# iTrans D401

## Central Control Protocol

*ENV1.0*



## Communication

Communication protocol: UDP
LAN Port: 7000

## Protocol Format

Commands sent by PC to iTrans D401:

| Data | Value | Length (byte) | Description |
|------|-------|---------------|-------------|
| Header | 0xA5 0x6C | 2 | Begining of the data package |
| Header length | 0x0000~ 0x0420 | 2 | The length of the entire data packet: from the beginning of the header to the end, |

| | | | (including the header and the end), with the low byte at the beginning.. |
|---|---|---|---|
| Device Type | 0x00~ 0xFF | 1 | Definition of device type, 0xFF means multicast |
| Device ID | 0x00~0xFF | 1 | Used when multiple devices of the same type are networked, 0XFF means multicast. |
| Interface Type | 0x00~0xFF | 1 | 0x00: UART (Serial port) 0x01: Network |
| Reserve | 0x00 | 1 | Reserved |
| Command | 0x00~0xFF | 1 | Command for each function |
| Packet data | | Not fixed | <= 1024 |
| Checksum | 0x0000~0x FFFF | 2 | Start from "header" (including "header") to "Checksum" (excluding "checksum"), all data. Take two bytes, omit the overflow part slightly, low byte first. |
| End | 0xAE | 1 | The end of the data package |

Commands returned from the iTrans D401 to PC:

| Data | Value | Length (byte) | Description |
|---|---|---|---|
| Header | 0xA5 0x6C | 2 | Begining of the data package |
| Header length | 0x0000~ 0xFFFF | 2 | The length of the entire data packet: from the beginning of the header to the end, (including the header and the end), with the low byte at the beginning |
| Device Type | 0x00~ 0xFF | 1 | Definition of device type, 0xFF means multicast |
| Device ID | 0x00~0xFF | 1 | Used when multiple devices of the same type are networked, 0XFF means multicast. |
| Interface Type | 0x00~0xFF | 1 | 0x00: UART (Serial port) 0x01: Network |
| Reserve | 0x00 | 1 | Reserved |
| Command | 0x00~0xFF | 1 | Command for each function |
| Return status | 0x00~0xFF | 1 | 0x00: OK 0x01: Error |
| Return data | | Not fixed | Reserved. The length of the content when the response command returned, not fixed length, which is consistent with the format of the "packet data" during the setting |

| Checksum | 0x0000~0xFFFF | 2 | Start from "header" (including "header") to "Checksum" (excluding "checksum"), all data. Take two bytes, omit the overflow part slightly, low byte first. |
| --- | --- | --- | --- |
| End | 0xAE | 1 | The end of the data package |

Note: When sending, it is directly cmd + data, when returning, it is cmd + status + data

## Device type and command

### 1. Device type: 0x60
### 2. Command list

| Function | Command (hex) | Command Description |
| --- | --- | --- |
| Broadcast/multicast search | 0xff | Send broadcast, search devices |
| Switch mode | 0x94 | Switch between quad-image, single-image and other display modes |
| Switch input channel | 0xa5 | Under the mode of 2-image mode,, the input signal can be switched |
| Turn on (off) carousel | 0xa6 | 0x00 OFF, 0x01 ON |
| Set carousel time | 0xa7 | In seconds, range 3-999 |
| Monitor channel signal | 0xaa | Each channel 1-4 has 2 bytes, the low bit indicates the signal status |
| Image border switch | 0xa4 | 0 OFF, 1 ON |

### 3. Example of actual packet capture
Note: All data are in hexadecimal

### 3.1 Send broadcast

Send:
a5 6c 14 00 81 ff 01 00 00 00 00 00 00 00 00 00 ff a5 03 ae

Return:
a5 6c 22 00 60 ff 01 00 00 00 00 00 00 00 00 00 ff 00 53 45 30 34 30 31 2d 16 2d 43 08 46 31 21 06 ae

### 3.2 Read channel signal status

Send:
a5 6c 14 00 60 ff 01 00 00 00 00 00 00 00 00 00 aa 2f 03 ae
Return：

a5 6c 1d 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 aa 00 01 00 00 00 01 00 00 00 38 03 ae
"01 00 00 00 01 00 00 00" Indicates that 1 and 3 have signals, 2 and 4 have no signals

### 3.3 Set the display mode

For example, set the display mode to split screen left-and-right side-by-side mode

Send:
a5 6c 15 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 94 0b 25 03 ae

Return:
a5 6c 15 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 94 00 1a 03 ae

### 3.4 Carousel mode (auto-switching the displaying scenes)

3.4.1 Turn on patrolling

Send:
a5 6c 15 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 a6 01 2d 03 ae

Return:
a5 6c 15 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 a6 00 2c 03 ae

3.4.2 Turn off Carousel

Send:
a5 6c 15 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 a6 00 2c 03 ae

Return:
a5 6c 15 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 a6 00 2c 03 ae

### 3.5 Set Carousel time

For example set to 100 seconds

Send:
a5 6c 16 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 a7 64 00 92 03 ae

Return:
a5 6c 15 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 a7 00 2d 03 ae

### 3.6 Set the channel of the window

Send:
a5 6c 16 00 60 ff 01 00 00 00 00 00 00 00 00 00 00 a5 04 01 31 03 ae

Return:
a5 6c 15 00 60 ff 01 00 00 00 00 00 00 00 00 00 a5 00 2b 03 ae

## 3.7 Set border switch

Send:
a5 6c 15 00 a3 ff 01 00 00 00 00 00 00 00 00 00 a4 01 6e 03 ae

Return:
a5 6c 15 00 a3 ff 01 00 00 00 00 00 00 00 00 00 a4 00 6d 03 ae