Robe Universal Interface API

Function

When you connect the converter to the USB port the power led light up on approximately 1 second. Then the converter is ready. Converter is based on FT245RL converter. For further informations please visit http://www.ftdichip.com.

Packet format

0xA5
Packet Type
Data Length Lo
Data Length Hi
CRC of header
Data
CRC of all

Header descriptor
0xA5 - header descriptor

Packet Type
Size: 1 BYTE
Specified the type of packet (DMX in,out,stop etc.)

Data Length
Size: 2 BYTES
The length of the data block

CRC of header
Size: 1 BYTE
The 1 BYTE CRC of 0xA5,Packet Type, Data length Lo and Data length Hi

Data
Size: Data Lenght

CRC of all
Size: 1 BYTE
The 1 BYTE CRC of 0xA5,Packet Type, Data length Lo, Data length Hi, CRC of header and sum of data

Type of packets

Info packet – command
Packet type: 0x14
Maximum data length: 0 BYTES
Data: none
The information will be send in the Info data packet

Info data – response data packet
Packet type: 0x15edum
Data length: 5 BYTES
Data: 1B Hardware version, 1B Software version, 1B Eeprom version, 1B unused, 1B unused

DMX channel A out – data packet
Packet type: 0x06
Maximum data length: maximum 512 + 4 BYTES, minimum 4 BYTES
Data: the 512 BYTES of DMX frame without start BYTE + 4 bytes (the value of this bytes can be anything)
Indication: the TX LED is fleshing
It starts to send the DMX data out automaticly. The repeat time is now 23 ms.

DMX channel A stop - command
Packet type: 0x08
Maximum data length: 0 BYTES
Data: none
It will stop all DMX activities and activates DMX bridge

DMX channel B out – data packet
Packet type: 0x0A
Maximum data length: maximum 512 + 4 BYTES, minimum 4 BYTES
Data: the 512 BYTES of DMX frame without start BYTE + 4 bytes (the value of this bytes can be anything)
Indication: the RX LED is fleshing
It starts to send the DMX data out automaticly. The repeat time is now 23 ms.

DMX channel B stop - command
Packet type: 0x0C
Maximum data length: 0 BYTES
Data: none
It will stop all DMX activities and activates DMX bridge

DMX in – command
Packet type: 0x04
Maximum data length: 0 BYTES
Data: none
It will scan the incoming DMX and send it to the USB by DMX in response data packet

DMX in data – response data packet
Packet type: 0x05
Maximum data length: 512 BYTES
Data: the number of incoming BYTES of input DMX frame without start BYTE
Indication: the RX LED is fleshing
It contains the incomming DMX data

RDM discovery unique branch – data packet
Packet type: 0x12
Maximum data length: size of RDM discovery unique branch + 4 BYTES
Data: RDM discoveru unique branch packet without RDM startbyte + 4 BYTES (the value of this bytes can be anything)
It will send the RDM discovery packet and wait for the response (2,8 ms). The response is send by RDM discovery response packet.

RDM discovery response packet – response RDM data
Packet type: 0x13
Maximum data length: size of RDM response + 4 BYTES or only 4 BYTES if no response
Data: RDM response data + 4 BYTES (the value of this bytes can be anything)
The response on the RDM discovery unique branch.

RMD packet out – data packet
Packet type: 0x10
Maximum data length: 256 BYTES + RDM header length + 4 BYTES
Data: RDM data packet without RDM startbyte + 4 BYTES (the value of this bytes can be anything)
It will send the RDM packet and wait for the response (2,8 ms). The response is send by RDM packet response.

RDM response packet – response RDM data
Packet type: 0x11
Maximum data length: size of RDM response + 4 BYTES or only 4 BYTES if no response
Data: RDM response data + 4 BYTES (the value of this bytes can be anything)
The response on the RDM data packet.

RDM UID – command
Packet type: 0x24
Maximum data length: 0 BYTES
Data: none
The RDM UID will be send in the RDM UID response packet

RDM UID – response data packet
Packet type: 0x25
Data length: 6 BYTES
Data: RDM UID

SNIFFER – command

Packet type: 0x34

Maximum data length: 0 BYTES

Data: none

It will scan the incoming data (DMX,RDM,breaks etc.) on DMX IN port and send it to the USB by SNIFFER response data packet. Response will by send after line break or maximum line idle time 1s (for example DISC_UNIQUE_BRANCH and response without BREAK will be combined into one sniffer response)

SNIFFER – response data packet

Packet type: 0x35

Maximum data length: depend on line state, at least 9 byte

Data:

- 4 BYTES – time stamp count
- 4 BYTES – time stamp resolution in nanoseconds
- 1B flags
    - bit 0 (0x01) = BREAK DETECTED
    - bit 1 (0x02) = OVERUN ERROR on first received byte
    - bit 2 (0x04) = FRAMING ERROR on first received byte
    - bit 3 (0x08) = OVERUN ERROR on next received bytes
    - bit 4 (0x10) = FRAMING ERROR on next received bytes
- rest of the sniffed data

Indication: the RX LED is fleshing

Revision history

Revision	**Release date**
A1	16.8.2011
Modifications:	Initial version
Revision	**Release date**
A2	20.9.2011
Modifications:	RDM support added
Revision	**Release date**
A3	7.10.2011
Modifications:	Reading RDM UID added
Revision	**Release date**
A4	11.10.2011
Modifications:	RDM discovery unique branch and RDM packet out send always response packet (if there is no response after 2.8 ms the data length in the response packet will be 4 BYTES)
Revision	**Release date**
A5	23.10.2012
Modifications:	Sniffer mode added

Contacts

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