

## 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 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® control program is available. The JetDrive™ III comes in single output and multiple output configurations, plus a version for high temperature operation.



### Standard Features

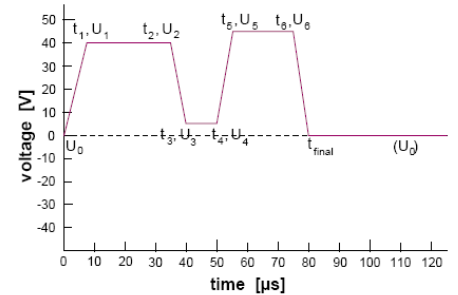
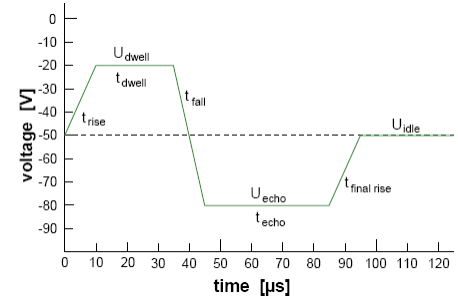
- Computer controlled, control program provided along with command set.
- 8 point bipolar trapezoidal waveform plus 12 point arb waveform mode.
- External trigger for real-time control plus LED strobe output / delay.
- Integrated into Jetlab®, Jetlab® II, and Jetlab® 4.

### Available Options

- USB relay unit for multiplexing of a single channel output.
- 2-16 channel multichannel units for simultaneous drive.
- LabView® control program.
- High temperature configuration (Solder Jet®).

## Ordering Information

- CT-M3-02** JetDrive™ III controller, including command set and stand-alone 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.
- CT-HT-02** High temperature (HT) drive electronics. Includes CT-M3-02 and secondary amplifier.
- CT-M3-16-xx** Multichannel JetDrive™ III controller, 2-16 outputs. Number of outputs = xx.
- JetServer™-L** LabView® based control program.
- CT-SI-01** CT-SI-01 strobe delay unit and LED. 6V power supply included.



## Specifications

Bipolar mode:	
DC voltage offset ( $U_{idle}$ )	-140 to 0 V HT: -200 to 0V
Voltage level 1 ( $U_{dwell}$ )	DC to +140 V HT: DC to 200V
Voltage level 2 ( $U_{echo}$ )	-140 V to DC HT: -200 to DC
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, 1/1 $\mu$ 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 <a href="#">Size</a>	9¾ × 7½ × 2¾" (25 × 19 × 7cm)
CT-M3-16-xx <a href="#">Size</a>	19x14x17" (48x36x43 cm)