CLEVELAND PUBLIC LIBRARY

Finance Committee

October 22, 2019

RESOLUTION AUTHORIZING PURCHASE OF HIGH RESOLUTION SCANNER FOR CLEVELAND DIGITAL PUBLIC LIBRARY

- WHEREAS, The Cleveland Digital Public Library assists individuals, families, and institutions with digitizing and preserving photographs, books, and other documents by providing access to high quality scanning equipment; and
- WHEREAS, The Library desires to purchase an additional high resolution scanner to supplement its current oversize scanner in order to provide additional and expanded services for patrons; and
- WHEREAS, The Library sought price proposals from 3 vendors to provide a high resolution planetary scanner capable of scanning books, photographs, and over-sized items and with the ability to calibrate to the highest level of imaging guidelines, a four star rating by the Federal Agency Digital Guidelines Initiative, and the Library received the attached proposals; and
- WHEREAS, The Library received the following price proposals: 1) Digital Transitions \$91,408 (used/remanufactured scanner); 2) Image Retrieval \$99,881 (new, with trade-in discount of \$12,434 for the Library's Atiz Book Scanner, final price is \$87,447); and 3) Ristech \$105,100 (new, plus additional \$6,000 shipping fee applies); and
- WHEREAS, The Library Administration has determined that, at a price of \$99,881, Image Retrieval's proposal offers the best price as it includes brand new equipment, and has an effective final price of \$87,447 after applying the trade-in discount; and
- WHEREAS, The Library Administration recommends that this Board authorize the Library to enter into an agreement with Image Retrieval to purchase the scanner and related equipment for a total cost of \$99,881; now therefore be it
- RESOLVED, That the Board of Trustees of the Cleveland Public Library hereby authorizes the Executive Director, CEO, or his designee, to enter into a purchase agreement, subject to the approval of the Chief Legal Officer, to purchase scanning equipment from Image Retrieval, Inc. at a total cost not-to-exceed \$99,881, with the expenditure being charged to the General Fund Account 19650055-55520 (Equipment).

	i2s A0	Ristech Hornet	Digital Transitions Copystand
Required Features			
Scanner meets (or exceeds) minimum ALCTS capture guidelines (http://www.ala.org/alcts/resources/preserv/minimum-digitization-capture-recommendations)	Yes	Yes	Yes
Scanner functions as a true planetary scanner [scanner makes image from above, direct contact with between scanner and image on scanned item not required]	Yes	Yes	Yes
Scanner can easily capture face-up images from scrapbooks, photograph books, and other hybrid and/or collage forms of image	Yes	Yes	Yes
Scanner can easily capture face-up images of park plans, archtectural plans, maps, and other oversize flat images	Yes	Yes	Yes
Scanner is new/not remanufactured	Yes	Yes	No
Comes with a software package that manages scanning effectively	Yes	Yes	Yes
*Software can be easily operated by and understood by trained staff	Yes	Yes	Yes
*Software could be learned by the public with instruction from staff	Yes	Yes	Yes
*Software enables regular calibration	Yes	Yes	Yes
*Software capable of producing standards compliant metadata (METS and /or Dublin Core]	Yes	Yes	Yes
*Software has zoning capabilities	Yes	Yes	Yes
*Software has capability for image correction during scanning	Yes	Yes	Yes
*Software saves appropriate formats for use in digital library application (.tif, .jpg, .jp2, .pdf)	Yes	Yes	Yes
Not a flatbed scanner [scanner does not require placing items face down on glass beneath a cover]	Yes	Yes	Yes
Not a roller scanner [scanner does not require scanning item by running them through a roller assembly]	Yes	Yes	Yes
Scanner supported by a US vendor	Yes	Yes	Yes
Scanner can capture A0 size (or larger) producing oversized images that meet meet Federal Agencies Digital Guidelines Initiative (FADGI) level 4.	Yes	Yes	No
Scanner in some cases able to meet Federal Agencies Digital Guidelines Initiative (FADGI) level 4.	Yes	Yes	Yes
Scanner will be easily used by technicians with relatively basic understanding of depth of field, focus, and general principles of photographic imaging.	Yes	Yes	No



Quotation

Quote Number:

mgc082419b

Quote Date:

10/16/19

Digital Transitions, Inc 35 West 35th Street 4th floor New York, NY 10001

www.digitaltransitions.com

Phone: (212) 529-6825 / Fax: (212) 504-2713

Quote For: Cleveland Public Library

Chatham B. Ewing 325 Superior Avenue

Cleveland OH 44114

Phone: (216) 623-2813

Fax:

Sales Rep	Shipping Method		Quote Valid Until
Michael Chan	Other		11/30/19
Payment Terms	Sales Tax	Rate	Lead Time
Net 30	Out of State	0.000%	4 weeks

Qty	Item			Extension
1 1	DTRG3040-AC-US Desc.	Digital Transitions Element Reprographic System -Digital Transitions Element Reprographic Table -Digital Transitions Autocolumn -Phase One IXG 100MP Reprographic Camera (CERTIFIED PRE-OWNED DEMO UNIT) -Digital Transitions PhotonXL Adjustable LED Lighting System w/Stands -ISA FADGI Compliant Targets -Capture One Cultural Heritage Edition Software (4 Seats) Warranties: -Digital Transitions Products: Element Table, PhotonXL LED, Autocolumn: 3-Years Parts/Labor -Phase One IXG (CERTIFIED PRE-OWNED DEMO UNIT): 1-Year Parts/Labor Services: -All Shipping: Freight and Crating etc2-Day Onsite Installation and Training (Setup .5 days; Training 1.5 Days) -Unlimited Free: Phone, Email, Remote, Tech Support for the life of the System	\$ 93,908.00	\$ 93,908.00
1	Discounts	Special	\$ (2,500.00)	\$ (2,500.00)

If you have any questions concerning this quote, contact Michael Chan mgc@digitaltransitions.com 646 679-5090

Notes: Sales Tax \$ -

IXG 100MP Demo Unit can be traded for IXG 150MP.

IXG 100MP Demo Unit cost/credit towards IXG 150MP = \$40,000; Cleveland Public must provide the difference in cost between IXG 100 credit and IXG 150MP list cost (projected at \$56k). Projected additional cost is at least \$16k. This offer is good until 6/30/20.

TOTAL \$ 91,408.00

\$ 91,408.00

Subtotal



Quote: i2s QUARTZ A0 HD

Quoted By: Andrew Jenkins Image Retrieval 3620 N. Josey Lane, STE 103 Carrollton, TX 75007 (972) 492-0930 x62 andrewj@iiri.com

To: Chatham Ewing Cleveland Public Library (216) 623-2813 Chatham.ewing@cpl.org





QUOTE DATE	QUOTE EXPIRATION DELIVERY		PAYMENT TERMS	SHIPPING TERMS
10/16/2019	30 Days	3-12 week from receipt of PO	NET30	FOB Destination

QTY	ITEM DESCRIPTION	UNIT PRICE	LINE TOTAL
1	i2S QUARTZ AO HD LED Scanner: • Max imaging area 53 x 36 inch area • QUARTZ scanner head with automatic focus, 600 x 600 dpi resolution • FADGI 4* Compliant • Long life LED lights • QUARTZ workstation (including PC, monitor & scanner interface board) • LIMB Capture™ scanner software (for machine operation)		\$94,600
1	Factory Calibration: Factory scanner calibration to comply with FADGI, METAMORFOZE, and ISO 19264 imaging quality guidelines.	\$1,331	\$1,331
1	IIRI Installation & Training: IIRI engineer will travel onsite for two days to assemble the unit & train up to 3 staff members. Includes expenses. (Customer will need to provide 1-2 staff members for assistance in moving & assembling heavy parts.)		\$3,950
	SHIPPING AND WARRANTY		
1	Manufacturer's Warranty: 1 year depot parts & labor	Included	Included
1	Ilmage Retrieval, Inc Service: Software/hardware diagnosis & phone support	Included	Included
1	Shipping: Freight, Insurance, & Customs to your site (Continental US)	Included	Included
	SUBT		
	APPLICABLE DISCOUNTS		
1	Trade In Discount- Atiz Book Scanner		(\$12,434)
		TOTAL	\$87,447

*Options and Accessories on next page

QTY	ACCESSORIES AND OPTIONS	UNIT PRICE	LINE TOTAL
1	ACCESSORY - Motorized Book Cradle A0 (BC40): For books up to 40 cm (15.7 inches) thick with pressure sensitive motorized glass plate. (MSRP \$35,340)	\$32,460	\$32,460
1	ACCESSORY - A0 Manual Glass Plate with document support: Large A0 size table integrated with an A0 glass plate to scan oversized flat documents. (MSRP \$17,030)		\$15,780
1	ACCESSORY- A0 Vacuum Table: large table to hold down materials (MSRP \$24,070)	\$22,020	\$22,020
1	ACCESSORY - 120 Degree Book Holder: 2xA1 size, holds books open from 90° to 120° (MSRP \$9,920)	\$9,180	\$9,180
1	ACCESSORY - Light Table: 60 x 40 cm area (MSRP \$4,900)	\$4,550	\$4,550
1	Warranty extension 24 now for QUARTZ AO HD: 12 months (24 total) warranty extension if purchased with scanner. Covers parts & labor. (Travel expenses charged separately.) (MSRP \$9,600)	\$8,720	\$8,720
1	Warranty extension 36 now for QUARTZ A0 HD: 24 months (36 total) warranty extension if purchased with scanner. Covers parts & labor. (Travel expenses charged separately.) (MSRP \$15,990)	\$14,540	\$14,540

This is a quotation on the goods named, subject to the conditions noted below. Pricing is based on the current Euro to USD exchange rate and is guaranteed for 30 days from the date of this quote.

Standard Terms & Conditions:

- Balance of purchase required Net 30
- All prices exclude any local, state or federal sales and use tax.

Delivery & Installation:

- Scanner ships within 3 to 12 weeks of receipt of PO
- FOB Destination
- Delivery is scheduled upon receipt of Purchase Order

To accept this quotation, sign here and return:	

THANK YOU FOR YOUR BUSINESS!

RISTOCH

BOOK2NET HORNET



Prepared for: Chatham Ewing

Cleveland Public Library

October 16, 2019











Hornet Specifications and Overview

Optics

- Schneider precision lens
- Long-term durability
- Depth of field 12 cm
- Book-fold optimization
- Brilliant color reproduction
- Perfect linearity
- Distortion-free

LED-Illumination

- Cold-light LEDs
- Light-Control-System
- Fresnel lenses
- Uniform illumination
- Stabile wave length
- Light intensity <= 2.500 Lux
- Lighting time <= 0.6 sec.
- > 3 years lifespan

Book cradle

- Motorized book cradle with balancing technology
- Height adjustment up to 25 cm
- Spine exemption up to 25 cm
- Double profile lifting column for precise height adjustment
- Load capacity up to 180 kg per column
- Preservation approved

Environment friendly

- No UV / IR radiation
- No heat load
- Low noise emission
- Low-Energy-Control (LEC)
- Power consumption Ø 290 VA

Color Management

Integrated True Color Management according to Metamorfoze, DFG, FADGI standards regarding Color quality, resolution, noise, and linearity.



Semi-robotic

- PLC control
- Variable control
 - > fully automatic
 - > semi-automatic
 - manual
 - > time controlled
 - action-controlled
 - user-controlled
- Programmable scanning processes
- Book size-dependent traverse paths
- Process-controlled pressure
- Sensitive, fully electronic pressure control



Functionality and Use of the Hornet Scanner

Handling of different media types and formats

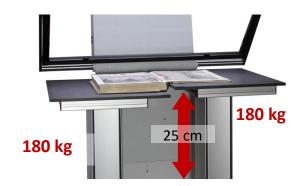
With a layout section of 25×36 inches (645×916 mm) the Hornet is able to handle a high diversity of materials of single pages and bound volumes up to 25×36 " in size and a thickness of 9 inch (25 cm).

Book Cradle

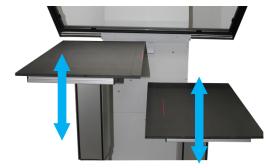
Since large-format originals as newspapers might vary concerning their individual thickness and condition, the height adjustment of the book cradle is essential in order to achieve a true-scale digitization. Thanks to the dual laser system, the Hornet can be set to the ideal focus level within seconds.

Industrial precision guidance, linear drive and PLC control ensure a smooth and steady guidance and adjustment of all moving parts.

- Height adjustment of the entire book cradle for originals up to 25 cm thickness
- Loading capacity 180 kg. per column



Vertical adjustment of the left and right platforms



Spine-opening up to 25 cm to accommodate thick spines safely and reduce curvature of pages at the gutter.





Book cradle controller module

The book cradle controller module ensures an automated height compensation of the left and the right side of the book cradle to book thickness when scanning bound volumes.



Electronic weighing function



- Electronically controlled book cradle function
- Synchronized height compensation of the right and left side of the book cradle

Handling of ancient and fragile originals

The sensitive, fully electronic pressure control of the book cradle ensures a particularly gentle treatment of fragile originals. Thanks to the PLC controlled spindle drive, the specially developed motor driven profile lifting columns of the Hornet semi-robotic enable a precise continuous height adjustment of the book table up to 9 inches. Thus the pressure to the original can be easily adjusted in accordance to the individual requirements of the original.

Furthermore the **Hornet** semi-robotic provides the opportunity to capture the original without glass plate if required for conservational reasons. Thanks to the dual LED lightning system with integrated control module a shadow and reflection-free capturing of wavy originals is ensured. A depth of field of 5 inches ensures that the entire document will be captured pin sharp even with challenging originals

Designed for a payload of up to 396 pounds each; the handling of thick and large originals is extremely easy and comfortable. Thanks to the integrated micro sensors, they can be operated either by hand- or foot switch. The motor driven glass plate guarantees a comfortable working process for hours. It can be locked easily, if working without pressure system is desired. As the light distribution remains constant new white balance and color matching are not necessary when using the glass plate again.

Controller Modules

Following customer requests, we developed two control modules and additional options for the glass pressure system and book cradle of the **Hornet** semi-robotic to specifically meet the complex requirements of various originals and working processes:

- Motorized glass pressure system via precision guided drive
- A0+ glass pressure system
- Gentle treatment of originals through pressure support
- Adjustable pressure sensitivity
- PLC controlled process flows with integrated motion monitoring



Glass pressure controller 1





Controller for the optimization of the opening angle and the pressure system with automatic adjustment to the book size. The glass plate lifts as far as needed for a comfortable turning of the pages. This facilitates maximum efficiency and reduced processing times.

Glass pressure controller-2

Controller for optional control of the fully automatic, semi-automatic and manual operation:

- Program 1: fully automatic flow of the entire process (automated pressure procedure and initiation of scan within a programmed time period)
- Program 2: semi-automatic process(automated pressure procedure und manual initiation of scan)
- Program 3: manual process (each function is controlled manually)

Ergonomics

In order to ensure a relaxed, productive work in for many hours the operator support has been one of the main focuses in development of the **Hornet**.

- · Exceptionally easy handling
- Customizable user interface
- Low light emission
- No noise emission

The Hornet semi-robotic is controlled by PLC

(Programmable Logic Controller). Thus the unit can be adjusted to the requirements of the specific application for best operator support. The system provides **3 modes for fully automatic, semi-automatic or manual operation**:

- Prog 1) Fully Automatic: Automatic control of the entire process triggered by time intervals
- Prog 2) Semi-Automatic: Manual activation of scan
 + automatic movement of the cradle
- Prog 3) Manual: Manual control all functionalities



Controller is automatically optimizing the opening angle of the motorized plate to the book size. The setting is done simply by using a rotary switch on the hand control.



Operate Standing or Sitting

In close cooperation with selected partners, we have developed a highly accurate system that is taking particular account on the **production requirements**, while ensuring **high flexibility and ease of use**.

The **Hornet semi-robotic** is controlled by PLC (Programmable Logic Controller). Thus, the unit can be adjusted to the requirements of the specific application for **best operator support**.

The system provides 3 different modes for fully automatic, semi-automatic or manual operation. **The travel distances are optimized according to the book format.**

The Hornet is designed as a standing or a sitting workstation. The height of the book cradle ensures a relaxed, productive work in for many hours. Thanks to the design of the Hornet the unit is easily accessible from three sides. Thus the workstation can easily be suited to the specific demands so that the operator can conveniently load work material from three sides of the system





- High degree of ergonomics
- Thanks to the LED light source there is no heat emission or UV/IR radiation (according to EN60825-1)
- The LED lighting is completely glare-free
- The height of the book cradle is tailored to the requirements of a sitting workstation
- Easy operation handling (foot- or hand control)
- Semi-robotic
 - PLC control & linear drive
 - Motor driven book cradle
 - ► Motor driven pressure system
 - Manual, semi-automatic or fully automatic control on demand
- Exceptionally quiet: Noise emission of only 44 dB(A)
- The operator safety is guaranteed by automatic shutdown upon contact of the hand in the layout zone
- The book cradle allows an easy & precise adjustment to the document and facilitates the work, even with challenging originals.
- The two LED beams of the focus tool are supporting the operator to adjust the cradle to the perfect focus level within seconds.
- The glass plate can be easily locked in an upright position for scanning without glass plate. As the light always goes through the glass there is no additional white balance required.



Productivity

Thanks to the cutting-edge CMOS technology in combination with a USB 3.0 interface the Hornet is providing an unrivalled productivity.





- Cutting-edge CMOS Technology
- USB 3.0 Interface
- 400 dpi
- 0.3 sec. scanning time (A0 Color @ 300 dpi)
- 3.5 sec. processing time (scanning imaging storage)
- SSD
- Extremely high throughput
- Longevity downtimes are things of the past!
- No mechanical wear parts
- Electronic shutter
- Best contrast (signal-to-noise-relation) for
- Reduced file size
- Faster post-processing
- Faster OCR recognition

Expected output per hour

The following numbers eepresent the average throughput of the **Hornet** in the field based on experiences of our customers for book and single sheet applications. <u>Note:</u> Productivity might differ depending on the condition of the document (e.g. fragile material).

Book Scanning – 2 pages per scan	Low	High
cycle time (scan =2 pages)	7 sec / 2 pages	5 sec / 2 pages
	= 3.5 sec/page	= 2.5 sec/page
pages/ year (250 working days)	2,056,250	2,880,000
pages/ day (8 paid working hours)	5,225	11,520
pages/ hour	1,028	1,440
Single Sheet Scanning	Low	High
cycle time (scan =1 page)	9 sec / 1 page	7 sec / 1 page
pages/ year (250 working days)	100,000	128,570
pages/ day (8 paid working hours)	3,200	4,112
pages/ hour	400	514

As compared to other scanners there are nearly no adjustments required: the **set-up time** for a book **is close to zero** and **the scanning process can start immediately**. Pages are turned manually by the operator to avoid damage on rare books with loose leaves and spreads.

^{*}cycle time: Scanning,-Processing,-Storage, including the handling of the originals



Image Processing Software and User Interface

The intuitive user interface of the Easy Scan Professional software is providing direct access to all functionalities without branched submenus. Easy Scan Professional can be easily integrated into the post-processing workflow. An intelligent job processing with job creation, job retention, job continuation and job post-processing, provides a basis for a wide variety of uses. Routines for error prevention and intelligent management framework also ensure a smooth workflow.



The user interface can be easily customized to the individual requirements of the operator responsibilities for the application by enabling/ disabling functionalities.

Further modifications and additions of the software to the customers wishes is available as an option on the base of a feasibility analysis and mutually agreed requirement specifications.



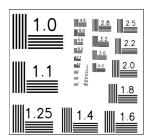
Image Quality

Thanks to the parallel use of two high-resolution CMOS sensors (single shot) in combination with the high quality Schneider-Kreuznach lens the **Hornet A0** achieves **best quality and sharpness** across the entire scanning area.

Compliance with the FADGI Guideline

The **Hornet semi-robotic A0** is fully compliant with the FADGI, and Metamorfoze guidelines. The delivery includes the targets for calibration and the unit will be calibrated at the date of installation according to Metamorfoze. A calibration of the unit on regularly bases will be supported by our product specialists as a part of the Customer Care Package. A later calibration on future standards such as ISO 19262 to 19264 is possible without any upgrade or modifications on the hard- or software and will be supported by our product specialists free of charge.

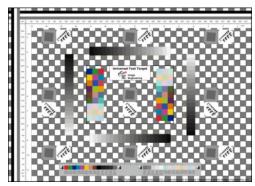
In order to provide our clients with constant, measurable quality, we work with ISO standard test charts for the calibration of resolution, grayscale and color.



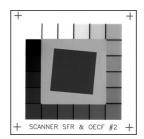
Applied Image Inc® ISO Resolution Chart No. 2



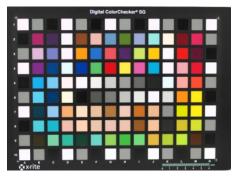
X-Rite® GretagMacbeth Color Checker



Universal Test Target (UTT)



ImatestTM Grey Stepchart (ISO 16067-1-QA-61)



X-Rite® GretagMacbeth Color Checker SG

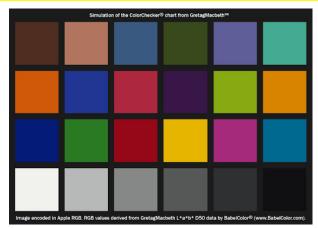


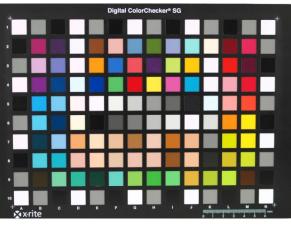
The MiniScan application software comes with the Hornet provides for extremely easy and fast calibration of the relevant parameters:

Color Calibration

The default **color output can be enhanced** and suited to the place of installation and ambient light situation in accordance to the desired color working space by using an **X-Rite ColorChecker® Classic** or **ColorChecker® Digital SG-Target.**

As a unique feature, the advanced color correction of the Hornet allows the import/usage of the analyzed/measured reference data of the individual target for color correction.





The included MiniScan application is processing a variance analysis is made on all 24 color patches resulting in a machine specific color correction to be able to generate a standardized color output. The color value for each patch is analyzed and compared against the desired nominal color value of each patch on the color target. This process is done continuously and computed to minimize the absolute error.

ICC Profiling

The book2net cobra semi-robotic supports the output of true colour images according to the ICC standard. It is possible to embed an ICC profile into the image file.



Color Space

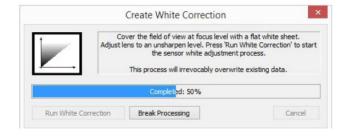
The RGB output color working space can be set to one of the following:

- sRGB D65
- Adobe RGB D65
- Wide Gamut D50
- eciRGB-v1 D50
- eciRGB-v2 D50



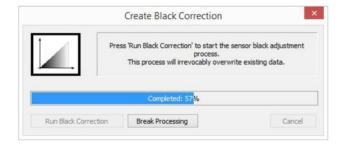
White Correction

Since ambient light conditions differ the scanner offers the opportunity to be calibrated according to the light conditions The sensor white adjustment can be easily set automatically with the help of the adjustment dialog. In difference to other scanners available on the market the white correction is performed for each pixel.



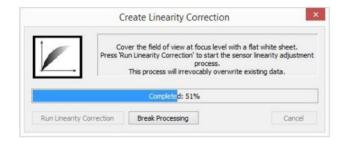
Black Correction

The sensor black adjustment values can be set automatically with the help of the adjustment dialog.



Linear Correction

The sensor linearity adjustment can be set automatically with the help of the adjustment dialog.

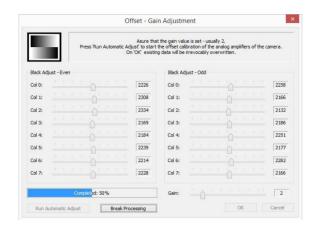


Defect Pixel Correction

Production-related all sensors available on the market may have defective pixels. The MiniScan application coming along with the book2net cobra semi-robotic allows an automatic pixel defect correction of the sensor.

Offset - Gain Adjustment

The analog amplifiers of the camera can be automatically adjusted with the help of the adjustment dialog.





HORNET A0 semi-robotic

\$105,100.00

Robust, extremely fast, productive, silent, economical, with superior color quality

Including

- Two High resolutions sensors; True-color reproduction
- Selectable resolution options: 400 ppi / 600 ppi
- USB 3.0 technology
- Book table for originals up to 645 mm x 916 mm (> A0) in size
- Conservational Illumination Cutting-edge Dual-LEDs
- Automatic light adjustment (LCS-Light Control System)
- Book Fold Optimization (BFO) for a sharp capturing of the book fold
- Optimized for operation with & without glass plate
- 12 month warranty on parts (warranty extension optional available)
- Professional Software Easy Scan Professional
- Motorized book cradle 25 cm Semi-robotic
- Motorized glass plate Semi-robotic
- Glass-plate / 2 Controller Modules 1 Semi-robotic
- Book cradle / Controller Module 3 Semi-robotic
- Manual control Premium Foot switch "Scan"
- Foot switch "Rescan"
- Calibration kit
- Focus tool
- ICC-Profiling
- MiniScan and EasyScan Pro Software Licenses
- Training & Installation
- Foot switch Premium 2

Shipping: \$6,000.00

Warranty: 1 year

Annual maintenance: \$9000

Terms:

Prices include customs fees.

Ristech is a Canadian company and will not bill US Sales Tax. That is your responsibility to address locally. We will provide all necessary paperwork.

75% deposit payment with order; balance due net 30 days of delivery; via wire transfer.

Warranty is 12 months on parts, labor and travel.

Training class is for 2 operators and observing supervisor.

Installation area must have controls for ambient lighting.

Servicer dispatch is from Victor, NY

Quotation Expires December 15th, 2019