

**Appendix 6.**

**User manual**

2-DIN, 7" Touchscreen Monitor  
Model : RVM-704M

Instruction Manual (Ver 1.0)

**Index**

1. Caution
2. Components of the product
3. How to use the product
4. How to install the product
5. Specification



- Thank you for purchasing our touchscreen vehicle monitor.
- Please read this manual before you use the product.
- The product may be different than described in the manual; depending on renewal and/or upgrade of S/W version and performance it can be altered without notice.

## 1. Caution



- For your safe operation, please read this manual before you start to use the product. We inform you that our company shall not be responsible for failures and troubles that are occurred due to misuse or neglect of the cautions written on this manual.
  - Operating this equipment when driving a vehicle might cause an accident. Use the equipment after parking or stopping the vehicle in a safe area.
  - When wiping off the dust, use a soft fabric instead of liquid solvents (thinner ,benzene etc.) solution or a wet rag.
  - Do not press the liquid crystal screen hard. It might be damaged by hard pressure.
  - Do not drop or give shock. It might cause breakdown or damage.
  - Do not dismantle the product arbitrarily. We do not supply free after service for an arbitrarily dismantled product.
  - Touching the power with a wet hand causes electric shock. Caution required.
  - For accessories or cables to connect with the product, it is recommended to use proper goods from our company. We are not responsible for any problems caused by wrong articles.
  - Do not disconnect the power cable during using the product. It might cause damage to the product.
- # Amplified explanation is as follows.
- Caution: This part informs what to keep in mind or understand and what caution is required to use the product.
  - Ref (reference): Reference is about functional explanation.

## 2. Components of the product



### ① Touch Screen

- By touching one of the small pictures during multi screen mode, the concerning small picture will be enlarged into Full Screen mode.
- By touching the screen it is possible to control the equipment or to change the settings.

### ② Power On/Off

- Press the Power button for 0.5 seconds to turn on the screen.
- Press the Power button for 0.5 seconds to turn off the screen when it is tuned on.

### ③ Illuminance Sensor

- Behind this window a sensor detects the actual light conditions in the area around the screen. When activated via the menu settings, this sensor automatically controls the brightness of the screen. (Day/Night control)

## Back side



### ① Power Cable

- Connect the Power Cable ( VCC/GND/TRIGGER1~ TRIGGER5/Speed Switch )



### ② Camera Cable

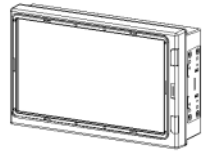
- Connect the Camera Cable ( Camera cable2 )



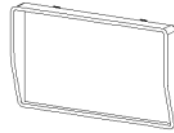
### ③ Internal SPK

## PACKAGE CONTENTS

- Please check that you have the correct contents before using this product.
- If any items are missing, please contact your dealer.



Monitor



Sunvisor



BRKT



Camera Cable



Power Cable



Manual

### OPTION



EXT.SPK



EXT.MIC






### 3. How to use the product

#### Start Screen


- When the booting is ready, the multi screen as below will be displayed.

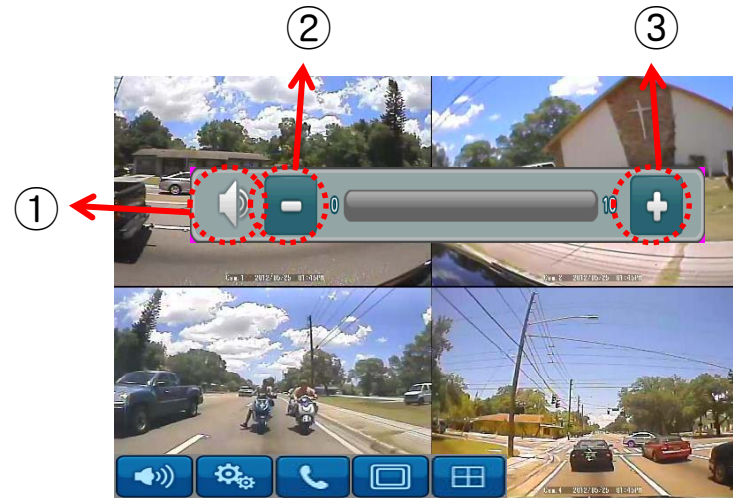
When the small window is Touched, it is enlarged.



- When the small windows on the multi screen are touched, the channel is enlarged into full screen mode. One more touch returns it back to the multi screen mode.
-  : Controls volume of the speaker
-  : Settings menu
-  : Run the Bluetooth Phone (Optional function)
-  : Change Input signal
-  : Multi screen mode

## Volume Control


-  Press the button to display Volume Pop-up.



- ① Press the button to mute
- ② Press the button to increase the volume
- ③ Press the button to decrease the volume



# Input selection

-  Press the Input button to change Input




Press input button once: AUX1

Press input button 3 times: Cam



Press input button twice: AUX2

## Multi screen

-  Press the multi screen button to divide the screen.




Press multi screen  
button once:  
Cam1,Cam2

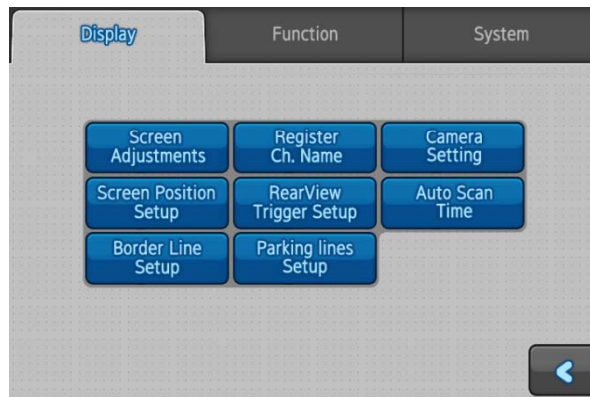
Press multi  
screen button 3  
times:  
Cam1,2,3,4



Press multi screen button  
twice: Cam3,Cam4

## Setting Mode

-  Press the setting menu button to open the Setting screen.



### Screen Adjustments



- CAM : Adjust brightness of Camera input screen
- AUX : Adjust brightness of AUX screen

## Display

Register  
Ch. Name

Input the name into each channel.

Ch. Name Change		Display Ch. Name	
Ch.1	<input type="text"/>	<input type="radio"/> On	
Ch.2	<input type="text"/>	<input type="radio"/> Off	
Ch.3	<input type="text"/>		
Ch.4	<input type="text"/>		
		<input type="button" value="OK"/>	<input type="button" value="Cancel"/>

Camera  
Setting

	Mirror	Reverse	Shutter
Cam.1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cam.2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cam.3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cam.4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		<input type="button" value="Yes"/>	<input type="button" value="No"/>

- Mirror : Mirror image or normal image
- Up : Change up and down of the screen
- Shutter : Enable to operate Shutter/Heater Camera

# Display

## Screen Position Setup

Setup screen position of each channel

Ch.1		Ch.2	
<input type="radio"/> None	<input type="radio"/> Cam.1	<input type="radio"/> None	<input type="radio"/> Cam.1
<input type="radio"/> Cam.2	<input type="radio"/> Cam.3	<input type="radio"/> Cam.2	<input type="radio"/> Cam.3
<input type="radio"/> Cam.4	<input type="radio"/> Aux1	<input type="radio"/> Cam.4	<input type="radio"/> Aux1
<input type="radio"/> Aux2	<input type="radio"/> Aux2	<input type="radio"/> Aux2	<input type="radio"/> Aux2

Ch.3		Ch.4	
<input type="radio"/> None	<input type="radio"/> Cam.1	<input type="radio"/> None	<input type="radio"/> Cam.1
<input type="radio"/> Cam.2	<input type="radio"/> Cam.3	<input type="radio"/> Cam.2	<input type="radio"/> Cam.3
<input type="radio"/> Cam.4	<input type="radio"/> Aux1	<input type="radio"/> Cam.4	<input type="radio"/> Aux1
<input type="radio"/> Aux2	<input type="radio"/> Aux2	<input type="radio"/> Aux2	<input type="radio"/> Aux2

OK Cancel

※ Caution: Cam1 and AUX1 cannot be setup at the same time  
Cam2 and AUX2 cannot be setup at the same time.

## RearView Trigger Setup

Setup the screen on each Trigger

Ch.1		Ch.2	
<input type="radio"/> None	<input type="radio"/> Cam.1	<input type="radio"/> None	<input type="radio"/> Cam.1
<input type="radio"/> Cam.2	<input type="radio"/> Cam.3	<input type="radio"/> Cam.2	<input type="radio"/> Cam.3
<input type="radio"/> Cam.4	<input type="radio"/> Aux1	<input type="radio"/> Cam.4	<input type="radio"/> Aux1
<input type="radio"/> Aux2	<input type="radio"/> Aux2	<input type="radio"/> Aux2	<input type="radio"/> Aux2

Ch.3		Ch.4	
<input type="radio"/> None	<input type="radio"/> Cam.1	<input type="radio"/> None	<input type="radio"/> Cam.1
<input type="radio"/> Cam.2	<input type="radio"/> Cam.3	<input type="radio"/> Cam.2	<input type="radio"/> Cam.3
<input type="radio"/> Cam.4	<input type="radio"/> Aux1	<input type="radio"/> Cam.4	<input type="radio"/> Aux1
<input type="radio"/> Aux2	<input type="radio"/> Aux2	<input type="radio"/> Aux2	<input type="radio"/> Aux2

Trig.1 Trig.2 Trig.3 Trig.4 Trig.5 OK Cancel

The screen will be showed screen by each Trigger set if input Trigger.

## Display

### Auto Scan Time

Display the full screen according to each channel setup when setting up On

Scan Time ( 0~9sec )       On       Off

Quad	Ch.1	Ch.2	Ch.3	Ch.4	Aux1	Aux2	↑
							↓

OK    Cancel

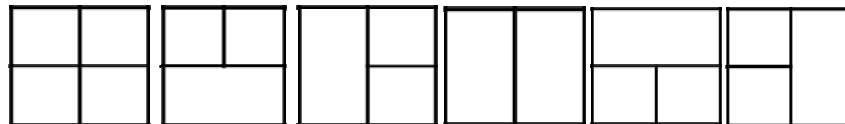
### Border Line Setup

Display the dividing lines of the screen

Border Line

On       Off

OK    Cancel



# Display

Parking lines Setup

Adjust Parking line of each Trigger

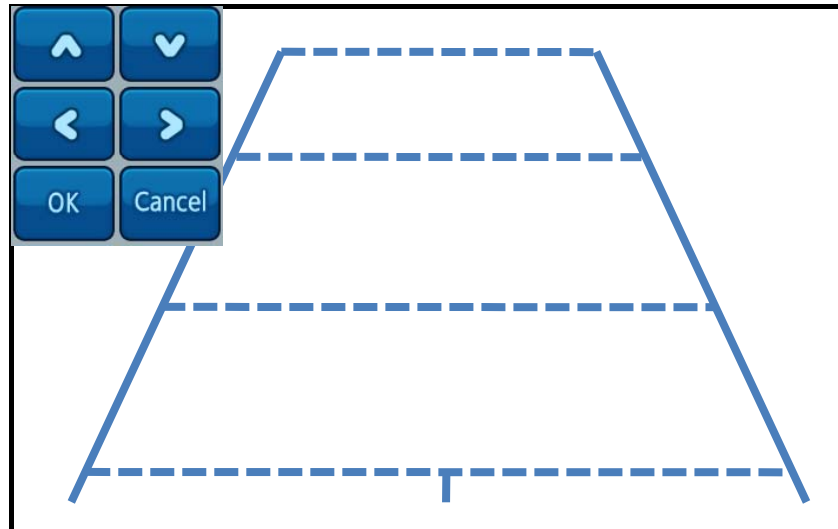
	Display	Calibration	Thickness	
Trig.1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> Thin	
Trig.2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> Thick	
Trig.3	<input type="radio"/>	<input type="radio"/>		
Trig.4	<input type="radio"/>	<input type="radio"/>		

OK Cancel

Calibration

Trig.1

Front & Rear



## Function

### Auto Power

The screen is turned ON automatically when starting the vehicle



### Dimmer

Automatic brightness adjustment by sensor in the front housing



Sensitivity of automatic brightness adjustment, level 0 to 10 controlled by actual light conditions (Day/Night)



## Function

### Trigger Delay Time

Keep Trigger activated during setup time after Trigger off in order to bridge temporary powerloss, e.g. from vehicle's turnlight signal

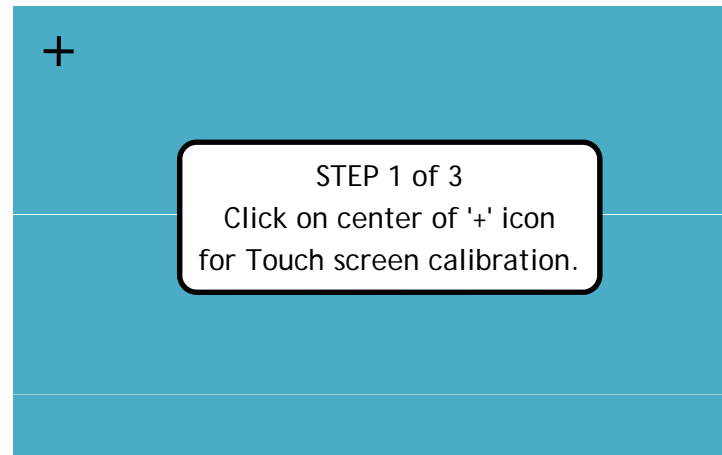
Trigger Delay Time (0~9 sec)

Trig.1 Trig.2 Trig.3 Trig.4 Trig.5

OK Cancel

### Touch Calibration

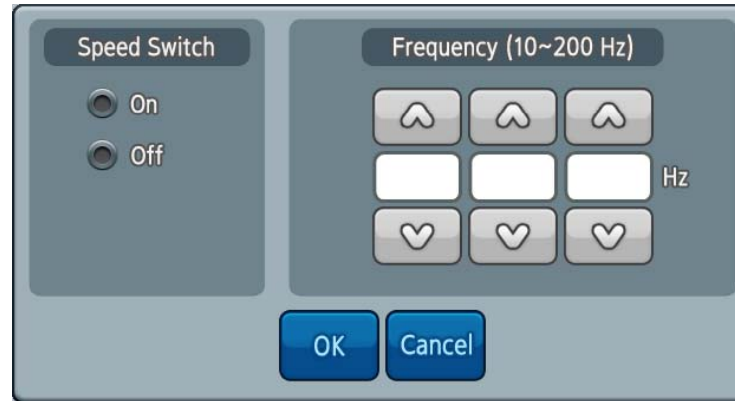
Re-adjust center Point of Touch panel



## Function

### Speed Switch Setup

Detect speed of a vehicle from 10 to 200 Hz



The Speed Switch Setup screen is divided into two main sections. On the left, under the heading "Speed Switch", there are two radio button options: "On" and "Off". On the right, under the heading "Frequency (10~200 Hz)", there is a numeric keypad with three columns of buttons. The top row contains three upward-pointing arrow buttons, the middle row contains three empty white boxes, and the bottom row contains three downward-pointing arrow buttons. To the right of the keypad is the label "Hz". At the bottom of the screen are two blue buttons labeled "OK" and "Cancel".

### Speed Switch Display

To switch automatically into the screen ON mode, by detecting a speed signal (tacho signal)



The Speed Switch Display screen features two columns of radio buttons on the left, labeled "Under Freq." and "Over Freq.". The "Under Freq." column includes options for "Normal", "Cam.1", "Cam.2", "Cam.3", "Cam.4", "Aux1", and "Aux2". The "Over Freq." column also includes options for "Normal", "Cam.1", "Cam.2", "Cam.3", "Cam.4", "Aux1", and "Aux2". On the right side, under the heading "Over Freq. Display", there are two radio button options: "LCD On" and "LCD Off". At the bottom of the screen are two blue buttons labeled "OK" and "Cancel".

## System

### Menu Display Time

Set time displaying the Menu screen

Menu Display Time

On       3 sec       5 sec

10 sec       15 sec       1 min

OK Cancel

### Screen On Time

Set time displayed on the screen

Screen On Time

On       1 min       2 min

3 min       5 min       10 min

OK Cancel

The screen is turned off when there is no input like touching it or so during setting up time

## System

### Menu Lock

Set a password to lock the Menu button

The screenshot shows a dialog box titled "Menu Lock". It contains two buttons: "Set" and "New Password". At the bottom, there are two buttons: "OK" and "Cancel".

### Language

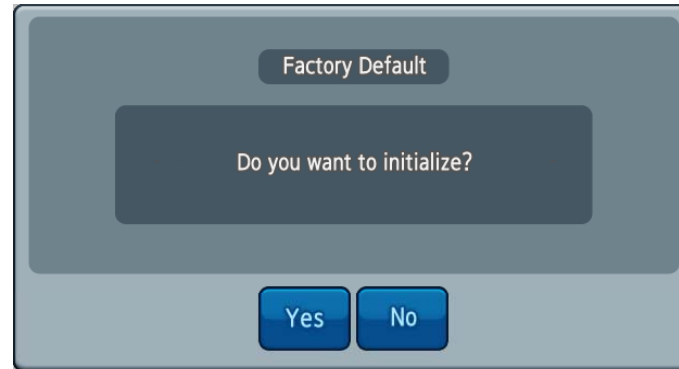
Support languages for each country ( Option )

The screenshot shows a dialog box titled "Language Setting". It contains a list of languages with radio buttons next to them: English, Japanese, Français, Deutch, Chinese, Italiano, Español, Korean, and Suomi. At the bottom, there are two buttons: "OK" and "Cancel".

## System

Factory  
Default

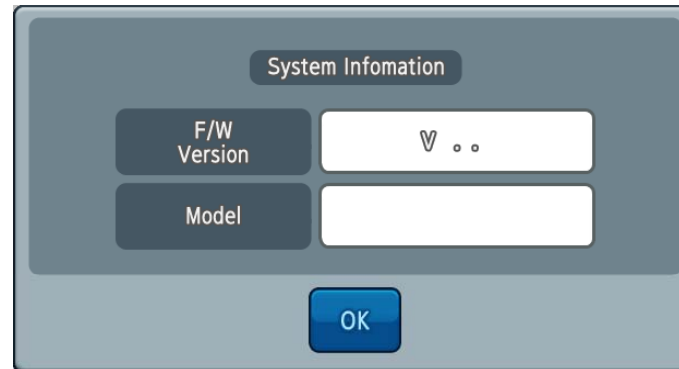
Initializing set points of Menu



A dialog box titled "Factory Default" with a dark background. It contains the question "Do you want to initialize?" in the center. At the bottom, there are two blue buttons labeled "Yes" and "No".

Sys-Info.

Display Firmware Version and Model name



A dialog box titled "System Information" with a dark background. It contains two input fields: "F/W Version" with the value "V . ." and "Model" which is empty. At the bottom, there is a blue button labeled "OK".








## Bluetooth Phone (Optional)

-  Press the button to start Bluetooth

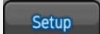
Screen of Bluetooth start




Start-up screen displays the Phone Book list of the phone paired

-  : Displays call lists during absence
-  : Displays phone call lists received
-  : Displays phone call lists sent
-  : Use for making a call dialing numbers
-  : Displays a Phonebook list
-  : Setup of Bluetooth
-  : Finishes Bluetooth


## Bluetooth Phone

- Enter the Pairing Mode for Pairing with Bluetooth by pressing the  button



1. Pairing mode is set by pressing the  button
2. Connect Bluetooth to a cell phone you want searching Bluetooth device. (Enter the Pin code depending on type of cell phones)
3. Message is displayed when it is connected as below



4. Return to the start-up screen of Bluetooth by pressing the  button.

## Bluetooth Phone

- Paired device : Displays devices Paired

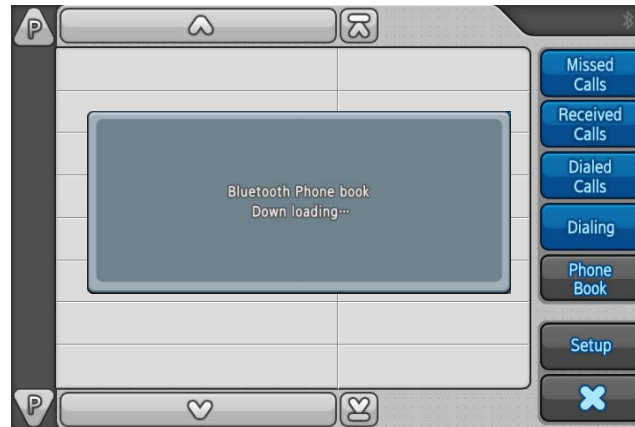


- \* Displays devices paired up to 8 devices
  - Displays devices paired
  - Deletes devices connected by the **Del** button
  - Connects devices by pressing the **Connect** button
  - Deletes all devices by pressing the **All Delete** button
- < Devices paired are connected automatically in order >

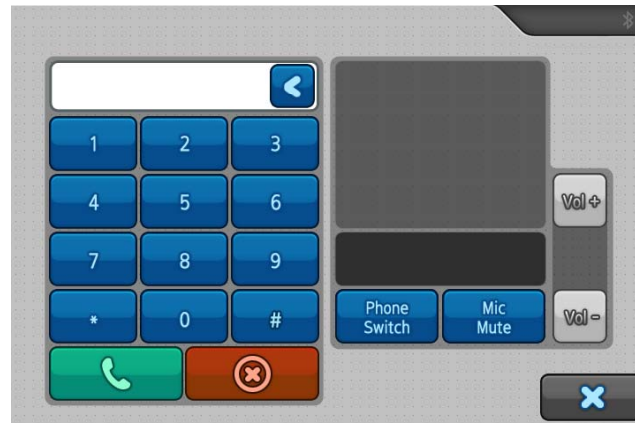


## Bluetooth Phone

- Down load phonebook list after pairing succeed.



- Call after press the number in the list.



## 4. Installation

### Pre-Installation

## 5. Specification

- LCD : Built in 7" TFT LCD (WVGA 800x480, with Touch Panel)
- Camera : 4Ch input (1 Vp-p, 75Ω) /NTSC, PAL ( Video & Audio )
- External speaker Output (( +,- 2pin ) Max 3.1V @ 8 Ohm Speaker )
- AUX1( RCA )
- 5 Trigger inputs (Cable Input : 12 ~ 24V)
- ALS Sensor (Night & Daytime Brightness detection)
- Power : 12~30Vdc (12Vdc 1.3A)
- Operating Temp. : -20°C ~ 55°C
- Storage Temp. : -30°C ~ 85°C
- Dimensions (W x H x D) : 178mm x 110mm x 44.6mm
- Weight : appx. 640g

**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, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.**

**NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.**