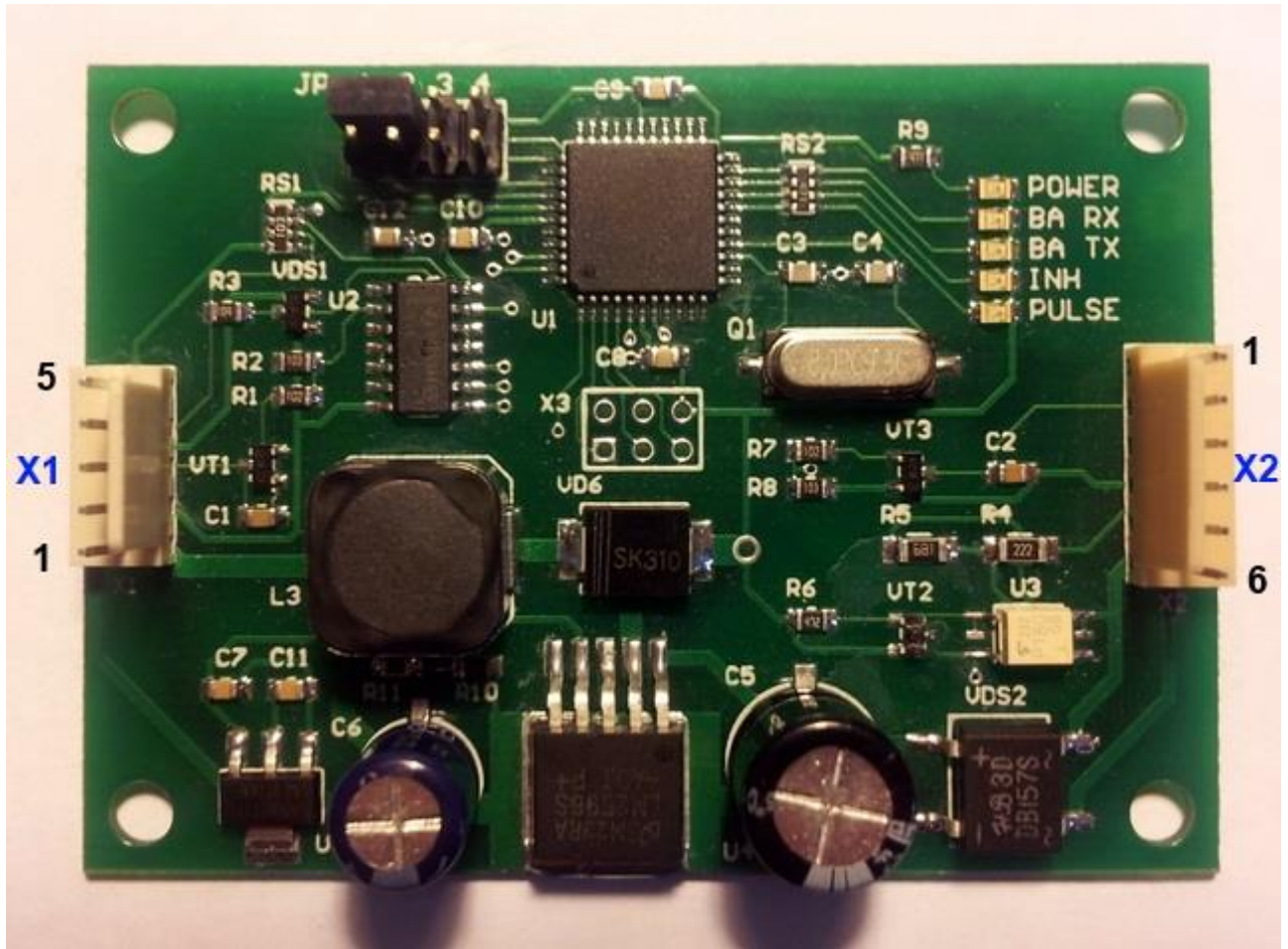


ID022/ID023 Protocol Converter Board User Manual



Introduction

This converter board allows to connect modern JCM (Cashcode) bill acceptors like UBA/WBA with ID003 protocol to older IGT platforms like PE+ and S+ which require bill acceptor with ID022 or ID023 protocol.

Powering the Board

Board should be powered with AC 24V. This voltage can be directly taken from the IGT PE+ backplane board connector J8. Board provides +12V output for ID003 bill acceptor power supply.

LEDs

Converter board has five LEDs. They indicate various events during the operations.

- POWER – indicates that power is applied to a board.
- BA RX – flashes when converter board receives a packet from ID003 bill acceptor.
- BA TX – flashes when converter board sends a packet to ID003 bill acceptor.
- INH – lit when gaming machine enables a bill acceptor (ready to accept banknotes).
- PULSE – flashes when converter board sends bill information to a gaming machine.

Jumpers

Converter board has four jumpers J1-J4. Installing jumper J4 activates boot loader mode on power up which is used to upgrade or change board's firmware. When board is in boot loader mode all LEDs are lit. Jumpers J1-J3 can be used to set various conversion parameters depending on board's firmware.

Connector X1

This connector is used for ID003 bill acceptor connection

Pin	Name	Type	Description
1	+12V	Power	Power supply output for ID003 bill acceptor
2	GND	Ground	
3	TX TTL	Output	Serial port transmit to bill acceptor
4	RX TTL	Input	Serial port receive from bill acceptor
5	+5V	Power	Power supply input from programming cable during firmware update. Power supply output during normal operation (some JCM bill acceptors require +5V power for their opto isolators) – 500 mA max.

Connector X2

This connector should be connected pin-to-pin to J8 connector on the PE+ backplane. For other platforms please consult the platform's manual.

Pin	Name	Type	Description
1	INHIBIT	Input	BA enable control signal from IGT backplane
2	PULSE OUT	Output	Output signal to IGT backplane
3	n/c		
4	GND	Ground	
5	24V AC com.	Input	Power supply input from IGT backplane (common)
6	24V AC hot	Input	Power supply input from IGT backplane (hot)

Firmware Upgrade Procedure

1. Disconnect converter board from gaming machine and bill acceptor.
2. Install jumper J4.
3. Connect the programming cable supplied with the board to X1 connector.
4. Connect other cable's end to USB port of a Windows PC.
5. All board's five LEDs should be lit. If not check the J4 jumper.
6. If there is no cable driver was installed previously Windows should report new device and suggest to install a driver for it. Programming cable usually built with Prolific PL2303 or Silicon Labs CP210x chip. Drivers for these USB to serial converter chips could be easily found on Internet.
7. If driver is installed then virtual serial port should appear in the system. Navigate to device manager window from the Control panel to find out this serial port number.
8. Open the command prompt window (cmd.exe). Update utility is a console application so it must be invoked from a command line. Navigate to the folder where update utility and firmware file reside.
9. Run the update utility by typing:

```
upcupdate <firmware_file> -COMn -9600
```

where n is a USB serial port number, <firmware_file> is a name of firmware file (with .enc extension)

Wait until process is finished (100% progress percentage).

10. Disconnect board from programming cable and remove jumper J4. Board is ready to use.