SHORT

Turtle Beach Corp.

(NASQ: HEAR) | Target: $13

Price:	21.91	%Short:	15%
Shares:	14.2m	%Float:	61%
MC:	311m	Short rate:	23%
EV:	315m	3m avg volm:	1.8m
TTM P/S:	1.8x	Fwd P/S:	1.5x
TTM P/E:	35x	Fwd P/E:	27x

Misunderstood Tailwind Creates Attractive Asymmetric Risk/Reward Opportunity, Massive Insider/Institutional Selling

- Small float (from 53 to 61%) amid massive retail investor interest facilitated 1,110% YTD return - Insider/institutional holdings decline from ~90 to ~50%.
- Historically overly bullish management misinterprets tailwind; Imminent seasonal cannibalization from the "Q4 company".
- One-time demand spike masks troubled company; losing market share with undifferentiated product offerings in an already-saturated market with increasing competition – poor growth prospects and little competitive edge.

June 20th, 2018

Background Founded in 2005 and brought public in 2014, Turtle Beach (NASQ: HEAR) sells gaming headsets (~99.5%) and audio assistive devices (~0.5%) to retailers and distributors.

Turtle Beach gained a strong market position in the US console gaming headset market before a protracted decline in electronic input costs as well as the advent of the one-product-fits-all "media headsets" associated with widespread inter-operability enabled by adaptors and bluetooth. With their product rendered non-differentiable, their vestigial brand strength continues to erode as competitors have consistently outperformed in product offerings, consolidated in mergers, and rapidly gained US console headset market share associated with broader market reach synergies (PC/international headset companies). Turtle Beach now dominates the lower-end US console headset market, a highly indefensible competitive position, facing pressure from above as high-end competitors move "down-market" and a bottom floor as console manufacturers Microsoft and Sony bundle basic headsets with consoles and any mic-equipped headphones may be used as "gaming headsets". Turtle Beach is consistently unprofitable while TB management has been unable to execute in the areas they identify as mission-critical to their success, namely penetration into PC and international markets. The gaming headset market is also relatively saturated - 40% of US gamers own a headset[1] and headsets lack evolving/differentiating technology to warrant regular upgrades.

Net Revenues	FY2014	FY2015	FY2016	FY2017
Headset	185,469	161,835	173,323	148,828
	99.6%	*99.4%*	*99.6%*	*99.8%*
HyperSound	707	912	655	307
	0.4%	*0.6%*	*0.4%*	*0.2%*
Total Revenues	186,176	162,747	173,978	149,135
Headset	82,798	62,361	94,081	94,114
HyperSound	164,170	111,490	31,233	26,787
Eliminations			-30,514	-26,650
Total Assets	246,968	173,851	94,800	94,251

In 2010, VC Ken Fox's Stripes Group acquired a majority stake and Ron Doornink, former president at Activision, became executive chairman[2]. The company IPO'd and completed a reverse merger with an audio sound delivery technology microcap, HyperSound Health (PAMT), in 2014 to create a "leading audio technology company with significant growth opportunities across a wide range of addressable markets"[3]. HyperSound segment assets have gone through dramatic downward revisions, leading to massive one-time charges – However, while frequenting terms such as "disruptive", "very promising", and "breakthrough", Jeurgen Stark (CEO since 2012) was very bullish on the success of the HyperSound business in 2014, outlining applications in commercial, healthcare, and consumer audio and targeting 50% GM on ~10m revenue for FY14. Despite internal Parametric projections of a 168% revenue CAGR FY13-17[4], none of the applications in the diverse set of industries came to fruition and the segment continues to provide negligible revenue.

In Q317 Turtle Beach received notice of delisting as shares closed below $1 for the previous 30 business days[5]. Turtle Beach underwent a 1-for-4 stock split on April 6, 2018; 49.9m shares to 12.4m.

Situation Battle Royale-style games Fortnite and PUBG have exploded in popularity since their 2017 introduction. Fortnite, developed by Tencent subsidiary Epic Games, boasts 125m players globally[6] (40m monthly active), is the most-watched game on Twitch[7], and is estimated to have brought tens of millions of players into gaming. Fortnite was brought up more times than cryptocurrencies during the most recent earnings season[8] (SNAP was even asked if it would impact time spent on their app).

The Fortnite craze has led to explosive growth in headset sales as new players entered the market, resulting in a very notable Q118 for HEAR – increased revenue absent large S&M spend lifted operating margins. Market has reacted to this quarter partially on basis of comparison with Q117 which, on a normalized net profitability basis, was their worst Q1 ever due to higher-than-expected retailer inventories from weak 2016 sales.

This is a one-off, goldilocks quarter for a headset company which has consistently struggled with profitability and lacks competitive advantage with undifferentiated product offerings.

Aside from Tencent, Turtle Beach is the only publicly traded beneficiary of Fortnite's popularity and has been massively covered in financial, video game, and tech journalism. Turtle Beach earnings coincided with release of Fortnite's Season 4 – which marked the second highest online interest in the game's history. The massive 1,110% YTD return led to another round of finjournalism articles. News articles and even some TB investor presentations[9] often state Turtle Beach's "~40% revenue share" figure while excluding "North American" and/or "console" qualifications, thus conflating their already-overstated market leadership in a some 400m market with a 1.5b+ market.

From March 26th close at $2 to May 16th close at $18.58, shares increased 829% on peak volume of ~17m – volume unmatched in the company's history (typical volume of tens of thousands in prior years). Such an appreciation was also made possible due to the minuscule amount of shares not held by insiders or institutions - several hundred thousand around start of run-up – as well as a small short squeeze.

Turtle Beach is covered by Lake Street, Wedbush, and Oppenheimer. Wedbush analyst Alicia Reese (bottom decile analyst; ratings at 14% success rate with an average return of -36.9%[10]) raised HEAR's target price from $4 to $12.50 on May 10 2018 then to $20 on May 21 2018. Oppenheimer raised from $1 to $4 on 9 April 2018, raised again from $4 to $12 on 10 May 2018. Lake Street's Mark Argento PT raised to $15 from $12.

In April, Turtle Beach's Series B preferred shares – a 19.3m liability growing 8% annually – were purchased in a private placement by activist fund 180 Degree Capital Corp (NASD: TURN) and AWM Investment Company from prior holder John Bonanno (has now settled for 1m related to previous litigation related to share redemption) The Series B shares were exchanged for 1.3m shares and 0.55m warrants. Both 180 Degree Capital Corp and AWM Investment Company converted their shares and liquidated their positions. Float increased from 53 to 61%.

There was also a one-time option exchange despite a large amount of unconverted in-the-money options.

Risks

- Market over-conflates Fortnite growth with incremental Turtle Beach market opportunity
- Turtle Beach may be an attractive buy-out opportunity for either a larger manufacturer or a retailer.

Catalysts

- Decline of retail investor interest associated with passing of Fortnite fad
- Failure of Fortnite/BR to translate into sustainable growth
- Failure to achieve yearly guidance due to seasonal cannibalization
- Continued insider selling
- Long-term failure associated with uncompetitive positioning and non-profitability

Estimated Valuation; Forward P/S

Millions	0.5x	0.625x	0.75x	0.875x	1x
185	6.5	8.1	9.8	11.4	13.0
195	6.9	8.6	10.3	12.0	13.7
205	7.2	9.0	10.8	12.6	14.4
215	7.6	9.5	11.4	13.2	15.1
225	7.9	9.9	11.9	13.9	15.8

Discount to Current Price

Millions	0.5x	0.625x	0.75x	0.875x	1x
185	-70%	-63%	-55%	-48%	-41%
195	-69%	-61%	-53%	-45%	-37%
205	-67%	-59%	-51%	-42%	-34%
215	-65%	-57%	-48%	-40%	-31%
225	-64%	-55%	-46%	-37%	-28%

1. Historically Overly-Bullish Management's Aggressive and Inappropriate Tailwind Assessment

Management has historically been incredibly bullish. While forecasting may be difficult as Turtle Beach sells to retailers which order on the basis of their own estimate of demand, CEO Jurgen Stark has repeatedly and dramatically over-estimated annual top-line and gross margins, particularly for the HyperSound business.

Guidance				
From: *In millions*	**Q114 FY2014**	**Q315 FY2015**	**Q116 FY2016**	**Q117 FY2017**
HyperSound est.	2.5	2.5	8.5	-
Actual	0.707	0.912	0.655	0.307
	28.3%	*36.5%*	***7.7%***	-
Turtle Beach est.	220	165	157.5	157.5
Actual	185.5	161.8	173.3	148.8
	84%	*98%*	*110%*	*94%*
Total est.	222.5	167.5	166	157.5
Actual	186.176	162.747	173.978	149.135
	84%	*97%*	*105%*	*95%*

Similar to the highly-bullish rhetoric surrounding HyperSound, which often included references to the millions of people with hearing deficiencies and various multi-billion medical appliance sub-industries, and Titanfall, which Stark mis-identified in late FY17 as the first-of-many in a sustainable driver of multiplayer-only games[11], management has been continually forecasting 10% growth from PC/international/VR market opportunities for several years with extremely limited success as well as constantly referencing their $100m industry – of which the vast majority, and including the growing portions, Turtle Beach is excluded from (see pg5). In 2013, Management forecasted a 2018 goal of 1 billion in net revenue[12]; in 2017, Stark said "our goal as a company is to grow double-digit revenues over time."[13]

In usual fashion, management discusses the recent demand lift in overly-hopeful terms. Turtle Beach management argues that Fortnite and PUBG have spawned a new genre, which nearly requires headset usage (hint: it doesn't), that will serve as a sustainable tailwind for years to come.

> "We expect the Battle Royale format to have lasting appeal and not be a short-lived phenomenon due to the style of the games and the addition of new participants into gaming"[14].

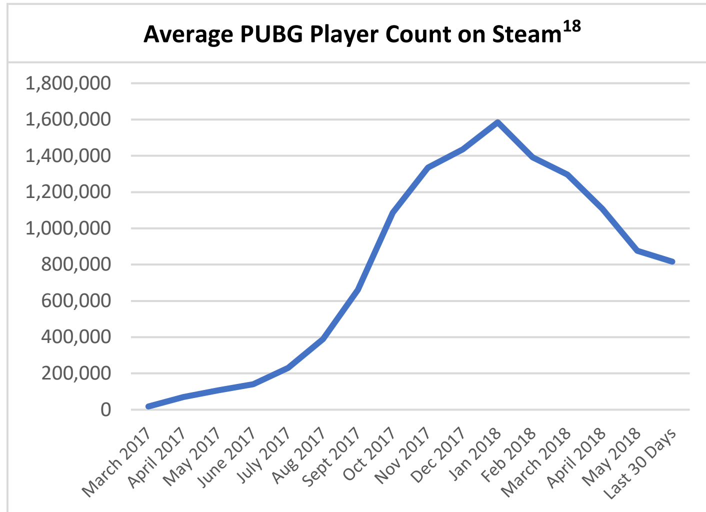
On Jun 18 2018, Turtle Beach released the "largest lineup of Battle Royale-ready gaming headsets for Fortnite on Switch[15]. Any headset with a mic works for the Switch and there is nothing about these headsets to make them uniquely "Battle Royale-ready".

Yet, despite the evident importance of Fortnite to their long-term business, ***management fails to adequately assess Fortnite's popularity.***

In an industry characterized by continually churning consumer preferences, Fortnite's appeal lay in gameplay but also, *and very importantly*, in the game's *free-to-play model* and *cross-platform accessibility*. Turtle Beach management fails to ever reference these factors and instead opts for an exclusive focus on the new genre as the popularity driver. This is likely more about the free-to-play model, which has upended the Chinese and mobile gaming markets and may continue to proliferate across gaming genres which do not necessarily lend themselves to headset usage. **Management has falsely fully ascribed Fortnite's popularity to the genre on which they are overly-bullish and ignored significant drivers.**

Fortnite has become so popular because Battle Royale is fun *and* anyone on with an internet connection could begin playing, for free, within minutes with players on Ps4, Xbox, Switch, mobile device, and/or Mac/PC. In addition to gameplay/free/cross-platform, Managing Partner of Loup Ventures Gene Munster cites frequent updates and additions as well as a lack of "pay-to-win" features[16].

Activision Blizzard, Take Two, EA, and Ubisoft all expressed in Q118 earnings calls the fad nature of gaming and their interest in always partaking in the innovations of the industry and leanings of their consumers. Notably, Take Two's GTA and Activision Blizzard's Call of Duty will include Battle Royale gameplay modes in upcoming games. Due to a desire to stray away from conversations about free-to-play and cross-platform games (all companies rebuffed questions concerning their $60/game model) and spotlight areas where they may produce shareholder value, there is further systemic reason behind the over-focus on the "Battle Royale"-driver as industry incumbents discuss the success of Fortnite.



Mat Piscatella, an NPD video game market analyst, identified Battle Royale as the driver for headset sales. Indeed, certainly PUBG and Fortnite together accounted for the growth in gaming headset sales, though this statement can be somewhat misleading without reference to their relative popularities and growth (negative for PUBG), *especially* when describing the effect on the *US console headset market* (in which PUBG is dwarfed many times over by Fortnite) – this tailwind has been repeated by management and we've observed a compounding mis-information effect as it is repeated many, many times over in articles across the web.

Consequently, **management mis-identifies their revenue driver** - management references "Battle Royale-style games such as Fortnite *and PUBG*" as material revenue drivers in the recent quarter. However, PUBG average player base halved since January[17] and the PUBG player-base is heavily concentrated on the PC platform and in China[18], **Turtle Beach's weakest competitive areas.** It likely that PUBG's contribution to the quarter is dwarfed in comparison to Fortnite, yet this point is excluded from management talking point as it does not fit the "sustainable tailwind" story. Graphic[19]

Other beneficiaries of this market development credit and capitalize on not the "Battle Royale" tailwind but, rather, the Fortnite tailwind. Competitor HyperX's senior business manager Marcus Hermann credited this Q118 outperforming sales to "the explosive growth of **Fortnite**, NBA 2K, and esports"[20]. BestBuy.com's banner reads "Dominate **Fortnite** using the right accessories"[21]. Benzinga; "the Success of **Fortnite** is Driving Massive Gaming Headset Sales". Lake Street Capital's coverage of Turtle Beach cites Fortnite Battle Royale as the driver[22].

These realities are absent from company commentary not only because the tailwind is not the sustainable growth story of a new genre which will lead to everyone continuing to purchase Turtle Beach headsets, but also as **seasonal cannibalization is directly implied by the absence of a sustainable tailwind.**

We cannot accurately estimate the effects of this cannibalization yet review key facts; (1) Fortnite has brought tens of millions of players into gaming and *we do not know the demographic breakdown of incoming players* (While Piper Jaffray analyst Michael Olson estimated the average Fortnite player is 13-14 years old, this figure is of little use without more data). (2) In Q4 players who do not own a headset purchase a headset due to a released title, players upgrade their headsets, and new players enter the market and purchase a headset.

Management commentary on various quarters focuses on players purchasing headsets due to new titles or new players purchasing headsets – upgrade cycles are negligible (product competes on warranties, long-lasting, etc and there's nothing sticky about the product). ***Fortnite's success is very likely directly cannibalizing these future sales.*** Additionally, management has highlighted Holiday 2018 as particularly weak for title releases which lend themselves to headset purchases. Management's forecasting assumes quarterly revenue mix to shift earlier in the year yet also assumes flat y/y Q4 revenue. I anticipate an underperformance of Q4 relative to prior Q4's.

2. Massive Insider / Institutional Selling Amid Price Run-up

As of February 14th 2018, nearly all outstanding shares were split between several funds and company insiders. While calculations produce a 99% figure, we recall Wes Grey's warning on 13F accuracy[23] and estimate this figure to be >80-85%. As the share price multiplied by 10x, partially due to the miniscule float, insiders and institutions – many of which were long-term holders – opportunistically liquidated their shares. This same cohort of funds and insiders reduced collective ownership to ~50% of shares.

	as of 2/14/2018	% change	as of 5/29/2018
Close at	1.81		17.80
Selected Fund Ownership			
Alyeska Investment Group	108,486	-100%	0
Jacobs Levy Asset Management	244,905	-100%	0
Coldstream Capital Management	3,433,489	-100%	0
Panagora Asset Management	33,483	-100%	0
Bridgeway Capital Management	367,416	-27%	267,416
Perkins Capital Management	966,300	40%	1,351,225
	5,154,079	-69%	1,618,641
% Shares Out	*41.7%*		*11.9%*
Insider Transactions (Carmine, Bonanno, Doornink, VTG)			
Carmine	87,500	-11%	77,500
Bonanno	858,372	-54%	393,182
Doornink	882,963	-24%	668,037
SG VTB Holdings	4,484,708	-27%	3,284,708
	6,313,543	-30%	4,423,427
% Shares Out	*51.1%*		*32.4%*
Other Insider Ownership	as of 2/14/2018	4/11/18 Option Exercise	as of 5/29/2018
Dr. Juergen Stark			319,800
Dr. Robert M. Kaplan, PhD			142,900
Mr. Elwood G. Norris			88,000
William E. Keitel	30,875	16,025	46,900
Dr. Andrew Wolfe, PhD	30,123	16,025	46,148
Michael J. Rowe			36,000
Mr. Lloyd Gregory Ballard	13,889	16,025	29,914
Kenneth F. Potashner			25,000
Laureen Debuono			23,400
Professor Seth Putterman			20,500
John Hanson			29,391
	759,878		778,500
	6.2%		*5.7%*
Total	12,227,500	-44%	6,820,568
Shares Out	12,347,000		13,654,143
% Shares Out	*99%*		*50%*

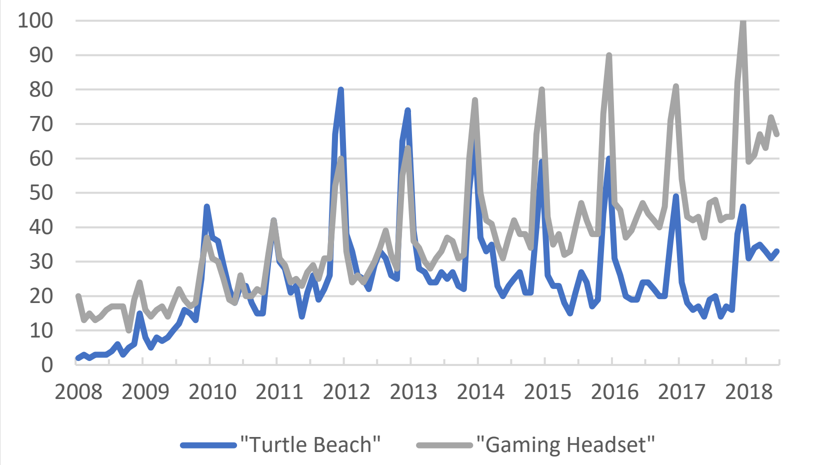
While institutional funds face required portfolio rebalancing and we may expect consequent institutional selling given the recent price increase, it is notable that nearly all of the largest Turtle Beach fund positions were entirely liquidated. The exception, Perkins Capital Management, is a ~145m fund with a ~24m position in Turtle Beach - far dwarfing their other investments[24] and implying an impending position trim.

3. Poor Growth Prospects Amid Undifferentiated Technology and Consolidating Competition, Fundamental Operational Weaknesses

- Modestly inclining market unit share (30-34%) combined with declining market revenue share (52-42%) implies consolidation toward lower-end headsets.
- Broad product portfolio strategy amid revenue concentration in lower-end headsets degrades profitability.
- Lower-end headset market incumbency is a highly indefensible market position, especially as competitors continue to consolidate and/or expand "down-market".

Turtle Beach was an early hegemon in the gaming headset industry, even outpacing "gaming headset" searches during 2012 and 2013 as Turtle Beach became synonymous with gaming headsets. Turtle Beach's status as a market leader of *US console* gaming headsets – the result of broad brand awareness associated with first entry as well as offering more price points than any other competitor – is fragile.

"Turtle Beach" vs "Gaming Headset" Google Trends



A deluge of competition in recent years, as well as the 2015 inclusion of built-in stereo jacks on console controllers has led to continual concessions of Turtle Beach market share and degradation of profitability.

As PCworld.com wrote in 2018: "nowadays the gaming headset market is overflowing with options"[25]. Since 2016, competitors Sennheiser, Corsair, HyperX, Razer, Logitech, and LucidSound have introduced many new product offerings – see figure and note the FY16 uptick.

Dirac Research AB, a Swedish audio technology company, as well as Alienware, a gaming subsidiary of Dell, recently announced high-end gaming headsets.

Wide brand recognition is a double-edged sword; once soured, the brand name becomes something of a red herring. Among hardcore gamers, Turtle Beach has certainly lost luster. Management, which has repeatedly voiced intent to be seen as a "premier headset maker", has now seen their products relegated to low-to-mid tier offerings as new entrants dominant online rankings and higher price points. Turtle Beach aims to extend their brand image and penetrate new markets by producing high end products – yet it's incredibly difficult to take a brand upmarket (a la Toyota's Lexus and Nissan's Infinity).

Product Offerings by Price Point

	<50	50-99	99-150	150+
Turtle Beach	5	12	3	4
SteelSeries		3	2	3
HyperX	1	4	2	1
Corsair	1	5	1	
Sennheiser		1	1	5
Razer		5	2	3
Astro		1	2	1
Logitech		6	2	1
Selected Competitor Releases				
FY14		3		2
FY15		2	3	1
FY16	1	10	4	5
FY17	1	7	2	2
FY18 YTD		5	2	3

Tech hardware giant Logitech expressed intent to "extend [their] leadership position into the adjacent console gaming headset market"[26] as they acquired Astro Gaming, one of Turtle Beach's largest competitors and a leader in the high-end market, in mid-2017. As console headset demand is concentrated in the mid-to-low-end range, Logitech will likely aggressively pursue this market. Astro Gaming, which consistently places in top rankings, announced a $60 model[27].

While widely followed internet reviewer TomsGuide wrote in "Turtle Beach was once the gold standard for gaming headsets"[28], these new competitors consistently shut Turtle Beach out of many ranking lists entirely.

Turtle Beach consistently lags competitors HyperX, SteelSeries, Corsair, Razer, Sennheiser, Logitech/Astro in rankings[29,30]. On headphonesaddict.com, users were asked to vote on the best gaming headset among a list of 12 choices; while HyperX and Sennheiser topped the chart, Turtle Beach came in last with 1.95% of the vote[31].

A sample look at rankings from the last few years. I encourage skeptics to review online rankings themselves – Turtle Beach is usually not even mentioned.

Date	Publication	Top Picks
2018	Digital Trends	SteelSeries, HyperX, ASTRO, Razer, Logitech, Corsair,
2018	TrustedReviews	SteelSeries, Razer, HyperX, Corsair, Sennheiser
2018	Bestproducts	HyperX, Sennheiser, Corsair, SteelSeries, ASTRO
2017	Forbes	HyperX, Sennheiser
2017	Telegraph	SteelSeries, HyperX, Logitech, Asus, Razer
2016	Medium	Steelesries, Razer, HyperX,
2016	Digital Spy	Turtle Beach, SteelSeries, Sony, Lucidsound, Astro, Razer
2016	Notebookreview	HyperX, Astro, Logitech, Razer
2015	Techspot	Logitech, Corsair, Astro, SteelSeries, Turtle Beach

This is further supported by Turtle Beach's statistically significant below peer reviews across their main vendors.

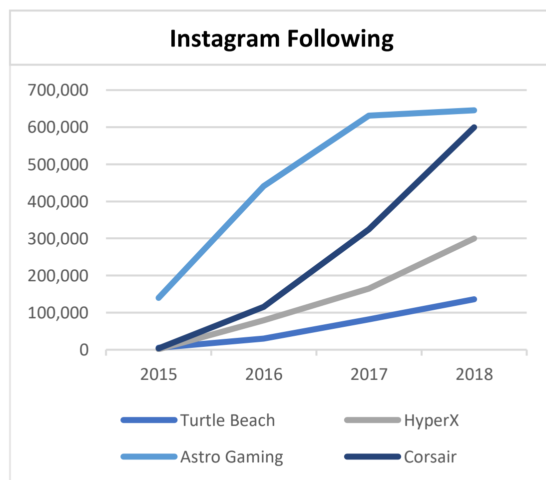
Management is misleading on this point – even 2018 investor presentations use consumer surveys from 2015 to erroneously conclude that they are the "favorite gaming headset brand" based on "audio quality" and "comfort"[32].

Lagging quality and associated "brand drain" has also caused very underwhelming success in one of management's oft-referenced primary business strategy objectives: social media and eSports partnerships.

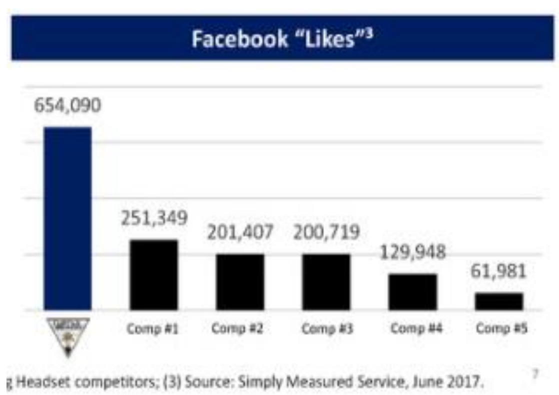
Of the ten most followed players of Fortnite, PUBG, and CS:GO; just one, a CS:GO player, sports a Turtle Beach while playing[33,34,35].

Further, only 26.3% of Turtle Beach users are frequent viewers or participants in Esports, an industry low[36].

Instagram Followings					
Jan 1,	2015	2016	2017	2018	Engagement Rate
TB	5,200	29,890	82,120	136,060	1.96%
HyperX	1,370	78,980	164,780	300,030	3.15%
Astro	139,770	441,520	631,570	645,640	0.92%
Corsair	3,570	115,410	324,310	599,740	2.33%
Facebook Likes					
TB	-	-	-	652,649	
HyperX	-	-	-	2,926,823	
Astro	-	-	-	221,620	
Corsair	-	-	-	1,833,137	



Yet, according to even 2018 investor presentations, Turtle Beach by far outpaces competitors on Facebook "likes". Yet, HyperX and Corsair, in fact, dramatically outpace Turtle Beach.



This begs the question: who are their "comps"?

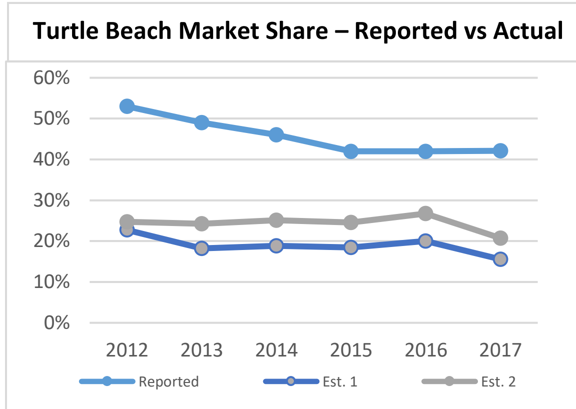
Management also states on investor presentations that "4 of the top 5 selling 3rd party headsets" in the 2017 North American console headset market are Turtle Beach. This claim can be conservatively estimated by examining the "best sellers" on Walmart, Gamestop, and BestBuy – Turtle Beach's main vendors.

The only possibility of this claim being true is if Turtle Beach segments 50X headset sales by console, wired/wireless, and and *color*, yet even then this claim appears overstated. It would rather appear at Turtle Beach has *the top selling 3rd party headset,* the $39.99 Recon 50x. It is a testament to the market segments Turtle Beach has ceded and now operates as Turtle Beach's remain competitive in Walmart – casual gamers. This is further supported by their declining revenue share and inclining unit share.

Top 5 Selling 3rd Party Gaming Headsets

	Best Buy	GameStop	Walmart
1	Logitech G933 Artemis	HyperX Cloud Stinger	Logitech H390 Headset
2	Corsair HS60	Astro A40	TB 50X – black
3	Turtle Beach 50X	Turtle Beach 50X	TB 50X – white
4	Astro A10	HyperX Cloud Stinger	Logitech G430
5	Turtle Beach 50X wired	HyperX Cloud Core	Insten

While management pitches "top-selling" headsets as evidence of their branding power, this claim lands softly as Turtle Beach couldn't be further from asserting any pricing power.



Management overstates their market share; during mid-2017, management has referenced both a ~435m NA Console Headset market growing at a 5% CAGR[37] and a "nearly 400m" NA console headset market[38] for 2016.

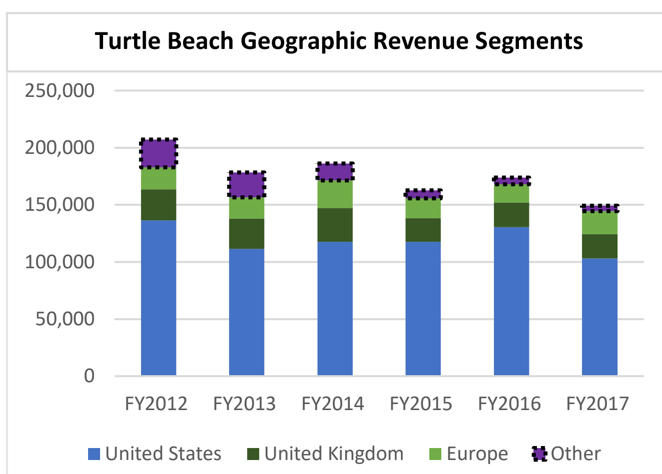
However, in comparing the backed-out dollar share figure with Turtle Beach's top-line, it's evident the "market share" is calculated: (total *after-retailer-sale* / market size).

Rather than conflate retailer *and* manufacturer market share, a more genuine portrayal would be: (Turtle Beach sales / market size). For example, while Turtle Beach paints themselves as "the global leader in gaming headsets"[39], a more adequate representation of TB's share in the global gaming headset market.

Turtle Beach Share of Global Gaming Headset Market

Millions	FY2014	FY2015	FY2016	FY2017
HEAR Revenue	185	162	173	149
Global Market	1,293	1,388	1,489	1,598
Turtle Beach Share	*14.3%*	*11.7%*	*11.6%*	***9.3%***

Despite Turtle Beach's insistence on their "growth opportunities", history has demonstrated repeated failure and indicates a low likelihood of success. Despite the consistent decline of non-US/UK/Europe revenue since 2012 (from ~24m to ~5m), Turtle Beach has been highlighting both international expansion and lateral expansion into PC markets as runways for growth since at least 2014[40]. While these are always isolated as talking points, they are really very similar strategies while tackling China, the most often described opportunity, as the market is vastly dominated by PC. Competition in this segment is notably more aggressive[41] as competitors Logitech, Corsair, and Razer currently offer comprehensive suites of PC products, including mice, keyboards, headsets, and other accessories. Penetration in a foreign market filled with incumbents which offer suites of complementary products (as well as associated brand power) is a remarkably difficult task. This was acknowledged by TB management in 2014: "We believe that a full lineup of products at retail that include gaming headsets, keyboards, and mice is needed to gain share in the PC gaming market."[42]. TB's suite of PC products,



released Q115, was met with lukewarm response and management has not mentioned the strategy since Q315 – PC Gaming Accessories was removed from their Products section on their 10-K.

Ironically, TB's original strategy included offering higher priced gaming headsets as a high percentage of the PC gaming headset market is comprised of less expensive, entry-level headsets[43]. In 2013, 65 percent of the PC gaming headsets on the market cost less than $50 dollars, 25 percent cost between $50 and $100 dollars, and 10 percent cost more than $100 dollars[44]. Given TB's high-end market concession and low-end concentration as well as the absence of further clue-ins for their market strategy, one can only wonder how they plan to penetrate.

Management's evolving brand strategy is reflective of internal belief of success in their identified objectives – console headset market share growth and international expansion have been notably removed from their key strategies.

Evolving Brand Strategy

FY2014	FY2015	FY2016	FY2017
Accelerate Console Headset Growth	Console Headset Market Share Growth	Console Headset Market Share Growth	
Grow HyperSound Business	HyperSound Healthcare Business Growth	Develop HyperSound license model	
Accelerate International Expansion	Accelerate International Expansion	Accelerate International Expansion	
Expand Our Product Lines	Expand Our Product Lines	Expand Our Product Lines	Expand Our Product Lines
			Continue to Advance Our Brand
			Grow Revenues in New Channels

Despite these realities, Wedbush analyst Alicia Reece ($20 PT) cites expansion into China as a "major growth catalyst".

Management's disingenuous references to their positioning within a rapidly growing industry;

Investor presentations often point to the growth of the global gaming market as they discuss future growth.

Investor presentations and numerous news articles have mistakenly stated Turtle Beach's 40% after-retail-sale revenue share in the US console market with a 40% share of the global gaming market.

Global Gaming Market, 2012-18

	2012	2013	2014	2015	2016	2017	2018	CAGR
Mobile	12,708	17,595	24,592	31,654	42,600	55,982	70,329	*33%*
PC	26,122	29,070	30,528	31,654	31,950	32,859	33,096	*4%*
Console	31,770	29,835	29,680	29,792	31,950	32,859	34,475	*1%*
Total	70,600	76,500	84,800	93,100	106,500	121,700	137,900	*12%*

Turtle Beach mainly shares in the console market, which is by far the slowest growing cohort. Much of the growth in global gaming is from mobile, which, interestingly, uses the same free-to-play/purchase-cosmetics model as Fortnite, as well as emerging markets.

Turtle Beach shares in the US gaming peripherals market, which accounts for ~847m of the 2016 market. Console gaming headsets account for roughly one quarter of that market[45,46].

Meanwhile, **management holds a large number of unconverted in-the-money options**. Why doesn't management want to put their money where their mouth is and invest? For example, CEO Jurgen Stark owns 319,800 shares as well as 579,349 unconverted in-the-money options. CFO John Hanson owns 16,200 shares (all recently from option conversion; he has worked with TB since 2013 but has not held consistent long-term holdings) and 62,338 unconverted in-the-money options[47].

Note: A one-time stock exchange program was approved with 73% of the vote in the most recent shareholder meeting, exchanging 890,250 shares for 612,097 shares; number of underlying shares were exchangeable according to a variable exchange rate if their exercise prices exceeded $7.20. The new options would have exercise prices equal to the closing price on the day of the agreement. Juergen Stark owns 60% of such shares.

Perhaps this means Mr. Stark will take a more active stake in his business? Time will tell.

Fundamental Operational Weaknesses – Profitability and Revenue Concentration Risks

Due to a host of systemic competitiveness issues and recent technological developments, **gaming headset manufacturing is not an attractive business.** Manufacturers supply supplementary and non-differentiable products for products over which they have no control, rely on an adjacent industry to produce games which lend themselves to headset use, and rely on retailers to correctly estimate demand for their goods and purchase an appropriate amount of products.

Turtle Beach Free Cash Flow

Millions	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
CFO	6,977	18,290	(14,834)	(15,133)	(1,830)	3,418
Capital Expenditures	(5,945)	(6,167)	(3,536)	(6,693)	(3,229)	(4,411)
Free Cash Flow	1,032	12,123	(18,370)	(21,826)	(5,059)	(993)

Turtle Beach relies on console manufacturers Sony and Microsoft for products for which they may sell their product. Sony and Microsoft offer their own headsets, thus directly competing. In a bid for greater competitiveness (made possible by decreasing input costs) with PC/mobile, consoles may bundle better headsets with consoles. Sony and Microsoft may decide to improve their bottom-of-the-barrel product offerings with improved low-end headsets to capture more of the most highly concentrated console headset market demand. Worse, customary industry price protection policies would require Turtle Beach to compensate customers for unsold inventory amid lowered competitor pricing.

Turtle Beach relies on retailers to purchase their products. Retailer demand is a function of their estimations of end-consumer demand for their products. Due to this relationship, Turtle Beach is unable to translate even this "shooting star" demand spike into profitability as management forecasts a Q2 loss associated with $4m spend in air freight costs as retailers were not sufficiently stocked.

Further, **Turtle Beach revenue is concentrated in pressured businesses**. Best Buy, Walmart, and Game Stop have consistently accounted for ~47% of annual revenue since 2013. Other significant retail relationships included Argos, Kmart, Meijer, ToysRus (bankrupt), and Target.

Best Buy, Game Stop, and Walmart's electronics sections are themselves facing hostile sales environments (particularly GameStop) as consumers increasingly shift toward e-commerce. Game Stop's business model is even changing; revenues have remained flat amid drop-offs in hardware and game sales since FY14 due to large increases in collectible and mobile electronic sales[48]. Game Stop and Best Buy both exhibit consistent y/y location declines amid continual consumer spend shifts to e-commerce.

In 2017, many retailers reduced their run-rate inventory levels as they sought to make themselves more competitive with online retailers. Such "smart stocking" programs will aim to purchase the minimal amount of headsets given demand levels - **this development will continue to adversely affect Turtle Beach sales and is currently masked by a one-time aggressive restocking of headsets by retailers in early 2018.** Lower customer ordering results in both lower top-line and margins given high fixed-cost structure of business.

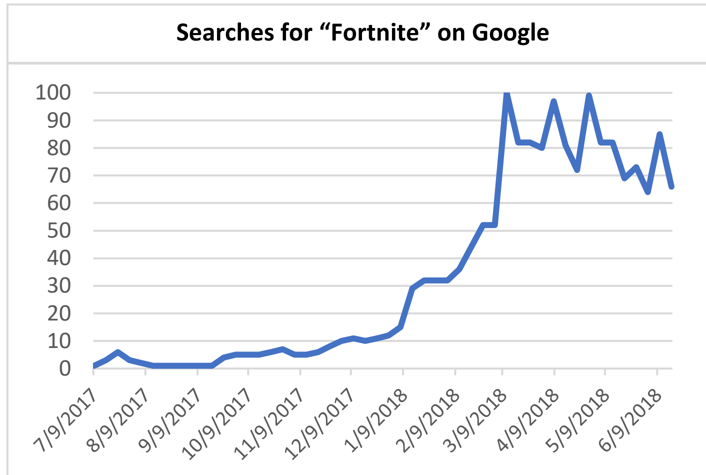
Conclusion

The price run-up was possible due to the small float amid massive retail interest (see volume in Appendix III).

There is nothing proprietary about Turtle Beach. Turtle Beach's only competitive advantages are their suffering brand recognition and vast price point coverage – as competitors consolidate and continuously deliver superior products, Turtle Beach will be in a highly unattractive competitive position as their vast price point coverage curses them to below-industry-average profitability.

In the long-term, I believe Turtle Beach will either go the way of Mad Catz (remember them?) due to their uncompetitive positioning and non-profitability or be acquired by a larger manufacturer or retailer which can unlock value related to a global supply chain reach.

Target price will be realized due to several potential catalysts;



Fortnite and Battle Royale will fail to translate into sustainable growth for Turtle Beach, seasonal cannibalization will likely result in a failure to achieve yearly guidance, and the global non-gaming interest in the phenomenon of Fortnite will subside.

The most important factor in the persistence of Turtle Beach's "Fortnite premium" is the global mania over Fortnite. Even if Fortnite remains enormously popular for years to come, this initial mania will certainly subside – and, along with it, articles discussing beneficiaries of the trend.

There are several short-term risks;

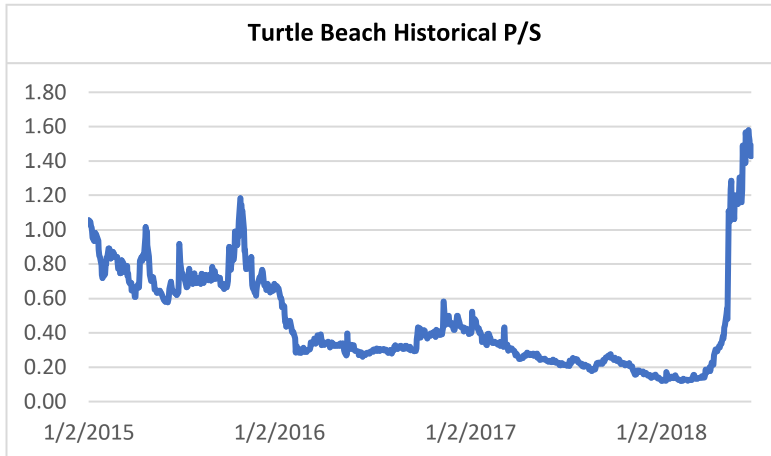
Further growth of Fortnite may be overly-conflated with incremental Turtle Beach opportunity. Fortnite will likely remain centerstage in gaming for some time; ex. Epic Games announced 100m investment in Fortnite prize money for upcoming competitive season and Epic announced preregistration for Fortnite's PC version in China in Q218[49]. Yet Fortnite's largest growth runways, mobile and pc-dominated China, will not result in additional growth for Turtle Beach – and, owing to their lackluster presence in PC markets and e-sport competitor partnerships, Turtle Beach will likely gain minimal exposure from related e-sports competitions.

Appendix I. Valuation

In August 2016, Skullcandy, a manufacturer of consumer audio equipment (mainly earbuds and gaming headsets) was taken private for a sale price of 196.6 million on 2015 revenues of 266.3 million – a P/S of 0.74x.

Astro Gaming, Inc was purchased by Logitech for 85m in cash in 2017 and was estimated to add two points of top-line growth, or ~44,429 in revenue. Therefore, Astro was purchased for a forward P/S of ~1.9x.

Astro has a more dynamic portfolio of products, including mice and keyboards, strong branding power as evidence by consistent online rankings, and a far larger growth runway as they sell to both console and PC and already have a presence in the US and internationally. Astro actually resembles what Turtle Beach management identified as their goal in 2014.



Historically, Turtle Beach has been valued at a fraction of its annual revenue.

Accounting for Turtle Beach's increasingly competitive environment, stagnating growth, simple product portfolio, and profitability struggles – as well as Turtle Beach's historical P/S valuation, I believe Turtle Beach should fairly trade at about ~0.5-1x 2018 sales.

At management's guidance (historically overstated and ignoring likely seasonal cannibalization), this yields a then-conservative valuation of ~$7.2 to 14.4 per share, a ~33-67% downside.

Appendix II. Analyst Reports and News Coverage

Wedbush analyst Alicia Reece stated things like: "[Turtle Beach] should be able to continue to grow revenue and expand margins, which will boost profits and allow Turtle Beach to reinvest in its products" and identified expansion into China as "a major growth catalyst".

Similarly, Oppenheimer analyst Andrew Uerkwitz argued "product quality will allow [Turtle Beach] to maintain a highly defensible lead over rivals"[50].

Turtle Beach products are non-differentiable – there are no profits which Turtle Beach will confidently reinvest in its product and expect an attractive return on their efforts.

Lake Street's Mark Argento argues that the significant momentum is sustainable given increased market share and the emergence of the Battle Royale genre[51]. Lake Street has provided Turtle Beach with investment banking services for several years, including the recent PIPE transaction[52]. Notably, Lake Street had a 2014 price target of $23 – their research report assumes huge growth rates and justifies a 12x EV/EBITDA valuation on the basis of those assumptions. Lake Street has a $15 price target.

Zacks recommends a "Strong Buy" with a price target of $20, yet ranks Turtle Beach in the bottom 29% of their industry[53].

Appendix III. Stock Options

As of April 18th, 2018 there were 12,347,007 shares outstanding with 4,200 shares remaining for future grants. There were 2,075,151 shares underlying outstanding options with weighted average price of $5.44 and life of 7.4 years and 89,741 shares of restricted stock .

On April 26 2018, Turtle Beach approved a stock option exchange as well as amendments to their 2013 stock-based compensation plan.

Under the option exchange plan, options with an exercise price equal to or greater than $7.20 would be exchanged for options with exercise prices equal to the closing price on the grant date for the replacement options according to an exchange ratio. The vesting schedule would be extended by six months. Of the 2,075,151 shares underlying options, 885,220 would be exchanged for 671,784 shares.

Amendments to the 2013 SBC plan included increasing the share reserve from 1,362,500 to 2,862,500 shares as well as increasing the maximum grant from 112,500 to 500,000 shares (notably, the replacement options would be excluded from that maximum number – Mr. Stark would also receive a restricted stock grant following this agreement).

CEO Juergen Stark owns 60% of the exchangeable shares and 37% of total outstanding options. Stark, Hanson, and Keirn own 69% of the exchangeable shares and 45% of total outstanding options.

Name	Exercisable, Unexercised	Unexcercisable	Total	Exercise Price	Expiration Date
Juergen Stark	465,912	0		7.72	9/3/2022
CEO	52,500	17,500		7.24	5/29/2025
	60,937	51,563		4.64	4/4/2026
	0	112,500		2.04	11/13/2027
Total	579,349	181,563	760,912	6.38	
% of total options outstanding			37%		
% of exchangeable shares			**60%**		
John Hanson	12,031	1,719		16.52	11/19/2024
CFO	16,590	0		7.72	1/30/2024
	22,500	7,500		7.24	5/29/2025
	11,217	9,493		4.64	4/4/2026
	0	26,513		2.04	11/13/2027
Total	62,338	45,225	107,563	6.72	
Cristopher Keirn	13,845	0		7.72	3/31/2023
	1,500	500		7.24	5/29/2025
	8,437	6,563		4.12	3/1/2026
	8,750	11,250		4.28	8/19/2026
	0	12,711		2.04	11/13/2027
Total	32,532	31,024	63,556	4.64	
Cohort Total	674,219	257,812	932,031		
% of total options outstanding			45%		
% of exchangeable shares			*69%*		

Appendix IV. Historical Price, Volume, and Short Interest

Turtle Beach Short Interest; Feb – May 2018

	2/28/2018	3/15/2018	3/29/2018	4/13/2018	4/30/2018	5/15/2018
Short Interest	440,511	409,742	363,274	290,555	801,432	1,294,661
Avg Daily Volume	37,276	127,903	143,884	1,149,047	1,980,425	5,780,142
Days to Cover	11.82	3.20	2.52	0.25	0.40	0.22
Short Interest	5.1%	4.7%	4.2%	3.3%	9.2%	14.9%

Income Statement

Thousands	Q114	Q214	Q314	Q414	FY14	Q115	Q215	Q315	Q415	FY15	Q116	Q216	Q316	Q416	FY16	Q117	Q217	Q317	Q417	FY17	Q118
Net Revenue	38.3	22.3	33.3	92.3	186.2	19.7	22.6	35.9	84.6	162.7	24.0	29.4	38.4	82.2	174.0	14.4	19.1	36.0	79.7	149.1	40.9
COR	26.0	17.5	25.6	66.5	135.5	16.6	19.2	26.3	60.0	122.1	20.7	24.2	34.5	52.0	131.4	12.1	12.8	23.4	49.7	98.1	25.9
Gross Profit	12.3	4.8	7.7	25.8	50.7	3.1	3.4	9.6	24.6	40.7	3.4	5.1	3.9	30.2	42.6	2.2	6.3	12.5	29.9	51.0	15.0
S&M	7.0	7.7	8.0	10.8	33.4	7.7	7.0	7.1	10.0	31.8	5.6	7.1	7.0	8.8	28.6	4.4	5.5	5.6	8.8	24.4	5.9
R&D	2.0	2.1	2.8	2.5	9.4	2.9	2.8	3.0	2.9	11.6	2.0	2.0	2.6	1.6	8.3	1.4	1.7	1.3	1.2	5.6	1.3
G&A	3.6	4.7	4.3	4.6	17.2	4.7	6.0	5.4	5.4	21.5	5.3	5.3	4.6	4.4	19.6	4.2	4.1	3.5	4.0	15.7	4.0
Goodwill Impairment									49.8	49.8		31.2	32.1		63.2						
Transactions	4.2	-0.5			3.7																
Restructuring charges				0.7	0.7	0.3	0.2	-0.2	0.1	0.4	0.2		0.3	0.1	0.7	0.3	0.0	0.2	0.0	0.5	
Op.Income	-4.5	-9.2	-7.3	7.2	-13.8	-12.5	-12.6	-5.8	-43.5	-74.4	-9.8	-40.5	-42.7	15.3	-77.7	-8.1	-5.0	1.9	16.0	4.8	3.8
Interest	4.2	1.1	0.9	1.0	7.2	0.8	0.8	1.5	1.9	5.1	1.8	1.7	1.9	2.1	7.4	1.8	1.8	2.0	2.2	7.9	2.0
Other	0.0	-0.1	0.3	0.5	0.7	0.6	-0.3	0.3	0.4	1.0	0.4	0.7	0.3	1.0	2.4	-0.1	-0.2	-0.3	0.1	-0.5	-0.2
Pre-tax	-8.7	-10.1	-8.5	5.6	-21.8	-14.0	-13.0	-7.6	-45.9	-80.5	-11.9	-42.9	-44.9	12.2	-87.6	-9.9	-6.6	0.1	13.7	-2.7	2.0
Income tax	-5.8	-0.8	-2.9	3.3	-6.3	-3.4	-3.1	8.2	0.7	2.4	0.1	-0.3	-0.1	0.0	-0.4	0.0	0.5	0.6	-0.5	0.6	0.1
Net Income	-2.9	-9.3	-5.6	2.4	-15.5	-10.6	-9.9	-15.9	-46.5	-82.9	-12.0	-42.6	-44.8	12.2	-87.2	-9.9	-7.1	-0.5	14.2	-3.2	2.0
Basic	-0.09	-0.23	-0.13	0.06	-0.39	-0.25	-0.23	-0.38	-1.09	-1.96	-0.26	-0.86	-0.91	0.25	-1.79	-0.80	-0.14	-0.01	0.29	-0.26	0.16
Diluted	-0.09	-0.23	-0.13	0.06	-0.39	-0.25	-0.23	-0.38	-1.09	-1.96	-0.26	-0.86	-0.91	0.25	-1.79	-0.20	-0.14	-0.01	0.29	-0.26	0.16
Basic	33,715	40,827	41,962	42,027	39,633	42,039	42,188	42,325	42,518	42,268	46,624	49,230	49,230	49,250	48,584	12,347	49,346	49,386	49,386	12,347	12,347
Diluted	33,715	40,827	41,962	42,396	39,725	42,039	42,188	42,325	42,518	42,268	46,624	49,230	49,230	49,311	48,599	49,251	49,346	49,386	49,455	12,347	12,369
Margins, Selected Ratios																					
Gross	*32%*	*22%*	*23%*	*28%*	*27%*	*16%*	*15%*	*27%*	*29%*	*25%*	*14%*	*17%*	*10%*	*37%*	*24%*	*15%*	*33%*	*35%*	*38%*	*34%*	*37%*
Operating	*-12%*	*-41%*	*-22%*	*8%*	*-7%*	*-64%*	*-56%*	*-16%*	*-51%*	*-46%*	*-41%*	*-138%*	*-111%*	*19%*	*-45%*	*-56%*	*-26%*	*5%*	*20%*	*3%*	*9%*
Net	*-8%*	*-42%*	*-17%*	*3%*	*-8%*	*-54%*	*-44%*	*-44%*	*-55%*	*-51%*	*-50%*	*-145%*	*-117%*	*15%*	*-50%*	*-69%*	*-37%*	*-1%*	*18%*	*-2%*	*5%*
Taxes	*67%*	*8%*	*34%*	*58%*	*29%*	*24%*	*24%*	*-108%*	*-1%*	*-3%*	*-1%*	*1%*	*0%*	*0%*	*0%*	*0%*	*-7%*	*672%*	*-4%*	*-22%*	*3%*
S&M / Sales	*18%*	*35%*	*24%*	*12%*	*18%*	*39%*	*31%*	*20%*	*12%*	*20%*	*23%*	*24%*	*18%*	*11%*	*16%*	*31%*	*29%*	*16%*	*11%*	*16%*	*15%*
R&D / Sales	*5%*	*9%*	*8%*	*3%*	*5%*	*14%*	*12%*	*8%*	*3%*	*7%*	*8%*	*7%*	*7%*	*2%*	*5%*	*10%*	*9%*	*4%*	*1%*	*4%*	*3%*
G&A / Sales	*9%*	*21%*	*13%*	*5%*	*9%*	*24%*	*26%*	*15%*	*6%*	*13%*	*22%*	*18%*	*12%*	*5%*	*11%*	*29%*	*21%*	*10%*	*5%*	*11%*	*10%*
Interest / Sales	11%	5%	3%	1%	4%	4%	4%	4%	2%	3%	7%	6%	5%	3%	4%	13%	10%	6%	3%	5%	5%

Balance Sheet

	Q214	Q314	Q414	Q115	Q215	Q315	Q415	Q116	Q216	Q316	Q416	Q117	Q217	Q317	Q417	Q118
Cash and CE	9	4	8	2	3	3	7	3	1	3	6	4	1	0	5	4
Accounts receivable	15	27	61	15	16	30	57	16	18	28	55	5	10	25	51	22
Inventories	37	47	38	36	37	50	26	26	28	45	22	22	21	46	28	16
Def. income taxes	11	14	5	8	12	5										
Prepaid income taxes	1	1	1	1	1	1	0	0	0	0						
Prepaids and other	5	6	4	4	4	4	4	5	6	6	4	4	5	5	3	4
Total Current Assets	79	99	118	68	74	94	95	50	53	83	87	34	37	76	87	45
PP&E, net	5	5	7	6	6	5	7	6	6	5	4	4	3	4	5	4
Goodwill	81	81	81	81	81	81	31	31								
Intangible assets, net	40	40	40	39	40	39	38	37	35	2	2	2	2	1	1	1
Def. income taxes	6	6	1	1	1				1	0	1	1	1	0	0	0
Other assets	1	1	1	1	1	2	2	2	2	1	2	1	1	1	1	1
Total Assets	212	232	247	196	202	222	172	126	96	92	95	42	44	83	94	52
Revolv. credit facility	19	29	37	16	15	21	32	1	7	26	36		5	25	38	3
Term loans			2	3	3	21	5	5	5	5	3	4	5	5	4	
Sub. Notes, related	7	8														
Accounts payable	11	29	36	20	21	33	18	13	19	38	12	8	12	30	13	10
Due to shareholders	3															
Other current	9		15	10	10	9	14	10	9	10	16	11	10	12	11	9
Total Current	49	8	89	48	49	84	69	28	40	80	67	24	32	72	68	21
Term loans, long-term portion		73	6	5	4		12	11	10	9	10	9	8	7	7	8
Series B pref stock	14	15	15	15	16	16	16	16	17	17	17	18	18	19	19	19
Def. income taxes	14	14	1	1	1	5	0	0								
Subordinated notes - related party					12	13	15	16	17	17	18	19	19	20	21	22
Other liabilities	2	2	6	6	6	2	3	3	3	3	3	3	2	2	2	2
Total Liabilities	80	104	116	74	87	121	116	74	86	125	115	72	80	120	116	73
Common stock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paid-in capital	125	127	128	130	132	134	137	144	145	146	147	147	147	148	148	148
Accumulated deficit	7	1	3	-7	-17	-33	-80	-92	-134	-179	-167	-177	-184	-184	-170	-169
Accum. other	1	0	0	-1	0	0	0	0	-1	-1	-1	-1	0	0	0	0
Total SE	132	128	131	122	114	101	57	52	10	-34	-21	-30	-37	-37	-22	-20
Liabilities and SE	212	232	247	196	202	222	172	126	96	92	95	42	44	83	94	52

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