The NS product family is an energy-saving product family that can provide video, unmanned broadcasting, real-time broadcasting, and remote scheduling broadcasting services by configuring ICT-based ultra-low-power, high-efficiency **self-powered devices** and **wireless communication networks** in places where power and communication integration are impossible.

Fusion-tech

Product composition ● Self-generated device

Product specification

Item	Fusion Technology Co., Ltd.	Other Companies
CCTV, Broadcasting equipment driving efficiency	24 hours	14 hours
Generating Method	MPPT tracking power generation	PWM Method
Power consumption	ICT convergence power saving modularization	Absence of power saving function
Heavy snow, Relief day survivability	More than 156 hours	96 hours
Power storage device scale	12V 100A(2EA) 2.4KW	12V 200A(20EA) 48KW
Solar Panel	80W	3KW
Storage battery operation maintenance cost	480,000 won per year	9,000,000 won per year
Add-ons	Malfunction diagnosis and self-recovery	Site visit in case of malfunction

[High Efficiency Charging Control Equipment]

Enlargement



Enlargement of facilities(restrictions on installation locations) + high maintenance costs

- Storage capacity : 48kW
- Solar 3kW installation
- 4 days of relief
- Site visit management
- Large-sized facilities
- Secure surrounding land
- Operation for 6 months throughout the year
- High operating cost

Energy use efficiency technology

ICT technology convergence

Control and management ICT + EMS technology

Compact and lightweight

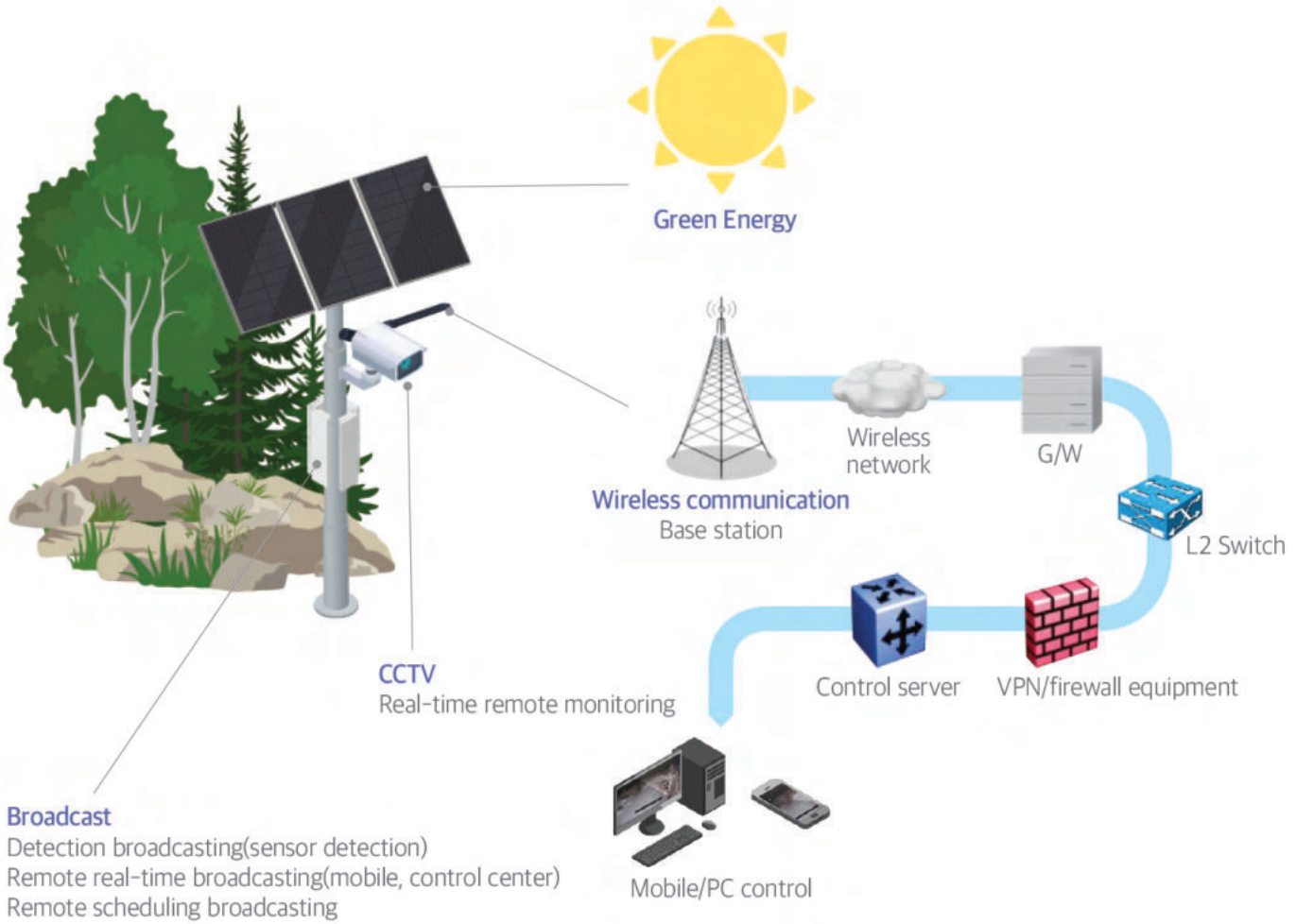
- Storage capacity : 2.4kW
- Solar power 80W
- More than 156 hours of relief
- EMS, remote management
- All-in-one small pole
- Run 365 days a year
- Low operating cost

Freedom from wire

Wireless communication network / VPN security equipment

Product specification

Item	Configuration	Remarks
Hardware	National Intelligence Service CC Level 1	Security level
Software	GS grade 1	Quality level
TOE component	All-in-one hardware	
CPU	MIPS 1.5GHz	Quad Core
RAM	Main 2G, CF Card 8G	
HDD	500GB	
Interface	6Port 10/100/1000 BASE-TX	2Port 1G Combo
Wireless security	M2M SSL VPN Licence	



Video control

Product specification

[CC Camera]

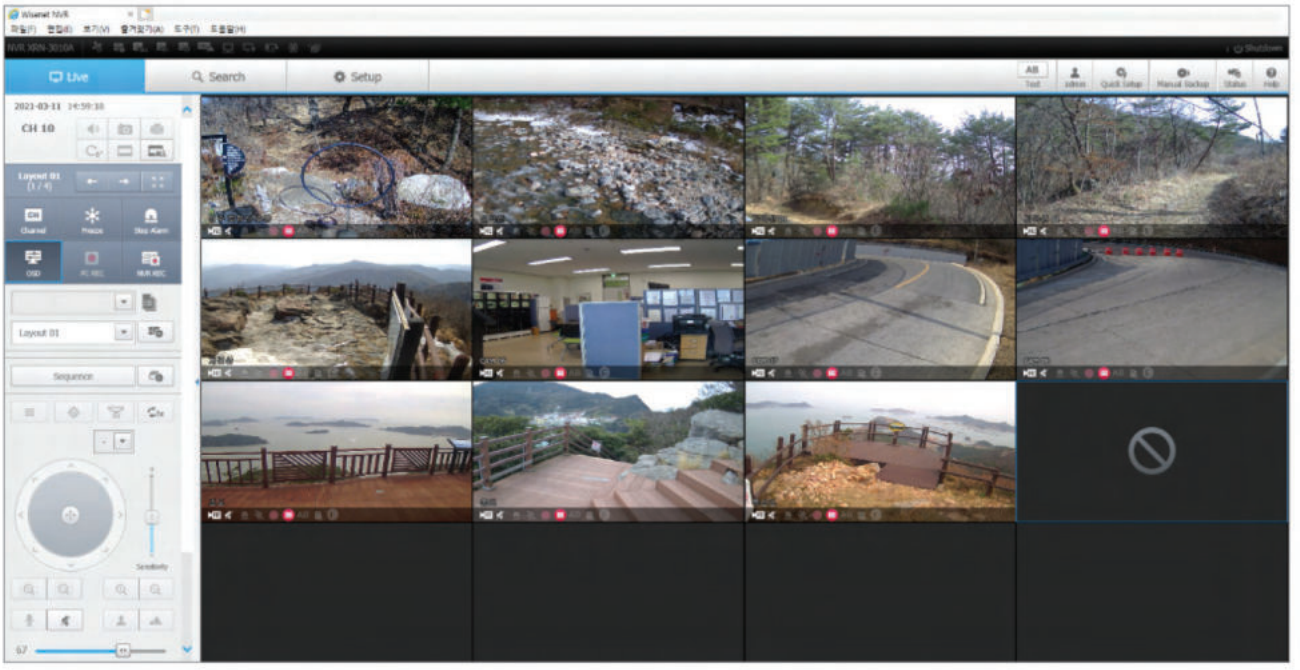
- **Pixels** — Supports up to 2 megapixels (1920x1080) / Full HD 1080p resolution
- **Number of pixels** — 2 million pixels
- **Zoom** — 4.3 x (2.8 ~ 12mm)optical zoom, 24 x digital zoom
- **Video output** — H.265, H.264, MJPEG
- **Pen range** — 0˚ ~ 350˚
- **Tilt range** — 0˚ ~ 90˚
- **Operating environment** — IP66, IK10 standard acquisition
- **Camera function** — Support azimuth display
  RS-485 communication support
  Motion detection(8-point polygon support)
  Fog correction function(Defog)
  Day & Night(ICR)
  WDR(150dB)
  Backlight correction(BLC, HLC, WDR, SSDR)
  Image shake correction(built-in gyro sensor)
- **Privacy function** — 32ea square support, Color : black/blue/red/grey/white/green, Mosaic
- **Intelligent analysis** — Defocus detection, Direction detection, Fog detection, Face detection, Motion detection, Automatic tracking, Disappearance detection, Entrance detection, Roaming, Dampening, Virtual line, Audio detection
- **Alarm Event** — File transfer and upload through FTP and E-MAIL
  Notification through E-mail
  Recording to SD/SDHC/SDXC or NAS when alarm trigger occurs
- **Security** — HTTPS(SSL) Login Authentication
  Digest Login Authentication
  IP Address Filtering
  User access log
  802.1 x Authentication

NVR Server

Product specification

[Video Server]

- **Input** Up to 64 channels
- **Resolution** 12MP ~ CIF
- **Protocol** Wisenet, ONVIF
- **HDMI** 3840x2160, 1920x1080, 1280x720
- **VGA** 1920x1080, 1280x720
- **Display performance** 12M(30fps), 8.3M(120fps), 1080p(480fps), 720P(960fps), D1(1560fps)
- **Bandwidth** Up to 300Mbps
- **Playback bandwidth** Up to 32Mbps(4 ~ 32channels simultaneous playback)
- **Simultaneous playback** Up to 16 channels(monitor, network)
- **Security** User access log recording, IP address filtering, 802.1 x authentication method, Encryption(ID/PW, recording, transmission, backup)
- **Input power** 100 ~ 240VAC±10%
- **Power consumption** Up to 99W(6 HDD)



- Local PC control screen -

Detection broadcasting

Product specification

- **Purpose** Unmmaned surveilance broadcasting
- **Function** Possible to adjust the time for detect-responsive broadcasting of unmanned surveillance system
- **Time of use** 0 ~ 24hours
- **Quiescent current of amplifier** 0.015A or lower
- **Broadcasting voice** Provides voice over recordings
- **Max output** 300W
- **Logs** Provides log of responsive video and broadcasting time
- **Range of detection** Directional/non-directional 12M
- **Alarm output** Dry contact(NC/NO), Contact time 2 sec(±0.5 sec)
  Contact capacity : 30V(AC/DC) 0.2A or lower(resistance 18Ω)
- **Temperature of use** -20 ℃ ~ 60 ℃

[Detection broadcasting control device]


[Sensor]

Remote real-time broadcasting

Product specification

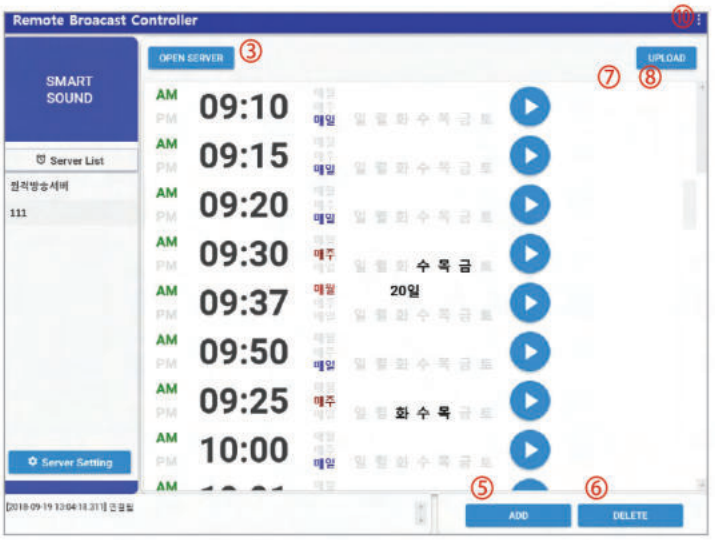
- **Purpose** Real-time remote broadcasting
- **Broadcasting method** Mobile(cell phone) / control room microphone
- **Broadcast time difference** real time
- **Time of use** 24hours
- **Amp standby current** 0.015A or less
- **Max output** 300W

[Real-time broadcasting controller]

- Mobile control screen -

Remote scheduling broadcast

When the broadcasting system is installed in a remote location separated from the control room and the control room, the broadcasting equipment operator can set multiple sound sources and broadcasting times(year/month/day/time) remotely through the operating program without visiting the site.



[Remote scheduling broadcast control program]

① Register and modify remote broadcasting server information.

② A list of registered remote broadcasting servers appears.

③ The current schedule of the selected remote broadcasting server is imported.

④ It shows a list of all remote broadcasting schedules.

⑤ Register a new schedule.

⑥ Deletes the selected schedule from the schedule list.

⑦ You can check the broadcasting status by checking the log of the remote broadcasting server.

⑧ Upload the added or deleted change schedule to the server.

⑨ Check the server connection information.

⑩ Close the program.

[Remote scheduling broadcast control program]

▲ Remote scheduling broadcast server device ▶

① Repeat type : Select a broadcast schedule such as Monthly, Weekly, Daily, No Repeat.

② Select morning or afternoon to set the broadcast time zone.

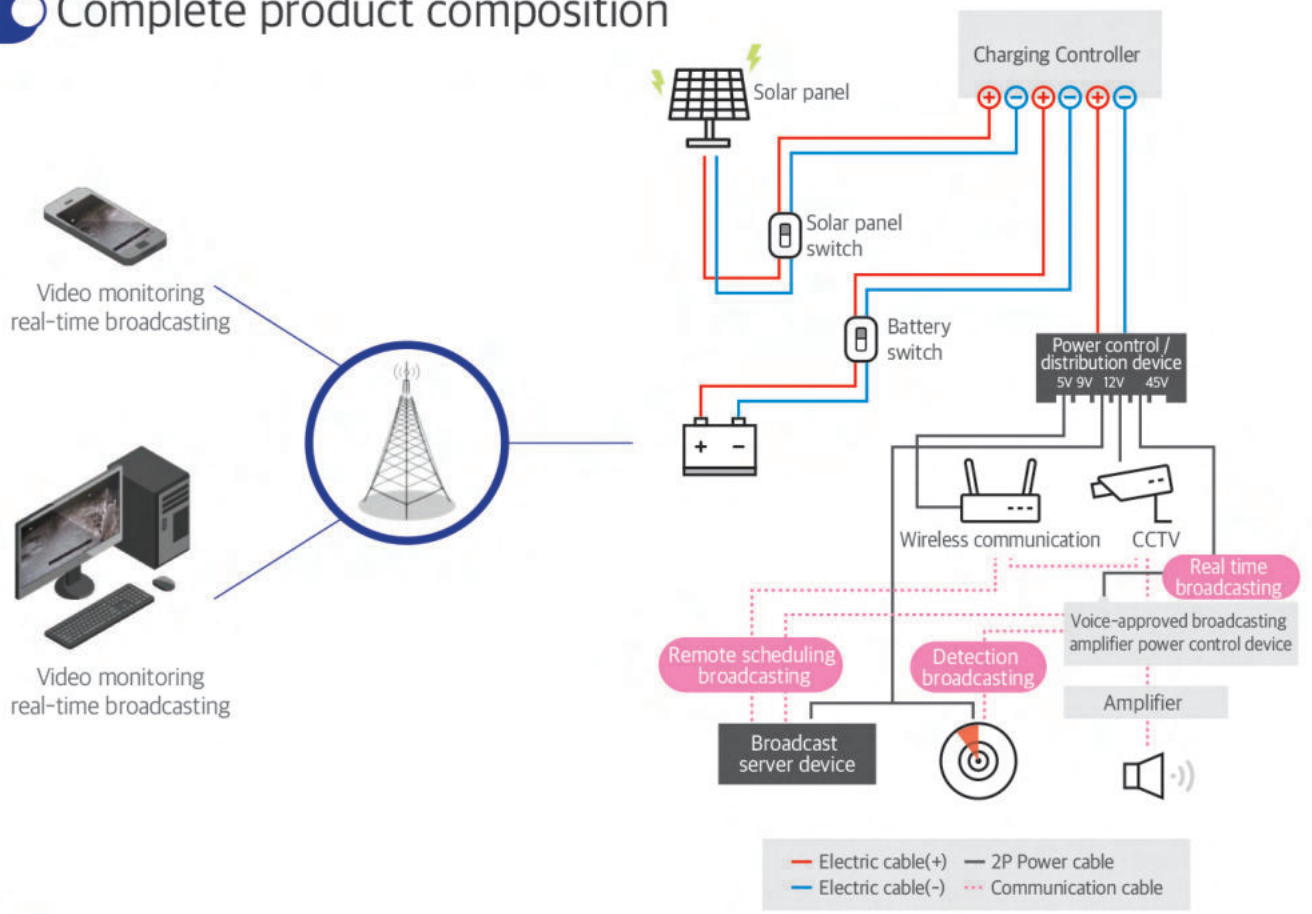
③ Enter the time by selecting either item ③ or item ④~⑤.

④ Item ⑥ is a function to select a broadcast sound source, and select a sound source file from the window search window.

⑤ Click the ⑦ [OK] button to complete the schedule registration.

⑥ When canceling a schedule, click the [CANCEL] button No. ⑧ to cancel.

Complete product composition



Summary of equipment specifications

Equipment used	Test results equipment performance	Remarks
Used Solar Panel	80W	
Storage battery used	12 V 100A 2EA	
Relief day working performance	More than 156 hours(6.5 days)	Drive performance
Power output	5V, 9V, 12V, 24V	DC
CCTV image quality	2 million pixels	Pen tilt, zoom
Video control method	Mobile viewer/control room viewer/web viewer	
Video storage ability	30 days or more(depending on disk capacity)	
Video search function	Motion detection image and detection data image	Excel output
Broadcast maximum output	300W	
Average wireless communication speed	Upload: 21 Mbps Download : 17Mbps	49,500 won per month
Broadcasting device	Mobile broadcasting/control room broadcasting	
Broadcast type	Detection broadcasting, real-time broadcasting remote scheduling broadcasting	By pecification
Installation method	SUS pole integrated type	

* Grounds for writing

- Test report(T2016-09124 Korea Institute of Machinery, Battery and Electronics) : October 05, 2016
- KC Conformity Certification Test (National Radio Research Institute) : November 26, 2019
- KC Conformity Certification Test (National Radio Research Institute) : March 20, 2020
- Test report(2020-5002 Ahn Optical Convergence Technology Project) : January 31, 2020
- Test report(2019-1001(1) Ahn Optical Convergence Technology Project Group) : November 28, 2019
- Test report(2018.1201~1204 Ophthalmic Convergence Technology Project) : December 11, 2018
- Test report(CUS2017-8836 Korea Research Institute of Chemical Convergence Testing) : January 04, 2018

Freedom from wire

Product implementation location

There are many places that require CCTV or broadcasting devices for surveillance and observation and unmanned maps, but it is a high-efficiency, ultra-power-saving equipment developed to supply video and broadcasting systems to areas where electricity and internet are too expensive to be introduced or installed.

Forest fire monitoring Forest fire monitoring and access control

Valley • Flood Area Preventing Valley Dip Accidents and Flood Damage

Military Purpose Observation and Response to Enemy Intrusion

Natural disaster zones Earthquakes and natural disaster zones

Technical problems of wired equipment		Advantages of NS products
A lot of cost is consumed due to excavation work or construction of electric poles	Investment cost	Electricity and Internet are supplied wirelessly, eliminating the need for laying cables, reducing costs
Environmental destruction is accompanied for section installation and maintenance	Environment	Minimize damage to natural scenery and environmental damage
Difficulty in constructing electricity and internet in valleys, rivers, and mountainous areas	Installation limitations	Can be introduced in areas where accident-prone areas and places where introduction is not possible due to investment cost
Difficulty in maintenance, such as waterproofing problems, disconnection (animals, birds), etc.	Maintenance	Cost is reduced and maintenance is easy because only the end section needs to be maintained.

Installation case

Installation location : Hongdo, Gwanmaedo, Jodo, Heuksando, Seoraksan, Jirisan, Gayasan, Gyeongju National Park, Water Resources Corporation, Mungyeong City Hall, Changnyeong-gun Office, CCTV Control Center, Palgongsan Forest Fire Monitoring, etc.

Certification

Patent








Test certification








Product certification




The NS product family is an energy-saving product family that can provide video, unmanned broadcasting, real-time broadcasting and remote scheduling broadcasting services by configuring ICT-based ultra-low-power, high-efficiency **self-powered devices** and **wireless communication networks** in places where power and communication integration are impossible.

MEMO

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