

Realtime Spectrum Analyzer

3026



Features and Benefits

- 2 MHz Real-Time Signal Capture
- Simultaneous Time and Frequency Domain Capture
- 50 Hz to 3 GHz Frequency Coverage
- Frequency, Time, and Phase Analysis
- 25,000 Frames/second Measurement Speed
- Display Update Rate of 40 Microseconds



Applications

- Cellular/PCS Manufacturing Test
- Pager Manufacturing Test
- RF Component Manufacturing Test
- Network Ingress Monitoring and Analysis
- CATV Return-Path Ingress Monitoring
- Radar System Fault Location and Maintenance
- Time and Code Domain Consumer Product Manufacturing Test
- Microwave Data Link Fault Location
- Computer Manufacturing/Test for EMC
- Surveillance
- Performance Verification of Consumer Products that Use Time or Code Domain Commands

The new 3026 real-time Spectrum Analyzer provides design engineers and manufacturing final test evaluators of communications equipment an affordable product that can be used to quickly evaluate a design or the final product for transient (BURST) phenomena that otherwise might not show up until it is in the end user's hands.

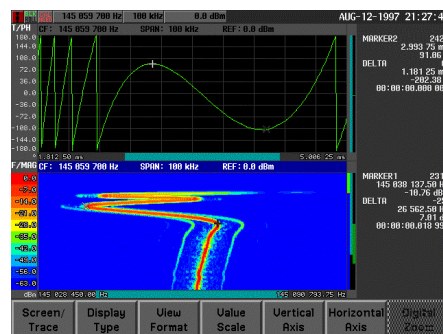
The 3026 offers a full 2 MHz of real-time bandwidth with measurement speed of 25,000 frames/second and a 1024 point update interval of 160 microseconds. The captured events can be conveniently displayed in a variety of formats selectable by the user: Spectrum, Spectrogram, and Waterfall. The analyzer architecture makes it possible to capture time domain data and frequency domain data simultaneously.

EMC

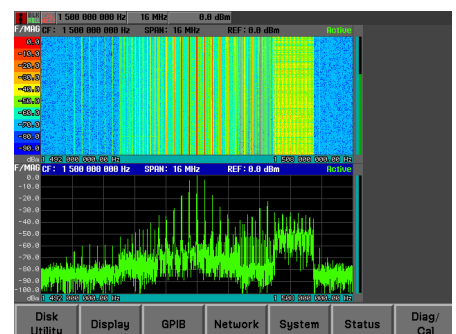
Common Carrier and CATV Network operators have to deal with Ingress that can disrupt transmission in both the forward and return paths. This interference is often impulsive in nature and very difficult to capture with a conventional spectrum analyzer. The 3026 with its real-time capture capability allows rapid detection and analysis of such interference.

In the screen photo (lower section of photo) below an interfering burst 4.8 MHz above the spectrum center is captured for analysis. In the upper spectrogram section the amplitude vs. frequency of the complete spectrum is displayed as a function of time (vertical axis). In the Spectrogram display, each line of pixels represents a frame, with the most recent frame displayed at the bottom.

TRANSITIONAL SIGNAL ANALYSIS



The 3026 captures transition in time, frequency and phase as shown above. The lower portion of the screen displays Amplitude vs. Time (spectrogram), the upper portion displays the phase change during transmitter activation. This example shows this transceiver makes a significant frequency, amplitude and phase shift until it stabilizes.



See Tektronix on the World Wide Web:
<http://www.tektronix.com>



Realtime Spectrum Analyzer

3026

CHARACTERISTICS

FREQUENCY RELATED

Frequency Range –

RF Mode: 10 MHz to 3 GHz.
Baseband Mode: 50 Hz to 10 MHz.

Frequency Span –

RF Mode: 100 Hz to 3 GHz.
Baseband Mode: 100 Hz to 10 MHz.

Stability of Frequency Standard – $\pm 5 \times 10^{-9}$ /day.

Residual FM – 3 Hz max.

Spectrum Purity – -100 dBc/Hz (10 kHz offset).

AMPLITUDE RELATED

Reference Level Range –

RF mode: -50 to + 30 dBm.

Input Impedance – 50 Ω .

Flatness –
 ± 2.0 dB (> 500 Hz).

Input Equivalent Noise – -140 dBm/Hz at 1 GHz.

2nd Harmonic Distortion – ≤ -70 dBc (-10 dBfs Input Level).

3rd Order Distortion –
 ≤ -60 dBc (< 20 MHz, ≤ -10 dBfs Input).
 ≤ -70 dBc (≤ 20 MHz, ≤ -10 dBfs Input).

A/D Converter – 12 Bits, 25.6 MS/s.

FRAME TIME RELATED

FFT points – 1024, 256.

FFT window – Blackman-Harris, Hamming, Rectangle.

MINIMUM FRAME UPDATE RATE

Span	1024 point	512 point
500 kHz to 5 MHz	16 μ s	-
500 kHz to 2 MHz	-	40 μ s
50 kHz to 200 kHz	400 μ s	400 μ s
5 kHz to 20 kHz	4 ms	4 ms
500 Hz to 2 kHz	40 ms	40 ms
200 Hz	100 ms	100 ms
100 Hz	200 ms	200 ms

SYSTEM CONTROLLER

486DX4-100 (100 MHz Clock), 32 Mbytes
60 ns Fast Page SIMM (non-parity), 2.5 inch
3 Mbyte Solid State Drive, 2.5 inch 2.1 Gbyte
Hard Disk, 3.5 inch 2 HD (1.44 Mb) Floppy
Disk, On Board Ethernet LAN I/F, ISA Half
Size GPIB.

ORDERING INFORMATION

3026

Real Time Spectrum Analyzer

Includes: (For U.S.) User Manual (Japanese 070-A676-02), Programmer's Manual (Japanese 070-A682-00), Application Software, Utility (VIEW3026, 3.5" Floppy, 062-A225-00), Power Cord (Power Cable Assy, 161-A005-00), 3-2 Adapter (103-0013-00).

Includes: (All other countries) User Manual (English 071-0418-00), Programmer's Manual (Japanese 071-0419-00), Application Software, Utility (VIEW3026, 3.5" Floppy, 062-A255-00), Power Cord (Power Cable Assy, 161-0230-01).

OPTIONS

Opt. 1R – Rackmount Kit.

INTERNATIONAL POWER OPTIONS

Opt. A1 – A5.

MEASUREMENT SERVICE OPTIONS

Opt. C3 – Three years of calibration services.

Opt. C5 – Five years of calibration services.

Opt. D1 – Cal Data Report.

Opt. D3 – Test data (requires Opt. C3).

Opt. D5 – Test data (requires Opt. C5).

Opt. R3 – Repair warranty extended to cover three years.

Opt. R5 – Repair warranty extended to cover five years.

OPTIONAL ACCESSORIES

Transit Carrying Case – Order 016-1157-00.

For further information, contact Tektronix:

Worldwide Web: for the most up-to-date product information visit our web site at: www.tektronix.com

ASEAN Countries (65) 356-3900; Australia & New Zealand 61 (2) 9888-0100; Austria, Central Eastern Europe, Greece, Turkey, Malta, & Cyprus +43 2236 8092 0; Belgium +32 (2) 715 89 70; Brazil and South America 55 (11) 3741-8360; Canada 1 (800) 661-5625; Denmark +45 (44) 850 700; Finland +358 (9) 4783 400; France & North Africa +33 1 69 86 81 81; Germany +49 (221) 94 77 400; Hong Kong (852) 2585-6688; India (91) 80-2275577; Italy +39 (2) 25086 501; Japan (Sony/Tektronix Corporation) 81 (3) 3448-3111; Mexico, Central America, & Caribbean 52 (5) 666-6333; The Netherlands +31 23 56 95555; Norway +47 22 07 07 00; People's Republic of China 86 (10) 6235 1230; Republic of Korea 82 (2) 528-5299; South Africa (27 11)651-5222; Spain & Portugal +34 91 372 6000; Sweden +46 8 477 65 00; Switzerland +41 (41) 729 36 40; Taiwan 886 (2) 2722-9622; United Kingdom & Eire +44 (0)1628 403300; USA 1 (800) 426-2200.

From other areas, contact: Tektronix, Inc. Export Sales, P.O. Box 500, M/S 50-255, Beaverton, Oregon 97077-0001, USA 1 (503) 627-6877.

Copyright © 1999, 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.

02/99 HB/XBS 2EW-12987-0