

Dolby Laboratories (DLB)

\$92.75 (As of 12/18/20)

Price Target (6-12 Months): **\$80.00**

Long Term: 6-12 Months

Zacks Recommendation: Underperform

(Since: 11/17/20)

Prior Recommendation: Neutral

Short Term: 1-3 Months

Zacks Rank: (1-5)

5-Strong Sell

Zacks Style Scores:

VGM:C

Value: D

Growth: B

Momentum: B

Summary

Escalating cost of sales has been a cause of concern for Dolby over the past few quarters. Volatile cinema product sales and the price-sensitive entertainment industry are headwinds. Increased adoption of proprietary sound technologies could lead to severe competition in the global arena, threatening Dolby's market share. Dolby's sales depend on a handful of customers, and losing any of them will impact revenues. The pandemic continues to hurt licensing and products and services revenues. Higher licensing expenses further dent its profitability. Untimely deliveries from suppliers may lead to production cost hikes. Dolby's near-term performance is more prone to getting affected by the pandemic. However, it has diligent capital allocation strategies to maintain a flexible capital structure and ensure growth in the long run.

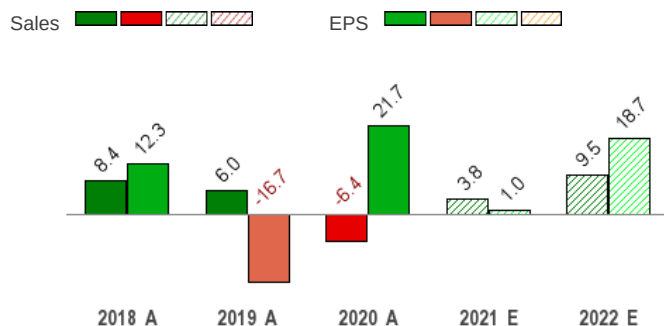
Price, Consensus & Surprise



Data Overview

52-Week High-Low	\$92.85 - \$44.68
20-Day Average Volume (Shares)	518,769
Market Cap	\$9.3 B
Year-To-Date Price Change	34.8%
Beta	0.88
Dividend / Dividend Yield	\$0.88 / 0.9%
Industry	Audio Video Production
Zacks Industry Rank	Top 46% (118 out of 255)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	32.4%
Last Sales Surprise	12.2%
EPS F1 Estimate 4-Week Change	0.0%
Expected Report Date	02/03/2021
Earnings ESP	0.0%
P/E TTM	35.1
P/E F1	30.9
PEG F1	2.4
P/S TTM	8.0

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2022	326 E	351 E	319 E	337 E	1,321 E
2021	344 E	289 E	282 E	291 E	1,206 E
2020	292 A	352 A	247 A	271 A	1,162 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2022	\$0.82 E	\$0.95 E	\$0.86 E	\$0.93 E	\$3.56 E
2021	\$1.04 E	\$0.62 E	\$0.66 E	\$0.66 E	\$3.00 E
2020	\$0.47 A	\$0.86 A	\$0.86 A	\$0.45 A	\$2.97 A

*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 12/18/2020. The reports text is as of 12/21/2020.

Overview

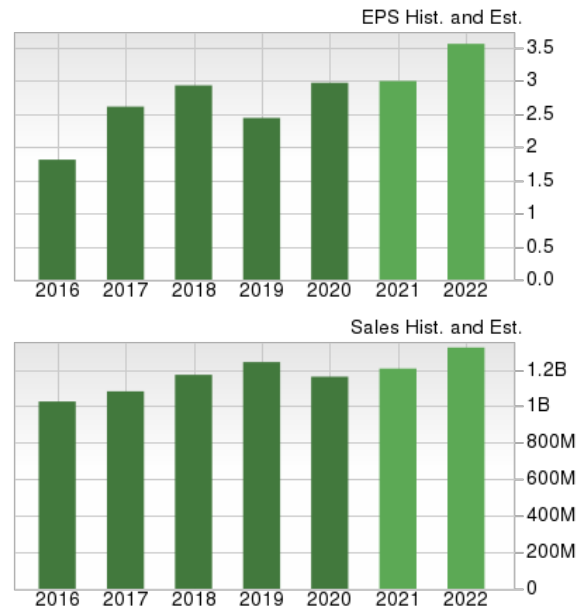
Founded in 1965, San Francisco, CA-based Dolby Laboratories, Inc. specializes in audio noise reduction and audio encoding/compression. The company offers state-of-the-art audio, imaging, and voice technologies that revolutionize entertainment and communications at theaters, home, work and mobile devices. Also, the company designs and manufactures audio and imaging products including digital cinema servers and other products for film production, cinema, television, broadcast and other entertainment industries.

Moreover, Dolby offers a host of services for supporting theatrical and television production for cinema exhibition, broadcast and home entertainment. This apart, it serves film studios, content creators, post-production facilities, cinema operators, broadcasters and video game designers. The products of the company are sold directly to the end users and through dealers and distributors as well.

A majority of the company's revenues are derived from the licensing of audio technologies. The company operates on various licensing models including a two-tier model, an integrated licensing model, a patent licensing model and a revenue-sharing model. It offers core licensing to broadcasters, personal computers, consumer electronics and mobile customers.

Currently, Dolby is focusing on expanding its product portfolio and has already developed new applications for voice conferencing and imaging solutions that enable HDR picture quality in televisions and cinemas. Some of the newly introduced products include Dolby Voice, Dolby Vision and Dolby Cinema.

The company reports under two operating segments — Licensing (94.7% of total revenues in fourth-quarter fiscal 2020), and Products and Services (5.3%).



Source: Zacks Investment Research

Reasons To Sell:

- ▼ Escalating cost of sales has been a major cause of concern for Dolby over the past few quarters, primarily on account of increased product cost and higher licensing expenses. The market for consumer entertainment products is highly competitive and price sensitive, which exposes Dolby to the risks of reduced revenues owing to lower prices. The company's profitability is subject to timing of payments from clients. Moreover, Original Equipment Manufacturers (OEMs) continually focus on reducing product costs, which in turn will exert pressure on the company's licensing fees. Of late, free and proprietary sound technologies are being increasingly adopted by clients and Dolby apprehends that competitors will soon freely enter this space with other offerings, threatening its market share.
- ▼ A large section of Dolby's sales depends on OEMs and other licensees who incorporate the company's technology into their offerings. Also, the company's sales depend on a handful of customers and losing any of them will significantly impact revenues. These license agreements do not require minimum purchases, minimum royalty fees and do not prohibit licensees from using competitor's offerings, which adds to Dolby's concerns. In addition, the company's cinema product sales are subject to fluctuations based on general conditions in the industry, such as the construction of new screens or upgrade of existing screens. Though the company's relatively new offering Dolby Cinema is experiencing exceptional market traction, there is no denying the fact that its success is hitched to the pipeline and the performance of motion pictures at Dolby Cinema locations.
- ▼ Dolby's profits largely depend on timely deliveries from suppliers. The risks pertaining to the procurement of the key materials used in Dolby's products include limited control over price, timely delivery and quality of the components provided by the suppliers. Additionally, the company has no formal agreements with suppliers that can ensure continued supply of materials and components. This makes Dolby vulnerable to delay in obtaining raw materials from suppliers, which poses risk of production cost hikes. This apart, the company's success largely depends on its ability to retain patents, trademarks, trade secrets, copyrights and other intellectual property rights. Unfortunately, a few countries in which the company operates do not have stringent laws to protect against unauthorized use of its products and services. In the past, Dolby has often experienced problems with non-licensee OEMs and software vendors, particularly in China and other emerging countries like Taiwan and India that have incorporated Dolby's technologies and trademarks into their products without authorization. These factors are quite commonplace and frequent, which poses a grave concern.
- ▼ The market for broadcast technologies has been heavily dependent on industry standards, often mandated by governments. This exposes Dolby to regulatory risk. The success of Dolby's endeavors is subject to its ability to comply with industry standards to ensure compatibility across delivery platforms and consumer entertainment products. Going forward, unhindered revenue growth from the broadcast market will depend upon both the continued global adoption of digital television and incorporation of Dolby's technologies in them. Also, the fast-evolving industry calls for constant technological innovation, which necessitates Dolby to continuously come up with state-of-the-art technology to stay ahead of the curve. The global coronavirus pandemic has forced several governments to impose restrictions on movie theaters for social distancing, which are likely to dent its revenues. Owing to certain macroeconomic factors like unemployment and supply-chain disruptions, Dolby's near-term performance is more prone to get affected by the pandemic turmoil across markets. Also, unit volume shipments across various end markets and devices are likely to be lower due to the COVID-19 adversities.

Rising cost of sales has been a cause of concern for Dolby over the past few quarters, primarily on account of increased product cost and higher licensing expenses.

Risks

- Dolby's long-term growth strategy stands on three pillars — advancing the science of sight and sound, providing creative solutions, and delivering superior experiences. Successful execution in each of these areas has led to decent growth over the past quarters. Dolby has three impressive projects, namely, Dolby Vision, Dolby Voice and Dolby Cinema, that will likely accelerate growth going forward. Coming to Dolby Vision, Disney joined the bandwagon of other major Hollywood studios such as Warner Brothers and Paramount to create Dolby Vision content for home. The company is enjoying widespread industry adoption of Dolby Vision and Dolby Atmos, the latest in the list being Apple. Also, Dolby Vision saw further adoption in Blu-ray players as Sony and Panasonic announced their first Dolby Vision players, joining LG, Phillips and OPPO. The company's Dolby Voice technology, an audio-conferencing solution, is witnessing solid growth opportunities that are adding to the company's strength. Apart from expanding its foothold in the traditional audio-conferencing market, Dolby Voice is also making concerted efforts to bolster its footprint in the budding video conferencing market. Dolby Voice is gearing up for some interesting product launch, in collaboration with its partner, BlueJeans. It had launched a partnership with audio conferencing provider, West, to expand this business.
 - Netflix, one of Dolby's first partners, had started streaming in Dolby Atmos, and offers combined Dolby Vision and Dolby Atmos experience to its global subscriber base. LG also announced that it would expand the combined Dolby Vision and Dolby Atmos experience to its organic light-emitting diode (OLED) and super ultra-high definition (UHD) televisions. The company's Dolby Vision is being adopted in the mainstream TV models. Based on present industry trends, the company is confident that Dolby Vision's growth momentum will keep accelerating, going forward. Lenovo, Huawei and Xiaomi have launched personal computers (PCs) with Dolby Atmos. Also, Amazon expanded its Dolby Atmos support beyond the Fire HDX tablets and into the new Fire TV and Fire TV Cube in addition to other compatible devices like TV, sound bars and home theater systems. Earlier, both Sony and LG announced their new Dolby Atmos sound bars. In addition, Dolby rolled out Dolby Atmos for headphones. Dolby Atmos content has now expanded beyond premium movie and TV content to gaming and live sports. In gaming, the first Dolby Atmos game for Xbox, Gears of War 4, was also released. In live sports, BT commenced broadcasting in Dolby Atmos, and delivered the entire season of Premier League Soccer in Dolby Atmos. Also, Microsoft started supporting Dolby Vision on the Xbox One. This is the first gaming console to support both Dolby Vision and Dolby Atmos.
 - Dolby Cinema technology is considered to be a major profit churner for the company. Earlier, Dolby Cinema had added two new partners including Jinyi, one of the largest cinema chains in China and Pathé Cinemas, the largest cinema chain operation in France, the Netherlands and Switzerland. Dolby Cinemas' client list includes AMC in the United States, Wanda and Jackie Chan in China, Cineplexx in Austria, REEL in Middle East and Vue in the Netherlands. Dolby Cinemas is enjoying exponential market traction and the company brought Dolby Cinema to the U.K. for the first time with Odeon Cinemas Group. The content pipeline for Dolby Cinema continues to grow with about 190 titles in Dolby Vision and Dolby Atmos announced or released. Combined with Dolby's existing partners in China, Wanda and Jackie Chan, the company has more than 140 screens open or committed in the country. Impressively, China has rebounded significantly in terms of Dolby Cinema installations in the post pandemic scenario. However, with the emergence of COVID-19 pandemic, majority of screens around the world have been closed, including Dolby Cinema screens. This has negatively impacted the demand for cinema products with lower box office share revenues. Nevertheless, the company believes that surging demand for premium viewing experiences will fuel growth for Dolby Cinema in the long haul. Overall, it has about 250 Dolby Cinema sites across 11 countries with more than 20 exhibitor partners. The company had inked agreements with two new exhibitor partners that will bring the first Dolby Cinema to South Korea and Saudi Arabia. Market reports suggest that consumers are increasingly viewing video content on smartphones, tablets and computers, which in turn is expected to unlock opportunities for Dolby.
 - Despite uncertainties pertaining to the virus outbreak, Dolby provided guidance for the first and the second quarters of fiscal 2021. For first-quarter fiscal 2021, the company expects GAAP earnings in the range of 70-85 cents per share and non-GAAP earnings in the range of 97 cents to \$1.12 per share on revenues of \$330-\$360 million. On a GAAP basis, operating expenses are expected in the \$207-\$219 million band, whereas on a non-GAAP basis, operating expenses are projected in the range of \$175-\$185 million. For second-quarter fiscal 2021, Dolby expects revenues in the range of \$270-\$300 million.
 - Dolby, with its robust financials, employs diligent capital deployment strategies for ensuring growth. The capital allocation strategies are designed to maintain a flexible capital structure, deliver value to shareholders through sustainable growth, solid margins, strong cash flows and returning capital. Moreover, the company dedicatedly follows a balanced capital deployment strategy and continually rewards its shareholders through share repurchases and dividend increases. As of Sep 30, 2020, the company had \$1,072 million in cash and cash equivalents with \$122 million of other non-current liabilities compared with the respective tallies of \$1,053 million and \$120 million at the end of the previous quarter. With a favorable cash position, the company is likely to pay back its near-term financial obligations. Dolby's debt-to-capital ratio and long-term debt have always been zero. Meanwhile, the times interest earned declined sequentially from 1,386.7 to 1,341.9. However, Dolby's dividend payout rate increased sequentially from 34.6% to 38.1%, which implies that the company is likely to offer lucrative returns to its shareholders in the near future.
-

Last Earnings Report

Dolby Q4 Earnings Top Estimates, Revenues Fall Y/Y

Dolby reported unimpressive fourth-quarter fiscal 2020 (ended Sep 25, 2020) results, with the top line and the bottom line decreasing on a year-over-year basis. Lower revenues from product and services segment coupled with sluggish global cinema market due to COVID-19 adversities marred the performance.

Net Income

On a GAAP basis, net income for the quarter was \$26.8 million or 26 cents per share compared with \$43.9 million or 43 cents per share in the year-ago quarter. The year-over-year deterioration was primarily caused by top-line contraction.

Non-GAAP net income came in at \$45.8 million or 45 cents per share compared with \$67.6 million or 66 cents per share in the prior-year quarter. The bottom line beat the Zacks Consensus Estimate by 11 cents.

On a GAAP basis, fiscal 2020 net income was \$231.4 million or \$2.25 per share compared with \$255.2 million or \$2.44 per share in the prior fiscal year. On a non-GAAP basis, fiscal 2020 net income decreased to \$305.2 million or \$2.97 per share from \$334.6 million or \$3.20 per share a year ago.

Revenues

Quarterly revenues came in at \$271.2 million, down 9.2% from \$298.8 million in the year-ago quarter. The decline was largely caused by the COVID-19 pandemic, which led to temporary business shutdowns and lower consumer activity globally, particularly in products and services segment. Nevertheless, the top line surpassed the Zacks Consensus Estimate of \$242 million. In fiscal 2020, Dolby reported total revenues of \$1,161.8 million compared with \$1,241.6 million in fiscal 2019.

Segmental Performance

Despite year-over-year higher revenues in Broadcast business, revenues from **Licensing** came in at \$256.9 million, down 3% year over year from \$264.8 million. The decline was primarily caused by lower recoveries stemming from the COVID-19 pandemic. However, it was partially offset by higher adoption of TVs and set-top boxes with a solid traction in both Dolby Vision and Dolby Atmos.

Sales from Consumer Electronics and Mobile Devices were down nearly 8% and 13%, respectively, from prior-year quarter's figure owing to lower recoveries. Revenues from Other Markets fell nearly 19% owing to a decline in revenues from Dolby Cinema as a result of COVID-19 restrictions coupled with lower gaming revenues. Meanwhile, sales from PC were up about 26% year over year, driven by higher adoption of Dolby Technologies.

Products and services revenues came in at \$14.3 million, down 58% year over year. The downside was primarily caused by the impact of the virus outbreak on the Cinema business as social distancing norms led to movie theatre closures.

Other Details

Gross profit in the fiscal fourth quarter was \$228.7 million compared with \$252.9 million in the year-earlier quarter. Total operating expenses fell 1.5% to \$198.7 million, primarily due to lower restructuring charges. Operating income was \$30.1 million compared with \$51.2 million in the year-ago quarter.

Cash Flow & Liquidity

In fourth-quarter fiscal 2020, Dolby generated \$112.7 million of net cash from operating activities compared with \$130.5 million in the year-ago quarter. Cash flow from operations was \$343.8 million in fiscal 2020 compared with \$327.7 million in fiscal 2019. As of Sep 25, 2020, the company had \$1,071.9 million in cash and cash equivalents with \$122.2 million of other non-current liabilities compared with the respective tallies of \$797.2 million and \$177.5 million a year ago.

Outlook

Despite uncertainties pertaining to the virus outbreak, Dolby provided guidance for the first and the second quarters of fiscal 2021.

For first-quarter fiscal 2021, the company expects GAAP earnings in the range of 70-85 cents per share and non-GAAP earnings in the range of 97 cents to \$1.12 per share on revenues of \$330-\$360 million. Unit volume shipments across various end markets and devices are likely to be lower due to COVID-19 adversities. On a GAAP basis, operating expenses are expected in the \$207-\$219 million band, whereas on a non-GAAP basis, operating expenses are projected in the range of \$175-\$185 million. For second-quarter fiscal 2021, Dolby expects revenues in the range of \$270-\$300 million.

However, macroeconomic factors like unemployment and supply chain disruptions might hurt Dolby's near-term performance. Although its licensing as well as products and services revenues are likely to be affected by the coronavirus, Dolby remains committed to supporting its business operations in this hour of crisis.

Quarter Ending	09/2020
Report Date	Nov 12, 2020
Sales Surprise	12.22%
EPS Surprise	32.35%
Quarterly EPS	0.45
Annual EPS (TTM)	2.64

Recent News

On Nov 17, 2020, Dolby unveiled findings from a survey in association with Wakefield Research, which stated that customers are willing to invest more in cutting-edge technologies to enhance their entertainment experiences with higher adoption of Dolby Atmos and Dolby Vision.

On Oct 6, Dolby and legendary music recording and production suites Dean St. Studios announced the installation of a state-of-the-art Dolby Atmos mix room in Studio 1, Dean St. Studios' flagship studio. The Dolby Atmos install features PMC's flagship IB2S XBD-A active monitors covering the left and right main channels, an IB2S-A monitor for the center channel, 10 discrete Wafer2 loudspeakers for surround and height channels as well as four sub2 subwoofers.

On Sep 24, Dolby and Megabox JoongAng Co., Ltd. announced a five-year agreement to equip Megabox theaters in South Korea with Dolby technologies. Per the deal, Megabox will deploy Dolby's Auditorium Packages, including servers, processors, speakers and amplifiers to Megabox Anseong Starfield and Namyangju Hyundai Premium Outlets Space One. With the deployment of Dolby's Auditorium Packages, Megabox expects to decrease cost and increase space efficiency, leading to an overall reduction in the total cost of ownership.

Valuation

Dolby's shares are up 36.2% over the trailing 12-month period. Stocks in the Zacks sub-industry are up 39.1% over the past year, and stocks in the Zacks Consumer Discretionary sector are up 13.3% in the same period.

The S&P 500 Index is up 17.2% in the past year.

The stock is currently trading at 3.82X trailing 12-month book value, which compares to 2.07X for the Zacks sub-industry, 3.84X for the Zacks sector and 6.28X for the S&P 500 Index.

Over the past five years, the stock has traded as high as 3.82X and as low as 1.7X, with a 5-year median of 2.76X. Our Underperform recommendation indicates that the stock will perform worse than the market. Our \$80 price target reflects 20.94X trailing 12-month book value.

The table below shows summary valuation data for DLB

Valuation Multiples - DLB					
		Stock	Sub-Industry	Sector	S&P 500
P/B TTM	Current	3.82	2.07	3.84	6.28
	5-Year High	3.82	2.07	4.86	6.3
	5-Year Low	1.7	0.98	2.24	3.74
	5-Year Median	2.76	1.52	4.16	4.93
P/S F12M	Current	7.56	1.19	2.72	4.28
	5-Year High	7.56	1.19	2.9	4.29
	5-Year Low	2.97	0.13	1.7	3.17
	5-Year Median	4.98	0.67	2.5	3.68
EV/EBITDA TTM	Current	25.9	6.56	12.79	16.53
	5-Year High	25.9	9.65	17.89	16.59
	5-Year Low	9.27	3.38	8.28	9.54
	5-Year Median	14.15	4.97	12.21	13.17

As of 12/18/2020

Source: Zacks Investment Research

Industry Analysis Zacks Industry Rank: Top 46% (118 out of 255)



Top Peers

Company (Ticker)	Rec	Rank
Turtle Beach Corporation (HEAR)	Outperform	1
GoPro, Inc. (GPRO)	Neutral	3
IMAX Corporation (IMAX)	Neutral	4
LiveXLive Media, Inc. (LIVX)	Neutral	3
Panasonic Corp. (PCRFY)	Neutral	2
Sony Corporation (SNE)	Neutral	3
Sonos, Inc. (SONO)	Neutral	2
Nikon Corp. (NINYO)	Underperform	4

The positions listed should not be deemed a recommendation to buy, hold or sell.

Industry Comparison Industry: Audio Video Production				Industry Peers		
	DLB	X Industry	S&P 500	GPRO	HEAR	SONO
Zacks Recommendation (Long Term)	Underperform	-	-	Neutral	Outperform	Neutral
Zacks Rank (Short Term)	5	-	-	3	1	2
VGM Score	C	-	-	D	D	B
Market Cap	9.31 B	116.99 M	26.14 B	1.34 B	386.23 M	2.75 B
# of Analysts	5	3	14	4	2	5
Dividend Yield	0.95%	0.00%	1.49%	0.00%	0.00%	0.00%
Value Score	D	-	-	C	C	C
Cash/Price	0.12	0.23	0.06	0.11	0.09	0.17
EV/EBITDA	24.67	1.99	14.57	50.92	19.92	132.23
PEG F1	2.34	2.18	2.84	NA	NA	1.04
P/B	3.82	2.53	3.64	9.30	3.88	9.04
P/CF	28.35	13.11	14.01	45.64	21.69	165.07
P/E F1	30.47	27.66	22.19	196.89	13.86	27.66
P/S TTM	8.01	1.18	2.76	1.26	1.17	2.07
Earnings Yield	3.23%	3.53%	4.34%	0.56%	7.24%	3.62%
Debt/Equity	0.00	0.06	0.70	1.10	0.00	0.06
Cash Flow (\$/share)	3.27	-0.02	6.94	0.19	1.17	0.15
Growth Score	B	-	-	C	D	A
Historical EPS Growth (3-5 Years)	6.80%	7.04%	9.69%	NA	-22.46%	NA
Projected EPS Growth (F1/F0)	0.88%	3.34%	1.21%	-81.25%	76.44%	588.89%
Current Cash Flow Growth	-3.61%	-24.95%	5.22%	-197.78%	-65.83%	-48.46%
Historical Cash Flow Growth (3-5 Years)	5.53%	5.98%	8.33%	-27.97%	67.54%	19.12%
Current Ratio	5.79	1.34	1.38	1.60	1.72	1.68
Debt/Capital	0.00%	12.93%	42.00%	52.28%	0.00%	5.77%
Net Margin	19.91%	-0.95%	10.44%	-1.45%	13.02%	-1.52%
Return on Equity	9.89%	3.54%	14.99%	16.39%	47.63%	3.32%
Sales/Assets	0.40	1.07	0.50	1.63	2.31	1.78
Projected Sales Growth (F1/F0)	3.81%	0.00%	0.35%	-24.25%	42.22%	11.14%
Momentum Score	B	-	-	F	D	F
Daily Price Change	0.39%	0.00%	-0.33%	1.37%	0.59%	2.61%
1-Week Price Change	-0.35%	-3.05%	-1.29%	4.69%	2.40%	-9.11%
4-Week Price Change	5.59%	10.75%	3.05%	28.22%	38.66%	9.69%
12-Week Price Change	44.79%	24.53%	19.99%	114.53%	52.55%	70.93%
52-Week Price Change	36.70%	15.29%	6.80%	102.98%	186.70%	62.48%
20-Day Average Volume (Shares)	518,769	91,056	1,976,201	5,083,753	577,939	5,064,956
EPS F1 Estimate 1-Week Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
EPS F1 Estimate 4-Week Change	0.00%	5.43%	0.00%	0.00%	0.00%	209.86%
EPS F1 Estimate 12-Week Change	-10.93%	5.43%	3.94%	-15.79%	118.45%	230.83%
EPS Q1 Estimate Monthly Change	0.00%	0.00%	0.00%	0.00%	0.00%	14.50%

Source: Zacks Investment Research

Zacks Stock Rating System

We offer two rating systems that take into account investors' holding horizons: Zacks Rank and Zacks Recommendation. Each provides valuable insights into the future profitability of the stock and can be used separately or in combination with each other depending on your investment style.

Zacks Recommendation

The Zacks Recommendation aims to predict performance over the next 6 to 12 months. The foundation for the quantitatively determined Zacks Recommendation is trends in the company's estimate revisions and earnings outlook. The Zacks Recommendation is broken down into 3 Levels; Outperform, Neutral and Underperform. Unlike many Wall Street firms, we maintain a balance between the number of Outperform and Neutral recommendations. Our team of 70 analysts are fully versed in the benefits of earnings estimate revisions and how that is harnessed through the Zacks quantitative rating system. But we have given our analysts the ability to override the Zacks Recommendation for the 1200 stocks that they follow. The reason for the analyst over-rides is that there are often factors such as valuation, industry conditions and management effectiveness that a trained investment professional can spot better than a quantitative model.

Zacks Rank

The Zacks Rank is our short-term rating system that is most effective over the one- to three-month holding horizon. The underlying driver for the quantitatively-determined Zacks Rank is the same as the Zacks Recommendation, and reflects trends in earnings estimate revisions.

Zacks Style Scores

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.

Value Score	D
Growth Score	B
Momentum Score	B
VGM Score	C

As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

Disclosures

This report contains independent commentary to be used for informational purposes only. The analysts contributing to this report do not hold any shares of this stock. The analysts contributing to this report do not serve on the board of the company that issued this stock. The EPS and revenue forecasts are the Zacks Consensus estimates, unless indicated otherwise on the reports first page. Additionally, the analysts contributing to this report certify that the views expressed herein accurately reflect the analysts personal views as to the subject securities and issuers. ZIR certifies that no part of the analysts compensation was, is, or will be, directly or indirectly, related to the specific recommendation or views expressed by the analyst in the report.

Additional information on the securities mentioned in this report is available upon request. This report is based on data obtained from sources we believe to be reliable, but is not guaranteed as to accuracy and does not purport to be complete. Any opinions expressed herein are subject to change.

ZIR is not an investment advisor and the report should not be construed as advice designed to meet the particular investment needs of any investor. Prior to making any investment decision, you are advised to consult with your broker, investment advisor, or other appropriate tax or financial professional to determine the suitability of any investment. This report and others like it are published regularly and not in response to episodic market activity or events affecting the securities industry.

This report is not to be construed as an offer or the solicitation of an offer to buy or sell the securities herein mentioned. ZIR or its officers, employees or customers may have a position long or short in the securities mentioned and buy or sell the securities from time to time. ZIR is not a broker-dealer. ZIR may enter into arms-length agreements with broker-dealers to provide this research to their clients. Zacks and its staff are not involved in investment banking activities for the stock issuer covered in this report.

ZIR uses the following rating system for the securities it covers. **Outperform-** ZIR expects that the subject company will outperform the broader U.S. equities markets over the next six to twelve months. **Neutral-** ZIR expects that the company will perform in line with the broader U.S. equities markets over the next six to twelve months. **Underperform-** ZIR expects the company will underperform the broader U.S. equities markets over the next six to twelve months.

No part of this report can be reprinted, republished or transmitted electronically without the prior written authorization of ZIR.

Additional Disclosure

This material represents an assessment of the market and economic environment at a specific point in time and is not intended to be a forecast of future events, or a guarantee of future results. Forward-looking statements are subject to certain risks and uncertainties. Any statements that refer to expectations, projections or characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. Actual results, performance, or achievements may differ materially from those expressed or implied.

Returns quoted represent past performance which is no guarantee of future results. Investment returns and principal value will fluctuate so that when shares are redeemed, they may be worth more or less than their original cost. Current performance may be higher or lower than the performance shown.

Investing involves risk; principal loss is possible. There is no guarantee that companies that can issue dividends will declare, continue to pay or increase dividends.

Glossary of Terms and Definitions

52-Week High-Low: The range of the highest and lowest prices at which a stock has traded during the past year. This range is determined based on the stock's daily closing price which may differ from the intra-day high or low. Many investors use it as a technical indicator to determine a stock's current value and future price movement. The idea here is that if price breaks out from the 52-week range, in either direction, the momentum may continue in the same direction.

20-Day Average Volume (Shares): The average number of shares of a company traded in a day over the last 20 days. It is a direct indication of a security's overall liquidity. The higher the average daily trading volume, the easier it is to enter or exit the stock at a desired price with more buyers and sellers being available.

Daily Price Change: This is the percentage difference between a trading day's closing price and the prior trading day's closing price. This item is updated at 9 p.m. EST each day.

1-Week Price Change: This is the percentage change in a stock's closing price over the last 5 trading days. This change reflects the collective buying and selling sentiment over the 1-week period.

A strong weekly price increase for the stock, especially when accompanied by increased volume, is an indication of it gaining momentum.

4-Week Price Change: This is the percentage change in a stock's closing price over the last 20 trading days or past 4 weeks. This is a medium-term price change metric and an indication of the stock gaining momentum.

12-Week Price Change: This is the percentage change of a stock's closing price over the last 60 trading days or past 12 weeks. Similar to 4-week price change, this is a medium-term price change metric. It shows whether a stock has been enjoying strong investor demand, or if it has been in consolidation, or distress over this period.

52-Week Price Change: This is the percentage change in a stock's closing price over the last 260 trading days or past 52 weeks. This long-term price change metric is a good reference point for investors. Some investors seek stocks with the best percentage price change over the last 52 weeks, expecting the momentum to continue.

Market Cap: The number of outstanding common shares of a company times its latest price per share. This figure represents a company's size, which indicates various characteristics, including price stability and risk, in which investors could be interested.

Year-To-Date Price Change: Change in a stock's daily closing price in the period of time beginning the first day of the current calendar year through to the previous trading day.

of Analysts: Number of EPS estimates used in calculating the current-quarter consensus. These estimates come from the brokerage analysts tracking this stock. However, the number of such analysts tracking this stock may not match the number of estimates, as all brokerage analysts may not come up with an estimate or provide it to us.

Beta: A measure of risk commonly used to compare the volatility of a stock to the overall market. The S&P 500 Index is the base for calculating beta and carries a value of 1. A stock with beta below 1 is less risky than the market as a whole. And a stock with beta above 1 is riskier.

Dividend: The portion of earnings a company is expected to distribute to its common shareholders in the next 12 months for each share they own. Dividends are usually paid quarterly. Dividend payments reflect positively on a company and help maintain investors' trust. Investors typically find dividend-paying stocks appealing because the dividend adds to any market price appreciation to result in higher return on investment (ROI). Moreover, a steady or increasing dividend payment provides investors a cushion in a down market.

Dividend Yield: The ratio of a company's annual dividend to its share price. The annual dividend used in the ratio is calculated based on the most recent dividend paid by the company. Dividend yield is an estimate of the dividend-only return from a stock in the next 12 months. Since dividend itself doesn't change frequently, dividend yield usually changes with a stock's price movement. As a result, often an unusually high dividend yield is a result of weak stock price.

S&P 500 Index: The Standard & Poor's 500 (S&P 500) Index is an unmanaged group of securities considered to be representative of the stock market in general. It is a market-capitalization-weighted index of stocks of the 500 largest U.S. companies. Each stock's weight in the index is proportionate to its market value.

Industry: One of the 250+ groups that Zacks classifies all stocks into based on the nature of business. These groups are termed as expanded (aka "X") industries and map to their respective (economic) sectors; Zacks has 16 sectors.

Zacks Industry Rank: The Zacks Industry Rank is determined by calculating the average Zacks Rank for all stocks in the industry and then assigning an ordinal rank to it. For example, an industry with an average Zacks Rank of 1.6 is better than an industry with an average Zacks Rank of 2.3. So, the industry with the better average Zacks Rank would get a better Zacks Industry Rank. If an industry has the best average Zacks Rank, it would be considered the top industry (1 out of 250+), which would place it at the top 1% of Zacks-ranked industries. Studies have shown that roughly half of a stock's price movement can be attributed to the industry group it belongs to. In fact, the top 50% of Zacks-ranked industries outperforms the bottom 50% by a factor of more than 2 to 1.

Last EPS Surprise: The percentage deviation of a company's last reported earnings per share from the Zacks Consensus Estimate. Companies with a positive earnings surprise are more likely to surprise again in the future (or miss again if they recently missed).

Last Sales Surprise: The percentage deviation of a company's last reported sales from the Zacks Consensus Estimate.

Expected Report Date: This is an estimated date of a company's next earnings release. The information originated or gathered by Zacks Investment Research from its information providers or publicly available sources is the basis of this estimate.

Earnings ESP: The Zacks Earnings ESP compares the Most Accurate Estimate to the Zacks Consensus Estimate for the yet-to-be reported quarter. The Most Accurate Estimate is the most recent version of the Zacks Consensus EPS Estimate. The idea here is that analysts revising their estimates closer to an earnings release have the latest information, which could potentially be more accurate than what they and others contributing to the consensus had predicted earlier. Thus, a positive or negative Earnings ESP reading theoretically indicates the likely deviation of the actual earnings from the consensus estimate. However, the model's predictive power is significant for positive ESP readings only. A positive Earnings ESP is a strong predictor of an earnings beat, particularly when combined with a Zacks Rank #1 (Strong Buy), #2 (Buy) or #3 (Hold). Our research shows that stocks with this combination produce a positive surprise nearly 70% of the time.

Periods:

TTM: Trailing 12 months. Using TTM figures is an effective way of analyzing the most-recent financial data in an annualized format that helps neutralize the effects of seasonality and other quarter-to-quarter variation.

F1: Current fiscal year. This period is used to analyze the estimates for the ongoing full fiscal year.

F2: Next fiscal year. This period is used to analyze the estimates for the next full fiscal year.

F12M: Forward 12 months. Using F12M figures is an effective way of analyzing the near-term (the following four unreported quarters) estimates in an annualized manner. Instead of typically representing estimates for the full fiscal year, which may not represent the nitty-gritty of each quarter, F12M figures suggest an all-inclusive annualized estimate for the following four quarters. The annualization helps neutralize the potential effects of seasonality and other quarter-to-quarter variations.

P/E Ratio: The price-to-earnings ratio measures a company's current market price per share relative to its earnings per share (EPS). Usually, the trailing-12-month (TTM) EPS, current-fiscal-year (F1) EPS estimate, or forward-12-month (F12M) EPS estimate is used as the denominator. In essence, this ratio shows what the market is willing to pay today for each dollar of EPS. In other words, this ratio gives a sense of what the relative value of the company is at the already reported level of earnings or at a future level of earnings.

It is one of the most widely-used multiples for determining the value of a company and helps comparing its valuation with that of a competitor, the industry group or a benchmark.

PEG Ratio: The price/earnings to growth ratio is a stock's P/E ratio using current fiscal year (F1) EPS estimate divided by its expected EPS growth rate over the coming 3 to 5 years. This ratio essentially determines a stock's value by factoring in the company's expected earnings growth and is thus believed to provide a more complete picture than just the P/E ratio, particularly for faster-growing companies.

P/S Ratio: The price-to-sales ratio is calculated as a company's current price per share divided by trailing 12 months (TTM) sales or revenues per share. This ratio shows what the market is willing to pay today for each dollar of TTM sales per share. The P/S ratio is at times the only valuation metric when the company has yet to become profitable.

Cash/Price Ratio: The cash-to-price ratio or Cash Yield is calculated as cash and marketable securities per share divided by the company's current share price. Like the earnings yield, which shows the anticipated yield (or return) on a stock from earnings for each dollar invested, the cash yield does the same, with cash being the source of return instead of earnings. For example, a cash/price ratio of 0.08 suggests a return of 8% or 8 cents for every \$1 investment.

EV/EBITDA Ratio: The EV/EBITDA ratio, also known as Enterprise Multiple, is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by EBITDA (earnings before interest, taxes, depreciation and amortization). Usually, trailing-12-month (TTM) or forward-12-month (F12M) EBITDA is used as the denominator.

EV/Sales Ratio: The enterprise value-to-sales ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by annual sales. It is an expansion of the P/S valuation, which uses market value instead of enterprise value. The EV/Sales ratio is perceived as more accurate than P/S, in part, because the market capitalization does not take a company's debt into account when valuing it.

EV/CF Ratio: The enterprise value-to-cash flow ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by the trailing-12-month (TTM) operating cash flow. It's a measure of how long it would take to buy the entire business if you were able to use all the company's operating cash flow.

The EV/CF ratio is perceived as more accurate than the P/CF ratio, in part, because the market price does not take a company's debt into account when valuing it.

EV/FCF Ratio: The enterprise value-to-free cash flow metric compares a company's enterprise value to its trailing-12-month (TTM) free cash flow (FCF). This metric is very similar to the EV/CF ratio, but is considered a more exact measure owing to the fact that it uses free cash flow, which subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding growth activities and payments to shareholders.

P/EBITDA Ratio: The P/EBITDA ratio is calculated as a company's per share market value divided by EBITDA (earnings before interest, taxes, depreciation, and amortization). This metric is very similar to the EV/EBITDA ratio, but is considered a little less exact measure as it uses market price, which does not take a company's debt into account. However, since EBITDA is often considered a proxy for cash income, the metric is used as a measure of what the market is willing to pay today for each dollar of the company's cash profitability in the trailing 12 months (TTM) or forward 12 months (F12M).

P/B Ratio: The price-to-book ratio is calculated as a company's current price per share divided by its book value (total assets – liabilities – preferred stocks) per share. In short, the book value is how much a company is worth. In other words, it reflects the total value of a company's assets that its common shareholders would receive if it were to be liquidated. So, the P/B ratio indicates whether you're paying higher or lower than what would remain if the company went bankrupt immediately. Investors typically use this metric to determine how a company's stock price stacks up to its intrinsic value.

P/TB Ratio: The price-to-tangible-book value ratio is calculated as a the per share market value of a company divided by the value of its tangible assets (total assets – liabilities – preferred stocks – intangible assets) per share. Tangible book value is the same thing as book value except it excludes the value of intangible assets to get a step closer to the baseline value of the company.

P/CF Ratio: The price-to-cash flow ratio measures a company's per share market price relative to its trailing-12-month (TTM) operating cash flow per share. This metric is used to determine whether a company is undervalued or overvalued relative to another stock, industry or sector. And like the P/E ratio, a lower number is typically considered better from the value perspective.

One of the reasons why P/CF ratio is often preferred over P/E ratio is the fact that operating cash flow adds back non-cash expenses such as depreciation and amortization to net income. This feature helps valuing stocks that have positive cash flow but are not profitable because of large noncash charges.

P/FCF Ratio: The price-to-free cash flow ratio is an extension of P/CF ratio, which uses trailing-12-month (TTM) free cash flow per share instead of operating cash flow per share. This metric is considered a more exact measure than P/CF ratio, as free cash flow subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding activities that generate additional revenues.

Earnings Yield: The earnings yield is calculated as current fiscal year (F1) EPS estimate divided by the company's current share price. The ratio, which is the inverse of the P/E ratio, measures the anticipated yield (or return) from earnings for each dollar invested in a stock today.

For example, earnings yield for a stock, which is trading at \$35 and expected to earn \$3 per share in the current fiscal year (F1), would be 0.0857 ($3/35 = 0.0857$) or 8.57%. In other words, for \$1 invested in the stock today, the yield from earnings is anticipated to be 8.57 cents.

Investors most commonly compare the earnings yield of a stock to that of a broad market index (such as the S&P 500) and prevailing interest rates, such as the current 10-year Treasury yield. Since bonds and stocks compete for investors' dollars, stock investors typically demand a higher yield for the extra risk they assume compared to investors of U.S. Treasury-backed securities that offer virtually risk-free returns. This additional return is referred to as the risk premium.

Debt/Equity Ratio: The debt-to-equity ratio is calculated as a company's total liabilities divided by its shareholder equity. This metric is used to gauge a company's financial leverage. In other words, it is a measure of the degree to which a company is financing its operations through debt versus its own funds. The higher the ratio, the higher the risk for shareholders.

However, this ratio is difficult to compare across industry groups where ideal amounts of debt vary. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-equity ratio should be compared with other companies in the same industry.

Cash Flow (\$/share): Cash flow per share is calculated as operating cash flow (after-tax earnings + depreciation + other non-cash charges) divided by common shares outstanding. It is used by many investors as a measure of a company's financial strength. Since cash flow per share takes into consideration a company's ability to generate cash by adding back non-cash expenses, it is regarded by some as a more accurate measure of a company's financial situation than earnings per share, which could be artificially deflated.

Current Ratio: The current ratio or liquidity ratio is a company's current assets divided by its current liabilities. It measures a company's ability to pay short-term obligations. A current ratio that is in line with the industry average or slightly higher is generally considered acceptable. A current ratio that is lower than the industry average would indicate a higher risk of distress or default. A higher number is usually better. However, a very high current ratio compared to the industry average could be an indication of inefficient use of assets by management.

Debt/Capital Ratio: Debt-to-capital ratio is a company's total debt (interest-bearing debt + both short- and long-term liabilities) divided its total capital (interest-bearing debt + shareholders' equity). It is a measure of a company's financial leverage. All else being equal, the higher the debt-to-capital ratio, the riskier the stock.

However, this ratio can vary widely from industry to industry, the ideal amount of required debt being different. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-capital ratio should be compared with the same for its industry.

Net Margin: Net margin is calculated as net income divided by sales. It shows how much of each dollar in sales generated by a company translates into profit. For example, if a company's net margin is 15%, its net income is 15 cents for every \$1 of sales it makes.

A change in margin can reflect either a change in business conditions, or a company's cost controls, or both. If a company's expenses are growing faster than sales, its net margin will decline. However, different net margin rates are considered good for different industries, so it's better to compare net margin rates of companies in the same industry group.

Return on Equity: Return on equity (ROE) is calculated as trailing-12-month net income divided by trailing-12-month average shareholder equity (including reinvested earnings). This metric is considered a measure of how effectively management is using a company's assets to generate profits. For example, if a company's ROE is 10%, it creates 10 cents profits for every \$1 shareholder equity, which is basically the company's assets minus debt. A company's ROE deemed good or bad depends on what's normal for its peers or industry group.

Sales/Assets Ratio: The sales-to-assets ratio or asset utilization ratio or asset turnover ratio is calculated as a company's annual sales divided by average assets (average of assets at the beginning of the year and at the year's end). This metric helps investors understand how effectively a company is using its assets to generate sales. For example, a sales-to-assets ratio of 2.5 indicates that the company generated \$2.50 in sales for every \$1 of assets on its books.

The higher the sales-to-assets ratio, the better the company is performing. However, similar to many other ratios, the asset turnover ratio tends to be higher for companies in certain industries/sectors than in others. So, a company's sales-to-assets ratio should be compared with the same for its industry/sector.

Historical EPS Growth (3-5 Years): This is the average annual (trailing-12-month) EPS growth rate over the last 3-5 years. This metric helps investors see how a company's EPS has grown from a long-term perspective.

Note: There are many factors that can influence short-term numbers — a recession will reduce this number, while a recovery will inflate it. The longterm perspective helps smooth out short-term events.

Projected EPS Growth (F1/F0): This is the estimated EPS growth rate for the current financial year. It is calculated as the consensus estimate for the current fiscal year (F1) divided by the reported EPS for the last completed fiscal year (F0).

Current Cash Flow Growth: It measures the latest year-over-year change in operating cash flow. Cash flow growth tells an investor how quickly a company is generating inflows of cash from operations. A positive change in the cash flow is desired and shows that more 'cash' is coming in than going out.

Historical Cash Flow Growth (3-5 Years): This is the annualized change in cash flow over the last 3-5 years. The change in a longer period helps put the current reading into proper perspective. By looking at the rate, rather than the actual dollar value, the comparison across the industry and peers becomes easier.

Projected Sales Growth (F1/F0): This metric looks at the estimated sales growth for the current year. It is calculated as sales estimate for the current fiscal year (F1) divided by the reported sales for the last completed fiscal year (F0).

Like EPS growth, a higher rate is better for sales growth. A look at a company's projected sales growth instantly tells you what the outlook is for their products and services. However, different sales growth rates are considered good for different industries, so it's better to compare sales growth rates of companies in the same industry group.

EPS F1 Estimate 1-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past week. The change in a company's consensus EPS estimate (or earnings estimate revision) has proven to be strongly correlated with the near-term price movement of its shares. It is an integral part of the Zacks Rank.

If a stock's consensus EPS estimate is \$1.10 now versus \$1.00 a week ago, that will be reflected as a 10% upward revision. If, on the other hand, it went from \$1.00 to 90 cents, that would be a 10% downward revision.

EPS F1 Estimate 4-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past four weeks.

A stock's earnings estimate revision in a 1-week period is important. But it's more meaningful to look at the longer-term revision. And, of course, the 4-week change helps put the 1-week change into proper perspective.

EPS F1 Estimate 12-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past 12 weeks.

This metric essentially shows how the consensus EPS estimate has changed over a period longer than 1 week or 4 weeks.

EPS Q1 Estimate Monthly Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal quarter over the past four weeks.

While the revision in consensus EPS estimate for the current fiscal year is strongly correlated with the near-term price movement of its shares, the estimate revision for the current fiscal quarter is an important metric as well, especially over the short term, and particularly as a stock approaches its earnings date. If a stock's Q1 EPS estimate decreases ahead of its earnings release, it's usually a negative sign, whereas an increase is a positive sign.