



## Action Report

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# PROFESSIONAL AUDIOVISUAL INDUSTRY ACTIVITY REPORT

December 2020

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— PJ —  
SOLOMON



December 2020

# SPECIAL HIGHLIGHTS IN THIS ISSUE

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- AV Industry Innovation: Hardware as a Service
  - COVID-19 Challenges & Expected Industry Recovery
  - AV in the COVID-19 World
  - Pro AV Trends for 2021
  - Integrators by Revenue
  - D=SIGN: The Digital Signage Conference
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# Recent 2020 PJ SOLOMON Transactions

**PENDING**

**MOOD:MEDIA**

Has agreed to be sold to




**VECTOR CAPITAL**

Serving as financial advisor to Mood Media

**PENDING**  
CAD \$340,000,000

**paybright**

Has agreed to be sold to



**affirm**


Serving as financial advisor to PayBright

**PENDING**

**KINGS**

**BALDUCCI'S**

Sale to



**Albertsons**

Serving as financial advisor to KB Holdings

**DECEMBER 2020**  
\$345,000,000



**UNDER ARMOUR**

Sale of



**myfitnesspal**

to



**FP**  
FRANCISCO PARTNERS

Served as financial advisor to Under Armour

**DECEMBER 2020**

**AKKR**

Has sold

**TrueCommerce**

to



**WCAS**

Served as financial advisor to Accel-KKR and TrueCommerce

**NOVEMBER 2020**

**Capital Brands**

Owner of

**nutribullet**

Has been sold to

**DēLonghi Group**

Served as financial advisor to Capital Brands and sponsor owner Centre Lane Partners

**OCTOBER 2020**  
\$300,000,000

**chico's FAS<sup>®</sup>**

\$285 Million  
Revolving Credit Facility  
\$15 Million FILO

Served as financial advisor to Chico's

**OCTOBER 2020**



**RAND McNALLY**

Has been sold to



**TELEO**  
CAPITAL

Served as financial advisor to Rand McNally

**AUGUST 2020**  
\$325,000,000



**Brooks Brothers**

Sale to



**ABG** AUTHENTIC BRANDS GROUP



**SIMON<sup>®</sup>**

Served as investment banker to Brooks Brothers in its Chapter 11 bankruptcy proceedings

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# AV Industry Innovation: Hardware as a Service



## What is Hardware as a Service (HaaS)?

- Rental agreement where a managed service provider (MSP) leases hardware to a client and commits to the technology's maintenance and support
- MSP holds responsibility for any repair or replacement of the hardware, as well as for providing all the necessary updates

- ➕ **Affordability:** Clients can pay in monthly installments and reduce hefty upfront costs
- ➕ **Troubleshooting:** Clients receive almost instant support with tech issues
- ➕ **Predictability:** Clients do not have to worry about unforeseen maintenance costs and Managed Service Provider (MSPs) lock in contracts to ensure predict.
- ➖ **Longer agreements:** Subscribers have to pay for the full term of the agreement, even if they choose to not use the service
- ➖ **Overdependence:** Subscribers are reliant on the MSP for all of their technology needs

## SELECT COMPANIES WITH HAAS OFFERINGS



- Allows existing Zoom Phone and Zoom Rooms customers to acquire related hardware from the company for a fixed monthly cost
- Initial hardware providers will include DTEN, Neat, Poly and Yealink
- Allows companies to access low-cost hardware and pay for the software and hardware on a single invoice
- Zoom's platform will also allow IT teams the option to add professional and managed services for installation and enhanced end-to-end management



- Midwich group launched a new HaaS service in September
- Designed to allow partners to offer latest user communications technology to consumers
- Poly's certified solutions for Zoom will also be used by Midwich to meet end-user demand
- HaaS is an important tool for video communications, which has increased in demand as the Covid-19 pandemic a need for connectivity across many locations

# COVID-19 Challenges

COVID-19 has caused many challenges in the AV industry,  
but recent signs of life point to potential opportunity

## AV IS NOT IN THE CLEAR, BUT GROWTH IS GROWTH

- November marked the best month of AV sales growth since the start of the pandemic
  - The AV Sales Index built on its momentum from October, increasing 1.5 points to 54.7
- Despite steep declines as a result of the pandemic, many believe revenues will return to pre-pandemic levels by the end of 2021
- At 55.3, the preliminary international AVI-S is at its highest level since January

## OPPORTUNITIES IN THE POST-COVID WORLD

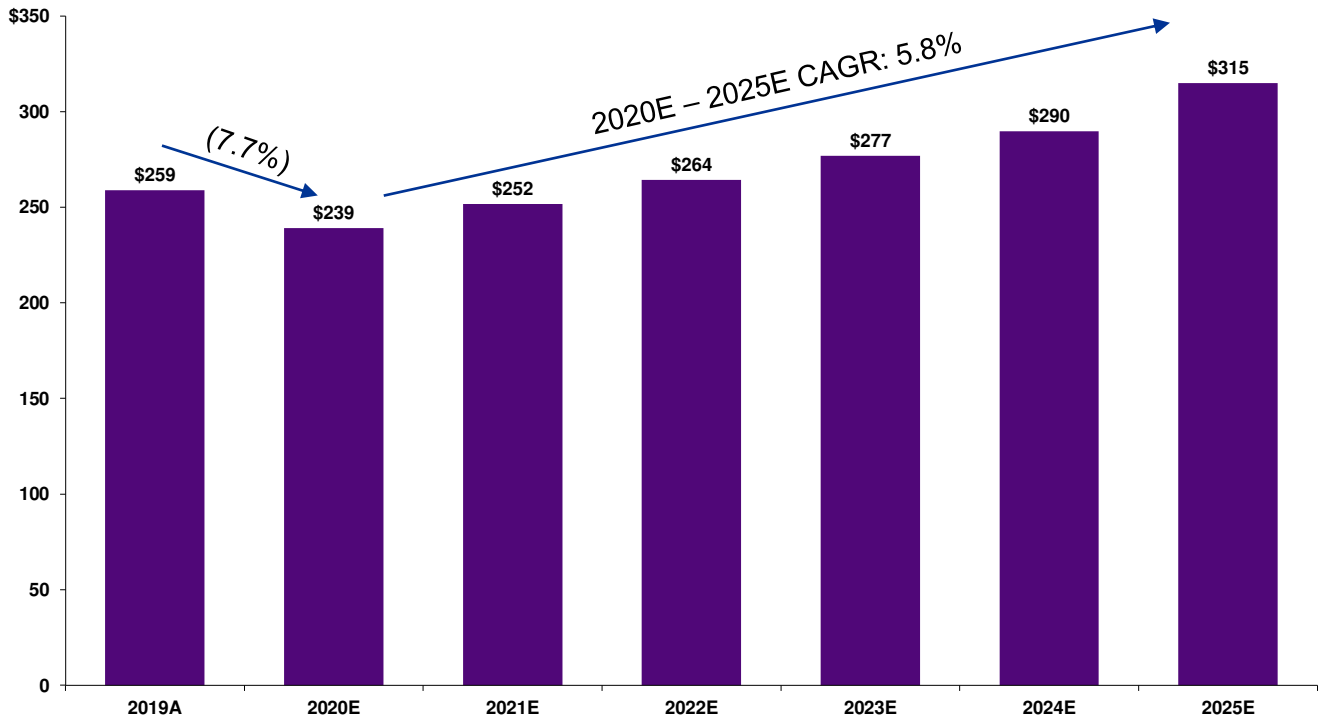
- Forced shift to hybrid work environments has required companies to invest in solutions that balance collaboration and safety for employees equally
- AV professionals have found themselves in a position to offer services and technology as one way to mitigate challenges
- Education and public event spaces will also need new AV offerings for hybrid and social distancing measures

## NOT EVERYONE WILL MAKE IT OUT TO THE OTHER SIDE

- Very few companies have been immune to the effects of COVID-19 as companies seek a new normal for everyday business
- Some companies, such as Blitz and Llum Creativa, have gone into liquidation as a result of challenges faced during the pandemic
  - Prism filed for bankruptcy
- Disruption in supply chains and reduction of staff sizes has challenged companies to adjust their everyday business practices

# Professional AV Industry Expected To Recover By 2022

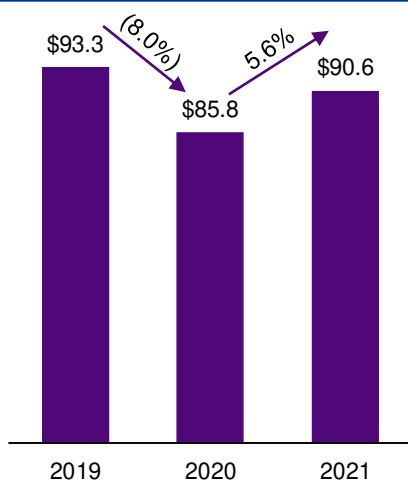
Industry expected to return to 2019 market size by 2022 and grow to \$315 billion by 2025...



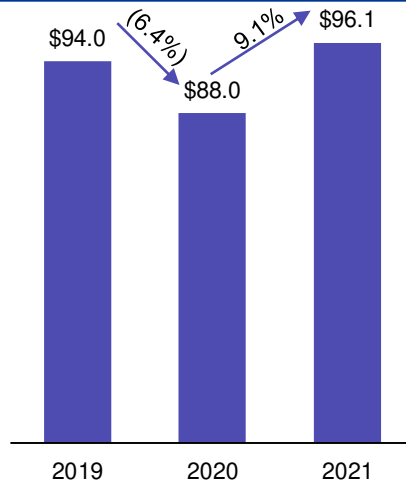
But the rate of recovery is uneven across regions

- 1 EMEA was the hardest hit due to a more challenged economy going into COVID-19
- 2 Americas projected to have a similar decline as EMEA as pandemic continues
- 3 China's decline is projected to be less severe as it was hit early and recovery in world demand improves

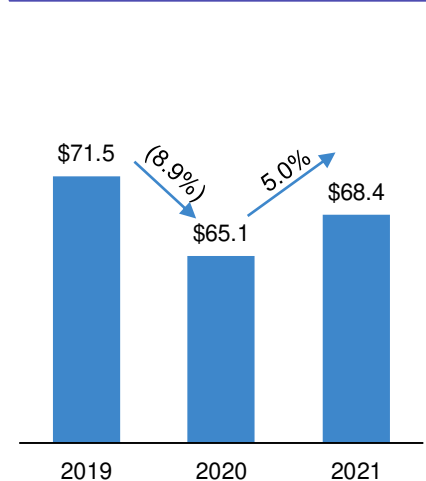
## Americas



## APAC



## EMEA



Source: AVIXA Research.

# AV in the COVID-19 World

Many within the AV industry are continuing their efforts to help flatten the curve

## CONTACT TRACING DEVICES



- Kramer Electronics launched Corona Tag; a compact wearable device designed for contact tracing to promote a safe return to offices
- Monitors social distancing by tracking the distance and exposure time between tags using low energy Bluetooth signals
- Frees users from unnecessarily isolating by quickly identifying high risk contacts to help maintain business continuity
- The device operates automatically when worn and stays active for months without any recharging requirements
- Designed for privacy, no personal data is stored in the tags and the device does not rely on any external hardware
- When someone tests positive for COVID-19, the MAC address is used to access information about all the tags that have come into contact over the previous two weeks, notifying only exposed individuals to take precautions

## TOUCHLESS SOLUTIONS



- Ultraleap developed an app that provides touchscreen emulation and will remove the need for contact when using public screens
- The app can be seamlessly integrated into existing kiosks and touchscreens, moving consumer interactions with public screens into mid-air
- By detecting a user's hand in mid-air, the app converts stimuli into an on-screen cursor that mirrors the familiar on-screen experience
- Businesses and public venues have historically utilized public touchscreens and kiosks to help reduce transaction time, enhance shopping experiences and handle higher volumes
- Recent research shows that 80% of people think public touchscreens are unhygienic

Source: AV Network, KramerAV.

# AV in the COVID-19 World

Many within the AV industry are continuing their efforts to help flatten the curve

## WRIST TEMPERATURE SCREENING



- A temperature screening solution, complete with a built-in BrightSign media player
- Measures temperature at the wrist rather than the forehead, on the grounds that wrists give more accurate readings
- Utilizes an algorithm that processes recent readings to identify environmental trends in order to reduce the likelihood of false positive readings
- Suitable height for adults and children as well as accessible by individuals in need of assisted mobility
- Accessibility makes the device attractive for not only business and retail environments, but also for airports, theaters and other venues that attract diverse groups of people of all ages
- Ensuring accurate temperature readings is essential to addressing the continue development of safe business operations during the pandemic

## PEOPLECOUNT INSTALLATION



- PeopleCount is an intelligent camera and display technology designed to ensure safety and social distancing during the pandemic
- Dutch accounting firm Acar Accountants & Adviseurs has become the first business to use the Philips Professional Display Solutions in corporate offices
- The 32-inch Philips display at the main entrance to the offices uses a live traffic light system to indicate whether it's safe to enter based on capacity readings
- Information is automatically generated using live data gathered from a ceiling-based smart Bosch IP camera which counts people in and out of the building 24/7

Source: AV Network.



# Pro AV Trends for 2021

While live events came to a halt in 2020, the industry has continued to innovate and find new solutions for 2021

## Trend

### Cloud-Based Conferencing Solutions

- The ultimate solution to the evolving hybrid world society is moving toward
- Cloud-based conferencing solutions has revolutionized the modern work environment, allowing for seamless collaboration between team members and clients
- Supports the hybrid model where work-from-home employees will return to the office, but not for a full work week

### Contact Tracing

- Contact tracing helps protect individuals by letting people know they may have been exposed to COVID-19 and should monitor their health for signs and symptoms
- The ability to track the spread of the virus eliminates the need to prematurely enforce sitewide shutdowns as a result of a COVID-19 infection in workplaces, schools or any public venues

### Workspaces Reimagined

- Office environments will be reimagined as a means for accommodating the newest social norms
  - Examples include sensor-based automation, touchless meeting room interaction, virtual concierge services, people-tracking and workplace analytics

### Touchless Audio Solutions

- The pandemic has altered audio capturing plans as industries look for 'contactless' microphone options that don't need to be worn or handled by individuals or groups
- Various solutions allow authorized users to manage the audio system from their mobile devices in order to avoid shared touch devices

### AVoIP

- AVoIP is playing an ever-increasing role in the corporate environment
- Projects using AVoIP will increase the number of displays around a facility in order to accommodate social distancing and allow presentations to be viewed in high-quality audio and video

### Direct View LED Signage

- With social distancing, video walls are increasing in size to accommodate spread out viewers
- New security and health protocols will make signage and wayfinding more digital and more interactive

Source: AV Network.

# Integrators by Revenue

Company	2019 Revenue (\$M)	2018 – 2020 Average Installations	Commentary
 	\$1,275	10,100	AVI-SPL designs, builds, manages and supports collaboration solutions to create meaningful experiences for organizations worldwide
	\$1,025	25,000	Diversified is involved in a variety of industries, including media & entertainment, dynamic signage, content creation, sports fan experience and more
	\$303	4,761	Kinly offers solutions and services including videoconferencing, audiovisual integration, cloud solutions, unified communications, and managed services
	\$250	3,200	AVI Systems specializes in audiovisual systems integration and support, serving various markets, including business, education and entertainment
	\$190	3,142	Avidex specializes in the use of collaborative communication solutions as a national technology integrator providing design, build and support services
	\$150	2,000	Solutionz is a national provider of AV integration, specializing in "any-room" design, implementation and full coverage maintenance plans
	\$155	3,749	CCS Presentation Systems provides design, installation, training and maintenance of AV equipment
	\$145	650	Ford provides design, engineering, project management, installation and service for various AV systems
	\$438	300	Solotech provides turnkey solutions for the design, delivery and service and maintenance of AV systems
	\$155	1,063	SKC designs, builds and manages technology for business collaboration using video, voice and AV technologies

Source: AVNetwork.com SCN Top 50 December 2020 Report and Wall Street research.

# D=SIGN: The Digital Signage Conference

- On December 8<sup>th</sup> and 9<sup>th</sup>, AVIXA and the Digital Signage Federation (DSF) held D=SIGN: The Digital Signage Conference, powered by LAVNCH
- Focused on solutions, innovations and big ideas around digital signage and digital-out-of-home, D=Sign was intended for anyone interested in the digital signage ecosystem
- Industry experts shared a glimpse of what lies ahead in the world of advertising in addition to the newest innovations in displays, media players, software and more
- **Day 1: "How To" & Hardware Day**
  - Designing for the Present and Future: Revisiting and Recharging Your Potential
  - From Hardware to the Cloud — The Many Advantages of Cloud-Connected Digital Signage Networks
  - Projection Technology Transforming the Customer Experience
- **Day 2: CMS, Creative and Big Idea Day**
  - Designing Effective Customer Experiences Across the Digital Ecosystem
  - Future-Proofing a Digital Signage System
  - Activating the Future of Digital Signage



## Featured Products

Displays  
Media Players  
SaaS  
Mounts



## Attendees

AV Integrators  
AV Managers  
Creative Agencies  
Content Developers  
Media Network Pros

[Click Below to Register for Archive Access to D=SIGN](#)



**Digital Signage Conference**

# Sector News

## Audio / Visual

- **12/7: Qualcomm**  
last week launched its Snapdragon 888 platform which will show up in premium phones next year and promises to take the high-end of Android smartphones to levels of performance they've never seen before
- **12/1: Mood Media**  
a provider of on-premise audio and visual services, has entered into a definitive agreement to be acquired by Vector Capital
- **11/18: YouTube**  
unveiled audio ads, a new advertising format intended to reach users who listen to music or podcasts ambiently
- **11/12: Shore**  
announced a strategic investment in Finnish software company, Ab Wavemark Oy, known for its software solutions for theatre, broadcast, and content streaming applications
- **11/10: Vizrt Graphics**  
supplied broadcast graphics software to cover the US election to more than 100 news stations for an estimated audience of four billion people
- **10/15: d&b audiotechnik**  
has partnered with theatre sound company Autograph to launch d&b Fanblock, which brings audience sounds back into sports arenas denuded of fans by Covid-19
- **10/27: Evertz Technologies Limited**  
announced the acquisition of a direct-to-consumer interactive graphics company based in Bergen, Norway
- **9/16: Pixellot**  
has partnered with FC Barcelona to become a testing ground for AI-based viewing and recording of football training sessions and matches
- **8/21: FARO Technologies**  
acquired Advanced Technical Solutions in Scandinavia AB, a Swedish-based leader in 3D digital twin solution technology
- **8/21: Clair Global**  
renowned touring and sound reinforcement company, has acquired Eighth Day Sound with the goal of continuing to support the dedicated relationships for touring customers from both rosters

## Digital Signage

- **12/15: Spectrio**  
was acquired by The Jordan Company's Resolute Fund IV from Bertram Capital Management, with Bertram retaining a minority stake
- **12/11: Sharp NEC Display Solutions**  
has introduced its MultiSync ME Series digital signage displays, which offer UHD content
- **12/10: Four Square Media**  
designed an integrated a continuous, immersive, 360-degree 3D experience on the largest 8K LED ceiling screen in the Middle East in the Mall of Dilmunia, Bahrain
- **11/17: Clatterbridge Cancer Centre**  
installed NowSignage solutions to 25 displays for use throughout patient waiting areas and staff common spaces in order to communicate effectively with staff and patients
- **11/10: Intersection**  
announced the launch of new digital storefronts to help brands bridge the gap between digital and physical retail experiences
- **10/30: Clear Channel**  
announced the largest U.S. airport ad deal with Port Authority of New York & New Jersey, signing a 12-year deal
- **10/27: Stratacache**  
is modernizing the drive-thru experience at over 10,000 Burger King, Popeyes and Tim Hortons locations, installing more than 40,000 digital screens
- **10/23: Clear Channel**  
announced a first-in-the-nation rollout of a new audience impressions methodology that provides advertisers with a more precise analysis of consumers
- **10/16: Uber**  
plans to expand its cartop advertising network, Uber OOH, powered by Adomni, to Chicago and Los Angeles in Q4
- **10/14: Adsquare and TPS Engage**  
announced a partnership that will allow TPS Engage to leverage a variety of data collection tools, which will be utilized across over 100,000 digital billboards in 25 countries
- **10/13: Screenvision Media**  
a place-based video advertising network operator, strikes a deal to sell advertising with medical waiting room network, Outcome Health
- **10/13: Lemma**  
has partnered with VIOOH, the global programmatic marketplace, to scale its programmatic DOOH offering globally

Source: Press releases, company filings and Wall Street research.



# Sector News

## Augmented Reality & Event Production

- **12/3: Old Barn Audio**  
completed its second major VR installation, in which an immersive environment to administer motorway traffic management training
- **12/2: Verizon Communications**  
will start refunding Fios TV customers impacted by the reduction in live sporting events due to the COVID-19 pandemic
- **11/11: ADI**  
partnered with the English National Opera House to support the world's first fully staged drive-in opera, ENO Drive & Live at Alexandra Palace
- **11/6: Vimeo**  
an IAC company, announced a \$150 million equity investment from technology investment firm Thrive Capital and GIC
- **10/28: Ncam Reality**  
a tracking system for visualizing XR and CG elements in-camera, has brought excitement to a Covid-safe eSports tournament
- **10/23: BitTorrent**  
announced plans to acquire live streaming platform DLive.tv and migrate all BitTorrent related services to one unified ecosystem named BitTorrent X
- **10/15: Zoom**  
announced a raft of features and hardware certifications designed to support a return to the office and hybrid working, at its latest wholly virtual Zoomtopia conference
- **10/14: Facebook**  
began shipping the next generation of its virtual-reality headset featuring a QUALCOMM Platform processor and 6 GB of memory
- **9/3: Riedel Communications**  
partnered with the Remote Recording Network to launch a first-of-its-kind transatlantic remote mastering workflow in order to broadcast the world's largest heavy metal music festival

## Diversified AV

- **12/2: QUALCOMM**  
tapped Samsung Electronics Co. Ltd.'s chipmaking division to manufacture its new flagship 5G smartphone chip
- **11/26: Acar Accountants & Advisers**  
a Dutch accounting firm, became the first business to install the People Count solution from Philips Professional Display Solutions in corporate offices
- **11/2: Ocado Group plc**  
agreed to acquire San Francisco- and Toronto-based robotics company Kindred Systems and Las Vegas robotic arm builder Haddington Dynamics, for about \$287 million combined
- **10/29: Christie**  
has announced the launch of a line of commercial, patented UV disinfection products for cinemas, theme parks, museums, sports complexes and other indoor spaces
- **10/21: Vision**  
announced a first to market TC-WIRELESS solution, which allows HDMI and USB to be sent wirelessly for simple sharing in a meeting
- **10/13: Ultraleap**  
launched TouchFree, an application that enables companies to seamlessly retrofit existing kiosks and touchscreens, moving consumer interactions with public screens into mid-air
- **10/9: Advanced Micro Devices**  
a U.S. chipmaker, is in advanced talks to acquire peer Xilinx in a deal expected to be worth more than \$30 billion
- **9/14: NVIDIA**  
struck an agreement to buy U.K.-based chip manufacturing company ARM Ltd. from SoftBank Group Corp. and SoftBank Vision Fund LP in a deal worth \$40 billion
- **8/27: Samsung**  
partners with Quividi to provide real-time analytics for safer retailing, using a platform that manages people counting, mask detection, thermal scanning and other safety measures

Source: Press releases, company filings and Wall Street research.

# Audio / Visual M&A

## Recent deals in the Audio / Visual market

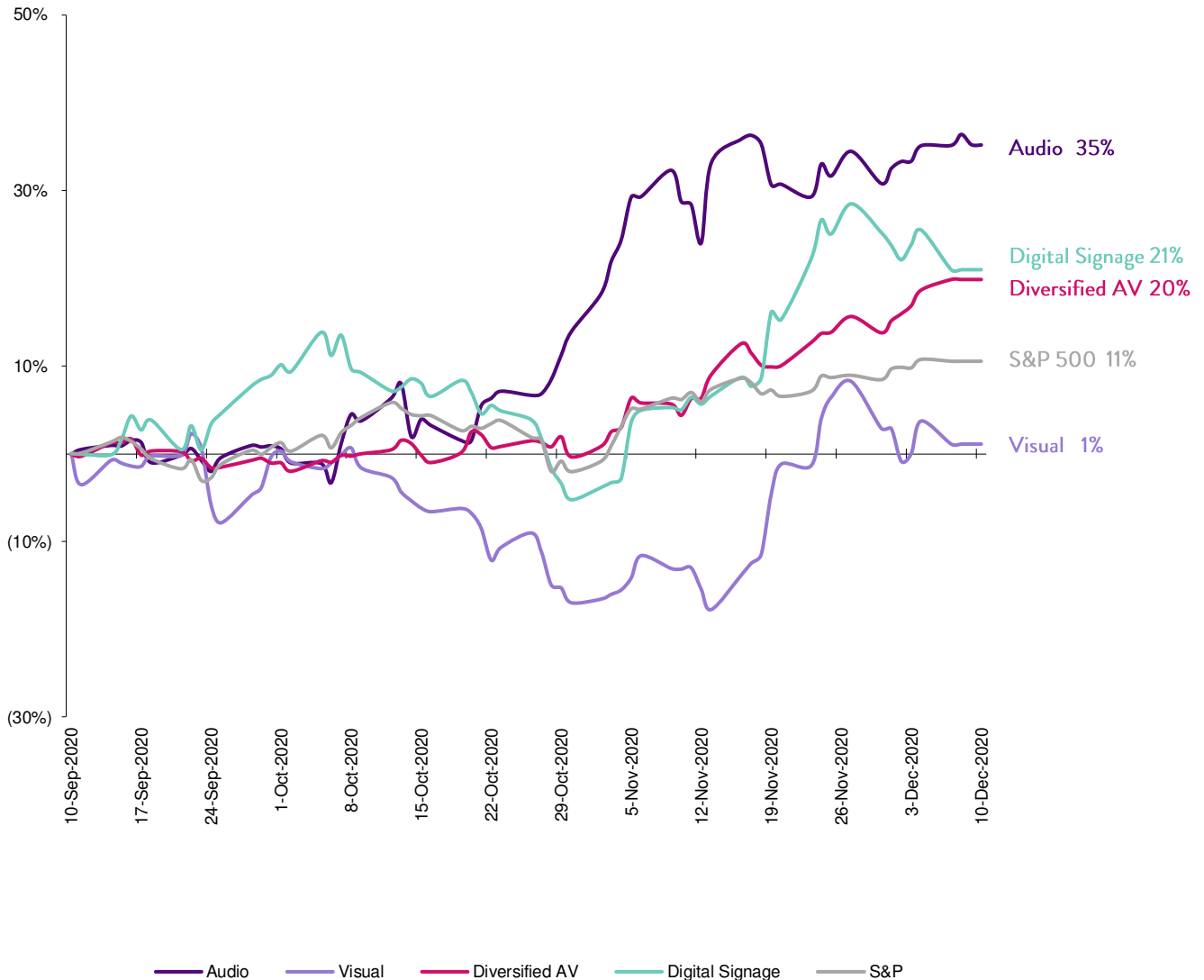
(\$ in millions)			EV as a Multiple of:		
Date Announced	Acquiror	Target	Enterprise Value	LTM Sales	LTM EBITDA
Dec-20	The Jordan Company	Spectrio	ND	ND	ND
Dec-20	Vector Capital	Mood Media	ND	ND	ND
Nov-20	AVI Systems	Avyve	ND	ND	ND
Aug-20	MelodyVR Group	Napster	ND	ND	ND
Aug-20	FARO Technologies	Advanced Technical Solutions	ND	ND	ND
Aug-20	Four Winds Interactive	Smart Space	ND	ND	ND
Jul-20	VOXX International	Directed Electronics RSS and CC businesses	~\$11	~0.2 x	ND
Jun-20	Kinly	AVMI	ND	ND	ND
May-20	Apple	NextVR	ND	ND	ND
Apr-20	Verizon Communications	BlueJeans Network	~\$400	~4.0	NA
Apr-20	Sony	Bilibili (5% stake)	ND	ND	ND
Apr-20	Midwich	Starin Marketing	46	ND	ND
Mar-20	Ever Harmonic	Clear Media	253	ND	11.9 x
Mar-20	Sharp	NEC Display Solutions	ND	ND	ND
Feb-20	Lyft	Halo	ND	ND	ND
Feb-20	AVDG	Maverick Integration Corp.	ND	ND	ND
Feb-20	AVI-SPL	Whitlock	ND	ND	ND
Feb-20	Yorktel	Video Corporation of America	ND	ND	ND
Feb-20	Diversified	Sensory Technologies	ND	ND	ND
Dec-19	Solutionz	Unified Technology Systems	ND	ND	ND
Nov-19	Sony Pictures Television Networks	Internet Media Services	ND	ND	ND
Nov-19	Pfingsten	Environmental Lights	ND	ND	ND
Nov-19	iMedia Brands	Float Left Interactive	ND	ND	ND
Nov-19	Sonos	Snips SAS	\$37.5	ND	ND
Nov-19	Acuity Brands	LocusLabs	ND	ND	ND
Nov-19	PSAV	eclipse group	ND	ND	ND
Oct-19	HumanEyes Technologies	HowToCreateVR	ND	ND	ND
Sep-19	Verizon Communications	Jaunt XR	ND	ND	ND
Sep-19	Hawkeye Technologies	Radiant Images	ND	ND	ND
Sep-19	Ubimax	ESSERT Digital	ND	ND	ND
Sep-19	Logitech	Streamlabs	\$118	ND	ND
Sep-19	Uniguest	Tripleplay	ND	ND	ND
Sep-19	Audio Visual Management	ELITE Audio Visual Systems	ND	ND	ND
Sep-19	Acuity Brands	Luminaires Group	ND	ND	ND
Sep-19	Barco	Unilumin (5% Stake)	\$54	ND	ND
Sep-19	Diversified	Advanced	ND	ND	ND

Source: Press releases and company filings.

(a) Based on an expected revenue increase of \$50 million following the acquisition.

# COVID-19 Rebound

Since September 10, 2020, AV Industries market values have increased, with some sector indexes gaining between 20 to 35% of capitalization



Note: Represents changes in total sector market capitalizations.

Source: Capital IQ as of December 10, 2020.

Audio includes: Dolby Laboratories, Poly, Sonos, Bang & Olufsen, ZAGG and VOXX International.

Visual includes: TCL Technology Group, Sharp Corporation, Barco, Konka, Japan Display, Technicolor, Funai Electric, ClearOne.

Diversified AV includes: Samsung, Sony, Koninklijk Philips, Hitachi, Panasonic, Toshiba, LG Electronics, Logitech, Hisense Visual Technology and Midwich.

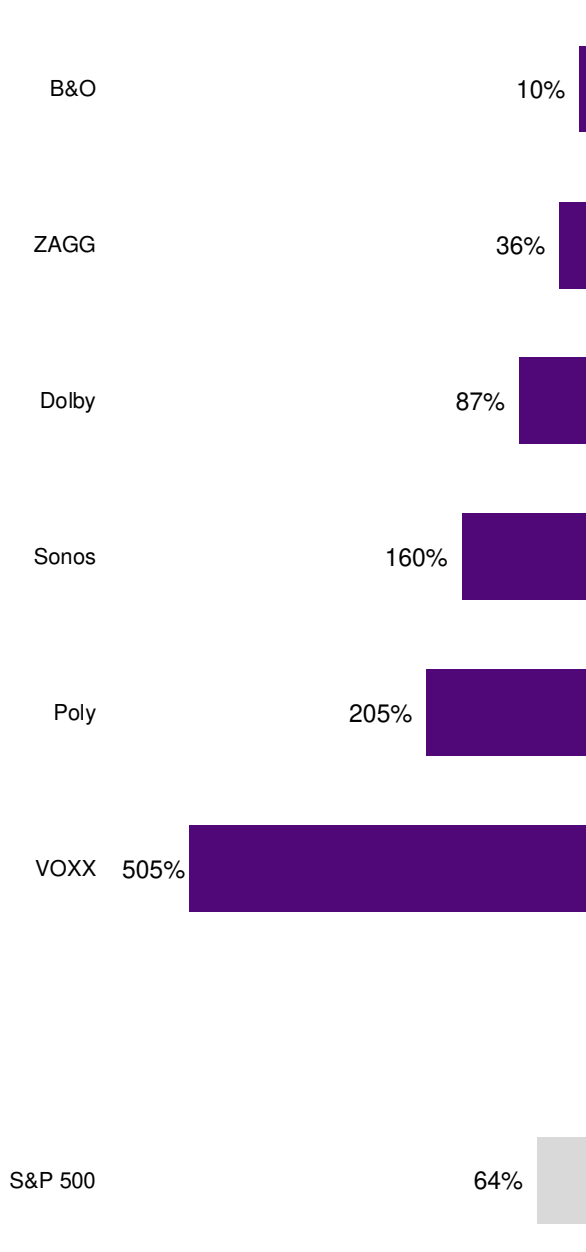
Digital Signage includes: NEC Corporation, Cree, Acuity Brands, AU Optronics, Leyard, Unilumin, EPISTAR, Everlight, Daktronics, Dialight and LSI Industries.

# COVID-19 Impact

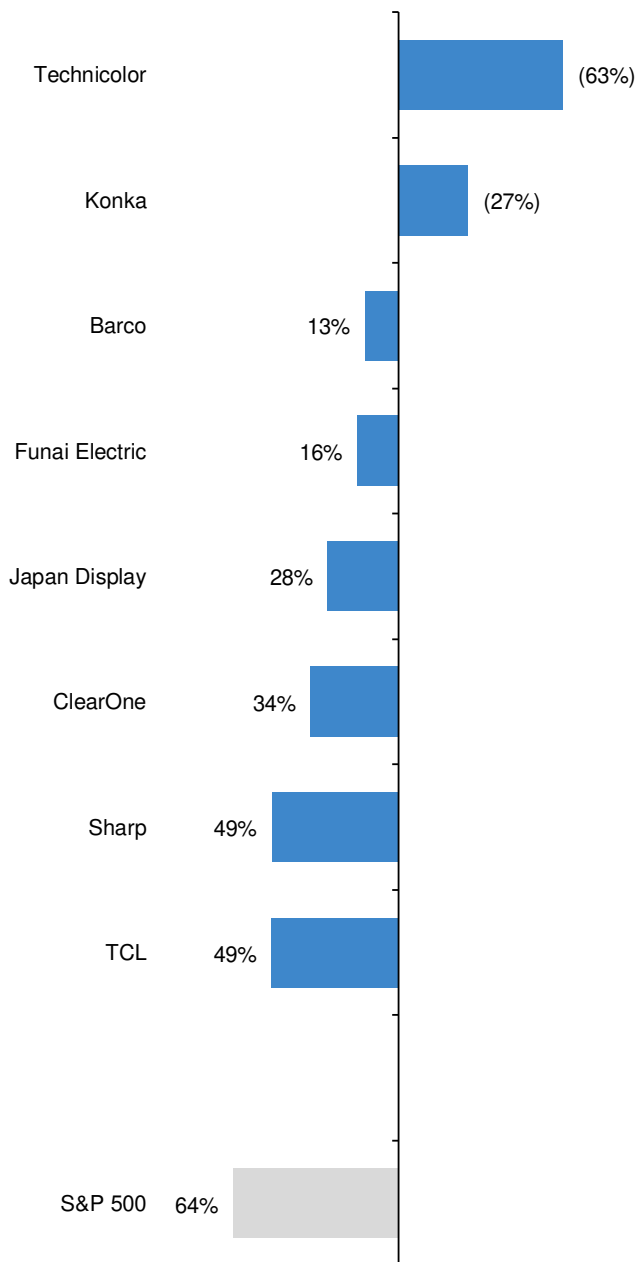
## Change in Stock Price

From March 23, 2020 - December 10, 2020

### Audio Companies Stock Price Change



### Visual Companies Stock Price Change



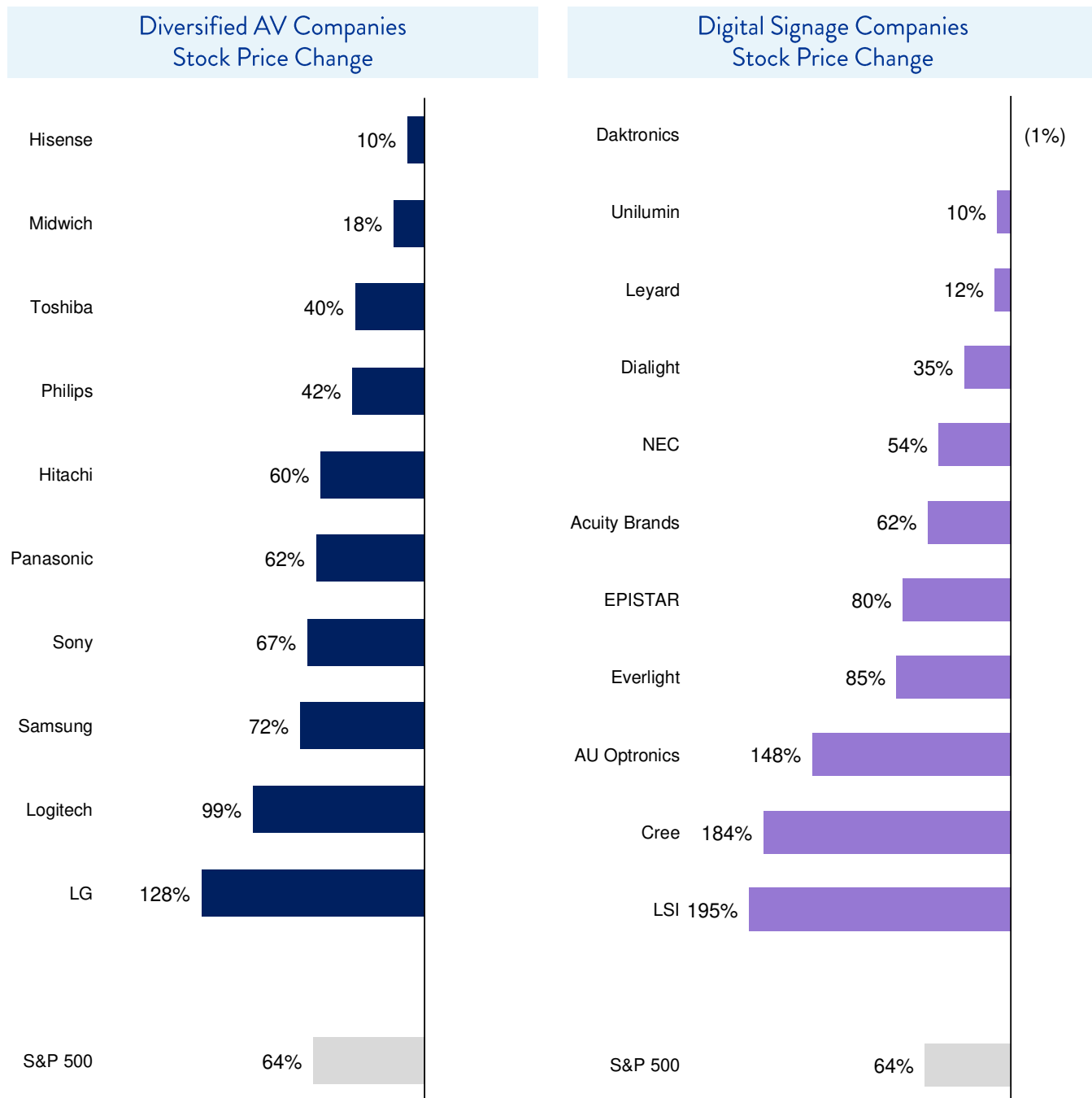
Source: Capital IQ as of December 10, 2020.



# COVID-19 Impact

## Change in Stock Price

From March 23, 2020 - December 10, 2020



Source: Capital IQ as of December 10, 2020.

# Market Indicators

## Share Price Performance

	Stock Price 12/10/20	1-Week % Change	1 - Month % Change	YTD% Change
<b>Audio</b>				
<b>Dolby</b>	\$91.08	1%	8%	32%
<b>Poly</b>	26.37	(1%)	30%	(4%)
<b>Sonos</b>	21.36	(6%)	39%	37%
<b>B&amp;O</b>	3.99	4%	25%	(30%)
<b>ZAGG</b>	4.00	3%	20%	(51%)
<b>VOXX</b>	12.41	0%	14%	183%

**Audio Median**  
**Audio Mean**

**1%**  
**0%**

**23%**  
**23%**

**14%**  
**28%**

### Diversified AV

<b>Samsung</b>	\$66.82	5%	21%	31%
<b>Sony</b>	94.49	1%	10%	33%
<b>Philips</b>	52.47	1%	(3%)	2%
<b>Hitachi</b>	40.49	3%	8%	(9%)
<b>Panasonic</b>	11.26	3%	13%	14%
<b>Toshiba</b>	29.50	1%	12%	(17%)
<b>LG</b>	87.44	6%	11%	32%
<b>Logitech</b>	89.01	3%	11%	73%
<b>Hisense</b>	1.62	(10%)	(11%)	(2%)
<b>Midwich</b>	6.13	2%	18%	(16%)

**Diversified AV Median**  
**Diversified AV Mean**

**2%**  
**1%**

**11%**  
**9%**

**8%**  
**14%**

### Visual

<b>TCL</b>	\$1.04	(10%)	(3%)	53%
<b>Sharp</b>	13.53	3%	20%	(17%)
<b>Barco</b>	22.01	(4%)	1%	(42%)
<b>Konka</b>	1.02	(5%)	(2%)	52%
<b>Japan Display</b>	0.49	(2%)	(4%)	(36%)
<b>Technicolor</b>	2.30	12%	30%	(90%)
<b>Funai Electric</b>	4.16	(1%)	(2%)	(39%)
<b>ClearOne</b>	2.64	10%	53%	59%

**Visual Median**  
**Visual Mean**

**(2%)**  
**0%**

**(1%)**  
**12%**

**(26%)**  
**(7%)**

### Digital Signage

<b>NEC</b>	\$52.16	(3%)	(6%)	20%
<b>Cree</b>	93.63	2%	47%	103%
<b>Acuity Brands</b>	115.03	(5%)	9%	(17%)
<b>AU Optronics</b>	0.54	8%	35%	50%
<b>Leyard</b>	1.10	(11%)	(5%)	(6%)
<b>Unilumin</b>	1.49	(10%)	(6%)	(2%)
<b>EPISTAR</b>	1.54	8%	26%	34%
<b>Everlight</b>	1.36	1%	1%	10%
<b>Daktronics</b>	4.63	3%	5%	(24%)
<b>Dialight</b>	3.35	(4%)	(2%)	7%
<b>LSI</b>	8.19	4%	8%	35%

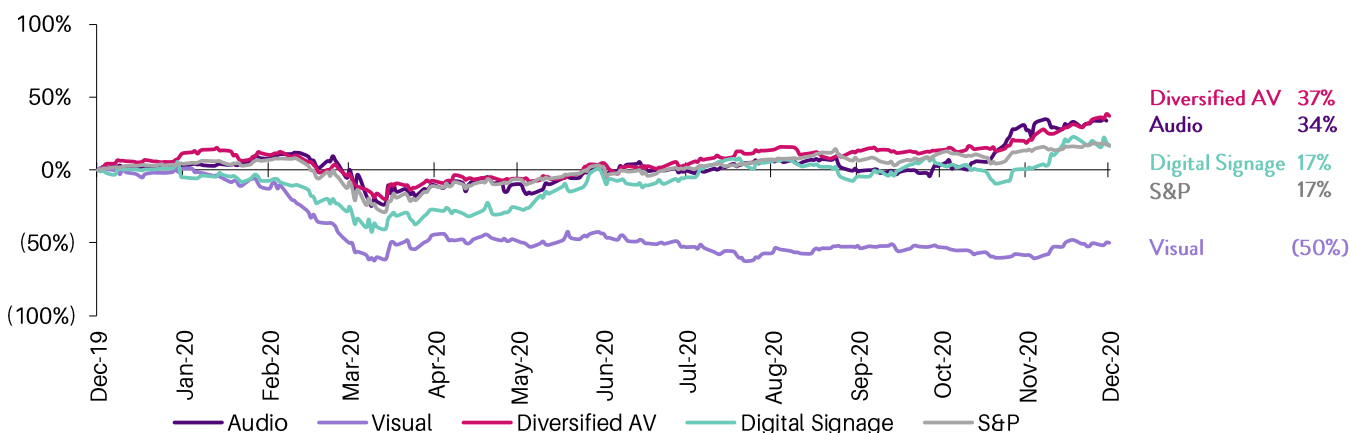
**Digital Signage Median**  
**Digital Signage Mean**

**1%**  
**(1%)**

**5%**  
**10%**

**10%**  
**19%**

## LTM Indexed Stock Performance

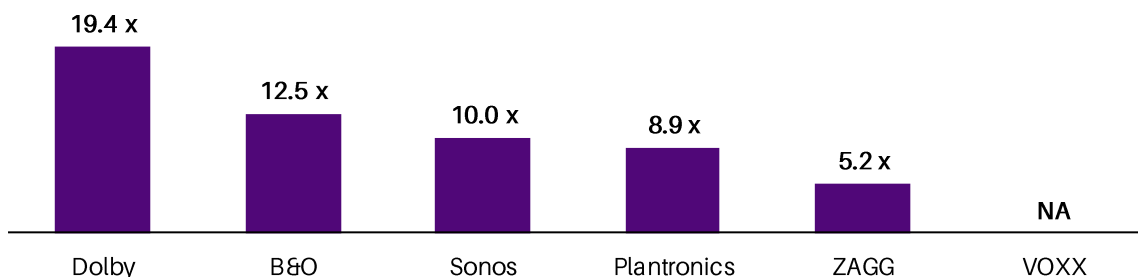


Source: Capital IQ as of December 10, 2020, Bloomberg and Wall Street Research.

# EV / 2021E EBITDA

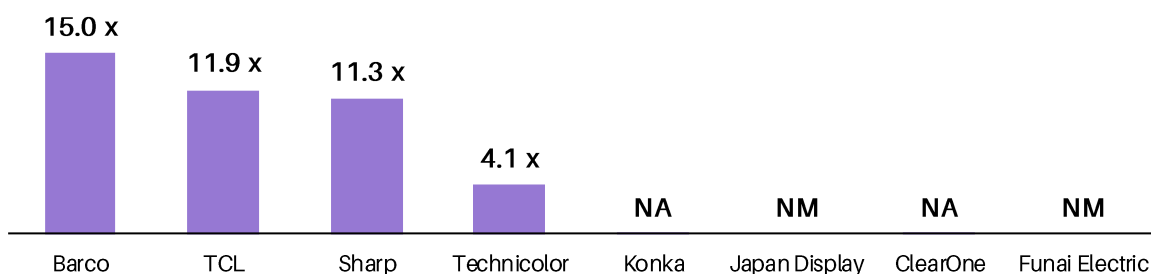
## Audio

Median: 10.0 x



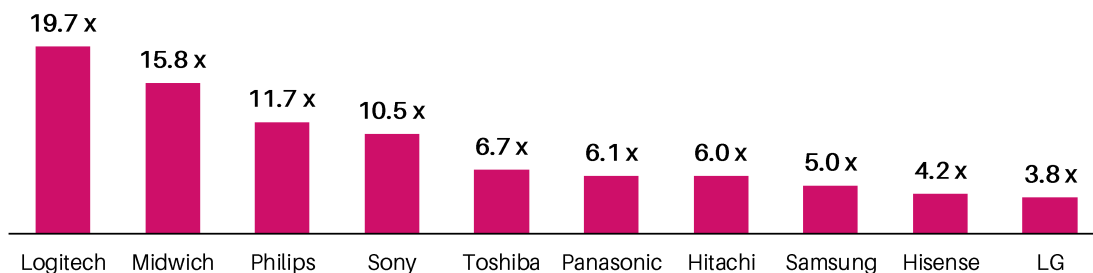
## Visual

Median: 11.6 x



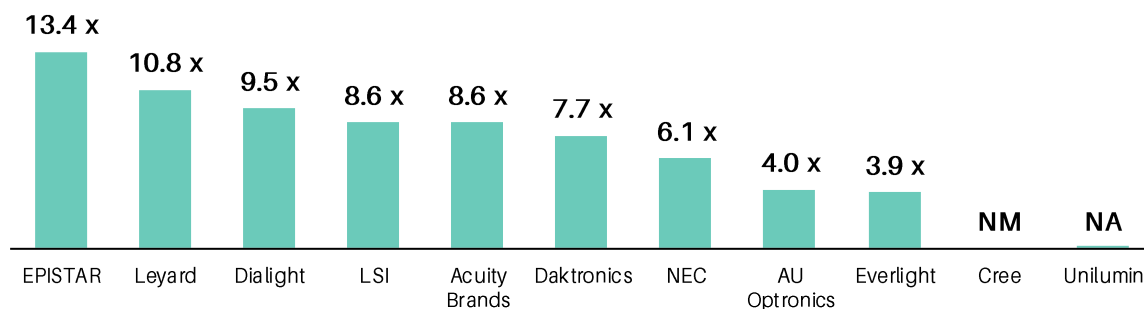
## Diversified AV

Median: 6.4 x



## Digital Signage

Median: 8.6 x

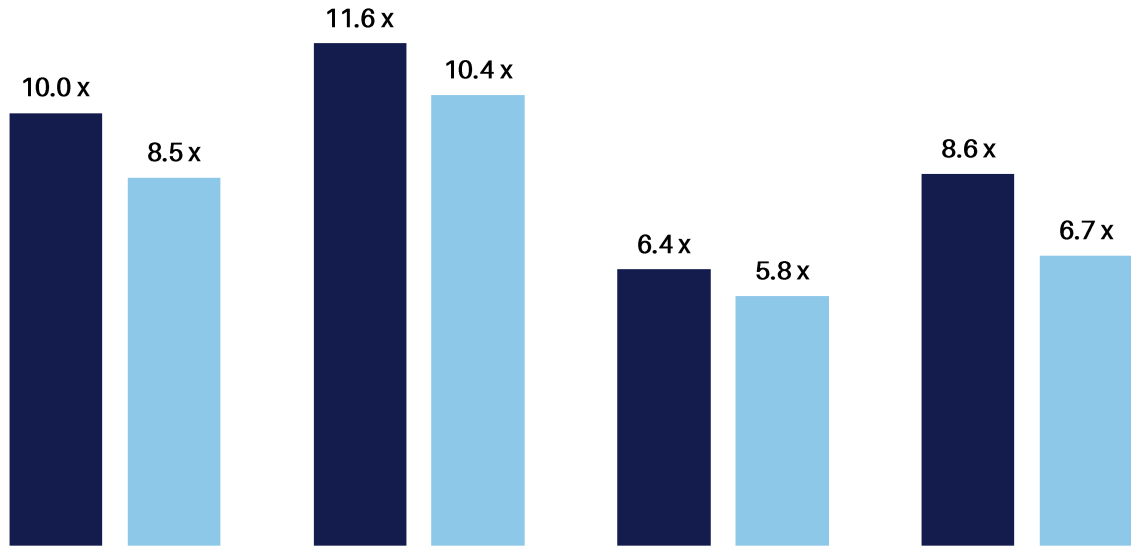


Source: Capital IQ as of December 10, 2020, Bloomberg and Wall Street Research.

# Valuation Summary

Current market trading multiples

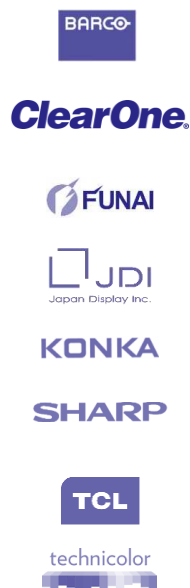
■ EV / 2021 EBITDA ■ EV / 2022E EBITDA



Audio



Visual



Diversified AV



Digital Signage



Source: Capital IQ as of December 10, 2020.



# Valuation Metrics

(\$ in Millions, Except Per Share Values)

(\$ in Millions, Except Per Share Values)						Valuation Multiples		Growth	
	Stock Price 12/10/20	52-Week Low	52-Week High	Equity Value	Enterprise Value	EV / Revenue CY 2020	EV / EBITDA CY2020	'19A - '21E CAGR Revenue	'21E CAGR EBITDA
Audio									
Dolby	\$91.08	\$46.94	\$92.06	\$9,140	\$8,027	6.6 x	10.8 x	(1%)	7%
Poly	26.37	5.60	33.16	1,026	2,386	1.4 x	8.8 x	(3%)	21%
Sonos	21.36	6.97	22.94	2,410	2,028	1.3 x	9.5 x	8%	NM
B&O	3.99	1.90	7.32	490	448	1.1 x	3.6 x	4%	NM
ZAGG	4.00	2.10	8.58	119	200	0.5 x	3.1 x	(9%)	4%
VOXX	12.41	1.83	13.98	297	250	NA	NA	NA	NA
Audio Median						1.3 x	10.0 x	(1%)	7%
Audio Mean						2.2 x	11.2 x	(0%)	11%
Visual									
TCL	\$1.04	\$0.60	\$1.22	\$13,515	\$29,426	2.2 x	11.9 x	26%	56%
Sharp	13.53	9.08	17.30	8,266	13,894	0.6 x	11.3 x	(1%)	(10%)
Konka	1.02	0.64	1.92	1,875	4,580	NA	NA	NA	NA
Japan Display	0.49	0.38	0.77	1,246	1,706	0.5 x	NM	(22%)	NM
Barco	22.01	15.54	42.65	1,939	1,718	1.6 x	15.0 x	(10%)	(15%)
Technicolor	2.30	1.40	23.32	529	1,666	0.4 x	4.1 x	(5%)	50%
ClearOne	2.64	1.56	3.31	50	45	NA	NA	NA	NA
Funai Electric	4.16	3.58	7.22	142	(183)	NM	NM	(6%)	NM
Visual Median						0.6 x	11.6 x	(5%)	20%
Visual Mean						1.1 x	10.6 x	(3%)	20%
Diversified AV									
Samsung	\$66.82	\$38.95	\$67.73	\$450,007	\$366,859	1.5 x	5.0 x	7%	18%
Sony	94.49	54.21	95.01	116,562	125,545	1.5 x	10.5 x	2%	6%
Hitachi	40.49	24.70	45.00	39,146	59,551	0.7 x	6.0 x	(1%)	11%
Philips	52.47	35.09	55.39	47,721	53,815	2.2 x	11.7 x	1%	17%
Panasonic	11.26	6.74	12.04	26,273	30,831	0.5 x	6.1 x	(5%)	(8%)
LG	87.44	38.36	88.17	14,817	21,242	0.3 x	3.8 x	4%	18%
Toshiba	29.50	19.50	38.30	13,388	16,399	0.5 x	6.7 x	(4%)	28%
Logitech	89.01	36.65	95.46	14,668	13,724	3.5 x	19.6 x	16%	40%
Hisense	1.62	1.41	2.34	2,117	1,133	0.2 x	4.2 x	9%	70%
Midwich	6.13	4.14	8.13	536	626	0.6 x	15.8 x	6%	(5%)
Diversified AV Median						0.7 x	6.4 x	3%	17%
Diversified AV Mean						1.2 x	9.0 x	4%	19%
Digital Signage									
NEC	\$52.16	\$31.47	\$59.67	\$14,214	\$18,616	0.6 x	6.1 x	0%	8%
Cree	93.63	29.15	99.06	10,331	10,003	17.1 x	NM	(24%)	20%
AU Optronics	0.54	0.22	0.55	5,086	7,209	0.7 x	4.0 x	5%	82%
Acuity Brands	115.03	71.08	143.12	4,191	4,032	1.2 x	8.6 x	(4%)	(6%)
Leyard	1.10	0.81	1.39	2,781	2,785	1.8 x	10.8 x	5%	5%
EPISTAR	1.54	0.85	1.63	1,659	1,753	2.4 x	13.4 x	13%	71%
Unilumin	1.49	1.22	1.95	1,408	1,438	NA	NA	NA	NA
Everlight	1.36	0.73	1.40	602	438	0.5 x	3.9 x	5%	6%
LSI	8.19	2.59	8.41	216	208	0.6 x	8.6 x	1%	37%
Daktronics	4.63	3.79	6.39	285	221	0.4 x	7.7 x	(4%)	63%
Dialight	3.35	2.12	4.50	109	149	0.9 x	9.5 x	(8%)	43%
Digital Signage Median						0.8 x	8.6 x	1%	29%
Digital Signage Mean						2.6 x	8.1 x	(1%)	33%

Source: Capital IQ and Wall Street Research as of December 10, 2020.

# Upcoming Events

Dates	Name	Location	Description
January 11 - 14, 2021	CES 2021	Virtual	<ul style="list-style-type: none"> <li>CES® 2021 will digitally convene businesses, thought leaders, policymakers, media and the broader tech community to launch products, build brands and form partnerships. Hear from technology innovators, see the latest product launches, and engage with global brands and startups from around the world</li> </ul>
February 24 - February 26, 2021	NCSA Business & Leadership Conference	Virtual	<ul style="list-style-type: none"> <li>NCSA's Business &amp; Leadership Conference focused on helping integration company leaders make smart decisions while delivering takeaways that can realistically be implemented</li> </ul>
June 1 - 4, 2021	Integrated Systems Europe (ISE)	Barcelona, Spain	<ul style="list-style-type: none"> <li>Integrated Systems Europe (ISE) is the world's largest professional AV and systems integration show. The annual event provides a unique showcase of technologies and solutions for commercial and residential applications</li> </ul>
June 12 - 18, 2021	Infocomm 2021	Orlando, FL	<ul style="list-style-type: none"> <li>InfoComm is the largest professional audiovisual trade show in North America, with thousands of products for audio, unified communications and collaboration, display, video, control, digital signage, home automation, security, VR, and live events</li> </ul>
July 19 - 21, 2021	2021 ANA Digital and Social Media Conference	Carlsbad, CA	<ul style="list-style-type: none"> <li>The ANA Digital &amp; Social Media Conference will feature CMOs and leaders who will cover important topics such as AI, augmented reality, influencer marketing, voice, virtual reality, social media, chatbots, content marketing, measurement and more</li> </ul>
October 11-13, 2021	AES Fall Show 2021 / NAB Show 2021	Las Vegas, NV and Virtual	<ul style="list-style-type: none"> <li>The convention will focus on several audio disciplines and applications, including cinema, broadcast and online delivery, immersive audio, sound recordings, productions and live events</li> </ul>

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