

**[ Pre-Pro sample stage ]**

*PRIVACY MASK*  
*OF*  
*VK-S454 SERIES*

*[REV. 1.0]*

*This manual applies following models:*

*<NTSC> VK-S454*

*<PAL> VK-S454E (not completed)*

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- **PRIVACY MASK SPECIFICATION**

## 1. Function Specification:

### a) Setting:

Send the position data (A, B) and the width data (C, D) via RS232C to set the masking zone.

### i) Center position data:

Signed 256-formalized assume data for the display screen (705 [H] x 240 [V]).

### ii) Width data:

Non-signed 256-formalized assume data for the display screen (705 [H] x 240[V]).

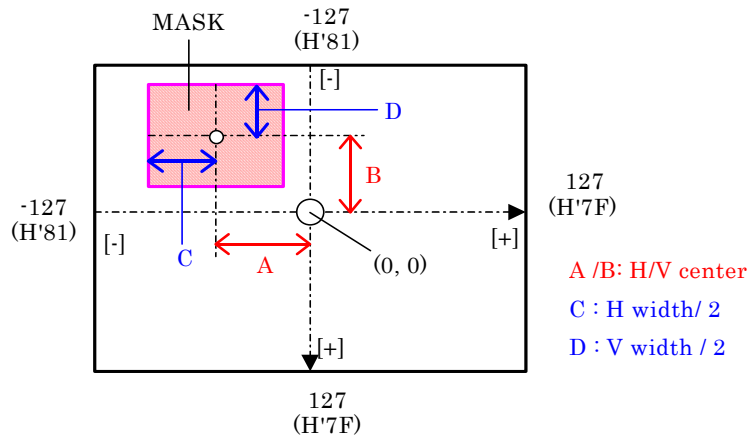


Fig. 1 Coordinate axis for Privacy Mask

### b) Decomposability for the masking setting ( Display screen):

[H Decomposability]: 2.753 pixels

[V Decomposability]: 0.937 H

### c) Masking zone display:

Masking ON/OFF and Gray Scale gradation can be set.

And it will be No display (Standby), if H/V width data=0.

### d) Number of masking zone:

Maximum 2 position /zone.

### e) Interlocking control with Zooming.

Compensate the masking zone size data according to the zooming (Optical/Digital) ratio.

## 2. Interlocking control with Panning and Tilting:

### a) Pan / Tilt angle:

Center of Pan/Tilt angle is set at the center of the Video display screen <fig. 2 (x, y)> and this center angle data (x, y) will be memorized for each masking setting.  
Set the absolute position angle data during Pan/Tilt operation.  
( Set reference position as optionally )

### b) Pan/Tilt movement amount:

Movement Amount (MA) can be calculated as follow:

$$MA = \tan[d] \times f \text{ value}$$

$[d] = (\text{Current angle } [P] \rightarrow \text{Initial setting angle } [Q])$  < Refer to fig. 4 >

Note: In case of  $[d] > 60$  degree: Set limit as  $[d] = 60$  degree < refer to fig. 3 >

Therefore, In order to maintain the interlocking the masking zone movement with Pan/Tilt Movement the angle data should be updated during Pan/Tilt operation.

### c) Pan/Tilt angle decomposability:

Set every 1/8 degree (H' 000~H' B40).

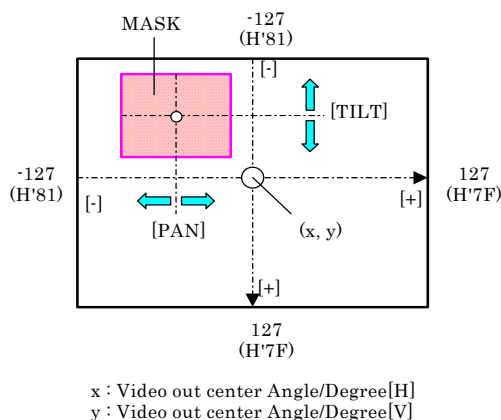


fig. 2

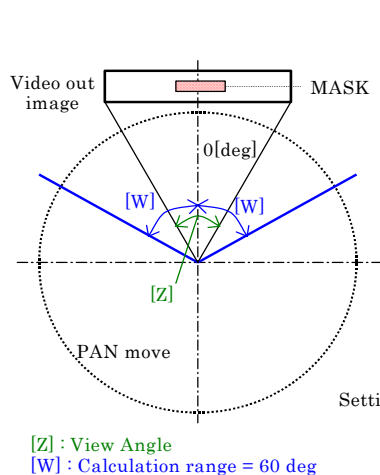


fig. 3

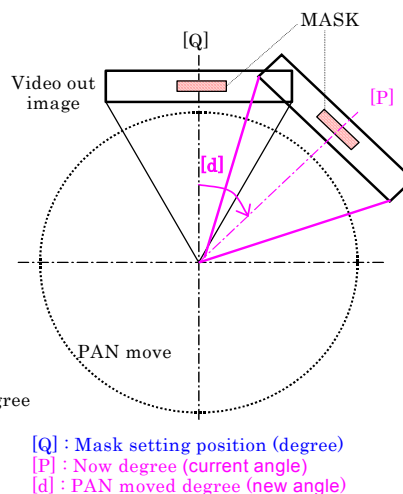


fig. 4

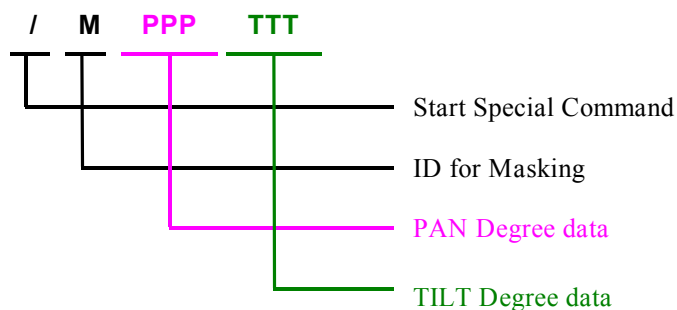
### 3. New communication command format for the Privacy Masking:

#### a) Center position and width data command:

Use conventional command format for setting.

#### b) Pan/Tilt communication command:

Since the absolute angle data is used for setting, the angle data should be updated every field during Pan/Tilt operation and use the following new command format to maintain the movement of the interlocking masking zone with Pan/Tilt operation.



### 4. Additional new command:

#### a) New command list:

|                         |                      | Format  | Command       | Note                                                              |
|-------------------------|----------------------|---------|---------------|-------------------------------------------------------------------|
| Masking On / Off switch |                      | Current | Refer to i)   | Common to Mask 1 & 2                                              |
| Mask gradation setting  |                      | Current | Refer to ii)  | Common to Mask 1 & 2                                              |
| Mask 1                  | H Center position    | Current | Refer to iii) |                                                                   |
|                         | H width data         | Current | Refer to iii) |                                                                   |
|                         | V Center position    | Current | Refer to iii) |                                                                   |
|                         | V width data         | Current | Refer to iii) |                                                                   |
|                         | Mask setting Switch  | Current | Refer to iii) | Use Initial Mask setting                                          |
|                         | H Mask setting angle | Current | Refer to v)   | 1/16 degree notch angle data                                      |
|                         | V Mask setting angle | Current | Refer to v)   | 1/16 degree notch angle data                                      |
| Mask 2                  | H Center position    | Current | Refer to iv)  |                                                                   |
|                         | H width data         | Current | Refer to iv)  |                                                                   |
|                         | V Center position    | Current | Refer to iv)  |                                                                   |
|                         | V width data         | Current | Refer to iv)  |                                                                   |
|                         | Mask setting Switch  | Current | Refer to iv)  | Use Initial Mask setting                                          |
|                         | H Mask setting angle | Current | Refer to v)   | 1/16 degree notch angle data                                      |
|                         | V Mask setting angle | Current | Refer to v)   | 1/16 degree notch angle data                                      |
| Panning data            |                      | New     | Refer to vi)  | Write only, Common to Mask 1 & 2..<br>1/8 degree notch angle data |
| Tilting data            |                      | New     | Refer to vi)  | Write only, Common to Mark 1 & 2.<br>1/8 degree notch angle data  |

## i) Switch the Privacy Mask ON/OFF

:RF9000  
:WF900X<sub>1</sub>X<sub>0</sub>  
X<sub>1</sub>X<sub>0</sub>=00 ; OFF  
X<sub>1</sub>X<sub>0</sub>=01 ; ON [default]

## ii) Privacy Mask shade setting

:RF90100  
:WF901X<sub>1</sub>X<sub>0</sub>  
( X<sub>1</sub>X<sub>0</sub>=00 - 0F ; 16 step )  
H'00 ; Black  
H'08 ; Gray [default]  
H'0F ; White

## iii) Set the Privacy Mask position - MASK1

|                  |                                                                                                                                 |
|------------------|---------------------------------------------------------------------------------------------------------------------------------|
| [ New data set ] | :WF90EX <sub>1</sub> X <sub>0</sub><br>H'01 ; New data set<br>Become H'00 after the data processing.<br>H'00 ; Mask data modify |
| [ H center ]     | :WF904X <sub>1</sub> X <sub>0</sub><br>( X <sub>1</sub> X <sub>0</sub> =81 (nega) - 00 (center) - 7F (plus) )                   |
| [ V center ]     | :WF905X <sub>1</sub> X <sub>0</sub><br>( X <sub>1</sub> X <sub>0</sub> =81 (nega) - 00 (center) - 7F (plus) )                   |
| [ H size ]       | :WF906X <sub>1</sub> X <sub>0</sub><br>( X <sub>1</sub> X <sub>0</sub> =00 - 7F ; 128 step )                                    |
| [ V size ]       | :WF907X <sub>1</sub> X <sub>0</sub><br>( X <sub>1</sub> X <sub>0</sub> =00 - 7F ; 128 step )                                    |

## iv) Set the Privacy Mask position - MASK2

|                  |                                                                                                                                |
|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| [ New data set ] | :WF90FX <sub>1</sub> X <sub>0</sub><br>H'01 ; New data set<br>Become H'00 after the data processing<br>H'00 ; Mask data modify |
| [ H center ]     | :WF908X <sub>1</sub> X <sub>0</sub><br>( X <sub>1</sub> X <sub>0</sub> =81 (nega) - 00 (center) - 7F (plus) )                  |
| [ V center ]     | :WF909X <sub>1</sub> X <sub>0</sub><br>( X <sub>1</sub> X <sub>0</sub> =81 (nega) - 00 (center) - 7F (plus) )                  |
| [ H size ]       | :WF90AX <sub>1</sub> X <sub>0</sub><br>( X <sub>1</sub> X <sub>0</sub> =00 - 7F ; 128 step )                                   |
| [ V size ]       | :WF90BX <sub>1</sub> X <sub>0</sub><br>( X <sub>1</sub> X <sub>0</sub> =00 - 7F ; 128 step )                                   |

## v) Read the setting degree data of MASK1 / MASK2

```
:rF9140000 ; Mask 1 H degree data  
  ( data range ; H'00000 - H'1680,  
    ; 0.0625 degree/step )  
:rF9160000 ; Mask 1 V degree data  
  ( data range ; H'00000 - H'1680,  
    ; 0.0625 degree/step )  
:rF9180000 ; Mask 2 H degree data  
  ( data range ; H'00000 - H'1680,  
    ; 0.0625 degree/step )  
:rF91A0000 ; Mask 2 V degree data  
  ( data range ; H'00000 - H'1680,  
    ; 0.0625 degree/step )
```

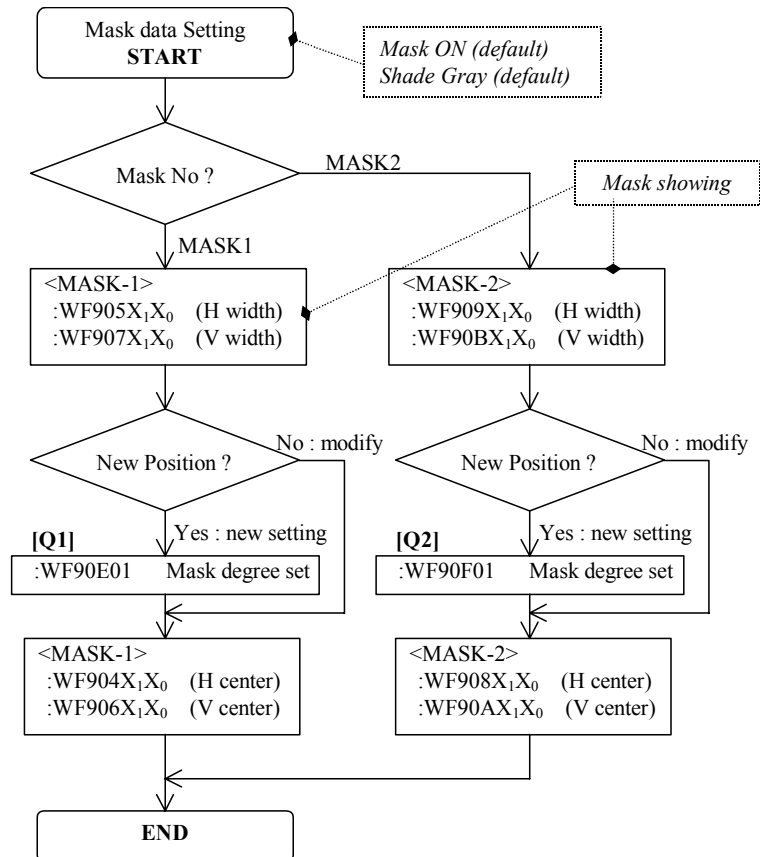
## vi) Degree data (Pan / Tilt)

```
/MX2X1X0Y2Y1Y0 [special write command]  
  X2X1X0 ; PAN degree  
  Y2Y1Y0 ; TILT degree  
( X2X1X0 / Y2Y1Y0 000 - B40 ; 0.125 degree/step )
```

## 5. Flow Chart:

### a) Center position, Width data setting:

Follow the flow chart below for the center position and width data setting.  
Masking setting angle data will be memorized when [Q1][Q2] are sending.



**b) PAN / TILT Angle data setting:**

Refer to the flow chart below for the PAN / TILT angle setting:

