

Drive Electronics

Product Description

The JetDrive™ V drive electronics, built on the robust JetDrive™ III architecture, is designed to provide complex drive waveforms to MicroFab's MJ microdispensing devices. It is computer controlled via USB communication and an external trigger is provided for real-time control during printing operations. An output to drive an LED strobe for drop observations is also provided, including a delay that is controlled either through the computer interface or a knob on the front panel. A Windows® based control program (JetServer™) is provided, along with the command set for customers who want to integrate control of the JetDrive™ V into their own software. An optional LabView® sample program is available. The JetDrive™ V comes in single output configuration for now.

Standard Features

- Computer controlled; Windows® based control program provided, along with command set.
- 8-parameter bipolar trapezoidal, sine, and 12-point arbitrary waveform modes.
- External trigger for real-time control; LED strobe output / delay.
- Storage of two waveforms – one for outputting a pulse and other for editing a waveform.
- Integrated into VaportJet™, SphereJet™, Jetlab® II, and the Jetlab® 4 family.



Note: The multiple output configurations will be available in near future.

Available Options

- USB relay unit for multiplexing of a single channel output.
- LabView® sample program.

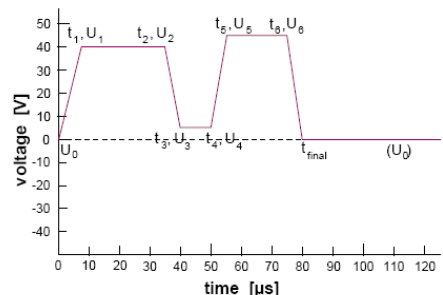
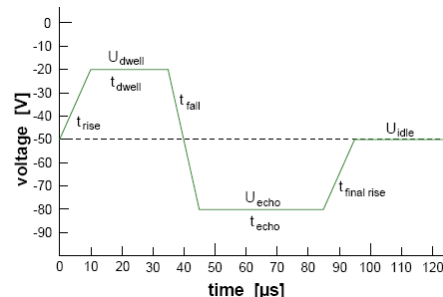
Ordering Information

CT-M5-01 JetDrive™ V controller, including command set and Windows® based Jetserver™ control program. Includes built in strobe delay. Level 02 firmware (complex waveform) included.

CT-MX-01 Eight channel relay unit for multiplexing output of JetDrive™ V. External USB model.

JetServer™-L LabView® based Jetserver™ sample program.

CT-SI-01 Strobe delay unit and LED. 6V power supply included.



Specifications

| Bipolar mode: | |
|----------------------------------|------------------|
| DC voltage offset (U_{idle}) | -140 to +140 V |
| Voltage level 1 (U_{dwell}) | -140 to +140 V |
| Voltage level 2 (U_{echo}) | -140 to +140 V |
| Rise time, DC to V1 | 1 - 3276 μ s |
| V1 time | 3 - 3276 μ s |
| Fall time V1 to V2 | 1 - 3276 μ s |
| V2 time | 3 - 3276 μ s |
| Rise time, V2 to DC | 1 - 3276 μ s |
| Arb mode: | |
| Number of V,t points | 12 |
| Voltages | -140 to 140 V |
| Times | 1 - 3276 μ s |
| Sine Mode: | |
| DC voltage offset | -140 to 0 V |
| Amplitude | 0 to 140 V |
| V limits | -140 to 140 V |
| Period | 1 - 3276 μ s |

| Common Functions: | |
|------------------------------|--|
| Pulse generation control | (1) USB 2.0 (2) external TTL trigger |
| External trigger TTL | 2.5-5 V > 0.5 μ s rising flank sets timing |
| Strobe delay | -500 μ s to +2500 μ s relative to trigger |
| Strobe output | 1 TTL per 1-64 triggers |
| Strobe control | programmable and manual |
| Total pulse length | < 4095 μ s |
| Frequency | 1 Hz – 30 kHz |
| Resolution | 1V, 1 μ s |
| Pulse modes | single, burst, continuous |
| Burst count | 1-1 million |
| Strobe connector | BNC |
| Trigger connector | BNC |
| USB | 2.0 |
| HV connector | DIN |
| Power cable and Power supply | C13 SJT Cable, 10A rating; 100VAC – 240VAC, 50/60Hz, 2A, \pm 10% fluctuation |
| CT-M5-01 Size | 3¾×9½×13¼" (10×24×34cm) |