

# ECI 6 series RS-232 Command Reference

Geir Svihus  
Raymond van der Rots



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This document details the RS-232C control protocol for the ECI 6, ECI 6D, ECI 6DS and ECI 6DX. It will outline the communication settings, message format as well as accepted commands and their expected responses.

Version 1

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## 1 Communication settings

**Port type** RS-232C DCE

**Connector** 9-pin DSUB female

**Cable** Straight through cable (null modem cable will not work)

|        |     |     |     |
|--------|-----|-----|-----|
| Pin    | 2   | 3   | 5   |
| Signal | TXD | RXD | GND |

Table 1: Pin configuration

| Baud Rate | Data Bits | Parity | Stop Bit | Flow Control |
|-----------|-----------|--------|----------|--------------|
| 9600      | 8         | None   | 1        | None         |

Table 2: Communication settings

## 2 Command formats

### 2.1 Command structure

Each command starts with a # sign (ASCII 0x23), followed by a 3-character command code. If there are any parameters for the command, the parameters are given in text format, separated by a space (ASCII 0x20) from the command code. The # character (ASCII 0x23) must never appear in the parameters. A carriage return (ASCII 0x0d) indicates the end of the command. Each command must not exceed 25 bytes including the start of command and end of command bytes.

Listing 1: Command structure format

```
<Command> =  
  <Start of Command>  
  <Command Code>[<sp><Parameters >]  
  <End of Command>  
  
<Start of Command> = #, ASCII 0x23  
<Command Code>     = <byte><byte><byte>  
<sp>                = space, ASCII 0x20  
<Parameters >      = command-specific  
<End of Command>   = \r, ASCII 0x0d
```

Listing 2: Command examples

```
#PON\r  
#SDL 25\r
```

## 2.2 Response Structure

Upon receiving a command, the command is executed and a response is sent back. The response starts with an @ sign (ASCII 0x40) followed by a result code, either OK or ER. If there are any parameters or additional message, the parameters or message is given in text format, separated by a space (ASCII 0x20) from the result code. The @ character (ASCII 0x40) must never appear in the parameters or message. A carriage return (ASCII 0x0d) indicates the end of response. Each response must not exceed 25 bytes including the start of response and the end of response bytes.

Listing 3: Response structure

```
<Response> =  
  <Start of Response>  
  <Result Code>[<sp><Parameters >]  
  <End of Response>  
  
<Start of Response> = @, ASCII 0x40  
<Result Code>       = OK|ER  
<sp>                = space, ASCII 0x20  
<Parameters >      = command-specific  
<End of Response>   = \r, ASCII 0x0d
```

Listing 4: Response examples

```
@OK ON\r  
@OK CX1\r  
@ER INVALID\r
```

## 2.3 Command sequence

Commands are executed in the order they are received. The host should wait for a response before sending the next command.

If a new command is received before executing the previous command, the previous command may be discarded.

If the host does not receive a response 10 seconds after the command is issued, the host may consider the command or response lost during transmission, and can retransmit the command.

## 3 Command list

This section lists all supported commands and their expected responses.

The different products of the ECI 6 range differ in their supported inputs. Unless explicitly mentioned, all other commands are supported on all units. Please refer to table 3 for the different inputs of the different products.

| Product       | Command code | Label    | Physical? |
|---------------|--------------|----------|-----------|
| All           | CDP          | CD       | Y         |
| All           | DVD          | DVD      | Y         |
| All           | AUX          | AUX      | Y         |
| All           | HTI          | HT       | Y         |
| 6D, 6DS & 6DX | CX1          | COAX1    | Y         |
| 6D, 6DS & 6DX | CX2          | COAX2    | Y         |
| 6D, 6DS & 6DX | TL1          | TOSLink1 | Y         |
| 6D, 6DS & 6DX | TL2          | TOSLink2 | Y         |
| 6D, 6DS & 6DX | USB          | USB      | Y         |
| 6DS           | RAD          | RADIO    | N         |
| 6DS           | MEM          | MEMSTICK | N         |
| 6DS           | DLN          | DLNA     | N         |

Table 3: Inputs supported on the different products

### 3.1 Simple Commands

This group is direct commands for performing a single operation. Many of the commands are mapped to IR remote control buttons. These commands are processed in the same way as if the corresponding remote button code is received. No parameters are needed.

### 3.2 Query Commands

This group of commands queries current operating status.

| Command | Remote key | Function                                  | Response                                |
|---------|------------|---|---|
| PON     |            | Power On                                  | OK ON                                   |
| POF     |            | Power Off                                 | OK OFF                                  |
| POW     |            | Toggle standby                            | OK ON, or OK OFF                        |
| VUP     | VOL+       | Increase volume by one step               | OK                                      |
| VDN     | VOL-       | Decrease volume by one step               | OK                                      |
| MUT     |            | Mute audio                                | OK ON, or OK OFF                        |
| DIM     | DIM AMP    | Dim display one step down,cyclic.         | OK <n>, where n in [0, 25, 50, 75, 100] |
| <input> | <input>    | Set the specified input, refer to table 3 | OK <input>                              |
| NUP     |            | Navigator UP                              | OK                                      |
| NDN     |            | Navigator DOWN                            | OK                                      |
| NLT     |            | Navigator LEFT                            | OK <new input>                          |
| NRT     |            | Navigator RIGHT                           | OK <new input>                          |
| RST     |            | No action                                 | OK                                      |

Table 4: Common simple commands

| Command code | Function           | Response                                |
|--------------|--------------------|---|
| QPW          | Query power status | OK ON, or OK OFF                        |
| QMU          | Query mute status  | OK ON, or OK OFF                        |
| QINF         | Query active input | OK <input>                              |
| QDL          | Query dim level    | OK <n>, where n in [0, 25, 50, 75, 100] |

Table 5: Query commands

### 3.3 Advanced Commands

This group of commands takes a parameter for easily setting multiple operating options.

| Command code | Parameters           | Function  | Response                                |
|--------------|----------------------|---|---|
| SDL          | [0, 25, 50, 75, 100] | Set display dimming level, in percent. 0 for full-off, 100 for full-on. | OK <n>, where n in [0, 25, 50, 75, 100] |
| SIN          | <input>              | Set input   | OK <input>                              |

Table 6: Advanced commands

### 3.4 Firmware upgrade

This command is used for updating firmware from EC Updater. Do not attempt to update firmware from any other source than EC Updater or manually.

This command is *not* supported on the ECI 6DX, since that unit auto-manages all of its own firmware.

| Command code | Parameters | Function                 | Response |
|--------------|------------|--------------------------|----------|
| UPD          | AVR        | Starts firmware upgrade. | OK       |

Table 7: Firmware upgrade