



## ***THE VELMEX “TA” SYSTEM FOR RESEARCH AND NON-CONTACT MEASUREMENT ANALYSIS***

*This system is the standard of North America’s Dendrological Research Community where accuracy and reliability are critical!*

*Velmex Incorporated has been manufacturing linear and rotational dovetail slide assemblies for science and industry for nearly 40 years! The “TA” Measurement System which began in 1992, has been acclaimed by Dendrochronologists’ around the world for its’ accuracy, reliability, simplicity, portability, and customer support!*

*Even though you may not be engaged in Dendrochronology, the “TA” Measurement System is useful in other areas of research where non-contact measurement or positioning is desired. Currently, this system is used in the study of Mollusks, probe positioning, precision location and inspection with a bore camera, material stress analysis, and other areas of research.*

*The “TA” system consists of an aluminum dovetail rapid advance screw motion UniSlide which incorporates a 10 x 1 mm lead screw, and is available in different travel models. Connected to the body of the slide is a linear encoder and the reading head of the encoder is connected to the slider (moving element). The encoder can be selected in one of two resolutions, 5, and 1 micron. The encoder is connected to a readout and if desired, the readout can be connected to a PC or MAC computer. Velmex does not provide any software for data collection. However, a measurement software program for recording the data can be purchased from VoorTech Consultants. Velmex provides you with an evaluation copy for your convenience. The details of the system and information where to purchase the software are provided in the following pages.*

**First:** Select UniSlide Model (with travel desired)

**Second:** Select Acu-Rite Encoder Number (select resolution desired)

**Third:** Add both prices together

**Please Note: All prices are in US Dollars**

Travel Distance	UniSlide Model No.	UniSlide Price US	NET WT	AcuRite 0.0002"	Encoder Price US	AcuRite 0.00005"	Encoder Price US
3 "	TA4009H1-S6	\$643	6 lbs	585275--02	\$602	585271-02	\$908
6"	TA4012H1-S6	\$685	7 lbs	585275-06	\$627	585271-06	\$935
9"	TA4015H1-S6	\$734	8 lbs	585275-08	\$632	585271-08	\$935
12'	TA4018H1-S6	\$782	9 lbs	585275-12	\$643	585271-12	\$948
15"	TA4021H1-S6	\$835	10 lbs	585275-14	\$679	585271-14	\$964
18"	TA4024H1-S6	\$888	11 lbs	585275-18	\$730	585271-18	\$1,097
21"	TA4027H1-S6	\$946	12 lbs	585275-20	\$746	585271-20	\$1,179
24"	TA4030H1-S6	\$998	13 lbs	585275-24	\$782	585271-24	\$1,230

**Quick-Chek Digital Readout**

The Quick-Chek (QC-10V) provides the desirable features of compact size, RS-232 interface, high resolution, linear error compensation, and is "CE" compliant.

The QC-10V is 5.25" high, 4.5" deep, 9.75" wide and can be used at all voltage settings, 85-264 VAC @ 50/60 Hz. It can read any resolution down to .000004" or .0001mm. The manufacturer is: Metronics Inc., 30 Harvey Rd., Bedford, N.H. 03110.

**ORDER:**

**QC-10V -- \$648 US --Please note--The QC-10V replaces the QC1100-AR. Metronics, Inc. completely redesigned and improved the DRO. We are sorry for any inconvenience that may be caused by this change but the high standards and quality have been maintained with the addition of easier setup, more robust electronic boards, and beeper control.**

**OPTIONAL (But Highly Recommended)**

**TAB2--\$64 US--The TAB2 plugs into the QC-10V and is supplied with a 10 ft. cord. This remote zero and print reset switch provides for uninterrupted operation while viewing and measuring the sample through a microscope. After the incremental measurements have been made, they can be printed out via the computer by pushing the print button.**

**DAC--\$89 US--This Data Acquisition Cable Includes the USB Converter and will replace our former TAC-PC & TACMAC Cables and will allow the researcher to connect the QC-10V to a PC and/or a MAC.**

**(PN#4-2132) JUST FOR THE USB CONVERTER AND IS \$41 US. PLEASE INDICATE ON ORDER FORM WHETHER YOU NEED IT.**

**SOFTWARE**

We suggest the MeasureJ2X program. This software is designed for tree ring research and is available for Pentium based PC systems running Win95/98/NT or PowerPC Mac systems running 7,8, or 9. The software is available by direct subscription to ProjectJ2X, a program providing software and support to tree ring researchers, for a subscription of \$180. More information about the program is available at the ProjectJ2X web site at: <http://www.vortech.com/projectj2x> or by contacting Vortech Consulting by email at: [projectj2x@vortech.com](mailto:projectj2x@vortech.com). Evaluation copies are sent with each "TA" System.

**“TA” SYSTEM INTERNATIONAL ORDER FORM**

Request Pro Forma Invoice: Yes----- No-----

Please print or type form:

<b>Bill To:</b>	<b>Ship To:</b>
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Person's Name Requesting Pro Forma and E-mail Address:

Phone No.	Fax No.
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**PLEASE ASSEMBLE DESIRED SYSTEM**

**Travel Desired**\_\_\_\_\_ **Resolution of Encoder Desired**\_\_\_\_\_

**TA40**\_\_\_\_\_ **H1-S6 UniSlide Assembly**      **Price**\_\_\_\_\_ **US Dollars**

**Acu-Rite Encoder Part No.** \_\_\_\_\_ **Price**\_\_\_\_\_ **US Dollars**

**QC-10V- Digital Readout CE compliant Price \$648.00 US Dollars**

**OPTIONAL (Highly Recommended)**

**TAB2: Remote( 2 button zero reset & print) Price \$64.00 US Dollars    Yes\_\_\_No\_\_**

**DAC: 10 ft. (QC to PC or MAC cable W/ USB) Price \$89.00 US Dollars    Yes\_\_\_No\_\_**

**USB CONVERTER (4-2132)(Converter Alone)Price \$41.00 US Dollars    Yes\_\_\_No\_\_**

**INTERNATIONAL SERVICE FEE:      \$75.00 US Dollars/Per Order**

**SHIPPING:    Select one:**    \_\_\_\_\_ **UPS Int'l Red Insured ( 2 day ) \* For Some Countries  
this is the only way it can be shipped**  
  
   \_\_\_\_\_ **UPS Int'l Blue Insured ( 3 day )Preferred**  
  
   \_\_\_\_\_ **Other (Please Explain) If using a broker please provide  
full address, phone & fax numbers, contract number,  
what custom papers are required, etc.**

## INTERNATIONAL ORDER INFORMATION & TERMS

### Customs, Import Duties, & Taxes- Customers' Responsibility

- Packaging—** The shipment of the “TA” System will require the use of **Two boxes**, one box will contain the QC-10V, TAB2, and TAC-PC, . The other box will have the “TA” UniSlide Assembly with the customer selected linear encoder mounted to it.
- Payment In Advance—** It is recommended that a Pro Forma be obtained from Velmex Inc. before an order is placed. The Pro Forma will provide the total cost which will include shipping and will also provide the necessary bank information for wire transfer. **Velmex will not ship until payment is received.**
- Shipping Damage—** Please inspect all goods upon arrival for any damage. It is the responsibility of the customer to report any damage to the carrier. (Ex. UPS) After reporting any damage, notify Velmex by phone and ask for our shipping manager, Mark Novosel at 585-657-6151, Fax 585-657-6153 or E-Mail [mnovosel@velmex.com](mailto:mnovosel@velmex.com)

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### WARRANTIES

- “TA”UniSlide—** **One year** limited warranty for the “TA” UniSlide for replacement of parts **exclusive of shipping and handling** costs. This warranty will not apply when it has been determined the UniSlide has been subjected to misuse, abuse, customer alteration, or **attempted repair**.
- QC-10V--** **Two year** limited warranty from date of purchase. Same limitations as above apply.
- Acu-Rite Encoder--** **Three years** limited warranty from date of purchase. Same limitations as the UniSlide apply.
- Warning--** If after a call to Velmex the Acu-rite encoder has been determined to require repair, it must be returned to Velmex along with the TA UniSlide it is mounted too. **(Do not attempt to remove encoder from the UniSlide)** Please call and request an RMA Number.

**NOTE:** In 16 years there has been only two problems with either the Quick-Chek or AcuRite encoder out of the 500 systems sold! More problems are the result of the user attempting to disassemble or adjust the system themselves without any call to Velmex.

**“TA” SYSTEM U.S. CANADA, & MEXICO ORDER FORM**

**Request Formal Quote: Yes----- No----- Please Print or Type**

<b>Bill To:</b>     	<b>Ship To:</b>     
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Person's Name Requesting Formal Quote and E-Mail

Phone No.	Fax No.
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**PLEASE ASSEMBLE DESIRED SYSTEM**

**Travel Desired\_\_\_\_\_ Resolution of Encoder Desired\_\_\_\_\_**

**TA40\_\_\_\_\_H1-S6 UniSlide Assembly Price\_\_\_\_\_ US Dollars**

**Acu-Rite Encoder Part No. \_\_\_\_\_ Price\_\_\_\_\_ US Dollars**

**QC-10V- Digital Readout Price \$648.00 US Dollars**

**OPTIONAL (Strongly Suggested)**

**TAB2: Remote( 2 button zero reset & print) Price \$64.00 US Dollars Yes\_\_\_ No\_\_\_**

**DAC: 10 ft. (QC to PC or MAC cable W/ USB) Price \$89.00 US Dollars Yes\_\_\_ No\_\_\_**

**(4-2132) USB CONVERTER (Converter Alone) Price \$41.00 US Dollars Yes\_\_\_ No\_\_\_**

**Canadian orders will require a \$25.00 US Dollar Handling Fee !**

**Mexican Orders will require a \$50.00 US Dollar Handling Fee !**

**SHIPPING: Select one \_\_\_ UPS Red Insured (2 day delivery)**

**\_\_\_ UPS Blue Insured (3 day delivery)**

**Ship Date: 3-4 weeks ARO**

**Terms: Net 30      FOB: S.P.      Shipping: PPD&ADD -----Canada Only!**

**Terms: Prepayment required for all Mexican Orders**

## CUSTOMER SERVICE

Most questions regarding the “TA” UniSlide System can be resolved by careful study of the manuals, install documents in the MeasureJ2X software, and by the other information that has been provided with each system. Any non-software questions that can't be answered by these means it is suggested that you contact **ALAN LANE**. Phone. 585-657-6151 FAX. 585-657-6153 or E-Mail [Alan.L@velmex.com](mailto:Alan.L@velmex.com) For all software related questions contact the software supplier.

## RETURN POLICY

If it is determined that repair and/or warranty work is required, Velmex Inc. will provide a Return Authorization Number. You must provide a fax number so we can fax you the return authorization number and return form. **You are not to return anything without first obtaining the Return Authorization Number and form.** Please include an informational letter regarding the problem with phone and fax numbers.

**For Non-US Customers:** The returned component must be well packed to prevent further damage. The return package must be marked “**US GOODS RETURNED FOR REPAIR--Att. Alan Lane.**”

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## CARE OF THE “TA” UNISLIDE SYSTEM

-----**When not in use the UniSlide should be covered** to protect from a build-up of dust and other contaminants. As use dictates, brush the lead screw with a brass bristle brush using a flicking motion to remove any accumulation of debris. After this has been accomplished wipe the dovetail of the UniSlide with a clean lint free cloth. Lubricate with a **non-petroleum lubricant** such as mineral oil in both the dovetail and lead screw.

-----**To remove debris from the Acu-Rite encoder**, wipe the rubber lip seals with a clean lint-free cloth. Separate the rubber seals and proceed to wipe the glass scale with a cotton swab which has been saturated with isopropyl alcohol. **Make sure the swab remains wetted at all times, wiping with dry swabs may damage the glass scale surface.**

-----Keep liquids, especially soft drinks and sugar laden coffee away from the UniSlide, linear encoder, and readout for obvious reasons.

-----The QC1100-AR & 10V should be plugged into a battery backup **SURGE PROTECTION DEVICE**. If you experience power fluctuations or thunderstorms this device will be greatly appreciated, especially while in the process of data collection. **If you don't**, nothing will be damaged but you may experience a **Zero** reading on the display regardless of where the slide is positioned. You will then have to proceed with a **Factory Default Reset** and re-establish all former settings of the QC1100-AR & 10V. This can be quite time consuming.

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## MICROSCOPE INFORMATION

The "TA" system was designed to be used in conjunction with a microscope. Velmex Inc. is the manufacturer of the UniSlide line of linear and rotational equipment for science and industry. Therefore, it is not in the business of supplying microscopes or incorporating them into our product line, including the "TA" system. The general and optional requirements are listed below, along with a list of manufacturers and /or distributors. This is only a partial list and should not be considered any form of endorsement.

### GENERAL REQUIREMENTS

1. BOOM STAND (ADJUSTABLE POST TYPE)
2. STEREO MICROSCOPE (10-40 POWER)
3. CROSS HAIR RETICLE \*(unless you are considering 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

#### START INTERNATIONAL

3361 Boyington Suite 120  
Carrollton, TX 75006  
Ph. 214-960-1986  
Fax 214-702-9551

#### UNITRON INC.

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

#### OLYMPUS AMERICA INC.

2 Corporate Center Dr.  
Melville, N.Y. 11747-3157  
Ph. 516-844-5043  
Ph. 800-446-5967  
Fax 516-844-5111

#### EDMUND SCIENTIFIC CO.

Dept. 15B1  
N9066 Edscorp Bldg.  
Barrington, N.J. 08007  
Ph. 609-573-6250  
Fax 609-573-6295

## MISCELLANEOUS REQUIREMENTS

- Because the knob projects below the base of the UniSlide it will be necessary to mount the UniSlide on a minimum of a 3/4" thick board, plywood, plastic, or some other good quality flat material. This allows the knob to rotate freely, especially when working on a table or other flat surface.
- 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" Opaque Plastic. At the centerline 2 3/4" place clearance for the **two** 10-32 tapped holes 3.250" apart using #9 drill and a countersink. When making a larger work surface project it over the reading head of the linear encoder to protect it as well. Use flat head machine screws 1" long for mounting.
- Velmex Inc. does not manufacture or supply the materials mentioned. Many researchers felt it was more important to keep the manufacturing and shipping cost down. They favored purchasing these materials themselves which is more cost effective. This also allows for personal customization.

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## CONTACT INFORMATION

**Acu-Rite Inc., One Precision Way, Jamestown, NY 14701**  
**Manufacturers of Linear Encoder Ph. 1-800-344-2311 Fax. 716-661-1888**  
**Web Site: <http://www.acu-rite.com/>**

**Metronics Inc., 30 Harvey Road, Bedford, NH 03110**  
**Manufacturers of QC-10V & QC1100-AR Ph. 603-622-0212 Fax. 603-623-5623**  
**—Technical Assistance: Bob Pater E-Mail: [rpater@metronics.com](mailto:rpater@metronics.com)**

**Velmex Inc., 7550 State Route 5 & 20, Bloomfield, NY 14469**  
**Manufacturers of "TA" UniSlide System Ph. 585-657-6151 Fax. 585-657-6153**  
**—Technical Assistance: Alan Lane E-Mail: [Alan.L@velmex.com](mailto:Alan.L@velmex.com)**

**VoorTech Consulting Ph. 603-942-7968 Fax. 603-942-7828**  
**MeasureJ2X Software**  
**Nancy Voorhis E-Mail: [projectj2x@voortech.com](mailto:projectj2x@voortech.com)**  
**Web Site: <http://www.voortech.com/projectj2x>**

**MEDIR Program by Richard Holmes Web Site <http://web.utk.edu/~grissino/software.htm>**

**Arizona Laboratory of Tree-Ring Research Web Site: <http://www.ltrr.arizona.edu>**

**Henri D. Grissino-Mayer's Ultimate Tree-Ring Web Pages (First Class Information Site)**  
**Web Site: <http://web.utk.edu/~grissino/>**

## **QUICK-CHEK SETUP PROCEDURE (QC1000& 1100 ONLY)**

### **TO ENTER SETUP MODE:**

1. Hold down the DISPLAY ON button and press the PRINT button. "CODE" will be displayed
2. Enter the code: PRINT, DEG/DMS, ZERO, PRINT, ZERO, REF.

The readout is now in **SETUP MODE** and the front panel keys have a new meaning, as follows:

PRINT= Next (Use to move up or down the selected menu)

ZERO==Enter/Yes (Use to move the selected option or selected displayed option.

DISPLAY ON= Save (Use to save the selected settings and return to normal operation.

DISPLAY OFF=Abort (Use to delete all current changes and return to display off mode.

### **FOR NUMERICAL ENTRY:**

1. To increase the current (flashing) digit press the PRINT button.
2. To move the (flashing) digit to the next digit press the INC/ABS button.
3. To set the decimal point press the REF button.
4. To change from the Inch to MM or MM to Inch press the INCH/MM button.
5. To finish press the ZERO button or the DISPLAY ON button.

**To change the following SYSTEM related parameters use the master:**

>**OPTIONS**

>**SELFTEST**

>**FACTORY RESET**

**To change the following AXIS related parameters select the specific axis to change:**

>**SCALE** (Linear/Angular) resolution

>Scale Direction (**Pos/Neg**)

>Display Resolution (**MM or INCH**)

>Prescale

>**LEC** (Linear Error Correction) Observed and Actual

>Axis **ID** and Print **AX**

### **TO PERFORM A FACTORY RESET DO THE FOLLOWING:**

1. Enter the Setup Mode. Set **AH** will be displayed in the Master Unit
2. Press **PRINT (3)** times. **FAC SET** will be displayed.
3. Press the **ZERO** button on the master.
4. Press the **DISPLAY ON** button.

Now the Master and all connected Slaves are reset to the **FACTORY DEFAULT SETTINGS**

**To change the parameters for a selected AXIS do the following:**

1. Enter the **SETUP MODE**, **SET AH** will be displayed.
2. Press the **ZERO** key for the axis to select changes for, **AH IS SEL** will be displayed in all displays.
3. Press the **ZERO** key for the axis you want to select. All following key presses will effect only

the axis which is selected.

4. Press the **PRINT** key to move you through the menu selections.
5. Press the **ZERO** key to move into the selection currently displayed in the window.
6. When setting the Scale Resolution make sure before changing any numbers you must select **INCH** or **MM** mode depending on what linear encoders are used.
7. Use the Numerical Entry routine to select the appropriate value settings.
8. Press the **DISPLAY ON** button after all settings have been made.

The QC1100-AR should be correctly set now.

Unsure? To check the results of setting the display, do the following:

1. Place a scale in English or Metric on UniSlide top surface so as 0 lines up with end of slider.
2. Rotate knob and move slider to an increment (ex. 1" line)
3. If scale was set for INCH the display would read 1.00000" etc. or close to it.
4. If scale was set for MM the display would read in 25.40000 mm or close to it.
5. If not check your settings.

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Setup Procedure written by Cliff Nichols at Velmex Inc. ( [www.cliff@velmex.com](mailto:www.cliff@velmex.com) )

#### **Setup for desired baud rate (Typically 9600)**

1. On the front panel of the **QC1100-AR** perform setup as follows (as per Pg. 4-1 of manual)
  - a. Hold down "Display On" and press "Print" ("codE" should appear on the screen)
  - b. Press the following keys in order:
    - 1.) "Print"
    - 2.) "Deg/Dms"
    - 3.) "Zero"
    - 4.) "Print"
    - 5.) "Zero"
    - 6.) "Ref"

SEt AH should now appear on the screen

- c. Change Baud rate to desired value by the following:
  - 1.) Press "Print" 2 times ("oPtionsS" should appear on the screen)
  - 2.) Press "Zero" 3 times ("600" should appear on the screen)
  - 3.) Press "Print" until desired value appears on the screen
  - 4.) Press "Zero" to store this value ("End LinE" should appear on screen)
  - 5.) Press "Display On" to Save and return to digital readout

#### **Restoration of QC1000 or QC1100-AR to Factory Defaults**

- 1.) Hold down "Display On" and press "Print" ("codE" should appear on the screen)
- 2.) Press the following keys in order:
  - a.) "Print"
  - b.) "Deg/Dms"
  - c.) "Zero"
  - d.) "Print"
  - e.) "Zero"
  - f.) "Ref"

SEt AH should now appear on the screen

- 3.) Press "Print" 3 times and "FAc SEt" should appear on the screen
- 4.) Press "Zero" to reset to factory default setting