

Mobile DVR



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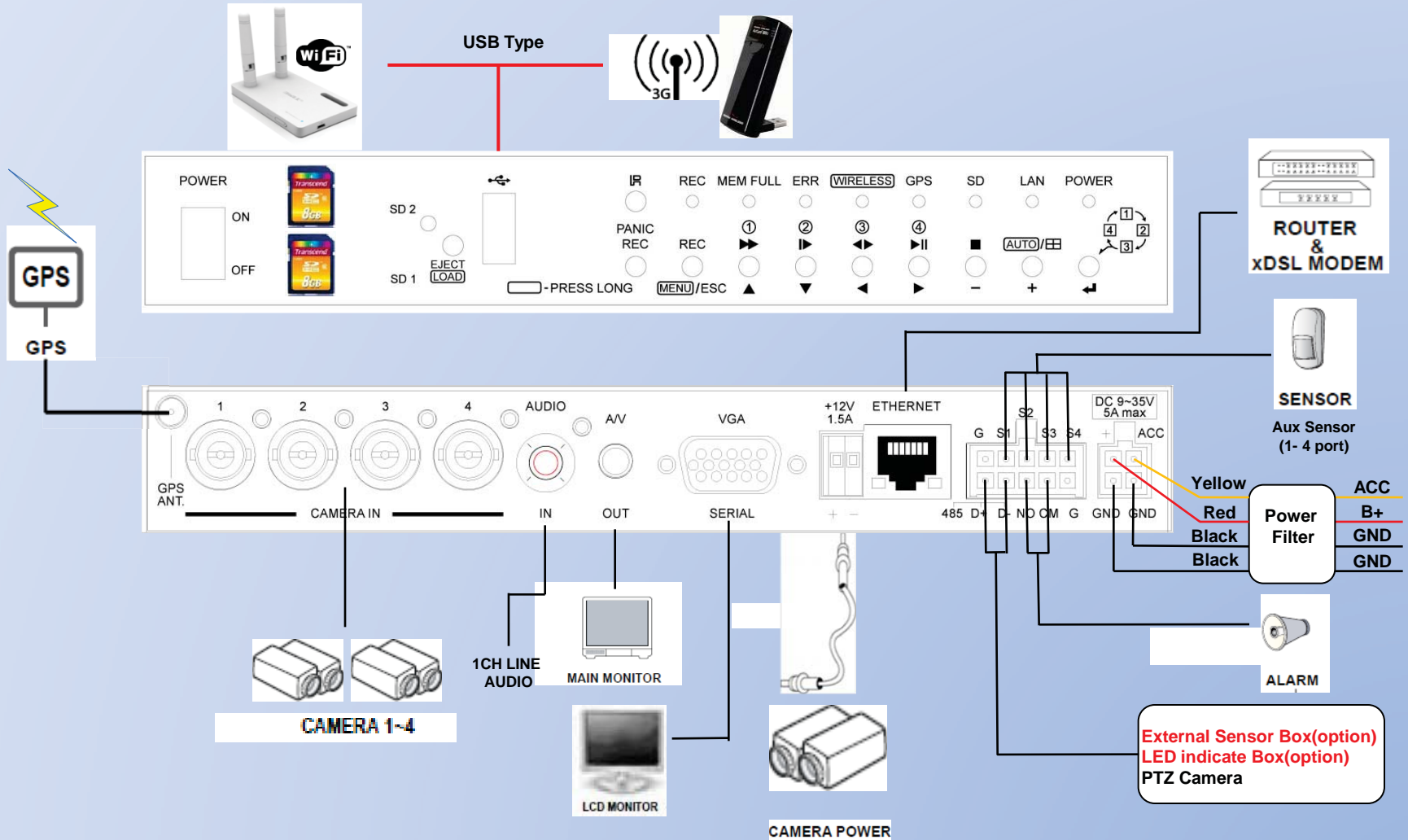
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1.1 Feature List

- **H.264** Compression
- OS : Embedded Linux (2.6)
- 4Ch Video (BNC) / 1Ch Audio (RCA) input
- **Multi Resolution Recording/Smooth Reverse Playback/Various Search Methods**
- Recording Performance: **120ips@CIF / 120ips@2CIF / 60ips@D1**
- Pentaplex Multiple Operation (Record, Playback, Network, Copy, Mirroring)
- Support **Mirroring** or **Event Backup**
- Storage Capacity: **6 SD Cards**
- Support **SDHC**(up to 32GB), **SDXC**(up to 2TB)
- **Hot Swapping** Support by Load/Eject Button.
- **Emergency/Panic Recording** by Sensor or Manual Triggering
- Selectable **Remote Network Backup via Wi-Fi** or Ethernet
- **Interlocked** Network and Playback **with the Google Map**
- Fully Featured Dedicated Viewer & Central Manager
- Camera Power Output : **+12V 1.5A**
- Wide Range and Tolerance Power Input (**+9Vdc to +35Vdc**)
- Wide Operation Temperature (Ambient Temp.: Fahrenheit : **-4 ~140 °F**, Celsius : **-20 ~ 60 °C**)
- Built-in **GPS** Module(SiRFstar III) and **3-axis** accelerometer sensor (**G-sensor**)
- Support **3G/GPRS** Modem or **Wi-Fi** Connection (USB type)
- CE/FCC/**E-mark (class B)** Certificated
- **External Module or Interface** Support
Sensor Box Module (32 Sensors and 8 Relays)
- **Remote Controlling using IR or RS-485**

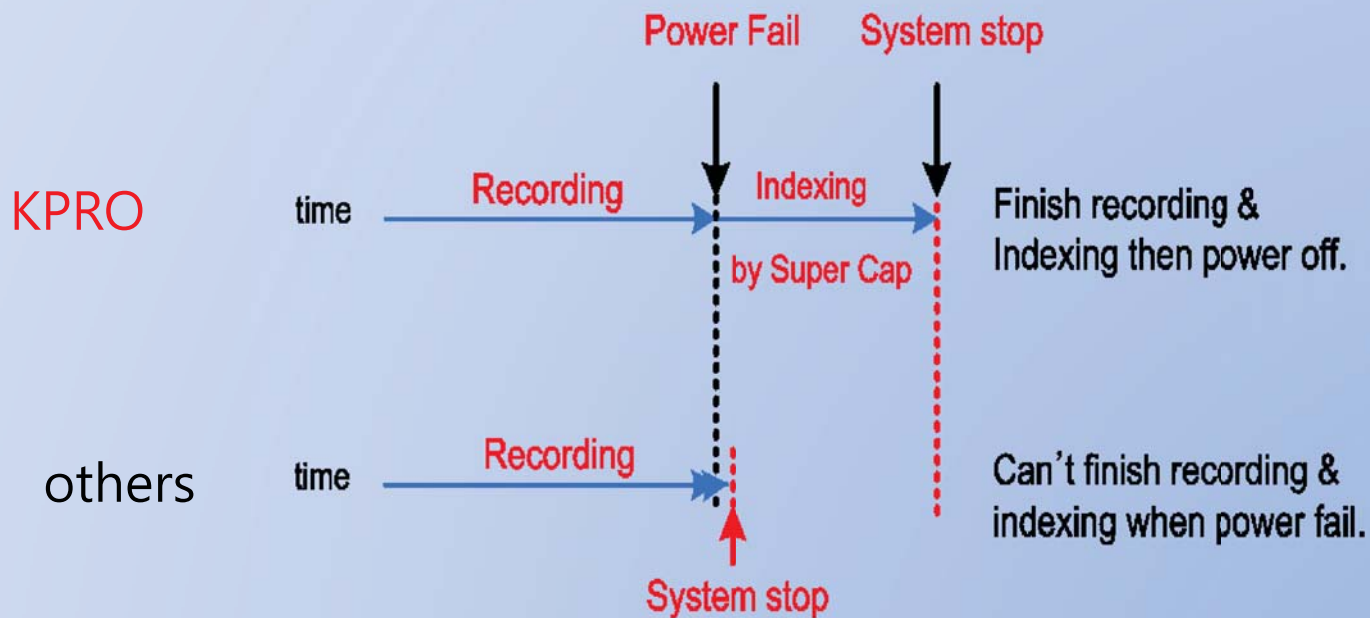
1.2 System Connection



1.3 H/W Feature

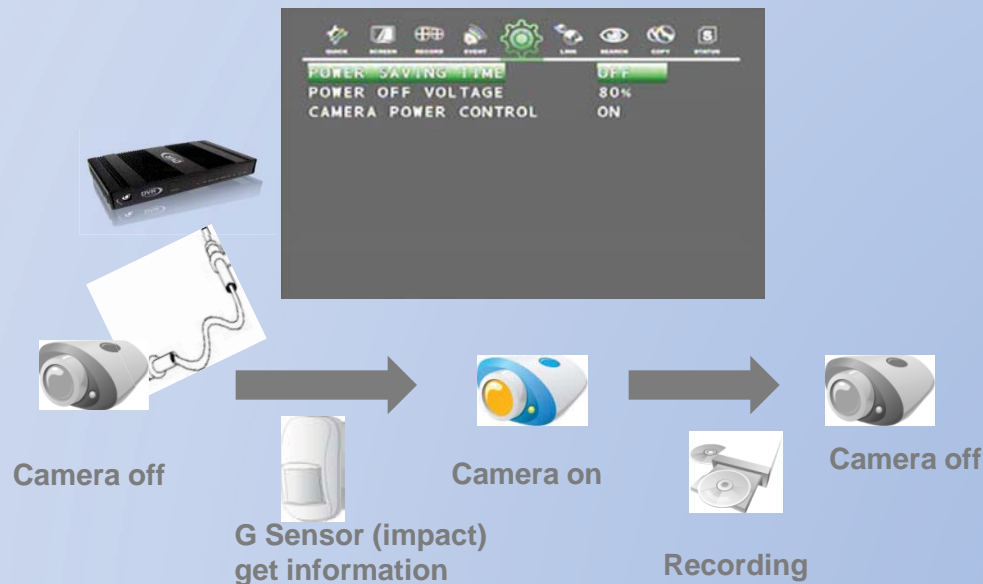
a) Power Management

- Built-in 5 x 3F Super Capacitors.
- 5~ 10sec more operation after power cut
- It can help DVR's complete recording even occurred unexpected power fail by accident.

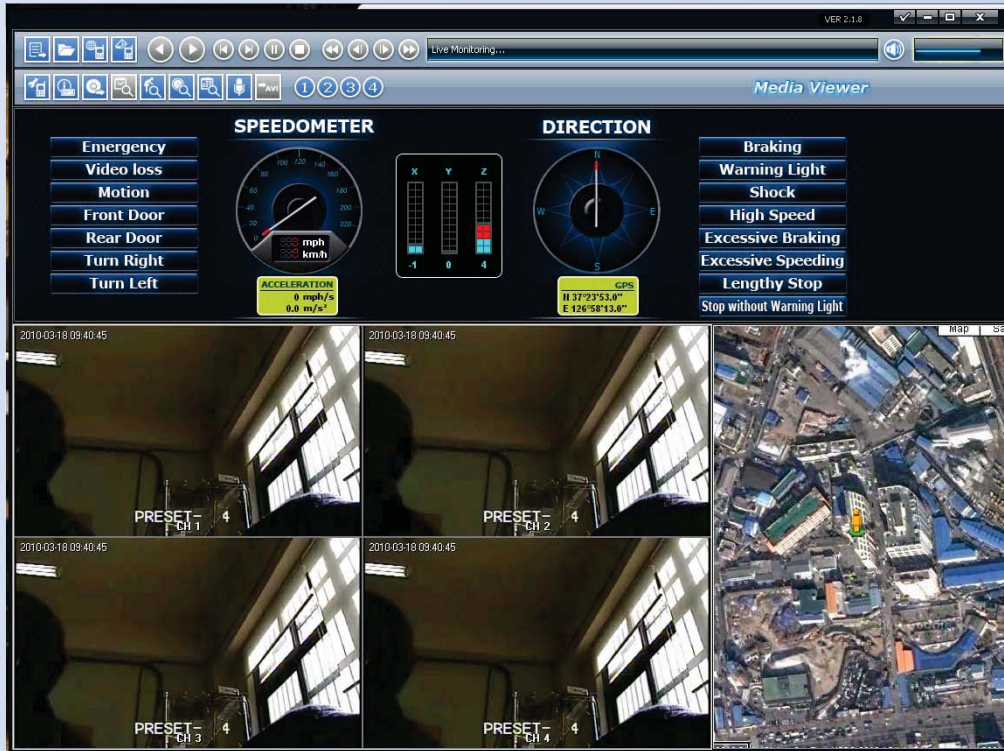


b) Power Saving mode : In this mode DVR can record or transmit video after turn-off the ignition key(also can control camera power turn-on & turn off)

- **Monitoring power source** from the battery of vehicle.
Used for the automatic off when voltage dropped under threshold
(Supervising the battery by internal voltage meter IC)
- Set power saving mode “ON” for camera.
For this function camera power has to connect directly to DVR.



2.1 Media Viewer



- Direct Player from the recording media
- **No need to install**
(included inside the disk automatically)
- Easy and Intuitive Use
- Event Indication at a glance
- Smooth playback at various speed
- Smooth reverse playback
- Frame by frame playback
- One to one network connection support.
- **Google Map interlocked.**
- GPS Information shown
- G-Sensor gauge
- Generation AVI stream.
- Stream Backup to '.DVR' file
- Event and Log Search
- Administration and Setup for the DVR

2.2 Mobile Manager & Mobile CMS

No.	IP Address	MAC Address	Em	Vl	Mo	FD	RD	TR	TL	Dr	Wt	Sh	Sp	XD	XS	LS	SL	Last Updated Status
0	Mobile DVR 496724	211.174.251.160	00:0A:2F:20:AA:00	[Icons]	2010-09-18 오전 11:57:22													
1	Mobile DVR 497929	211.174.251.195	00:0A:2F:20:AA:01	[Icons]	2010-09-18 오전 11:57:22													
2	Mobile DVR 497939	211.174.251.195	00:0A:2F:20:AA:02	[Icons]	2010-09-18 오전 11:57:21													
3	Mobile DVR 497944	211.174.251.195	00:0A:2F:20:AA:03	[Icons]	2010-09-18 오전 11:57:22													
4	Mobile DVR 497949	211.174.251.195	00:0A:2F:20:AA:04	[Icons]	2010-09-18 오전 11:57:22													
5	Mobile DVR 497952	211.174.251.195	00:0A:2F:20:AA:05	[Icons]	2010-09-18 오전 11:57:22													
6	Mobile DVR 497956	211.174.251.195	00:0A:2F:20:AA:06	[Icons]	2010-09-18 오전 11:57:22													
7	Mobile DVR 497960	211.174.251.195	[Icons]	2010-09-18 오전 11:57:23														

[Mobile DVR Information]
Name Mobile DVR 496724
IP 211.174.251.160
MAC 00:0A:2F:20:AA:00
Phone

- Monitoring the status of mobile DVRs
- Events, Status, Health Information display transferred from 3G modem of the DVR.
- Easy to register and check the DVR.
- Max. 500 DVRs can be handled.
- **Google Map Interlocked**
- Linked to Media Viewer for live monitoring
- Event and Log backup and playback.
- Tracking the driving history.
- **Two way audio**

2.3 Network Backup Manager

The screenshot displays the 'Bus DVR Archiver' software interface. The 'History' tab is selected and highlighted with a red box. A red arrow points from this tab to a 'PLAYER' window in the foreground. The 'PLAYER' window shows a 4x4 grid of 16 video channels (CH1 to CH16) displaying various interior views of a vehicle. Below the grid is a playback control bar with buttons for play/pause, stop, previous, next, and full screen, along with a volume slider and 'Print' and 'Capture' buttons.

Service Status

Service Mode :

Queue Status

Connect : (5 / 12), Record : (1 / 12)

IP	Name	Status	Current Saving File Name	Comp./Total
210.219.197.235	0	Done	-	0/0
211.174.251.198	0	DisConnect	-	0/0
210.219.197.229	0	Done	-	0/0
210.219.197.201	0	Done	-	0/0
210.219.197.237	0	Downloading(0%)	210.219.197.237-16032010-170322.dvr	9/500
211.174.251.178	0	0	-	0/0
210.219.197.221	0	Done	-	0/0
211.174.251.133	0	DisConnect	-	0/0

Manual Download

Channel	Start Time	End Time
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- Remote Backup Manager on the LAN including Wi-Fi.
- When vehicle enters into the Wi-Fi area the DVR starts backup according to the configuration.
- Max. 100 connection can be handled.
- 5 seconds period scanning.
- Archiving by the reservation.
- Automatic archiving the selected events type (Sensor Input, Motion, Video Loss, G-Sensor, Emergency Recording and etc.)
- Backup history

Backup File Player

- Dedicated File Player for the backup file
- Executed from the backup history

2.4 Pocket Viewer (Windows Mobile)

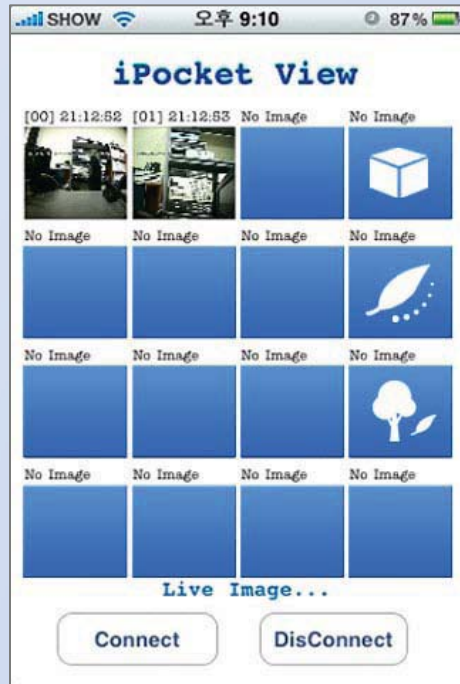


- Client viewer for the **MS Windows Mobile (5.0, 6.1, 6.5)**.
- Live monitoring and camera control on your mobile devices.
- Use after installation using 'mobile_viewer.cab'

DVR LIST	NEW
Connect Type	Static IP <input type="radio"/> MAC <input type="radio"/>
DVR NAME	NEW
Static IP	192.168.0.1
PORT	5400
PASS	
MAC	
Server IP	192.168.0.1
Add Update Delete Cancel	

DVR Information

2.5 Pocket Viewer (iPhone & iPod Touch)



Multi CH LIVE

- Client viewer for the iPhone & iPod Touch.
- Live monitoring and camera control on your mobile devices.
- Use after installation using iTunes

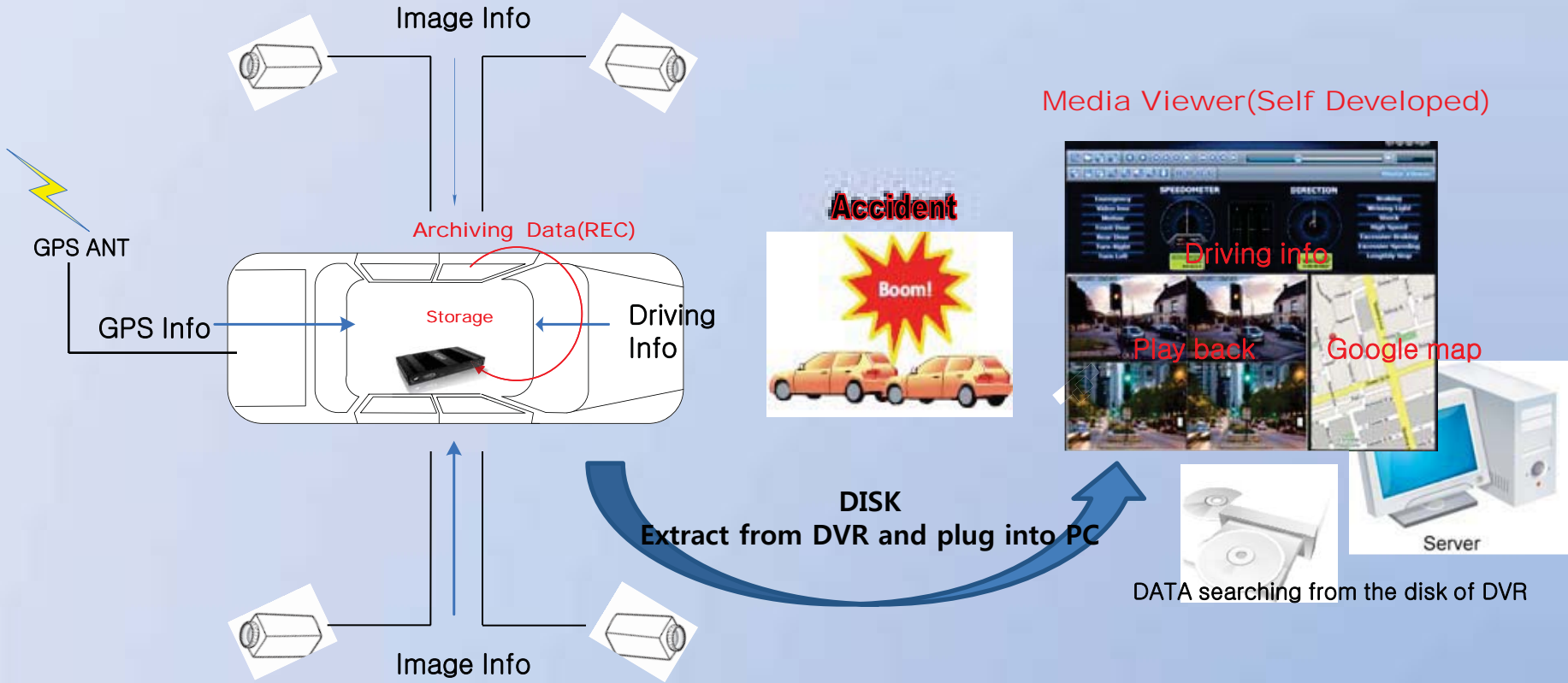


**Single CH LIVE &
Camera Control**

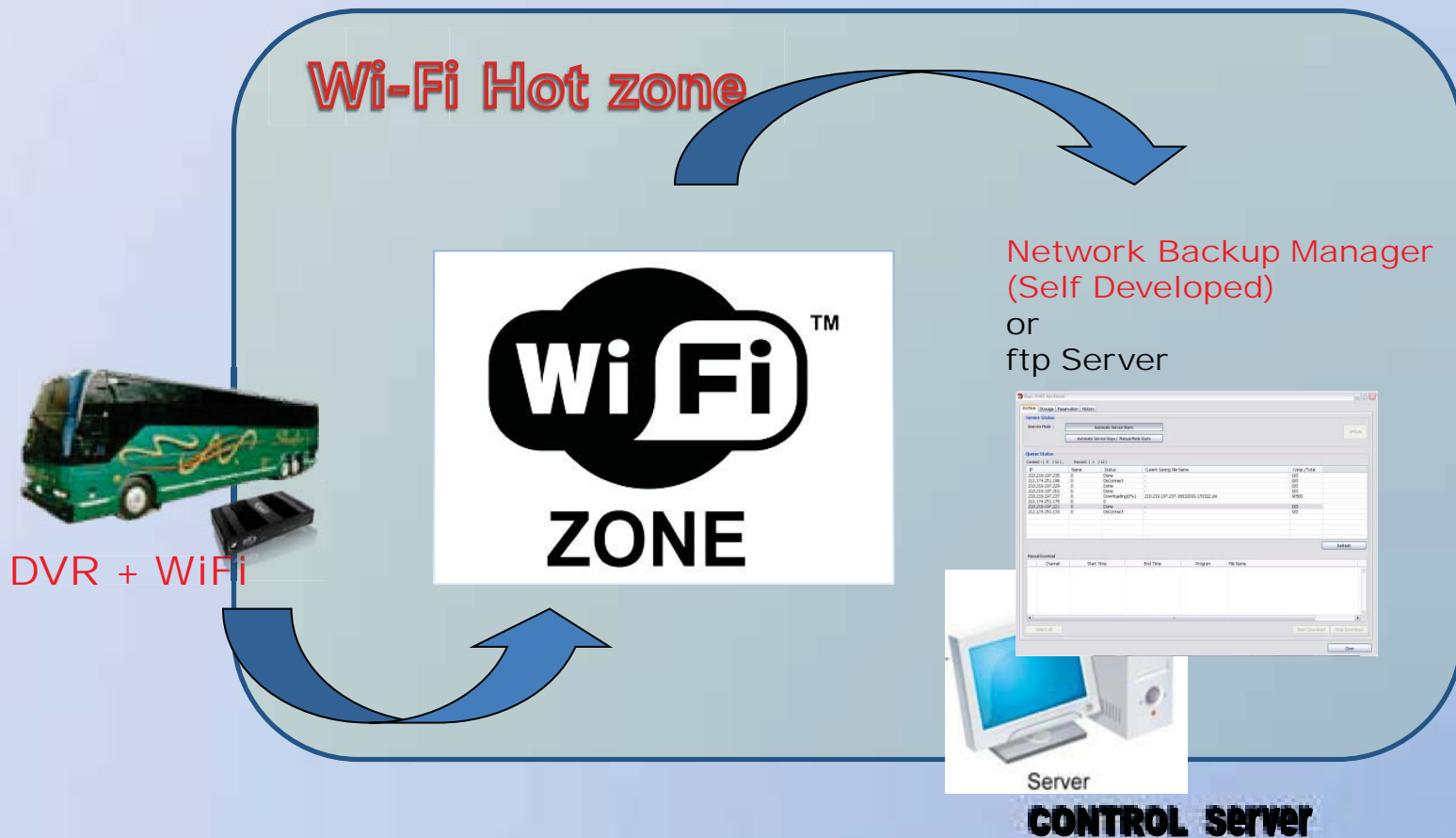


DVR Information

3.1 Application-1 : As a Black box for vehicle



3.2.1 Application-2 : Wi-Fi Backup (Record on trip and Backup in zone)



3.2.2 Connection Diagram for Wi-Fi

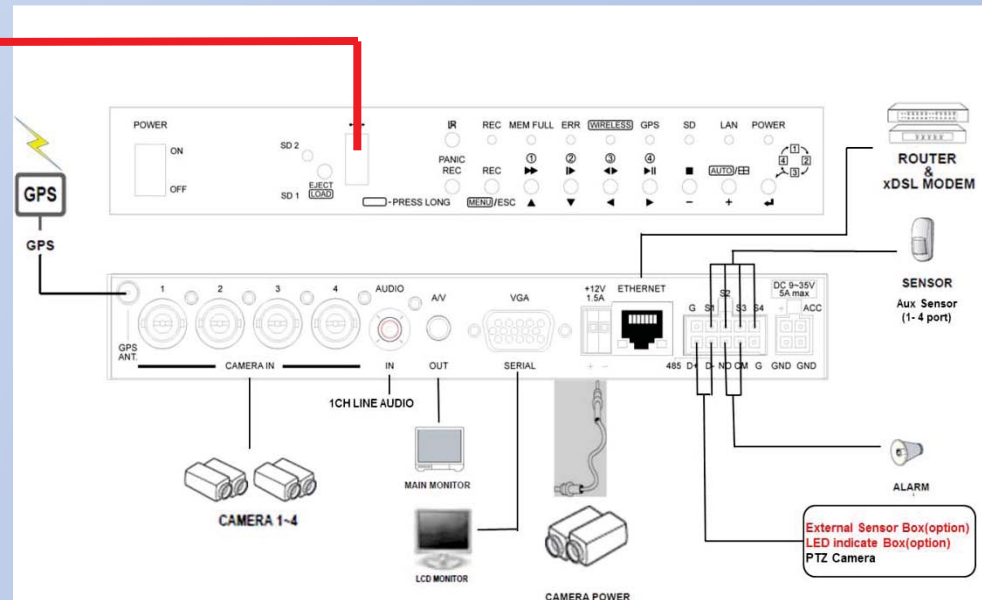
*Wi-Fi Network Card(USB type)

- 1) Network Card Maker Name : ipTIME(Made in Korea)
- 2) Network Card Model Name: N300UA , N200UA
- 3) Wi-Fi Chipset Maker : Ralink
- 4) Wi-Fi Chipset part No. : RT3070, RT2870



--How to connect Wi-Fi Network Card--

1. Insert the Wi-Fi Network Card to USB port in front panel.
2. Enter the Menu of the DVR.
3. Go to the Main Menu Setup, then press Link Menu.
4. Under the Link Menu, you can find Wireless.
5. Under the Wireless, make Wi-Fi parameter "ON".
6. Menu Save and go back to Wi-Fi Menu.
7. Then, configure the Wi-Fi Setup, like SSID, AUTHENTICATION MODE, and NETWORK KEY.
8. Once Wi-Fi parameter is configured, go for SCAN.



3.3.1 Application-3 : Mobile CMS

(Real time monitoring on the 3G/GPRS network)

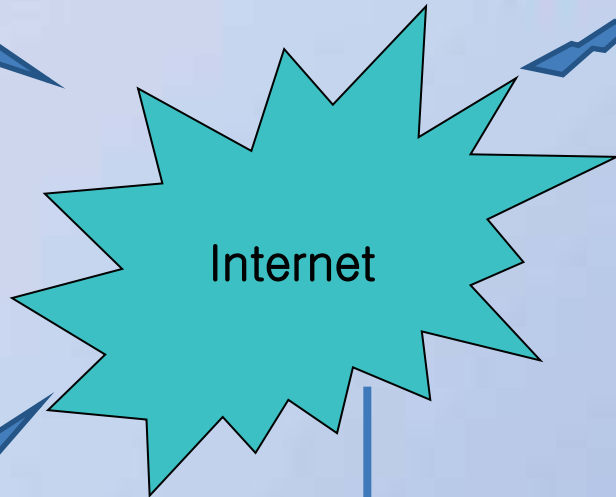


3G/GPRS

3G/GPRS

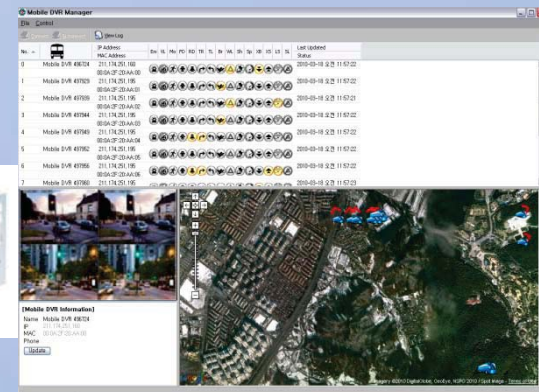


Pocket Viewer
(Self Developed)



3G/GPRS

LAN



Mobile Manager (Self Developed)
or
ftp Server

3.3.2 Connection Diagram for 3G / GPRS Modem

Item	U.S.A	Brazil	Taiwan
Service Provider	VERIZON Novatel	Vivo	FET
Wireless Modem	Novatel, Huawei E1756/E1752 E220/E270+	Huawei E1756/E1752	Huawei E1756/E1752
APN USER PASSWORD	-	zap.vivi.com.br vivo vivo	-

--How to connect 3G/GPRS Modem--

1. Insert the 3G/GPRS modem to USB port in front panel.
2. Press long "DIR" key of front panel.
3. Check the changing OSD "connecting" to "connected".
in the middle of monitor.
4. If changed, try to connect DVR by "Media Viewer" using MAC address.
- 5-1. If not, connect internet using LAN cable.
(Inform accessible IP & MAC address number from Korea
and setting Port:10023.5400)
(DVR Port : 5400, Telnet Port : 10023)
- 5-2. Send the another same 3G/GPRS modem to K-Pro Korea with
modem information as above.
- 5-3. Need time to modify firm-ware of mobile DVR from Korea remotely.
(It take around 2-3 weeks.)

