

Partslists etc

See also [FAQs](#)

Important items for assembly

Update for MotorizedMirrorCoverAssby, including latches to hold together: [MotorizedMirrorCover Assby_PartsList_Updated20160812.xls](#). See [Modification & updates](#) page.

Additional partslist [additional_parts_071316.xlsx](#)

Essential items partslist for 2p-RAM - NEW; click this [2p-RAM Parts List \(072616\).xlsx](#)

The excel spreadsheet contains several sections related to the 2-photon microscope (all accessory stuff, such as wide-field imaging, optogenetics, et) is under accessory partslist, below.

Core instrument.

You should have ordered items 2-6 (long lead-time itmes from Thorlabs and Jenoptik).

Order quantities as indicated in the spreadsheet (sometimes these diverge from the quantities indicated in the quotes)

To get discounts these items should be ordered by the end of April. Please try to get the orders in as soon as you can.

[Refer to these quotes](#) (please let us know if something does not seem right!)

What	Company	Quote	For discount
Custom 2p-RAM optics	Jenoptik	JENOPTIKS - Q15633 Rev B HHMI.PDF	Long lead-time
Custom gantry microscope mechanics	Thorlabs	THORLABS - Quote 10004.pdf	Long lead-time
Various 2p-RAM parts	Thorlabs	Thorlabs Quote 10009 Mesoscope parts 3.18.16.pdf	Order by 4/30
Scanners and accessories	Cambridge Technologies	Cambridge Technologies 1 System Qu031816rhCRS1262406231HP.pdf	Order by 4/30
Primary dichroic	Alluxa	ALLUXA - Q210-3158 rev2 - Alluxa -HHMI, 750 SP Dichroic GDD, 1-21-2016.pdf	Order by 4/30
Dichroics and filters	Semrock	Semrock Update Quote 26788 HHMI 3.17.16.pdf	Order by 4/30
Custom lens	Brighten optics	BRIGHTEN OPTICS - Quotation Q20160127HHMIrev1.pdf	Order by 4/30
Custom condensor lens	IRD - e-mail quote	RE IRD Glass Quote to Janelia for P N J002981B.pdf	Order by 4/30
PMTs	Hamamatsu	HAMAMATSU - H11706P-40 SEL (Example for HHMI).pdf	
Prism pair compressor	PLX	PLX - Quote 17365.pdf	Order by 4/30
Custom optomechanics	Unique	Unique Fabrication - Quote blank # 172.doc Unique Fabrication - Quote blank # 172-2.doc Unique Fabrication - Quote blank # 172-3.doc Unique Fabrication Quote blank # 175.doc	Order by 4/30
Custom optomechanics	Zera	Zera Quote 1804 revised.pdf Zera Quote 1720 revision 3 3.17.16.pdf	Order by 4/30
Custom optomechanics	5th axis	5th Axis - Quote 16638 RFQ.pdf	Order by 4/30
Custom optomechanics	De Perini	DePerini Updated Quote Core Microscope 03171105 HHMI 3.17.16.pdf	Order by 4/30
Optomechanics	Newport	Newport Quote QTE00008655-02 (002) 3.17.16.pdf	Order by 4/30
Dispersing Prism	Precision Optical	Precision_Optical_Dispersing_Prism.pdf	Order by 4/30
LFA Mount Top & Bottom, Hard Stop for Stage	Zera	Zera Quote 1894 (002).pdf	Order by 7/31
Voice Coil/Stage	Equipment Solutions	HHMI_Affiliate_7a16.pdf	Order by 7/26
Accessory Holder	Unique Tools	Will need to obtain individual quotes; send drawing with request: J005700A.pdf	Order by 7/31

JRC supplied parts. These parts are manufactured at Janelia. You will be billed for them.

User supplied parts. **Get what you don't already have.** You will need Pockels cells, shutters, some table topics, diagnostic hardware. You need to power the PMTs and also signal condition properly. We provided some commercial and home-built solutions.

Also, it will be hard to run the scope without the ScanImage 2016 bundle. Contact Bruce Kimmel <bruce@vidriotech.com> about ScanImage.

Standard hardware. This refers to standard mounting hardware (screws, nuts etc; the list is non-exhaustive).

Accessory partslist - NEW - [2p-RAM Accessory Optics Parts List.xlsx](#)

This partslist includes useful items for wide-field imaging, laser scanning photostimulation (optogenetics), and features to align the imaging window to the microscope beam axis.

More information [here](#).

Unless you have your own solutions in mind you will likely want to get the wide-field imaging and alignment stuff.

WHAT	Company	Quote	Comments
Cover	Deperini	Deperini Updated Quote Accessory Optical System 03180955 HHMI.pdf	
Cover	Zera	Zera Quote 1809.pdf	
Microscopy cube	Zera	Zera Quote 1824.pdf	
Camera	Point grey	POINT GREY - HHMI - Quote (20005017).pdf	For wide-field imaging
Custom adapters	Dysinger	Dysinger Quote 10263R.pdf	
Scan mirrors and drivers	Cambridge Technologies	CambridgeTech_QU160330gt HHMI 6SD10996.pdf	For laser scanning photostimulation

PMT Shutters Modification

This modification allows the addition of shutters to each PMT channel, placed right in front of the PMT. They have a ~10 ms opening transit time, and should block very little detection light while open (not more than a percent or two).

Shutter and driver purchase quote: This quote is for the uni-stable (normally closed) shutter. This may no longer be available, except with a minimum qty order (recent change announced on Vincent website). If so, we think that the bistable version (NS25B1T0L-VED) should fit OK and work fine. It might actually open faster, so may be preferable overall.

Modification instructions: The asphere lens can be removed from the Thorlabs lens tube mount and mounted in the new part. Once the shutter is mounted, the wires will need to be soldered to the connector provided with the VED24 driver. Shutter driver settings note:

The settings for an NS25S type shutter operating with a VED24 driver are as follows, for the 'Function Switches' and 'Pulse Duration': Switch 1 = Up, Switch 2 = Down, Switch 3 = Down, Switch 4 = Up, & Pulse Duration = 4 [[[[Switch 1 = LOCAL ('REMOTE' is down), Switch 2 = 18VDC, Switch 3 = Uni-stable Mode, Switch 4 = Pulse Set 1, & Pulse Duration = 20msec]]]]

[DWFx model.](#)

[Shop drawings for new part and two part modifications.](#)

Wire cap fabrication files: Use silicone, tape, or make nice wire caps using rapid prototyping method of choice. Included are STEP file, STL file (for 3d printing), or DXF file (for laser-cut acrylic).

More info

[appendixA.pdf](#)