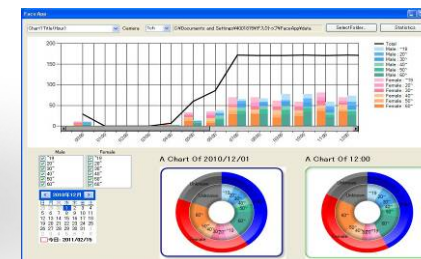
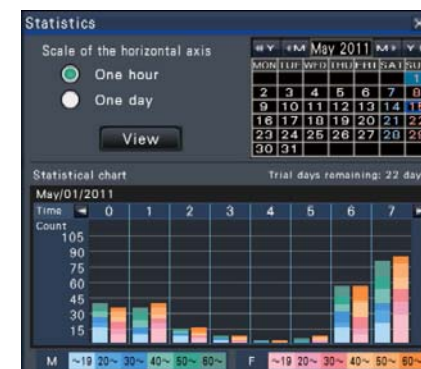




Additional Business Intelligence Kit WJ-NVF20



Ver1.00 Jun/2011

Security & AV Systems Business Unit
Panasonic System Networks Company

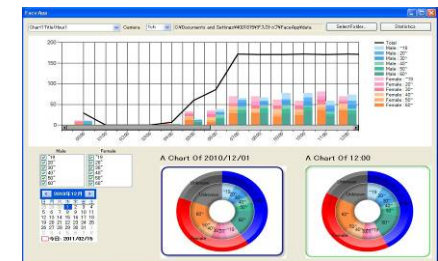
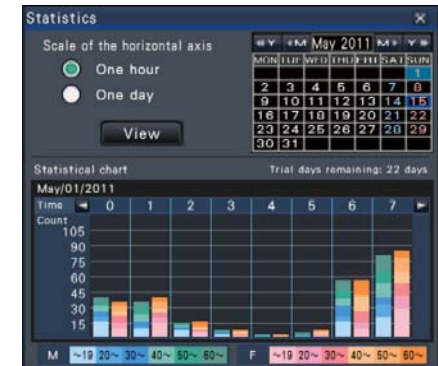
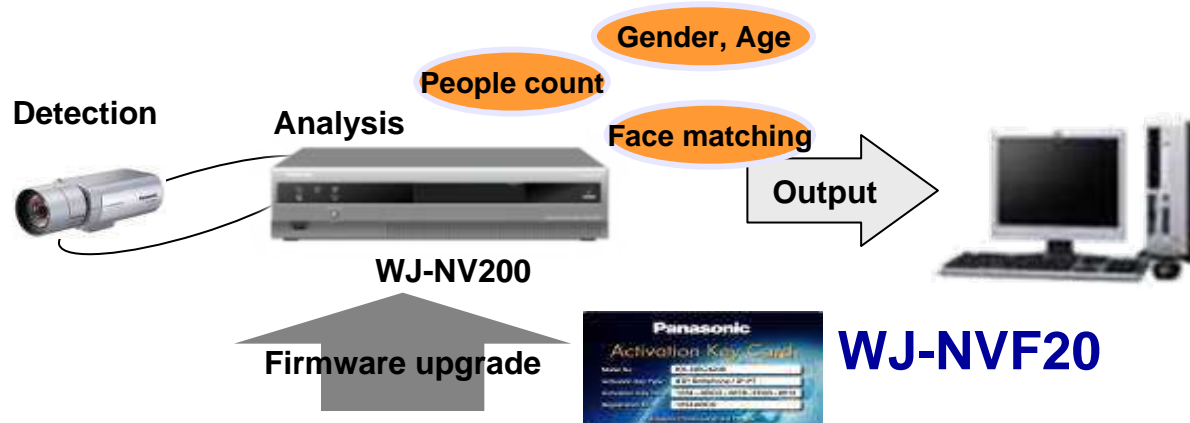
Concept

Support effective store operation and assist sales increase through visitors behavior analysis

System benefits

- (i) Small additional investment for business intelligence with Panasonic NWDR(WJ-NV200K)
- (ii) Panasonic high picture quality leads to both better identification and better video analysis

Simple system configuration



Outline

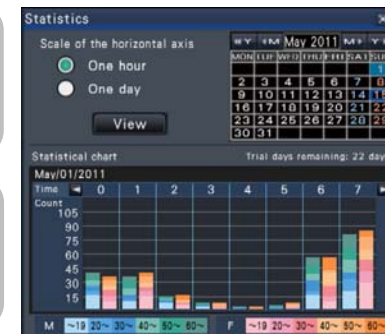
WJ-NVF20 is an additional license for WJ-NV200K.
 After registering a license key into NV200 Ver.1.10 or later,
 some enhanced and intelligent functions become to be available.

(1) People counting

(2) Age/Gender judgment

Graphical display of
statistical result
 on NV200 GUI

CSV output of **statistical result**
 into network or
 SD memory card



(3) Enhancement of face matching function

Registerable
 number of face

Concurrent
 maximum number
 of face matching

Maximum number
 of live window

Face matching
 speed

NV200

16

8

4

2face/sec

NV200+NVF20

64

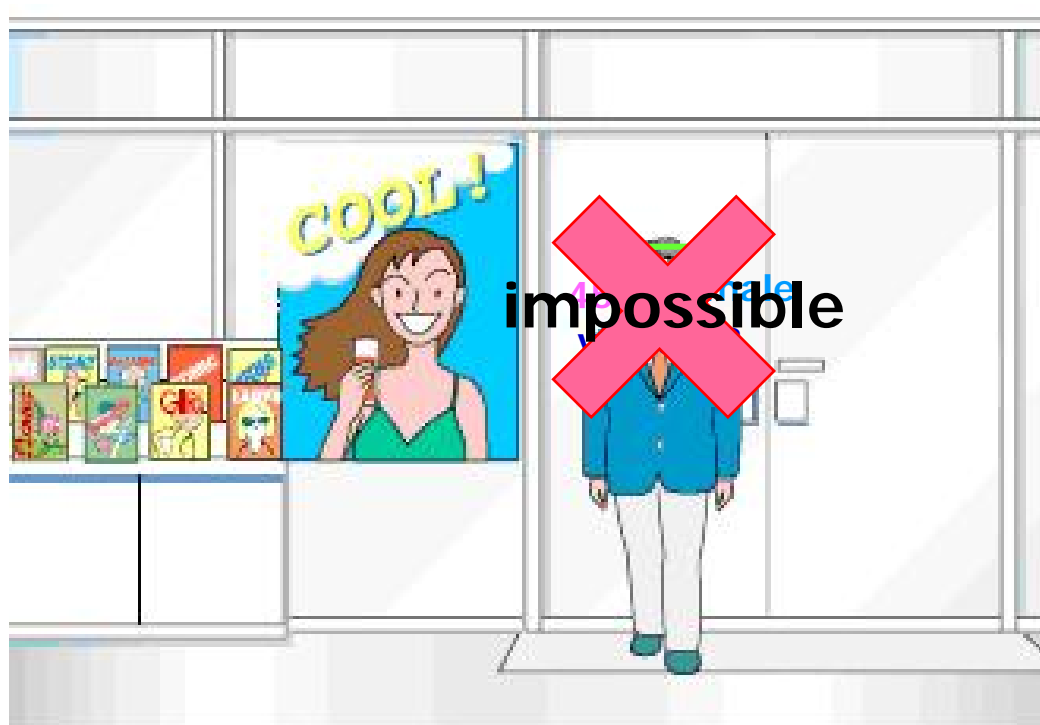
32

16

4face/sec

(*)3-months trial is the same spec.

Real time display of face frame, gender/age information or the result of people counting is impossible.



Upgrade, Trial and Sales Scheme for NVF20

New functions work on NV200 Ver.1.10 or later by upgrading NV200 itself and registering a license key of NVF20.

*3-months trial is available before or without purchasing WJ-NVF20 (a license card).

*A license key of NVF20 can be issued on Panasonic KMS (Key Management System) after purchasing WJ-NVF20 intelligence kit (a license card).

WJ-NV200K

i-PRO SmartHD camera
for face detection
(SXVGA resolution is required)



w/o WJ-NVF20 key registration

3-months trial

purchasing

upgrade



WJ-NV200K
Ver.1.10 or later

w/ WJ-NVF20 key registration

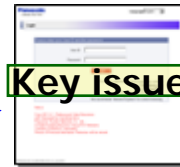
Eternal use

WJ-NV200K
Ver.1.03 or 1.04

WJ-NVF20
(a license card)

Key
Management
System

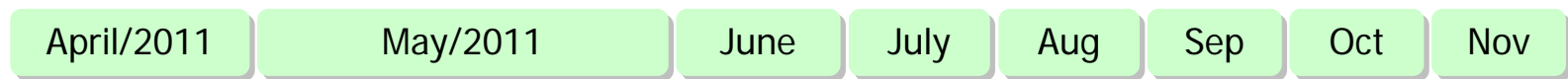
Purchasing



Key issue

Key registration

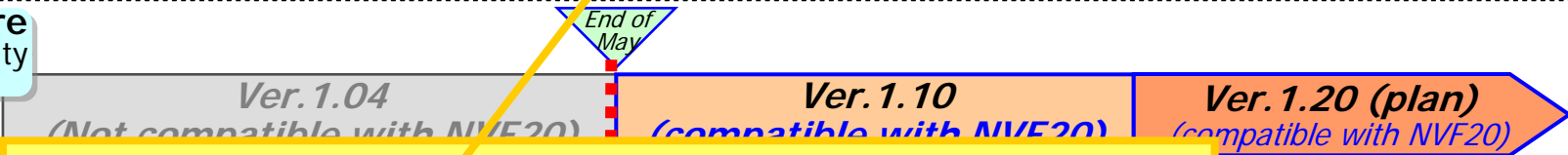
3. NVF20 addition – Trial & Sales Scheme -



WJ-NV200K production




NV200 Firmware on Panasonic security global site(*)

Installation way of NVF20 from NV200 Ver1.04


1. In case of NV200 is manufactured as V1.04 or before,

- 1) Download NV200 firmware Ver.1.10 or later from Panasonic Security Global Site
- 2) Upgrade NV200 firmware
- 3) Activate 3-months trial on NV200


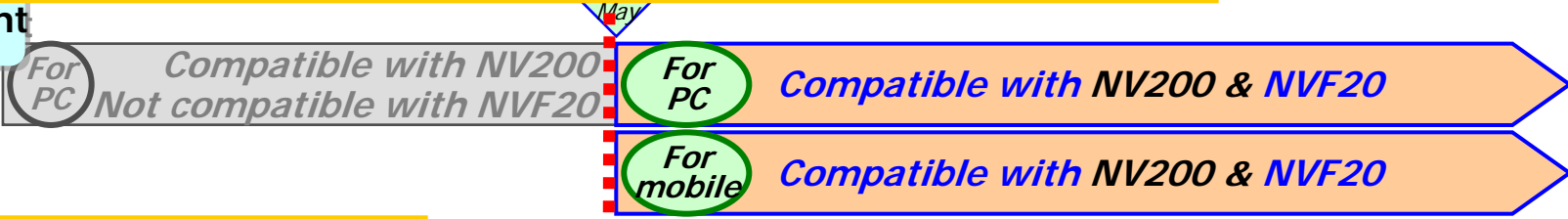
[Attention]
HDD format is required at the activation of trial!

- 4) Purchase WJ-NVF20
- 5) Issue a license key on KMS
- 6) Register the key before 3-months trial has been expired

WJ-NVF20 (a license card) production




Panasonic Key Management System(*)

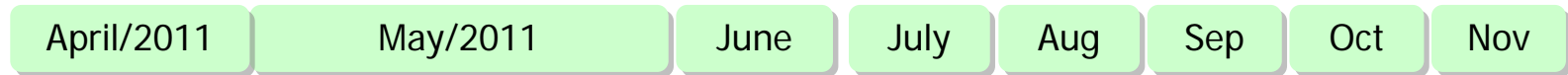



NVF20 compatible timing

NV200k production	: B/July (plan)
NV200 firmware	: E/May
NVF20 Production	: E/May
KMS	: E/May

[Panasonic security global site] <http://panasonic.net/pss/security/library/products.html>
 [Panasonic Key Management System (PC)] <https://www.netreg.panasonic.co.jp/ipkms/pc/home.htm>
 [Panasonic Key Management System (mobile)] <https://www.netreg.panasonic.co.jp/ipkms/m-key/>

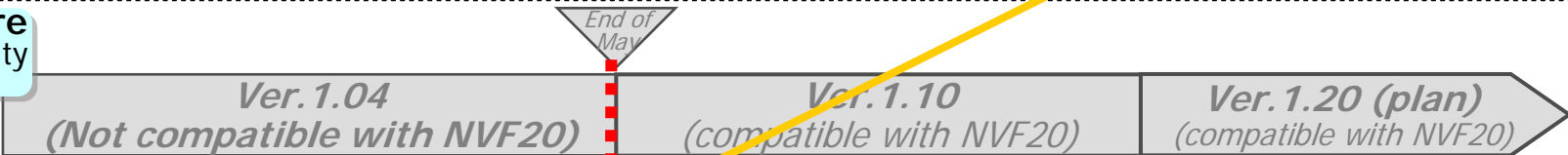
3. NVF20 addition – Trial & Sales Scheme -



WJ-NV200K production



NV200 Firmware on Panasonic security global site(*)

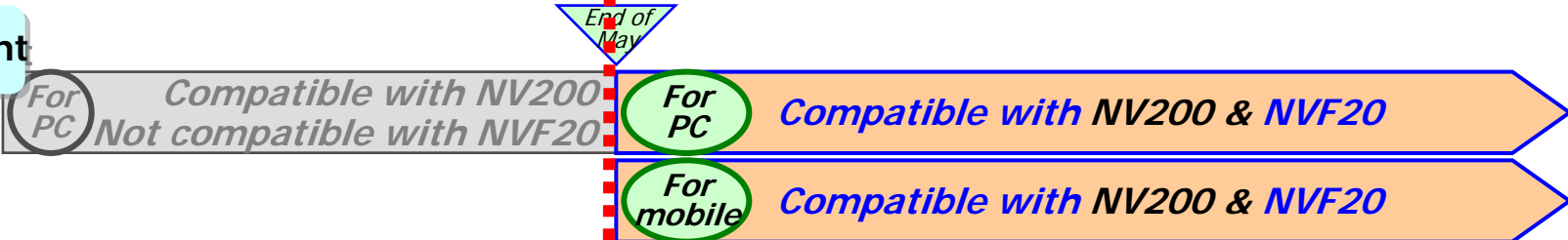


Installation way of NVF20 from NV200 Ver1.10 or later
2. In case of NV200 is manufactured as V1.20 or later,
 1) Activate 3-months trial on NV200
***No need to HDD FORMAT the activation of trial**
 2) Purchase WJ-NVF20
 3) Issue a license key on KMS
 4) Register the key before 3-months trial has been expired

WJ-NVF20 (a license card) production



Panasonic Key Management System(*)



NVF20 compatible timing

NV200k production	: B/July (plan)
NV200 firmware	: E/May
NVF20 Production	: E/May
KMS	: E/May

[Panasonic security global site] <http://panasonic.net/pss/security/library/products.html>
 [Panasonic Key Management System (PC)] <https://www.netreg.panasonic.co.jp/ipkms/pc/home.htm>
 [Panasonic Key Management System (mobile)] <https://www.netreg.panasonic.co.jp/ipkms/m-key/>

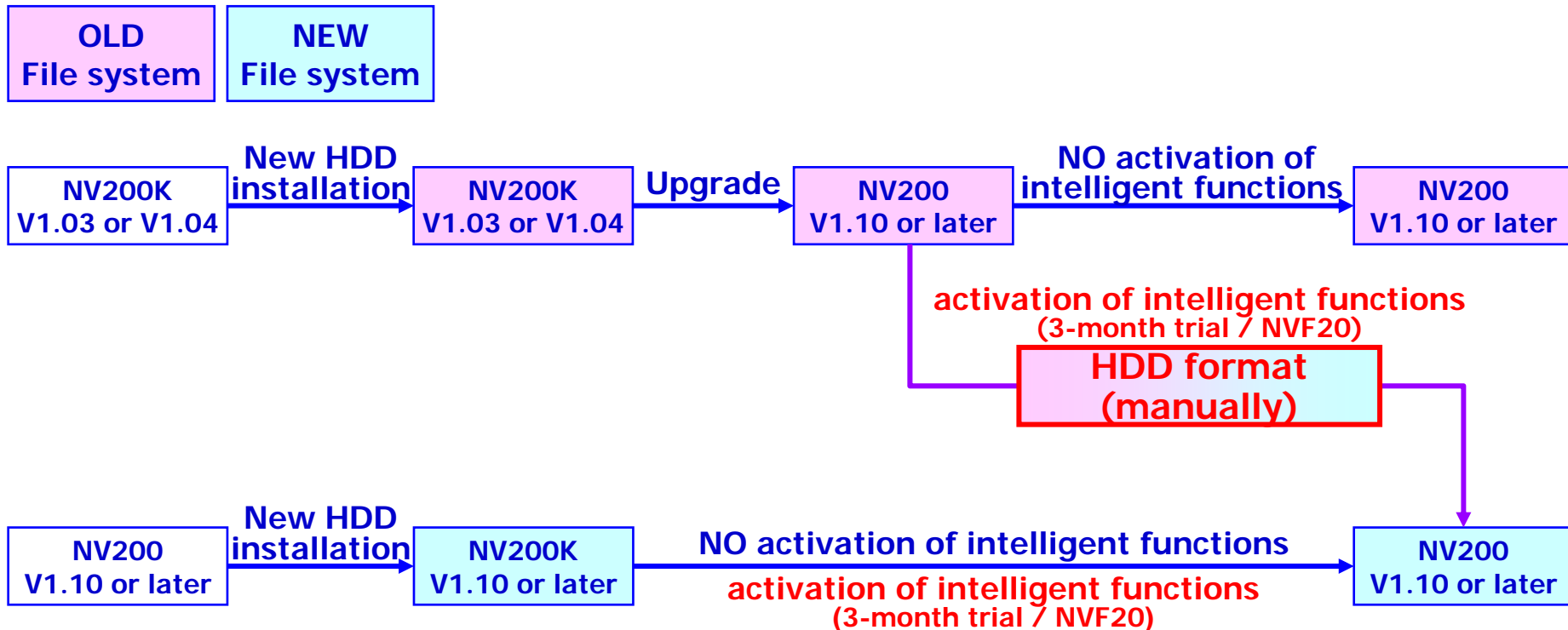
Detail and How to Setup

How to Activate Additional Intelligent Functions

Very Important notification about HDD format

File system between conventional NV200 (w/o additional intelligent functions) and new NV200 firmware (with activating additional intelligent functions) are not compatible.

It means that if NV200 will be upgraded from V1.03/V1.04 to V1.10 or later and then intelligent functions will be activated, **HDD format** will be needed and old recording data will disappear.



Activation of intelligent functions (trial)

0-A1) NV200 need to be Ver.1.10 or later.

If old version, get the latest firmware and upgrade NV200.

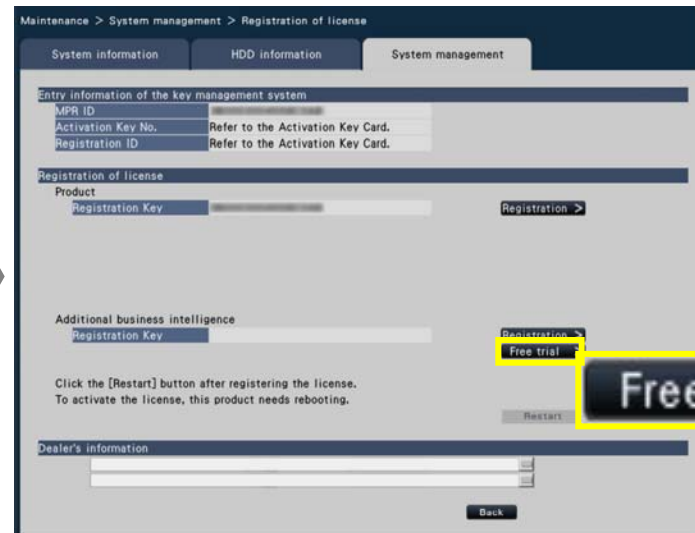
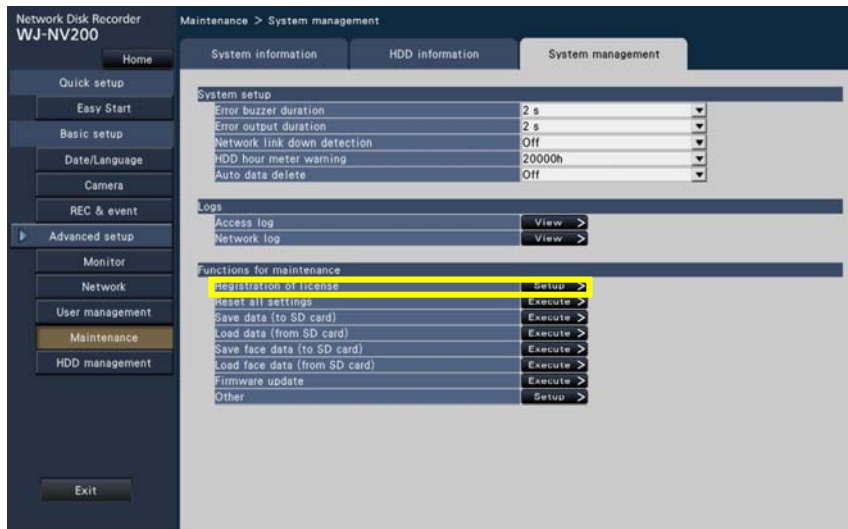
ex) Firmware upgrade from PC, Input "http:// IP address /update.cgi" on your browser.

0-A2) Install and setup a camera for additional intelligences.

1-A1) Open NV200 setup menu, push "Maintenance" button then push "System management" tag.

1-A2) Push "Setup" button at the right side of "Registration of license".

1-A3) Push "Free trial" button at "Additional business intelligence" column.



Registration of license

Setup >

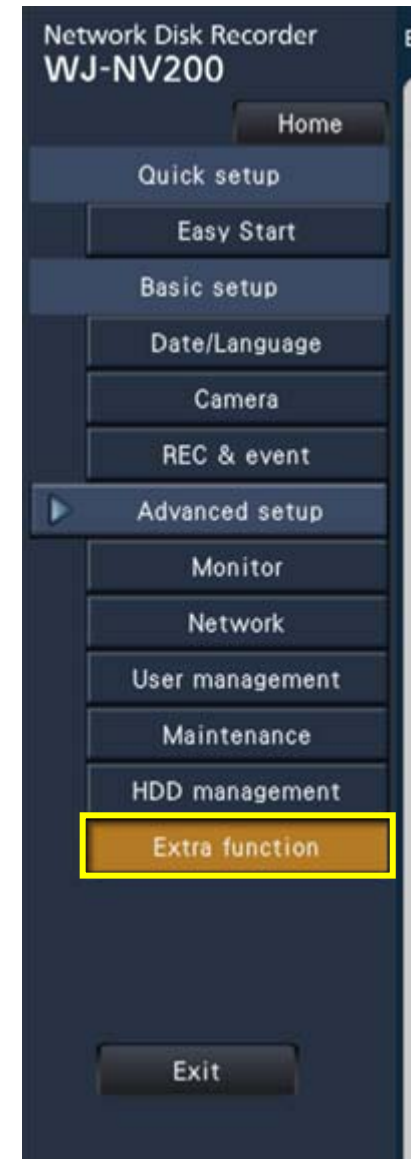
Activation of intelligent functions (trial)

1-A4)

If your HDD is an old file system,
[Please execute after formatting HDD] window appears.
Please format HDD manually then come back to
“free trial” button.

You can see, [Would you like to start the trial?] window.
Push “OK” button, then “Extra function” button appears
on the left side of window.

Then you can see, [The trial period of the additional
business intelligence kit function is started.] window,
push “Close” button.



Activation of intelligent functions (WJ-NV20)

0-B1) NV200 need to be Ver.1.10 or later.

If old version, get the latest firmware and upgrade NV200.

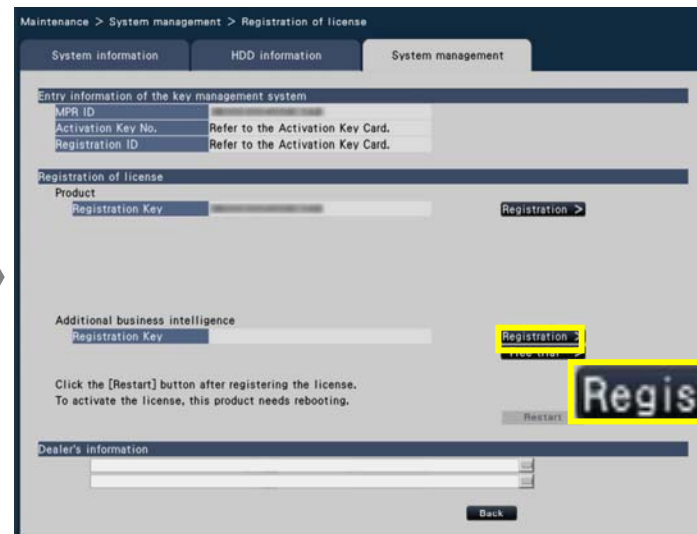
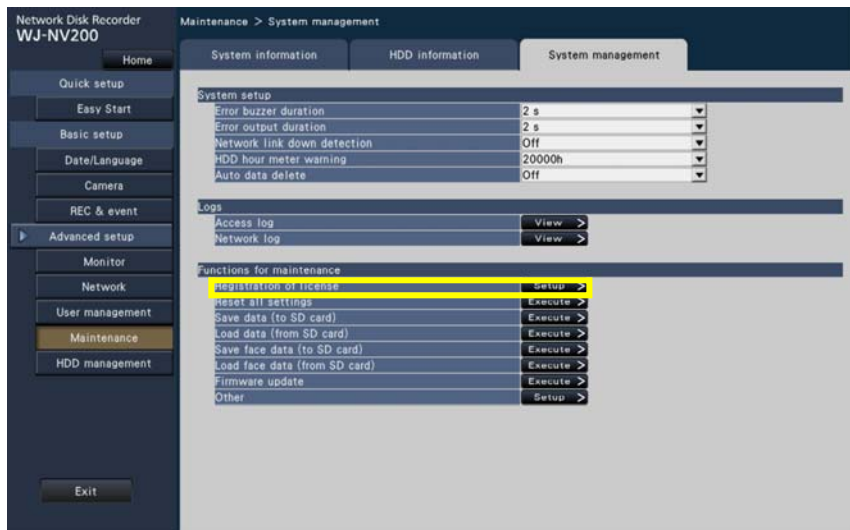
0-B2) Install and setup a camera for additional intelligences.

0-B3) Issue a registration key on Key Management System.

1-B1) Open NV200 setup menu, push "Maintenance" button then push "System management" tag.

1-B2) Push "Setup" button at the right side of "Registration of license".

1-B3) Push "Registration" button at "Additional business intelligence" column.



Activation of intelligent functions (WJ-NV20)

1-B4)

If your HDD is an old file system,
[Please execute after formatting HDD] window appears.
Please format HDD manually then come back to
“free trial” button.

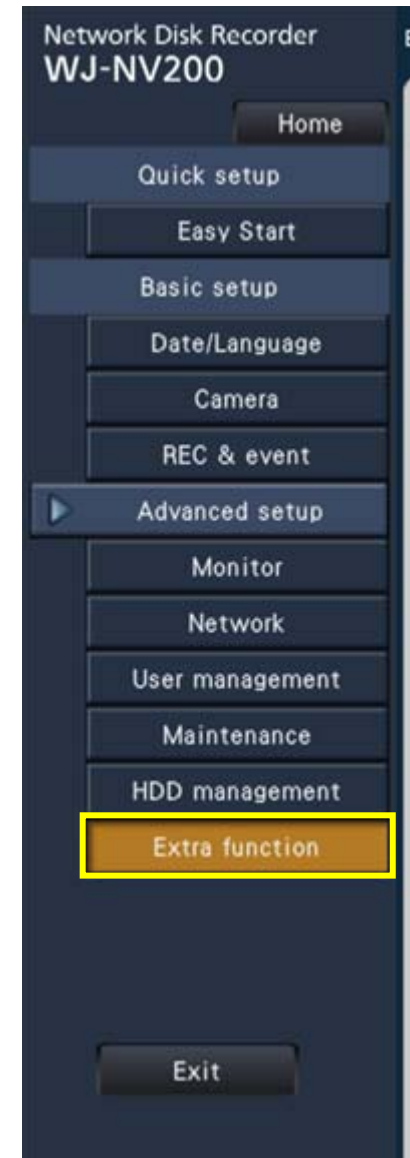
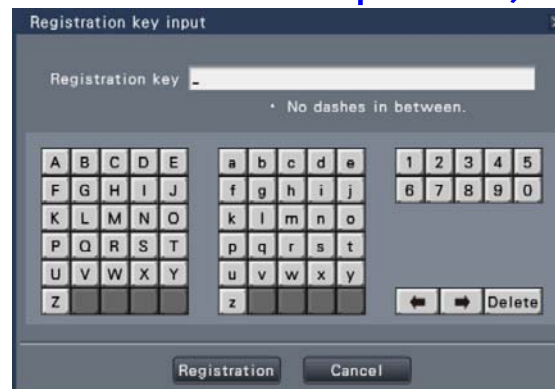
You can see, [Resister the license of the additional
Business intelligence kit] window.

Push “Next” button, then “Registration key input”
window appears.

Input a registration key which was issued at step 0-B3),
then push “Registration” button.

If a key is correct, you can find
“Extra function” button on the
left side of window.

Push “Restart” button to restart NV200.



How to Setup an Additional Intelligence

By opening “Extra function” menu, you can find the setting about “Accumulate statistics data” is already ON.

If areas for people counting and age/gender judgment need to be fixed, push “Fix area” button. (All view angle is the default area.)

Network Disk Recorder
WJ-NV200

Home

Quick setup

Easy Start

Basic setup

Date/Language

Camera

REC & event

▶ Advanced setup

Monitor

Network

User management

Maintenance

HDD management

Extra function

Exit

Extra function > Business intelligence

Business intelligence

Statistics

Accumulate statistics data On

Notices

- The recording settings of Cam.1 will automatically be changed to the setting value that is suited for face matching.
Compression: H.264
Image capture size: SXVGA(1280x960)
Frame rate: 5 ips
Image quality: SF
Depending on the setting value before change, the total recording days may drastically change.
- Live sequence stops on the live monitor.

People counting Fix area >

Age and gender judgement Fix area >

- Age and gender judgement share the area with face matching.

Save statistics data (to SD card)

Start	May/01/2011 11:00	
End	May/02/2011 11:00	

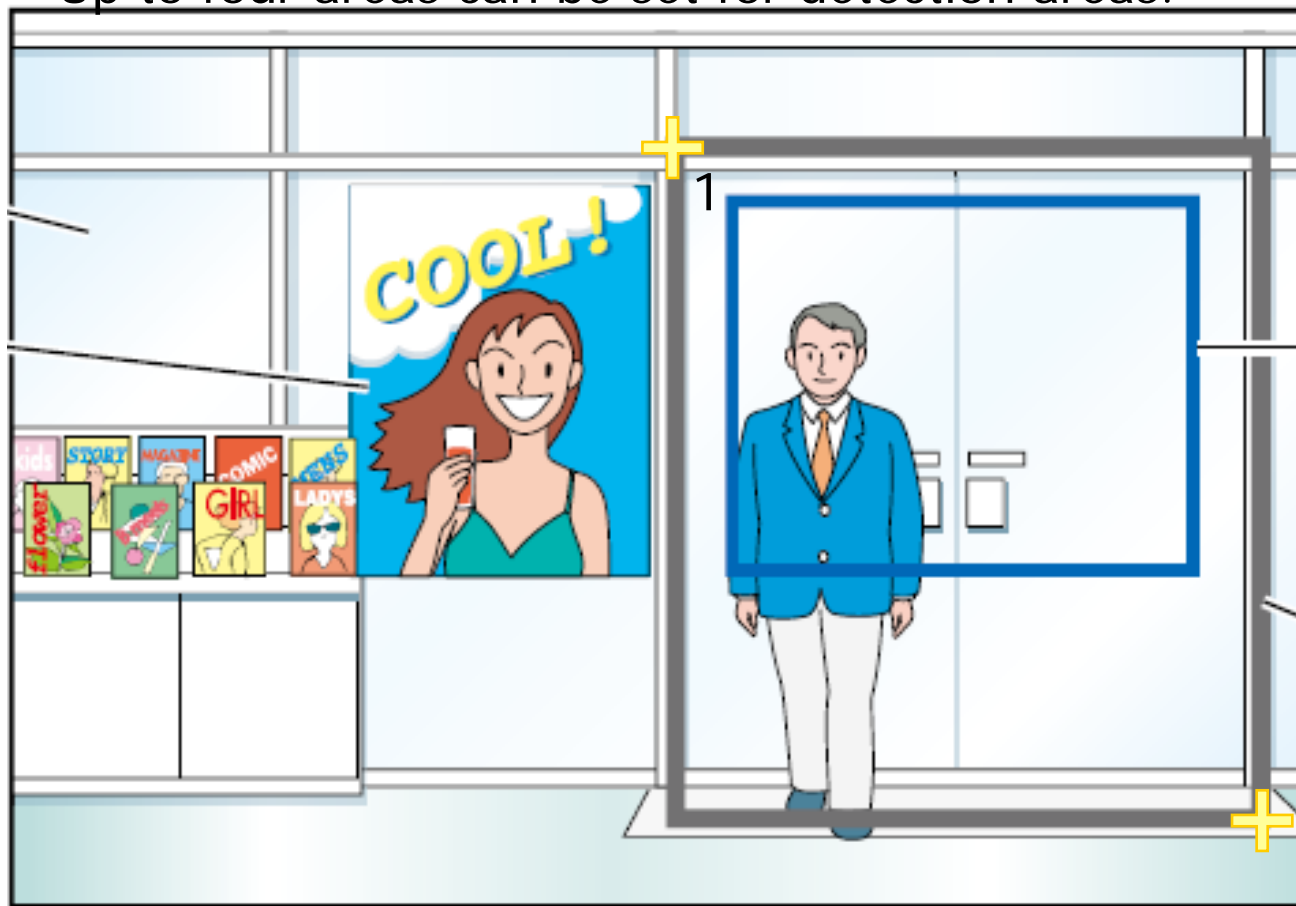
Execute

How to Setup an Additional Intelligence

Push "Fix area" button.

By clicking the left upper corner then clicking the right lower corner, a rectangle can be drawn.

Up to four areas can be set for detection areas.



Network Disk Recorder
WJ-NV200

People counting

Setup area

Click the [Fix area] button, and click the left upper corner and right lower corner on the image display area to determine the setup area. (Up to 4 areas)
When the [Delete area] button is clicked, the designated area will be deleted.


- The face frame may not be on a person's face since the frame is refreshed in 1-second intervals.
- The fixed frame means face matching / age and gender judgement area.

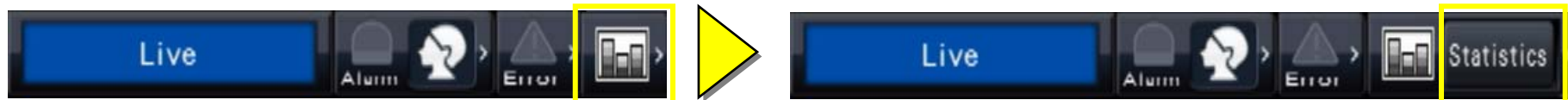
Detection area1	Fix area	Delete area
Detection area2	Fix area	Delete area
Detection area3	Fix area	Delete area
Detection area4	Fix area	Delete area

Back

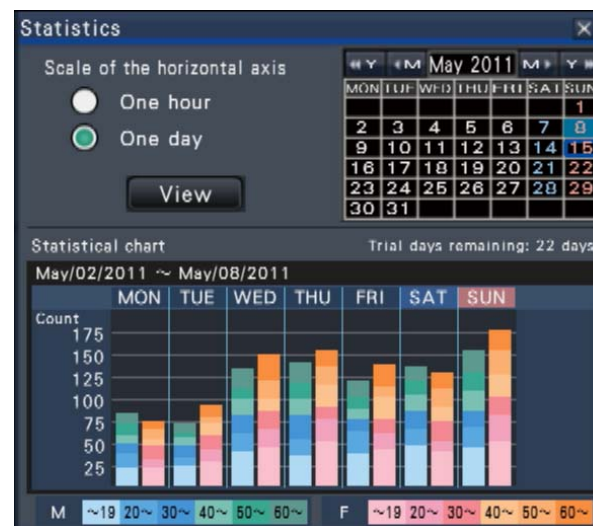
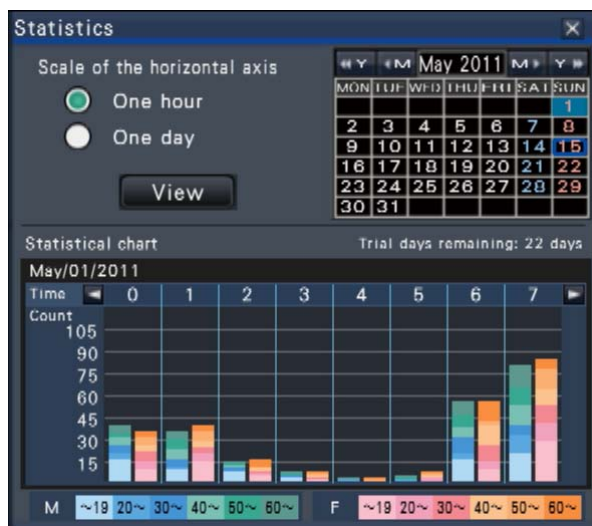
How to Operate Intelligent Functions

Graph display on the operation window

- After all setting finished, people counting data and age/gender judgment data start to be accumulated automatically.
- By pushing  button at the bottom of operation window, **Statistics** button appears.



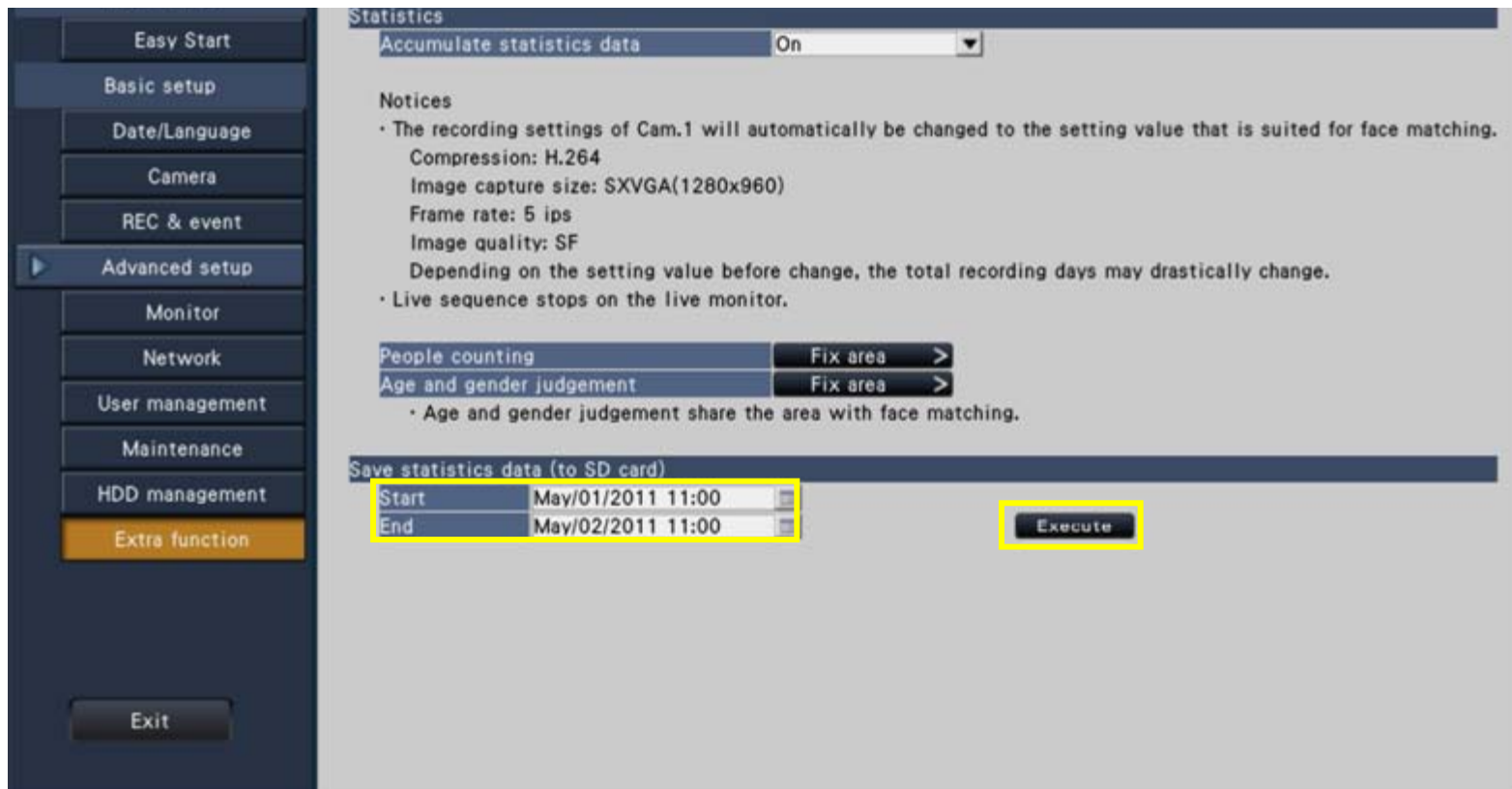
- By pushing **Statistics** button, Statistics window appears on the right side of operating window.
- Select "One hour" or "One day" then push "View" button, you can see statistic graph of people counting and age/gender judgment data as follows.



How to Operate Intelligent Functions

CSV data output into SD memory card

- Install SD memory card into the slot of NV200. (If unformatted, format on NV200 is required.)
- Open “Extra function” menu then determine Start/End time of output.
- By pushing “Execute” button, CSV data for statistics can be downloaded.



How to Operate Intelligent Functions

CSV data output into PC

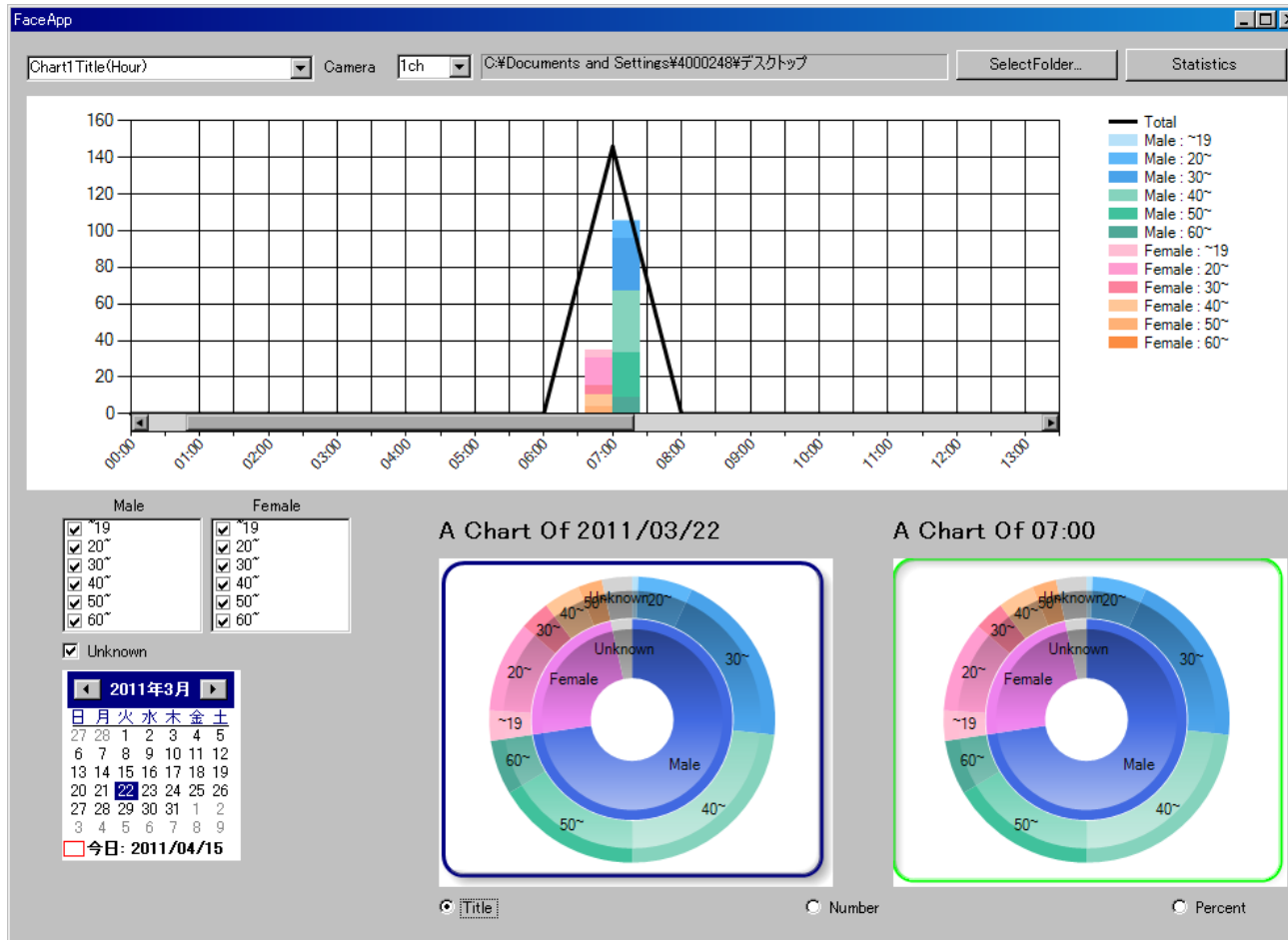
- Connect to NV200 from PC via network.
- Open “Extra function” menu then determine Start/End time of output.
- By pushing “Download” button, CSV data for statistics can be downloaded.

The screenshot displays the web interface of a Network Disk Recorder (WJ-NV200). The top left corner shows the device name and model, and the top right corner shows the date and time (May/15/2011 18:31). The interface is divided into several sections:

- Control:** Includes buttons for 'Control', 'Cam. select', and 'Setup'.
- Setup:** A sub-section containing buttons for 'Date/Language', 'Camera', 'REC & event', 'Monitor', 'Maintenance', and 'Extra function'.
- Business intelligence:** A section containing a 'Download statistics data' form. The form has two rows: 'Start' and 'End'. Each row has dropdown menus for month, day, and year, followed by dropdown menus for hour and minute. A 'Download' button is located below the form. Below the form, there is a 'Trial days remaining' indicator showing '22 days'.

Useful Tool for Displaying CSV Data on PC

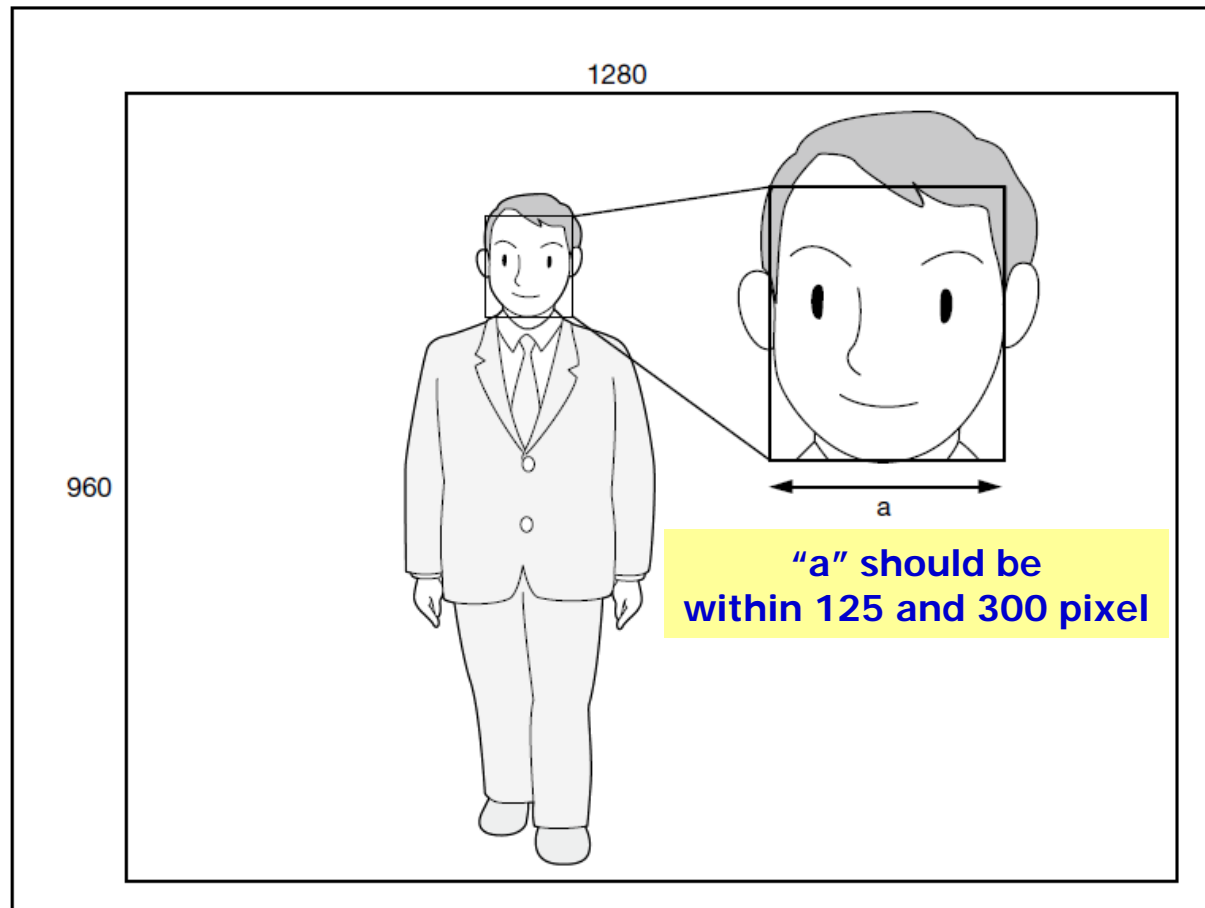
- “FaceApp” is a PC application to display statistics CSV data on PC.
- To execute this application, following environments need to be installed.
 - Microsoft .NET Framework 3.5 Service Pack 1 (dotnetfx35setup.exe)
 - Microsoft Chart Controls for Microsoft .NET Framework 3.5 (MSChart.exe)



Camera Installation & Setup -to enhance the Accuracy

1. Camera angle of view

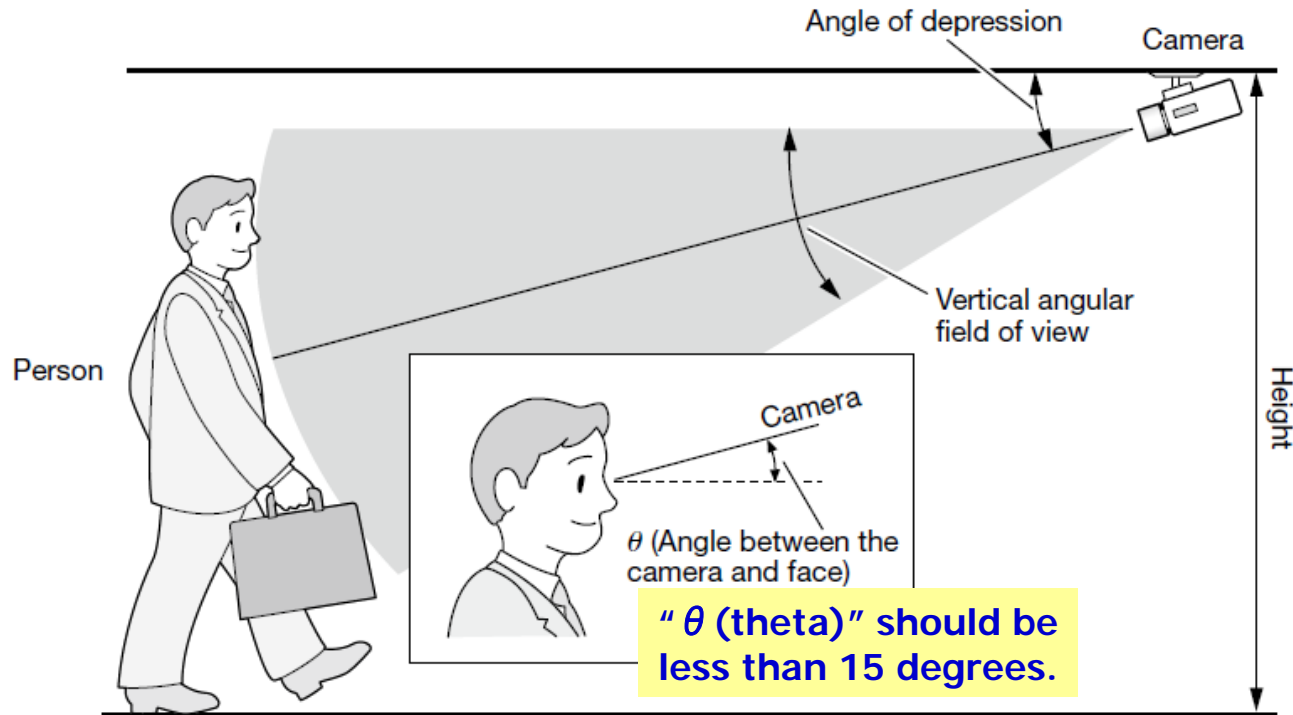
- Install the camera so that the width ("a" in the illustration) of a face image becomes 125 pixels or more.
Example) When the image capture size is "1280 x 960", the width of the face image should be 1/10 or more of the whole screen.



Camera Installation & Setup -to enhance the Accuracy

2. Camera installation

- Adjust the height, angle of depression and vertical angular field of view of the camera so that the angle between the camera and face (" θ " in the illustration) becomes 15° or less.



TAMRON M13VG550
10x vari-focal lens
f: 5-50mm

and



WV-SP306
or
WV-SP305

are the good combination
to enhance the accuracy.

Camera Installation & Setup -to enhance the Accuracy

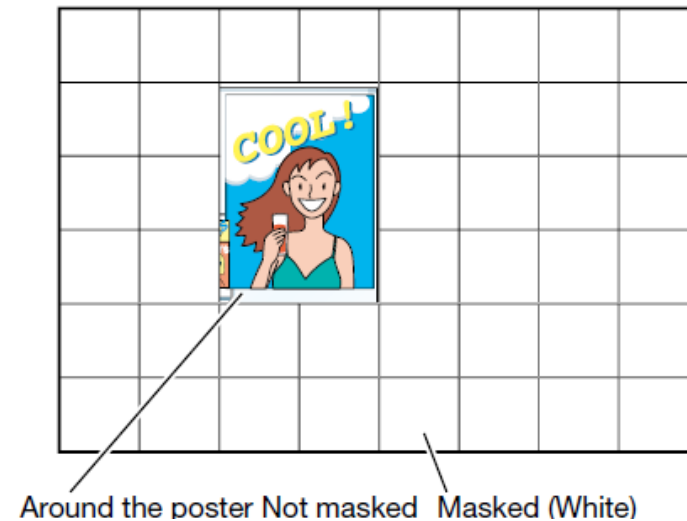
3. Masking area setting at camera side

- By masking an area with remarkable luminance change, it is possible to shoot images on which faces can be recognized more accurately.
When shooting images on a place where strong light sources may affect from outside, the following settings can reduce the light influence.

<Example of image (Near the entrance)>



<Example of mask area setting for the image>

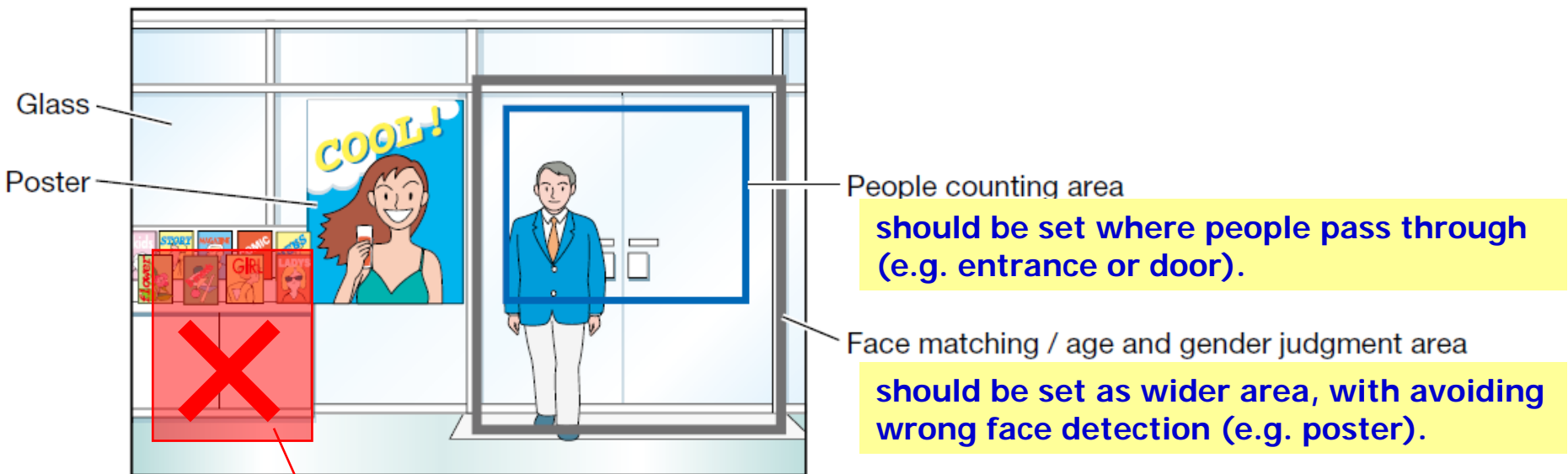


Area Setup on NV200 -to enhance the Accuracy

People counting area and age/gender judgment area setup

- Refer adequately to "About the face matching function" in the NV200K Operating Instructions to install the cameras and configure the camera settings.
- Configure the settings of the people counting area and the face matching / age and gender judgment area to avoid counting the same person repeatedly and avoid targeting people's faces printed on a poster.
- Configure the setting so that the people counting area is included in the face matching / age and gender judgment area.

<Example of the area setting>



People counting area should NOT be set where people likely loiter around.