

**RS232C/LAN command list**  
**MODEL : 4K LCD Displays TH-86/75/65/55/50/43CQ1W**

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Panasonic Connect Co., Ltd.

| TYPE            | Function                    | Control Command   |                                    |           | Inquiry Command                       |   |           | Range and kind of parameter Call-back  | Explanation  |
|-----------------|-----------------------------|---|------------------------------------|-----------|---------------------------------------|---|-----------|--|--|
|                 |                             | Transmission Command<br>[:Parameters]   | Reception Command<br>[:Parameters] | Standby   | Transmission Command<br>[:Parameters] | Reception Command<br>[:Parameters]  | Standby   |  |  |
| Basic Control   | Power ON                    | PON   | PON                                | Avail(*1) | -                                     | -   | -         |  |  |
|                 | Power OFF                   | POF   | POF                                | -         | -                                     | -   | -         |  |  |
|                 | Power Status                | -   | -                                  | -         | QPW                                   | QPW:*   | Avail(*1) | 0 / 1  | 0 : Standby (Off)<br>1 : Power ON (On)   |
|                 | Input Change                | IMS<br>(:***)   | IMS                                | Not avail | QMI                                   | QMI:***   | Not avail | Control:(Toggle)<br>HM1 / HM2 / PC1 / UD1<br>Inquiry:<br>HM1 / HM2 / PC1 / UD1   | HM1 : HDMI1<br>HM2 : HDMI2<br>PC1 : PC<br>UD1 : USB  |
|                 | Audio Volume                | AVL:***   | AVL                                | Not avail | -                                     | -   | -         | 000 - 100  | Volume value : 0 ~ 100   |
|                 | Volume Up                   | AUU   | AUU                                | Not avail | -                                     | -   | -         |  |  |
|                 | Volume Down                 | AUD   | AUD                                | Not avail | -                                     | -   | -         |  |  |
|                 | Current Audio Volume        | -   | -                                  | -         | QAV                                   | QAV:***   | Not avail | 000 - 100  | Volume value : 0 ~ 100   |
| PICTURE         | Audio Mute                  | AMT<br>(.*)   | AMT                                | Not avail | QAM                                   | QAM:<br>*   | Not avail | Control:(Toggle)<br>0 / 1  | Toggle<br>(Audio mute Off) / (Audio mute On)   |
|                 | Aspect Change               | DAM:****  | DAM                                | Not avail | QAS                                   | QAS:****  | Not avail | FULL / NORM / NATV / ZOOM  | FULL : Custom  |
| NETWORK SETTING | Picture Mode                | VPC:MEN***  | VPC                                | Not avail | QPC:MEN                               | QPC:MEN***  | Not avail | DYN / GRH / SPT / CNM / STD / CTM  | DYN : Dynamic GRH : Graphic SPT : Sports<br>CNM : Cinema STD : Standard<br>CTM : Custom  |
|                 | Backlight                   | VPC:BLT***  | VPC                                | Not avail | QPC:BLT                               | QPC:BLT***  | Not avail | 000 ~ 050  | 0 ~ 50   |
| NETWORK SETTING | LAN Setup - Network Address | SSU:NET***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>*** | SSU                                | Not avail | QSU:NET                               | QSU:NET***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>***<br>*** | Not avail | 000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255<br>000 ~ 255 | IP address 1st BYTE 000 ~ 255<br>IP address 2nd BYTE 000 ~ 255<br>IP address 3rd BYTE 000 ~ 255<br>IP address 4th BYTE 000 ~ 255<br>SUB NET MASK 1st BYTE 000 ~ 255<br>SUB NET MASK 2nd BYTE 000 ~ 255<br>SUB NET MASK 1st BYTE 000 ~ 255<br>SUB NET MASK 2nd BYTE 000 ~ 255<br>Gateway address 1st BYTE 000 ~ 255<br>Gateway address 2nd BYTE 000 ~ 255<br>Gateway address 3rd BYTE 000 ~ 255<br>Gateway address 4th BYTE 000 ~ 255 |
|                 | User name                   | SSU:UNM<br>*...*  | SSU                                | Not avail | QSU:UNM                               | QSU:UNM<br>*...*  | Not avail | [space] 0 1 2 3 4 5 6 7 8 9 A B C D E F G H I<br>J K L M N O P Q R S T U V W X Y Z _ a b c d<br>e f g h i j k l m n o p q r s t u v w x y z - @  | Telnet Username(Max 16 Parameters)<br>RS232C command only<br>[Default] dispadmin   |
|                 | User password               | SSU:UPW<br>*...*  | SSU                                | Not avail | QSU:UPW                               | QSU:UPW<br>*...*  | Not avail | [space] 0 1 2 3 4 5 6 7 8 9 A B C D E F G H I<br>J K L M N O P Q R S T U V W X Y Z _ a b c d<br>e f g h i j k l m n o p q r s t u v w x y z - @  | Telnet password(Max 16 Parameters)<br>RS232C command only<br>[Default] @Panasonic  |
| Others          | Software Version            | -   | -                                  | -         | QRV                                   | QRV:<br>*. **00<br>***  | Not avail | *Example<br>1.0000<br>CQ1  | Version<br>model   |
|                 | Software Version LAN MCU    | -   | -                                  | -         | QRV:LAN                               | QRV:LAN<br>** **  | Not avail | *Example<br>01.00  | Version  |
|                 | Model                       | -   | -                                  | -         | QID                                   | QID:<br>**.<br>***.<br>*<br>**  | Not avail | 43 / 50 / 55 / 65 / 75 / 86<br>CQ1   | Inch size<br>model<br>market   |
|                 | Serial number               | -   | -                                  | -         | QSN                                   | QSN:*****   | Not avail | 9 to 15 figures of the ASCII characters  | (Alphanumeric character)(capital letter of the alphabet)(Blank)'-'(0x30-0x39.0x41-0x5a.0x20.0x2d)  |

\*1 SERIAL ONLY


# SERIAL COMMAND FORMAT

- **Communication parameters**

|                        |                   |
|------------------------|-------------------|
| Signal level           | RS-232C compliant |
| Synchronization method | Asynchronous      |
| Baud rate              | 9600 bps          |
| Parity                 | None              |
| Character length       | 8 bits            |
| Stop bit               | 1 bit             |
| Flow control           | None              |

- **Hardware**

Signal names for SERIAL IN terminal:

|  |         |                         |
|--|---------|-------------------------|
|  <p>Pin layout for SERIAL Terminal</p> | Pin No. | Signal Name             |
|  | ②       | RXD                     |
|  | ③       | TXD                     |
|  | ④       | DTR                     |
|  | ⑤       | GND                     |
|  | ⑥       | DSR                     |
|  | ⑦       | ↔ (Shorted in this set) |
|  | ⑧       |                         |
|  | ①⑨      | NC                      |

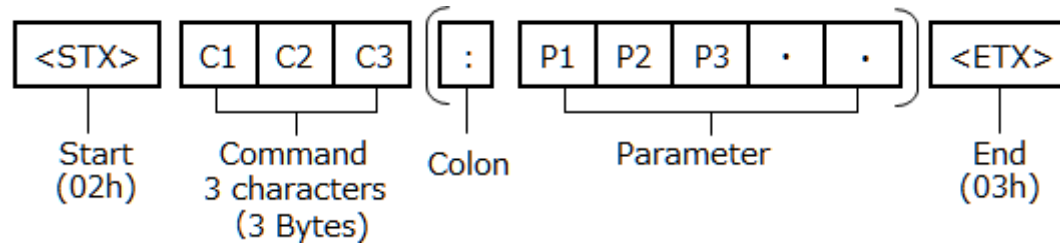
These signal names are those of computer specifications.

Type of cable: Straight cable

## ● Basic format for control data:

The transmission of control data starts with a STX signal, followed by the command, the parameters, and lastly an ETX signal in that order.

If there are no parameters, the colon ":" does not need to be sent.



(Example)

### - Power on

#### Transmission

|           |       |    |    |    |       |
|-----------|-------|----|----|----|-------|
| Character | <STX> | P  | O  | N  | <ETX> |
| Binary    | 02    | 50 | 4F | 4E | 03    |

#### Reception

|           |       |    |    |    |       |
|-----------|-------|----|----|----|-------|
| Character | <STX> | P  | O  | N  | <ETX> |
| Binary    | 02    | 50 | 4F | 4E | 03    |

### - Change inputs / HDMI1

#### Transmission

|           |       |    |    |    |    |    |    |    |       |
|-----------|-------|----|----|----|----|----|----|----|-------|
| Character | <STX> | I  | M  | S  | :  | H  | M  | 1  | <ETX> |
| Binary    | 02    | 49 | 4D | 42 | 3A | 48 | 4D | 31 | 03    |

#### Reception

|           |       |    |    |    |       |
|-----------|-------|----|----|----|-------|
| Character | <STX> | I  | M  | S  | <ETX> |
| Binary    | 02    | 49 | 4D | 42 | 03    |

- **Input inquiry / HDMI1**Transmission

|           |       |   |   |   |       |
|-----------|-------|---|---|---|-------|
| Character | <STX> | Q | M | I | <ETX> |
|-----------|-------|---|---|---|-------|

|        |    |    |    |    |    |
|--------|----|----|----|----|----|
| Binary | 02 | 51 | 4D | 49 | 03 |
|--------|----|----|----|----|----|

Reception

|           |       |   |   |   |   |   |   |   |       |
|-----------|-------|---|---|---|---|---|---|---|-------|
| Character | <STX> | Q | M | I | : | H | M | 1 | <ETX> |
|-----------|-------|---|---|---|---|---|---|---|-------|

|        |    |    |    |    |    |    |    |    |    |
|--------|----|----|----|----|----|----|----|----|----|
| Binary | 02 | 51 | 4D | 49 | 3A | 48 | 4D | 31 | 03 |
|--------|----|----|----|----|----|----|----|----|----|

- **Picture mode inquiry**Transmission

|           |     |   |   |   |   |   |   |   |       |
|-----------|-----|---|---|---|---|---|---|---|-------|
| Character | <ST | Q | P | C | : | M | E | N | <ETX> |
|-----------|-----|---|---|---|---|---|---|---|-------|

|        |    |    |    |    |    |    |    |    |    |
|--------|----|----|----|----|----|----|----|----|----|
| Binary | 02 | 51 | 50 | 43 | 3A | 4D | 45 | 4E | 03 |
|--------|----|----|----|----|----|----|----|----|----|

Reception

|           |       |   |   |   |   |   |   |   |   |   |   |       |
|-----------|-------|---|---|---|---|---|---|---|---|---|---|-------|
| Character | <STX> | Q | P | C | : | M | E | N | D | Y | N | <ETX> |
|-----------|-------|---|---|---|---|---|---|---|---|---|---|-------|

|        |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|
| Binary | 02 | 51 | 50 | 43 | 3A | 4D | 45 | 4E | 44 | 59 | 4E | 03 |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|

## (Notes)

- If an incorrect command is sent, this unit will reply an "ER401" command to the computer.
- If customer send multiple commands, be sure to wait for the response for the first command to come before sending the next command.
- The length of the Parameters are different for each command.

# LAN COMMAND FORMAT

## ● Communication parameters

|           |  |
|-----------|--|
| Baud rate | 100Mbps/10Mbps                           |
| Protocol  | Socket through protocol(TCP/IP) / Telnet |
| Port      | 10101(Fixed)                             |

## ● Format

### ● Login process

- After connecting to port, the Display will request login user name and password
- User & Password default is "dispadmin" & "@Panasonic".
- If the Display request to change password, please change password.
- If success to login, the Display will reply "OK". If fail to login, the Display will reply message "Login incorrect" and disconnect immediately
- If no data during 1 minute, the Display will disconnect for security.

(Example)

1) The Display will send after connecting

|           |    |    |    |    |    |    |
|-----------|----|----|----|----|----|----|
| Character | L  | o  | g  | i  | n  | :  |
| Binary    | 4C | 6F | 67 | 69 | 6E | 3A |

2) The host needs to send login username (example: default login user name)

|           |    |    |    |    |    |    |    |    |    |      |      |
|-----------|----|----|----|----|----|----|----|----|----|------|------|
| Character | d  | i  | s  | p  | a  | d  | m  | i  | n  | <CR> | <LF> |
| Binary    | 64 | 69 | 73 | 70 | 61 | 64 | 6D | 69 | 6E | 0D   | 0A   |

-Sending <LF> can be omitted

3) The Display will send

|           |      |      |    |    |    |    |    |    |    |    |    |
|-----------|------|------|----|----|----|----|----|----|----|----|----|
| Character | <CR> | <LF> | P  | a  | s  | s  | w  | o  | r  | d  | :  |
| Binary    | 0D   | 0A   | 50 | 61 | 73 | 73 | 77 | 6F | 62 | 64 | 4D |

4) The host needs to send password (example: default password)

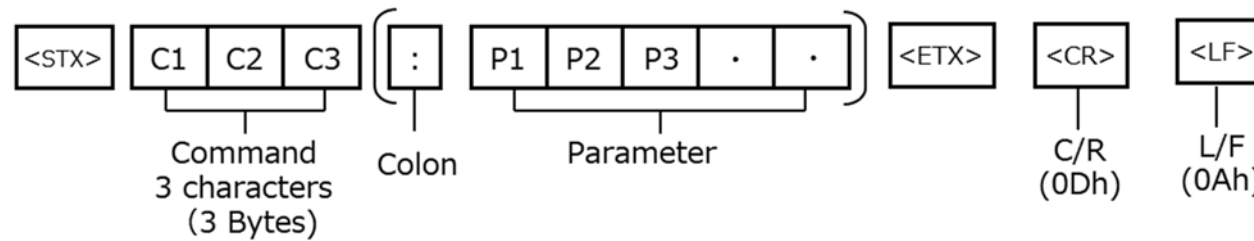
|           |    |    |    |    |    |    |    |    |    |    |      |      |
|-----------|----|----|----|----|----|----|----|----|----|----|------|------|
| Character | @  | P  | a  | n  | a  | s  | o  | n  | i  | c  | <CR> | <LF> |
| Binary    | 64 | 69 | 73 | 70 | 61 | 64 | 6D | 69 | 6E | 6E | 0D   | 0A   |

-Sending <LF> can be omitted

5) The Display will send

|           |    |    |      |      |
|-----------|----|----|------|------|
| Character | O  | K  | <CR> | <LF> |
| Binary    | 4F | 4B | 0D   | 0A   |

● Command transferring format



-Sending <LF> can be omitted

After login success, use serial commands with <STX> and <ETX>/<CR>/(<LF>) communicate with the Display

● Disconnection

- The host sends CTRL+C(EXT) , CTRL+D(EOT) to the Display
- The host send "BYE¥r¥n" command to the Display
- The host sends FIN packet to the unit (FIN request by the client software on the host side)