



# Bruker Nano Surfaces FM

Formerly Prairie Technologies

**Quotation # 15-051120E**

**Date:** 28 May 2015

**Valid for:** 45 days

**Customer:** Marshall Hussain Shuler

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**Location:**

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Department of Neuroscience

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Prepared by: Stephanie Keeney

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**Warranty:** One Year

**Delivery:** 90-150 Days ARO

**Payment Terms:** Net 30 after shipment

**Freight Terms:** FOB Middleton, WI

**Shipping and Packaging:** Prepay and add

Model	Qty	Description	Unit Price	Total Price
AF-RS	1	<p><b>Arcturus-FRS In Vivo Laser Scanning Microscope</b></p> <p>A multiphoton imaging system on an upright in vivo base. Scanner, base and platform designed to include a single set of galvanometers to provide raster scan imaging. Configured specifically for <i>in vivo</i> imaging.</p> <p>Includes:</p> <ul style="list-style-type: none"> <li><b>Resonant scanning X-galvanometer (8kHz)</b> paired with a 6mm standard scanning Y-galvanometer</li> <li>Fixed-base platform</li> <li>Laser safe trinocular with 10x eyepieces</li> <li>Dichroic turning assembly unit for two photon excitation detection</li> <li>Motorized Z-focus with motor controller</li> <li>Single objective nosepiece</li> <li><b>Top-mounted dual external detectors</b> designed to optimize collection efficiency when used with high NA microscope objective lenses; Hamamatsu multi-alkali PMTs are individually hand selected for low dark current (10nA) and sensitivity (8500A/lumen)</li> <li>Pre-amplifier and high voltage control for photomultiplier tubes</li> <li>Dual emission filters (et525/70m-2p and et595/50m-2p) and t565lpxr dichroic beam splitter for simultaneous viewing and acquisition from both detectors</li> <li>Rack-mounted electronics for scan control and multi-channel analogue integration with 12-bit A/D</li> <li>High-performance workstation with flat panel display</li> <li><b>Prairie View</b> scan control and image collection software</li> <li><b>Laser input optics</b> with beam splitting cube and 1/2 wave-plate and mechanical hard shutter</li> <li>Laser power meter</li> </ul>	149,900.00	149,900.00

Model	Qty	Description	Unit Price	Total Price
A-2449	1	<b>Upgrade to Moving X-Y platform</b> Upgrade of Ultima line item to include motorized X-Y translation base for in vivo stand.	15,000.00	15,000.00
A-2R-02	1	<b>Upgrade of Two Multi-Alkali PMTs to GaAsP for Arcturus</b> Upgrade of Arcturus to include two GaAsP detectors, replacing the two standard multi-alkali PMTs for the 2 channel upper detector configuration. Includes: <div>             Two GaAsP end-on PMTs, Hamamatsu model 7422PA-40, performance-selected for high quantum efficiency (&gt;45%) and low dark current (<math>\leq 1</math> nA)              Heat sink fans for cooler H7421              Pre-amplifier and high voltage control for GaAsP tubes              Mounting flanges           </div> <b>**WARRANTY NOTE: GaAsP detectors are delicate consumable devices. As such, during the initial warranty period, Bruker may replace the detector one (1) time at our expense if deemed necessary. Following such a replacement, all future service is provided on a billable basis.</b> <b>NOTE: GaAsP detectors have long supplier lead times, the entire system delivery therefore may be between 150 and 210 days ARO based upon supplier availability.</b>	14,000.00	14,000.00
517837	2	<b>High-Speed Shutter</b> High-speed shutter to protect PMTs from light pulses. <b>NOTE: High-speed shutter controller and mount for PMTs not included in this line item.</b>	1,750.00	3,500.00
518708	1	<b>High-Speed Shutter Controller</b> Controller for high-speed shutters placed in front of PMTs to protect the detectors from light pulses. Controller can regulate up to four shutters per unit. Includes lamp house interlock cable. <b>NOTE: High-speed shutter and mount for PMTs not included in this line item.</b>	1,350.00	1,350.00
517329	2	<b>High-Speed Shutter Mount for Hamamatsu H7422 PMT - Two Channel Configuration</b> Mount to attach high-speed shutters to H7422 PMTs in a 2-channel configuration. <b>NOTE: High-speed shutter controller and shutter not included in this line item.</b>	275.00	550.00
U-ONP-N	1	<b>Orbital Nosepiece</b> Nosepiece with 2 axes of rotation, allowing approximately 120 degrees of rotation in either direction (to approximately 30 degrees above horizontal) during normal operation. For 2P imaging with Ultima IV systems only.	5,000.00	5,000.00
519600	1	<b>Z-Axis Piezo Drive for Ultima - 250um</b> M32 Threaded objective lens holder with piezo-electric elements enclosed.	16,995.00	16,995.00

Model	Qty	Description	Unit Price	Total Price
		Allows for high speed z-positioning of objective lens. 250 um range. Capacitance feedback algorithm used with positioning accuracy of 25nm. Includes Piezo Stage and Piezo Controller. May require the purchase of objective specific adapters to attach each objective lens to the piezo stage.		
U-1187	1	<b>Full Field LED Illumination Pathway Module</b> LED Illumination module to direct light to the objective lens for excitation purposes. Appropriate for use with objective lenses with back apertures up to 17mm diameter. Includes: 470nm (+/-20nm) LED collimation unit for blue illumination White LED collimation unit w/bandpass filter (605/55) to provide amber illumination Analog modulated power source for independent intensity & on/off pulsing (sub millisecond rise time) of both LED units Use with TriggerSync for integrated modulation control of both LEDs Custom combining dichroic to integrate LEDs Custom dichroic to allow simultaneous 2P imaging and LED illumination (also moves out of the path when not needed)	12,500.00	12,500.00
		<b>Note: Bruker makes no claim that these LEDs will be sufficient for customer's application; however this LED kit is necessary to assure proper functioning of Full Field Illumination module.</b>		
U-6351	1	<b>Epi-Fluorescence Light Source - X-Cite 120 for BX2</b> X-Cite <sup>a</sup> 120 lamp module, 3mm x 3000mm liquid light guide, BX2 Microscope Collimating Adapter for standard epi-fluorescence illumination.	7,260.38	7,260.38
U-9279	1	<b>Epi-Fluorescence Filter Set: ET-GFP (FITC/CY2) for Epi-Turret</b> ET-GFP (FITC/CY2) filter set in cube for fluorescence viewing via the eyepieces. Filters ET470/40x and ET525/50m; dichroic T495LPXR. Not required for 2P imaging.	1,220.00	1,220.00
U-9280	1	<b>Epi-Fluorescence Filter Set: ET-DSRed (TRITC/CY3) for Epi-Turret</b> ET-DSRed (TRITC/CY3) filter set in cube for fluorescence viewing via the eyepieces. Filters ET545/30x and ET620/60m; dichroic T570LP. Not required for 2P imaging.	1,220.00	1,220.00
U-9373	1	<b>Olympus Objective: XLUMPLFL20XW; M Plan Fluorite 20x/1.0 WD=2mm M25 NIR</b>	8,143.00	8,143.00
U-7885	1	<b>Beam Expander Lens Set</b> Optics for adjustment of beam diameter to allow use of large and small back aperture objective lenses. Beam expansion is user-switchable depending on application. 2.5x prescription lenses included as standard.	4,100.00	4,100.00
Pockel-I1	1	<b>Pockels Cell - Scanning - 115VAC</b> Provides high-speed shuttering & continuous power control, and beam blanking of the imaging laser. Includes mechanical shutter. 115VAC. <b>WARRANTY NOTE: Pockels cells are delicate consumable devices. As such, during the initial year of warranty Bruker may replace the modulator one time at our expense if deemed necessary. Following such a replacement, all future service is provided on a billable</b>	14,375.00	14,375.00

Model	Qty	Description	Unit Price	Total Price
		<b><i>basis.</i></b>		
Install-16	1	<b>Installation and Training - Single Laser Input</b> Installation and training in the operation of the system. Installation of a <b>single scan head with one laser input. Table not included.</b>	9,500.00	9,500.00
EST-SHIP	1	<b>Estimated Shipping</b> This is an estimate only. Shipping will be billed as actual.	650.00	650.00
			<b>Subtotal USD \$</b>	<b>265,263.38</b>
			<b>Strategic Customer Discount</b>	<b>24,613.38</b>
			<b>Total USD \$</b>	<b>240,650.00</b>

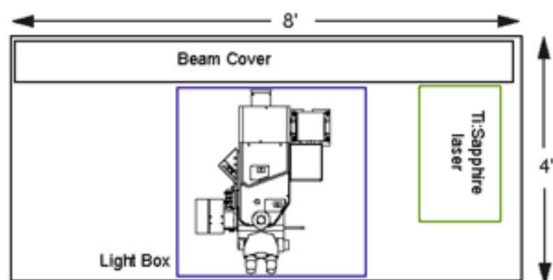
**Note:**

1. No sample stage included. Customer will supply their own sample stage.
2. System will be compatible with SLM activation upgrade when available.
3. Discount applicable if order is received by 6/12/15.
4. Shipping estimate is for Bruker equipment shipping from Middleton, WI.
5. Motorized orbital nosepiece and high-efficiency fiber detection module will be compatible with system quoted when released. Discount for these components when ordered will be consistent with system discount quoted.

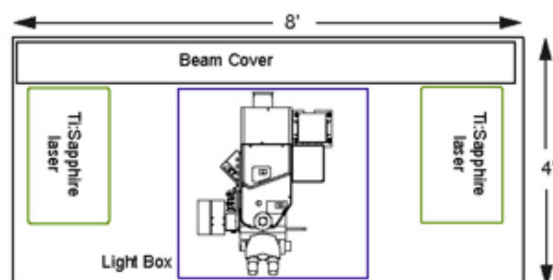
**Does not include laser safety covers. Customer agrees to assume all responsibility for the safe installation and operation of laser(s) with this system.**

**Prices on this quote are valid until its expiration date. All applicable taxes will be assessed and added at invoicing.**

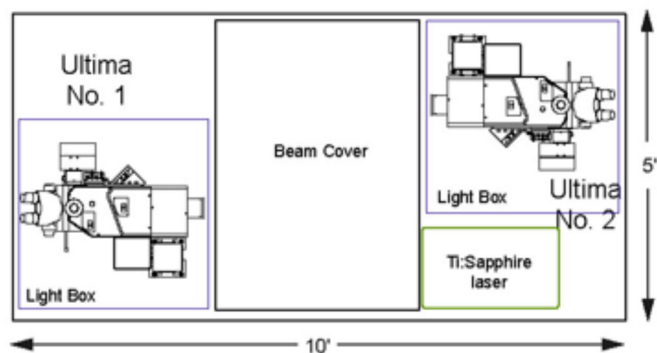
## STANDARD ULTIMA /ULTIMA IV SYSTEM OPTICAL LAYOUTS



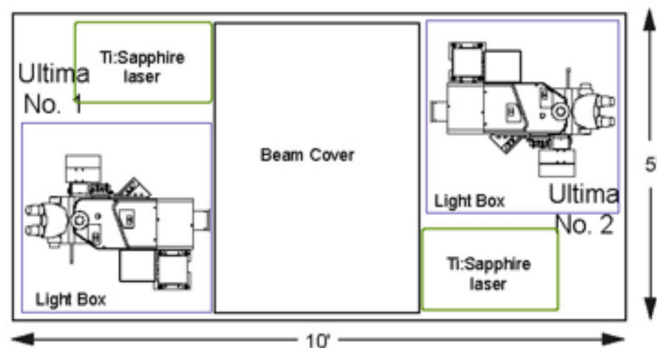
Layout described in model  
"Install-10"  
A single scanner with a single laser  
input for imaging.



Layout described in model  
"Install-13"  
A single scanner with a one laser input  
for imaging and one input for uncaging.



Layout described in model  
"Install-14"  
Two scanners with a single laser input  
for imaging on each scanner.



Layout described in model  
"Install-15"  
Two scanners with two laser. Each  
scanner has one input for imaging and  
one input for uncaging.

Modifications of these designs are  
possible but will incur added  
charges and may also increase the  
delivery time if not specified when  
ordering.

# BRUKER NANO, INC. AND SUBSIDIARIES

## TERMS AND CONDITIONS OF SALE

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1. **GENERAL.** Orders are accepted by Seller subject to these terms and conditions. In case of a conflict, inconsistency or addition not expressly accepted in writing by Seller, the terms and conditions of sale provided herein shall be considered as superseding the conflicting, inconsistent or additional terms stated in Buyers purchase order, order form, contract or otherwise. The acceptance of an order will supersede all prior communications and constitute a complete and binding contract between Buyer and Seller, which contract cannot be modified or canceled without the written agreement of both parties.
2. **SHIPMENT.** Seller shall attempt to comply with, but will not guarantee, shipping date and loading and routing instructions. Seller reserves the right to allow or prorate shipments against all orders whenever, in its judgment, an oversold condition exists as to any particular product manufactured or sold by it. In the event of a default by Buyer, Seller may decline to make further shipments without waiving any of its rights under such order. If, despite such default, Seller elects to continue to make shipment, its action shall not constitute a waiver regarding, or otherwise diminish, Sellers legal remedies with respect to such default or any future default.
3. **TITLE AND DELIVERY.** All sales are made FCA factory, Incoterms 2000 and Buyer shall pay all freight, duties, cartage and handling. Title and risk of loss or damage shall pass from Seller to Buyer upon Sellers putting the material purchased hereunder in good condition into the possession of a common carrier, such carrier acting as Buyers agent. All claims for damages must be filed with the carrier.
4. **PRICES.** Irrespective of any prices quoted by Seller or listed on Buyers order, an order is accepted only at the prices shown on Sellers written quotation. Installation of utilities required for equipment is not included in the specified price.
5. **PAYMENT TERMS.** Invoices are payable at the place set forth on the written quotation or the invoice no later than thirty (30) days after the date of the invoice. Any exchange charges, any charges for nonpar clearance of checks or collection charges (including reasonable attorneys fees) will be paid by Buyer. Any amounts not paid when due will bear interest at a rate of 18% per annum or, if lower, the maximum rate permissible by law.
  - a. Terms of payment are subject to change by Seller. All orders are subject to credit approval by Seller. The amount of any credit extended by Seller to Buyer may be changed, and such credit may be withdrawn by Seller. With respect to an order on which credit is not extended by Seller or, if extended, is subsequently withdrawn, shipment or delivery shall be made, at Sellers election, Cash with Order (in whole or in part), C.O.D. or Sight Draft attached to Bill of Lading or other shipping documents, with all costs of collection (plus 18% interest on Sight Drafts not paid at maturity) for the account of Buyer. If, in the judgment of Seller, the financial condition of Buyer does not justify continuation of production or shipment on the terms of payment originally specified, Seller may require full or partial payment in advance. In the event any proceeding is brought by or against Buyer under any bankruptcy or insolvency laws, Seller shall be entitled, in addition to any other remedies at law or in equity, to (i) stop or divert any shipment in transit, (ii) cancel any order then outstanding and/or (iii) receive reimbursement for its cancellation charges.
  - b. Each shipment shall be considered a separate independent transaction, and payment therefore shall be made accordingly. If for any reason Buyer is not prepared to accept delivery of goods, Seller may store the goods at Buyers expense and risk in the name of Buyer, and such storage shall constitute shipment and delivery to Buyer.
6. **TAXES.** Quoted prices do not include federal, state or local excise, sales, use or similar taxes. Accordingly, in addition to the prices specified on the written quotation, the amount of any applicable excise, sales, use and/or similar taxes will appear as separate items on the invoice and will be paid by Buyer unless prior to shipment Seller receives an appropriate tax exemption certificate from Buyer.
7. **CUSTOMER SPECIFIC ACCEPTANCE (CSA).** Except as provided in Sellers quotation, Sellers standard commercial factory acceptance test(s) performed at Sellers factory will comprise acceptance for the equipment sold by Seller. If Sellers quotation references CSA provisions, then Buyer will accept the purchased equipment in accordance with such CSA provisions. The parties will give priority to achieving CSA and the purchased equipment shall not be used by Buyer for material production, for development of new processes or for any purposes other than achieving CSA, prior to successful completion or waiver of the CSA provisions. Any such use of the equipment prior to successful completion of the CSA provisions shall be deemed to constitute CSA passage. If CSA procedures have not been commenced within 30 days after delivery (through no fault of Seller), then the equipment shall be deemed to have achieved CSA. It is the responsibility of the Buyer to ensure that all the required facilities are ready for successful commencement of CSA on delivery of the equipment. If CSA has not been commenced within 30 days after delivery and completed within 60 days after delivery, (through no fault of Seller), the equipment shall be deemed accepted and as having achieved CSA.
8. **FORCE MAJEURE.** Seller shall not be liable for failure to perform occasioned by strikes, lockouts, labor difficulties, riots, inability or difficulty in obtaining or procuring supplies, labor or transportation, fires, storms, floods, earthquakes, explosions, accidents, acts of God, interference by civil or military authorities, whether legal or de facto, acts of the public enemy, war, rebellion, insurrection, sabotage, embargoes, orders given priority by any public authority or any other cause beyond the reasonable control of Seller.
9. **PATENTS.** If a third party claims that the purchased equipment infringes that partys patent or copyright, Seller will defend Buyer against that claim and will pay all costs, damages and attorneys fees that a court finally awards, provided that Buyer: (a) promptly notifies Seller in writing of the claim and (b) allows Seller to control, and cooperates with Seller in, the defense and any related settlement negotiations. If such a claim is made or appears likely, Seller, at its option, may obtain a license to enable Buyer to continue to use the product, may modify the product or may replace it with one that is functionally equivalent. If Seller determines that none of these alternatives is reasonably available, Buyer will return the product to Seller upon Sellers written request, in which case Seller will credit Buyer with an amount equal to the price paid for such product less a reasonable amount for depreciation. Sellers liability is limited to repair, replacement or adjustment as determined by Seller. Seller shall not be liable for any claim based on (i) anything Buyer provides which is incorporated into a product, (ii) Buyers modification of a product or use thereof other than in its specified operating environment, or (iii) the combination, operation or use of a product with products provided by other manufacturers or other products not provided by Seller as a system. In no event will Sellers liability under this paragraph exceed the purchase price of the applicable product. This is the exclusive warranty and liability of Seller with respect to intellectual property matters and is in lieu of all other warranties, express or implied.
  - a. Sale of products or parts thereof does not confer on Buyer any license relating to (a) the structure of any devices to which the products or parts may be applied or (b) a process or machine in connection with which they may be used.
10. **RESCHEDULING.** If one rescheduling is requested, the charges shall be determined as follows and shall be due and payable within ten (10) days of the rescheduling. More than one rescheduling of an order will be considered a cancellation of the order. Sixty-six percent (66%) of the rescheduling charge shall be applied against the purchase price if the order is subsequently shipped or against the cancellation charges if the order is subsequently canceled. On any order that is rescheduled and subsequently canceled, cancellation charges will be based upon the time between the originally scheduled delivery date and

Number of Weeks of Rescheduling Requested	Rescheduling Charge
Up to 4 Weeks	No Charge
5 to 12 Weeks	15% of Purchase Price
13 to 26 Weeks	35% of Purchase Price
27+ Weeks	Order considered canceled

the date of notice of cancellation.

11. **CANCELLATION.** In the event of attempted cancellation by Buyer of any order, Buyer shall pay Seller a cancellation and re-stocking charge based upon the timing of the attempted cancellation notice as follows:

Days Attempted Cancellation Notice Given Before Confirmed Shipment Date of Order	Cancellation Fee Equals the Following Percentage of Purchase Price
More than 90 days	35%
61-90 days	50%
31-90 days	75%
0-30 days	100%

Higher cancellation charges, up to the full value of the order, may apply in the case of special, custom or modified equipment.

12. **ASSIGNMENT.** Buyer shall not assign this order or any portion thereof without the prior written consent of Seller.
13. **WARRANTY.** Seller warrants to the Buyer that new equipment will be free of defects in material and workmanship for a period of one year commencing (x) on final acceptance or (y) 90 days from shipping, whichever occurs first. This warranty covers the cost of parts and labor (including, where applicable, field service labor and travel required to restore the equipment to normal operation).
- Seller warrants to the Buyer that replacement parts will be new or of equal functional quality and warranted for the remaining portion of the original warranty or 90 days, whichever is longer.
  - Seller warrants to the Buyer that software will perform in substantial compliance with the written materials accompanying the software. Seller does not warrant uninterrupted or error-free operation.
  - Sellers obligation under these warranties is limited to repairing or replacing at Sellers option defective non-expendable parts or software. These services will be performed, at Sellers option, at either Sellers facility or Buyers business location. For repairs performed at Sellers facility, Buyer must contact Seller in advance for authorization to return equipment and must follow Sellers shipping instructions. Freight charges and shipments to Seller are Buyers responsibility. Seller will return the equipment to Buyer at Sellers expense. All parts used in making warranty repairs will be new or of equal functional quality.
  - The warranty obligation of Seller shall not extend to defects that do not impair service or to provide warranty service beyond normal business hours, Monday through Friday (excluding Seller holidays). No claim will be allowed for any defect unless Seller shall have received notice of the defect within thirty days following its discovery by Buyer. Also, no claim will be allowed for equipment damaged in shipment. Within thirty days of Buyers receipt of equipment, Seller must receive notice of any defect which Buyer could have discovered by prompt inspection.

e. Expendable items, including, but not limited to, filters, lamps, pilot lights, filaments, fuses, mechanical pump belts, V-belts, wafer transport belts, pump fluids, O-rings and seals ARE SPECIFICALLY EXCLUDED FROM THE FOREGOING WARRANTIES AND ARE NOT WARRANTED. All used equipment is sold AS IS, WHERE IS, WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED. With the exception of manufacturing defects, regular maintenance on pumps or other components is excluded from this warranty.

f. Specifically excluded from this warranty is all standalone computer and data storage equipment not manufactured by Seller (such as computers, monitors, printers and printer buffers). Such equipment will carry only the original manufacturers warranty.

g. Seller assumes no liability under the above warranties for equipment or system failures resulting from (1) abuse, misuse, modification or mishandling; (2) damage due to forces external to the machine including, but not limited to, acts of God, flooding, power surges, power failures, defective electrical work, transportation, foreign equipment/attachments or Buyer-supplied replacement parts or utilities or services such as gas; (3) improper operation or maintenance or (4) failure to perform preventive maintenance in accordance with Sellers recommendations (including keeping an accurate log of preventive maintenance). In addition, this warranty does not apply if any equipment or part has been modified without the written permission of Seller or if any Seller serial number has been removed or defaced.

h. No one is authorized to extend or alter these warranties on Sellers behalf without the written authorization of Seller.

THE ABOVE WARRANTIES ARE EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES (INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND OF ANY OTHER OBLIGATION ON THE PART OF SELLER. SELLER DOES NOT WARRANT THAT ANY EQUIPMENT OR SYSTEM CAN BE USED FOR ANY PARTICULAR PURPOSE OR WITH ANY PARTICULAR PROCESS OTHER THAN THAT COVERED BY THE APPLICABLE PUBLISHED SPECIFICATIONS.

14. **NO CONSEQUENTIAL DAMAGES. LIMITATION OF LIABILITY.** Seller shall not be liable for consequential damages, for anticipated or lost profits, incidental, indirect, special or punitive damages, loss of time, loss of use, or other losses, even if advised of the possibility of such damages, incurred by Buyer or any third party in connection with the equipment or services provided by Seller. In no event will Sellers liability in connection with the equipment or services provided by Seller exceed the amounts paid to Seller by Buyer hereunder.
15. **NONSOLICITATION.** Buyer will not solicit the employment of any employee of Seller who has come into contact with Buyer in connection with the products or services provided to Buyer hereunder.
16. **COMPLIANCE WITH LAWS.** All quotations by Seller and all purchase orders are subject to compliance with all applicable laws, including, without limitation, the export control laws of the United States of America.
17. **APPLICABLE LAW.** The contract created hereby shall be interpreted and construed under the laws of the Commonwealth of Massachusetts, without regard to the choice of law provisions thereof and not including the U.N. Convention on Contracts for the International Sale of Goods, if otherwise applicable.

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