Axona
Product Catalogue

(Rev. 1.1)
15/10/2015

Axona Ltd
Unit 4U St. Albans Enterprise Centre
Long Spring, Porters Wood
St. Albans, Herts, AL3 6EN
United Kingdom

http://www.axona.com
support@axona.com

Axona Limited, Unit 4U St. Albans Enterprise Centre,
Long Spring, Porters Wood,St. Albans, Herts AL3 6EN, U. K.
Phone +44-(0)20-7193-9390, FAX +44-(0)20-7691-7760, www.axona.com

Table of Contents

PLEASE NOTE THAT ALL IMAGES CONTAINED IN THIS CATALOGUE ARE REPRESENTATIONS ONLY. CONTACT AXONA FOR MORE INFORMATION ABOUT YOUR SPECIFIC ORDER*

Axona Limited, Unit 4U St. Albans Enterprise Centre,
Long Spring, Porters Wood,St. Albans, Herts AL3 6EN, U. K.
Phone +44-(0)20-7193-9390, FAX +44-(0)20-7691-7760, www.axona.com

DIGITAL DATA ACQUISITION SYSTEMS

Axona's core product is its multichannel data acquisition system (dacq), designed for recording single neurons from multiple indwelling electrodes in awake, behaving animals. It has an inbuilt digital oscilloscope which reduces the size and cost of the system.

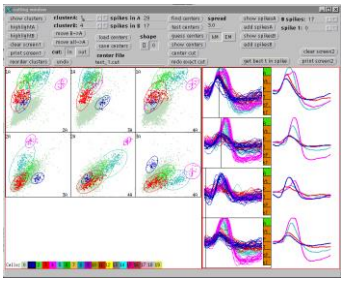
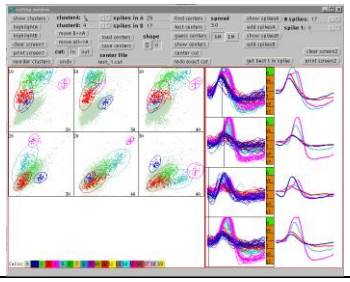
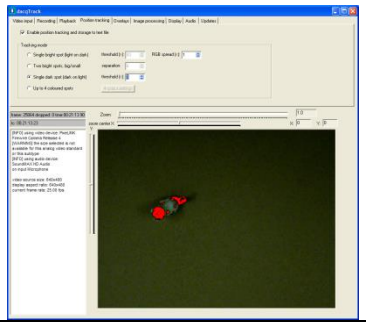
Dacq systems interface with a number of inbuilt behavioural data collection systems:
- -Position tracker allows tracking of LEDs on the animals, in two or three dimensions.
- -Digital I/O system allows event-logging and apparatus control (eg., food pellet delivery, or monitoring of lever presses)
- -Stimulator allows control of a stimulus isolator (ie., for LTP or similar kinds of experiments)

Our data acquisition systems come complete with a versatile control program which combines features for pre-recording screening of brain signals (including a ten-channel digital oscilloscope display). This role of this software is primarily to configure the recording and apparatus control systems, collect electrophysiological and/or behavioural data and store it on disk for off-line analysis.

Product Code	Description	Notes
DacqUSB/16 	16-channel recording system (includes hardware and software)	Can later be upgraded to more channels
DacqUSB/32 	32-channel recording system (includes hardware and software)	Can later be upgraded to more channels
DacqUSB/64 	64-channel recording system (includes hardware and software)	Can later be upgraded to more channels
DacqUSB/128 	128-channel recording system (includes hardware and software)	-
DacqUSB/UP	Recording system upgrade	-
SYS/ACC-1	Digital accelerometer preamp module	-
SYS/ACC-2	digital accelerometer sensor board and cable	-

VID/TRACK 	10.4” Tracker monitor	-
VID/CAM 	Camera	-
VID/WEBCAM	Webcam	For use with USB
VID/LENS 	CS-mount varifocal lens	-
VID/MULTI	Two-camera multiplexor	-
VID/DIGI	USB video digitiser for DacqTrack	-
SYS/TEST 	Test signal generator	For testing headstages, cables, system settings, etc
ADAPT/TEST	Mill-Max test signal generator adaptor	For use with SYS/TEST
SYS/STIM 	Stimulus isolator	Required to deliver external stimulus to subject via implant.
DacqUSB/Isol1 	DacqUSB isolator	Optional intermediary used to isolate the preamp where ground loops are an issue (e.g. foot shocks, etc).
SYS/REP 	Input Replicator	"Copies" 16 channels to two inputs. This lets you record units (e.g. on ch1-16) and EEG (on ch17-32) from the same electrodes.

Axona Limited, Unit 4U St. Albans Enterprise Centre,
Long Spring, Porters Wood,St. Albans, Herts AL3 6EN, U. K.
Phone +44-(0)20-7193-9390, FAX +44-(0)20-7691-7760, www.axona.com

COMP/TINT01 	TINT cluster-cutting analysis software license	Per license fee.
COMP/TINT02 	Supplemental TINT software license	Per license fee. Can only be purchased after an initial COMP/TINT01 purchase
COMP/TRACK 	DacqTrack software license	Per license fee.

Axona Limited, Unit 4U St. Albans Enterprise Centre,
Long Spring, Porters Wood,St. Albans, Herts AL3 6EN, U. K.
Phone +44-(0)20-7193-9390, FAX +44-(0)20-7691-7760, www.axona.com

TETHERS

Fine Wire tethers are used to connect a headstage to an Axona recording system. Tethers of 8 to 32 channels are available. They can be purchased in a standard 1 or 3 meter length to minimise noise-pickup ahead of the preamplifier, but custom lengths and extension tethers can be supplied.

Product Code	Description	Input/Output
CAB/8-3M 	8-channel headstage cable with connectors (3m)	Input: 44-socket high density D connector (female) Output: 12-pin MillMax connector (male)
CAB/8-1M 	8-channel extension cable with connectors (1m)	Input: 44-socket high density D connector (female) Output: 12-pin MillMax connector (male)
CAB/16-3M 	16-channel headstage cable with connectors (3m)	Input: 44-socket high density D connector (female) Output: 20-pin MillMax connector (male)
CAB/16-1M 	16-channel extension cable with connectors (1m)	Input: 44-socket high density D connector (female) Output: 20-pin MillMax connector (male)

CAB/32-3M 	32-channel headstage cable with connectors (3m)	Input: 44-socket high density D connector (female) Output: Two 20-pin MillMax connectors (male)
CAB/32-1M 	32-channel extension cable with connectors (1m)	Input: 44-socket high density D connector (female) Output: Two 20-pin MillMax connectors (male)
CAB/CUST	Custom specification cable	-

Axona Limited, Unit 4U St. Albans Enterprise Centre,
Long Spring, Porters Wood,St. Albans, Herts AL3 6EN, U. K.
Phone +44-(0)20-7193-9390, FAX +44-(0)20-7691-7760, www.axona.com

HEADSTAGES

Axona headstage amplifiers are miniature, unity gain buffer amplifier circuit with AC-coupled inputs which are intended to be located directly at the recording site, and isolate the preparation from the cable connecting it to the recording system.

Although there are two sizes of boom available on directional headstages, the smaller version is highly recommended as it appears to work just as well in normal ceiling height environments, and is less inclined to get caught on things and damaged. For similar reasons it is also recommended that the boom be oriented parallel to the connector (two attachment points for the boom with a bit of spread between them is stronger).

Specifications:
Unity gain: 1.00000
Power for op-amps: +/- 5V

Product Code	Description	Dimensions (mm) L x W x H	Weight (g)
HS/A8-DIR50 *HS/A8-DIR82* 	8-channel directional Axona headstage	23 x 11 x 16 (small boom – 50, large boom – 82)	3.46
HS/MM8-DIR50 *HS/MM8-DIR82* 	8-channel directional MillMax headstage	27 x 17 x 3 (small boom – 50, large boom – 82)	3.04
HS/A16-DIR50 *HS/A16-DIR82* 	16-channel directional Axona headstage	20 x 20 x 15 (small boom – 50, large boom – 82)	5.12
HS/MM16-DIR50 *HS/MM16-DIR82* 	16 (to 32)-channel directional MillMax headstage (LEDs may be oriented along either axis)	24 x 24 x 3 (to 6) (small boom – 50, large boom – 82)	5.94

HS/A8 	8-channel Axona connector headstage (no LED)	23 x 11 x 16	1.87
HS/A8-LED 	8-channel Axona connector headstage (1 LED)	23 x 11 x 16	2.1
HS/A16 	16-channel Axona connector headstage (no LED)	20 x 20 x 15	2.55
HS/A16-LED 	16-channel Axona connector headstage (1 LED)	20 x 20 x 15 (flexible LED – 10)	2.80
HS/MM16 	16-channel MillMax connector headstage (no LED)	20 x 24 x 3	2.29
HS/MM16-LED 	16-channel MillMax connector headstage (1 LED)	20 x 24 x 3 (flexible LED – 10)	2.29

HS/OM16 	16-channel Omnetics headstage with MillMax connector	17 x 4 x 28	1.98
ADPT/OM-MM-16  *(dual 16ch version shown)*	16-channel Omnetics-MillMax adapter (male or female)	27 x 17 x 11 (with pins)	2.67
ADPT/OM-MM-32 	32-channel Omnetics-MillMax adapter (male or female)	27 x 17 x 11 (with pins)	2.74
ADPT/OM44-MM-32	32ch Omnetics(44pin)-Mill-Max adapter (male or female)	-	-
ADPT/NANOZ	32-channel Omnetics-MillMax adaptor (Poor Lady to nanoZ)	-	-

Axona Limited, Unit 4U St. Albans Enterprise Centre,
Long Spring, Porters Wood,St. Albans, Herts AL3 6EN, U. K.
Phone +44-(0)20-7193-9390, FAX +44-(0)20-7691-7760, www.axona.com

MICRODRIVES

We offer two main categories of chronic implants: re-usable standard and disposable custom drives. Re-useable drives come with 8 and 16 channels with an easy-fit Axona connector and 32 channels with a MillMax connector. These are attached to a sturdy steel frame and include a fixed ground wire. The tetrodes are all driven simultaneous with one screw, and the travel distance for the is 6mm.

Custom drives all have MillMax connectors and come with 8 to 64 channels. Each tetrode can be driven individually, although if you would rather drive them in groups, we can modify the design for you.Travel distance for custom drives is 4-5mm; for a fee (~£10), the drive bodies can be milled to accommodate larger screws and up to 10mm driving distance.

With the custom drives you can have single- or multi-site implants within a single drive, optogenetic fiber ports, etc. The exit points of the tetrodes can be situated in an number of places to best accommodate your implant site position.

We do not currently offer Omnetics connector drives; please see the FAQ on our website for more information about your Omnetics options with us.

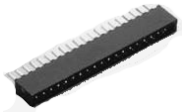
****Below are a few examples of the kinds of drives we offer, but please contact us first so we can create the drive that best suits your needs!****

Product Code	Description	Dimensions (mm) L x W x H	Weight (g)
DR/08 	8-channel re-usable microdrive (Axona connector)	23 x 6 x 21	1.797 (wired)
DR/16 	16-channel re-usable microdrive (Axona connector)	23 x 9 x 25	2.34 (wired)
DR/32 	32-channel re-usable microdrive (MillMax connector)	22 x 14 x 22	4.07 (wired)

DR/01 	Bare re-usable frame	9 x 6 x 21	0.71
Contact us for options	8-channel disposable custom drive (MillMax connector)	9 x 8 x 13.5	0.29 (unwired)
Contact us for options	16-channel disposable custom drive (MillMax connector)	12 x 9 x 17.5	1.385 (wired)
Contact us for options	32-channel disposable custom drive (MillMax connector)	12 x 14 x 17	2.34 (wired)
Contact us for options	64-channel disposable custom drive (MillMax connector)	32 x 23 x24	6.46 (unwired)

PARTS & WIRING COMPONENTS

When ordering drives, headstages, adaptors, etc. you will be advised as to which additional parts you need to complete your drive or equipment. If you need to order additional parts, you can use the list below to determine which ones

Product Code	Description	Notes
CON/17F	17-pin headstage connector (female)	-
CON/17M	17-pin drive connector (male)	Pre-wired
CON/9F	9-pin headstage connector (female)	-
CON/9M	9-pin drive connector (male)	Pre-wired
CON/MMM 	Mill-Max male connector strip (50x2)	-
CON/MMF 	Mill-Max female connector strip (50x2)	-
CON/25D 	25-pin D-connector	For cable ports on preamp
CON/44D 	44-pin D-connector	For I/O port on system unit
CON/D-CASE 	Plastic shell case for D-connector	-
CON/OM-16M	16-channel male Omnetics connector	-
CON/OM-16F	16-channel female Omnetics connector	-
CON/OM-32M 	32-channel male Omnetics connector	NPD-36-VV-GS
CON/OM-32F 	32-channel female Omnetics connector	NSD-36-DD-GS

CANN/11	Drive cannulae 11mm	For use with custom drives
CANN/15	Drive cannulae 15mm	For use with custom drives
CANN/21G-12 	Shielding cannula, pack of 10	21G x 12mm For use with re-usable drives
CANN/17G-7 	Guide cannula, pack of 10	17G x 7mm For use with re-usable drives
PART/PIN01	17-pin (16ch) pin-protector	-
PART/PIN02	9-pin (8ch) pin-protector	-
PART/PIN03 	Drive gold pins	For use with custom drives
PART/PIN04 	Insect pins (pack of 100)	For use with custom drives
PART/PIN05	Drive metal dowels (pack of 100)	For use with 64ch custom drives
PART/A-PIN	Axona microdrive pins	-
PART/A-SOCK	Axona microdrive sockets	-
PART/M1.0X6 	Drive screws, M1.0 x 6	For use with custom drives (shuttles)
PART/M1.2X12 	Drive screws, M1.2 x 12	For use with custom drives (binding)
WIRE/12T 	Tungsten wire	12.5um (0.0005"), quote per 100’

WIRE/17PI 	Platinum-Iridium wire	17um (0.00067"), quote per 100’
WIRE/25PI 	Platinum-Iridium wire	25um (0.001"), quote per 100’