

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In re the Matter of )  
 )  
COMPLAINT OF SKY ANGEL U.S. LLC )  
 )  
Against Discovery Communications, LLC, *et al.* )  
for Violation of the Commission's Competitive )  
Access to Cable Programming Rules )  
 )  
 )  
 )

**FILED/ACCEPTED**  
**APR 14 2010**  
Docket No. 12-80  
Federal Communications Commission  
Office of the Secretary

**EMERGENCY REQUEST FOR IMMEDIATE GRANT OF PETITION**

Sky Angel U.S. LLC ("Sky Angel"), by its attorneys, asks for an immediate, emergency grant of its Emergency Petition for Temporary Standstill filed March 24, 2010 in the above-captioned proceeding ("Emergency Petition"). If the Commission does not grant the Emergency Petition, then Discovery Communications, LLC ("Discovery") will follow through with its threat to cut off all programming services to Sky Angel, causing irreparable harm to Sky Angel, its subscribers, and to Sky Angel's nascent provision of closed-system broadband video services on its first-of-a-kind nationwide Internet Protocol television service ("IPTV"). This Emergency Request is prompted by the patently defective "Opposition" to the Emergency Petition which Discovery filed on April 12, 2010, the sole purpose of which is to mislead the Commission into delaying action, and thus, irreparably harming Sky Angel. Although Discovery uses its Opposition to argue the purported merits of its case, its Answer to the Complaint, and production of documents and interrogatories, are due on April 21, 2010, and Sky Angel's reply is due fifteen days later. The record of this case will not be complete before the Commission until long after the April 22 termination deadline imposed by Discovery. Therefore, in this Emergency Request, Sky Angel will focus exclusively on the absolute necessity for the Commission to order an immediate Standstill.

**Sky Angel will succeed on the merits of this case.**

Discovery misleads the Commission when it says that distribution of programming by Sky Angel was “an experiment,”<sup>1</sup> that its IPTV system is an “anomalous distribution system”<sup>2</sup> or that Discovery “subsequently learned”<sup>3</sup> anything about Sky Angel’s distribution system that would give Discovery good grounds to terminate the Discovery-Sky Angel Affiliation Agreement now, well over four years before the Affiliation Agreement expires.

The Commission only needs to look at the first page of the Affiliation Agreement to confirm that Discovery expressly agreed and understood that Sky Angel would distribute Discovery Channels on its IPTV system.

Discovery conducted extensive due diligence into the Sky Angel IPTV system before it entered into the Affiliation Agreement. As established in Attachment 1 to this Emergency Request, in the months leading up to execution of the Affiliation Agreement, Discovery’s technical personnel carefully examined the Sky Angel IPTV system. Discovery sent an extremely detailed, four page technical questionnaire to Sky Angel soliciting exhaustive information about Sky Angel’s distribution system. Discovery’s senior management carefully considered whether to enter into the Affiliation Agreement with Sky Angel, negotiated the IPTV terms of the Affiliation Agreement, and executed it. Discovery even communicated with NeuLion, the provider of the technology underlying Sky Angel’s distribution system. In short, Discovery agreed to distribution on exactly the IPTV distribution system Sky Angel uses.

Discovery contends that it considered the Affiliation Agreement to be an “experiment.” It is beyond belief that Discovery entered into a six-year “experiment.” As Sky Angel already

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<sup>1</sup> Opposition, p. 4.

<sup>2</sup> Opposition, p. 2.

<sup>3</sup> *Ibid.*

showed, there was no understanding between Sky Angel and Discovery that the agreement was an “experiment.”<sup>4</sup> An “experiment” was not discussed between Discovery and Sky Angel.<sup>5</sup>

Discovery contends that it does not allow “mobile” access to its programming, a pretext for objecting to the fact that a Sky Angel customer could carry the proprietary set top box to different locations and access the service on a different television set. Discovery’s objection is nonsense. Discovery channels are available on smart phones and other mobile devices. For example, Discovery and Animal Planet are available on Sprint mobile phones, part of the *Sprint TV XTRA* package of mobile video channels.<sup>6</sup>

Moreover, in all likelihood, tens of thousands of truck and mobile home users have portable satellite television equipment and receive Discovery, and hundreds of other channels, from wherever they choose to park. Discovery’s objection to the “mobility” of the Sky Angel service is without basis – and that is before the discovery process is complete to establish what other distribution mechanisms are relevant.

Undoubtedly, cable customers and iPhone and Blackberry users remotely access Discovery channels from any location they choose using Slingbox,<sup>7</sup> which is portable and far less controlled than Sky Angel’s system.

It is essential to note that Sky Angel does not make video available over the Internet. As Discovery learned during its due diligence process in 2007 (*see* Attachment 1), Sky Angel offers a closed distribution system that encrypts the channels so they are completely inaccessible without Sky Angel’s propriety box, which is controlled remotely by Sky Angel and which is connected

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<sup>4</sup> See Emergency Petition and the Declaration of Thomas Scott, attached hereto (“Scott Declaration”).

<sup>5</sup> See Scott Declaration.

<sup>6</sup> See <http://www.mobitv.com/sprinttvxtraguide/index.html>

<sup>7</sup> See [http://www.slingbox.com/go/products?gclid=COKmqI\\_nhqECFVJc2godKjtWpA](http://www.slingbox.com/go/products?gclid=COKmqI_nhqECFVJc2godKjtWpA)

directly to a subscriber's television set. Sky Angel's distribution system has never been compromised. Discovery knows full well that Sky Angel does not make its channels accessible from the Internet.

**Lack of a standstill will cause irreparable harm.**

Termination of the Discovery programming is highly likely to cause irreparable harm to Sky Angel, severely damaging its business (as Discovery intends). As established in the Scott Declaration attached hereto, four of the ten most watched channels in the Sky Angel service are Discovery channels, and those channels are essential and irreplaceable to the family-oriented video service of Sky Angel. Loss of the Discovery channels for any reason would have a severe effect on Sky Angel's business.<sup>8</sup> The same effect would harm Sky Angel if announced by Sky Angel during the past few weeks. That is why Sky Angel has made good faith efforts to address Discovery's so-called concerns that Sky Angel's distribution became, without justification, "not satisfactory," and then was forced to seek intervention by the FCC.

On the other hand, there is no lawful reason why a temporary standstill would harm Discovery. Discovery does not dispute that Sky Angel has been paying the large subscriber fees required under the Affiliation Agreement. Instead, Discovery's claim to harm is:

Discovery stands to suffer significant harm in the form of damaged relationships and significant legal risks.<sup>9</sup>

Without further examination, including completion of discovery, the Commission could not even attempt to understand, let alone validate, this unsupported contention. As Attachment 1 clearly proves, Discovery, including its senior management, was entirely aware of Sky Angel's capabilities and distribution mechanism before entering into the Affiliation Agreement. As shown in the

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<sup>8</sup> See Scott Declaration.

<sup>9</sup> Opposition, p. 4.

Emergency Petition, as late as September 2009, only two months before Discovery became “uncomfortable” and unilaterally decided to terminate the Affiliation Agreement, Discovery was pressing Sky Angel to carry more Discovery Channels<sup>10</sup> (difficult to believe of a so-called “experiment” or “anomalous distribution system”). There has been no material change in the Sky Angel distribution system that Discovery approved of in 2007. It is telling that Discovery never offered any such justification about “harm” or “legal risks” until its Opposition. The Commission should not allow Discovery to crush Sky Angel based on such a flimsy claim.

**The Commission has the jurisdiction and authority to act.**

Discovery devotes much of its Opposition to unavailing legal and procedural arguments, no doubt hoping to run out the clock. For example, the Commission clearly has the legal authority, and decades of precedent, to stay the effectiveness of the Discovery threat of termination.<sup>11</sup> Ordering a standstill is based on that statutory authority and precedent.

Sky Angel is an MVPD under the Commission’s program access rules. Its service fits squarely within that definition.<sup>12</sup> Discovery’s attempts to draw analogies to different rules, with different standards, under the closed captioning rules or retransmission consent procedures are unavailing.<sup>13</sup>

Sky Angel’s Complaint is not statute limited. Less than 90 days have passed since Discovery delivered its threat. Discovery’s statute of limitations argument is silly.

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<sup>10</sup> Complaint, pp. 3-4 and Attachment C.

<sup>11</sup> See Emergency Petition, pp. 3-4.

<sup>12</sup> See 47 C.F.R. §76.1000(e) (“The term ‘multichannel video programming distributor’ means an entity engaged in the business of making available for purchase, by subscribers or customers, multiple channels of video programming.”) Sky Angel’s service certainly falls within that definition, and it also produces three channels of programming as part of its line-up.

<sup>13</sup> For the record, Sky Angel will be upgrading its system within the next few weeks to offer closed captioning on all of the channels it provides, including the Discovery channels and the three channels that Sky Angel produces.

**The Commission should act now.**

Finally, it should be noted that Discovery alleges:

While Discovery could have simply refrained from entering into an agreement with Sky Angel -- the path taken by most popular, satellite-delivered programmers with a national footprint -- it opted instead to experiment with Complainant's mode of distribution.<sup>14</sup>

This is a clear implication that Discovery is closely aligned with "satellite-delivered programmers with a national footprint," which it is. The reason that Discovery is subject to the program access rules is because of its affiliation with DirecTV. This statement explains much, including why Discovery is attacking Sky Angel. As a programmer, Discovery should be thrilled with Sky Angel, which distributes its channels in a highly family-friendly environment while paying the high fees that Discovery wants. Indeed, that is why just a few months ago Discovery pressured Sky Angel to carry more of its channels. Now, Discovery has admitted that it is influenced by distributors with a national footprint and, thus, wants to truncate competition from Sky Angel to support such national distribution, which is contrary to its own economic interests.

Failure to order a standstill now would crush Sky Angel while Discovery would be unharmed. At a minimum, the Commission should stay the effectiveness of Discovery's threatened termination until such time as the Commission can reach a decision based upon a complete record. That is likely to be a short period of time, far less than the more than two years that Discovery was happy and "comfortable" with the Affiliation Agreement.

As part of the April 1, 2010 status conference between Sky Angel and Discovery, called by the Commission's staff, the staff asked if Discovery would delay its April 22 termination threat. Earlier today, Discovery informed the Commission's staff that it "decided not to" extend its threatened deadline. It took Discovery 13 days to inform the FCC of its "decision," so it is

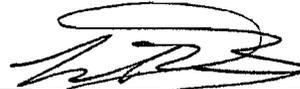
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<sup>14</sup> Opposition, p. 17.

clear that Discovery will not cooperate with the Commission's staff in substance or in timeliness. Therefore, Sky Angel urgently requests that the Commission immediately order a stay of the termination of the Affiliation Agreement until it can complete this proceeding.

Respectfully submitted,

SKY ANGEL U.S., LLC



Charles R. Naftalin  
Leighton T. Brown II  
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April 14, 2010

*Its Attorneys*

**Before the  
Federal Communications Commission  
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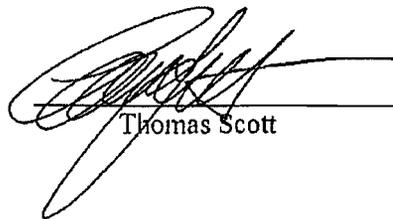
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DECLARATION OF THOMAS SCOTT

I, Thomas Scott, subject to the penalty of perjury, declare the following:

1. I am a citizen of the United States of America, more than 18 years of age, and I am competent to testify. I am employed by Sky Angel U.S. LLC ("Sky Angel") as its President, a position which I have held for approximately five years.
2. I was substantively involved in the negotiations between Sky Angel and Discovery Communications, LLC ("Discovery") in 2007 that led to the Affiliation Agreement between Sky Angel and Discovery. To the best of my knowledge and recollection, at no time was the Affiliation Agreement, which set a term of six years, discussed between Sky Angel and Discovery as an "experiment." During the first two years of operation under the Affiliation Agreement, Discovery never contacted Sky Angel in order to access the extent of any "experiment."
3. The loss of the Discovery channels to the Sky Angel service would be highly likely to cause irreparable harm to Sky Angel's business. The Discovery channels currently distributed by Sky Angel are four of Sky Angel's top-ten most watched channels. Sky Angel is an entirely family-friendly, family-oriented programming service. The Discovery channels are not replaceable for Sky Angel and loss of them would have severe effects on Sky Angel's business.
4. The foregoing is true and correct to the best of my knowledge, information and belief.

April 14, 2010

  
Thomas Scott

**Attachment 1**

**From:** Kathy Johnson  
**Sent:** Wednesday, August 15, 2007 2:10 PM  
**To:** 'Elisa\_Freeman@discovery.com'  
**Cc:** Greg\_Yavello@discovery.com  
**Subject:** RE: FW: Technical Questions

It was great meeting you too! Our VP of Engineering stated he talked to your engineer again on Monday and he indicated he had talked to Neulion and was satisfied with the technology, which was good news. I look forward to hearing from you shortly.

Kathy

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**From:** Elisa\_Freeman@discovery.com [mailto:Elisa\_Freeman@discovery.com]  
**Sent:** Wednesday, August 15, 2007 9:58 AM  
**To:** Kathy Johnson  
**Cc:** Greg\_Yavello@discovery.com  
**Subject:** RE: FW: Technical Questions

Hi Kathy,

It was great to finally meet you in person last week. We have gathered the ratings information for each channel and will send it along later this afternoon. I also have a meeting scheduled today with our senior management team regarding your technology to see whether we can move forward. I should be able to get back to you tomorrow.

Thanks for your patience.  
 Elisa

"Kathy Johnson"  
 <Kathy.Johnson@SkyAngel.com>

To <Elisa\_Freeman@discovery.com>

cc

08/02/2007 11:12 AM

Subject RE: FW: Technical Questions

I appreciate that but Ray has indicated that it may take a few days to answer them due to the fact that he also needs to consult with Neulion. We may want to put the Monday meeting then on hold until this part is cleared up. Let me know.

Kathy

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**From:** Elisa\_Freeman@discovery.com [mailto:Elisa\_Freeman@discovery.com]  
**Sent:** Thursday, August 02, 2007 11:08 AM

**To:** Kathy Johnson  
**Subject:** Re: FW: Technical Questions

Hi Kathy,

Charlie sent Ray our standard questions for new technologies. I am sure many of these questions are easily answerable when Ray and Charlie speak today. Our immediate concerns are signal security, signal quality and that all required information is passed through to the consumer (ie closed captioning). I will call Charlie and let you know if there are any issues.

thanks,  
Elisa

"Kathy Johnson" <Kathy.Johnson@SkyAngel.com>

08/02/2007 11:00 AM

To <Elisa\_Freeman@discovery.com>  
cc  
Subject FW: Technical Questions

Hi Elisa,

FYI, this is what Discovery's engineer sent our engineer. Obviously it isn't something that can be answered quickly and some of it is asking proprietary information that our partner, Neulion, may not want to disclose. We'll do what we can.

Thanks,  
Kathy

-----Original Message-----

From: Charles\_Myers@discovery.com [[mailto:Charles\\_Myers@discovery.com](mailto:Charles_Myers@discovery.com)]  
Sent: Wednesday, August 01, 2007 6:20 PM  
To: Raymond LaRue  
Subject: Technical Questions

Ray,

It was a pleasure to speak. Here are my immediate questions - its pretty detailed so I suggest we talk tomorrow morning. I have also attached our more detailed questionnaire as we may have the need to obtain more detailed information.

1. Service Overview

- a. Please provide an end to end system diagram documenting content flow from the reception point of Discovery services to the consumer's residence.
- b. Please provide any documentation with appropriate enumeration for referencing within your reply.
- c. What is the anticipated full deployment date of the service?
- d. What zip codes are covered by the initial service offering, and at full deployment?

## 2. Media Encoding

### a. Linear services

#### i. What is the proposed algorithm/standard for video encoding?

1. What profile?
2. What is the encoding video resolution?
3. What is the video encode bit rate?
4. Are these CBR, VBR or capped VBR?

#### ii. What is the proposed algorithm/standard for audio encoding?

1. Stereo services?
2. Multi-channel services?
3. What is the audio encode bit rate?
4. What sample rate is supported?
5. The number of bits implemented?

#### iii. What is the overall per-program A/V stream bit rate?

### b. Non-linear services

#### i. What is the proposed algorithm/standard for video encoding?

1. What profile?
2. What is the encoding video resolution?
3. What is the video encode bit rate?
4. Are these CBR, VBR or capped VBR?

#### ii. What is the proposed algorithm/standard for audio encoding?

1. Stereo services?
2. Multi-channel services?
3. What is the audio encode bit rate?
4. What sample rate is supported?
5. The number of bits implemented?

#### iii. What is the overall per-program A/V stream bit rate?

#### iv. Does this schema fall under a specific standard? For example, Cablelabs VOD 2.0?

## 3. Media Encoding Security

### a. Delivery from Discovery Origination Facility to Network Head end.

#### i. Please describe and characterize this portion of the end-to-end pathway.

#### ii. How is content decrypted and delivered into the distribution system?

1. For SD services please outline the entities proposed physical infrastructure from the Discovery US Networks point of demarcation to their service encoders.

2. For HD services please outline the entities proposed physical infrastructure from the Discovery US Networks point of demarcation to their service encoders.

#### iii. Please describe the encryption and physical security applied to facilities supporting content stream delivery from point of Discovery US Networks delivery demarcation point.

#### iv. Please describe the physical security applied to this portion of the network.

#### v. What tamper resistant mechanisms are employed to prevent signal theft?

#### vi. Please describe the pro-active theft monitoring activities performed by the network.

#### vii. Has the proposed system be audited and reviewed by an independent security firm?

1. If yes, then please disclose the firm and results, which will be held in highest confidence.

#### 4. In-Home Transport

##### a. Overview

- i. Please describe the mechanism of delivery of services to subscriber.
- ii. Please describe the service's A/V characteristics.
- iii. Please describe the supported delivery devices (i.e., STB, client software, etc.)
- iv. Please describe any features or restrictions placed upon in-home networking, including wireless networking.

#### 5. In-Home Transport Security

##### a. IP Stream Characteristics

- i. How is the A/V content encrypted?
  1. Linear content?
  2. Non-linear content?
- ii. How is DRM applied to content?
- iii. Please provide an overview of the DRM system being implemented.
- iv. How is A/V decryption keys delivered?
- v. Is A/V keys unique to a single program delivered to all subscriber portals? A single program to a single STB or player? A single STB or player for multiple programs?
- vi. How is the IP stream prevented from being re-routed?

##### b. Hardware STB

- i. Please provide front and rear panel photographs or drawings.
- ii. Please identify and characterize each type of analog output for both audio and video.
- iii. Please identify the types of Content Protection applied to analog outputs.
- iv. Are analog outputs standard definition or high definition, or both?
- v. Is CGMS-A added by the STB? Which line/lines?
- vi. Please describe the control mechanism of enabling analog output Content Protection.
- vii. Please identify and characterize each type of digital output.
- viii. Are digital outputs standard definition or high definition, or both?
- ix. Please identify types of Content Protection applied to digital outputs.
- x. Please describe the control mechanism of enabling digital output Content Protection.
- xi. Can any of the outputs be disabled from a centralized control point in the event that the content owner finds piracy from that output (in industry terms, Selectable Output Control)?
- xii. Please describe the content decryption approach taken within STB.
- xiii. Please describe the mechanism of key hiding or protection used within the STB.
- xiv. Is the STB equipped with PVR functionality?
- xv. How is premium content protected within the PVR functionality?
- xvi. Is the STB capable of session based watermarking?
  1. Please identify the watermarking technology used and the payload.
  2. Please describe the forensic marking process.
  3. Please describe the forensic marking detection and recovery process.
  4. Please describe the robustness of the watermark in terms of survivability to obscuration, video resolution reduction, or over

marking.

- xvii. How many IP network connections are supported per STB?
- xviii. Can the security system within the STB be renewed?
- xix. Does security system renewal require the permission of the subscriber?
- xx. What is the process by which renewal is invoked? Is it commanded from the head end or upon a notification followed by a request by the subscriber?
- xxi. Can the STB be revoked?
- xxii. How does the STB authenticate itself to the network?
- xxiii. How often does re-authentication occur?
- xxiv. Please provide a copy of the security robustness and compliance rules required of STB manufacturers.

c. Software Player

- i. Please identify and characterize the software environment and player supplier.
- ii. Please identify and characterize types of analog outputs.
- iii. Please identify the types of Content Protection applied to analog outputs.
- iv. Are analog outputs standard definition or high definition or both?
- v. Is CGMS-A added by the video output card? Which line/lines?
- vi. Please describe control mechanism of enabling analog output Content Protection.
- vii. Please identify and characterize types of digital outputs.
- viii. Are digital outputs standard definition or high definition or both?
- ix. Please identify types of Content Protection applied to digital outputs.
- x. Please describe the control mechanism of enabling digital output Content Protection.
- xi. Can any of the outputs be disabled from a centralized control point in the event that the content owner finds piracy from that output (in industry terms, Selectable Output Control)?
- xii. Please describe the content decryption approach taken within the player.
- xiii. Please describe the mechanism of key hiding or protection used within the player.
- xiv. Is the player permitted to have PVR functionality?
- xv. How is premium content protected within the PVR functionality?
- xvi. Is the player capable of session based watermarking?
  - 1. Please identify the watermarking technology used and payload.
  - 2. Please describe the forensic marking process.
  - 3. Please describe the forensic marking detection and recovery process.
  - 4. Please describe the robustness of the watermark in terms of survivability to obscuration, video resolution reduction, or over marking.
- xvii. How many IP network connections are supported per player?
- xviii. Can the player be renewed?
- xix. Does security system renewal require the permission of the subscriber?

(See attached file: Discovery IPTV Technology Review 02282007.doc)  
 Warmest Regards,

Charles J. Myers  
Director, Affiliate Technology and Standards

Media Technology, Production, and Operations  
Discovery Communications, LLC

Phone: 571-262-3259  
Fax: 571-262-3502

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**From:** Raymond LaRue  
**Sent:** Wednesday, March 31, 2010 1:08 PM  
**To:** Rob Johnson; Thomas Scott  
**Subject:** FW: Encryption of IPTV

**FYI:**

Raymond LaRue  
VP Broadcast Engineering  
Skyangel US, LLC  
3001 Keith Street NW Suite 150  
Cleveland, TN 37312  
423.303.7019

[www.skyangel.com](http://www.skyangel.com)

"We may be certain that whatever God has made prominent in His Word, He intends to be conspicuous in our lives"... CH Spurgeon

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**From:** Raymond LaRue  
**Sent:** Thursday, August 09, 2007 6:48 AM  
**To:** 'Charles\_Myers@discovery.com'  
**Cc:** Thomas Scott  
**Subject:** FW: Encryption of IPTV

Charles,  
We thought this would be helpful to you. If there are further questions please do not hesitate to call.  
Regards,  
Ray LaRue, VP Engineering  
Dominion Video Satellite, Inc. (Skyangel DBS/IPTV)

---

**From:** Her, Michael [mailto:Michael.Her@neulion.com]  
**Sent:** Wednesday, August 08, 2007 6:16 PM  
**To:** Thomas Scott  
**Subject:** RE: Encryption of IPTV

Hi Tom,

Our systems provide multiple protections to the content:

1. Each of the set-top boxes is IP addressable and unless the box has a valid account, it won't be able to access the content.
2. The content/signal is delivered to the set-top box with unicast and the streaming protocol is our proprietary protocol, so this is additional protection when the content is transmitted on the Internet.
3. Our set-top box doesn't have storage, so it doesn't have any contents being saved locally.
4. Most important is the content is encoded with our proprietary H.264 codec and it can only be decoded with our decoder. Even someone is pirating the signal; they won't be able to decode and watch it.

Please let me know if you have any other questions.

Thanks,  
Michael

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**From:** Thomas Scott [mailto:Thomas.Scott@SkyAngel.com]  
**Sent:** Wednesday, August 08, 2007 2:36 PM  
**To:** Her, Michael  
**Subject:** Encryption of IPTV

Michael: We are getting some questions from our programmers with reference to the security of their programming from pirating. There is now some internal discussion reference whether or not the signal is encrypted like DBS and than decoded by the set top box. Can you tell me if there is encryption and what keeps someone from pirating the signal? Thanks, Tom Scott

Tom Scott  
President/COO  
Sky Angel  
3050 N. Horseshoe Dr. Suite 290  
Naples, Fl 34120  
239-4039130 ext 202  
Fax:239-4039104

*"Now glory be to God! By His mighty power at work within us, He is able to accomplish infinitely more than we would ever dare to ask or hope." Ephesians 3:20 NLT*

=== Original message from Sherrod Munday to Tom Scott on 9/24/2007 === On Mon, 2007-09-24 at 11:29 -0400, Thomas Scott wrote:

> In preparation for this conference call, can you tell me every  
> instance, in traveling from us to the home, where our signal travels  
> on the Internet? Can you tell me the protection from interception in  
> place at each stage of travel? Thanks, Tom

Discovery Uplink (Satellite) -> Sky Angel satellite receiver @ Cleveland  
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Standard satellite encryption or scrambling -- whichever Discovery is currently utilizing on their backhaul.

Sky Angel satellite receiver -> IPTV Encoder @ Cleveland  
-----

Signal is contained entirely in-house on/through our internal video router before being fed directly to IPTV encoder.

IPTV encoder -> NeuLion facilities in NY and CA  
-----

Content is encoded using proprietary MPEG format (using a customized and modified H.264/MPEG4-AVC algorithm) and transported using IP to NeuLion's server farms via a completely private MPLS network. Content is \*not\* available to any other parties except those that we directly connect to our MPLS network.

NeuLion facilities in NY and CA -> Subscriber  
-----

Content is received into NeuLion's servers and prepared for transmission to subscribers. Servers do not feed content to any set-top box ("STB")

unless:

1. STB is authorized to see the channel listing in program guide

2. STB requests specific content by subscriber selecting appropriate channel
3. STB is currently authorized for service
  - a. STB must be active and current in NeuLion's database
  - b. STB must be authorized to receive this specific channel contained within overall package

Once STB is validated, servers at NeuLion feed the proprietary-format content via the Internet to the STB located at subscriber's location.

Content security and integrity is assured via:

1. Use of proprietary H.264/MPEG-AVC format
2. Client MAC address restriction (authorization) for STB
3. Two-way (Unicast) handshaking between server and client (STB) for data to continue flowing
4. Streaming protocol used to deliver Content is proprietary
5. The STB doesn't have any local storage so it cannot store or retransmit content digitally.

Once the content is received into the STB the content is decoded and delivered to the subscriber via the back-panel A/V jacks.

Please let me know if any of this is ambiguous or vague.

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Sherrod Munday Senior VP, Engineering Sky Angel U.S., LLC	<sherrod.munday@skyangel.com> (423) 303-7026 (W)
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**From:** Elisa\_Freeman@discovery.com [mailto:Elisa\_Freeman@discovery.com]

**Sent:** Wednesday, September 05, 2007 12:02 PM

**To:** Kathy Johnson

**Cc:** Raymond LaRue

**Subject:** Re: Engineering contact

Hi Kathy,

Here are our tech sheets for the channels that we discussed. Let me know if this works for your engineer.

Thanks,

Elisa

3/31/2010

"Kathy Johnson"  
<Kathy.Johnson@SkyAngel.com>

To <Elisa\_Freeman@discovery.com>

cc "Raymond LaRue" <Raymond.LaRue@SkyAngel.com>

09/04/2007 04:04 PM

Subject: Engineering contact

Hi Elisa,

Can we have an engineering contact for all the Discovery channels so our engineer can start planning to take in the channels?

Thanks,  
Kathy

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3/31/2010



## Discovery Channel Technical Information

SATELLITE	AMC-10 (East & West feed)
TRANSPONDER	14 (East & West feed)
ENCRYPTION	DigiCipher II (East & West feed) Virtual Channel Table: 67 Virtual Channel Number: 606 (East feed) Virtual Channel Number: 602 (West feed)
DOWNLINK FREQUENCY	3980 MHz 1170MHz L-Band (East feed) 3980 MHz 1170MHz L-Band (West feed)
TRANSPONDER POSITION	Horizontal (East & West Feed)
ORBITAL LOCATION	135 W (East & West Feed)
LOCAL AVAIL	2 Minutes/Hour Two 1 minute breaks float in the hour.
LOCAL AVAIL ON/OFF	826*/826#
TONES	R2 audio channel (East & West feed)
PRE-ROLL	8 SECONDS

( On a DigiCipher II, local avails can be connected through the (R2) right 2 audio output to your ad insertion equipment. For further instructions, see Operator's Guide.)

**Discovery Channel Scrambling Hotline Telephone Number: 240.662.7508**

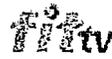
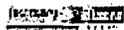


## Animal Planet Technical Information

SATELLITE:	AMC-10
TRANSPONDER:	14
ENCRYPTION	DigiCipher II Virtual Channel Table: 67 Virtual Channel #: 603 (east feed) Virtual Channel #: 601 (west feed)
DOWNLINK FREQUENCY	3980 MHz
L-BAND FREQ:	1170 MHz
TRANSPONDER POSITION	Horizontal
ORBITAL LOCATION	135 W
LOCAL AVAILS	3 Minutes/Hour Three 1 minute breaks float in the hour
Local Avail tones:	047* Start 047# Stop
TONES	L2 audio channel
PRE-ROLL	8 seconds

(On a DigiCipher II, Local Avails can be connected through the (R2) Right 2 Audio output to your ad insertion equipment. For further instructions, see Operator's Guide).

**Animal Planet Scrambling Hotline Telephone Number: 240.662.7508**



# BBC AMERICA

## Discovery Networks Technical Information On Satellite AMC-11

### Satellite Information

Satellite: AMC- 11  
 Transponder: 22  
 Polarization: Horizontal  
 Downlink Freq: 4140 MHz  
 L-Band Freq.: 1010 MHz  
 Virtual Channel Table #: 213

	<u>Virtual Channel #</u>	<u>Start Tone</u>	<u>End Tone</u>	<u>Local Ad Insertion</u> <u>Audio Channel</u>	<u>Avails/hr.</u>
Health	901	357*	357#	R2	3
Kids	902	263*	263#	R2	3
Science	903	397*	397#	R2	3
Home	904	418*	418#	R2	3
Discovery Times	905	198*	198#	R2	3
BBC America	906	257*	257#	R2	3
Military Channel	907	124*	124#	R2	3
Fit TV	908	414*	414#	R2	2
Espanol	909	234*	234#	R2	2

Method of Encryption: Motorola /DigiCipher II

### Audio:

Language: English  
 Channel: Stereo

Authorization Center Hotline Phone Number 240.662.7508

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**From:** Kathy Johnson  
**Sent:** Tuesday, July 31, 2007 12:38 PM  
**To:** 'Elisa\_Freeman@discovery.com'  
**Cc:** Greg\_Yavello@discovery.com; Charles\_Myers@discovery.com  
**Subject:** RE: New Media, NHL Deal & Major IPTV Transitions...

Thanks, will do.

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**From:** Elisa\_Freeman@discovery.com [mailto:Elisa\_Freeman@discovery.com]  
**Sent:** Tuesday, July 31, 2007 12:33 PM  
**To:** Kathy Johnson  
**Cc:** Greg\_Yavello@discovery.com; Charles\_Myers@discovery.com  
**Subject:** RE: New Media, NHL Deal & Major IPTV Transitions...

Hi Kathy,

Please have Ray call Charlie Myers to walk through the technology. His number is 571-262-3259.

Thanks,  
Elisa

"Kathy Johnson"  
<Kathy.Johnson@SkyAngel.com>

To <elisa\_freeman@discovery.com>, <greg\_yavello@discovery.c  
cc  
Subject: RE: New Media, NHL Deal & Major IPTV Transitions...

07/31/2007 12:23 PM

Hi Elisa and Greg,

Did you still need to talk to an engineer? I didn't get any contact information from you yet and I wanted to make sure you didn't need something.

Also, I did note that the e-newsletter below did have an entire article on Neulion's set top box and how it works; would that be the information you're looking for?

Thanks,  
Kathy

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**From:** Jennifer Powalski [mailto:jennifer.powalski@neulion.com]  
**Sent:** Monday, July 30, 2007 2:39 PM  
**To:** Nancy Christopher  
**Subject:** New Media, NHL Deal & Major IPTV Transitions...

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