

MOTION DETECT *FOR* *VK-S454 SERIES*

[REV. 2.1]

This manual applies following models:

<NTSC> VK-S454

<PAL> VK-S454E

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[Note]

- ☆ The function described on this command list is applicable to Model VK-S454 series with the following conditions:

< Conditions >

- a) Serial Number (See chart below)
- b) EEPROM data version (Refer to the CONTROL COMMAND OF VK-S454 SERIES page - 15)
- c) Microprocessor / EEPROM version:

Model	Serial Number	EEPROM data Ver.	Micro. Ver.
VK-S454	After 21032359	After Ver. 6	After Ver. 2.34
VK-S454E	After 21121809	After Ver. 5	After Ver. 2.34

- Confirm the version for Microprocessor.

:r01060000 → echo back data ; H'XXYY [Ver. XX.YY]

< ex. > :r01060000 → echo back data ; H'0234 [Ver. 02.34]

- EEPROM data version code # and Microprocessor version # may be changed without notice.

PART ONE

• SPECIFICATION

1. Communication protocol

Communication between the microcomputer of the camera and the PC is available by using the RS-232C protocol. The microcomputer receives each control command given by the PC and echoes it back to the PC.

2. Connect condition

Data length	8 bit
Stop bit	1 bit
Parity	even / non
Baudrate	4800 / 9600 bps

3. Communication data format

All communication data consist of eight or ten ASCII characters (8 bytes or 10 bytes).

The format of the communication data is shown in Fig.1.

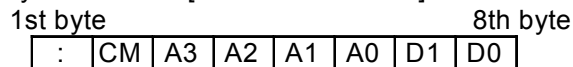
a) Normal command

Communication data start with the character ":"(colon).

b) Special command

Communication data start with the character "/"(slash).

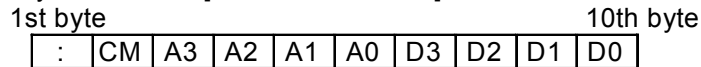
(a) 8 bytes format [Normal command]



CM Command as follows
 R :Read 1 byte data of micro-Com. RAM or EEPROM
 W :Write 1 byte data of micro-Com. RAM or EEPROM

A3-A0 Address data of micro-Com. RAM or EEPROM (write in hex. 0000-FFFF)
 D1-D0 Data of micro-Com. RAM or EEPROM (write in hex. 00-FF)

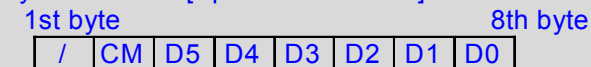
(b) 10 bytes format [Normal command]



CM Command as follows
 r :Read 2 bytes data of micro-Com. RAM or EEPROM
 w :Write 2 bytes data of micro-Com. RAM or EEPROM

A3-A0 Address data of micro-Com. RAM or EEPROM (write in hex. 0000-FFFF)
 D3-D0 Data of micro-Com. RAM or EEPROM (write in hex. 0000-FFFF)

(c) 8 bytes format [Special command]



CM Command as follows
 M : <Privacy mask> DEGREE WRITE command

D5-D0 Data of micro-Com. RAM or EEPROM (write in hex. 000000-FFFFFF)

Fig. 1 Communication data format

4. Command timing

- a) Timing table other commands
[Please attached Fig. 2]

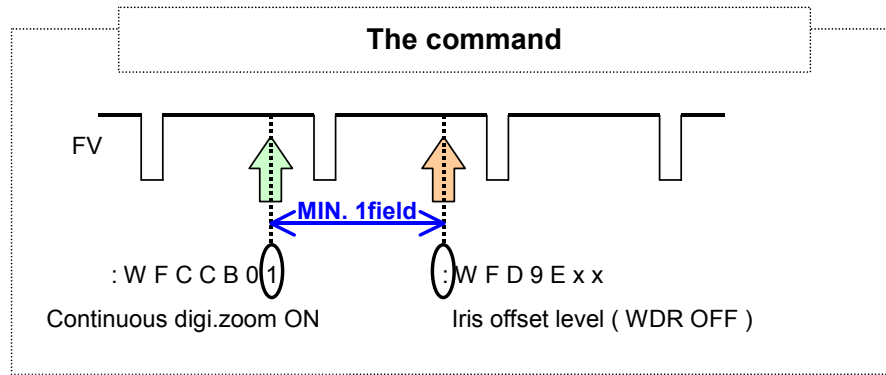


Fig. 2 Changed to command timing

PART
TWO

- MOTION DETECTION SPECIFICATION

1. Function Specification

a) Motion Detection ON/OFF:

Switch ON to enable the Motion Detection Function

i) Requirement to turn ON the Motion Detection:

- 1) Privacy Mask: OFF
- 2) Zoom: Stop
- 3) Continuous & Instant Digital Zoom: OFF
- 4) Program AE Mode: Program AE (No DSS, No IRcf remove)

ii) Restriction/Limitation during the Motion Detection operation:

- 1) Switched to MF (Manual Focus mode) automatically.
- 2) No command writing other than Motion Detection command.(OK for data reading).

b) Setting Mode:

Set the detection area and level (Sensitivity):

i) Detection area:

Any combination of maximum 8 areas from the following 64 divisions can be set.
The display screen is divided 8[H] x 8[V].

	column1	column2	column3	column4	column5	column6	column7	column8
line1	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
line2	Area 9	Area10	Area11	Area12	Area13	Area14	Area15	Area16
line3	Area17	Area18	Area19	Area20	Area21	Area22	Area23	Area24
line4	Area25	Area26	Area27	Area28	Area29	Area30	Area31	Area32
line5	Area33	Area34	Area35	Area36	Area37	Area38	Area39	Area40
line6	Area41	Area42	Area43	Area44	Area45	Area46	Area47	Area48
line7	Area49	Area50	Area51	Area52	Area53	Area54	Area55	Area56
line8	Area57	Area58	Area59	Area60	Area61	Area62	Area63	Area64

ii) Detection Sensitivity Level:

Any level from 0 to 5 can be set to the selected area. (No detection for the level 0 setting).

	column1	column2	column3	column4	column5	column6	column7	column8
line1								
line2			Level1				Level1	
line3					Level2			
line4		Level0						
line5				Level5		Level4		
line6								
line7		Level5					Level3	
line8								

iii) Setting procedure:

Provided with 8 buffers for both the area and the level setting.

Any buffer can be used but, No duplicated area setting can be done unless Level setting is 0.

	Detect Area	Level
Buffer 1		
Buffer 2	4	4
Buffer 3		
Buffer 4	1	5
Buffer 5	42	0
Buffer 6	43	3
Buffer 7		
Buffer 8		

c) Detection mode:

Detect any motion activity in the set (selected) area.

Detection time: Max: 300ms (8 area setting)
200ms (6 area setting)

i) Detection information:

Following information can be obtained from selected area during Motion Detection.

1) Selected detection Area/Buffer information.

2) Current detecting Area/Buffer information.

3) Integrated previous detected Area/Buffer information during the Motion Detection mode.

The above all information will be processed by assigned each buffer #.

(Example: If area 4 is detected, the above 2) information will be responded by Buffer 2).

d) Note:

Please be aware of that the accuracy of the Motion Detection can not be 100% guaranteed all the time so please offer this Feature/Function to your customer accordingly.

2. New command for the Motion Detection:

a) Command list:

	Refer to:	Note
Switch Motion Detection On/Off	i)	Effective at Privacy Mask OFF only
Mode switch (Area/level)	ii)	
Area / Sensitivity level setting	iii)	Effective at Setting mode only
Clear all buffer setting	iv)	Ditto
Get set/selected buffer #	v)	Effective at Detection mode only
Get detecting buffer #	vi)	Ditto
Get list of detected buffer #	vii)	Ditto
Display for detection area	viii)	

- i) Switch Motion Detect ON/OFF
:RF95000
:WF950X₁X₀
X₁X₀=00 ; OFF [default]
X₁X₀=01 ; ON
- ii) Switch Area Set/Detect Mode
:RF95100
:WF951X₁X₀
X₁X₀=H'00 ; Area Set Mode
X₁X₀=H'01 ; Detect Mode
- iii) Set Detect Area and Detect Level (At Area Set Mode Only)
[Buffer 1] :wF940X₃X₂X₁X₀
X₃X₂ ; Detect Area (Max. : H'40)
X₁X₀ ; Detect Level (Max. : H'05)
(Data Clear : X₃X₂X₁X₀=H'0000)
[Buffer 2] :wF942X₃X₂X₁X₀
-ditto-
[Buffer 3] :wF944X₃X₂X₁X₀
-ditto-
[Buffer 4] :wF946X₃X₂X₁X₀
-ditto-
[Buffer 5] :wF948X₃X₂X₁X₀
-ditto-
[Buffer 6] :wF94AX₃X₂X₁X₀
-ditto-
[Buffer 7] :wF94CX₃X₂X₁X₀
-ditto-
[Buffer 8] :wF94EX₃X₂X₁X₀
-ditto-
- iv) Clear All Buffer (At Area Set Mode Only)
:WF95201
- v) Get Detecting Buffer Number (At Detect Mode Only)
:RF95400
Bit0 ; Hi.:Buffer1 Detecting Lo. :Not Detecting
:
Bit7 ; Buffer8
(Ex.:H'46 : Buffer2,3,7 Detecting)
- vi) Get Detected Buffer Number (At Detect Mode Only)
:RF95500
Bit0 ; Hi.:Buffer1 Detected Lo. :Not Detected
:
Bit7 ; Buffer8
(Ex.:H'46 : Buffer2,3,7 Detected)
- vii) Get Integration Of Detected Buffer Number (At Detect Mode Only)
:RF95600
-ditto
- viii) SW Detect Area Display
:WF953X₁X₀
Bit0 ; Hi.:Area Set Mode Display ON Lo.:OFF
Bit4 ; Detect Mode

ix) SW Cursor Area Display

:WF953X₁X₀

Bit6 ; The change of the display method.

Hi.:Buffer8 is used as cursor.

Lo.:Cursor is changed by change of data.

Bit7 ; Cursor Area Display color

Hi.:Two colors

Lo.:One color

x) Set Detect Area R-Y/B-Y Color

:wF957X₃X₂X₁X₀

(X₃X₂=00 - 0F ; 16 step)

H'00 ; <R-Y> min

H'08 ; <R-Y> center [default]

H'0F ; <R-Y> max

(X₁X₀=00 - 0F ; 16 step)

H'00 ; <B-Y> min

H'08 ; <B-Y> center [default]

H'0F ; <B-Y> max

xi) Set Cursor Area R-Y/B-Y Color

:WF959X₃X₂X₁X₀

(X₃X₂=00 - 0F ; 16 step)

H'00 ; <R-Y> min

H'08 ; <R-Y> center [default]

H'0F ; <R-Y> max

(X₁X₀=00 - 0F ; 16 step)

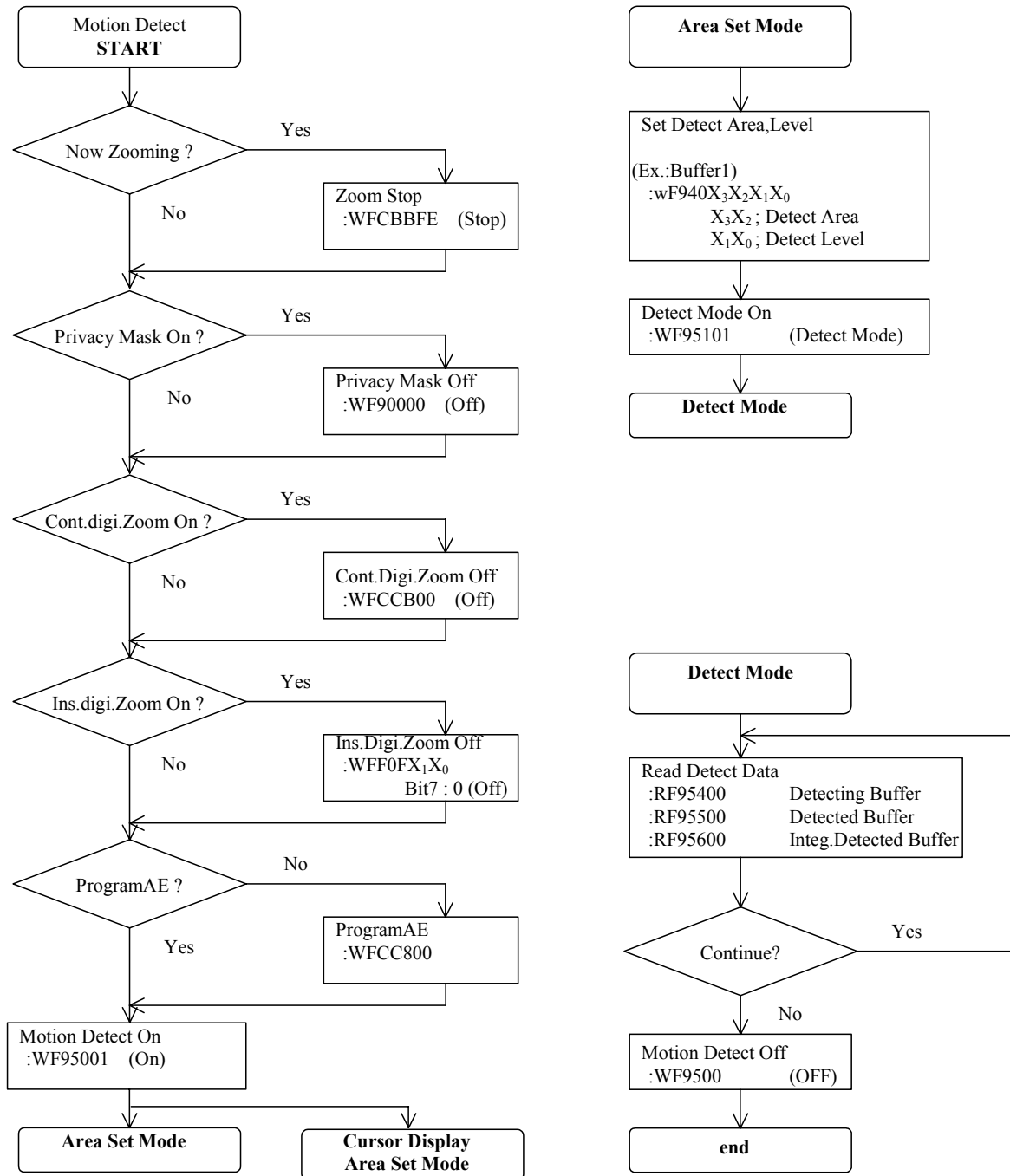
H'00 ; <B-Y> min

H'08 ; <B-Y> center [default]

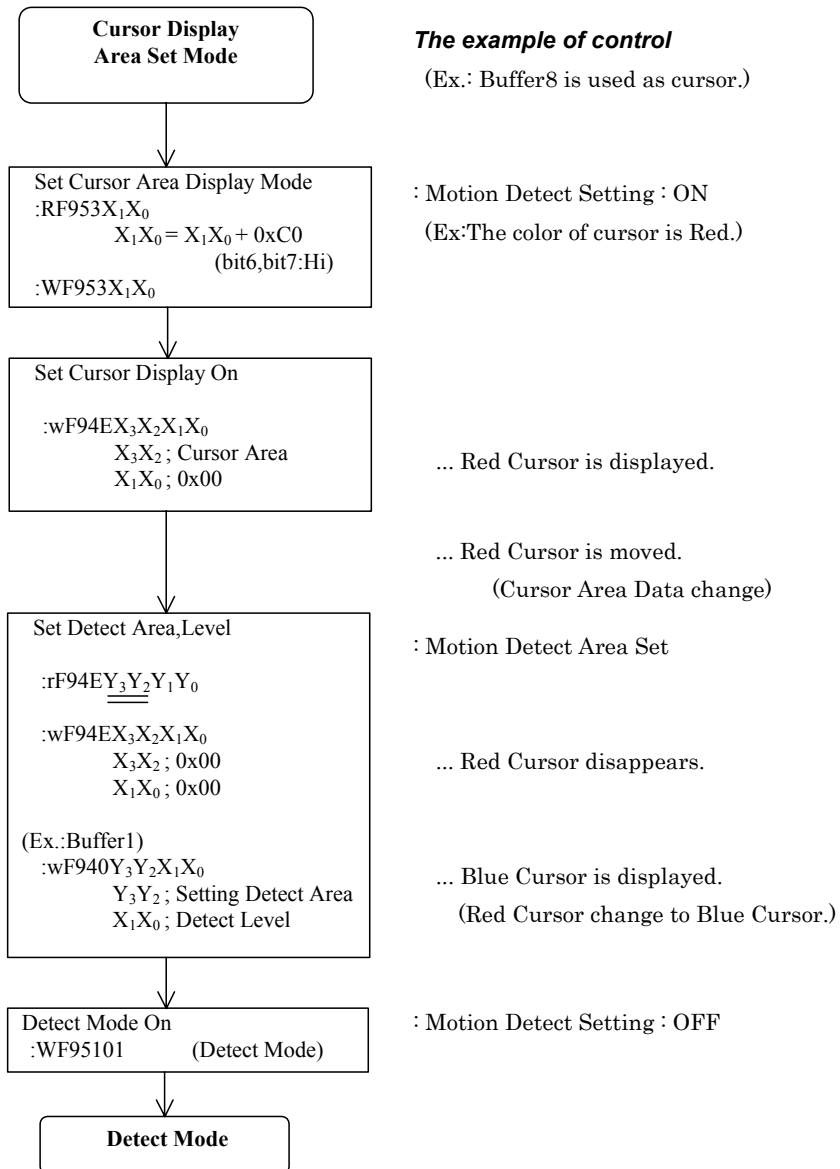
H'0F ; <B-Y> max

3. FLOW CHART

Please refer to the following flow chart:



Please refer to the following flow chart: Cursor Display Area Set Mode



• APPENDIX

[REV. 1.0]

2001/07/19 * **VK-S454 Motion Detect Pre-Pro Sample**

[REV. 1.1]

2001/08/08 * **VK-S454/454E Motion Detect**

[REV. 2.0]

2001/10/22 * Page.3 Add. [NOTE]
* Page.4~6 Add. Communication Specification.

[REV. 2.1]

2002/10/xx ☆Add function. (Ver2.34~)
* Page.12 ; 2.ix) SW Cursor Area Display
* Page.12 ; 2.x) Set Detect Area R-Y/B-Y Color
* Page.12 ; 2.xi) Set Cursor Area R-Y/B-Y Color
* Page.14 ; Cursor Display Area Set Mode Flowchart