

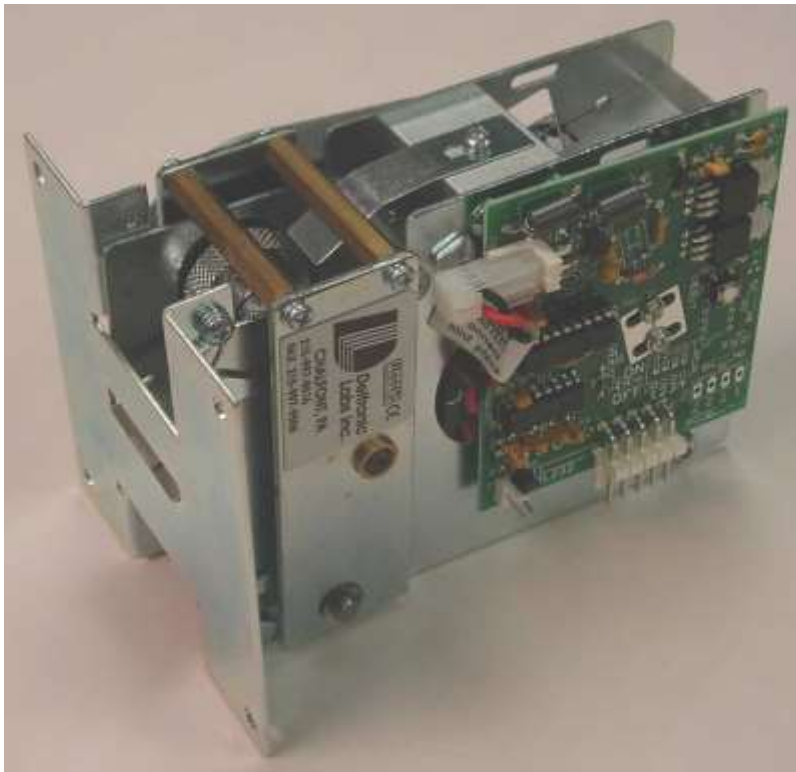
DL-232 (Rev. 2)

Ticket Dispenser

The DL-232, Rev. 2 ticket dispenser features Deltronic Labs' reliable industry standard ticket dispenser hardware with an RS232 control interface.

A sample program with VB.net source code that shows how to use a PC to control the DL232 is available.

- Famous Deltronic Labs rugged quality
- Control via any RS232 COM port
- Meter connection for auditing
- Monitor dispensing process and error conditions
- For increased security, dispenser can be disabled when not dispensing



Connections



P5 is used for RS232 operation. P3 is used for +12 VDC power input. P4 is for an audit meter. Note that P3 and P5 are positioned so that they appear to be one 5 pin connector. P4 is for connecting an audit counter.

Connectors P3 & P5

Pin	Function	RS232 9 Pin Female Sub D Connector
P3.6	Ground (Power)	
P3.5	+12 VDC (Power)	
P5.1	Tx	2
P5.2	Rx	3
P5.3	Ground	5

Operation

The DL-232, Rev. 2 ticket dispenser uses a simple data packet based communication protocol. The RS-232 specs are 9600 baud, no parity, 8 data bits, 1 stop bit (9600 8N1).

Each ticket dispenser has a one byte address in the range of 2 – 254. The factory default address is 2, but this can be changed by command 255. A dispenser ignores packets that are not sent to its address. Address 1 is reserved for the controller. Address 0 is a broadcast address which is always accepted by any dispenser.

Data Packet Structure

Byte	Description
0	Recipient Address
1	Number of data bytes in this packet
2	Sender Address
3	Command Number
x	Data Bytes
c	Checksum

The checksum is calculated so that when all of the bytes in the data packet are added together, the result modulo 256 is 0.

For example, assuming an address of 2, the data packet for dispensing 5 tickets is:

Byte	Description	Value
0	Recipient Address	2
1	Number of data bytes in this packet	1
2	Sender Address	1
3	Command Number	167
4	Data Byte: number of tickets	5
5	Checksum	80

Here is a detailed description of each command. The descriptions do not include the address, data byte count, and checksum parts of the data packet.

Command 0: ACK

The response of the ticket dispenser to some commands is an ACK data packet. An ACK data packet is 5 bytes. Here is an ACK response from a dispenser at address 2:

Byte	Description	Value
0	Recipient Address	1
1	Number of data bytes in this packet	0
2	Sender Address	2
3	Command Number (ACK)	0
4	Checksum	253

Command 21: Reset

Transmitted data: 2 bytes

Byte 1: 0

Byte 2: 0

Received data: ACK data packet

Note: This command stops dispensing tickets, cancels any remaining tickets to be dispensed, and clears all errors.

Command 166: Request Status

Transmitted data: None

Received data: 4 bytes

Byte 1: Status of Ticket Feed Switches.

0 = Disabled

1 = Enabled.

Byte 2: Remaining number of tickets to be dispensed

Byte 3: Number of tickets requested by the last dispense command

Byte 4: Error code

0 = No Error

1 = Out of tickets

2 = Tickets blocked

Command 167: Dispense Tickets

Transmitted data: 1 byte which is the number of tickets to dispense.

Received data: 1 byte error code

0 = No Error

1 = Out of tickets

2 = Tickets blocked

3 = Previously undispensed tickets + new tickets exceeds 255

Note: This command responds immediately to acknowledge that the command was received. To monitor the dispense operation, poll the dispenser using command 166 until the number of tickets to be dispensed is 0 or the error code is not 0.

Command 228: Disable / Enable

Transmitted data: 1 byte

0 = Disable

1 = Enable

Received data: ACK data packet

Note: This command disables/enables responding to the ticket load switch on the circuit board.

Command 241: Request Firmware Rev.

Transmitted data: None

Received data: 3 bytes

Byte 1: Major revision in ascii code ('1' = 48, '2' = 49. ...).

Byte 2: Minor revision in ascii code.

Byte 3: Minor revision suffix in ascii code.

Command 255: Set address

Transmitted data: 3 bytes

Byte 1: 65 (ascii 'A')

Byte 2: 99 (ascii 'c')

Byte 3: new address. The valid range is 2 to 255.

Received data: ACK data packet

Note: This must be done with only one ticket dispenser connected since all connected dispensers will accept this command and adopt the same address.

