



The Spectrum

Newsletter of the Rocky Mountain Chapter

February 2006

Chapter Information
Rocky Mountain Chapter
PO Box 261931
Littleton, CO 80163-1931
<http://chapters.scte.org/rockymtn>

Board of Directors

By agreeing to serve, the Board pledges to serve the telecommunications industry and the members of the Rocky Mountain Chapter of the SCTE.

2006 Elected Board of Directors			
<u>Name</u>	<u>Company</u>	<u>Phone Number</u>	<u>Position</u>
Rex Kohart	Comcast	303-603-5053	President
Randy Bailey	Adelphia	719-457-4690	Vice President
Pat Wike	Comcast	303-603-5052	Treasurer
Nick Segura	Charter	303-669-3705	Secretary + Website
Joe Thomas	Opvista	303-805-5469	Board Member
Jim Garcia	Adelphia	719-457-4517	Board Member
Dave Krook	Comcast	303-603-2095	Board Member
Lauri Smith	Comcast	720-267-7563	Board Member
Alan Babcock	Jones / NCTI	303-797-9393	Board Member

'Frank' of the 2006 Board

<u>Name</u>	<u>Company</u>	<u>Phone Number</u>	<u>Position</u>
Frank Eichenlaub	Scientific Atlanta	303-790-6659	Region 2 Director plus Webmaster

'Friends' of the 2006 Board

<u>Name</u>	<u>Company</u>	<u>Phone Number</u>	<u>Position</u>
Mike Phebus	NCTI	303-797-9393	FOB
David Robinson	EquiVision Executive Search	303-722-8920	FOB
Robert Kostelny	MHz	303-995-6689	FOB
Jay Oldenburg	Times Fiber Comm.	303-793-3500	FOB
Rey Cole	Times Fiber Comm.	559-292-5337	FOB
Richard Covell	TTSI	303-646-5050	FOB
Hugh Long	Comcast	720-267-3026	FOB
Mark Thompson	CommScope	303-773-3003	FOB
Jim Stewart	Comcast	303-603-5687	FOB

Letter from the President **Rex Kohart**

Is 2005 over? Where did it go? I wish someone would let us know when these things happen. What do you mean we couldn't stop it? Oh that's right, father time waits for no one. In our fast paced world, year end and the New Year quickly mesh into one big busy quagmire. If you do not jump on it quick you can loose a month or more in the blink of an eye. Well your Chapter board has been hard at it, trying to stay ahead of the time crunch. We finished off the year with a very successful election cycle, and started up 2006 already with our strategic planning session early in January. Boy do we have a great year ahead of us.

The election created quite a buzz. The candidate pool was deep with talent, drawing from many different facets of our industry. I thank all the candidates for showing an interest in the chapter, and I invite all the candidates too please join us during the board meetings this year, your insight is greatly needed. It was my goal to add positions to the board to help maintain a fresh and engaged prospective on the board. With the caliber of our candidates this year, we could not go wrong. Newly elected to the board this year is Alan Babcock from NCTI and Lauri Smith from Comcast. Both have prior experience with the SCTE, and have already begun to contribute to the success of the chapter. Please welcome them when you get a chance.

Our strategic planning session was a busy affair. The board members had received feedback from many of you on desired new topics and continuation of established subjects. We had a lively discussion on what we needed to cover. It was also seen early on that we needed to add some dates. Then we also had to work our local schedule around the National Symposium being held in Denver this coming June. Put all these moving parts together and I think we came up with a great plan. First with the national offering in Denver we decided to push more of our dates to the outer areas in the region this year. We will have 4 of our 7 seminars outside of Denver. They will be in the Mountains, Northern Colorado, and two down South in Pueblo and Colorado Springs. We are going to continue with the popular Digital Measurements, IP, and

return path topics. We are also going to turn our focus on VOD to the Customer Premises side of the technology. The VoIP topic will have a lessons learned flavor with a bit of video phone technology thrown in. We are going to follow some feedback we received and get back to basics with a Digital 101 class. This will be a high level overview of the end to end signal delivery for advanced services such as Digital Video, Voice and Data. You will also hear our board members talking before each seminar on ways our members can augment their leadership capabilities. This is an interest that has been voiced by many of our professionals. As our teams expand their technical skills, the ability to apply them with an intuitive leadership style is an important need now being noticed throughout our operations. The board is going to lineout some of the offerings available to help in this area.

The National Show this year created a bit of a dilemma for our regional Symposium. We had received feedback from our great vendor community that the show floor traffic would certainly be less at a Rocky Mountain show in September after everyone attends the National show in June. This hit home with the board, and so we decided to do an abbreviated 1 day event in September. We will all get together for some fun on the golf course along with the regional cable games competition. This will allow the region to crown our 2006 champion. Our vendors will still be out in force with some technical literature displays during the day but nowhere near as involved as an active 2 day floor show. Rest assured though our Rocky Mountain show will return in its full glory in 2007.

So as you can see we have hit the New Year running. We are off to a great start to a year that will prove to be a busy and exciting time for our Chapter participants. I'll see you at an upcoming event.

UPCOMING SEMINARS and TESTING OPPORTUNITIES!

Date	Location	Seminar Subject	Speaker(s)
April 27th	Denver Iliff Comcast	VoIP Architecture – System readiness and lessons learned. Operational readiness for a successful launch and lessons learned. Next steps Video Phone	TBD
May 11th	Western Slope - TBD	VOD and/or Customer Premises	TBD
July 20th	Denver Mineral Comcast	Digital Measurements & RF return Digital Signal Measurements and Troubleshooting CATV digital signal Measuring and hands on practice Measurement techniques, common problems, and symptoms. Overview, practice and problem diagnosis utilizing Constellation, BER, MER and other troubleshooting techniques.	TBD
Sept 14th	Denver – Jones Building	Cable 101 & Digital 101 Certification Testing – End to end overview of signal delivery for services including Video, Voice and Data.	Richard Covell + TBD
Sept 19th	Division Iliff Comcast	Golf Tournament and Cable Games	N/A
Oct 12th	North Colorado - TBD	Adv Customer Premises & Return Path	TBD
Nov 16th	Adelphia Call Center – Colorado Springs	Advanced IP Applications, routing/switching	TBD

Tech forum

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

Contributors to this edition of “The Tech’s Forum” include Mark Kinman and Rex Gerhardt, Technical Trainers for Comcast and Dave Krook, Director of Network Operations for Comcast.

In the last several editions of “The Tech’s Forum”, the calculation and measurement of forward/reverse signals was discussed and its importance in relation to keeping the cable plant clean and tight. It is just as important to check the shielding integrity of the cable plant to ensure that it is clean and tight. Checking the cable plant for ingress/egress will be the topic of this edition of “The Tech’s Forum”.

The cable plant is a closed loop system. That means that signals transmitted in the cable system share frequencies with those signals broadcast in the air (off-air). Because of the shared frequencies, the signals must be isolated from each other. Cable wire is composed of a center conductor, dielectric and shielding. The cable signals travel on the center conductor while the dielectric separates the center conductor from the shielding. One of the purposes of the shielding is to keep the cable signals inside the cable system and the signals broadcast in the air out of the cable system. Anytime the integrity of the shielding is compromised, cable signals can escape from the cable system and potentially interfere with off air broadcasts (egress). If the integrity of the shielding is compromised, it is also possible for off air broadcasts to enter the cable system and interfere with cable signals (ingress).

It is estimated that more than 90% of ingress problems in the cable system originate between the tap and the customers equipment (drop system). Here is a simple technique that can be used with any signal level meter to identify ingress in the drop system.

The first step of this simple technique is to identify strong off air broadcasts in your area and record the frequencies of those signals. The next step is to disconnect the drop cable from the tap and connect it to a signal level meter. The frequencies that coincide with the strong off air broadcasts in your area should be measured. Generally, any detectable signal indicates the presence of ingress and should be investigated. In particular those signals that are stronger in intensity than -35 dBmV should definitely be investigated and isolated to the drop, outlet or other component. If off air broadcasts are detected, the technique can be used on individual outlets to help isolate the source of a problem. If necessary a 75 ohm terminator can be used on the end of a drop or outlet. With a terminator installed on the opposite end of the cable being tested no off air broadcasts should be detected if the shielding integrity has not been compromised. However, in some instances where the cable is located close to the origination of very strong off air broadcasts, the use of a very high quality cable might be necessary. Higher quality cables, such as quad shielded cable, have a higher shielding effectiveness and do a better job of preventing ingress.

After isolating the source of ingress, the specific cause (s) needs to be identified and corrected. The most common source of ingress is loose or poorly installed F-connectors. Other common causes include animal chewed cables, cuts or nicks in the cable and damaged shield due to excessive bending. Customer equipment with lower shielding effectiveness can also be a potential source of ingress. Examples can include splitters, cable and even televisions. If strong enough, ingress from a single customer has the potential to disrupt cable services including phone and high speed internet for an entire neighborhood.