

# The Spectrum

## Newsletter of the Rocky Mountain Chapter

September 2008

### Letter from the President

Rocky Mountain Colleagues,

The 2008 Rocky Mountain Symposium is upon us! The dates are September 16<sup>th</sup> and 17<sup>th</sup>. We always have a great Symposium - Cable Games and of course the Golf outing. We look forward to seeing you there. We had Brian Tritz of Comcast representing the Rocky Mountain Region in the Cable -Tec games recently in Philadelphia. Brian placed 9<sup>th</sup> over all. Placing in the top 10 in the nation is something to be proud of. Thanks Brian for doing such a good job. Speaking of the Cable games, last year we had a record breaking participation of 69 techs. We look forward to this year's participation. We would like to see the same turn out. We had a lot of fun... lots of food and beverages.

We would like to thank all of our great speakers that we have had throughout the year so far and thanks to all of you for your participation. Please feel free to reach out to any of Board members with feedback on any of the seminars, and to make suggestions for 2009. It is our goal to have topics that you all want to learn about and participate in.

Our next seminar coming up is October 9<sup>th</sup> at Cable labs is DOCSIS 3.0. This is a popular subject so keep your eyes open for the flyer and register early

Once again, our Rocky Mountain Symposium will be **September 16<sup>th</sup> & 17<sup>th</sup>, 2008**. Please contact Pat Wike or Steve Murphy, as well as this Newsletter, for show details and learn how to register for Cable Games if you have not done so.

We'll see you at the forthcoming events.

Thanks,  
Dave Krook

## 2008 - REMAINING SEMINARS and TESTING OPPORTUNITIES!

Date	Location	subject	Speaker
Sept. 16 <sup>th</sup> and Sept. 17 <sup>th</sup>	Inverness Hotel & Golf Club	Digital Transition & Killer Applications	<b>John May, Motorola</b> Senior Presales Engineer
Oct 9 <sup>th</sup>	CableLabs, Louisville, CO	<b>DOCSIS 3.0</b> and touch on <b>IPV6</b>	<b>Doug Semon, Time Warner Cable</b> - VP Strategic Technology Development and Standards <b>Jorge D. Salinger, Comcast</b> - VP Access Architecture
Nov 6 <sup>th</sup>	Charter Communications	<b>Tools and Troubleshooting</b> (OSS, utilization of CPE, GIS)	<b>TBD</b>
January 22, 2009	Comcast, Iliff office	Business services	<b>TBD</b>

*Pre-seminar openers (10 to 15 minutes) are planned before each event and subjects will include:*

INTRODUCTION OF THE LATEST INDUSTRY RELATED ELECTRONICS WIDGETS.  
SCHOLARSHIP OPPORTUNITIES, PROFESSIONAL DEVELOPMENT, BENEFITS OF CERTIFICATION, AND  
TELECOM INDUSTRY SAFETY MESSAGES.

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## ANNOUNCING THE Thirteenth Annual Rocky Mountain SCTE CABLE-TEC SYMPOSIUM September 16th & 17th, 2008



**Includes:  
VENDOR EXHIBITS and  
CABLE-TEC GAMES with Prizes and Give-a-Ways!**  
(Winner gets a fantastic prize)

*Golf Tournament requires paid registration.*

**Pre-Register for Cable Games**

**WHERE?:**

Englewood, CO – Inverness Hotel and Golf Club  
200 Inverness Drive South,  
Englewood CO 80112

**Registration is required.** Please email registration form to:

Alan Babcock

[ABabcock@jonesncti.com](mailto:ABabcock@jonesncti.com)

**QUESTIONS?**

Pat Wike – Technetix  
Pat.wike@technetix.com  
RMC Symposium Director  
(303) 883-8978

or

Steve Murphy - Comcast  
[steve\\_murphy@cable.comcast.com](mailto:steve_murphy@cable.comcast.com)



<http://chapters.SCTE.org/rockymtn/>

## CABLE-TEC SYMPOSIUM

### AGENDA *Day 1*

*Tuesday, September 16<sup>th</sup>*

8:00 am – Golf Tournament Check in

8:30 am – Shotgun Start

1:30 pm – Golf Lunch and awards (Golfers only)

3:30-5:30 pm – Show floor setup for Vendors

5:00 pm Cable Games participants check in

5:30 pm – Welcome Reception

6:00 pm – Cable Tec Games begin

# AGENDA *Day 2*

## Wednesday, September 17<sup>th</sup>

8:00 am – Continental Breakfast

8:00 am – 11:30 am Exhibit Floor Open

11:45 am – 1:30 pm Technical Session (11:30 am – 1:00 pm Lunch)

Who: John May, Senior Presales Engineer, **Motorola**

What: Analog to Digital Conversion Feb. 2009

A discussion of this conversion for over the air broadcasters and the resulting affect on cable television operations.

*Lunch is provided during the technical session  
hosted by:*



**MOTOROLA**

2:00 pm – 4:00 pm Exhibit Floor Open

4:00 pm Show ends with large raffle

**\*\* No testing is available at the Symposium this year. We do offer testing at most every Seminar events and upon request as Proctors are available. Check our chapter website for important information about seminars and certification opportunities. <http://chapters.SCTE.org/rockymtn/>**

**ROCKY MOUNTAIN CHAPTER**  
***Thirteenth ANNUAL CABLE-TEC SYMPOSIUM***  
Englewood, CO – Inverness Hotel

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**REGISTRATION FORM**

*Please type or print clearly.*

*Registration includes lunch, technical session, exhibits, and Cable Tec Games festivities*

NAME \_\_\_\_\_ PHONE \_\_\_\_\_

TITLE \_\_\_\_\_ FAX \_\_\_\_\_

COMPANY \_\_\_\_\_ SCTE Nat'l # \_\_\_\_\_

ADDRESS \_\_\_\_\_

E-MAIL \_\_\_\_\_

Will you be attending the seminar lunch \_\_\_\_\_ Yes \_\_\_\_\_ No

I would like to compete in the Cable Tec Games \_\_\_\_\_ Yes \_\_\_\_\_ No

Additional Attendees

NAME _____	seminar lunch	___ Yes	___ No	Cable Tec Games	___ Yes	___ No
NAME _____	seminar lunch	___ Yes	___ No	Cable Tec Games	___ Yes	___ No
NAME _____	seminar lunch	___ Yes	___ No	Cable Tec Games	___ Yes	___ No
NAME _____	seminar lunch	___ Yes	___ No	Cable Tec Games	___ Yes	___ No
NAME _____	seminar lunch	___ Yes	___ No	Cable Tec Games	___ Yes	___ No
NAME _____	seminar lunch	___ Yes	___ No	Cable Tec Games	___ Yes	___ No
NAME _____	seminar lunch	___ Yes	___ No	Cable Tec Games	___ Yes	___ No

**COST: FREE**

Registration is required. Please email registration form to:  
Alan Babcock [ABabcock@jonesncti.com](mailto:ABabcock@jonesncti.com)

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**HOTEL INFORMATION**

*Contact hotel directly for bookings:*

Inverness Hotel & Golf Club  
200 Inverness Drive South  
Englewood, CO 80112  
(303) 397-7000  
www.invernesshotel.com

# New Chapter Logo

## - Contest reminder

Help us replace this LOGO =>



Enter this contest and help to design a NEW logo for your Rocky Mountain Chapter!

Our current logo needs to be updated to show where the chapter and our industry is today.

*By definition, a logo is a graphic representation or symbol of a company name, trademark, abbreviation, etc., often uniquely designed for ready recognition or a single piece of type bearing two or more uncombined letters, a syllable, or a word.*

Keep your ideas simple as it will be used for our letterhead, embroidery and other detailed branding.

Submissions can include color, but it should look good in “black and white”.

Submissions should represent not just Colorado, but the Rocky Mountain Region. Remember, we are the “Rocky Mountain Chapter” of the SCTE.



Please submit your ideas to

[Steve\\_Brown4@cable.comcast.com](mailto:Steve_Brown4@cable.comcast.com), and

[Joe.Thomas@ccur.com](mailto:Joe.Thomas@ccur.com) by Nov.14<sup>th</sup> 2008

Submissions can be in just about any common electronic graphic form (.jpg, .tif, .bmp, .eps). Our goal is to have the new logo in place by next summer’s symposium.

# Tech Forum

Jim Stewart

Welcome back to “The Tech’s Forum”. This section of the SCTE newsletter features articles and tips for technical personnel of the CATV Industry. Ideas and articles for “The Tech’s Forum” are always welcome. If you would like to contribute please contact me at [jim\\_stewart2@cable.comcast.com](mailto:jim_stewart2@cable.comcast.com).

In the next two editions of “The Tech’s Forum”, we will discuss the upcoming Digital TV transition. Although the transition directly impacts broadcasters, there will be indirect impacts on the CATV industry.

Congress has mandated that February 17, 2009 will be the last day for full-power broadcast television stations to transmit in analog format. Full-power TV stations are currently broadcasting in both analog and digital formats but after February 17, 2009 will broadcast in digital only. The deadline does not apply to Low-power stations, Class A stations, and TV translator stations and they can continue to broadcast analog signals for now. Consumers who currently receive over the air analog transmissions from full-power TV stations will need to get a TV capable of tuning digital signals, or get a digital to analog converter, in order to continue to watch broadcast TV stations. Another option for those consumers is to subscribe to CATV or Satellite services.

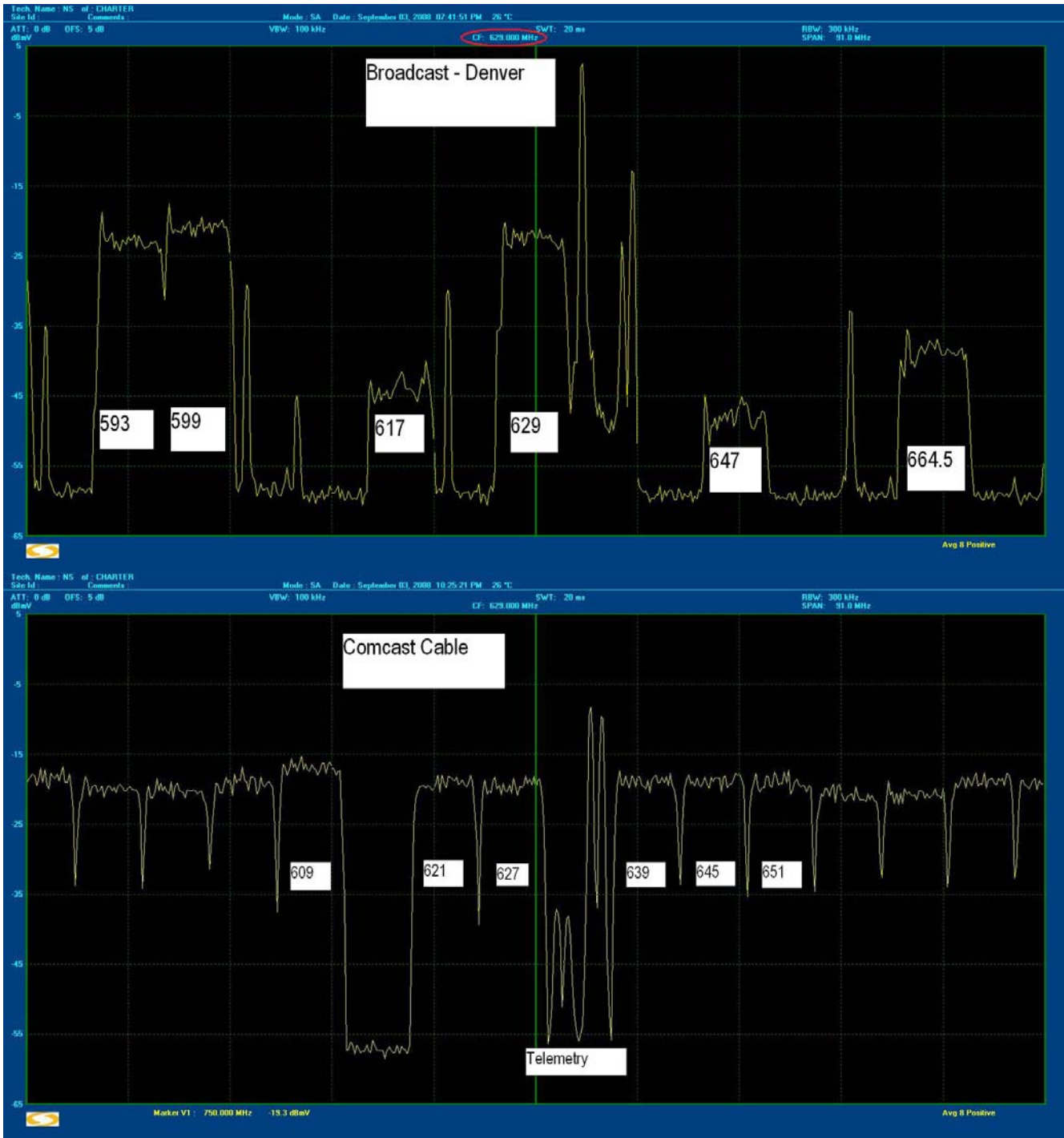
Cable companies are not required by the government to transition their systems to digital, and can continue to deliver channels to their customers in analog carrier format. Cable companies are actually required by FCC rules to continue offering local broadcast stations to their customers in analog as long as they offer other analog services.

One of the indirect impacts the transition is having on the CATV industry is a change in the location of **potential ingress sources**. When troubleshooting problems in a CATV network, knowing the frequency location of potential ingress carriers can help us identify and repair problems faster and more efficiently. For those who work in the Denver Metro area, I have put together the following chart that contains information on where the digital TV broadcasts are being transmitted and what CATV channels may be impacted should a break in the coaxial cable occur.

Call Sign	Network	Analog	Digital virtual	Digital Off Air Center frequency	CATV - closest EIA center frequency
KTFD	TEL	14	14.1	CH15 = 479 MHz	CH66 = 474 MHz
KUSA	NBC	09	9.1	CH16 = 485 MHz (Post Transition Freq to be CH9 = 186 MHz)	CH67 = 480 MHz
KMGH	ABC	07	7.1	CH17 = 491 MHz (Post Transition Freq to be CH7 = 177 MHz)	CH68 = 486 MHz
KRMA	PBS	06	6.1	CH18 = 497 MHz	CH69 = 492 MHz
KTVB	MyTV	20	20.1	CH19 = 503 MHz	CH70 = 500 MHz
KDVR	FOX	31	31.1	CH32 = 581 MHz	CH83 = 576 MHz
KWGN	CW	02	2.1	CH34 = 593 MHz	CH85 = 588 MHz
KCNC	CBS	04	4.1	CH35 = 599 MHz	CH86 = 594 MHz
KBDI	PBS	12	12.1	CH38 = 617 MHz (Post Transition Freq to be CH13 = 213 MHz)	CH89 = 612 MHz
KRMT	DAY	41	40	CH40 = 629 MHz	CH91 = 624 MHz
KPXC	ION	59	43	CH43 = 647 MHz	CH94 = 642 MHz
KWHD	IND	53	53.1	CH46 = 665 MHz	CH102 = 660 MHz
KCEC	Univision	50	51.1	CH51 = 695 MHz	CH107 = 690 MHz

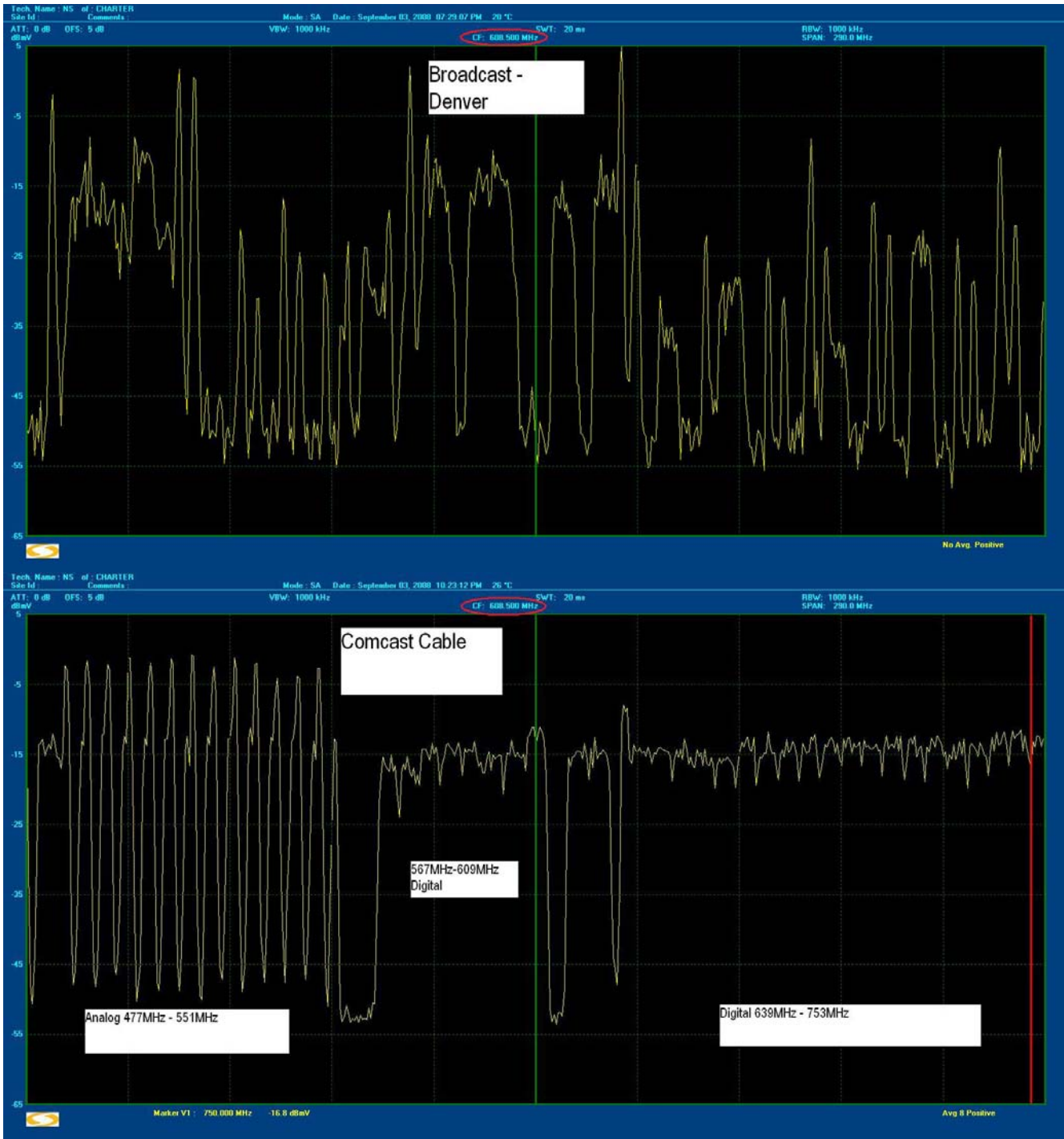
Challenge: Take a look at the below capture and see if you can predict what CATV pictures will look like if the coaxial cable shielding is compromised and ingress occurs.

1. Off-air analog gets into CATV analog = ghosting/co-channel
2. Off-air analog gets into CATV digital QAM = \_\_\_\_\_
3. Off-air digital gets into CATV analog = \_\_\_\_\_
4. Off-air digital gets into CATV digital QAM = \_\_\_\_\_



**Example 1** - These Spectrum grabs show partial spectrum for comparative analysis. The settings are kept identical with 629MHz center, and 91MHz span. (recorded 9-3-2008 from zip code area 80016).





**Example 2** - These Spectrum grabs show nearly 300MHz of the most occupied off-air spectrum for comparative analysis. The settings are kept identical with 608.50MHz center, and 290MHz span. (recorded 9-3-2008 from zip code area 80016).

For those of you who do not work in the Denver Metro area, here is a link that will help you identify TV stations broadcasting in your area and the frequencies being used.

<http://www.antennaweb.org/aw/Welcome.aspx> . Once you are on the website click “Choose Antenna”, enter your zip code and then submit. A customized table of broadcasters in your area will be created.

In the next edition of “The Tech’s Forum” we will review what types of signal the broadcasters are using and how it differs from digital signals used in the CATV industry.