Oscilloscope - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 134 pages | Mordor Intelligence

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Report description:

The Oscilloscope Market size is estimated at USD 3.74 billion in 2025, and is expected to reach USD 5.49 billion by 2030, at a CAGR of 7.99% during the forecast period (2025-2030).

The demand for higher accuracy, coupled with the increasing requirements for safety applications and the necessity for fast data transmission, are driving the adoption rate of oscilloscopes. Moreover, some of the recent trends in the market include specification increases demanded by customers, such as bandwidth, sample rate, and memory depth.

Key Highlights
- The range of waveform testing that engineers need to perform is expanding, which is another driving force for the market. Engineers are demanding higher bandwidths and sampling speeds, more channels (both analog and digital), and deeper capture memories to sustain maximum sampling performance for longer test durations.
- Furthermore, the growing demand for power-efficient and high-performance electronic devices and increasing demand for modular instrumentation will drive the demand for the oscilloscope market. Engineers use oscilloscopes to collect data and make sense of it. Modern oscilloscopes have many built-in tools for analyzing data, such as Track and Trend, which graphs measurements to identify anomalies.
- Several leading players operating in the oscilloscope market are focusing on developing new products to stay ahead of the competition. For instance, in March 2023, Acute Technology, Inc. announced to launch a new 4-channel digital storage oscilloscope. The new TravelScope 3000 (TS3000) offers a sample rate of 1 GS/s and a bandwidth of 200 MHz. It has over 20 waveform measurements with user-defined threshold settings and real-time updates of vertical, time, and inter-channel timing measurements with statistics.
- Oscilloscopes are costly because their components, such as tubes, transistors, and capacitors, are quite expensive, leading to

high maintenance costs. When planning a budget for scope maintenance, the cost of the parts and the technician's time must be considered. A technician might bill USD 75 to USD 100 an hour. A scope could cost USD 500 or more if it needs a significant upgrade which has been a considerable market restriction.
- The outbreak of COVID-19 across the globe had significantly affected the supply chain and production of the studied market during the initial phase of 2020 and 2021. Since the outbreak of COVID-19 in 2020, the manufacturing sectors have been facing the consequences of the pandemic as factories struggled to manage production due to forced lockdowns by the government, strict safety protocols, and the resultant lack of workforce. This prompted them to switch to industrial automation, which augmented the studied market. Moreover, the disruption of supply chains due to overdependence on China, which was also the pandemic's epicenter, has forced the reorganization and shift of supply chains to other countries.

Oscilloscope Market Trends

IT and Telecommunication Segment to Have a Significant Growth Rate

- Oscilloscopes can be used to analyze all kinds of communication signals. There are special oscilloscopes that can operate in the GHz range. Engineers can quickly analyze radio, TV, mobile phone, and microwave signals. Special probes can also be used to analyze EM signals directly.
- Communications signals were found only in specific telecommunications applications. Now they are common occurrences in most consumer and business products. Almost every major electronic equipment, like faxes, telephones, and computers, is networked, and it seems as if everyone owns a wireless communications device like a cellular phone.
- As communications circuitry becomes more common in consumer products, design and test engineers must represent and verify communications signals in addition to digital and analog signals. Because these products must be designed quickly, and verifying communications signals is a relatively new task for many engineers, a test solution, such as an oscilloscope, is essential.
- The upcoming 5G technology is expected to become the industry standard for telecommunications, heralding a new era of connectivity, speed, and possibility. Mobile networks will be 100 times faster and 1,000 times larger than they are now. With the increase of 5G technology, few vendors are trying to launch their 5G services in towns and cities. Adding these communication services will drive the market for oscilloscopes because oscilloscopes are used for testing communication signals in the telecom industry.
- For instance, in April 2023, Gogo Business Aviation announced the expansion of its Gogo 5G network into Canada, providing additional coverage to business aviation operators in North America. Gogo 5G is expected to reach average speeds of around 25Mbps and peak speeds in the 75-80Mbps range, allowing passengers to enjoy data-intensive interactive services such as video conferencing, live TV, and gaming at lower and higher throughput.
- In August 2022, Bharti Airtel will launch 5G services later this month to cover 5,000 towns and cities by March 2024. This will drive the market for oscilloscopes.
- For instance, in April 2022, the Ministry of Communications stated that Telecom Service Providers/Infrastructure Providers install mobile towers to improve network coverage and capacity, subject to techno-commercial feasibility and the rollout obligation. The government has established the Universal Service Obligation Fund (USOF) to plan and implement various schemes to build mobile towers and provide telecommunications services to people in the country's rural and remote areas. Oscilloscopes are used in the telecommunication industry to improve network coverage and capacity.

Asia Pacific is Expected to Register the Fastest Growth During the Forecast Period

- With the increasing applications and demand for oscilloscopes in the market, the companies have been collaborating on

manufacturing oscilloscopes in the Asia-Pacific region.
- For instance, in August 2022, Advantest Corp. collaborated with the Rohde & Schwarz RTP high-performance oscilloscope for mass production evaluation of high-speed SoC testers. In line with this collaboration, the company aims to improve the quality per the latest requirements.
- The unit is expected to have a high-speed rise time of 33 per second and a powerful, highly stable jitter analysis function with the decomposition algorithm, which enables accurate and simpler accurate system measurements. Further, Advantest also collaborated with R&S RTP high-performance oscilloscope for its high acquisition rate and signal integrity. Such collaborations among the regional companies will fuel the market growth of oscilloscopes in the Asia-Pacific region.
- The COVID-19 pandemic has dramatically increased the need for cellular networks. According to the Ericsson Mobility Report, India, Nepal, and Bhutan estimated that the total mobile data traffic in the Indian region will grow fourfold between 2021 and 2027. This is due to the increasing use of smartphones, and the average data traffic per smartphone in the India region is the second highest in the world.
- Further, mobile networks continue to play a pivotal role in driving economic and social inclusion as service providers in India prepare to launch 5G this year. In line with such an increase in the adoption of network services in the Asia-Pacific region, the need for jitter analysis is bound to increase in the market.
- Moreover, the data center market in the Asia Pacific is among the fastest growing and attracting increasing investments from many foreign players. For instance, in April 2022, Digital Edge (Singapore) Holdings Pte. Ltd. announced plans to develop a data center in Incheon, South Korea, through a partnership with SK ecoplant. The companies will jointly build and promote a 120MW hyper-scale data center development project in the National Industrial Complex in Bupyeong-gu, Incheon.

Oscilloscope Industry Overview

The Oscilloscope Market is profoundly competitive. The players within this market compete in manufacturing faster, smaller, and more cost-effective devices. The market changes with the changes in technology. This phenomenon keeps it competitive as each competitor can seek an opportunity to create something more advanced before the others do.

- November 2023 - Siglent has introduced the new SDS7000A oscilloscope with two model variations. The SDS7404A and SDS7304A have four analog and 16 digital channels at 4 GHz and 3 GHz bandwidths, respectively. The SDS7000A is based on an industry-standard architecture (ISA) x86 processor, with a 15.6" HD capacitive-touch screen to improve the scope's response speed and overall operation.
- May 2023 - Pico Technology announced additions and updates to its Picoscope PC-based 9000 series oscilloscopes. The PicoScope 9000 series comprises two distinct product architectures, delivering high performance at reasonable prices. The PicoScope 9000s readily address Gigabit data stream quality and RF and microwave modulated envelope and waveshape fidelities.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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