Materials List for:

Building An Open-source Robotic Stereotaxic Instrument

Kevin R. Coffey[1], David J. Barker[1], Sisi Ma[1], Mark O. West[1]

[1]Department of Psychology, Rutgers, The State University of New Jersey

Correspondence to: Kevin R. Coffey at MrCoffey@rutgers.edu

Materials

Name	Company	Catalog Number	Comments
1x Standard U Frame Stereotax	Kopf	Kopf	This protocol should work with most existing stereotaxic devices.
3x 12 V, 1.6 A, 233 oz-inch Geared Bipolar Stepper Motor	Phidgets	Robot Shop	Any high torque geared stepper motor should do.
1x 3 Axis CNC Stepper Motor Driver Board Controller	Toshiba	Ebay	Any 3 Axis CNC driver should do. Linked Item includes Mach3 CNC software.
2x Arm Couplers: medial-lateral (ML) & dorsal-ventral (DV)	custom machined	Part Drawings	These must be machined by your local machine shop. (costs will vary)
1x anterior-posterior (AP) Coupler	custom machined	Part Drawings	These must be machined by your local machine shop. (costs will vary)
3x Motor to Stereotax Collar	custom machined	Part Drawings	These must be machined by your local machine shop. (costs will vary)
View in Browser			
12x NF10-32 Cup Point Set Screws	McMaster Carr	½" Length	You will need 6 of each.
¼" Length			
12x M3 Socket Head Screws (20 mm)	McMaster Carr	20mm Length	You will need 4 for each motor
1x Micro-Motor Drill	Buffalo Dental	X50	Any Micromotor drill will work. At least 38,000 rpm recommended
1x 12 V DC Power Supply	12 Volt Adapters	12v DC – 7 Amp	Any 12 V DC PSU should work (ensure amperage rating is higher than the sum of the motors' amperage).
1x Extra Large Probe Holder	Stoelting	Stoelting	
1x Grade B Rat Skull	Skulls Unlimited	Skulls Unlimited	
Mach 3 Mill	ArtSoft USA	Trial Download	Any Standard CNC controlling software should work.
Surgery Designer	Kevin Coffey David Barker	MATLAB File Exchange	These codes are available to modify. We accept no responsibility for your use or modification of code.