

## Drive Electronics

### Product Description

The JetDrive™ III drive electronics is designed to provide complex drive waveforms to MicroFab's MJ microdispensing devices. It is computer controlled via serial communications (RS-232) 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™ III into their own software. An optional LabView® sample program is available. The JetDrive™ III comes in single output and multiple output configurations.



### Standard Features

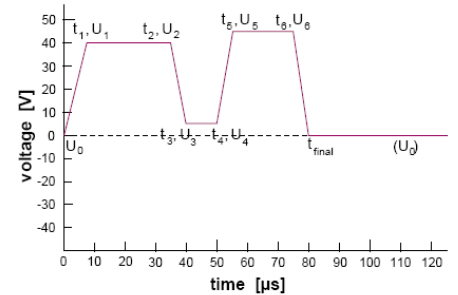
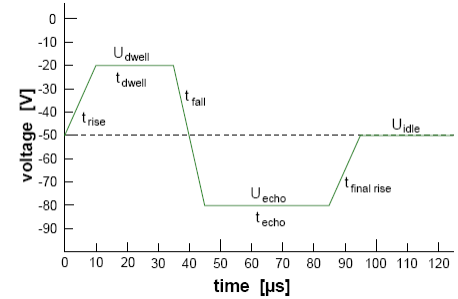
- Computer controlled; Windows® based control program provided, along with command set.
- 8-parameter bipolar trapezoidal, sine, and 12-point arbitrary waveform modes.
- External trigger for real-time control; LED strobe output / delay.
- Integrated into VaportJet™, SphereJet™, Jetlab® II, and the Jetlab®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

### Available Options

- USB relay unit for multiplexing of a single channel output.
- Multichannel units for simultaneous drive. Configurations for up to 4 and up to 16 output channels.
- LabView® sample program.

## Ordering Information

- CT-M3-02** JetDrive™ III 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™ III. External USB model.
- CT-MC3-4** Multichannel JetDrive™ III controller. Maximum number of output channels = 4.
- CT-MC3-16** Multichannel JetDrive™ III controller. Maximum number of output channels = 16.
- 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 $\mu$ s
V1 time	3 - 3276 $\mu$ s
Fall time V1 to V2	1 - 3276 $\mu$ s
V2 time	3 - 3276 $\mu$ s
Rise time, V2 to DC	1 - 3276 $\mu$ s
Arb mode:	
Number of V,t points	12
Voltages	-140 to 140 V
Times	1 - 3276 $\mu$ s
Sine Mode:	
DC voltage offset	-140 to 0 V
Amplitude	0 to 140 V
V limits	-140 to 140 V
Period	1 - 3276 $\mu$ s

Common Functions:	
Pulse generation control	(1) RS-232-C (2) external TTL trigger
External trigger TTL	2.5-5 V >0.5 $\mu$ s rising flank sets timing
Strobe delay	-500 $\mu$ s to +2500 $\mu$ s relative to trigger
Strobe output	1 TTL per 1-64 triggers
Strobe control	programmable and manual
Total pulse length	< 4095 $\mu$ s
Frequency	1 Hz - 30 kHz
Resolution	0.1V, 1 $\mu$ s
Pulse modes	single, burst, continuous
Burst count	1-999
Strobe connector	BNC
Trigger connector	BNC
RS-232 connector	9-pin female
HV connector	DIN
Power	110 V or 220 V (internally set)
CT-M3-02 Size	2¾ × 7½ × 9¾" (7 × 19 × 25 cm)
CT-MC3-4 Size	7 × 9 × 16" (18 × 23 × 41 cm)
CT-MC3-16 Size	14 × 19 × 17" (36 × 48 × 43 cm)