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# Chapter 1 VR-110A Introduction

## 1-1. VR-110A Characteristics

서식 있음: 글머리 기호 및 번호 매기기

- Support MPEG-4 VOD Server
- EVDO mobile phone with RTSP player installed can use it with VOD service
- Full support on Static IP, external xDSL modem, and dynamic IP such as Cable modem
  (Cf. VR-110A does not support ADSL service with internal modem
- Easily managed by remote control and firmware upgrade through network
- With additional PCMCIA card, it is fully adaptable to 802.11b, wireless LAN
- Easily configured by using Internet Brower
- With built in DHCP function, it can manage maximum number of 254 private IP address for PCs under HUB

For your Information :

This equipment has passed for EMI testing, and can be used residential and other areas.

서식 있음: 글머리 기호 및 번호 매기기

## 1-2. Product package description

Please check the follow before installation.

| Listings | EA | 용 도 |
|---|---|---|
| VR-110A | 1 | VR-110A |
| User Manual | 1 | Explain spec, function and feature |
| Power Adapter (DC 6) | 1 | Power supply |
| UTP cable | 1 | Cable for LAN and VR-110A |
| BNC-RCA Converter | 1 | Converter between RCA and BNC |
| RCA/Stereo Pin Converter | 1 | Audio Jack Type change |

## 1-3. Parts Description

[Power] Connect your 6V power adaptor here.

[WAN Port] Connect ADSL or Cable Modem here.

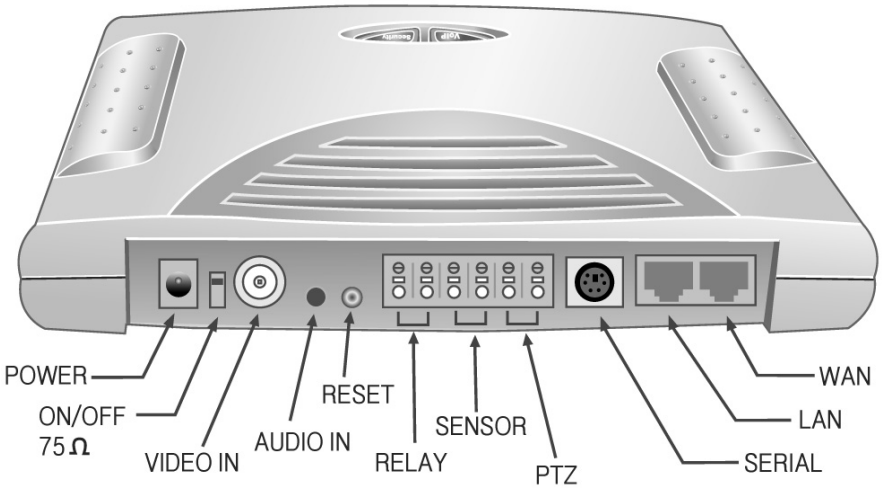
[LAN Port] Connect to your PC with LAN cable here.

[Reset button] Press this button for reset VR-110A to default value.

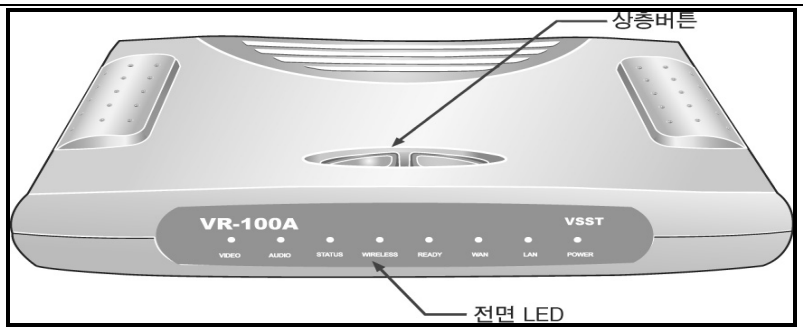
[Video Port] Video Input for receiving Video data

[Audio Port] Audio input with RCA / Stereo connection

[On/Off] 75Ω Impedance resistor On/OFF switch




## 1-4. Front LED



| Name | Color | Status | Description |
|---|---|---|---|
| VIDEO | Green | OFF | No Video Streaming |
| | | Blinking | Video Streaming in progress |
| AUDIO | Green | OFF | No Audio Streaming |
| | | Blinking | Audio Streaming in progress |
| STATUS | Green | OFF | No client access |
| | | ON | More than one client access |
| | | Blinking | Firmware upgrade in progress |
| WIRELESS | Green | OFF | No PCMCIA Wireless LAN |
| | | ON | PCMCIA Wireless LAN is inserted and working properly |
| | | Blinking | Wireless LAN communication in progress |
| READY | Green | ON | IP setting is done property and ready for streaming |
| | | Blinking | Streaming now ready and there is problem |
| WAN | Green | OFF | No connection in WAN port |
| | | ON | Connection established in WAN port |
| | | Blinking | Communication in progress in WAN port |
| LAN | Green | OFF | No connection in LAN port |
| | | ON | Connection established in LAN port |
| | | Blinking | Communication in progress in LAN port |
| POWER | Red | OFF | No DC power supply |
| | | ON | DC power supply |

## 1-5. Product Specification

| | List | Description |
|---|---|---|
| Interface Spec | Video Interface | Support standard NTSC / PAL analog video signal with 1 channel through BNC connector |
| | Audio Interface | Support Standard analog stereo audio signal( RCA connector) |
| | Network Interface | 2 10/100Base-T Ethernet interface to access LAN/WAN (RJ-45 ports) |
| | Remote Interface | 2 relay inputs for remote control |
| | Sensor Interface | 2 sensor inputs to receive event through detecting sensor |
| | Camera Interface | Remote Pan/Tilt/Zoom control through RS-232/485 interface |
| | WLAN Interface | Wireless LAN support with WLAN PCMCIA card(IEEE 802.11b) |
| Video & Audio Server Spec | Video 압축 방식 | MPEG-4 Simple Profile Level 1 |
| | Audio 압축 방식 | MPEG-4 AAC(Advanced Audio Coding) |
| | Image Resolution | 176 x 144(QCIF) |
| | Frame Rate | Max frame @ 15 fps(frames per second) |
| | Bit Rate | Max rate @ 500 kbp |
| | Streaming Protocol | TCP/UDP/IP based RTSP/RTP/RTCP |
| | Multi client support | Intelligent rate control and channel adaptation for multi user connection |
| Network spec | IP setting | Supports both static IP and DHCP based Dynamic IP |
| | Network connection | Supports PPPoE based ADSL and cable Modem |
| | IP sharing | 2 RJ-45 port setting support NAT, port forwarding based IP router / switching Hub |
| | Remote control | Embedded HTTP server for remote control |
| | Firmware Upgrade | Firmware upgrade support using FTP, serial port or UTP cable |
| Platform | Processor | 32-bit RISC CPU와 TMS320C54x DSP |
| | Memory | 2MB FLASH ROM과 8MB DRAM |
| | OS | Precise/MQX Real-time OS |
| Physical spec | Power | DC 6V 1.0A |
| | Size | 200 mm x 140 mm x 33 mm |
| | Weight | 380 g |

# Chapter 2 VR-110A network

## 2-1. Windows 98/me configuration

① Select Windows menu [Start] → [Setting] → [Control Panel]
② Select [Network]
③ In the Network Window, select the LAN card being used among [TCP/IP] list, and click on [Property]
④ In [TCP/IP Property], in [IP address], select [Obtain DNS server address automatically]
⑤ Click on [OK]
⑥ Restart your computer.

## 2-2. Windows 2000 configuration

① Select Windows menu [Start] → [Setting] → [Control Panel]
② Select [Network connection]
③ Click right mouse button to select [Property]
④ In the Property Window, select [Internet Protocol(TCP/IP)] and click [Property]
⑤ Select [Obtain an IP address automatically] and [Obtain DNS server address automatically]
⑥ Select OK

## 2-3. Windows XP configuration

① Select Windows menu [Start] → [Setting] → [Control Panel]
② Select [Network connection]
③ Click right mouse button to select [Property]
④ In the Property Window, select [Internet Protocol(TCP/IP)] and click [Property]
⑤ Select [Obtain an IP address automatically] and [Obtain DNS server address automatically]
⑥ Select OK

서식 있음: 글머리 기호 및 번호 매기기

# Chapter 3 VR-110A setup

## 3-1. VR-110A setup

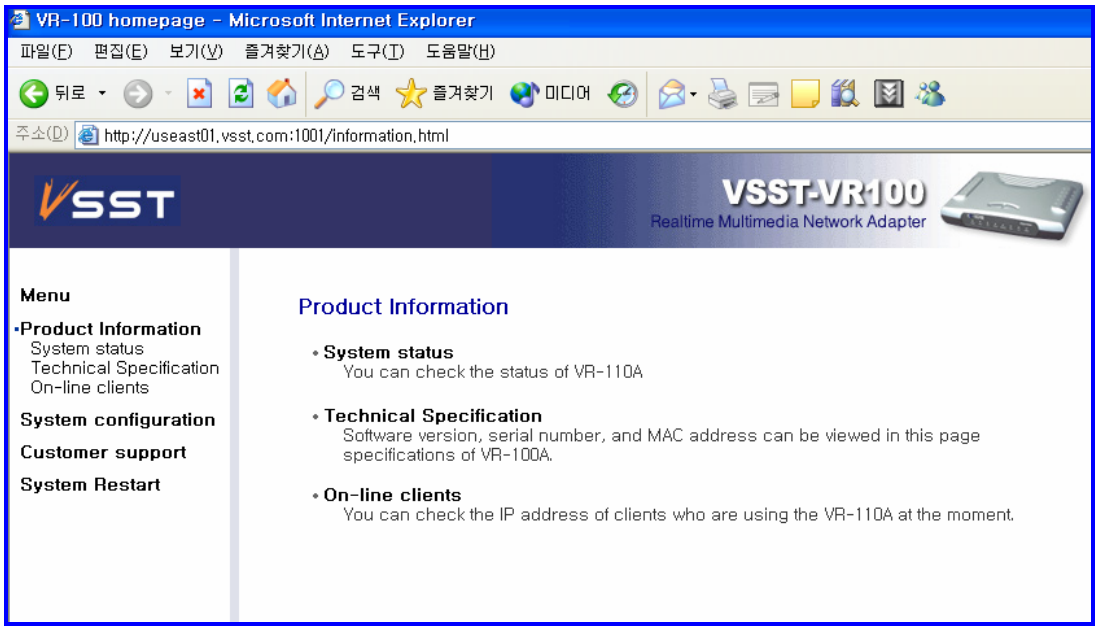
By using embedded web interface, system configuration to use VR-110A can be set. When you start VR-110A for the first time, or do not know the IP address that is given to VR-110A, you can use the following method. By default, VR-110A has IP address of “192.168.120.1” Since this IP will not change no matter what, you can change settings by accessing to this IP address directly.

- Connect PC and VR-110A’s LAN port using LAN cable.
- Check the Local Network status, and if you have following screen, the connection is established properly.

## 3-2. Product Information

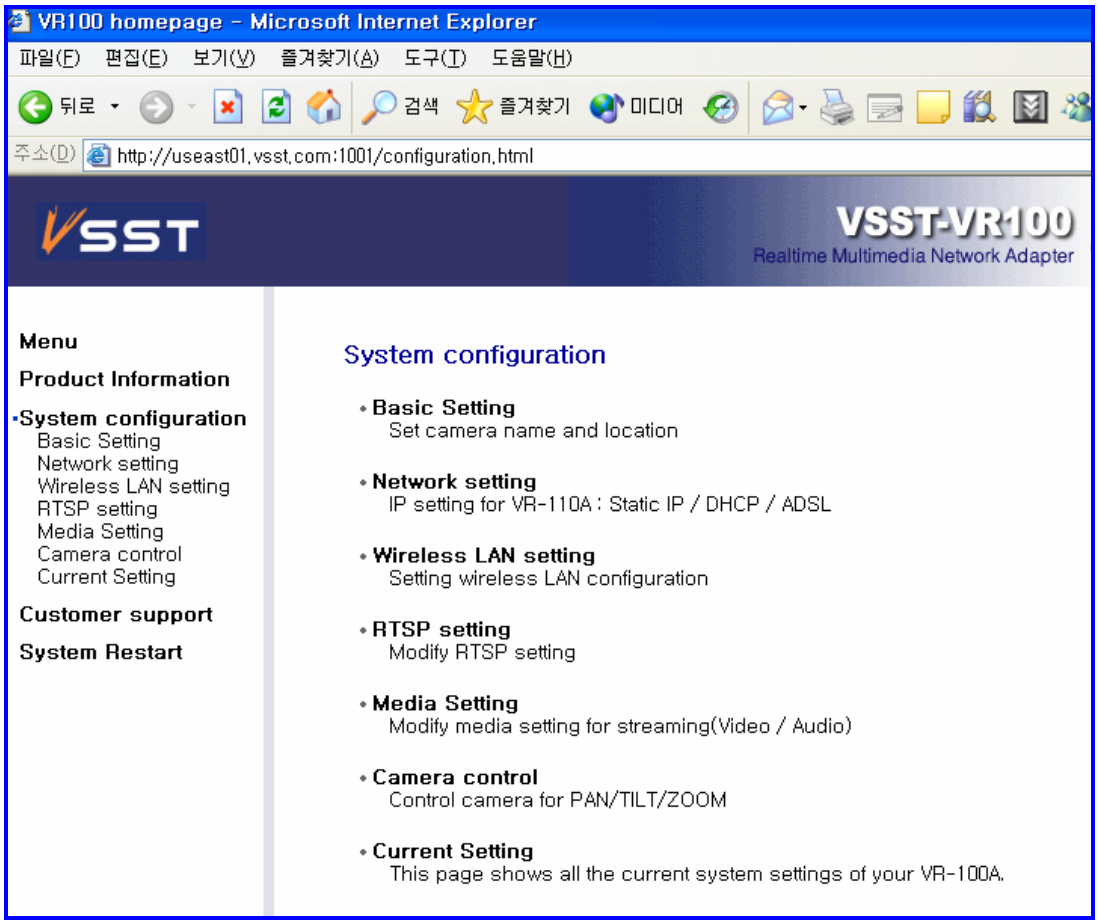
**From internet browser of PC, access the following address “http://192.168.120.1:1001/”**

- System Status : You can check the status of VR-110A.
- Technical Specification : Software version, serial number, and MAC address can be viewed in this page
- On-line clients : You can check the IP address of clients who are using the VR-110A at the moment.



## 3-3. System Configuration

- **Basic Setting**: Set camera name and location.
- Network Setting : IP setting for VR-110A : Static IP / DHCP / ADSL.
- **Wireless LAN setting**: Setting wireless LAN configuration
- RTSP setting : set RTSP port number, time out, concurrent user
- Media setting : Modify media setting for streaming(Video / Audio)
- Camera Control : Control camera for PAN/TILT/ZOOM relay, sensor input..
- Current setting : Show the current setting of VR-110A



## 3-4. Basic Setting

Select Basic Setting and fill in the camera name and location

Select either “save” or “save and restart” button to apply changed setting.

## 3-5. VR-110A Network Setting

From the menu in the left, select network setting and fill in the information.

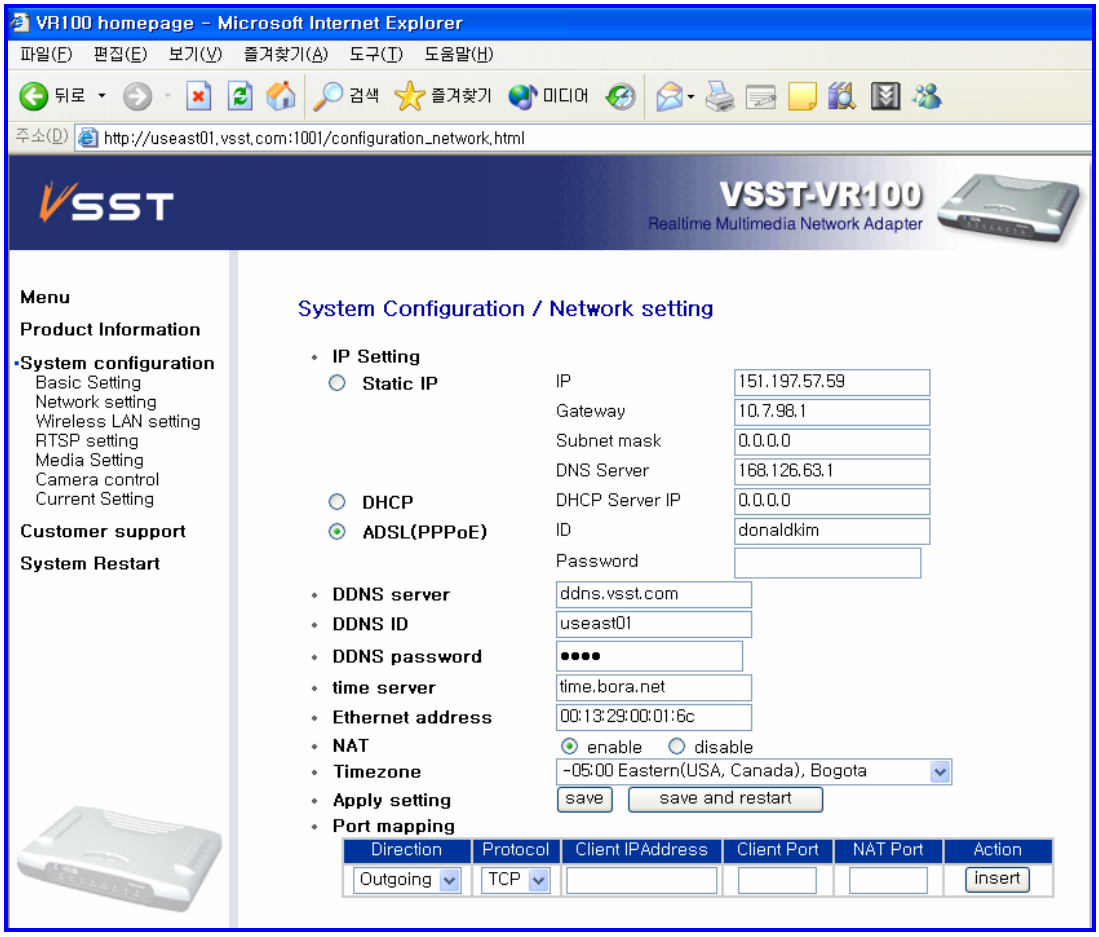
서식 있음: 글머리 기호 및 번호 매기기

Select “save and restart” button to reset VR-110A automatically and apply changed setting

- Static IP : click here if you use static IP address
- DHCP user : click here if you use dynamic IP address.
- DNS server : Address of DNS server that service provider runs
- ADSL (PPPoE): In case of external ADSL modem, select “ADSL (PPPoE)”

  User ID: ADSL ID

  Password: ADSL Password
- Time server: IP address of server that sets, and manages time
- DDNS server : Once registered with VSST through phone or e-mail, your ID and password will be given.
- NAT : When using router before VR-110A, click here.

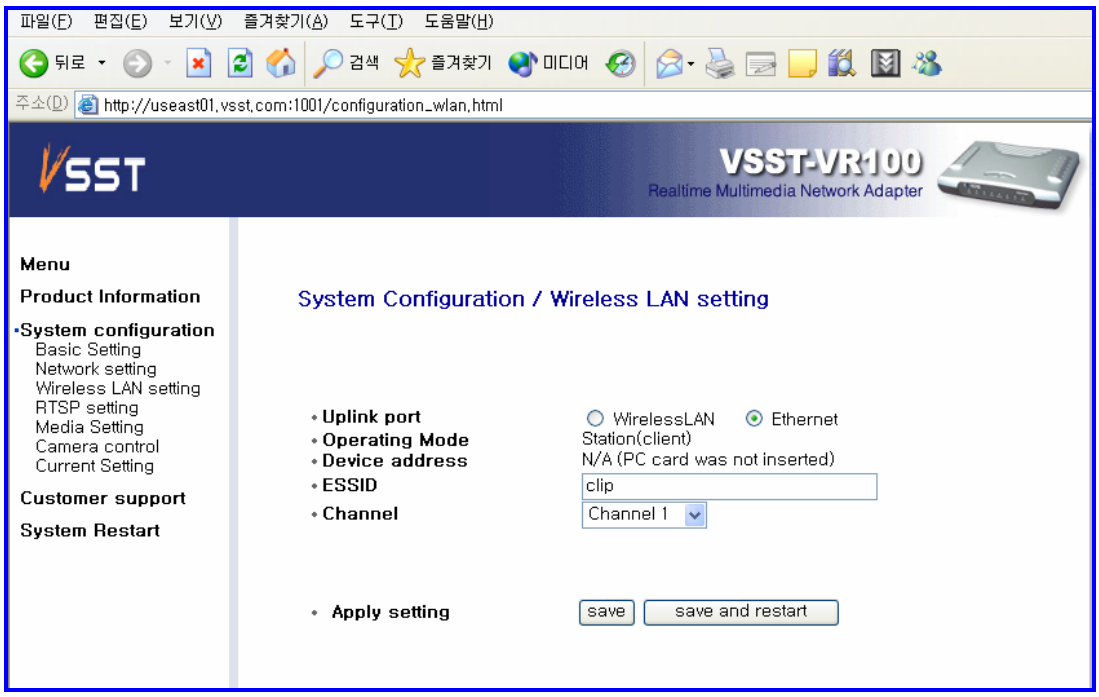

VR100 homepage - Microsoft Internet Explorer
파일(F) 편집(E) 보기(V) 즐겨찾기(A) 도구(T) 도움말(H)
뒤로 검색 즐겨찾기 미디어
주소(D) http://useast01.vsst.com:1001/configuration_network.html
VSST
VSST-VR100
Realtime Multimedia Network Adapter
Menu
Product Information
System configuration
Basic Setting
Network setting
Wireless LAN setting
RTSP setting
Media Setting
Camera control
Current Setting
Customer support
System Restart
System Configuration / Network setting
IP Setting
Static IP
IP 151.197.57.59
Gateway 10.7.98.1
Subnet mask 0.0.0.0
DNS Server 168.126.63.1
DHCP
DHCP Server IP 0.0.0.0
ADSL(PPPoE)
ID donaldkim
Password
DDNS server ddns.vsst.com
DDNS ID useast01
DDNS password ••••
time server time.bora.net
Ethernet address 00:13:29:00:01:6c
NAT enable disable
Timezone -05:00 Eastern(USA, Canada), Bogota
Apply setting save save and restart
Port mapping
Direction Protocol Client IPAddress Client Port NAT Port Action
Outgoing TCP insert

## 3-6. VR-110A Wireless LAN setting

From the menu in the left, select WLAN setting, and fill in the information

Select "save and restart" button to reset VR-110A automatically and apply changed setting

- Uplink Port : This option decide whether to use Wireless LAN or Ethernet.
- ESSID : Fill in the ESSID information
- Channel : use this option when using specified channel.



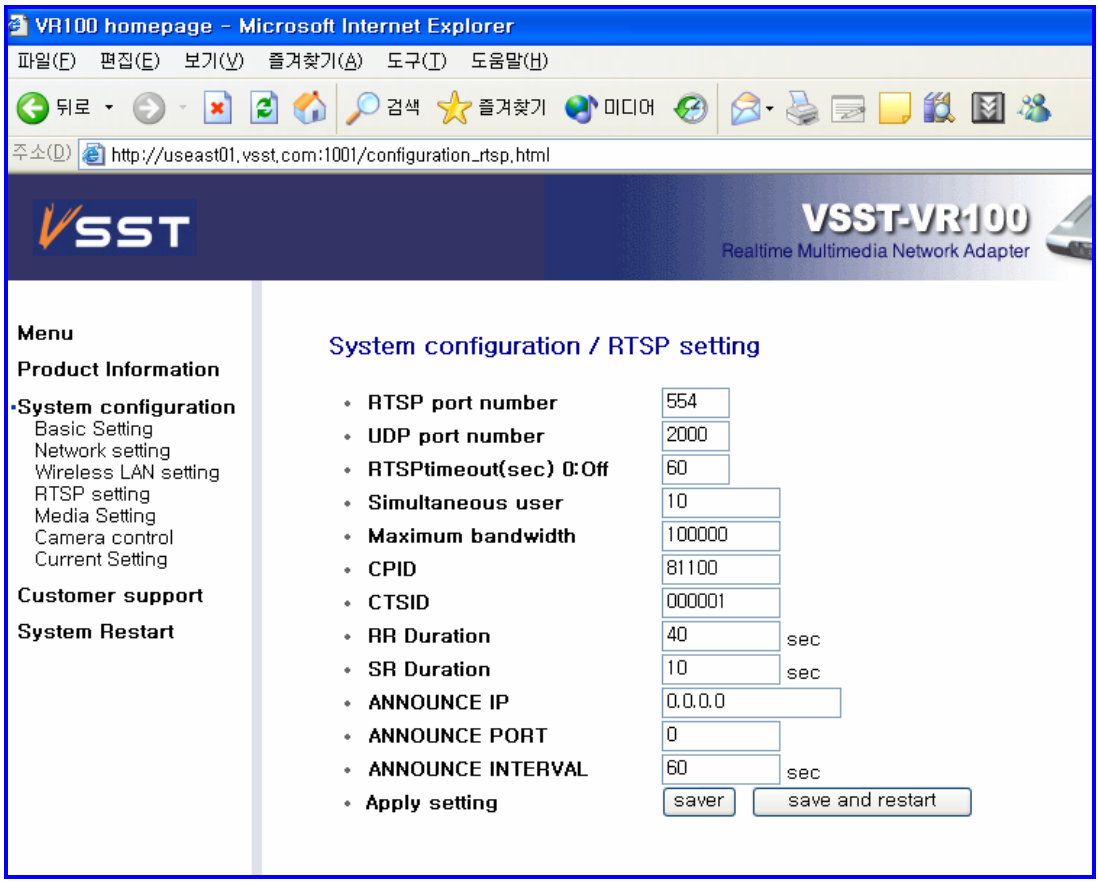
## 3-7. VR-110A RTSP setting

From the menu in the left, select RSTP setting, and fill in the information

Select "save and restart" button to reset VR-110A automatically and apply changed setting

- RTSP number : Port number of RTSP which clients access
- RTSP timeout : Set the idle time to stop streaming when no response from clients
- Maximum number of concurrent user. : maximum number of concurrent user that RTSP server allows
- Maximum Bit rate : Maximum range of Bit rate that RTSP server allows
- Other values should follow the setting value from mobile carrier.

삭제됨:




삭제됨:

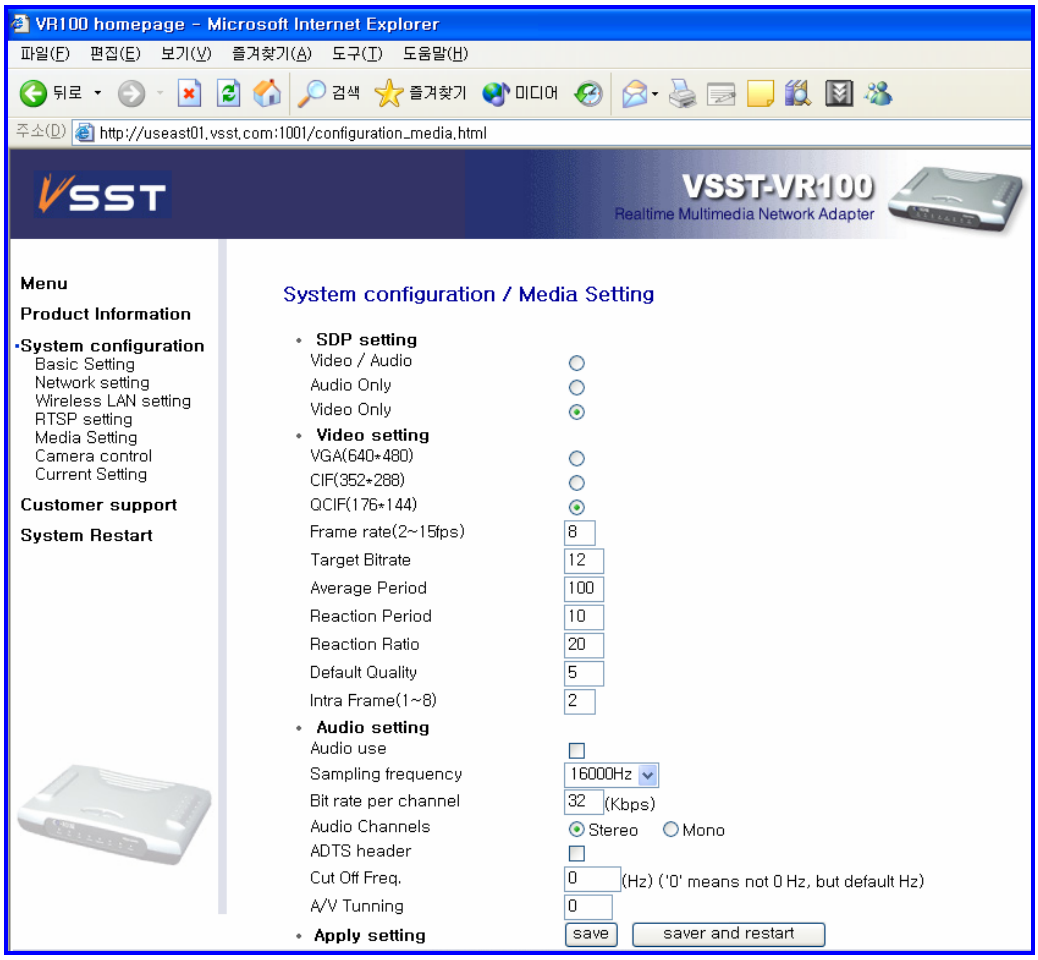
## 3-8. VR-110A Media setting

From the menu in the left, select Media setting, and fill in the information

Select "save and restart" button to reset VR-110A automatically and apply changed setting

- Frame rate : fps-frame per second
- Image quality : Decides quality of image. Lower value gives higher quality, but requires more bandwidth.
- Image Bandwidth : Bandwidth for Video Stream
- Standard Frame : Decide how many frame to send as standard
- Audio on : Click here to use AAC audio.
- Sampling frequency : Decide audio sampling frequency. Determine audio quality
- Bit rate per channel : Decide transmission rate per audio channel. Determine audio quality
- Audio channel: Audio option for Stereo and Mono
- ADTS header option : for compatibility, you can select to use ADTS header or not.

삭제됨:

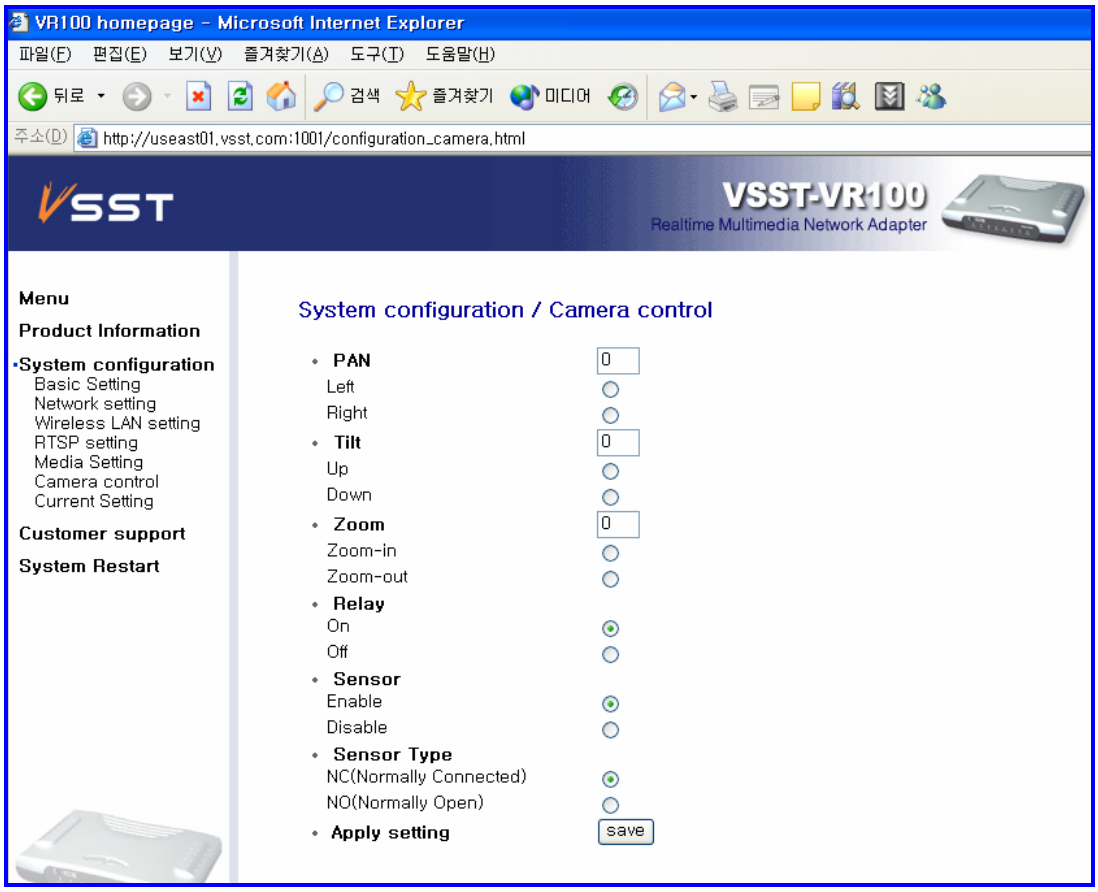


## 3-9. VR-110A Camera setting

From the menu in the left, select camera setting, and fill in the information

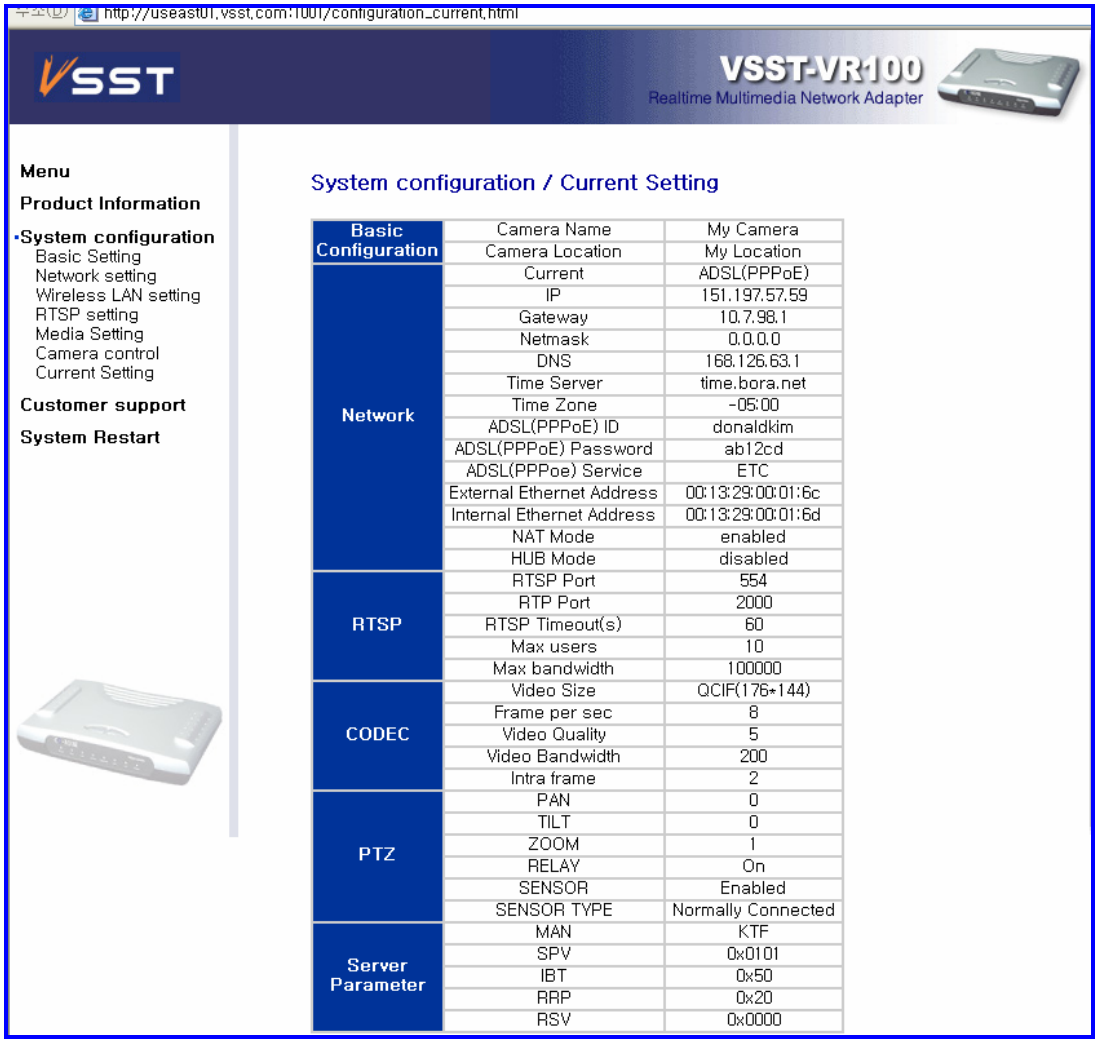
Select "save and restart" button to reset VR-110A automatically and apply changed setting

- PAN value can be in the range of 0-350. Tilt value can be in the range of 0-90 and Zoom value can be in the range of 1-230
- Choose on/off for relay
- Choose enable / disable for sensor
- Sensor type can be either NC(normally connected) or NO(Normally Open)



## 3-10. VR-110A Current Setting

VR-110A's current value and setting can be viewed by selecting "Current Setting"



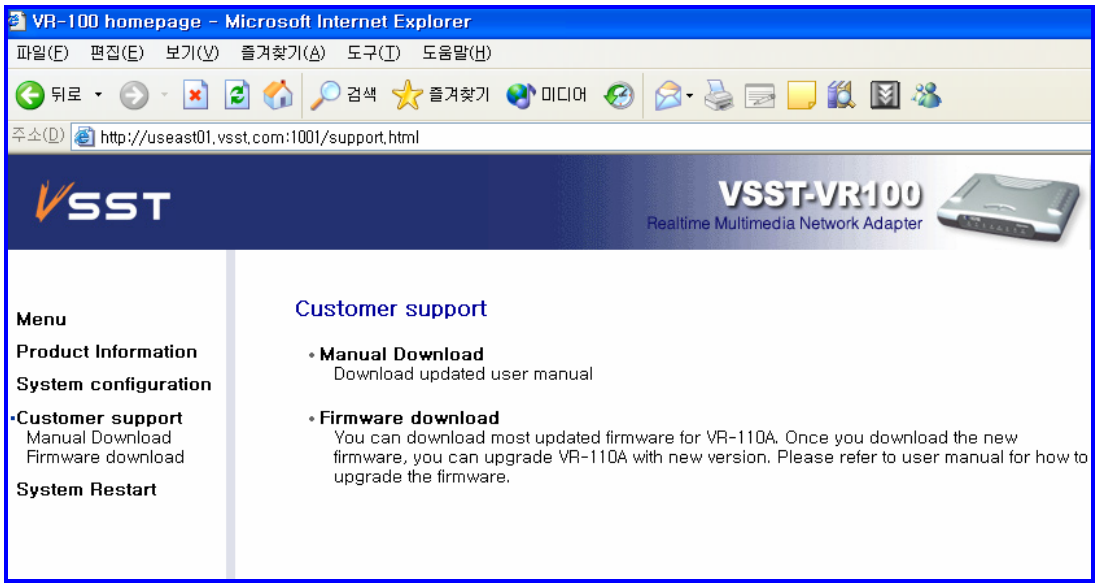

| | | |
|---|---|---|
| Basic Configuration | Camera Name | My Camera |
| | Camera Location | My Location |
| Network | Current | ADSL(PPPoE) |
| | IP | 151.197.57.59 |
| | Gateway | 10.7.98.1 |
| | Netmask | 0.0.0.0 |
| | DNS | 168.126.63.1 |
| | Time Server | time.bora.net |
| | Time Zone | -05:00 |
| | ADSL(PPPoE) ID | donaldkim |
| | ADSL(PPPoE) Password | ab12cd |
| | ADSL(PPPoe) Service | ETC |
| | External Ethernet Address | 00:13:29:00:01:6c |
| | Internal Ethernet Address | 00:13:29:00:01:6d |
| | NAT Mode | enabled |
| | HUB Mode | disabled |
| RTSP | RTSP Port | 554 |
| | RTP Port | 2000 |
| | RTSP Timeout(s) | 60 |
| | Max users | 10 |
| | Max bandwidth | 100000 |
| CODEC | Video Size | QCIF(176*144) |
| | Frame per sec | 8 |
| | Video Quality | 5 |
| | Video Bandwidth | 200 |
| | Intra frame | 2 |
| PTZ | PAN | 0 |
| | TILT | 0 |
| | ZOOM | 1 |
| | RELAY | On |
| | SENSOR | Enabled |
| | SENSOR TYPE | Normally Connected |
| Server Parameter | MAN | KTF |
| | SPV | 0x0101 |
| | IBT | 0x50 |
| | RRP | 0x20 |
| | RSV | 0x0000 |

## 3-11. VR-110A Customer Support

서식 있음: 글머리 기호 및 번호 매기기

Manual Download : Download online Manual

Firmware download : download updated firmware




## 3-12. Advanced setting

When connecting VR-110A in a single internet line, set up your system in the order of Internet line > Modem > VR-110A > PC

System diagram – No IP router

System diagram – Using IP router

- When using IP router, set up your system in the order of Internet line > modem > Router> PC and VR-110A
- VR-11A can be considered as a client, and by having DMZ setting for VR-110A, you can access from external network with public IP address. Internally, you can access through private IP.

# Chapter 4 MediaWings setup

## 4-1. MediaWings Setting

In the system setting(F2 key), check open URL for default

Replay track must be set on Video replay

## 4-1. MediaWings Setting

1. start Mediawings player
2. In the play screen, click right mouse button, then select open video
3. type in the url address (ex : rtsp://192.168.120.1/)
4. You can check the IP address in current setting of VR-110A set up
5. play ok to start playing
6. Press record button to select the folder that you would like to store

# Chapter 5 VR-110A advanced setup

## 5-1. Firewall / IP router Setting

[TCP]

1001 : Port that connects to VR-110A

Ex) http://192.168.1201.:1001 / when you type in IP address of Vr-110A, you will go to setting page.(IP and setting screen, and no log-in required)

554 : RTSP Port(Real Time Streaming Port) This is player only port for video play. For example, quicktime player uses example below to run video replay.

Ex) access the IP address RTSP://192.168.1201.:554/

21 : this port is used to upgrade firmware or upload file in Dos mode with FTP.

[UDP]

2000 : port that does initial socket opening

2001 : This port checks on the connection continuously by sending data periodically.

## 5-2. Firmware Upgrade

When VR-110A is connected normally to the network, firmware can be upgraded with FTP. This method will update in high speed, but can be used only when the system is normal, and connected to the network.

The screenshot below example of firmware upgrade where IP address is 192.168.0.36 and file name is “VR-110A.fls” When connecting with FTP, user name is ‘admin’ and password is same as password of VR-110A(4 digit number). The default password is ‘0000’

)

```
C:\> ftp 192.168.0.36
Connected to 192.168.0.36.
220 Precise/RTCS FTP Ready
User (192.168.0.36:(none)): admin
331 Password required for admin
Password:
230 Logged in
ftp> bin
200 Type OK
ftp> put VR-110A.fls flash
```

```
200 Port command okay
150 Opening data connection for STOR (192.168.0.14,1161)
226 File received OK – 1053136 bytes in 10.640 sec
ftp: 1053136 bytes sent in 10.55Seconds 99.82Kbytes/sec.
```

× **Wanring :** Do not change setting or turn off the power of VR-110A during firmware upgrade

× It takes about 1-2 min to finish upgrade. After upgrade,. VR-110A will restart automatically.

# Product Warranty

According to customer protection policy, VSST guarantees the product as followed :

Warranty Period : 1 year after the purchase

| | | | |
|---|---|---|---|
| Product | Multimedia Network Adaptor | Model | VR-110A |
| Distributor | VSST | Manufacturer | VSST |
| Date of Purchase | | Serial No. | |

**1. Free A/S**

As long as the A/S is within guarantee period, and was used in normal usages, we will repair or exchange for free.

**2. Paid A/S**

- If the guarantee period is over
- If user modified or repaired on his/her own
- When used wrong power connection
- Natural disaster, fire, flood, or thunder caused malfunction or damage of product
- When parts wear out

**FCC Information**

This device complies with Part 15 of the FCC Results. Operation is subject to the following two conditions:

(1) This Device may not cause harmful interface, and

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

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of 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 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 correct the interference by one or more of the following measures:

1.1. Reorient or relocate the receiving antenna.
1.2. Increase the separation between the equipment and receiver.
1.3. Connect the equipment into an outlet on a circuit different from that to which receiver is connected.
1.4. Consult the dealer or experienced radio/TV technician for help.

**WARNING**

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

VSST

# MPEG-4 Video/Audio Streaming Network Adaptor

## Streaming Solutions for Scalable VOD System

- Real-time multimedia network adaptor
- Streaming with standard RTSP/RTP/RTCP
- Video: MPEG-4 Simple Profile Level 1, 15 fps@QCIF
- Audio: MPEG-2 Advanced Audio Coding, AMR
- Rate control for elastic traffic
- PAN / Tilt / Zoom functions for external camera control
- DHCP, PPPoE, HTTP, SNMP and NAT support
- Dual switched 10/100Base-T Ethernet interfaces
- IEEE 802.11b extensibility for Wireless LAN station function

VSST (주)브이에스에스티

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