

## 2003 CEA HDTV SUMMIT

*Consumers and TV Tech: Bringing HD Into Focus*

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SEAN WARGO:

Thank you very much, Gary...actually as a market researcher I'd have to say consumers will always be willing to upgrade. So I'm sure that anyone who won that prize will be willing to take it on. This is actually; I have the pleasure of doing this update of the third year running now. And I was thinking on my way in this morning. How palpably different to me this summit is this year. In prior years, as part of my role at CEA I have the pleasure of talking to a lot of the media to get their questions and feedback about how this transition is going. And for the first time this year. I'm getting a lot less questions about is this really going to happen and more about how do we get there, what are the next things that need to happen, what is this technology, how do we best describe it to consumers. It tells me that we've gained a lot of momentum as the research perhaps has shown for the past few years. But this is the first year that things really seem to be coming into focus. And we seem to have a lot of the downhill momentum that Gary is talking about. On the large scale, there's always a lot of buzz here, but when you look out at the community at large and among the consumer base, and you listen to what they're saying. They're starting to really get it. And they're really starting to focus in on HD as the logical next step in their TV viewing experience. So today I have a two-part presentation that we're going to do. I'm going to start with giving you some of the actual factual information about the transition. How many sets have sold, what consumers think. What they think of new and advanced technologies coming out as part of TV viewing. Then we're going to move on to some more anecdotal experience from our own Jim Berry. Who is a travel spokesman for CEA, talking about the transition on the road. You hear what he's heard from home shows and other experiences talking to the media about the transition. What people are asking about and thinking about. So lets get into the numbers. Where are we today? In 2002 we sold approximately 2.7 million units of digital television. That was up from 1.5 million in 2001. Our forecast for 2002 was 2.1. So by all accounts we had a far and away successful year above forecast. 2003 promises to be even better as we start of uphill side of consumer adoption. Moving onto almost 4

million units sold into the market place. That will bring us by the end of this year at about 8% penetration of DTV. I shall see the bulk of which is high definition television. In terms of an investment, at the end of 2002 we're talking about over 10 billion dollars invested by consumer population in digital television. By the end of 2003 we'll be over 15 billion dollars. Rapidly approaching 20 billion as you factor in things like set top boxes. Here's what we're looking at as we go forward. Right now the bulk of the market place in terms of dollar volume is still analog. However, we're quickly approaching that 50% mark as we move into 2003 and beyond. By 2006 you can see that the bulk of the industry's revenues will be coming from digital technologies. And we'll put the industry at a whole at over 15 billion dollars. Clearly digital is a strong growth factor for consumer electronics industry both now and in the future. And when you look at a cross sectors this is really the strong point by far and away of where a lot of the momentum is in the industry. This is a very confusing looking graph essentially meant to show on the right side axis the percentage of sets that are digital today. We just talked about a revenue percentage now we're talking about a unit percentage. A lot of wild fluctuations month to month. It looks like when analog is up, digital is down and vice versa. However, we're talking about almost 12% of sets sold in December of this year that were digital. And quickly approaching 25-30% as we go through this year. So what's selling in the market place? The bulk of it is high definition television, 85%. In 2002 86% to date, so that is from the inception of the transition to today. We're also selling mostly projection sets that's both rear and front. 16 x 9 increasingly the wide screen aspect ration being sold in the market place. Even as CRT comes on line as we see CRT or direct u-based television sets come to the market, those as well are 16 x 9. ATSC receiving, essentially what this means is, the percentage of television sets that are bought, digital television sets that are bought, that are either connected to a tuner or have a tuner built in. So right now we're at about 11%. We talk a lot about content at CEA and the need for that and that being the driving factor for getting consumers to buy that next step, the tuner. They bought the set, they're holding off on the tuner because they're waiting for the content. They have DVDs to buy them and buy them over until we get more broadcast content. 5.1 was the technology that essentially means that there was a decoder built in for surround sound. Not a huge part of the market place. A lot of the story

behind the transition has been the pricing. It's not a mystery today for anybody in the consumer electron industry that deflation is the norm. And we see rapid falling prices across the board. What helps soften this a little bit is the transition to things like flat panel and the latest and greatest display technologies helping to maintain that price point somewhat. But as you can see it's been a fairly tumultuous ride down. We're down now to about 16 almost 17 hundred dollars and that's average wholesale price into the market place. That is expected to dip below 15 hundred dollars wholesale this year. My expectation is that these numbers are actually optimistic given what we're looking at the market. We may see prices come down even further as we see some of the low cost providers enter into the market. That's great news for consumers and great news for the transition, not necessarily great news for our profitability. Moving on to what consumers are talking about, every year we field this survey relating to different topics about HD and DTV. This year we surveyed about almost 2000 US adults, the survey was conducted online so we are talking about the 60 to 62% percent of the population or households that are online. The web tools were developed by E-brain, as always. And our focus was TVs were all in the home. How do consumers interact with their televisions, how many do they have, what are they looking at in terms of their time line for the adoption of HD? So I want to start with just profiling for you what the home looks like today from a TV ownership perspective including the modes of reception, how they're receiving their content, and then the satisfaction with each type of content or mode that they're receiving. We are talking about 14% of households today receiving their primary signal, via an antenna. Another 7 percent saying it's a combination of satellite and antennae. 17 percent satellite only and then 62% cable only. Because we are talking about an online population we are talking about ones that tend to be a little more tech savvy. Their tending to adopt things like HD more quickly, they're tending to adopt things like PBR more quickly. Therefore, it's no surprise to me that they are heavier adopters of satellite, because of those advanced features. We wanted to dig a little deeper though. We know that there's multiple sets in the house that are going to each be transitioned to HD over time. So we wanted to find out what the impact of any given mode of reception and its carriage of HD would be on the total transition. This gives you a profile of the number of sets, of those houses who have any mode of

reception, how many sets do they have connected to that. Per satellite, it is about two. So of the roughly 20% online households that have satellite, they connect roughly two sets, on average. Cable 2.7. So of the 65% that have cable, at least in one set in their house they have 2.7 sets connected. 1.8 for antenna only. That means they have no other mode of connection. And then total US households, well total online households, have an average of about 2.6 sets per household. This actually interestingly shows, this is one of those rare moments where you get to see how does online compare to overall. These numbers actually compare very well with the total population. Telling us that the online user is very representative of the total population. What are their relative viewing habits? How much time do they spend on a TV that is connected to any given content? You can tell, as is not surprise to any of us with cable and satellite, the bulk of the time is spent watching satellite TV and cable TV. Antenna 8 hours per week, overall local viewership 8.1 hours. So even those people who are viewing their local channels on cable and satellite are only spending 8 hours on average. Out of that 21 hours viewing their local channels. The overall average is about 23 hours per week. We are also very interested in how the various modes of reception compare to each other. What do people think about cable versus satellite versus antenna? Not much of a surprise here. In terms of signal reliability cable and satellite far and away preferred over antennae. Picture quality as well, satellite taking the lead there above cable even for picture quality. And of course we always like to see some good healthy competition in the market place between two carriers satellite and cable hitting it off head to head in technology adoption. Satellite users are more satisfied with the technology that they've adopted. Pointing to perhaps the need for choice in the market place. And consumer enjoying the retail mode of adoption for set top boxes and remotes. They also enjoy the choice in the number of channels that they get with satellite more than cable. So lets move on to the real issues of today. Buying into high definition. We want to take, every year we take a look at familiarity help, how familiar consumers are with HD. We also look at their intention to buy and what will be the driving factors in adoption going forward. Every year we asked about base line familiarity and we asked the question: how familiar are you with high definition television? That number has grown over time but for the first time we really wanted to scratch beneath the surface and say that's not enough we need to know how

much they understand the technical nuances. Having gone into retail, and heard the pitch from retailers, about the actual detail of HDTV. They're getting the marketing messages, as you can see. They understand HD has life like picture and sound. They understand HD is a new TV format. They don't necessarily understand 1080i, 720p, all the technical jargon that we're throwing at them in terms of lines of resolution. Is that required if their understanding is better? I don't know. But it may be required when we're trying to sell them one thing versus another and getting them to understand the true HD versus a lesser quality product. They get that HD is not 4 x 3. They get that you can't receive it without a tuner. Though there's 10% of the population out there, I was actually surprised that it was that low, that they couldn't receive it without a tuner. But that tells us that they're starting to get some of those details as we move into the market. We asked the consumers how would you like, what would you be willing to do to get more high definition content. We're specifically interested in cable and satellite consumers. And how they would be willing to treat their line-up in the push to get more high definition. We found that more consumers were interested in trading up, giving up some of those unused channels then they were for in paying more for additional content or in getting the total HD package. So they'd rather give up some of the lesser channels that they are not watching. Some of the pay per view perhaps or some of the multitude of other channels that exist on satellite and cable. We talked a lot about and Gary gave us some great news today about the importance of sports and past research has really shown that to be true too in the transition to digital. A lot of consumers today who have high definition are watching sports. We also know that they're watching movies and that that has been a great driver for the adoption of HD in the market place. They have DVD, they want to be able to take advantage of that wide screen format, and they want to be able to see it in the best resolution possible. And so when you ask consumers out there who are hearing from their friends and neighbors who own, they're saying gosh you got to see movies on a high definition set. And so their focus is there and therefore we see that in the research this year, movies played a key part in this transition. Over a third of cable and satellite users were willing to pay for HD movies, perhaps because they're used to renting those today. The top viewers listed HD...HD content was something they were willing to pay for essentially. It topped their list of things that they would pay for. And

they plan to watch more of it; once more movies are available in HD. We were interested too, what happens when analog goes dark. What will you do as a consumer, as an antennae consumer? Will you just give up? Will you do nothing? Will you purchase the set top box? Will you subscribe to cable and satellite? I think the response here was encouraging. That consumers are willing to look at cable and satellite though we have that 25% who are going to probably just wait and see. Not much of a surprise given where we are in the transition today. We wanted to get a relative interest level. There's a lot of talk today about new features coming out into the market. We've got pay per view already existing, we have video in demand starting to break through, we have HDTV coming along, we have DVR or T-bow and replay TV type functionality, we have interactive TV sort of still hanging out there waiting to get some momentum. And then we have this notion of multi casting or streaming, breaking up a bit stream and carrying lesser quality channels over one channel's allocation. The consumers were most interested in, that we surveyed, we most interested in VOD, but right there with it was high definition. DVR also showing some strong interests levels, though we all know the troubles we've had in the market place with the technology. Interactive TV still lagging behind and multicasting, consumers are looking for that highest quality. They're not necessarily interested in breaking up channels to get more. They feel like they have enough, particularly cable and satellite. They'd rather have higher quality and fewer. Digging a little bit deeper into the interest levels with video on demand versus pay per view. There's a strong preference towards video on demand at this point and time. 54% and it's the same story when you go to HDTV, pay per view lagging behind. This notion that consumers in their busy schedules want content when it is most appropriate for them to see it or when they have the most time to see it. And being able to time shift and also just engage in content at the right time. But there's two models for that that have been thrown around. One is, you get shows when you want them or you get channels. You get to pick the channels. More consumers online were, would choice the a la cart channel model than the a la cart show model at this point and time. Not a lot of PBR owners out there. So let's get where the rubber hits the road again and talk about the intent to buy and what we're seeing an interest in HD. I gave you our forecast for the year at almost 4 million units expected to ship in the market place. This gives you a relative interest level.

Usually we divide these figures by about four. We find that about 25% of people who say they're interested in buying something, do it. So you divide that by about four, you're getting into about 2 and a half to 3 million online households who will buy HDTVs in the next 18 months. Add to that the off line population and that brings us very close to our forecast. So it tells us that our forecasting methodology is right in line with what consumers are expecting to buy and their interest levels. One final question that we were interested in was of course what do they expect to buy. What of television are they looking at? They are looking at wide screen, 31% saying so. Flat panel 29%, I imagine there is some confusion on the market place still between flat panel and flat screen. Cause when you look at plasma versus LCD those numbers are a lot lower. Plasma at about 10%, LCD at about 7%. That really wraps up what I wanted to cover with you today as far as the market research is concerned, but now we wanted to bring up Jim Berry to talk to us more about the anecdotal side. Some of the stories he's been hearing from the road, from home shows and from the press about their impressions of the transition and about what he sees consumers expecting.