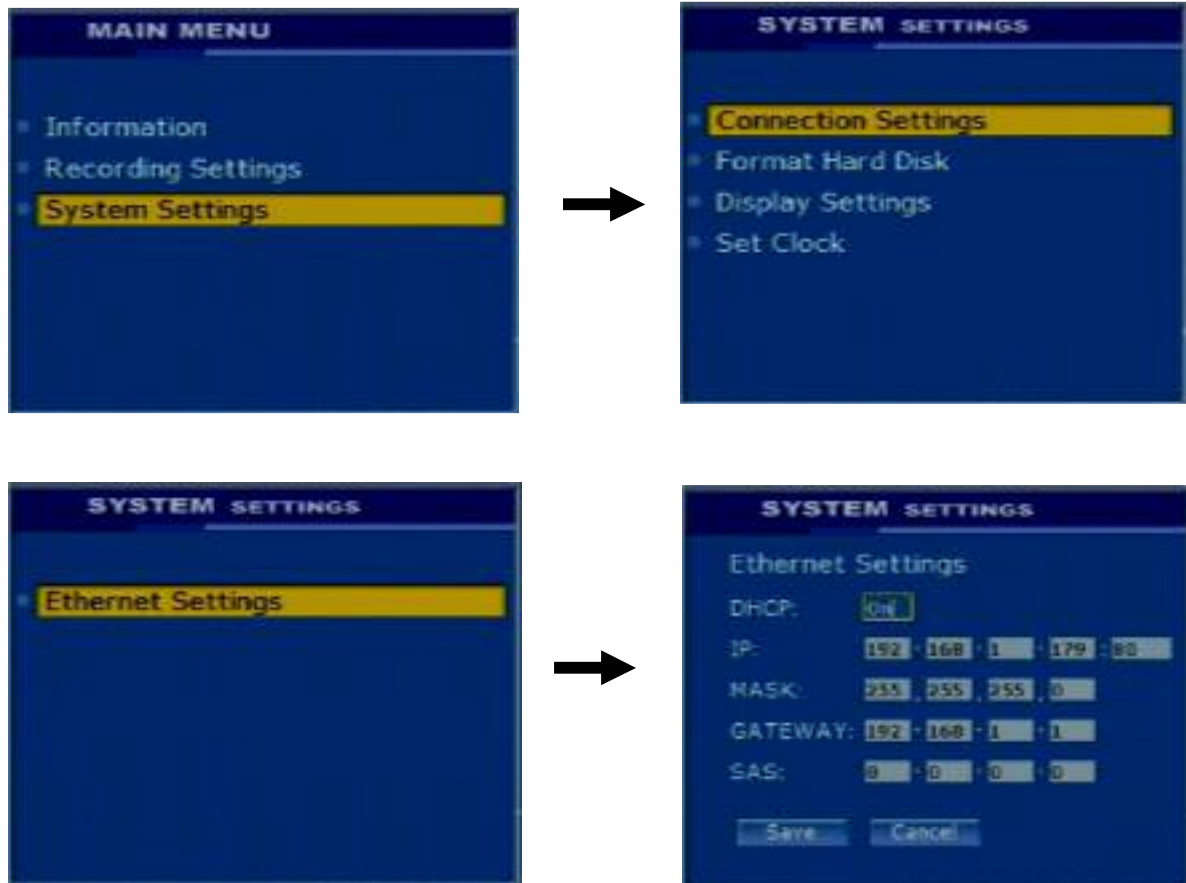
Change Network IP and MASK settings

Press the  key on the RMC-110 Remote key to pop up the Main Menu.



Use the  key to move the highlight and select "System Settings".

Press on the  key to enter System Settings menu and select "Connection Settings".



Select "Ethernet Settings" and press on the  key.





DHCP

Use the  key or  key to enable or disable. Once DHCP is enabled, DVR can obtain the IP address automatically from your DHCP server. Otherwise, you need specify the following 3 items manually.



IP

Use the  key or  key to specify the 32-bit IP address manually, if DHCP is disabled.



MASK

Use the  key or  key to specify the 32-bit subnet mask manually, if DHCP is disabled.

GATEWAY



Use the  key or  key to specify the 32-bit default gateway manually, if DHCP is disabled.

SAS

Use the  key or  key to specify the 32-bit SAS IP address. If it's provided, MP-4100 will automatically register itself at SAS Server. Otherwise, you need to register the DVR at SAS Server manually. Only applicable for Datavideo Streaming & Archiving Server.

Note:

Do not set DHCP on until you are sure your MP-4100 is connected to DHCP network. If DHCP is turned on, MP-4100 will submit IP assignment request to DHCP server for getting an IP address automatically. If no DHCP server is available, MP-4100 will retry 50 times getting the IP address, which will dramatically slow down the power up process.

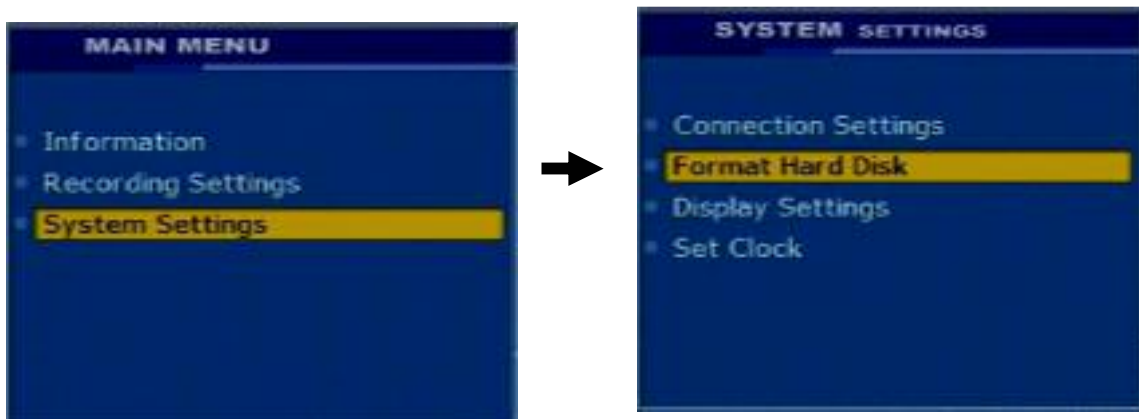
Use the  key to highlight the "Save" button, press the  key. The Connection Settings menu appears. Press the "MENU" key on the front panel to end the setup, changes will be saved at this time.


Format Hard Disk?



Press on the "MENU"  key to pop up "Main Menu".

Use  key to move the highlight and select "System Settings".

Press on the  key to enter "System Settings" menu and select "Format Hard Disk".





Select Format Hard Disk, then press Enter key .


Press on the "left" key  to proceed Format HDD and press Enter key  to confirm.

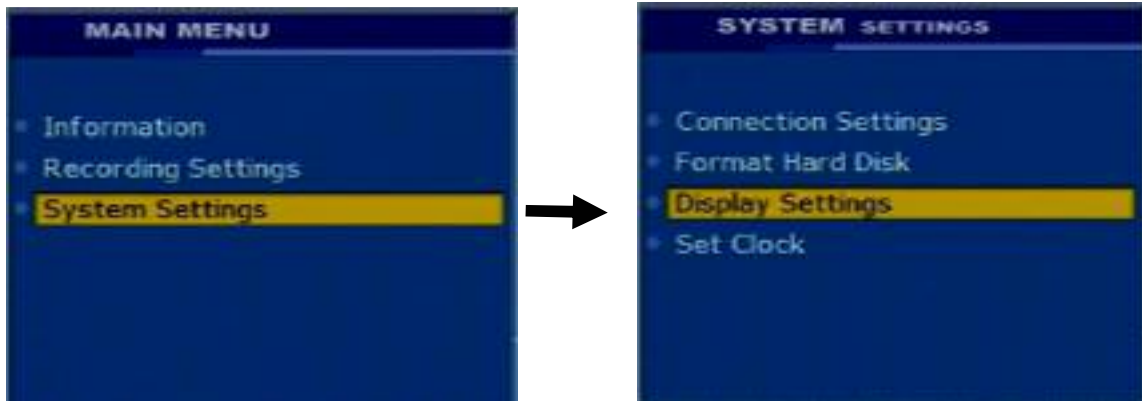



Change DVR Serial Number



Press on the  key to pop up Main Menu and use the  key to move the highlight.



Select "System Settings" and press on the  key to enter System Settings menu.

Select "Display Settings" and press on  key.



Use the right key  to select DVR serial number

Use the  key to move around and use the  key to specify each item

Use the  key to highlight the "Save" button and press on the  key to pop up "System Settings" menu.



Press on the "MENU" key to end the setup,



Set DVR Date and Time

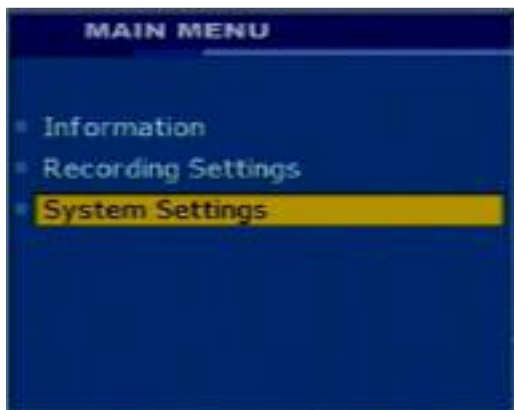
MP-4100 uses time and date as video index therefore it's very important to make sure that your system time is set correctly when you first use it.


Procedure to set the system clock:


Press on the  key to pop up "Main Menu" and use the  key to move the highlight.

Select "System Settings" and press on the  key to enter System Settings menu.

Select "Set Clock" from the System Settings menu and press on the Enter key .



Use  to move the highlight to "Set Clock".

Use  to enter the "Set Clock" screen.


Press the "Set Clock" screen and press on the "MENU" key to end the setup,




Set Date

There are 3 fields for entering:


Year Use the  key to select a year between 2000-2016.


Month Use the  key to select a month between 1-12.

Date Use the  key to select a date between 1-31.

Set Time

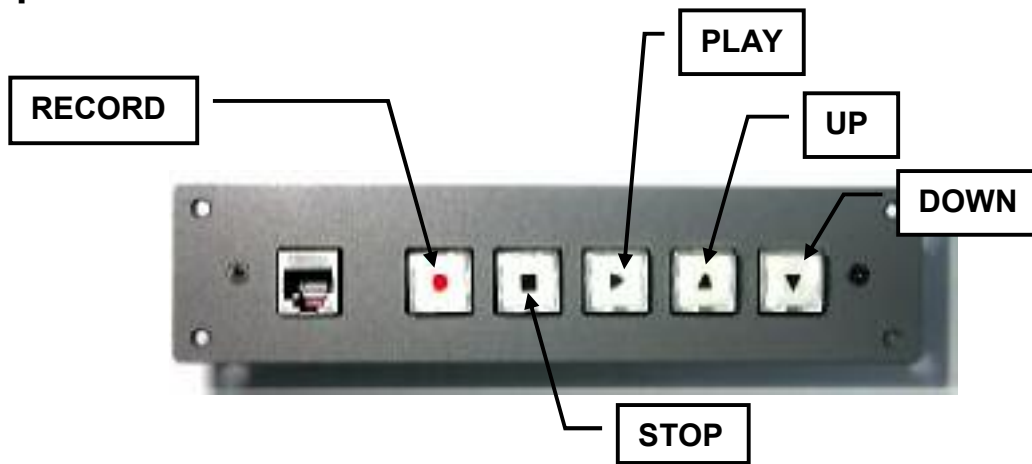
There are 2 fields for entering:

Hour Use the  key to select an hour between 0-12.

Minute Use the  key to select a minute between 0-59.


am/pm It is automatically changed when the hour passes 11.


Basic Operation with RMC-80







Recording

MP-4100 supports Instant Recording, Alarm/Event Recording and Video Loss Recording.

You may always use the  key on RMC-80 to start or end an instant recording. Whenever an event is detected, system will start the event recording. Following status icons and message bars will be displayed on the top of screen, when a recording starts.

During recording, pressing  key on the RMC-80 will instant play back video with jumping back 20 seconds pre-recording video. You can press it more than once to go back farther. Recording will continue in the background without any interruption, the recording date and time will be also displayed on the screen, this is the MP-4100 triplex feature which means you won't miss a moment.

Play Back

Press  key, you may access event list at any time. All events recordings are ordered by time. Use the  or  key to highlight an event and press the  key to play back this event.

Remote Monitoring

MP-4100 supports remote live monitoring, recording, playback, automatic email alert and software upgrade. To use these features, you need to connect your DVR to Internet or local network, and setup the Ethernet Settings.

Remote Monitoring

After setting up networking for MP-4100, You may remote monitor your DVR from any PC.

Note:

Please make sure your DVR is connected to Internet or local network.

Simply open an Internet Explorer, enter your DVR's IP address. If your DHCP is turned on, you may find the DVR's IP address from Box Information. From Main Page, click "Live Monitoring", Datavideo@Net application will be opened.

You will be asked for user name and password. There are 3 types of users. The default passwords for each user are:

User name: **guest**; Password: **one**

User name: **operator**; Password: **two**

User name: **supervisor**; Password: **three**


Network setting for MP-4100 and the PC


Connect the MP-4100 to Internet Network

*. Note: To install MP-4100 in the Internet xDSL network, it requires at least two fixed IP from ISP, one for the Router of xDSL modem (Usually the xDSL Modem will build-in Router function) the other one for MP-4100.




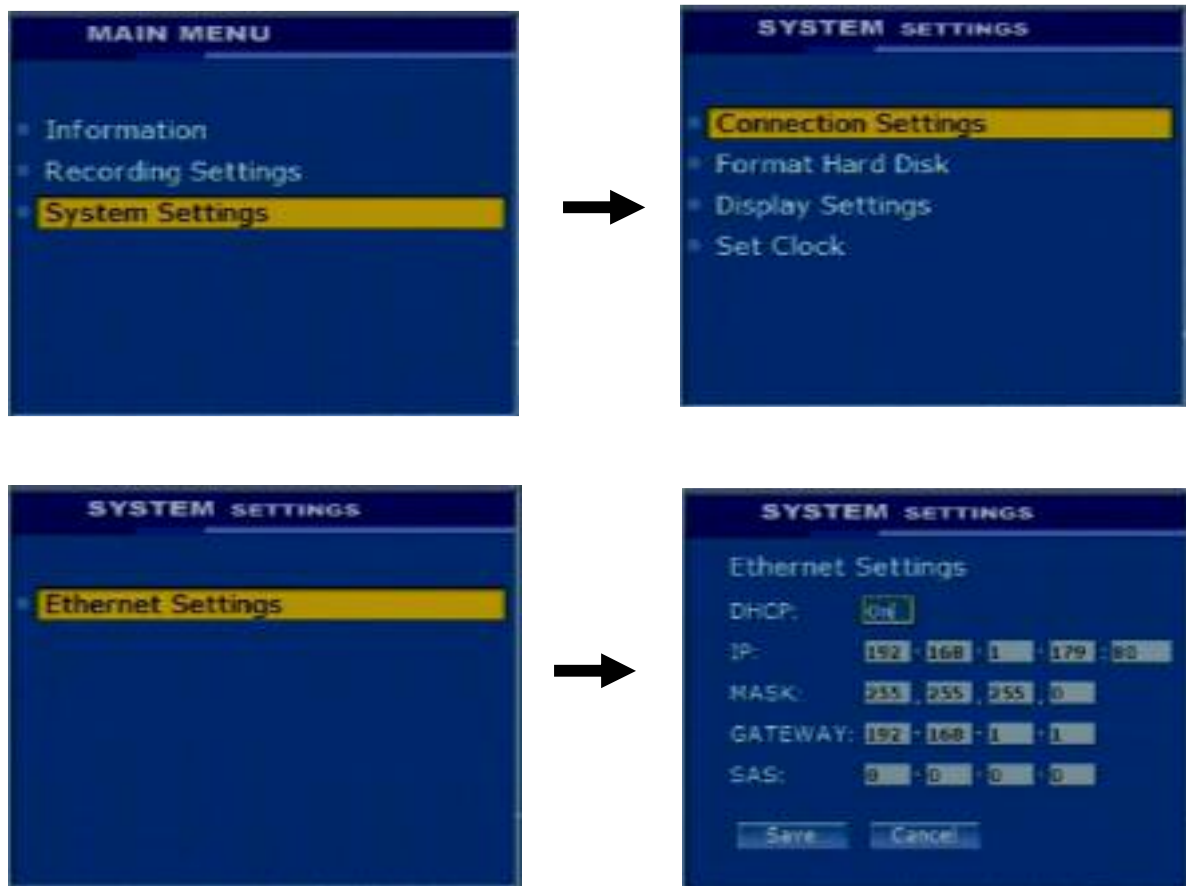
1. Setup MP-4100 IP and MASK

Press the  key on the RMC-110 Remote key to pop up the Main Menu.

Use the  key to move the highlight and select "System Settings".

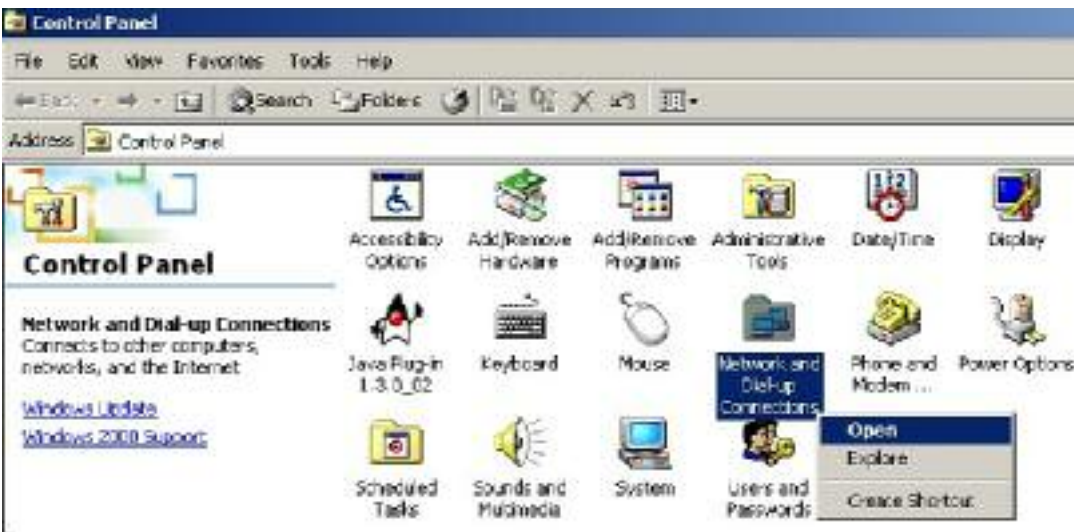
Press on the  key to enter System Settings menu and select "Connection Settings".

Select "Ethernet Settings" and press on the  key.

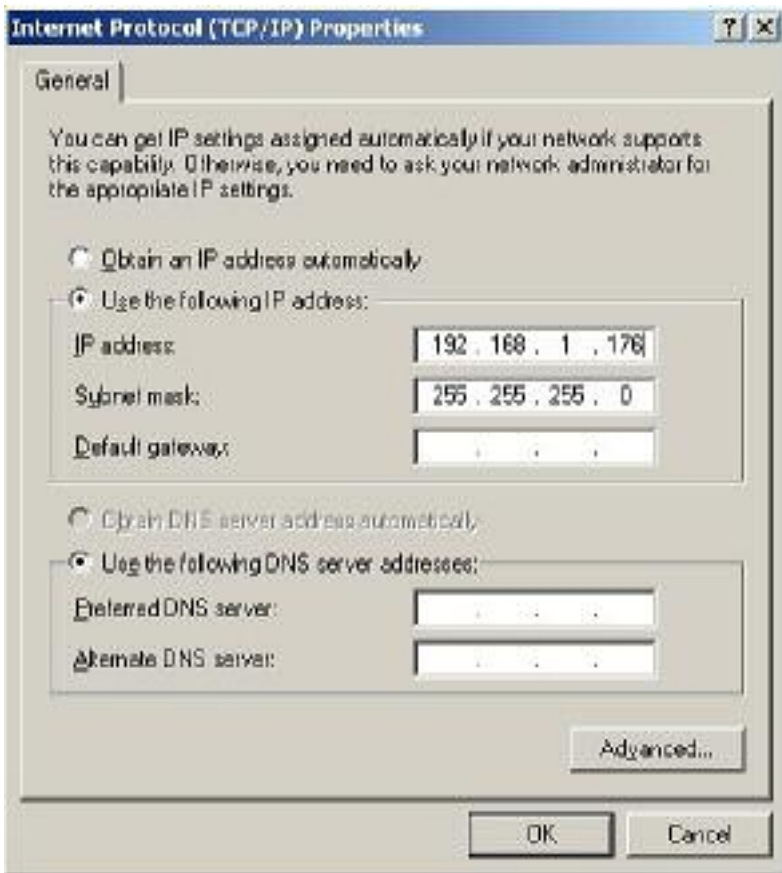


Turn on the DHCP and find the DVR IP and Mask IP

2. PC setup: Setup PC Network IP and MASK







Launch IE with the DVR IP address to connect PC with MP-4100 thru Ethernet.

Event downloaded and view on PC thru Ethernet

Operation Procedure

Step1: Connect MP-4100 Ethernet port to Intranet/Internet

Step 2: Launch IE with the DVR IP address from MP-4100

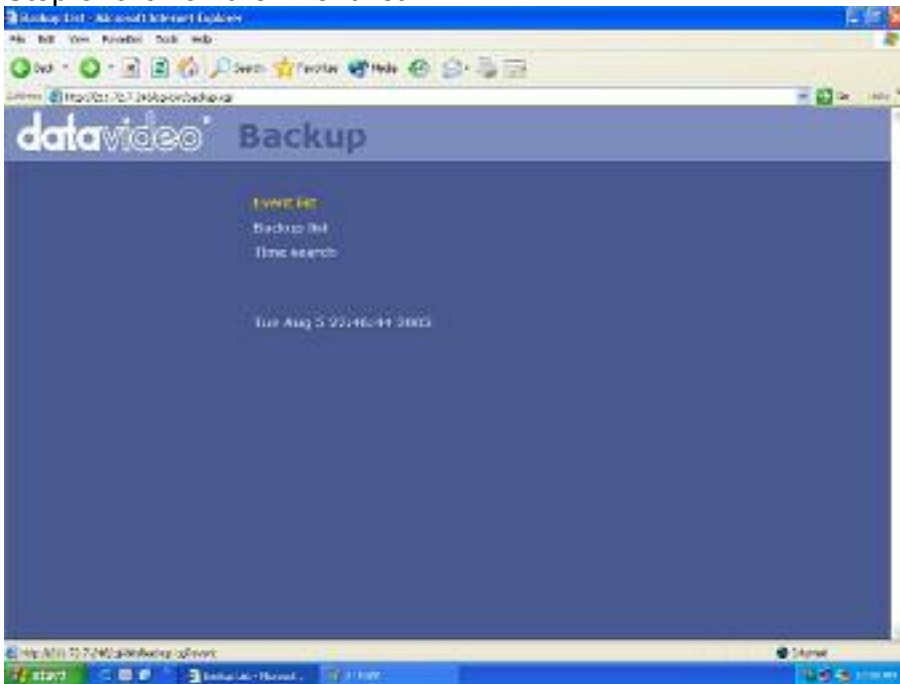
Step 3: Key in the User Name: supervisor and Password: three



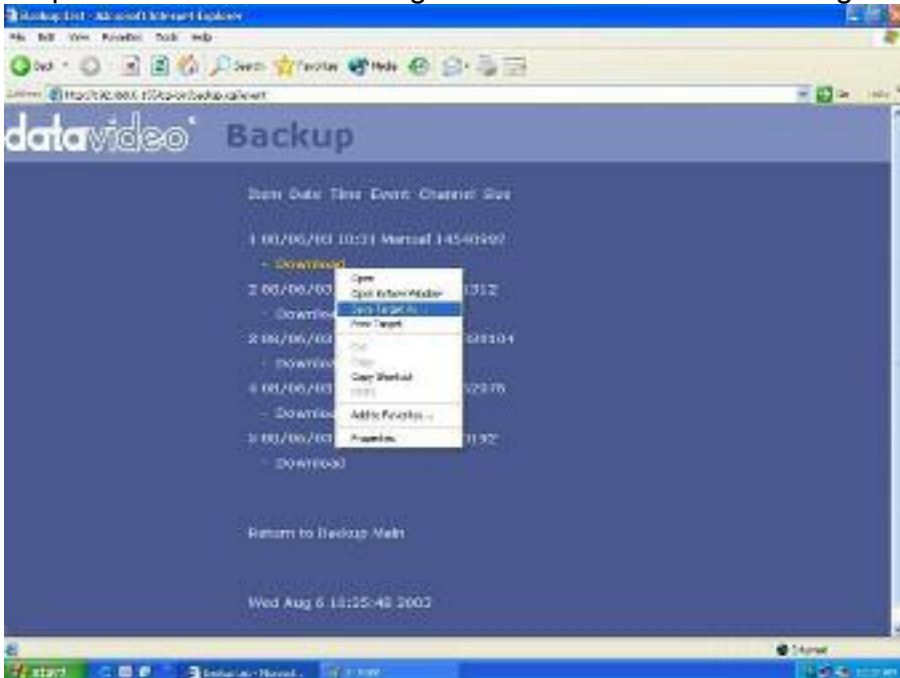
Step 4: on the Main Page, select "Remote Backup"



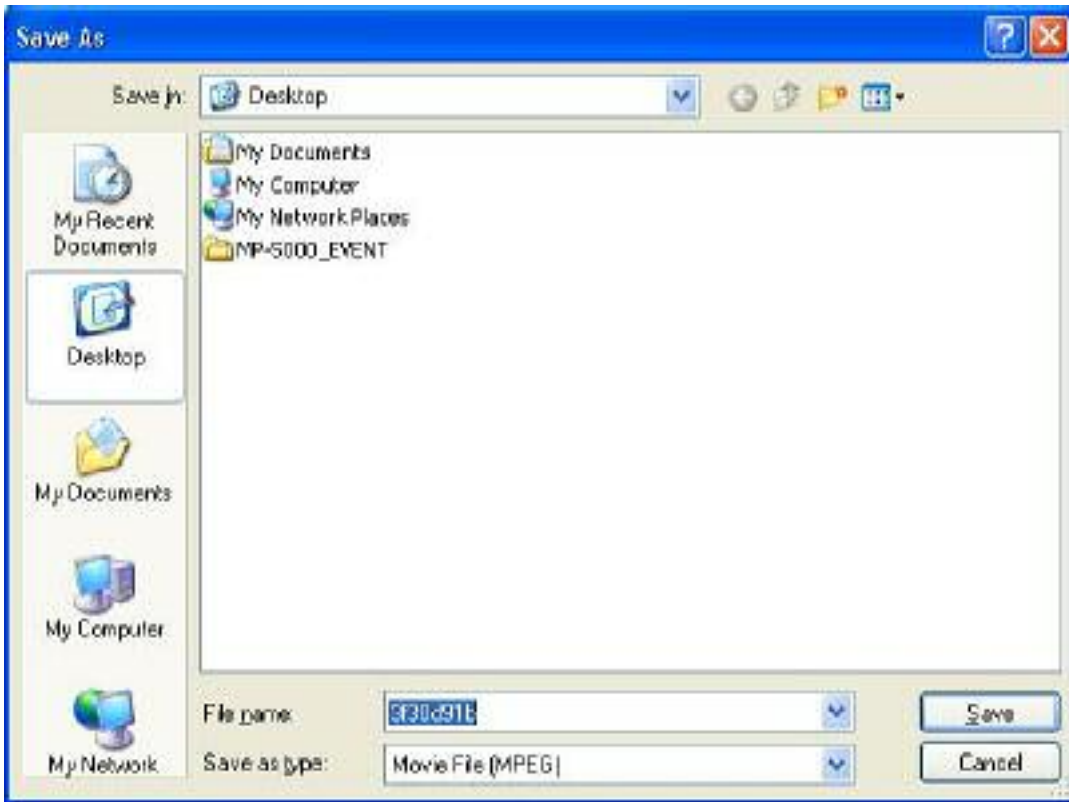
Step 5: click on the Event list.



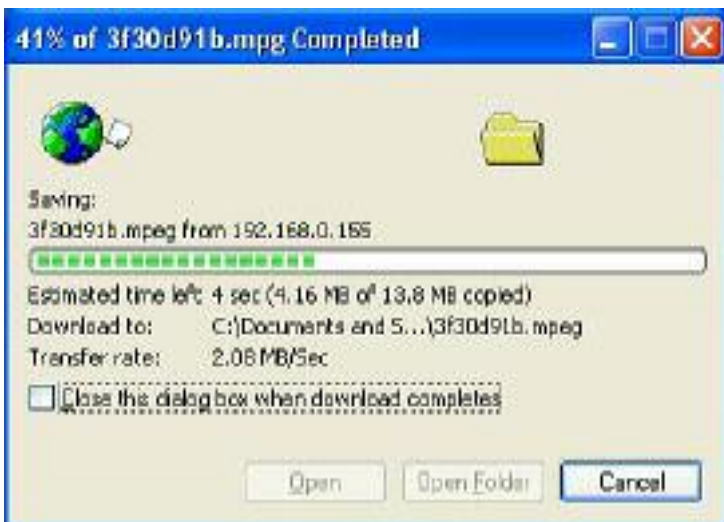
Step 6: click on the mouse Right button and select Save Target AS.



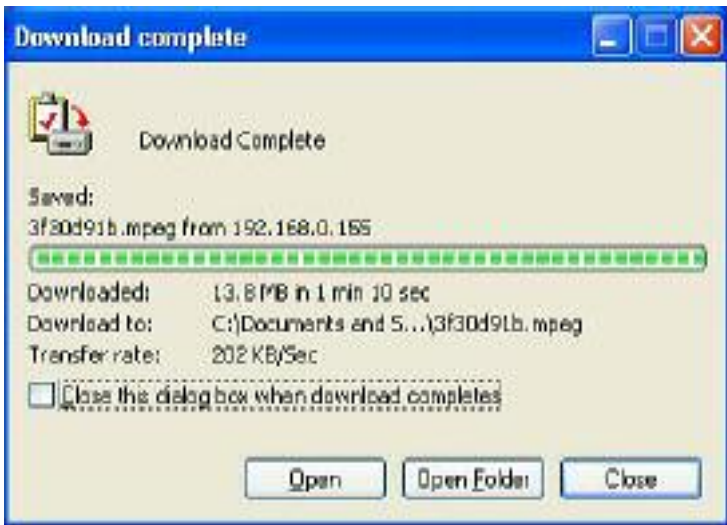
Step 7: Click on the “Save”



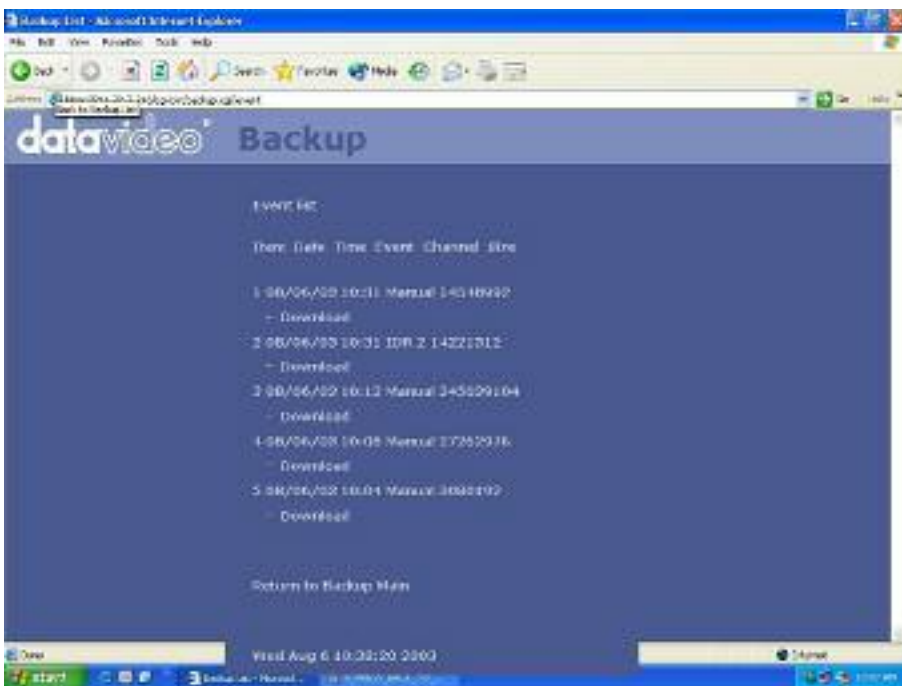
Step 8: Please wait to download complete mpeg file.



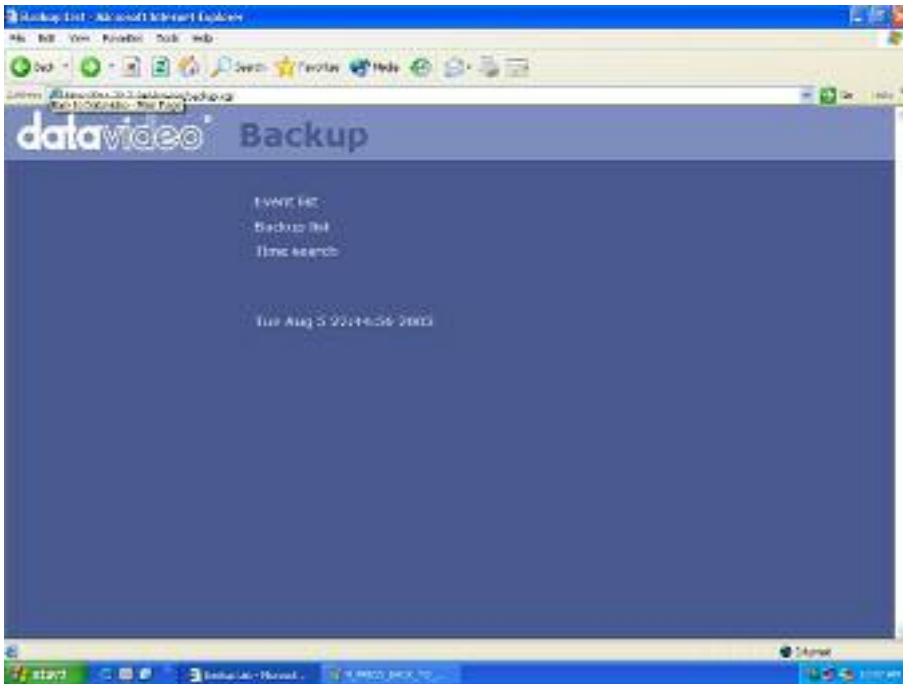
Step 9: Click on the “Close”



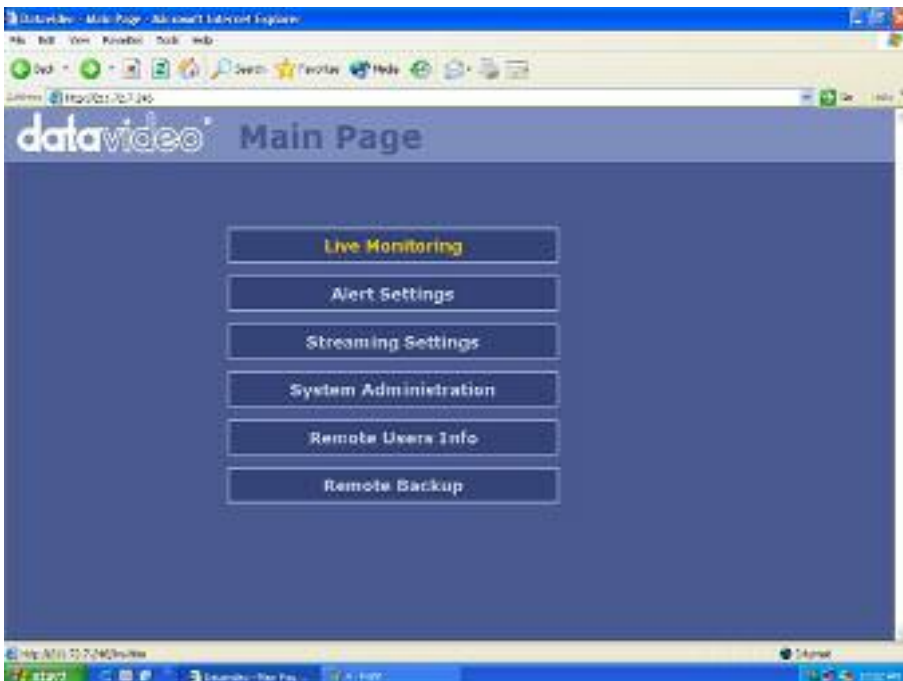
Step 10: Click on the “Back” to last page



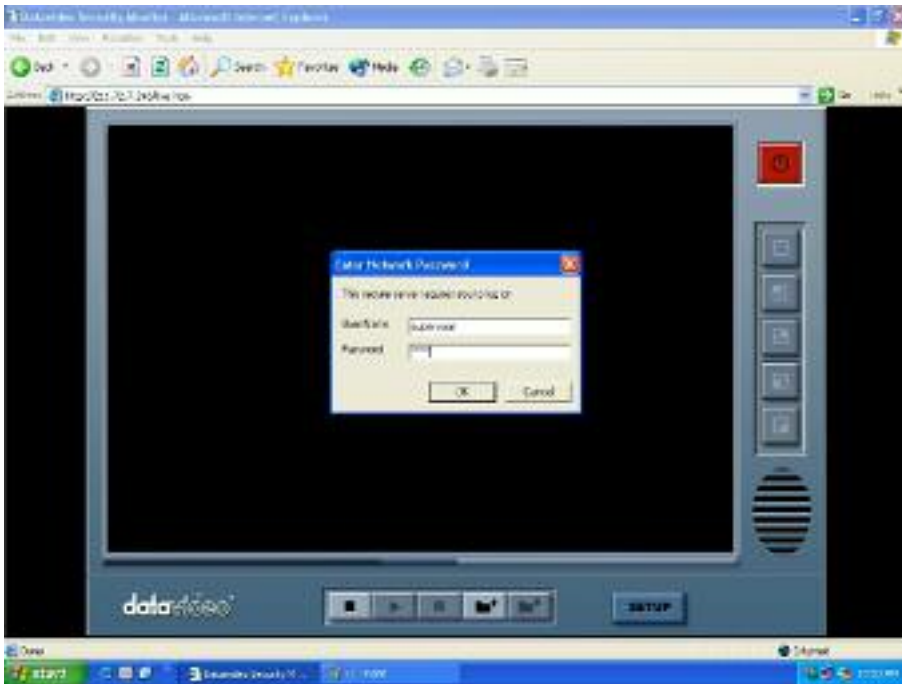
Step 11: Click on the “Back” again to last page.



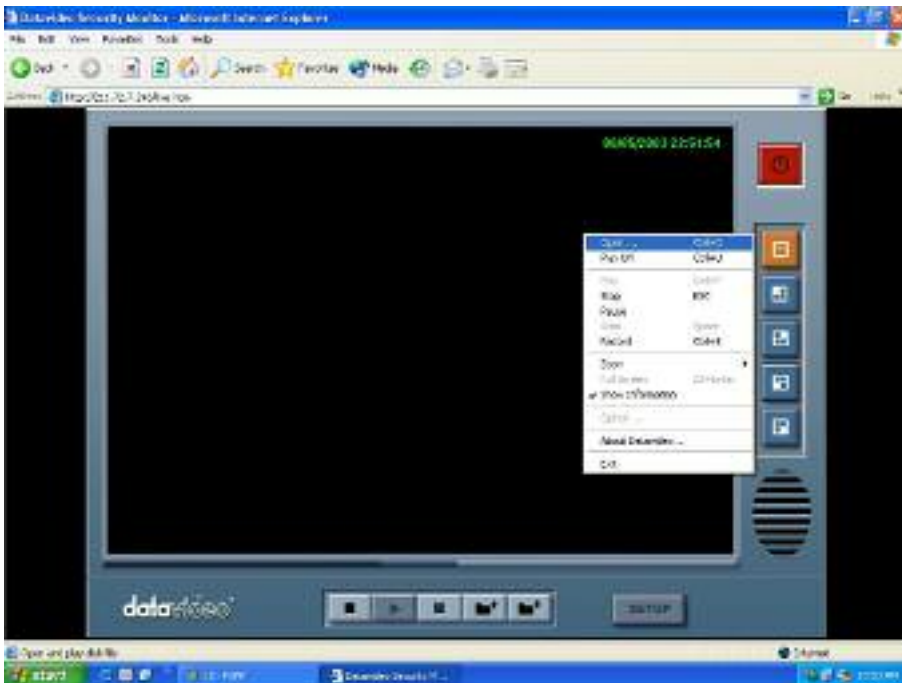
Step 12: on the Main Page, click on “Live Monitoring”



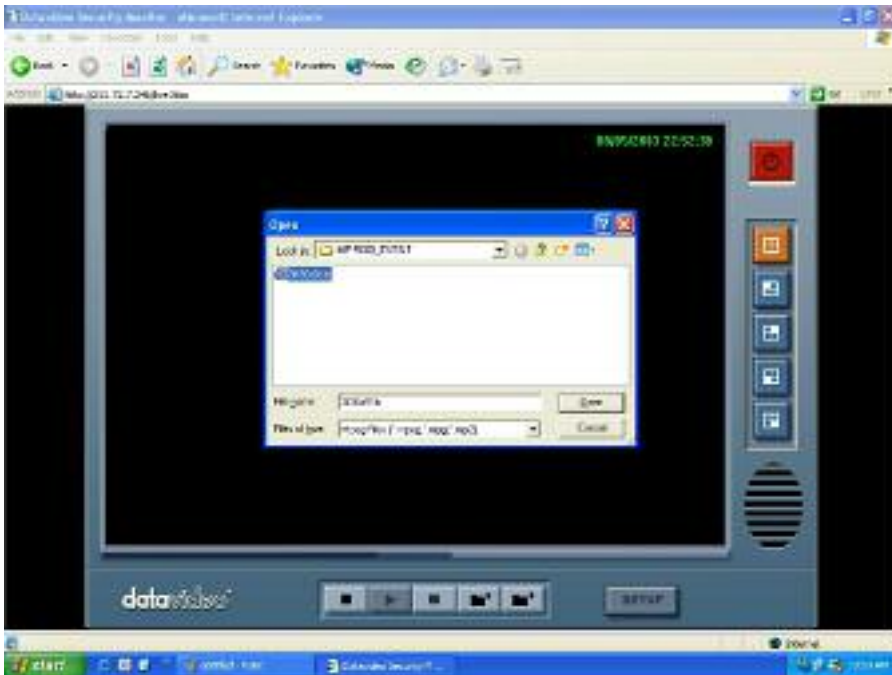
Step13: Key in User Name: supervisor and Password: three




Step14: Click on the mouse right button and select "Open"



Step 15: Open an event file.



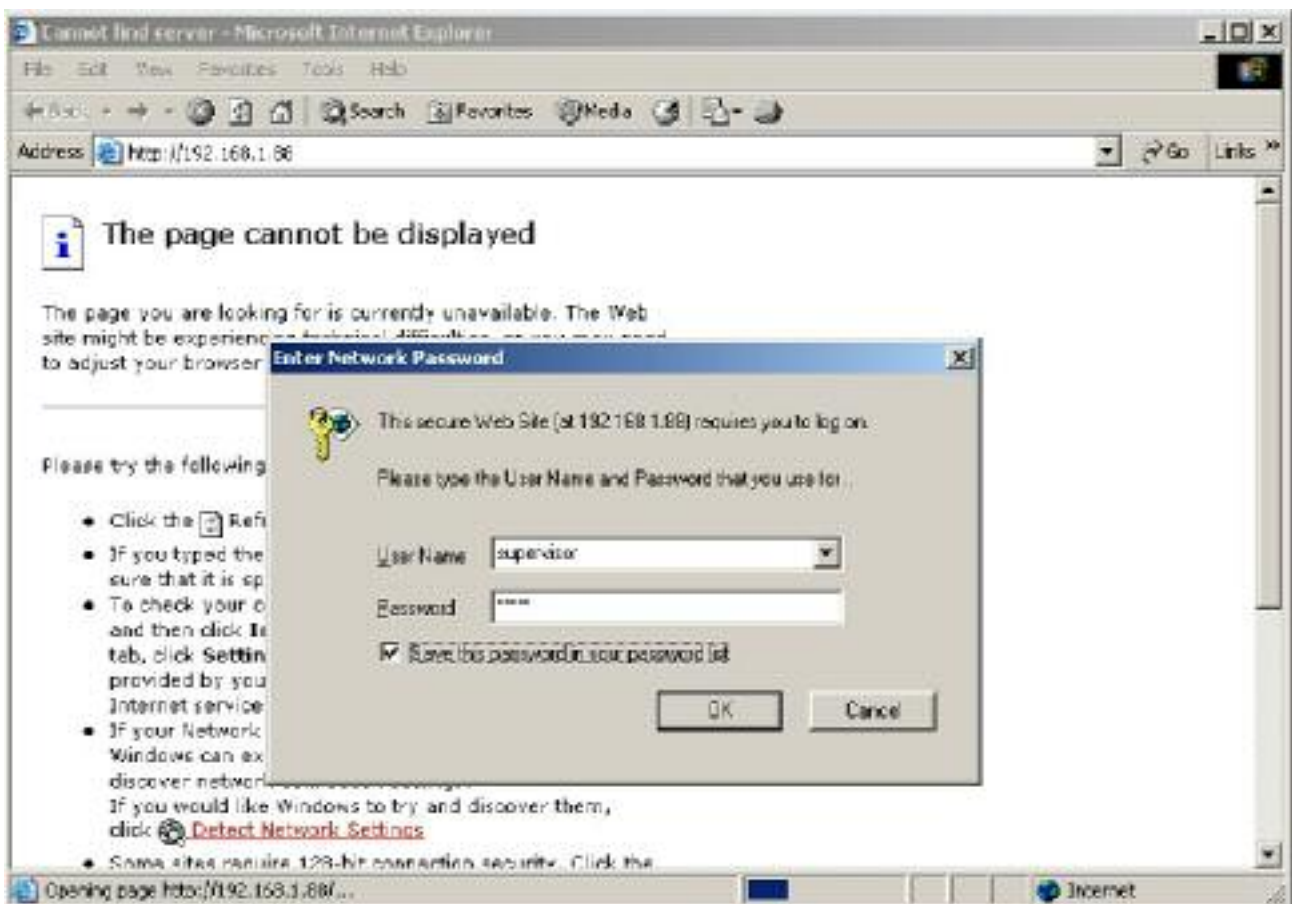
Step 16: Click on the "Play"  You will see the event video show on preview windows



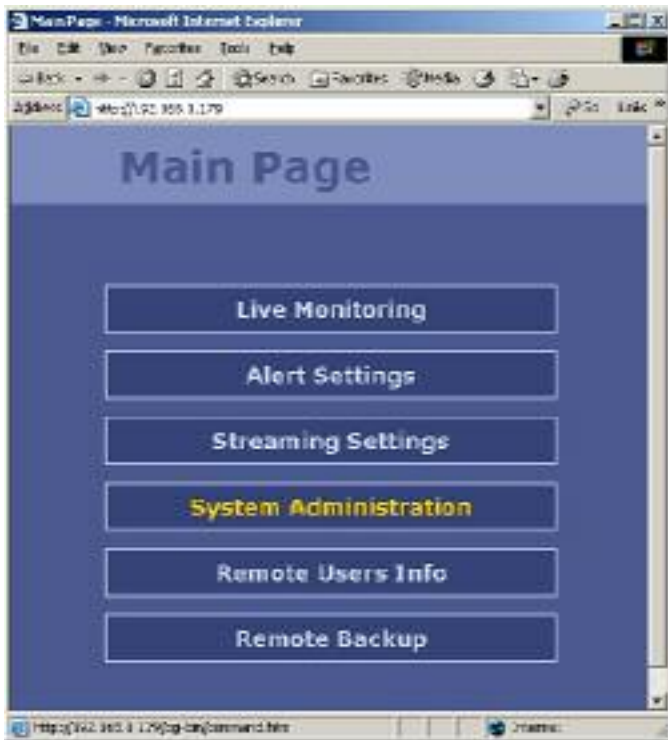
How to update firmware

1. Connect MP-4100 to Intranet and power on MP-4100
2. Launch IE in PC window and connect to MP-4100 thru the assigned IP address

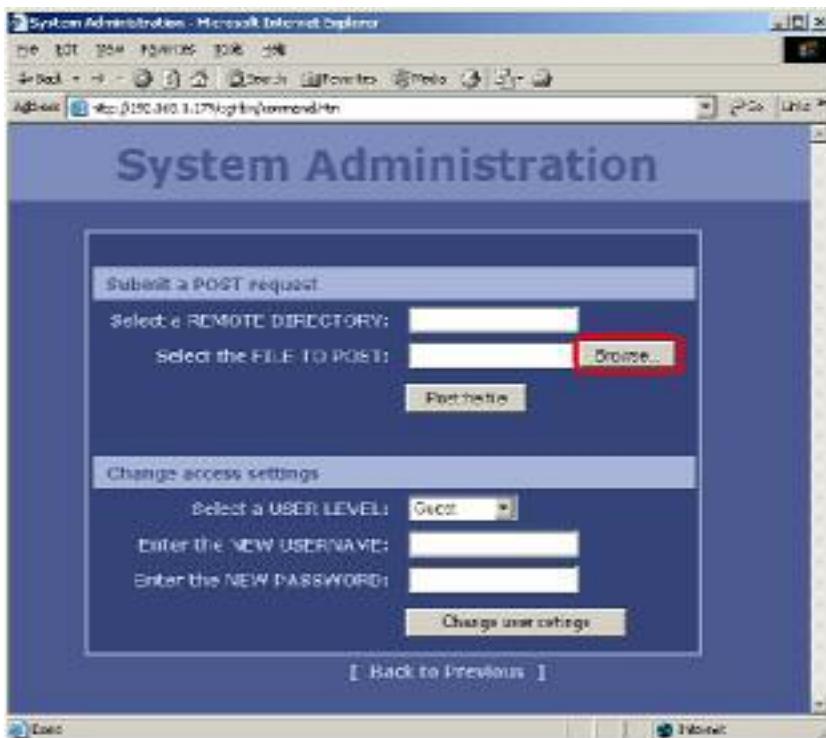
Type in User name: **supervisor** and Password: **three**




3. On main menu select "**System Administration**", in "System Administration" page,



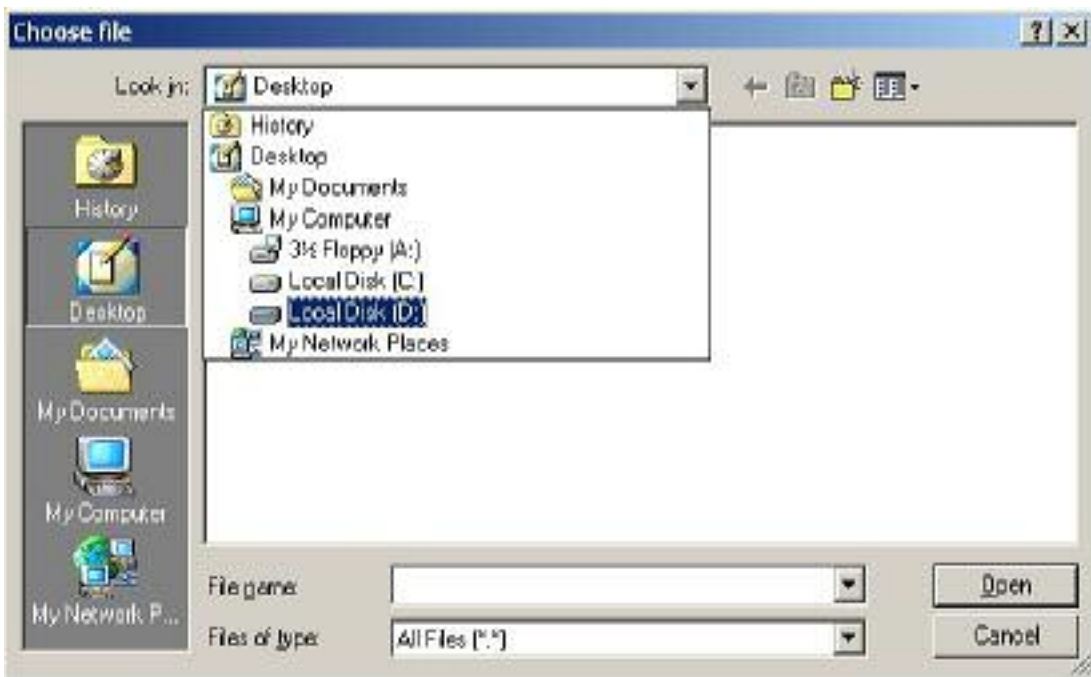
4. Press the button "**Browser...**" to find the update software of "Flashing.eap" in your PC



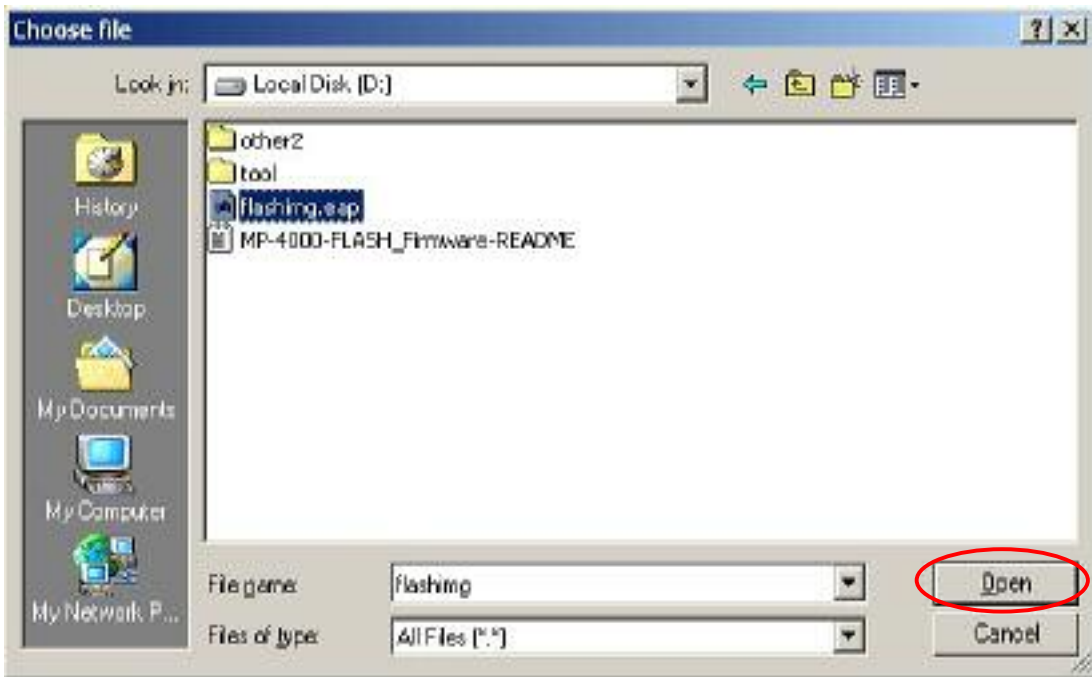
5. Click on the button 



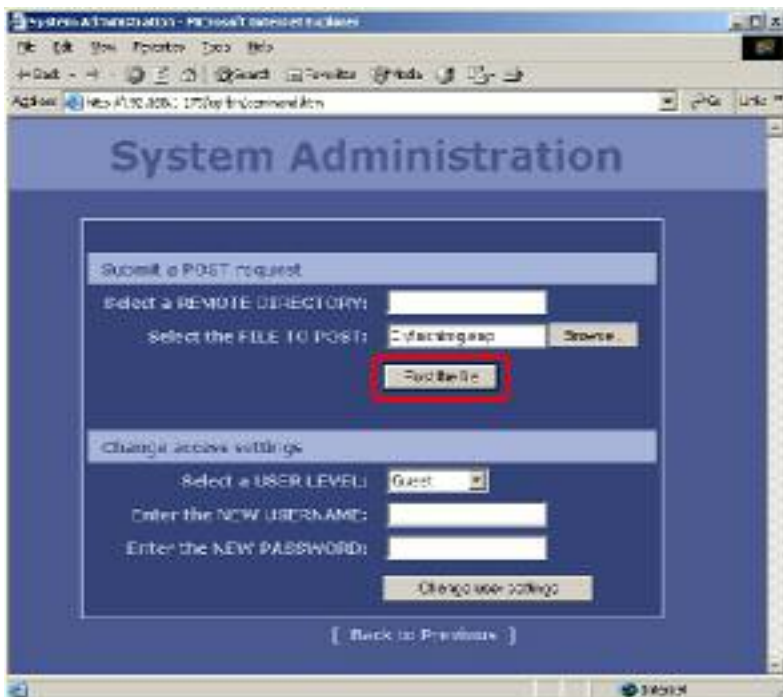
6. Select path to file Flashing.eap



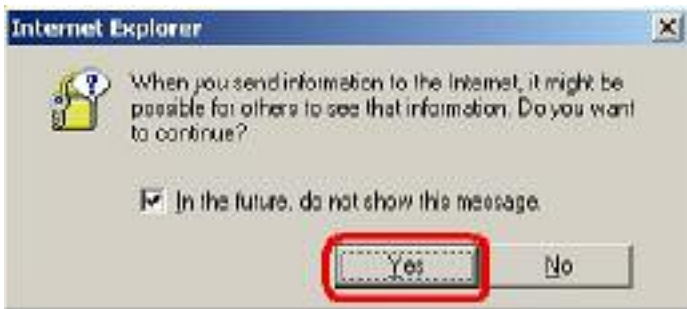
7. Open the flashing.eap



8. Press the button "Post the file"



9. Click on the “Yes” button



Wait until the software upload is finished as below




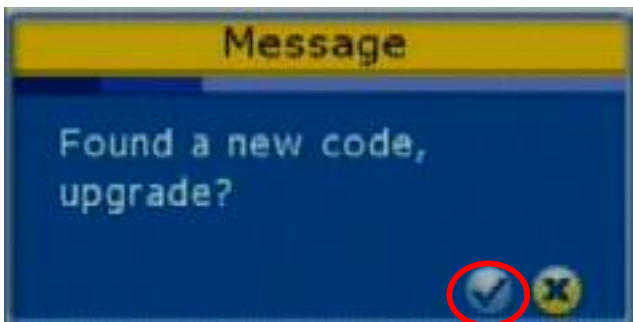
10. “ **Found a new code, upgrade?**” should appear on the TV Monitor; if it does not, type the following address in IE's address input MP-4100:

<http://192.168.1.175/cgi-bin/command.cgi?device=flash&command=upgrade¶m1=a:\flashing.eap>

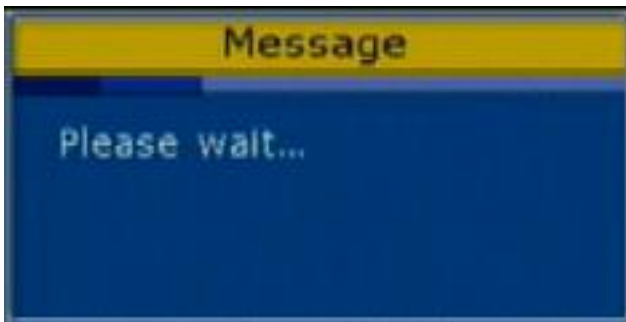
Note: You need to change 192.168.1.175 to your MP-4100's IP address

11. On TV Monitor, dialogs will popup as below “ **Found a new code, upgrade?**”

Please use the RMC-80 down or up key to select "  " and press on the “Play” key on RMC-80 to proceed firmware update.



12. MP-4100 will be set at video by-pass mode and a message popup "**Please wait..**"



13. Wait about 30 seconds; the box will automatically restart with new version software.

Notes:

- a. If the upgrade is failed, the box software will not be flashed and it will reboot automatically by last system software.
- b. While MP-4100 is showing message "Please wait...", Please **DO NOT TOUCH THE MP-4100, DO NOT TURN OFF THE POWER,** Otherwise, the flash write may fail and the MP-4100 will be rendered useless!

Accessories

GPS Text Overlay Box (VP-364)



Specification:

- *. Supports two RS-232 serial interface for GPS Navigator communication and Remote control

- *. **GPS communication Spec:**
Proprietary protocol at 19200 bps,
8 Data bit, 1 Stop bit, No Parity

- *. **OSD Spec:**
12 Text line (Row)
24 characters per line (Column)

- *. **Text overlay display**
Longitude and Latitude
Speed by MPH or KPH
Time and Date

- *. **Video spec**

 - Composite Video Input and Output (BNC, 75 ohm, 1.0Vp-p)

- *. Additional two channels Trigger input terminal.

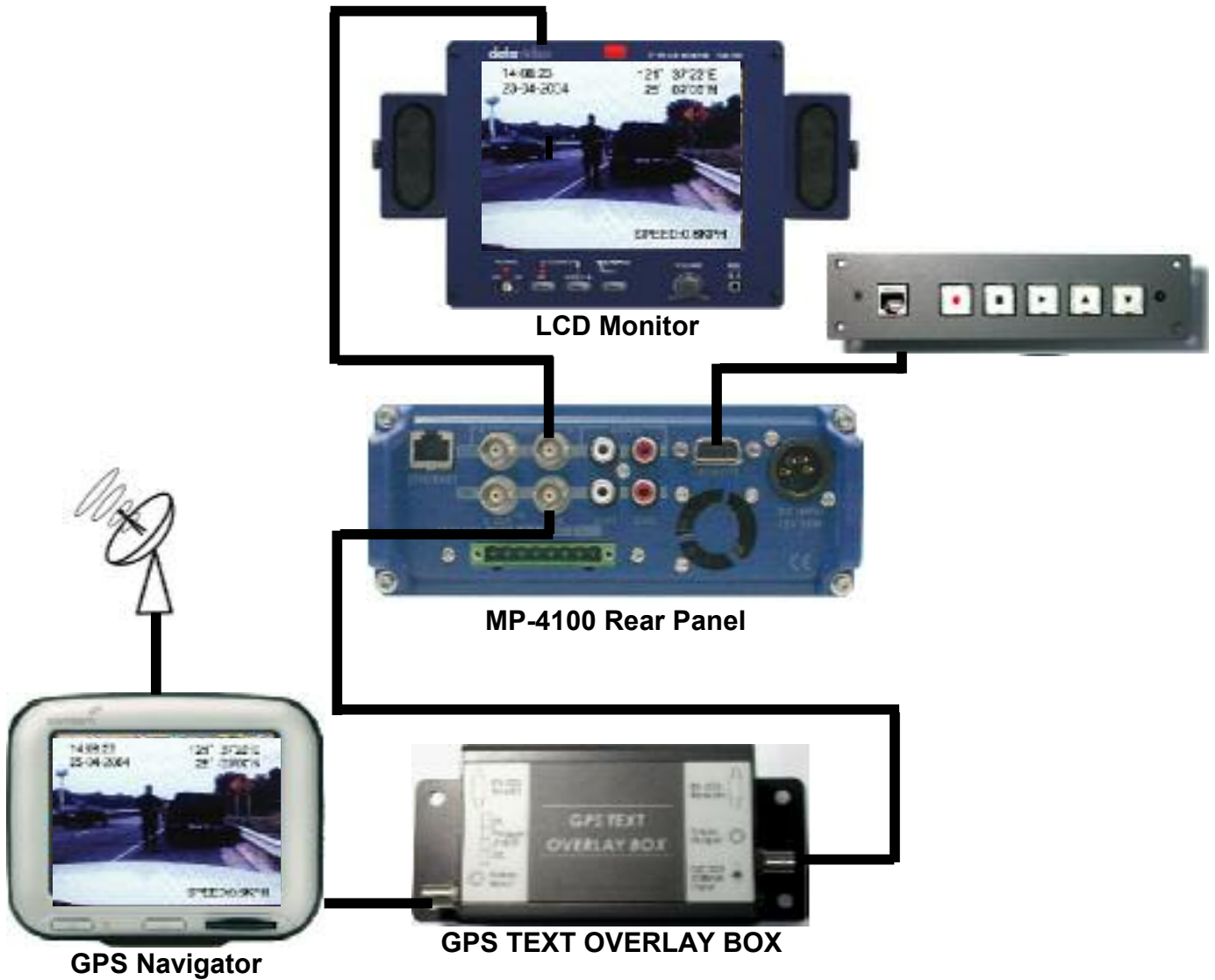
- *. Operating voltage: 12VDC 300mA

- *. Dimension: W x D x H
74m/m * 122m/m * 40m/m
2.9" * 4.8" * 1.6"

- *. Weight: 0.55 Kg / 1.2 lb

- *. FCC, CE Approved

Connecting a GPS Text Overlay box in the system



F.A.Q.

1. Why does it take a long time to reboot my DVR?

The normal reboot time should be less than 5 seconds. If you experienced a longer time on reboot, it might be because your DHCP server couldn't be found. You should disable DHCP in MP-4100 unless you are certain the DVR is connected to a DHCP server.

2. When I remote monitor my DVR, the video I get looks jerky even though I set the frame rate as 30fps.

Your network bandwidth also affects the smoothness of the video you receive. Setting higher frame rate will not make your video smooth, if it is not supported by your network bandwidth.

Normally, higher connection speed can support higher frame rate. A suitable frame rate should not be beyond the maximum frame rate supported by your network bandwidth. In general, if you are using local network, you may choose up to 30fps frame rate; if you are using T1, DSL, or cable modem, your choice is up to 10fps; if you are using ISDN, the frame rate supported is up to 1fps; and if you are using dial up connection, you can only select 1/8 or 1/16 fps. If you are not clear about your connection speed, you may choose Auto, and let DataVideo@Net automatically detect the speed and choose a suitable frame rate for you.

If you log in as a Guest or Operator level user, your maximum frame rate may be preset by the supervisor. Your selection beyond the limit will be considered invalid.

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