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Attorneys for Plaintiff K Tech Telecommunications, Inc.

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

WESTERN DIVISION

K TECH TELECOMMUNICATIONS, INC., a Delaware corporation,

Plaintiff,

vs.

BLONDER TONGUE LABORATORIES, INC., a Delaware corporation; R.L. DRAKE HOLDINGS, LLC, a Delaware limited liability company; R.L. DRAKE, LLC, a Delaware limited liability company, RLD69, a Delaware limited liability company

Defendants.

Case No. CV12-05316 RGK (RZx)

SECOND AMENDED COMPLAINT INFRINGEMENT OF UNITED STATES PATENT NOS. 6,785,903; 7,487,533; 7,761,893; AND 7,984,469.

DEMAND FOR JURY TRIAL

1. Plaintiff K Tech Telecommunications, Inc. ("K Tech"), a Delaware corporation, for its complaint, and demanding trial by jury under Rule 38, Fed. R. Civ. P., and Local Rule 38-1, alleges that Defendants Blonder Tongue Laboratories, Inc. ("BT"), a Delaware corporation, R.L. Drake Holdings, LLC ("Drake"), a Delaware corporation, R.L. DRAKE, LLC ("Drake LLC"), a Delaware limited liability company, and RLD69, LLC ("RLD69"), a Delaware limited liability company, are infringing at least claim 24 of U.S. Patent 6,785,903 (the "'903

patent"); claim 13 of U.S. Patent 7,487,533 (the "'533 patent"); claims 1 and 9 of U.S. Patent 7,761,893 (the "'893 patent"); and claims 1, 5, 9, 12, and 15 of U.S. Patent 7,984,469 (the "'469 patent") (collectively "the K Tech patents"), by making, selling, and offering to sell, in this judicial district, systems for modifying a major channel number, a minor channel number, and/or a carrier frequency to identify a television program that infringe the K Tech patents.

2. This is a civil action for patent infringement and arises under, among other things, the United States Patent Laws, 35 U. S. C. section 10, et seq. Jurisdiction is therefore based upon 28 U. S. C. sections 1331 and 1338(a), providing for federal question jurisdiction of patent infringement actions and exclusive jurisdiction of patent infringement actions in the U. S. district courts.

3. Plaintiff K Tech is informed and believes, and thereon alleges, that venue in this court is proper under 28 U. S. C. section 1391 (c) and section 1400 (b) because the acts of patent infringement alleged herein took place, at least in part, within this judicial district.

4. Plaintiff K Tech is a Delaware corporation, and has its principal place of business in Chatsworth, California.

5. Defendant BT is a Delaware corporation, and has its principal place of business in Old Bridge, New Jersey. Defendant Drake is a Delaware limited liability company, and has its principal place of business in Franklin, Ohio. Defendant Drake LLC is a Delaware limited liability company. Defendant RLD69 is a Delaware limited liability company, and has its principal place of business in Waltham, Massachusetts.

6. On August 31, 2004, the U. S. Patent and Trademark Office duly and lawfully issued the '903 patent under the title *Digital Television Translator with PSIP Update*. A true and correct copy of the '903 patent is attached hereto as **Exhibit A**. On February 3, 2009, the U. S. Patent and Trademark Office duly and lawfully issued the '533 patent under the title *Digital Television Translator with*

PSIP Update. A true and correct copy of the '533 patent is attached hereto as **Exhibit B**. On July 20, 2010, the U.S. Patent and Trademark Office duly and lawfully issued the '893 patent under the title *Digital Television Translator with PSIP Update*. A true and correct copy of the '893 patent is attached hereto as **Exhibit C**. On July 19, 2011, the U.S. Patent and Trademark Office duly and lawfully issued the '469 patent under the title *Digital Television Translator with PSIP Update*. A true and correct copy of the '469 patent is attached hereto as **Exhibit D**.

7. BT has infringed the K Tech patents by making, selling, and offering to sell, in this judicial district, systems for modifying a major channel number, a minor channel number, and/or a carrier frequency to identify a television program covered by one or more of the claims in the K Tech patents in this judicial district and elsewhere in the United States. Specifically, BT's manufacture and sale, in this judicial district and elsewhere in the United States, of its DQMx-01, DQMx-02, DQMx-03, DQMx-04, DQMx-10, DQMx-11, DQMx-12, DQMx-13, DQMx-20, DQMx-21, DQMx-22, DQMx-30, DQMx-31, DQMx-40, and MUX-2D-QAM products ("the BT products") infringe one or more claims of the K Tech patents.

8. Drake has infringed the K Tech patents by making, selling, and offering to sell, in this judicial district, systems for modifying a major channel number, a minor channel number, and/or a carrier frequency to identify a television program covered by one or more of the claims in the K Tech patents in this judicial district and elsewhere in the United States. Specifically, Drake's manufacture and sale, in this judicial district and elsewhere in the United States, of its MQM6000L, MQM10000, DQT1000, and MEQ1000 products ("the Drake products") infringe one or more claims of the K Tech patents.

9. Drake LLC has infringed the K Tech patents by making, selling, and offering to sell, in this judicial district, systems for modifying a major channel number, a minor channel number, and/or a carrier frequency to identify a television

program covered by one or more of the claims in the K Tech patents in this judicial district and elsewhere in the United States. Specifically, Drake's manufacture and sale, in this judicial district and elsewhere in the United States, of its MQM6000L, MQM10000, DQT1000, and MEQ1000 products ("the Drake products") infringe one or more claims of the K Tech patents.

10. RLD69 has infringed the K Tech patents by making, selling, and offering to sell, in this judicial district, systems for modifying a major channel number, a minor channel number, and/or a carrier frequency to identify a television program covered by one or more of the claims in the K Tech patents in this judicial district and elsewhere in the United States. Specifically, RLD69's manufacture and sale, in this judicial district and elsewhere in the United States, of its MQM6000L, MQM10000, DQT1000, and MEQ1000 products ("the Drake products") infringe one or more claims of the K Tech patents.

11. The United States Congress mandated that June 12, 2009 would be the last day for full-power television stations in the U.S. to broadcast with analog signals. Since June 12, 2009, full-power television stations, such as CBS, ABC, NBC and FOX television networks, can only transmit digital television signals. Digital television signals carry multiple television programs over each, individual signal. Full-power television stations, such as CBS, ABC, NBC and FOX television networks, identify the individual television programs carried over a single digital television signal transmitted over the air using a major channel number, a minor channel number, and/or a carrier frequency. Under FCC rules, all digital television signals in the U.S. must follow ATSC specifications. These specifications require that a digital television signal be transmitted over-the-air and follow Program System Information Protocol ("PSIP") specifications. The PSIP specifications redefine a television program contained in the signal to be identified in a table called the Virtual Channel Table ("VCT") with a major channel number, a minor channel number, and a carrier frequency. The K Tech patents identify systems and methods

for modifying a major channel number, a minor channel number, and/or a carrier frequency to identify a television program. The BT products, the Drake products, and the Drake LLC products include the elements of the claims in the K Tech patents, and therefore infringe the K Tech patents. On information and belief, this infringement will continue unless enjoined by this court.

12. According to BT's website (http:// http://www.blondertongue.com/shop-by-department/digital-catv/multiplexers/), the BT products are capable of automatically re-mapping minor channel numbers, meaning that the unit modifies the minor channel number of the PSIP table, as claimed by the K Tech patents. The MUX-2D-QAM model is also capable of "PSIP re-assignment," meaning that the PSIP table is updated, as claimed by the K Tech patents. A print-out of the BT products is attached hereto as **Exhibit E.**

13. According to Drake's website (http:// http://www.rldrake.com/catv-digital.php), the MQM6000L unit takes in a digital transport stream through ASI input, multiplexes the digital television signal contained in the digital transport stream, and generates a QAM modulated RF signal, as claimed by the K Tech patents. The MQM1000 and DQT1000 units take in ATSC digital television transport streams as inputs, and the inputs are processed and multiplexed. The resulting signal is modulated into QAM and converted to an RF output, and the unit supports ATSC PSIP and performs the "major channel number pass through or remarkable is selectable when multiplexing," as claimed by the K Tech patents. The MEQ1000 unit can accept any two modules of ASI digital transport stream signals or RF ATSC over-the-air digital television signal inputs, multiplexing the digital television signal contained in the digital transport stream, and generating a QAM modulated RF signal, as claimed by the K Tech patents. The MEQ1000 can also process PSIP information from such sources and re-write tables containing combined PSIP information, and can be set to generate MGT and VCT tables, as

claimed by the K Tech patents. Descriptions of the Drake products from Drake's website are attached hereto as **Exhibit F.**

14. On information and belief, until at least February 2012, Drake LLC was making, selling, offering to sell the products listed in paragraph 9.

15. On information and belief, until at least February 2012, RLD69 was making, selling, offering to sell the products listed in paragraph 10.

16. The BT, Drake, Drake LLC, and RLD69 products identified above perform the functions as identified below. As claimed in the '903 patent:

> Claim 24: A method of translating a digital television signal, comprising the steps of: receiving a first digital television signal and generating a digital transport stream from the first digital television signal, the digital transport stream including original PSIP data having RX channel data; updating the original PSIP data in the digital transport stream by replacing the RX channel data with TX channel data; and converting the digital transport stream having the updated PSIP data into a second digital television signal, wherein the RX channel data is associated with the first digital television signal and includes at least one of a major channel number, a minor channel number, and a carrier frequency, and the TX channel data is associated with the second digital television signal and includes at least one of an updated major channel number, an updated minor channel number, and an updated carrier frequency;

As claimed in the '533 patent:

> Claim 19: A system for translating, comprising a demultiplexor, the demultiplexor separating a first program information table from video data and audio data contained in a first digital transport stream, the first program information table containing one or more attributes for a virtual channel of a digital television signal carried in the first digital transport stream; a program information update unit, the program information update unit replacing the first program information table with a second program information table, the second program information table including one or more new attributes for the virtual channel of the digital television signal carried in the first digital transport stream; a multiplexor, the multiplexor

combining the second program information table with the separated video and audio data to form a second digital transport stream.

As claimed in the '893 patent:

Claim 1: A program information update module, comprising: a demultiplexor, the demultiplexor separating a first program information table from video data and audio data contained in a first digital transport stream, the first program information table containing one or more attributes for a virtual channel of a digital television signal carried in the first digital transport stream; a program information update unit, the program information update unit modifying the first program information table to form a second program information table, the second program information table including one or more new attributes for the virtual channel of the digital television signal carried in the first digital transport stream; and a multiplexor, the multiplexor combining the second program information table with the separated video and audio data to form a second digital transport stream, wherein the second digital transport stream contains the one or more updated attributes for the virtual channel.

As claimed in the '469 patent:

Claim 5: A method of translating, comprising: receiving an ATSC digital television signal over cable; converting the ATSC digital television signal into a first digital transport stream, the first digital transport stream containing video and audio data of a program and a program information table, the program information table having a major channel number and a minor channel number; generating a new program information table containing a new channel number, the new channel number identifying the program represented by the major channel number and the minor channel number; and combining the video and audio data with the new program information table.

The units produced and sold by BT, Drake, Drake LLC, and RLD69, as identified above, perform the methods claimed in as claimed in the K Tech

patents, e.g. to modify PSIP tables, as indicated on their product brochures and their web sites.

14. According to a February 2, 2012 press release, BT completed the acquisition of "substantially all of the assets" of Drake in February 2012. A copy of that press release is attached hereto as **Exhibit G.**

15. BT's, Drake's, Drake LLC's and RLD69's infringement of the K Tech patents has damaged K Tech in an unknown amount. These damages continue to grow as BT's, Drake's, Drake LLC's, and RLD69's infringement continues. Under Section 284 of Title 35 of the United States Code, K Tech seeks damages adequate to compensate for this infringement in an amount no less than a reasonable royalty, together with interest and costs affixed by the Court.

16. BT's, Drake's, Drake LLC's, and RLD69's continuing infringement of the K Tech patents has caused and continues to cause irreparable harm to K Tech, including impairing the value of the K Tech patents in an amount yet to be determined. Pursuant to Section 283 of Title 35 of the United States Code, K Tech seeks a preliminary and a permanent injunction against further infringement of the K Tech patents.

PRAYER FOR RELIEF

WHEREFORE, K Tech prays for the following relief from this court against Defendants BT, Drake, and Drake LLC:

1. An order, pursuant to 35 U.S.C. Sections 154(d) and 271, declaring that BT, Drake, and Drake LLC have infringed one or more claims of the K Tech patents;

2. A preliminary and a permanent injunction against BT, Drake, Drake LLC, and RLD69 prohibiting BT, Drake, Drake LLC and RLD69 from further infringement of the K Tech patents;

3. An award of the actual damages K Tech has suffered by reason of the infringement charged in this Complaint, in an amount not less than a reasonable

royalty on BT, Drake, Drake LLC's and RLD69's sales of the products charged with infringing the K Tech patents;

4. An award to Plaintiff K Tech of its costs of suit herein; and

5. Such other and further relief as the Court may deem just and proper.

November 27 PK

Dated: October 29, 2012

Respectfully submitted,

WAGNER, ANDERSON & BRIGHT, PC

By: _____
Patrick F. Bright

Attorneys for Plaintiff

K TECH TELECOMMUNICATIONS, INC.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, and Local Rule 38-1, Plaintiff K Tech does hereby demand trial by jury against all Defendants on each and every issue and claim as to which it is entitled to trial by jury under Rule 38(a) of the Federal Rules of Civil Procedure.

Nov 27 PFB

Dated: October 29, 2012

Respectfully submitted,

WAGNER, ANDERSON & BRIGHT, PC

By: Patrick F. Bright

Patrick F. Bright

Attorneys for Plaintiff

K TECH TELECOMMUNICATIONS, INC.

EXHIBIT A

US006785903B1

(12) **United States Patent**
Kuh

(10) **Patent No.: US 6,785,903 B1**
(45) **Date of Patent: Aug. 31, 2004**

(54) **DIGITAL TELEVISION TRANSLATOR WITH PSIP UPDATE**

(75) Inventor: **Steve Kuh**, Northridge, CA (US)

(73) Assignee: **K Tech Telecommunications, Inc.**, Chatsworth, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/545,613**

(22) Filed: **Apr. 5, 2000**

(51) **Int. Cl.**[7] **H04N 5/58**

(52) **U.S. Cl.** **725/50**; 725/132; 725/118; 725/127; 725/148; 725/149; 725/152; 370/486

(58) **Field of Search** 725/50, 132, 142, 725/152, 118, 199, 120, 127, 128, 148; 370/486

(56) **References Cited**

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5,852,612	A	12/1998	Kostreski et al.	370/537
5,884,181	A	3/1999	Arnold et al.	455/450
5,978,650	A	11/1999	Fischer et al.	455/3.1
6,233,255	B1 *	5/2001	Kato et al.	370/486
6,249,320	B1 *	6/2001	Schneidewend et al.	348/569
6,313,886	B1 *	11/2001	Sugiyama	348/731
6,400,415	B1 *	6/2002	Danielsons	348/608
6,414,720	B1 *	7/2002	Trukidate et al.	348/469
2001/0009556	A1 *	7/2001	Kato et al.	370/486
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(List continued on next page.)

Primary Examiner—John Miller
Assistant Examiner—Nathan A Sloan
(74) *Attorney, Agent, or Firm*—Morgan, Lewis & Bockius LLP

(57) **ABSTRACT**

A digital television translator includes a digital television receiver for receiving a first digital television signal at a first frequency and generating a digital transport stream from the first digital television signal. The digital transport stream can include original Program and System Information (PSIP) data having RX channel data that is indicative of the first frequency, the first major channel number, and/or the first minor channel number. The digital television translator also includes a PSIP update module for updating the original PSIP data in the digital transport stream by replacing the RX channel data with TX channel data. The TX data is indicative of a second frequency, a second major channel number, and/or a second minor channel number. The digital television translator further includes a digital television modulator for converting the digital transport stream having the updated PSIP data into a second digital television signal at the second frequency, where the second frequency can be the same or different from the first frequency.

58 Claims, 4 Drawing Sheets

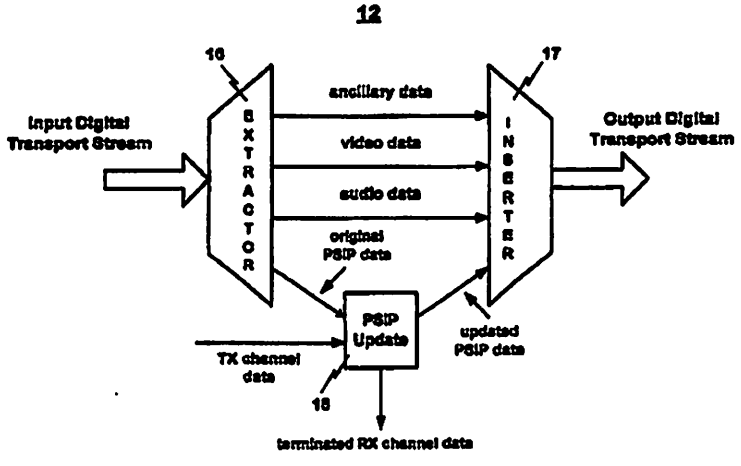

EXHIBIT B

US007487533B2

(12) **United States Patent**
Kuh

(10) **Patent No.: US 7,487,533 B2**
(45) **Date of Patent: Feb. 3, 2009**

(54) **DIGITAL TELEVISION TRANSLATOR WITH PSIP UPDATE**

(75) Inventor: **Steve Kuh**, Northridge, CA (US)

(73) Assignee: **K Tech Telecommunications, Inc.**, Chatsworth, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 938 days.

(21) Appl. No.: **10/890,210**

(22) Filed: **Jul. 14, 2004**

(65) **Prior Publication Data**

US 2004/0261117 A1 Dec. 23, 2004

Related U.S. Application Data

(63) Continuation of application No. 09/545,613, filed on Apr. 5, 2000, now Pat. No. 6,785,903.

(51) **Int. Cl.**
H04N 7/173 (2006.01)

(52) **U.S. Cl.** **725/116**; 725/114; 725/115; 725/117; 725/118

(58) **Field of Classification Search** 725/114–118
See application file for complete search history.

(56) **References Cited**

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5,884,181	A	3/1999	Arnold et al.	455/450
5,978,650	A	11/1999	Fischer et al.	455/3.1
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6,400,415	B1	6/2002	Danielsons	348/608
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2002/0145679	A1 *	10/2002	Barreyro et al.	348/723

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(Continued)

Primary Examiner—Hunter B. Lonsberry
(74) *Attorney, Agent, or Firm*—Morgan, Lewis & Bockius LLP

(57) **ABSTRACT**

A digital television translator includes a digital television receiver for receiving a first digital television signal at a first frequency and generating a digital transport stream from the first digital television signal. The digital transport stream can include original Program and System Information (PSIP) data having RX channel data that is indicative of the first frequency, the first major channel number, and/or the first minor channel number. The digital television translator also includes a PSIP update module for updating the original PSIP data in the digital transport stream by replacing the RX channel data with TX channel data. The TX data is indicative of a second frequency, a second major channel number, and/or a second minor channel number. The digital television translator further includes a digital television modulator for converting the digital transport stream having the updated PSIP data into a second digital television signal at the second frequency, where the second frequency can be the same or different from the first frequency.

38 Claims, 4 Drawing Sheets

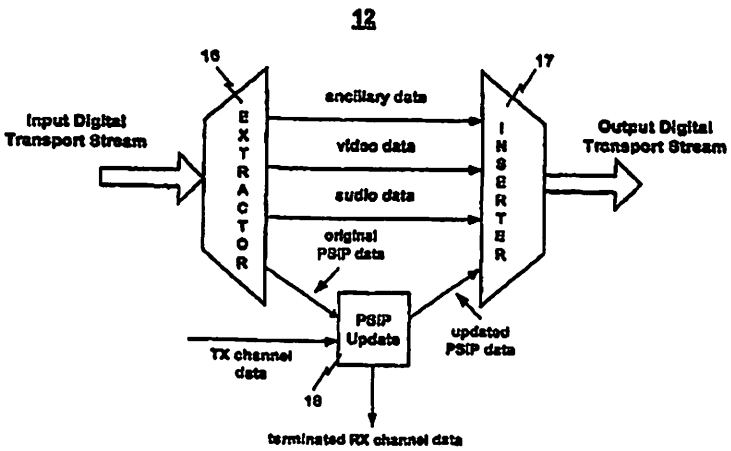

EXHIBIT C

US007761893B2

(12) **United States Patent**
Kuh

(10) **Patent No.: US 7,761,893 B2**
(45) **Date of Patent: Jul. 20, 2010**

(54) **DIGITAL TELEVISION TRANSLATOR WITH PSIP UPDATE**

(75) Inventor: **Steve Kuh**, Chatsworth, CA (US)

(73) Assignee: **KTech Telecommunications, Inc.**, Chatsworth, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **12/314,078**

(22) Filed: **Dec. 3, 2008**

(65) **Prior Publication Data**

US 2009/0187959 A1 Jul. 23, 2009

Related U.S. Application Data

(63) Continuation of application No. 10/890,210, filed on Jul. 14, 2004, now Pat. No. 7,487,533, which is a continuation of application No. 09/545,613, filed on Apr. 5, 2000, now Pat. No. 6,785,903.

(51) **Int. Cl.**

H04N 5/445	(2006.01)
H04N 7/16	(2006.01)
G06F 3/00	(2006.01)
G06F 13/00	(2006.01)

(52) **U.S. Cl.** 725/50; 725/115; 725/116

(58) **Field of Classification Search** 725/50, 725/114–118

See application file for complete search history.

(56) **References Cited**

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5,978,650 A	11/1999	Fischer et al.	
6,233,255 B1	5/2001	Kato et al.	
6,249,320 B1	6/2001	Schneidewend et al.	
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(Continued)

Primary Examiner—Hunter B. Lonsberry
(74) *Attorney, Agent, or Firm*—Morgan, Lewis & Bockius LLP

(57) **ABSTRACT**

A digital television translator includes a digital television receiver for receiving a first digital television signal at a first frequency and generating a digital transport stream from the first digital television signal. The digital transport stream can include original Program and System Information (PSIP) data having RX channel data that is indicative of the first frequency, the first major channel number, and/or the first minor channel number. The digital television translator also includes a PSIP update module for updating the original PSIP data in the digital transport stream by replacing the RX channel data with TX channel data. The TX data is indicative of a second frequency, a second major channel number, and/or a second minor channel number. The digital television translator further includes a digital television modulator for converting the digital transport stream having the updated PSIP data into a second digital television signal at the second frequency, where the second frequency can be the same or different from the first frequency.

15 Claims, 4 Drawing Sheets

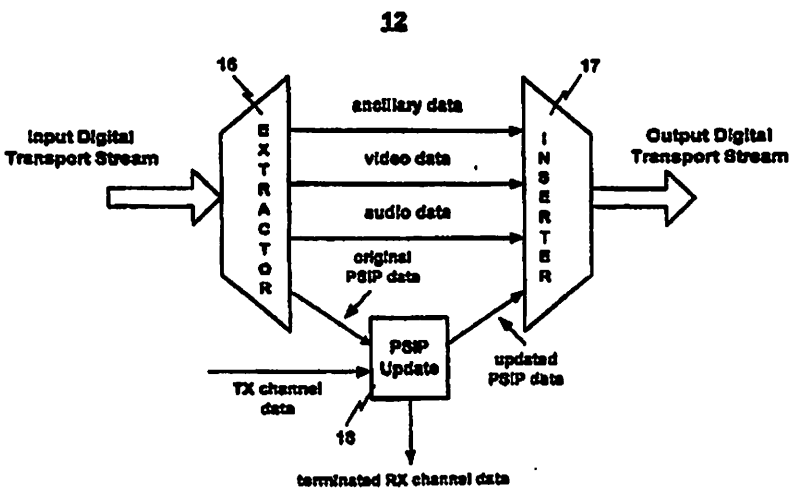

EXHIBIT D

US007984469B2

(12) **United States Patent**
Kuh

(10) **Patent No.: US 7,984,469 B2**
(45) **Date of Patent: Jul. 19, 2011**

(54) **DIGITAL TELEVISION TRANSLATOR WITH PSIP UPDATE**

(75) Inventor: **Steve Kuh**, Northridge, CA (US)

(73) Assignee: **KTech Telecommunications, Inc.**, Chatsworth, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **12/777,108**

(22) Filed: **May 10, 2010**

(65) **Prior Publication Data**

US 2010/0218212 A1 Aug. 26, 2010

Related U.S. Application Data

(63) Continuation of application No. 12/314,078, filed on Dec. 3, 2008, now Pat. No. 7,761,893, which is a continuation of application No. 10/890,210, filed on Jul. 14, 2004, now Pat. No. 7,487,533, which is a continuation of application No. 09/545,613, filed on Apr. 5, 2000, now Pat. No. 6,785,903.

(51) **Int. Cl.**

H04N 5/445	(2006.01)
H04N 7/16	(2006.01)
G06F 13/00	(2006.01)
G06F 3/00	(2006.01)

(52) **U.S. Cl.** **725/50**; 725/115; 725/116

(58) **Field of Classification Search** 725/50, 725/114–118

See application file for complete search history.

(56) **References Cited**

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6,249,320	B1	6/2001	Schneidewend et al.	
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(Continued)

Primary Examiner — Hunter B Lonsberry

(74) *Attorney, Agent, or Firm* — Morgan, Lewis & Bockius LLP

(57) **ABSTRACT**

A digital television translator includes a digital television receiver for receiving a first digital television signal at a first frequency and generating a digital transport stream from the first digital television signal. The digital transport stream can include original Program and System Information (PSIP) data having RX channel data that is indicative of the first frequency, the first major channel number, and/or the first minor channel number. The digital television translator also includes a PSIP update module for updating the original PSIP data in the digital transport stream by replacing the RX channel data with TX channel data. The TX data is indicative of a second frequency, a second major channel number, and/or a second minor channel number. The digital television translator further includes a digital television modulator for converting the digital transport stream having the updated PSIP data into a second digital television signal at the second frequency, where the second frequency can be the same or different from the first frequency.

21 Claims, 4 Drawing Sheets

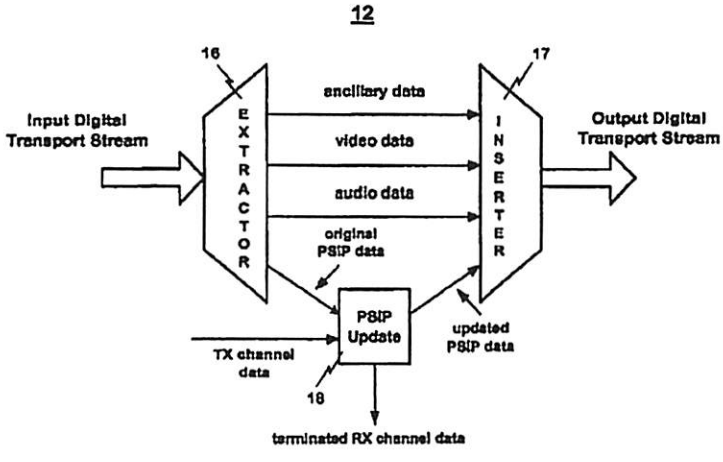

EXHIBIT E

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1 2

Digital QAM Multiplexer, 1 8VSB/QAM Input, +60 dBmV, 54-860 MHz Agile

Model # DQMx-01

DQMx (Digital QAM Multiplexer) accepts (1) 8VSB/QAM input and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 2 8VSB/QAM Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-02

DQMx (Digital QAM Multiplexer) accepts (2) 8VSB/QAM inputs and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 3 8VSB/QAM Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-03

DQMx (Digital QAM Multiplexer) accepts (3) 8VSB/QAM inputs and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 4 8VSB/QAM Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-04

DQMx (Digital QAM Multiplexer) accepts (4) 8VSB/QAM inputs and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 1 ASI Input, +60 dBmV, 54-860 MHz Agile

Model # DQMx-10

DQMx (Digital QAM Multiplexer) accepts (1) ASI input and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 1 ASI And 1 8VSB/QAM Inputs, 60 dBmV, 54-860 MHz Agile

Model # DQMx-11

DQMx (Digital QAM Multiplexer) accepts (1) ASI and (1) 8VSB/QAM input and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 1 ASI And 2 8VSB/QAM Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-12

DQMx (Digital QAM Multiplexer) accepts (1) ASI and (2) 8VSB/QAM inputs and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 1 ASI And 3 8VSB/QAM Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-13

DQMx (Digital QAM Multiplexer) accepts (1) ASI and (3) 8VSB/QAM inputs and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 2 ASI Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-20

DQMx (Digital QAM Multiplexer) accepts (2) ASI inputs and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 2 ASI And 1 8VSB/QAM Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-21

DQMx (Digital QAM Multiplexer) accepts (2) ASI and (1) 8VSB/QAM inputs and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 2 ASI And 2 8VSB/QAM Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-22

DQMx (Digital QAM Multiplexer) accepts (2) ASI and (2) 8VSB/QAM inputs and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 3 ASI Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-30

DQMx (Digital QAM Multiplexer) accepts (3) ASI inputs and delivers one output in QAM format in the 54-864 MHz range.

1 2

1-800-523-6049

Digital CATV
Modulators
Demodulators
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Digital QAM Multiplexer, 3 ASI And 1 8VSB/QAM Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-31

DQMx (Digital QAM Multiplexer) accepts (3) ASI and (1) 8VSB/QAM inputs and delivers one output in QAM format in the 54-864 MHz range.

Digital QAM Multiplexer, 4 ASI Inputs, +60 dBmV, 54-860 MHz Agile

Model # DQMx-40

DQMx (Digital QAM Multiplexer) accepts (4) ASI inputs and delivers one output in QAM format in the 54-864 MHz range.

ASI Input Module for DQMx

Model # DQMx-ASI

ASI Input Module for DQMx stock number 6259A

8VSB/QAM Input Module for DQMx

Model # DQMx-RF

8VSB/QAM Input Module for DQMx stock number 6259A

8VSB/QAM Multiplexer

Model # MUX-2D-QAM

The MUX-2D-QAM is designed to allow CATV operators to multiplex two digital channels received in either 8VSB or QAM format to a single QAM output channel for delivery over a standard coaxial distribution network.

12:1 ASI-to-IP Multiplexer

Model # MUX-12A-IP

MUX-12A-IP (12:4 ASI-to-IP Multiplexer; 12xASI > 4xIP) is designed for cherry-picking applications, allowing operators to create custom-made channel lineups by grooming standard-definition (SD) and high-definition (HD) programs on an as-needed basis. The multiplexer accepts up to twelve (12) unencrypted MPEG-2/H.264 inputs in ASI format and multiplexes them into up to four (4) MPEG-2/H.264 Multi-Program Transport Streams (MPTS) which are then encapsulated and assigned to up to four (4) IPv4 addresses in 1000Base-T Ethernet (GigE) format suitable for distribution over Cat-5 networks.

ASI Multiplexer

Model # MUX-2A-QAM

The MUX-2A-QAM is designed to allow CATV operators to multiplex two input sources in ASI format to a single QAM output channel for delivery over a standard coaxial distribution network.

1-800-523-6049

EXHIBIT F

MQM6000L Multiplexing QAM Modulator

MQM6000L Multiplexing QAM Modulator with built-in Agile Upconverter

The R.L. Drake model MQM6000L is a professional quality, digital headend modulator that accepts one to six single or multiprogram transport streams via six BNC, Asynchronous Serial Input (ASI) connectors. When six streams are input, the MQM6000L then multiplexes one program from each input and applies the result to the QAM modulator and up converter for output onto any desired CATV or off-air output channel between 54 and 1002 MHz. A program filter is provided to allow selection of the desired program from each input stream. Other programs in the incoming streams are dropped.

Front panel display and buttons allow easy setup and monitoring of operating mode and parameters.

+40 dBmV output, QAM modulator and very low phase noise agile upconverter are built in.

Output is agile on CATV or broadcast channels from 54 to 1002 MHz.

Six ASI Inputs.

TS Multiplexer for MPEG2 transport streams. Programs may be MPEG2 or H.264.

ATSC PSIP is supported.

MPEG program and minor channel number offsetting when multiplexing.

Major channel number pass through or remarking is selectable when multiplexing.

Rewriting of the MPEG tables is provided when two input streams are multiplexed.

PCR correction is performed when necessary.

RS232 remote control and monitoring capability with the included Drake Digital Headend Control Software.

High MER output signal quality.

1U tall package with internal power supply conserves rack space.

Manufactured in the USA.

Download the owners manual (PDF)

Drake Digital MQM6000L Technical Specifications
ASI Inputs

Drake Digital MQM6000L Technical Specifications	
Inputs:	Six Asynchronous Serial Inputs (ASI). 270 Mbps ASI clock rate with maximum transport stream of 40 Mbps at each imput. MPTS or SPTS
QAM Modulator	
Modulation Modes:	16QAM, 32QAM, 64QAM, 128QAM, 256QAM,512QAM or 1024QAM. Refer to manual for available combinations of QAM modes and FECs.
Symbol Rate:	1 Ms/s to 7 Ms/s.
Forward Error Correction (FEC):	ITU-A (DVB) or ITU-B (DigiCipher® II).
I/Q Phase Error:	Less than 1 degree.
Carrier Suppression:	45 dB.
Channel Amplitude Error:	Less than 1dB.
MER:	Greater than 38 dB with blind equalizer.
Null Packet Processing	
	Fixed output clock mode.
Upconverter RF Output	
Output Frequency Range:	54 MHz to 1002 MHz.
Channel Plan:	Standard CATV, HRC, IRC or Broadcast.
Frequency Stability:	±5 ppm.
Maximum Output Level:	+40 dBmV minimum, adjustable downward.
Output Level Accuracy:	±1 dB.
Output Impedance:	75 Ohms with return loss better than 14 dB (within output filter passband).
Spurious Outputs:	-60 dBc from 40 MHz to 1000 MHz.
Broadband Noise:	-75 dBc
Phase Noise:	-101 dBc @ 10 kHz offset.
RS232 Control	
Data Link:	2400, 4800, 9600, or 19,200 baud interface via serial cable.
RS232 Input:	DB9 connector for connection to modem, PC, or Drake *SCTeci* ethernet controller.
RS232 Output:	DB9 connector for connection to additional units.
General	
Power:	90-132 VAC, 60 Hz, 15 W maximum
Weight:	7 lbs. (3.2 Kg.)
Size:	19" (48.3 cm) W x 1.75" (4.45 cm) H x 11.5" (29.2 cm) D
Operating Temperature:	0° C (32° F) to 50° C (122° F)

Specifications, price, and availability are subject to change without notice or obligation.

MQM1000 Multiplexing QAM Modulator

MQM1000 Multiplexing QAM Modulator with built-in Agile Upconverter

MQM1000 Multiplexing QAM Modulator

The R.L. Drake model MQM1000 is a professional quality, digital headend transcoder that accepts one or two MPEG2 digital inputs via two Asynchronous Serial Input (ASI) connectors. These signals must be ATSC compatible streams if multiplexing is to be performed and usually will have originated from a local TV broadcast station and may have been transported over fiber links to the MQM1000. After multiplexing and null packet management, the MQM1000 QAM modulates and up converts onto any desired CATV or off-air output channel between 54 and 1002 MHz. The MQM1000 can also operate as a non-multiplexing QAM modulator when a single ASI input is selected.

- Front panel display and buttons allow easy setup and monitoring of operating mode and parameters.
- High output, 61 dBmV, QAM modulator and very low phase noise agile upconverter are built in.
- Output is agile on CATV or broadcast channels from 54 to 1002 MHz.
- Dual ASI Inputs.
- TS Multiplexer for MPEG2 streams.
- Program filtering of both A and B input streams. User may select or drop any of the incoming programs.
- ATSC PSIP is supported.
- MPEG program and minor channel number offsetting when multiplexing.
- Major channel number pass through or remarking is selectable when multiplexing.
- Rewriting of the MPEG tables is provided when two input streams are multiplexed.
- PCR correction is performed when necessary.
- RS232 remote control and monitoring capability with the included Drake Digital Headend Control Software (v. 2.6 or later).
- High MER output signal quality.
- 1U tall package with internal power supply conserves rack space.
- Manufactured in the USA.

Download the owners manual (PDF)

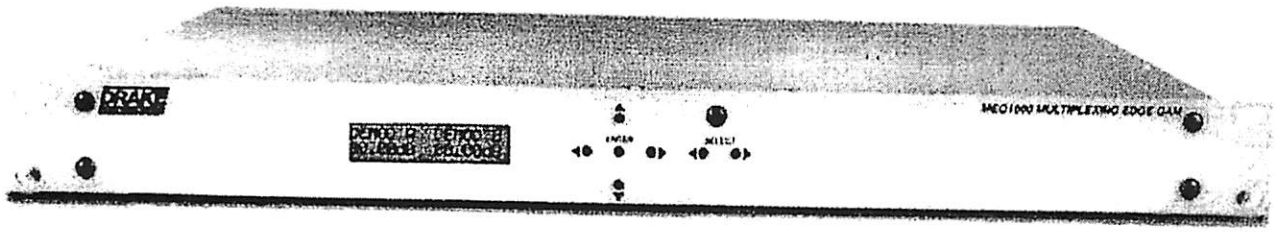
Drake Digital MQM1000 Technical Specifications

Drake Digital MQM1000 Technical Specifications	
ASI Inputs	
Inputs:	Two DVB Asynchronous Serial Inputs (ASI). 270 Mbps ASI clock rate with desired transport stream of 10.76 MS/s, ATSC, 19.37 Mbps.
QAM Modulator	
Modulation Modes:	16QAM, 32QAM, 64QAM, 128QAM, 256QAM,512QAM or 1024QAM. Refer to manual for available combinations of QAM modes and FECs.
Symbol Rate:	1 Ms/s to 7 Ms/s.
Forward Error Correction (FEC):	ITU-A (DVB) or ITU-B (DigiCipher® II).
I/Q Phase Error:	Less than 1 degree.
Carrier Suppression:	45 dB.
Channel Amplitude Error:	Less than 1dB.
MER:	Greater than 38 dB with blind equalizer.
Null Packet Processing	
	Available in the fixed output clock mode.
Analog EAS IF Input	
Operating Input Level:	+30 dBmV ±5 dB @ 45.75 MHz. 75 ohms.
Auto Switching Level:	+20 dBmV minimum.
Upconverter RF Output	
Output Frequency Range:	54 MHz to 1002 MHz.
Channel Plan:	Standard CATV, HRC, IRC or Broadcast.
Frequency Stability:	±5 ppm.
Maximum Output Level:	+61 dBmV minimum, adjustable downward.
Minimum Output Level:	+45 dBmV.
Output Level Accuracy:	±1 dB.
Output Impedance:	75 Ohms with return loss better than 14 dB (within output filter passband).
Spurious Outputs:	-60 dBc from 40 MHz to 1000 MHz.
Broadband Noise:	Less than -12 dBmV (6 MHz bandwidth @ ±12 MHz).
Phase Noise:	-101 dBc @ 10 kHz offset.
RS232 Control	
Data Link:	2400, 4800, 9600, or 19,200 baud interface via serial cable.
RS232 Input:	DB9 connector for connection to modem, PC, or Drake *SCTeci* ethernet controller.
RS232 Output:	DB9 connector for connection to additional units.
General	
Power:	90-132 VAC, 60 Hz, 40 W maximum
Weight:	7 lbs. (3.2 Kg.)
Size:	19" (48.3 cm) W x 1.75" (4.45 cm) H x 11.5" (29.2 cm) D
Operating Temperature:	0° C (32° F) to 50° C (122° F)

DRAKE

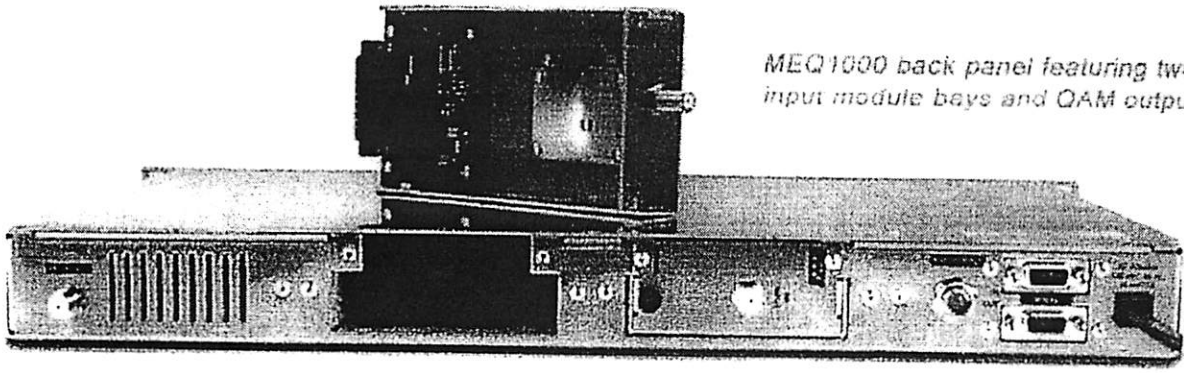
Drake Digital MEQ1000

Multiplexing Hybrid QAM Modulator



The Drake Digital MEQ1000 is the industry's first commercial-grade, multiplexing Hybrid QAM modulator. Ideal for applications where a single QAM output is required from each Hybrid QAM chassis, the MEQ1000 features a variety of plug-in input modules including an ATSC/QAM input tuner, an ASI input, an IP input (future release), and analog NTSC inputs, bringing an unprecedented level of flexibility to cable operators.

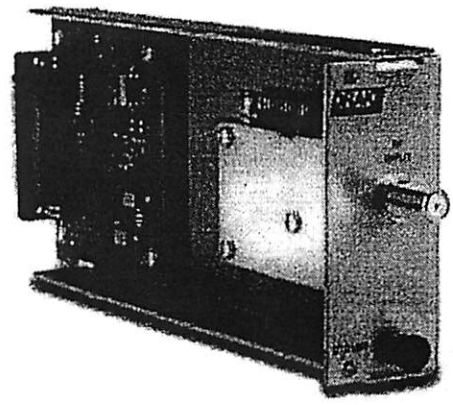
The MEQ1000 has bays for up to two input modules. The video content from both modules enters the main chassis where it is MPEG program filtered, multiplexed, and groomed. Any number of program streams may be sent to the QAM modulator or be exported via ASI Output.



MEQ1000 back panel featuring two input module bays and QAM output

Drake Digital DTD1000 Module and ASI II Module

The DTD1000 input module tunes any 8VSB or QAM channel between 54 and 1002 MHz, making it ideal for digital channel processing applications where a single digital video signal is received, error-corrected, clocked (at a user determined fixed rate) and re-modulated on the same or another RF channel.



The DTD1000 may be used to convert one off-air ATSC 8VSB signal to a QAM output with rate adjustment or, when used in the processor mode with only one input, the MEQ1000 can process ATSC or CATV QAM MPEG-2 inputs.

ASII ASI Input Module

The ASII module is for use in the MEQ1000. One module provides one DVB-ASI SPTS or MPTS input for the MEQ1000. One or two ASII modules may be used in a MEQ1000.

Drake Digital DTD1000 Module

Using the ASII module, programs may be input to the MEQ1000 where they will be program filtered, retimed, and multiplexed with programs from the other input module.

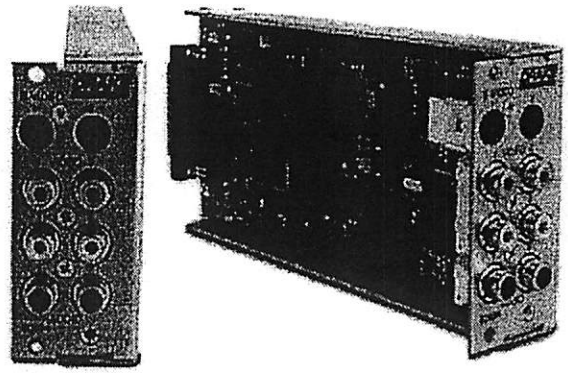
The ASII module can accept data rates up to 80 Mbps. Possible sources are satellite IRDs, output from a fiber link, encoders, terrestrial demodulators, video servers and other related equipment.

The ASII also provides an ASI output which provides a looped out copy of the ASI stream coming into the ASI input port of the same ASII module.

ASII ASI Input Module Specifications	
ASI input clock:	270 MHz
ASI input data rate:	Maximum of 80 Mbps
ASI output rate:	Identical to the ASI input stream

SDE24 Standard Definition Encoder Module

The SDE24 module can encode up to two input sources, source 1 and source 2 in real-time. The module may be configured to encode source 1 in either MPEG2 or MPEG4 (H.264) transport streams. Source 2 may be encoded in MPEG2 only. Thus each Encoder Module can output one MPEG2 stream, two MPEG2 streams, one MPEG4 stream, or one MPEG2 and one MPEG4 stream.



Each SDE24 module provides two sets of input connectors for NTSC composite or S-video with stereo audio. Audio is encoded using Dolby AC-3 encoding.

Download the owners manual (PDF)

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Blonder Tongue Buys R.L. Drake

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2/2/2012 1:24 PM ET

(RTTNews) - Blonder Tongue Laboratories, Inc. (BDR: News) said Thursday that it has completed the acquisition of the business of R.L. Drake, LLC.

Both companies are market leaders in the supply of CATV and Satellite signal processing and distribution equipment.

The acquisition was for the purchase of substantially all of the assets of R.L Drake for a purchase price of about $6.5 million, subject to certain adjustments based upon a post-closing audit of the balance sheet of R.L. Drake and additional contingent purchase price payments of up to $1.5 million in the aggregate that may be made over the next three years if certain financial results are realized. R.L. Drake's unaudited net sales for 2011 were about $10.0 million.

by RTT Staff Writer

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Core Molding Technologies Q4 Profit Rises
Noranda Aluminum Prices Public Secondary Offering Of 10 Mln Common Shares
Fitch Ratings Affirms Simon Property Group's IDR At 'A-'
Global Ship Lease Q4 Profit Rises
VOXX Intl Completes Acquisition Of Hirschmann Car Communication
International Shipholding Agrees To Sell Two Carriers For About $74 Mln.