

Multi-format, Multi-standard Waveform Rasterizers

► WVR7000 Series • WVR6000 Series



The WVR7100 supports HD monitoring applications with the options to add SD and/or composite analog video monitoring capabilities. The WVR6100 comes standard with the SD monitoring capability, with the option to add composite analog video monitoring capability. Both WVR7100 and WVR6100 can add options for Analog audio, Digital AES and embedded audio, as well as Dolby Digital (AC-3) and/or Dolby E decode and monitoring (including Metadata) capabilities. You can now monitor HD, SD and Analog Composite video, as well as Analog and Digital audio, all from a single, convenient 1 RU instrument.

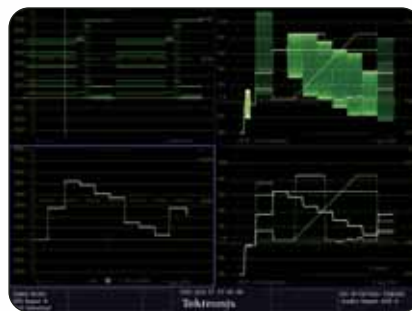
Powerful Display Flexibility – FlexVu Display

To maximize application flexibility, a high-resolution, tiled display design lets users customize presentation of information for each operation they wish to perform. Waveform, vector, gamut, audio (optional), status and picture monitor displays can be combined with line select, gain and magnification in nearly unlimited combinations. These instruments offer a number

of exclusive displays that speed and simplify the monitoring and measurement tasks, continuing the Tektronix tradition of measurement leadership.

Waveform Displays

A complete range of display options lets users choose between parade and overlay presentation of SDI signals in RGB, YPbPr, YRGB or composite formats. Full horizontal timing flexibility is provided with 1Line, 2Line, 1Field and 2Field sweep modes, with or without magnification. Both fixed and variable vertical gain are offered, each with the outstanding accuracy and repeatability that comes from a fully digital design.



► Four different views of the same signal.

► Features & Benefits

WVR7100 – HD-SDI (SMPTE 292 M) with Options for SD-SDI (ITU-R BT.601) and Composite Video

WVR6100 – SD-SDI (ITU-R BT.601), with Option for Composite Video

Optional Digital AES and Embedded Audio or Analog and Digital Audio

Optional Dolby Digital (AC-3) or Dolby E and Dolby Digital Decode and Monitoring (including metadata)

High-resolution XGA Output for Crisp, Easy-to-Read Displays

FlexVu™ Display – Unique, Flexible Tiling for True “Four Instruments in One” Capability

Easy to Use and Learn Enabled by FlexVu Display, Intuitive User Interface, Backlit Buttons and Online Help

Fully Digital Processing for Accurate, Repeatable, Drift-free Operation

Exclusive Tektronix Gamut Displays (Diamond, Split Diamond and Arrowhead) Ensure Compliant Content

User Definable Safe Action and Safe Title Graticules Help Editors and Operators Easily Identify Incorrectly Positioned Video Content

Closed Caption Decode and Display Capability Helps Operators Quickly Verify Correct Closed Captioning in the Video Content

Flexible Lissajous and Multi-channel Surround Sound Displays Let Audio Editors and Operators Verify Compliance of Digital Audio Signals, Including Dolby Digital and Dolby E, Without the Need of an Additional Piece of Equipment

Patented Tektronix Timing Display Makes Facility Timing Easy

Exclusive Session Screens: Video, Audio and Auxiliary Data (including TSID) for Content Status at a Glance

Passive Loophroughs (HD-SDI, SD-SDI and analog inputs) Allow for Monitoring the True Signal in the Path and Ensuring Signal Integrity, Even if the Instrument Power is Off

A Variety of Remote Control Configurations for Complete Integration Flexibility

► Applications

Confidence Monitoring of High Definition (HD), Standard Definition (SD) and Composite Signals

Compliance Checking in Distribution and Broadcast

Content QA in Production and Post-production

Multi-format, Multi-standard Waveform Rasterizers

► WVR7000 Series • WVR6000 Series

High-performance composite waveforms are available in the WVR7000 and WVR6000 Series. Wide bandwidth and outstanding display quality combine to let users discern even the finest details. A variety of filtering options allows optimized presentation of information.

Vector Displays

The vector display is offered with selectable 75% and 100% targets. Each display automatically selects the appropriate graticule based on the input format. The patented Tektronix Lightning display provides unique insight not available in traditional vector displays – allowing users to visualize both luma and chroma amplitudes, as well as quantify inter-channel timing, without taking the equipment out of service.



► Lightning display showing correctly aligned signal.

Gamut Displays

The patented Tektronix Diamond and Split Diamond displays enable colorists, editors and operators to visualize whether the content is RGB gamut compliant with a single glance. Plus, they are designed to help isolate the out-of-gamut component just as easily.

For SDI component content that is destined for broadcast in composite systems, the unique Tektronix Arrowhead display can be used to monitor composite gamut compliance without the need for a separate encoder. Within this display, a separate upper and lower luma-only gamut limit can be applied. The power of the FlexVu™ Display lets you monitor the Diamond and Arrowhead displays simultaneously for complete confidence in content compliance throughout the delivery chain.



► Diamond, Split Diamond and Arrowhead shown in conjunction with a summary of all video errors.

Each of these displays offers user-selectable gamut thresholds so operators can set monitoring limits appropriate to their specific operation. In addition, gamut monitoring is fully integrated with the powerful alarm logging and reporting capability of the WVR7000 and WVR6000 Series.

Picture Monitor Display

For a qualitative view of the content, a full-color picture monitor is offered, which can be displayed either in a single tile or as a full-screen presentation. This display is compatible with all input formats and features automatic adjustment for aspect ratio and number of active lines. In addition to displaying the picture, the

WVR7000 and WVR6000 Series can also display Safe Action and Safe Title graticules which help editors and operators easily identify incorrectly positioned video content. Besides the graticules defined by SMPTE RP218, BBC and ARIB B-10, two sets of totally flexible, user-definable graticules can also be chosen. Every WVR7000 and WVR6000 Series product can detect the presence of closed caption data that conforms to EIA608 and EIA708 standards. Various types of closed caption data as well as V-Chip information can also be decoded and displayed in the picture mode, providing the option to the operators to eliminate a dedicated CC monitor, saving space and money.



► Safe Action, Safe Title Graticules and Closed Caption and V-Chip Information shown in the picture display.

Analog, Digital AES, Dolby Digital and Dolby E Audio Capabilities (optional capabilities)

Available in the WVR7000 and WVR6000 Series are a range of audio options that can add comprehensive audio monitoring capabilities for analog audio and digital audio.

Option DS supports digital audio monitoring in embedded and AES/EBU formats.

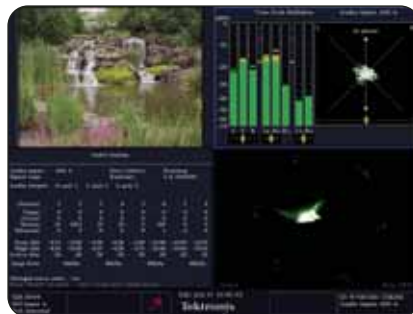
Option AD supports both analog audio and digital audio monitoring provided by Option DS. Option DD supports Dolby Digital (AC-3) decode and monitoring plus all the capabilities of Option AD. And, finally, Option DDE supports Dolby E (including metadata support) and all the capabilities of Option DD. While Option DDE supports 32-bit professional and consumer modes as well as 16-bit professional mode on Channel 1 or Channel 2, stream 0 through 7, Option DD supports 32-bit professional and consumer modes on stream zero only. Both Dolby Digital and Dolby E signals can be decoded for metadata analysis. In addition, these signals can be displayed on the multi-channel Surround Sound display with total volume, center volume, phantom source and dominant sound indicators, as well as correlation indicators for respective pairs of channels. Up to eight analog audio channel outputs, including a stereo downmix of the Dolby Digital or Dolby E signal, can be decoded from either digital AES input or de-embedded SDI input.

All audio options offer level bars display and both bars and flexible Lissajous display. These displays can be selected to provide monitoring for both embedded and AES digital audio formats with up to eight channels. Except Option DS, all the



► Dolby E signal monitoring with multi-channel Surround Sound display and metadata analysis display.

other audio options also provide up to two sets of six balanced analog inputs. The level meters offer selectable meter ballistics and scaling. Analog audio scales can be set to dBu, DIN, Nordic, VU or IEEE PPM. Digital audio scales are available for dBFS and can be user configurable. The over and silence settings augment digital clip and mute detection by letting users select levels to represent these conditions in the analog audio domain. In addition to audio displays, a full range of audio error conditions can be selected for monitoring, including AES unlock, parity errors, checksum errors and Dolby metadata.



► A summary of audio errors is combined with level bars and Lissajous, picture monitor and vector.

Status Displays

The WVR7000 and WVR6000 Series offer a variety of displays designed to show status at a glance, in addition to the status bar continually displayed at the bottom of the screen.

A comprehensive overview of the video content status is presented in the video session screen. Offering a time-based compilation of information, this screen is ideal for presenting evidence of compliance after content screening. Information on input format and session time is presented, along with statistics on Error Detection and Handling (EDH)/Cyclic Redundancy Check (CRC) errors and gamut errors. Information is presented in errored seconds, errored frames and percentage of total frames – together providing a unique quantitative insight to content quality.



► Audio and video summary statistics combined with a gamut display.

When one of the audio options is installed, an audio session screen is available. This screen records the highest true peak, as well as the number of mutes, clips, overs and silences during the session time.

An alarm status screen can also be displayed providing up-to-the-moment information on the state of each condition currently being monitored by the instrument.

Multi-format, Multi-standard Waveform Rasterizers

► WVR7000 Series • WVR6000 Series

To support unattended monitoring applications, as well as provide documentation for service level agreements, the system maintains a log of all monitored alarms, time stamped with Vertical Interval Time Code (VITC), Longitudinal Time Code (LTC), Ancillary Time Code, and time of day references.

Timing Display

This intuitive display makes facility timing easy allowing a simple graphical interface to clearly show the timing offsets between HD and SD signals relative to the reference. The patented Tektronix Timing display presents a unique timing comparison between a digital (SD or HD) or analog composite signal and a house reference signal (composite or tri-level sync), thus eliminating the complexity in timing SD and HD signals. Timing differences are displayed numerically in terms of vertical lines and horizontal time in μsec relative to the house reference signal. A simple graphical display shows the relative timing of the input signal (the circle) vs. the reference signal (the crosshair). When the two signals are properly timed, the circle changes from a red to green color and is concentric with the crosshair.

Remote Access and Control

Powerful and flexible remote control features help users integrate these instruments into a variety of remote monitoring scenarios. The WVR7000 and WVR6000



► Intuitive Timing display.

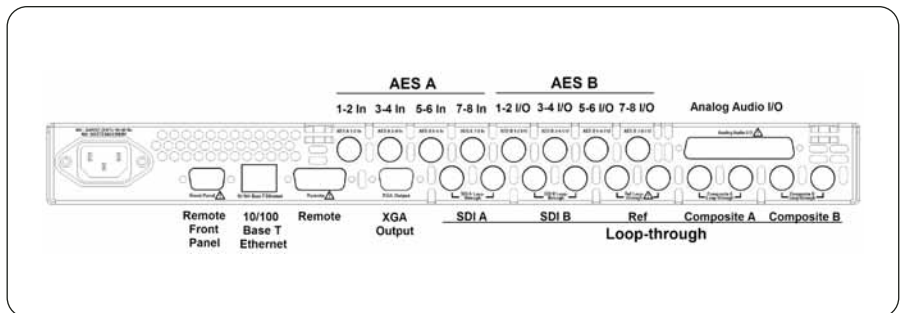
Series can be remotely accessed and controlled through a variety of mechanisms: remote front panel, Web interface, ground closure and SNMP.

The remote front panel allows the operators to access and control the base unit from a distance of up to 100 feet, using a cable. The remote front panel is similar to the front panel on the instrument. Using the built-in 10/100Base-T Ethernet port, users can remotely control every major feature of the instrument and view



► Remote front panel.

the display, as well as download the alarm log and print the screen contents for easy record keeping. This powerful Java application offers a variety of control options to suit individual preferences, and allows you to create and recall an unlimited number of instrument presets. Where simplified interfacing is the dominant requirement, a ground-closure type remote interface provides access to recall of instrument presets and an alarm signal output. The ground-closure interface is ideal for use in master control scenarios or in outside broadcast applications.



► Back panel with audio options.

► Characteristics

Video Input and External Reference Formats Supported

Automatic Detection of a Wide Range of Signal Formats

The WVR7000 and WVR6000 Series rasterizer accepts a wide variety of input signal formats and external references. The following chart illustrates all the video inputs (first column), cross referenced with their compatible external references.

The monitor will automatically detect the signal format and establish the appropriate settings for the various displays. You can select an expected signal format from the list of supported formats. If the expected format and detected format differ, the instrument will report a format mismatch. The instrument will signal a format mismatch if the applied external reference format is not compatible with the input signal.

SUPPORTED INPUT FORMATS	EXTERNAL REFERENCE INPUTS									
	NTSC	PAL	720p			1080p/sF		1080i		
	59.94 Hz	50 Hz	50 Hz	59.94 Hz	60 Hz	23.98 Hz	24 Hz	50 Hz	59.94 Hz	60 Hz
NTSC 59.94 Hz ¹	X									
PAL 50 Hz ¹		X								
483i, 59.94 Hz (525), BT601 ²	X			X					X	
576i, 50 Hz (625), BT601 ²		X	X					X		
720p, 23.98 Hz ³	X			X		X			X	
720p, 24 Hz ³					X		X			X
720p, 25 Hz ³		X	X					X		
720p, 29.97 Hz ³	X			X					X	
720p, 30 Hz ³					X					X
720p, 50 Hz ³		X	X					X		
720p, 59.94 Hz ³	X			X		X			X	
720p, 60 Hz ³					X		X			X
1035i, 59.94 Hz ³	X			X					X	
1035i, 60 Hz ³					X		X			X
1080i, 50 Hz ³		X	X					X		
1080i, 59.94 Hz ³	X			X					X	
1080i, 60 Hz ³					X		X			X
1080p, 23.98 Hz ³	X			X		X			X	
1080p, 24 Hz ³					X		X			X
1080p, 25 Hz ³		X	X					X		
1080p, 29.97 Hz ³	X			X					X	
1080p, 30 Hz ³					X					X
1080sf, 23.98 Hz ³	X			X		X			X	
1080sf, 24 Hz ³					X		X			X
1080sf, 25 Hz ³		X	X					X		
1080sf, 29.97 Hz ³	X			X					X	
1080sf, 30 Hz ³					X					X

¹ Available with the purchase of Opt. CPS.

² Available with the WVR6000 Series or the purchase of Opt. SD with the WVR7000 Series.

³ Available with the WVR7000 Series only.

Multi-format, Multi-standard Waveform Rasterizers

► WVR7000 Series • WVR6000 Series

Serial Digital Video Interface Inputs –

2, only one active at a time. For WVR7000 with Opt. SD, the inputs autodetect between HD and SD signals.

Input Type –

Passive loopthrough BNC, 75 Ω compensated.

Input Level – 800 mV_{p-p}, $\pm 10\%$.

Return Loss –

≥ 25 dB from 1 MHz to 270 MHz, power on.
 ≥ 15 dB from 1 MHz to 270 MHz, power off.
 > 15 dB from 1 MHz to 1.5 GHz, power on or off.

Loopthrough Insertion Loss –

For HD, equivalent to 10 m of type 8281 cable.

Loopthrough Isolation – > 50 dB to 300 MHz.

Receiver Equalization Range –

Typically for SD, to 250 m of type 8281 cable;
for HD to 100 m of type 8281 cable.

Composite Video Interface (Option CPS)

Formats Supported – NTSC, NTSC no setup; PAL.

Inputs – 2, only one active at a time.

Input Type –

Passive loopthrough BNC, 75 Ω compensated.

Input Dynamic Range – ± 6 dB.

Maximum Operating Amplitude –

-1.8 V to $+2.2$ V, DC + peak AC.

Absolute Maximum Input Voltage –

-6.0 V to $+6.0$ V, DC + peak AC.

DC Input Impedance – 20 k Ω , nominal.

Return Loss –

> 40 dB to 6 MHz, inputs and power on,
typical 35 dB with power off.

Cross-talk Between Channels – > 60 dB to 6 MHz.

Loopthrough Isolation – > 70 dB to 6 MHz.

DC Offset with Restore On – < 2 mV.

DC Restore 50 Hz and 60 Hz Attenuation –

Fast mode $> 95\%$ attenuation, slow mode
 $< 10\%$ attenuation.

Lock Range – ± 50 ppm remains locked.

External Reference

Sync Formats – NTSC and PAL and tri-level sync.

Input Type –

Passive loopthrough BNC, 75 Ω compensated.

DC Input Impedance – 20 k Ω , nominal.

Return Loss – > 40 dB to 6 MHz, > 35 dB to 30 MHz.

Lock Range – ± 50 ppm.

Monitor Output

Signal Format (XGA D-sub Output) –

1024x768, 60 Hz vertical rate.

Serial Digital Waveform Vertical Characteristics

Vertical Measurement Accuracy –

At X1 gain, $\pm 0.5\%$ of 700 mV full scale;

at 5X gain, $\pm 0.2\%$ of 700 mV full scale.

Gain – 1X, 5X, variable range 0.25X to > 7.5 X.

Frequency Response –

SD: Luminance (Y) channel $\pm 0.5\%$ to 5.75 MHz,
Color Difference channels (Pb, Pr) $\pm 0.5\%$ to
2.75 MHz.

HD: Luminance (Y) channel $\pm 0.5\%$ to 30 MHz,
Color Difference channels (Pb, Pr) $\pm 0.5\%$ to
15 MHz.

Analogue Composite Waveform Vertical Characteristics (Option CPS)

Vertical Measurement Accuracy –

$\pm 1\%$ all gain settings.

Gain – 1X, 5X, variable range 0.25X to > 7.5 X.

Frequency Response – Flat to 5.75 MHz, $\pm 1\%$.

Waveform Horizontal Deflection

Sweep Timing Accuracy – $\pm 0.1\%$.

Sweep Linearity – $\pm 0.1\%$.

Audio Characteristics (Optional Capability)

Level Meter Resolution –

0.056 dB steps at 30 dB scale from full scale to
 -20 dBFS; 0.20 dB steps at 70 dB scale for signals
above -20 dBFS.

Meter Ballistics –

True peak, PPM type 1, PPM type 2, extended VU.

Defined/Programmable Level Detection –

Mute, clip, user programmable silence, over.

Level Meter Accuracy Over Frequency –

-0.5 dB (for analog), -0.2 dB (for digital) from
20 Hz to 20 kHz, 0 to -40 dBFS sine wave, Peak
Ballistic mode.

Digital Audio (Options DDE, DD, AD and DS)

AES Inputs –

2 sets of 8 channels each, 32 kHz, 44.1 kHz,
48 kHz, 96 kHz, 192 kHz, 24-Bit.

AES Input Characteristics –

BNC, 75 Ω terminated, unbalanced, 0.2 V to 2 V_{p-p}.

AES Input Return Loss –

> 30 dB relative to 75 Ω from 0.1 to 6 MHz.

AES Outputs (from embedded sources) –

Up to 8 channels, 48 kHz, 20-Bit for SD and
24-bit for HD.

AES Output Characteristics –

BNC, 75 Ω terminated, unbalanced, 0.9 V to 1.1 V_{p-p}
into 75 Ω .

AES Output Return Loss –

> 25 dB relative to 75 Ω from 0.1 to 6 MHz.

AES Output Jitter –

3.5 nsec, peak, typical, with 700 Hz high-pass filter
per AES specification.

Analog Audio (Options DDE, DD and AD)

Analog Inputs – 2 sets of 6 channels each.

Analog Input Characteristics –

Balanced, unterminated via sub connector.

Cross Talk – < 88 dB.

Input Impedance – 24 k Ω , typical.

Analog Outputs – 8 channels.

Analog Output Characteristics Balanced or Unbalanced – Unterminated via sub connector.

Maximum Output Level –

Balanced: $+24$ dBu ± 0.5 dB.

Maximum Average Power: 25 mW per channel.

Recommended Load: 600 Ω or higher.

Digital Input to Analog Output Gain

Accuracy Over Frequency –

± 0.5 dB, 20 Hz to 20 kHz, 0 to -40 dBFS, 20- or
24-Bit inputs.

Analog Input to Analog Output Gain

Accuracy Over Frequency –

± 1 dB, 20 Hz to 20 kHz, 24 dBu to -16 dBu.

Output Impedance – 50 Ω , nominal.

Power

100 to 240 VAC -10% .

75 W.

Physical Characteristics

Dimensions	mm	in.
Height	44.45	1.75
Width	482.6	19
Depth	514.35	20.25
(front to back including handles and BNCs)		
Weight	kg	lbs.
Net	3.97	8.75

► Ordering Information

WVR7100

Base unit supporting HD Serial Digital Monitoring (2 passive loopthrough inputs).

Please specify Power Plug when ordering.

Options

Opt. SD – Add SD-SDI (ITU-R BT.601) monitoring. Uses same physical inputs as the HD – autotetect between SD and HD.

Opt. CPS – Add Analog Composite monitoring (NTSC and PAL). Two passive loopthrough inputs.

Opt. DS – Digital audio monitoring in embedded and AES/EBU formats.

Opt. AD – Analog audio and digital audio in embedded and AES/EBU formats (see optional accessories).

Opt. DD – Analog and digital audio with Dolby Digital (AC-3) decode and monitoring (see optional accessories).

Opt. DDE – Analog and digital audio with Dolby Digital (AC-3) and Dolby E decode and monitoring (see optional accessories).

WVR6100

Base unit supporting SD Serial Digital Monitoring (2 passive loopthrough inputs).

Please specify Power Plug when ordering.

Options

Opt. CPS – Add Analog Composite monitoring (NTSC and PAL). Two passive loopthrough inputs.

Opt. DS – Digital audio monitoring in embedded and AES/EBU formats.

Opt. AD – Analog audio and digital audio in embedded and AES/EBU formats (see optional accessories).

Opt. DD – Analog and digital audio with Dolby Digital (AC-3) decode and monitoring (see optional accessories).

Opt. DDE – Analog and digital audio with Dolby Digital (AC-3) and Dolby E decode and monitoring (see optional accessories).

Power Plug Options

Opt. A0 – US Power.

Opt. A1 – Euro Power.

Opt. A2 – UK Power.

Opt. A3 – Australia Power.

Opt. A5 – Swiss Power.

Opt. A6 – Japan Power.

Opt. A10 – China Power.

Service Options

Opt. C3 – Calibration Service 3 Years.

Opt. C5 – Calibration Service 5 Years.

Opt. D3 – Calibration Data Report 3 Years (with Opt. C3).

Opt. D5 – Calibration Data Report 5 Years (with Opt. C5).

Opt. R3 – Repair Service 3 Years (including warranty).

Opt. R5 – Repair Service 5 Years (including warranty).

Optional Accessories or Items

012-1688-00 – Analog audio breakout cable, 6 feet, male 62 pin connector to 8 XLR male output connectors and 12 XLR female input connectors.

WVRRFP – Separate remote front panel (including 25 ft. cable).

Opt. R3 – Repair Service 3 Years (including warranty).

Opt. R5 – Repair Service 5 Years (including warranty).

012-1682-00 – 100 ft. cable for use with Remote Front Panel (WVRRFP).

Upgrades

WVR7UP

Upgrade kit for WVR7000 Series.

Opt. SD – Add SD-SDI (ITU-R BT.601) monitoring. Uses same physical inputs as the HD – autotetect between SD and HD.

Opt. DS – Digital audio monitoring in embedded and AES/EBU formats.

Opt. AD – Analog audio and digital audio in embedded and AES/EBU formats (see optional accessories).

Opt. DD – Analog and digital audio with Dolby Digital (AC-3) decode and monitoring (see optional accessories).

Opt. DDE – Analog and digital audio with Dolby Digital (AC-3) and Dolby E decode and monitoring (see optional accessories).

Opt. IFC – Upgrade installation with calibration service.

WVR6UP

Upgrade kit for WVR6000 Series.

Opt. DS – Digital audio monitoring in embedded and AES/EBU formats.

Opt. AD – Analog audio and digital audio in embedded and AES/EBU formats (see optional accessories).

Opt. DD – Analog and digital audio with Dolby Digital (AC-3) decode and monitoring (see optional accessories).

Opt. DDE – Analog and digital audio with Dolby Digital (AC-3) and Dolby E decode and monitoring (see optional accessories).

Opt. IFC – Upgrade installation with calibration service.

Check www.tektronix.com for new firmware downloads.

Multi-format, Multi-standard Waveform Rasterizers

► WVR7000 Series • WVR6000 Series

Contact Tektronix:

ASEAN / Australasia / Pakistan (65) 6356 3900

Austria +41 52 675 3777

Balkan, Israel, South Africa and other ISE Countries +41 52 675 3777

Belgium 07 81 60166

Brazil & South America 55 (11) 3741-8360

Canada 1 (800) 661-5625

Central East Europe, Ukraine and Baltics +41 52 675 3777

Central Europe & Greece +41 52 675 3777

Denmark 80 88 1401

Finland +41 52 675 3777

France & North Africa +33 (0) 1 69 81 81

Germany +49 (221) 94 77 400

Hong Kong (852) 2585-6688

India (91) 80-22275577

Italy +39 (02) 25086 1

Japan 81 (3) 6714-3010

Luxembourg +44 (0) 1344 392400

Mexico, Central America & Caribbean 52 (55) 56666-333

Middle East, Asia and North Africa +41 52 675 3777

The Netherlands 090 02 021797

Norway 800 16098

People's Republic of China 86 (10) 6235 1230

Poland +41 52 675 3777

Portugal 80 08 12370

Republic of Korea 82 (2) 528-5299

Russia, CIS & The Baltics 7 095 775 1064

South Africa +27 11 254 8360

Spain (+34) 901 988 054

Sweden 020 08 80371

Switzerland +41 52 675 3777

Taiwan 886 (2) 2722-9622

United Kingdom & Eire +44 (0) 1344 392400

USA 1 (800) 426-2200

USA (Export Sales) 1 (503) 627-1916

For other areas contact Tektronix, Inc. at: 1 (503) 627-7111

Updated 10 February 2005

Our most up-to-date product information is available at:
www.tektronix.com

Product(s) are manufactured
in ISO registered facilities.



Copyright © 2005, Tektronix, Inc. All rights reserved. Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specification and price change privileges reserved. TEKTRONIX and TEK are registered trademarks of Tektronix, Inc. All other trade names referenced are the service marks, trademarks or registered trademarks of their respective companies.

3/05 HB/WOW

24W-18752-0

Tektronix
Enabling Innovation