ServoMaster: Reference Library

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1. Drivers

- <u>libphidget</u> a C/C++ implementation of a generic Phidget driver, including servo driver. Other Phidgets (LCD, digital/analog input, etc.) are supported as well.
- <u>libphidgets</u> a <u>libhid</u> based user-space access library for Phidgets.

2. Servo Controllers

Warning

Price calculations are approximate and depend on the current price at the moment of writing. Taxes and shipping are not included.

Device	\$/servo	Servos	Protocols	Notes
<u>Phidgets</u>	CDN 30, CDN 18.75	1, 4	USB	QuadServo, UniServo, other good stuff there as well. Beware: the prices are in canadian dollars!
Phidgets USA	\$24, \$14.06	1, 4		Phidgets, Inc. US reseller
ASC	\$11.875	8	USB	The servo controller is just a part of this device; if you need just the controller, better take Phidget - more functionality, third of the cost
Mini SSC II	\$5.5	8	Serial	Stackable up to 2 controllers, or up to 32 with special order components
Servo Controller with Preset	N/A	12	Serial	
Parallel Port	N/A	1	Parallel	

Servo Controller				
Servo Controller with Torque Feedback	?	8		Stackable up to 8 controllers
Pololu Serial Servo Controller	\$2.9375	16	Serial	
Pololu USB Servo Controller	\$5.0625	16	USB, Serial	
Servo Controller for Robotic Applications	N/A	16	Serial	
SV8, SV16	N/A	8, 16	Serial	
LynxMotion SSC12	\$5	12	Serial	
LynxMotion USB	\$11.875	8	USB	
Pontech SV203, SV203b/c	\$7.735	8	Serial	B/C and B models offer additional functionality (for the price)
Parallax <u>PSC</u>	\$2.4375	16	Serial	Stackable up to 2 controllers. Seems to be a very cost-efficient solution
Parallax <u>USB</u>	\$2.4375	16	USB	Seems to be the most cost-efficient solution

3. Dependencies

This is what you need to run ServoMaster:

3.1. Embedded Dependencies

These are included with the distribution - you don't have to download them separately:

• <u>javax.usb</u> is required to build and use USB controllers.

3.2. Required Dependencies

- <u>Java</u> SDK or JRE. All versions up to 1.4.2_04 are known to work. Version 1.5.0 doesn't work currently it breaks at least one dependency (<u>RxTx</u>), and some of DalSemi code doesn't compile;
- <u>libusb</u> required for Phidgets C++ implementation.

3.3. Optional Dependencies

• <u>JavaCOMM</u> and <u>RxTx</u> are required to build and use serial controllers. RxTx version 1.4-15 is known to work (though it is a pain to compile on modern boxes), versions 2.x are known to fail. However, it is possible that 2.x will be fixed someday (2.1-7pre20 allegedly works), so keep trying.

4. Development Tools

• Ant, versions 1.5.1 (ant-1.5.1-3 jpp and ant-optional-full-1.5.1-3 jpp RPMs, DZ up to 0.1p5) and 1.6.1 (no RPM, get the binary) are known to work;

Note:

Unfortunately, distribution model chosen by Ant developers doesn't allow multiple versions of Ant to coexist on the same box. If you have the RPM installed, the binary won't work because it will try to read /etc/ant.conf and will fail.

- <u>GNU autoconf</u>, version 2.53 is known to work;
- GNU automake, version 1.4p6 is known to work;
- GNU libtool, version 1.3.5 is known to work;
- <u>GNU make</u>, almost any version is good (known to work with 3.79.1).

5. Miscellaneous

Following are the links that don't necessarily fit in any particular category, but do provide some insights:

- <u>The Rise of "Worse is Better" By Richard Gabriel</u>. Explains why mediocrity has better survival characteristics than perfection, using Unix's triumph over the Lisp Machines as an illustration;
- <u>Electronic Gadgets for Radio Control</u> excellent collections of gadgets, circuits and links;
- The Luxury of Ignorance: An Open-Source Horror Story this was a nice reality check...

- <u>Designing a new controller board</u> as detailed as it gets; <u>Servo City</u> my favorite shopping place (free delivery, last time I checked).