

Velmex “TA” Measurement System

The Velmex “TA” system is a positioning system that is specifically designed for the researcher to perform non-contact measurement analysis.

Since 1992, the Velmex “TA” system has been the standard of North America’s Dendrological Research Community. The “TA” system is successfully being used for many diverse application such as:

- Tree ring growth measurements
- Growth study of mollusks
- Probe positioning
- Precision bore camera inspection
- Material stress analysis
- Other applications requiring high accuracy non-contact measuring/positioning.

This second generation “TA” system introduced in 2013 provides the highest accuracy with increased durability and compactness at an affordable price.

The system uses an inductive sensing encoder that combines the accuracy of the optical encoder and the robustness of a magnetic encoder. For more information refer to “Linear and Rotary Encoders” at www.velmexcontrols.com.

With hundreds of systems in operation, Velmex is recognized as a global leader providing this valuable resource to further scientific research.



Velmex’s TA System has been recognized by North America’s Dendrological Research Community. It includes the proven UniSlide Assembly to maneuver the cookie or core under the microscope.

System Components*

The “TA” system consists of the following three main components:

1. UniSlide® dovetail rapid advance screw motion assembly, available in several travel lengths.
2. One micron (0.001mm) resolution linear encoder integrated to the UniSlide assembly.
3. Velmex VRO™ Encoder Readout for connection to the linear encoder and interface serially to a computer for measurement recording/logging.

Accessories:

1. USB to RS232 Serial Cable
2. VRO-TAB2 remote reset and send remote input module



UniSlide Assemblies are renown for their simple, reliable design where precise micron resolution is required. The encoder is affixed to the side of the carriage (moving element), as pictured above, and sends position data to the VRO and a connected computer.



Velmex’s VRO Digital Encoder Readout delivers ultra-precise position readouts on one or two axes.

*Components sold separately

Note: Any microscopes, cameras, measuring software and other tools utilized are not provided by Velmex.



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Note: Any additional components that might be used including microscopes, cameras, measuring software and other tools are not provided by Velmex.

PROJECTJ2X Software

ProjectJ2X software is designed for tree ring research and is available for PC's and Macintosh systems. The software is available by direct subscription from VoorTech Consulting. (Software is not part of the TA System from Velmex.) For additional information about the program visit: <http://www.voortech.com/projectj2x>

Contact VoorTech Consulting by email at: projectj2x@voortech.com

MICROSCOPES

The "TA" system was designed to be used in conjunction with a microscope. Below is a partial list for general and optional components, along with a list of manufacturers and distributors.**

General Requirements

1. Boom Stand (Adjustable Post Type)
2. Stereo Microscope (10-40 Power)
3. Cross Hair Reticle *(unless considering a CCTV camera)
4. Fiber Light Source

Optional

1. CCTV Camera (Black & White)
2. Monochrome Monitor
3. Camera To Microscope Adapter

Manufacturers And / Or Distributors

NIKON INC.
1300 Walt Whitman Rd.
Melville, N.Y. 11747-3064
Ph. 516-547-8531
Fax 516-547-0306
www.nikon.com

UNITRON INC.
170-T Wilbur Place
PO Box 469
Bohemia, N.Y. 11716-0469
Ph. 516-589-6666
Fax 516-589-6975
www.unitronusa.com

START INTERNATIONAL
3361 Boyington Suite 120
Carrollton, TX 75006
Ph. 214-960-1986
Fax 214-702-9551
<http://www.startinternational.com/>

OLYMPUS AMERICA INC.
2 Corporate Center Dr.
Melville, N.Y. 11747-3157
Ph. 516-844-5043
Ph. 800-446-5967
Fax 516-844-5111
www.olympusamerica.com

EDMUND SCIENTIFIC
Dept. 15B1
N9066 Edscorp Bldg.
Barrington, N.J. 08007
Ph. 609-573-6250
Fax 609-573-6295
www.edmundoptics.com.sg

VOORTECH CONSULTING
362 E. Holderness Road
Holderness, NH 03245
Ph. 603-942-7968
Fax 603-942-7828
www.voortech.com/projectj2x



Although used in Dendrochronology, the Velmex TA System has been used in the study of mollusks, probe positioning, bore camera inspection, material stress analysis and other research.

****** (Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by Velmex.)



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Miscellaneous Requirements

Since the knob projects below the base of the UniSlide® it is necessary to mount the UniSlide on a spacer or orient the slide so the knob extends beyond the work surface. Wood, plastic, or some other flat material, 3/4” or thicker, can be used.

On the top surface of the slider (moving element) it is suggested a larger work surface be mounted. This will provide the necessary support for cores and cookies. The material suggested is 1/2” x 10 1/2” x 5 1/2” PVC plastic.

VRO Encoder Readout Configuration for “TA” Systems

VRO Front Panel Setup

Enc Type: Linear
Ln Res: 0.001 mm

RS-232 Port Configuration: 8 Data, No Parity, 1 Stop, 9600 baud

Refer to the “VRO Encoder Readout” literature for more information at www.velmexcontrols.com

Care Of The “TA” Measurement System

When not in use the UniSlide assembly should be covered to protect from build-up of dust and other contaminants. If the dovetail ways and/or lead screw appear dry, lubricate with white lithium grease or silicone oil.

Customer Service

Most questions regarding the “TA” UniSlide System can be resolved by careful study of the manuals, install documents in the ProjectJ2X software, and the other information that has been provided with each system or component. For any non-software questions, that can't be answered by these means, please contact Velmex at 585-657-6151 or via fax at 585-657-6153.

Warranty Periods

| | |
|-----------------------|--|
| UniSlide Assembly: | One year limited warranty |
| VRO™ Encoder Readout: | Three year limited warranty |
| AMO Encoder: | Two year limited warranty (OEM Manufacturer's) |



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Return Policy

Do not return any components without first obtaining the Return Material Authorization Number and form.

If it is determined that repair and/or warranty work is required, Velmex, Inc. will provide a Return Material Authorization Number. Please provide a fax number so we can fax the RMA number and return form required. Please include a written explanation of the problem with your contact e-mail, phone and fax numbers. The returned components must be well packed to prevent damage.

For Non-US Customers: The return package must be marked “US GOODS RETURNED FOR REPAIR, Phone +1-585-657-6151.”

USEFUL LINKS

Manufacturer of Linear Encoder

AMO GmbH

Web Site:

<http://www.amo-gmbh.com/en>

ProjectJ2X Software

VoorTech Consulting

E-Mail:

Web Site:

Phone: +1-603-942-7968

projectj2x@voortech.com

Fax: +1-603-942-7828

<http://www.voortech.com/projectj2x>

Arizona Laboratory of Tree-Ring Research

Web Site:

<http://www.ltrr.arizona.edu>

Lamont-Doherty Earth Observatory

Web Site:

<https://www.ldeo.columbia.edu/tree-ring-laboratory>

Software at same web site:

<https://www.ldeo.columbia.edu/tree-ring-laboratory/resources/software>

Ultimate Tree-Ring Web Pages (First Class Information Site. This site is not currently live. Because of the excellent information on the science of tree-rings, this is an archive view.)

Web Site:

<https://web.archive.org/web/20180710024610/http://web.utk.edu/~grissino/>

Ultimate Tree-Ring Software List to Analyze Tree Rings

Web Site:

<https://web.archive.org/web/20180627102744/http://web.utk.edu/~grissino/software.htm>



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