Panasonic Pan/Tilt Head-AW-PH300A/500/600

RS232C Communication Protocol

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Broadcast Systems Division

Matsushita Electric Industrial Co.

(1)Communication Specification

Connector: HIROSE DX10-28S

Refer to following drawing for pin configuration.

Electrical Specification: RS-232C

Baud Rate: 9600bps

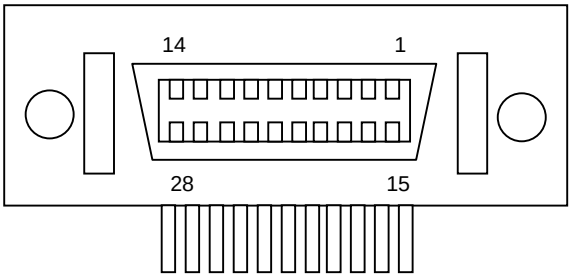
Bit Length: 8 bits

Stop Bit: 1

Parity: None

Flow Control: None

HIROSE DX10-28S



8: TXD

9: RXD

10: GND

Other pins are not used for communication because these are used for other usage.

(2) Protocol

Commands, which are sent to AW-PH300 from PC, are not issued periodically and are handled as events.

Commands which make to change conditions continue to affect unless commands, which deny them, issue.

In this documents, direction of rotation is based on DESKTROP position.

2-1. Commands for Pan Operation (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Paab)

P : information ID

a a : numerical number of two digits which is equivalent to commands of joystick for pan operation.

(01-99 : highest speed for left direction at 1, stop at 50 and highest speed for right direction at 99)

b : delimiter (Current-CR)

2-2. Commands for Tilt Operation (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Taab)

T : information ID

a a : numerical number of two digits which is equivalent to commands of joystick for tilt operation.

(01-99 : highest speed for left direction at 1, stop at 50 and highest speed for right direction at 99)

b : delimiter (Current-CR)

2-3. Commands for Zoom Operation (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Zaab)

Z : information ID

a a : numerical number of two digits which is equivalent to commands of joystick for zoom operation.

(01-99 : highest speed for WIDE direction at 1, stop at 50 and highest speed for TELE direction at 99)

b : delimiter (Current-CR)

2-4. Commands for Focus Operation (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Faab)

F : information ID

a a : numerical number of two digits which is equivalent to commands of joystick for focus operation.

(01-99 : highest speed for NEAR direction at 1, stop at 50 highest speed FAR direction at 99)

b : delimiter (Current-CR)

2-5. Commands for IRIS Operation (From PC to Pan/Tilt Head)

: ID which indicates commands from PC

I : information ID. (#Iaab)

a a : numerical number of two digits which is equivalent to volume control for IRIS operation. (01-99 : CLOSE at 1, OPEN at 99)

b : delimiter (Current-CR)

2-6. Commands for Pre-set Memory (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Maab)

M : information ID

a a : numerical number of two digits which indicates Pre-set number (00-29)

b : delimiter (Current-CR)

2-7. Commands for Reposition of Pre-set Position (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Raab)

R : information ID

a a : numerical number of two digits which indicates Pre-set number (00-29)

b : delimiter (Current-CR)

2-8. Results of Commands for Reposition of Pre-set Position (From PC to Pan/Tilt Head)

S : information ID. (#Saab)

a : numerical number of two digits which indicates Pre-set number of last use (00-29)

b : delimiter (Current-CR)

2-9. Commands for POWER ON/OFF (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Oab)

O : information ID

a : Power ON/OFF (1 or N : ON, 0 or f : OFF)

b : delimiter (Current-CR)

2-10. Commands for Condition Control (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Dabc)

D : information ID

a b : Switch Number and Commands Information

a	b
1 : EXT	0 : OFF, 1 : ON
2 : ND	0 : OFF, 1 : ON
3 : IRIS MODE	0 : MANUAL, 1: AUTO
4 : LAMP	0 : OFF, 1 : ON
5 : INQUIRY of LAMP FILAMENT BREAK	NONE
6 : SERVICE SWITCH	0 : OFF, 1 : ON
7: DEF	0: OFF, 1: ON
8: WIPE	0: OFF, 1: ON
9: HEAT/FAN	0: OFF, 1: ON

c : delimiter (Current-CR)

2-11. Results of Commands for Condition Control (From PC to Pan/Tilt Head)

d : information ID. (dabc)

a : numerical number '5' which indicates commands number

b : numerical number which indicates LAMP condition

(0 : Normal Condition, 1 : LAMP Filament Cut Condition)

c : delimiter (Current-CR)

2-12. Commands for Setting/ Resetting of Position Limit (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Lab)

L : information ID

a :numerical number from 1 to 4 which means followings

1 : TILT Upper Limit

2 : TILT Under Limit

3 : PAN Left Limit

4 : PAN Right Limit

b : delimiter (Current-CR)

2-13. Results of Commands for Setting/ Resetting of Pan/Tilt Position

(From PC to Pan/Tilt)

I : information ID. (Iab)

a : Limit Condition (Setting : 1, Resetting : 0)

b : delimiter (Current-CR)

2-14. Commands for Setting of Pan and Tilt Position (From PC to Pan/Tilt Head)

: ID which indicates commands from PC. (#Uaaaabbbbcd)

U : information ID

a a a a : numerical number of four digits (progressing by 16s) which indicates pan position (0000-FFFF)

b b b b : numerical number of four digits (progressing by 16s) which indicates tilt position (0000-FFFF)

c : Check Sum

(low-ranking 8 bits of sum results as 8 bits data of sending commands from first to just before)

d : delimiter (Current-CR)

2-15. Results for Commands of Pan and Tilt Position (From PC to Pan/Tilt Head)

U : information ID. (Uaaaabbbbc)

a a a a : numerical number of four digits (progressing by 16s) which indicates pan position (0000-FFFF)

b b b b : numerical number of four digits (progressing by 16s) which indicates tilt position (0000-FFFF)

c : delimiter (Current-CR)

2-16. Commands for Lens Condition (From PC to Pan/Tilt Head)

: ID which indicates commands from PC

A : information ID. (#Aaaabbbcccde)

a a a : numerical number of three digits which indicates zoom position (progressing by 16s) (000-FFF)

b b b : numerical number of three digits which indicates focus position (progressing by 16s) (000-FFF)

2-5 Use I command

d : Check Sum

(low-ranking 8 bits of sum results of sending code as 8 bits data from first to

just before)

e : delimiter (Current-CR)

2-17. Result for Commands of Lens Condition (From PC to Pan/Tilt Head)

Pan/tilt head answer following results when it receives commands of lens Condition form 2 to 16.

a : information ID. (abbbcccddde)

b b b : numerical number of three digits which indicates zoom position (progressing by 16s) (000-FFF)

c c c : numerical number of three digits which indicates focus position (progressing by 16s) (000-FFF)

d d d :numerical number of three digits which indicates iris position (progressing by 16s) (000-FFF)

e : delimiter (Current-CR)

2-18.Commands for Monitoring of Pan/ Tilt Condition (From PC to Pan/Tilt Head)

: ID which indicates commands form PC

B: information ID. (#Bcbade)

a : numerical number of bit information (progressing by 16s)

the place of one : request for pan AD value (ON : 1, OFF : 0)

the place of two : request for pan commands value (ON : 1, OFF : 0)

the place of four request for pan deviation value (ON : 1, OFF : 0)

the place of eight : request for pan integral value (ON : 1, OFF : 0)

b : bit information

the place of one : request for pan differential value (ON : 1, OFF : 0)

the place of two : request for pan DA value (ON : 1, OFF : 0)

the place of four request for tilt AD value (ON : 1, OFF : 0)

the place of eight: request for tilt commands value (ON : 1, OFF : 0)

c : bit information

the place of one : request for tilt deviation value (ON : 1, OFF : 0)

the place of two : request for tilt integral value (ON : 1, OFF : 0)

the place of four request for tilt differential value (ON : 1, OFF : 0)

the place of eight : request for tilt DA value (ON : 1, OFF : 0)

d : Check Sum

(low-ranking 8 bits of sum result of sending code as 8 bits data

from first to just before)

e : delimiter (Current-CR)

2-19. Commands for Monitoring Request of Pan/Tilt Condition

: ID which indicates commands form PC. (#Ja)

J : information ID

a : delimiter (Current-CR)

2-20. Result of Commands for Monitoring Request of Pan/Tilt Condition

Pan/Tilt head answer following results when it receives commands for monitoring request of pan/tilt condition

J : information ID. (Jaaaabbbbccccddddeeeeffffgggghhhhiiiikkkkllllmmmmn)

a a a a : numerical number of four digits which indicates pan AD value (progressing by 16s) (0000-FFFF)

b b b b : numerical number of four digits which indicates pan commands value (progressing by 16s) (0000-FFFF)

c c c c : numerical number of four digits which indicates pan deviation value (progressing by 16s) (0000-FFFF)

d d d d : numerical number of four digits which indicates pan integral value (progressing by 16s) (0000-FFFF)

e e e e : numerical number of four digits which indicates pan differential value (progressing by 16s) (0000-FFFF)

f f f f : numerical number of four digits which indicates pan DA value (progressing by 16s) (0000-FFFF)

g g g g : numerical number of four digits which indicates tilt AD value (progressing by 16s) (0000-FFFF)

h h h h : numerical number of four digits which indicates tilt commands value (progressing by 16s) (0000-FFFF)

i i i i : numerical number of four digits which indicates tilt deviation value (progressing by 16s) (0000-FFFF)

k k k k : numerical number of four digits which indicates tilt integrate value (progressing by 16s) (0000-FFFF)

l l l l : numerical number f our digits which indicates tilt differential value (progressing by 16s) (0000-FFFF)

m m m m : numerical number of four digits which indicates tilt DA value (progressing by 16s) (0000-FFFF)

n delimiter (Current-CR)