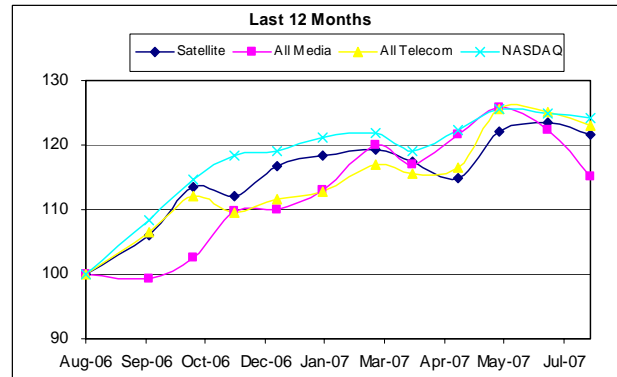


# FROM THE GROUND UP

July 2007

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## THE WAY WE SEE IT...

**Satellite:**

Satellite telecom equipment manufacturer **Radyne** announced its intent to acquire small satellite manufacturer **Aero Astro** for \$18 million, continuing the company's efforts to build a diversified revenue stream. Subsequently (July 25<sup>th</sup>), Radyne shareholder **Discovery Group LLC** (which holds 8.8% of Radyne) shook things up by publicly urging management to seek a sale of the firm, citing the potential for "...a 50% premium" to today's prices.

**Media:**

**Cumulus** CEO Lew Dickey launched an \$11.75 per share MBO, opening a 45 day window for competing bids. The transaction values the firm at \$1.3 billion, an EBITDA multiple of over 13 times. Given this rich valuation (a 40% premium to trading levels prior to the announcement) and the instability of today's credit markets, it will be interesting to see if the deal is revised before closing. By the same token, the pending **Tribune**, **Clear Channel**, and **Cablevision** transactions will also be interesting to monitor.

**Telecom:**

Mobile broadband network equipment provider **Airvana** raised \$58 million in their reduced price IPO (\$7 vs. \$8-\$10 originally planned), with lukewarm market reaction thereafter. We believe this reaction may reflect potential competitive pressure from WiMax on Airvana's EV-DO products as well as the company's dependence on **Nortel**, which resells Airvana's products and accounts for 95% of their revenues.

**Sprint Nextel** and **ClearWire** announced an agreement to cooperate on their respective WiMax rollouts. Under this landmark deal, the two firms agreed to unified branding, seamless roaming and an exchange of spectrum assets. We see this movement presaging a potential eventual combination of the units – with the main question being whether they will emerge as a new firm or under the Sprint umbrella.

**Amp'd Mobile's** chapter 11 filing turned into a liquidation when no buyer emerged for the company. We expect a free-for-all to poach the company's ~175,000 subscribers, with **Verizon** (whose network provided the backbone for Amp'd) leading the charge.

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## Digital Signage...coming to a location near you

The North American digital signage market [is expected to] grow from \$103 million in 2004 to \$3.7 billion in 2011, a CAGR of 67%.

Digital signage networks are sprouting up in practically any location you can think of that is "out-of-home". Strategy Institute, a market research firm, estimates that 10 new networks are emerging every month! Digital signage is a segment of out-of-home advertising in which content is displayed on a digital screen rather than a printed sign. The content can range from text and still images to full-motion video. The out-of-home advertising industry including the digital signage segment is poised to benefit from marketers shifting their advertising spending from traditional (print, TV and radio) to new media. Frost & Sullivan forecasts the North American digital signage market, comprising advertising revenue, to grow from \$103 million in 2004 to \$3.7 billion in 2011, a compound annual growth rate of 67%. In this article, we look at how companies are competing in this new and emerging industry, and some of the challenges facing them.

Digital signage network operators build, manage and own the network infrastructure (including the digital screen), broadcast the content, and sell the advertising. Many operators focus on vertical markets such as supermarkets, restaurants and hotels, banks, bus, train and subway stations, gas stations, airports, information kiosks, schools, trade shows, employee corporate displays, etc. The typical business model is to share in the advertising revenue with the businesses where the digital signs are located.

The table below is a sample of various vertical markets using digital signage.

Vertical Markets using Digital Signage			
Big box retailers	Supermarkets	Restaurants and bars	Gas Stations
Heath Clubs	Healthcare	Movie Theatres	Office buildings
Outdoor Billboards	Tourist locations	Hotels	Shopping Malls
Sports Arenas	Transit	Airports	Banks
Trade shows	Information kiosks	Corporate displays	Schools

Digital signage requires a great deal of coordination between the network operator and the property owner.

A successful digital signage network requires a great deal of coordination between the network operator and the property owner. During network design and implementation, the operator must work with the internal IT department of the business to build a solution that is reliable, scalable, manageable and secure. The network operator must also understand marketing and content production, and needs to coordinate with the advertising agency or marketing department of the business to keep the content fresh, relevant and in-line with the overall brand strategy. (Poor content strategy is typically the cause of many unsuccessful digital signage deployments.) Finally, the network design and content strategy should support the advertising sales team so they can convince the advertisers that their message will reach the intended target market. The goal is to create a digital signage solution that is complementary to its surroundings while serving as an effective advertising media.

Although the location of the digital signs is the biggest competitive factor, operators are beginning to add new and innovative capabilities to differentiate them from the competition. This includes:

- **Content production** – All of the digital signage participants are still experimenting with the mix of content (video, images, text, and audio) and the frequency at which they are shown. Undoubtedly, this will depend on the vertical markets being targeted and the advertising message being delivered. Industry consensus suggests that producing content for digital signage is quite different than creating TV commercials. Digital signage content should reflect the difference in viewing habits in-the-home vs. out-of-home, proximity to the point-of-purchase, and call to action messages.

[Companies] add new and innovative capabilities to differentiate them from the competition.

## The Current Spot-Beam (cont.)

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Therefore, content production for this industry is very much a new and niche capability. As a result, some network operators have brought this capability in-house. For example, Channel M, a network operator focused on the retail segment, acquired the In-Store Division of ScreenPlay, Inc., a provider of in-store video content to retailers.

- **Location-based advertising** – Network operators are offering the ability to target a message to a single screen at a specific geographic location. This is particularly valuable when a local establishment has a well defined demographic that an advertiser would like to target. Ripple, a network operator based in Los Angeles, has digital screens in Coffee Beans and Jack in the Box restaurants throughout the West coast. Advertisers on their network can create, upload and manage their advertising campaigns all online. They can choose which locations will show the campaign and pay only for that location.
- **Interactivity** – Interactive technology in digital signage has the potential to be highly effective if done in the right way. A company in Sacramento, CA called SmartSign Media is using interactive technology to gather demographic profiles about passengers as they drive by and respond with advertisements tailored to their preferences. Data on how many cars listen to what FM radio stations is collected and ad messages are adjusted in response to the demographic profile of the cars' passengers. HumWare Media based in Colorado uses polling where consumers can respond to a question posed on a digital sign.

As this industry matures, we should expect more capabilities to be developed like the ones listed above that improve the effectiveness of this new media. However, many challenges still lie ahead for this industry. We list a few key challenges below:

- **Size and Economies of Scale** – The biggest media spenders are advertisers that need national or regional network coverage. Building and maintaining a national network is cost prohibitive for many small digital signage network operators. Unless the operator has an ideal location or a unique capability, national advertisers will lean towards the larger digital signage networks. The larger networks also benefit from economies of scale as they are able to spread their costs over a larger number of revenue generating screens. Therefore, we expect consolidation among operators in similar vertical markets to gain size and scale. For example, SignStorey, a digital signage operator to the grocery industry, acquired Captive Audience who operates in deli departments of ShopRite and Big Y stores.

SeeSaw Networks is using another strategy to compete in this fragmented industry. They aggregate available advertising inventory from small digital signage networks. This offers advertisers the ability to buy national, regional and metropolitan digital signage networks across multiple vertical markets from a single source. Last year, SeeSaw Networks raised roughly \$10 million from venture capital to implement this strategy.

- **Role of advertising agencies** – It is still uncertain exactly what role advertisement agencies will play in the digital signage value chain. As we discussed earlier, some network operators are producing their own content. We expect ad agencies to aggressively enter the market as opportunities get larger. For example, Publicis Groupe SA, the world's fourth-largest advertising agency, is partnering with Simon Property Group, the largest U.S. real estate company, to create the OnSpot Digital Network which will focus on shopping malls across the U.S.
- **Regulatory concerns** – There is an ongoing debate whether digital billboards increase the level of traffic and accidents above and beyond a traditional static

Many challenges still lie ahead for this industry: Size and economies of scale, role of advertising agencies, regulatory issues, and establishment of industry standards.

## ***The Current Spot-Beam (cont.)***

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Companies and investors...are optimistic about [the digital signage industry's] prospects to meet the needs of today's marketers... but reasons to exercise caution remain.

billboard. Concerns of this type may lead to regulations on where digital signs can be installed. Currently, there are digital displays being developed for placement on sidewalks, restaurant trays and for 3-D applications. As digital signs proliferate, an obvious question is, "How much is too much?"

- **Industry standards** – Industry standards take time to develop and adopt, but once this industry adopts them it would be easier to sell advertisements, integrate systems, share content and manage disparate networks. POPAI, an international trade association, has a Digital Signage Group Standards Committee that spent part of 2006 writing technical standards. However, this or any other standard has yet to be widely accepted.

As shown, the digital signage industry is very much in the early development phase as companies experiment with various business models, content and capabilities. Technologies such as digital video recorders (DVR) will continue to drive marketers to find alternative ways to effectively reach the consumer. We believe that companies and investors interested in digital signage have reason to be optimistic about industry prospects, but reasons to exercise caution clearly remain.

By Kuni Takahashi  
Near Earth LLC

## As liquidity ebbs and flows, the media sectors evolve

... the media sectors we track had already been on the decline for at least two months...

In light of the recent equity markets gyrations reflecting concerns over deteriorating debt market liquidity, with the S&P 500 Index falling by approximately 5% during the week of July 23, the theme of a “Deal Side” column would either be to predict further gloom or to depict current events as a temporary overreaction. Given the abundance of punditry that will have preceded this newsletter, we instead limit ourselves to a set of historical observations, particularly in relation to our coverage sectors in media and communications, underscoring historical patterns that we believe to be noteworthy. Our conclusion, as will be shown, is that regardless of capital markets directions, the media and communications industry can only continue on one course.

### Observations:

#### **The ebbs**

... the corporate debt markets had in fact been showing strong indications of weakness even as the DJIA was cruising towards its peak of 14,000...

Near Earth’s market indices (see front page of this newsletter and supporting metrics in Market Comparables analysis on page 14), illustrate that the media sectors we track had already been on the decline for at least two months, and have underperformed the broader market for at least the past year. Our Media Index, which peaked in May – having finally caught up to the broader market on a comparable index basis (using August 2006 as the starting point of our tracking benchmark) – was off by more than 2.7% in June, and fell by an additional 5.9% in the current month. This performance remains well below that of the broader market even after the latter had precipitously fallen in the past week. Fundamental concerns triggered by a challenging advertising environment (particularly for traditional media such as newspapers and radio), have contributed to market caution and served as a valuation suppressant distinct from capital markets liquidity factors currently in play. Regardless of how the markets behave in coming weeks and months, these fundamental issues are likely to linger.

#### **The flows**

Despite the attention currently paid to headline-grabbing corporate credit market setbacks (e.g., Chrysler, Alliance Boots, Cadbury), which seem to have contributed the most towards fears of a liquidity crunch, the corporate debt markets had in fact been showing strong indications of weakness for some time. According to a list compiled by the Wall Street Journal on July 26, there were no fewer than 27 credit issuance setbacks reported since the third week in June (i.e., offerings that had been pulled or delayed), and 16 (more than half) of these were being reported even as the Dow Jones Industrial Average was cruising towards its peak of 14,000 on July 19. The equity markets had apparently turned a blind eye to trouble that was clearly brewing, highlighting the extent to which excess liquidity can underpin valuations even under adverse circumstances...

But not forever! As of July 27, with the Dow having fallen more than 500 points in two days, we see that liquidity support can be a frail foundation at best, which notion wasn’t lost on highly liquid long-distance phone companies of old, that have successfully transformed themselves and are now battling for wireless and video market share, and is not lost on the current media vanguard. See below:

## From the Deal Side (cont.)

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A common feature of all the listed deals is the continuing advancement of “new” media.

... media and communications is on an irreversible course of evolution that may not even be slowed, let alone reversed, by capital markets obstacles...

### The evolution

In parallel with the dynamic depicted above – of downward valuation pressure from fundamental risks in “old” media on one hand, and support from excess market liquidity (that may now, or if not now at any time later, erode) on the other – a number of noteworthy M&A and other strategic transactions have been announced. These include:

- AOL’s acquisition of Tacoda Inc., a marketing firm that specializes in tracking Web user habits to deliver targeted online ads;
- Microsoft’s acquisition of AdECN, a network linking buyers and sellers of Internet ad space;
- R.H. Donnelley’s acquisition of Business.com, which operates a business search engine, directory, and pay-per-click advertising network;
- Katz Media Group’s acquisition of Net Radio Sales, which sells streaming audio advertising and other Web advertising across online radio channels; and
- Sprint Nextel’s 20-year deal with Clearwire to jointly build out a WiMax network nationwide, followed by a deal with Google to provide a mobile-Internet portal for Sprint’s WiMax service.

A common feature of all the listed deals is the continuing advancement of “new” media. Whether a traditional media rep firm expands its Internet radio ad sales capabilities, a major printer/publisher acquires a business-oriented Web presence, a former long-distance phone company lays the groundwork for mobile Web access, or leading “new” media pioneers such as Microsoft and AOL seek to become even “newer”, the media migration is continuing undeterred by financial market fluctuations. (It may also be worth noting that Google and Amazon share prices stood their ground as the broader market fell last week.)

### Conclusion:

It seems that as an industry, in the aggregate, media and communications is on an irreversible course of evolution that may not even be slowed, let alone reversed, by capital markets obstacles. New technologies and the new possibilities these enable, combined with new habits and expectations instilled in new generations of consumers, (worldwide), have set a clear direction for both content and distribution. Individually, however, there will be successful and less successful enterprises, some that will actively seek a part in the migration, and others that will fall behind and risk extinction.

Availability of capital will, as always, be a limiting or a driving force... but history has shown that, when fundamentals are sound, the capital never resists for long. The New York Times in a July 27 article reminds us that a 6% S&P 500 correction caused in the 1980’s by a sudden slow-down in lending, was recovered within 12 weeks. On the other hand, we all remember how capital irreversibly dries up when, like around 2000 to 2002, the fundamentals become questionable.

By Dan Ramsden  
Near Earth LLC

## Television Via Satellite – An Old Idea Continues to be New

Global demand for satellite services overall, will grow to nearly 10,000 transponder equivalents by 2016.

From the earliest days of satellite communications, the industry has been known for its ability to transmit television signals simultaneously to large numbers of users – be they networks or homes. While satellites and television have both come a long way since the days of the blinking headline “Live Via Satellite”, neither is standing still, and the continuing evolution is truly moving forward, with the latest step being satellite-delivered video to cars and mobile phone. So where exactly is this going? What will these new trends look like and what will they mean for the demand for satellite capacity?

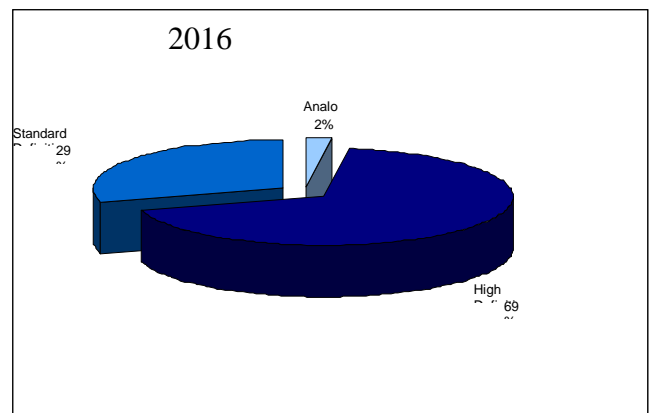
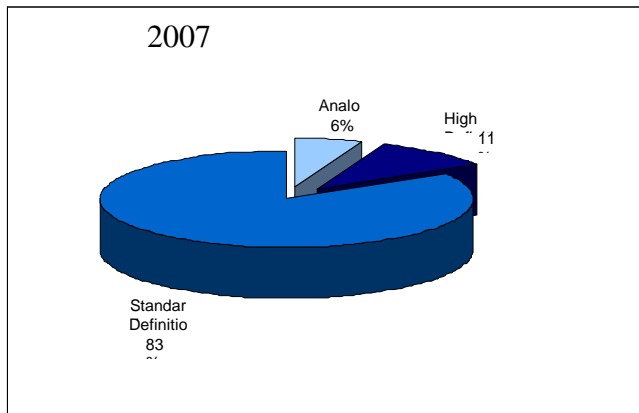
Every year Futron undertakes a reassessment of the global market for satellites, developing a forecast of demand for geostationary satellite capacity across a range of voice, data and video applications. This year’s forecast reveals that global demand for satellite services overall, currently around 5,200 transponder equivalents (36MHz), will grow to nearly 10,000 transponder equivalents by 2016. In the first five years – until 2012, the overall average annual growth rate will be about 7 percent. The largest segment of this demand is for video services, accounting for almost 60 percent of the total.

The amount of bandwidth required for these bit-streams varies depending on the type of traffic.

While the future of communications is converging nearly all applications to data bit-streams, the amount of bandwidth required for these bit-streams varies depending on the type of traffic, with video imposing some of the most complex requirements. Traditional data traffic is primarily driven by Internet-based content. This content includes streaming video and even voice traffic, but remains “point-to-point” in nature, even when operating over multi-mode networks. By contrast, the majority of video transmissions for both cable TV distribution and DTH distribution are not only “point-to-multipoint,” they also requires much more bandwidth to maintain the integrity of the picture quality.

This bandwidth intensity continues to increase with new technology developments, because even as some technologies (conversion from analog to digital transmissions) make it possible to carry more channels in the same capacity, other technologies (High Definition- HDTV) eat up that bandwidth even faster, with HD channels requiring almost 3 times more capacity than standard (SD) channels. The combined impact of these trends on the format of TV channels is shown in the following charts

### Global Analog, Standard and High Definition Digital Channels, 2007 and 2016



In the U.S.,  
Futron projects  
demand for  
video  
services will  
grow by  
nearly 10  
percent  
annually from  
2007 to 2012.

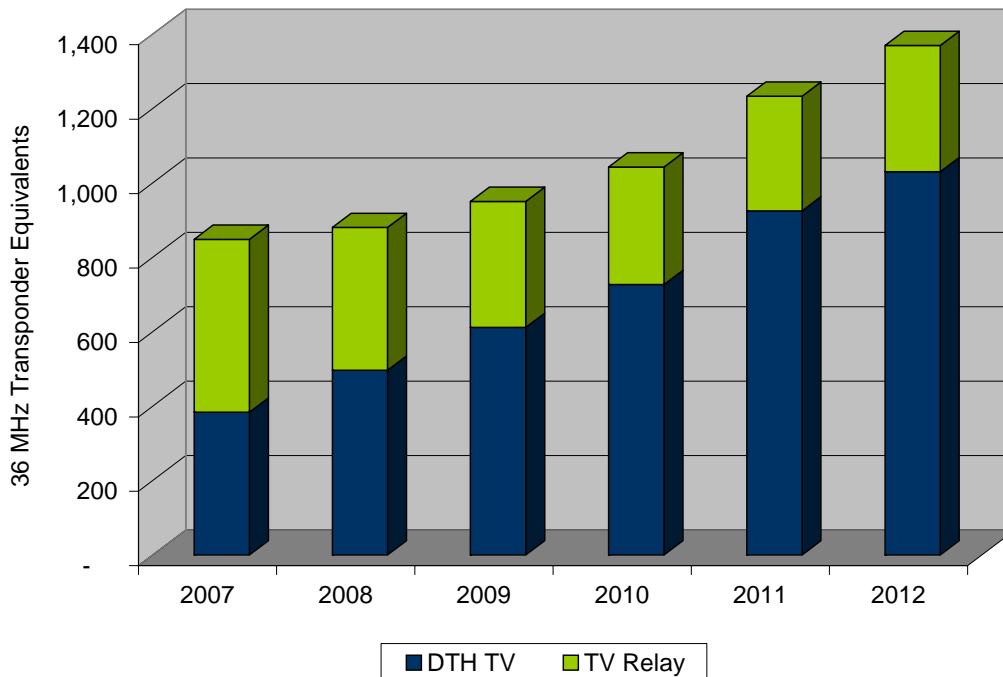
Recent years have shown an increase in the demand for video content via satellite with the growth in HDTV being the main factor influencing the evolution of the demand for video services, be it TV Relay (video distribution by broadcast and cable TV companies) or DTH. Most recently, as the demand for HDTV has increased while SD (even if digital) remains the predominant access mode, more channels have started broadcasting both standard and high definition versions, thus requiring even more capacity. This double-distribution requirement is particularly visible in the U.S.

In the U.S., Futron projects demand for video services will grow by nearly 10 percent annually from 2007 to 2012, holding a steady 70 percent share of overall demand for satellite capacity throughout this period. This U.S. video demand is dominated by DTH demand. While there is still extensive use of satellites for TV Relay, the satellite capacity required for this declines steadily through 2012 due to increased digital compression rates and the elimination of analog transmissions over satellite.<sup>1</sup>

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<sup>1</sup> The FCC has mandated that all over-the-air broadcasting of TV channels be fully converted to digital format by early 2009. This mandate only requires that over-the-air broadcast transmissions are digital in format and has no impact on satellite TV demand.

### U.S. Video Satellite Demand 2007-1012



U.S. demand for DTH capacity is expected to grow by about 14 percent annually over the next five years.

For DTH, all transponders are digital, with an increasing amount of capacity devoted to HDTV transmission. EchoStar and DirecTV, for example, offer 250-280 channels in their premium-level packages, which include movie channels, pay-per-view, radio, and local channels for most markets. Assuming that local channels will be available in both SD and HD format for some years, and using an average of 14 local channels for each of the 210 defined local markets (called DMAs), U.S. demand for DTH capacity is expected to grow by about 14 percent annually over the next five years, nearly doubling DTH transponder demand over this period.

The impact of these new technologies are not found just in the U.S. Together with the opening of more regional markets very eager to absorb the latest technologies, particularly in Asia, they will contribute to more than doubling the demand for satellite capacity for video services, in the next 10 years. It is this intensive penetration of HDTV, which drives the demand for video services, demand whose growth continues over the next 10 years, overcoming the continuous decrease of analog channels. The growth in demand will, however, decline towards the end of the forecast period, primarily because of a slowing in the growth of demand for video services markets such as the Americas and Western Europe. In these two markets, during the next five years, there will be a higher increase in capacity demand because of the rapid adjustment of an already mature market to HD, as detailed above for the U.S.

## Guest Corner (cont.)

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Asia seems to be the hottest spot for video throughout the next decade.

Asia, in contrast seems to be the hottest spot for video throughout the next decade. Government decisions to open markets in India and (to a lesser extent) China, combined with the increase in the standards of living in the region, will make the demand for DTH services from Asia surpass Western Europe by 2010. A key driver here will be the upcoming Olympic Games in China, which are expected to contribute to an increase in the number of pay-tv subscribers, in the region. The same event will lead to a boost in the number of HDTV channels in China and through out the region, further contributing to the rapid penetration of this technology in Asian markets.

So what will be next? Looking forward, satellite TV will continue to face the need to evolve, to address the emergence of new media and new competitors. Technologies and services such as IPTV and Mobile TV present satellite operators with new challenges. But there are also opportunities to face those challenges by partnering and repositioning to provide the benefits of it satellites' broad reach and multicasting capabilities to fit these new applications.

By Andrea Maleter  
Futron Corporation

*Futron Corporation provides leading-edge decision support consulting services to organizations throughout the aerospace and telecommunications industries. Their analysts and engineers use a wide range of proprietary methodologies to help clients make higher quality decisions. Andrea Maleter is the Technical Director of Futron. She can be reached at [amaleter@futron.com](mailto:amaleter@futron.com) or 301-347-3450.*

Since 2004, there has been a large expansion in the number of pirates that target the Digital Broadcast Video set-top box standard that supports EchoStar's DISH Network programming.

## FTA Piracy in North America

In the more than three years since April 2004, when Rupert Murdoch shut down the more than two mil. pirates attacking his newly-acquired DirecTV, the DirecTV system has remained "hack free" (which is another way of saying no one has yet found a way to break into the system that secures the DirecTV boxes and signals). Yet, like water that flows into and eventually around a dam, that most-effective 2Q 2004 DirecTV shut down was the bane of rival EchoStar, because it meant pirate resources were consequently shifted from DirecTV to the now more vulnerable *DISH Network*.

Since 2004, there has been a large expansion in the number of pirates that target the Digital Broadcast Video (DVB) set-top box standard that supports EchoStar's *DISH Network* programming. These pirates use the so-called Free-To-Air (FTA) set-top boxes to view, for free, subscription TV services for which the overwhelming majority of normal, legal *DISH Network* subscribers pay monthly.

FTA pirates tapping into the 13 mil. legal subscriber *DISH Network*, as well as into EchoStar's progeny, the 2.3 mil. legal subs Canadian Bell ExpressVU (BEV) system, have now distributed their illegal services and products to an estimated two mil. illegal TV households in the U.S. and Canada. This is at an average hardware unit price of around \$200, accounting for almost \$350 mil. in total cumulative revenues.

The top three distributors of FTA devices for the EchoStar and BEV systems are, in order, Sun Valley, CA-based PanSat; South San Francisco, CA-based CoolSat; and Mississauga, ON, Canada-based Fortec. Among just these top three FTA providers, they have already distributed an estimated 1.385 million units, representing sales of well over \$200 million in estimated cumulative revenues since 2004. The Carmel Group believes that eight FTA manufacturer/distributors – PanSat, CoolSat, Fortec, ViewSat, DreamBox, Ariza, DigiWave, Metabox -- account for three-quarters of the FTA business in North America (See, chart, below). In short, FTA today in North America is big business. Take the *NFL Sunday Ticket* that is carried on BEV in Canada, and the level of hacking is even more disturbing.

NA TOP FTA COMPANY PROJECTIONS			
Company	Installed Shipments	Avg. Retail Price	Unit Sales
1 PanSat	650,000	\$180	\$117,000,000
2 CoolSat	460,000	\$145	\$66,700,000
3 Fortec	325,000	\$155	\$50,375,000
4 ViewSat	205,000	\$175	\$35,875,000
5 DreamBox	100,000	\$300	\$30,000,000
6 Ariza	225,000	\$125	\$28,125,000
7 DigiWave	85,000	\$190	\$16,150,000
8 Metabox	20,000	\$200	\$4,000,000
<b>TOTAL</b>	<b>2,070,000</b>	<b>\$184</b>	<b>\$348,225,000</b>

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### So, Just What is FTA?

Sometimes it's quite helpful to compare domestic U.S. practices and infrastructures to those in other parts of the world. Perspective, understanding and point of view are just a few of the resulting benefits. Free-To-Air in Europe today is a thoroughly legitimate infrastructure, supporting an estimated 30 mil. to 40 mil. unscrambled subscribers, who buy their systems for several hundred Euros each, then watch advertising-supported free TV from their homes in Europe. This way, they get scores of channels -- albeit almost all ad-supported -- without having to pay a monthly subscription fee. Indeed, when one travels through continental Europe, the strong majority of the dishes mounted on houses in continental Europe are from the FTA ad-based business model.

Such limited programming sources are hard to see as justifying the more than two million FTA boxes sold in North America to date.

In North America, there are a fair number of FTA programming channels, but unlike the general fare in Europe, the North American versions offer mostly free ethnic and religious programs, which are of interest to only very limited audiences. Such limited programming sources are hard to see as justifying the more than two million FTA boxes sold in North America to date.

The way piracy works in North America, consumers turn their FTA receivers into FTA units that steal *DISH Network* content. Also, because *DISH Network* utilizes the universal DVB standard, and DirecTV does not, *DISH* is more vulnerable. Conversely, pirates can't steal high definition signals from *DISH*, yet. Once the FTA manufacturers get their hardware into North America and into the hands of North American consumers, their success depends substantially on the support they provide customers.

The way piracy works in North America, consumers turn their FTA receivers into FTA units that steal *DISH Network* content.

"FTA support," in this case, means providing the best scripts (or codes to open the boxes to "free" programming), the best picture quality, the fastest response after an operator's Electronic Counter Measure (ECM) has disabled all FTA units, and the best features and functions, including program guides, and doing so at the best price. That is the battle ground among the different FTA competitors.

As it relates to providing the needed code to consumers, a one-time script writer, nicknamed Blacklist, is a good example of its importance to the manufacturers. Blacklist worked for a time with the then-leading FTA manufacturer, Blackbird. As a result, Blackbird retained the Number One spot for FTA sales for the time it was associated with the effective script writer, Blacklist. Blacklist was known to have done a most effective job of releasing pirate scripts for Blackbird's FTA units. Indeed, later, when Blacklist switched to a Blackbird rival, PanSat, the latter's sales shot up and PanSat then became the Number One North American FTA seller. The Carmel Group believes today that the FTA manufacturer, Oceanside, CA-based ViewSat, is one of the top four FTA sellers, in large measure because of its superior customer service and support.

### China Connection

As mentioned above and as is true of most of today's FTA set-top boxes, they are made in and shipped to the U.S. from locales in mainland China. South Korea is the other center for FTA set-top box manufacturing.

## Guest Corner (cont.)

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Companies like  
DISH Network  
in the U.S. and  
Bell Express  
Vu in Canada  
are losing a lot  
of subscriber  
revenues.

Indeed, there is substantial irony in this situation involving the Chinese. The Chinese government seeks to control content delivered to its citizens and to those abroad, yet, at the same time, the government seems unable to control the set-top boxes produced in their own country, which, in turn, are then used to steal content.

### Where is this All Going?

Whichever manufacturer provides the best piracy support, best features and functions at a price below \$200.00 a unit, is going to sell a lot of receivers.

This means companies like *DISH Network* in the U.S. and Bell Express Vu in Canada are losing a lot of subscriber revenues. Moreover, as noted above, the FTA manufacturers and others associated with the multichannel TV piracy business, are delivering a lot of ill-gotten gains.

Note too, that, as indicated Monday, July 23, 2007, in a page B-3 article in *The Wall Street Journal*, author Andy Pasztor indicated EchoStar has filed suit against one of the distributors in the federal court located in the southern district of CA.

### Source of Our Data

*The Carmel Group's FTA report and analysis was based on conducting primary and secondary research on the North American market, as well as using our own industry research, projections and market intelligence. The process for the primary research involved surveying executives of leading FTA manufacturers, as well as respected industry experts. Each executive was asked nearly a dozen questions that included how many FTA receivers have been shipped, price points and thoughts about FTA's future growth. Our secondary research process included gathering in-house data and utilizing our in-depth database for industry projections. Between our primary and secondary research, we believe the data gathered on the FTA market is among the most thorough and complete in the industry.*

By Jimmy Schaeffler and Sean Badding  
The Carmel Group

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# NEAR EARTH ANALYSIS: MARKET COMPARABLES

## Public Market Valuation Analysis of Selected Companies in the NEAR EARTH TELECOM INDEX

(\$ in millions, except per share data)		Stock Price:		Enterprise Value as a Multiple of:			Price as a Multiple of:		
Company	7/27/07	Market Value of Equity	Enterprise Value (a)	LTM Sales	LTM EBITDA	LTM EBIT	LTM EPS	2007E EPS (b)	2008E EPS (b)
<b>Satellite Capacity Leasing (FSS)</b>									
LORL	Loral Space & Comm	\$ 43.06	\$863.0	\$1,003.0	1.2x	11.2x	n/m	n/m	n/m
SESG.PA	SES Global S.A. (c)	\$ 20.99	\$14,011.8	\$18,270.9	8.2x	12.3x	22.0x	23.4x	20.4x
				Mean	5.7x	11.8x	26.4x		
<b>Satellite Equipment Manufacturers &amp; Integrators</b>									
GILT	Gilat Satellite Networks	\$ 9.17	\$373.2	\$270.1	1.1x	7.9x	20.1x	35.6x	19.1x
GCOM	Globecomm	\$ 12.73	\$209.7	\$179.9	1.3x	22.2x	35.0x	33.2x	27.1x
VSAT	ViaSat	\$ 28.59	\$869.8	\$794.0	1.6x	13.4x	24.3x	31.6x	19.1x
ORB	Orbital Sciences	\$ 21.74	\$1,324.9	\$1,262.1	1.5x	14.9x	18.2x	27.7x	25.0x
RADN	Radyne Comstream Inc.	\$ 11.05	\$208.3	\$178.8	1.3x	9.2x	11.2x	18.3x	16.7x
CMTL	Comtech Telecommunications	\$ 42.87	\$1,176.4	\$1,015.1	2.6x	12.3x	15.2x	23.8x	17.4x
CDV	COM DEV International (d)	\$ 5.20	\$365.3	\$351.7	2.3x	12.1x	16.0x	n/m	n/m
				Mean	1.7x	13.2x	20.0x	28.4x	20.7x
<b>Towers</b>									
AMT	American Tower	\$ 40.83	\$17,947.1	\$21,461.1	15.9x	25.7x	n/m	n/m	n/m
CCI	Crown Castle	\$ 35.51	\$9,710.4	\$15,922.7	17.3x	34.2x	n/m	n/m	n/m
SBAC	SBA Communications	\$ 33.42	\$3,531.4	\$5,216.9	13.8x	29.9x	n/m	n/m	n/m
				Mean	15.7x	29.9x			
<b>General Telecom</b>									
AT	Alltel	\$ 66.50	\$23,926.7	\$26,086.8	3.2x	9.6x	18.4x	31.6x	24.0x
T	AT&T	\$ 39.24	\$245,877.8	\$250,688.3	3.3x	9.0x	16.9x	28.1x	14.3x
VZ	Verizon Communications, Inc.	\$ 42.00	\$122,262.0	\$182,726.0	2.0x	6.4x	13.1x	22.9x	17.8x
S	Sprint Nextel Corporation	\$ 20.61	\$59,748.4	\$79,565.4	1.9x	6.9x	39.8x	n/m	23.7x
				Mean	2.6x	8.0x	22.0x	27.5x	19.9x

### TELECOM SERVICES INDEX (excludes Towers stocks)

High	8.2x	22.2x	39.8x	35.6x	27.1x	22.2x
Mean	2.5x	12.3x	25.5x	25.1x	20.4x	16.2x
Low	1.1x	6.4x	11.2x	18.3x	14.3x	12.6x

## Public Market Valuation Analysis of Selected Companies in the NEAR EARTH MEDIA INDEX

(\$ in millions, except per share data)		Stock Price:		Enterprise Value as a Multiple of:			Price as a Multiple of:		
Ticker	Company	7/27/07	Market Value of Equity	Enterprise Value (a)	LTM Sales	LTM EBITDA	LTM EBIT	2007E EPS (b)	2008E EPS (b)
<b>Satellite Television (DBS)</b>									
BSY	British Sky Broadcasting (f)	\$ 11.07	\$19,512.80	\$22,987.55	2.6x	9.4x	12.9x	17.1x	15.7x
DISH	EchoStar Communications	\$ 42.10	\$19,164.3	\$22,953.8	2.3x	8.8x	16.2x	23.7x	16.6x
DTV	DirecTV Group Inc.	\$ 22.23	\$26,665.8	\$27,691.3	1.8x	7.4x	10.8x	18.0x	14.7x
				Mean	2.2x	8.5x	13.3x	19.6x	15.7x
<b>Television</b>									
TVL	LIN TV Corp.	\$ 15.25	\$747.5	\$1,596.3	3.7x	10.5x	17.7x	n/m	21.5x
SBGI	Sinclair Broadcast Group	\$ 13.30	\$1,139.7	\$2,486.6	3.5x	12.1x	15.6x	32.4x	16.2x
YBTV	Young Broadcasting Inc.	\$ 2.74	\$60.4	\$811.4	3.6x	11.3x	29.5x	n/m	n/m
				Mean	3.6x	11.3x	20.9x	32.4x	18.8x
<b>Satellite Radio (DARS)</b>									
SIRI	Sirius Satellite Radio	\$ 2.89	\$4,210.8	\$5,014.3	7.0x	n/m	n/m	n/m	n/m
WRSP	Worldspace	\$ 4.80	\$187.3	\$232.9	15.3x	n/m	n/m	n/m	n/m
XMSR	XM Satellite Radio	\$ 11.02	\$3,370.8	\$4,604.1	4.7x	n/m	n/m	n/m	n/m
				Mean	9.0x				
<b>Radio</b>									
CCU	Clear Channel	\$ 36.95	\$18,285.4	\$25,965.4	3.6x	11.1x	15.2x	25.0x	22.8x
CMLS	Cumulus Media Inc.	\$ 10.32	\$524.5	\$1,093.1	3.3x	13.9x	17.9x	n/m	41.3x
CXR	Cox Radio Inc.	\$ 12.91	\$1,233.8	\$1,575.9	3.6x	9.8x	10.5x	17.2x	16.1x
EMMS	Emmis Communications Corp.	\$ 7.83	\$291.4	\$967.1	2.7x	13.2x	16.2x	n/m	n/m
ETM	Entercom Communications	\$ 23.21	\$914.2	\$1,598.7	3.6x	11.7x	13.3x	19.3x	16.1x
ROIA	Radio One Inc.	\$ 6.52	\$643.6	\$1,602.0	4.3x	11.3x	13.0x	n/m	n/m
				Mean	3.5x	11.8x	14.3x	20.5x	24.1x
<b>NewsPrint</b>									
DJ	Dow Jones	\$ 54.70	\$4,571.3	\$4,850.2	2.6x	17.9x	30.1x	37.0x	30.7x
MNI	The McClatchy Company	\$ 25.79	\$2,114.3	\$4,952.6	2.4x	9.3x	12.3x	16.4x	15.3x
NYT	New York Times	\$ 22.61	\$3,286.6	\$4,629.8	1.4x	9.9x	16.1x	21.5x	19.0x
TRB	Tribune	\$ 28.00	\$6,776.0	\$10,938.0	2.0x	8.6x	10.5x	16.9x	17.8x
WPO	Washington Post	\$ 790.00	\$7,588.7	\$7,713.5	2.0x	10.8x	15.8x	25.8x	22.3x
				Mean	2.1x	11.3x	17.0x	23.5x	21.0x

### MEDIA SERVICES INDEX (excludes Satellite Radio (DARS) stocks)

High	4.3x	17.9x	30.1x	37.0x	41.3x
Mean	2.7x	11.0x	16.1x	18.0x	20.4x
Low	1.4x	7.4x	10.5x	16.4x	14.7x

(a) Calculated as Market Value of Equity plus total debt, minority interest and preferred stock, less cash & equivalents

(b) EPS estimates from Thompson First Call. Near Earth does not estimate EPS and does not condone or validate these estimates.

(c) Converted to US \$ from Euro at an exchange rate of 1.37 US \$ per Euro

(d) Converted to US \$ from C\$ at an exchange rate of 0.957 US \$ per C\$

(f) Converted to US \$ from British Pound at an exchange rate of 2.05 US \$ per British Pound

n/m Not Meaningful

Member of NEAR EARTH SATELLITE INDEX

# NEAR EARTH ANALYSIS: M&A TRANSACTIONS

## Selected Satellite, Telecom & Media Transactions

(US\$ in millions)

Date Announced	Acquiror	Target	Equity Value (a)	Transaction Value (b)	Transaction Value/		
					LTM Sales	LTM EBITDA	
<b>Satellite Operators</b>							
04/21/04	KKR	PanAmSat Corporation	\$3,532.0	\$4,300.0	5.2x	7.7x	
06/06/04	Blackstone Group	New Skies Satellites NV	956.0	956.0	4.5x	7.7x	
08/17/04	Zeus Holdings	Intelsat Ltd.	3,100.0	5,000.0	5.2x	7.6x	
08/29/05	Intelsat Ltd.	PanAmSat Holding Corporation	3,065.0	6,271.1	7.5x	9.7x	
12/14/05	SES Global	New Skies Satellites NV	760.0	1,160.0	5.0x	8.0x	
12/05/06	Abertis Telecom	EutelSat (32% share)	1,000.0	1,838.0	7.3x	9.7x	
12/18/06	Telesat (new)	Telesat (old)	2,800.0	2,940.0	7.1x	12.0x	
12/18/06	Telesat (new)	Loral Skynet	691.0	1,050.0	7.1x	19.6x	
				Mean	6.1x	10.3x	
<b>Ground Equipment</b>							
12/06/04	SkyTerra / Apollo	HNS (Hughes' VSAT, Broadband)	\$110.0	\$415.0	0.8x	n/d	
03/03/05	Radyne Comstream	Xicom Technology	41.0	46.0	1.1x	n/d	
08/15/05	Stratos	Xantic	191.0	191.0	1.1x	n/d	
11/11/05	SkyTerra / Apollo	HNS (Hughes' VSAT, Broadband)	155.0	460.0	0.8x	n/d	
11/21/05	Viasat	Efficient Channel Coding Inc.	25.5	25.5	n/d	n/d	
08/03/06	Thrane & Thrane	Nera's Mobile Satellite Communications	89.6	89.6	1.1x	n/d	
				Mean	1.0x	n/d	
<b>System Integrators</b>							
05/03/07	Globecom	GlobalSat	18.4	18.4	0.9x	n/d	
				Mean	0.9x	n/d	
<b>Video Distribution Equipment</b>							
09/29/05	International Datacasting	Proflin (c)	4.5	3.9	1.1x	n/d	
11/18/05	Cisco	Scientific Atlanta	6,900.0	5,300.0	2.7x	13.2x	
02/08/06	Tandberg Television	Skystream	80.0	80.0	2.6x	n/d	
07/25/06	Motorola	Broadbus Technologies	181.0	181.0	n/d	n/d	
08/21/06	Cisco	Arroyo Video Solutions, Inc	92.0	92.0	n/d	n/d	
08/22/06	Harmonic	Entone Tech.	45.0	45.0	n/d	n/d	
12/21/06	Motorola	Tut Systems	39.0	39.0	1.0x	n/d	
				Mean	1.9x	13.2x	
<b>Towers</b>							
07/04/04	Global Signal	Lattice Communications	\$115.0	\$115.0	9.4x	n/d	
05/04/05	American Tower	Spectrasite	3,100.0	3,800.0	10.2x	17.0x	
03/17/06	Crown Castle	Trintel Communications	145.0	145.0	10.1x	n/d	
03/17/06	SBA Communications Corp	AAT Communications Corp	1,002.0	1,002.0	12.0x	17.9x	
05/08/06	Crown Castle	Mountain Union Telecom LLC		309.0	11.9x	n/d	
10/06/06	Crown Castle	Global Signal	4,000.0	5,800.0	12.1x	26.6x	
				Mean	10.9x	20.5x	
<b>General Telecom (Wireless)</b>							
02/17/04	Cingular	AT&T Wireless	\$40,770.0	\$47,105.0	2.8x	10.7x	
12/15/04	Sprint Corp	Nextel Communications Inc	28,449.0	36,200.0	2.7x	7.1x	
01/05/05	Alltel	Western Wireless	4,300.0	6,181.0	3.2x	10.7x	
07/01/05	Sprint Nextel Corporation	US Unwired, Inc.	1,000.0	1,266.0	2.9x	13.2x	
03/06/06	AT&T (new)	Bell South	67,000.0	89,000.0	4.3x	10.7x	
				Mean	3.2x	10.5x	
<b>Television</b>							
03/31/05	Lin TV Corp.	WNDY-TV, WWHO-TV	\$85.0	\$85.0	4.3x	12.9x	
05/10/05	Various Acquirors (d)	Emmis Comm TV Portfolio	1,350.0	1,350.0	5.2x	14.6x	
06/30/05	Univision Communications	WLII (2 TV Stations in Puerto Rico)	190.0	190.0	4.0x	16.7x	
03/29/07	Umbrella Holdings LLC	Univision Communications	12,300.0	13,700.0	6.3x	18.1x	
				Mean	4.9x	15.6x	
<b>Radio</b>							
09/29/04	Capital Radio	GWR Group	\$611.0	\$728.0	3.1x	13.4x	
06/21/05	Emap PLC	Scottish Radio Holdings	713.0	793.0	4.5x	17.7x	
11/01/05	Cumulus Media Inc.	Susquehanna Radio	1,200.0	1,200.0	n/d	15.0x	
02/07/06	Citadel Broadcasting	Disney (ABC Radio)	1,500.0	2,700.0	4.7x	13.5x	
				Mean	4.1x	14.9x	
<b>New Media</b>							
02/17/05	New York Times	About, Inc	410.0	410.0	10.0x	30.0x	
03/21/05	IAC	AskJeeves	1,850.0	1,850.0	5.8x	19.0x	
06/06/05	E.W.Scripps Co.	Shopzilla Inc.	525.0	525.0	4.0x	15.9x	
07/18/05	News Corp.	Intermix (MySpace.com)	580.0	571.0	6.4x	n/m	
3/6/2006	NBC Universal	iVillage Inc.	600.0	550.0	6.0x	32.4x	
3/15/2007	Cisco	WebEx	2,900.0	2,900.0	7.6	29.3	
				Mean	6.0x	22.7x	

(a) When Equity Value was not disclosed, Transaction Value was used

(b) Calculated as Value of Equity plus interest bearing liabilities and preferred stock, less cash & equivalents

(c) Values reflect closing figures. Converted at 1.1757 C\$ per US\$

(d) Transaction includes the divestiture of Emmis' TV portfolio to: Lin TV (\$260M), Journal Comm (\$235M), Gray (\$186M), Blackstone (\$259M)

It also includes estimated transaction value of \$410M for the final sale of 3 TV stations. This is predicted to occur sometime in 2005.

n/d Not Disclosed

n/m Not Meaningful

# **NEAR EARTH ANNOUNCEMENTS**

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**Near Earth LLC professionals will be at the following conferences. If you would like to schedule a meeting during one of these events, please email John Stone at [John@nearearthllc.com](mailto:John@nearearthllc.com)**

October 9                      ISCe Satellite Investment Symposium NYC '07, New York, NY  
October 10-11                SATCON 2007, New York, NY

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**Near Earth LLC runs an investment club called The Near Earth Investment Club and serves as the Club administrator/organizer as well as the primary sourcer and screener of investment opportunities. The Club periodically offers participations in primarily media, telecom and satellite industry-related, often uniquely structured, investments to its members. It is designed to provide active accredited investors with significant deal flow and issuers with access to "smart" and relatively "fast" capital.**

- Diverse pool of Satellite, Media and Telecom-related investment opportunities from seed capital rounds to late stage capital and from restructurings and distressed opportunities to private investments in public companies. Club investment opportunities come from a variety of sources including transactions Near Earth LLC is engaged to complete and opportunities Near Earth or Club members find through their extensive industry contacts.
- Investments are screened by Near Earth LLC professionals and sometimes by Advisory Board or Club members with highly relevant backgrounds, before being presented to the full Club for investment consideration.
- Low minimum investment amounts (typically \$25,000 - \$50,000).
- Each member makes his or her own independent investment decisions on each investment opportunity and holds and votes their own shares.
- Near Earth charges no fund management fees and does not take any percentage of the investment upside. However, Near Earth may charge a 2% sourcing fee in certain cases where it receives no other compensation from the transaction. In no cases, will investors be charged a fee without notification in advance of making an investment decision.

**If you would like to be considered for membership in this fund, please contact Dan Ramsden at [dan@nearearthllc.com](mailto:dan@nearearthllc.com).**

# ABOUT NEAR EARTH LLC

Near Earth is a specialized Investment Bank which brings the highest quality senior level attention to companies in the greater commercial satellite/space, telecom, media, entertainment, and technology industries.

Near Earth provides a full range of capital raising, advisory and consulting services to companies and their Boards. We also provide financial advisory services, valuation, structuring, and due diligence support to private equity, hedge and distressed debt funds. Please contact us if you would like our assistance with a contemplated satellite, telecom or media investment or portfolio divestment.

## Featured Transaction

For more information about our current transactions or about Near Earth LLC, please visit our website at [www.nearearthllc.com](http://www.nearearthllc.com) or contact us at our location below:



**Publisher of**  
**WATCHES GRAND COMPLICATIONS**  
INTERNATIONAL

has been acquired by  
**MODERN LUXURY**  
MAGAZINES

Near Earth LLC acted as exclusive  
financial advisor to Tourbillon  
International

### Modern Luxury Media acquires Tourbillon International July 2007

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**Tourbillon International**  
is the preeminent publisher of annual magazines cataloging the world's finest wristwatches. The company's principal publications, *Watches International* and *Grand Complications*, have featured all the major luxury watch brands since 2003.



**Modern Luxury Media**  
is the largest publisher of luxury city-regional magazines in America, with 25 titles across 12 of the country's largest markets. The company has recently partnered with the media-focused private equity firm of Clarity Partners.



**Near Earth LLC**  
is a leading provider of investment banking and advisory services to companies and investors in the satellite, media and telecom industries.

**Near Earth** assisted Tourbillon in the identification of the buyer and advised in the negotiations and structuring leading to a successful transaction.

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