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June 26, 2006

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: CS Docket No. 97-80 (Commercial Availability of Navigation Devices)

Dear Ms. Dortch:

In its Second Report and Order in CS Docket No. 97-80,¹ the Commission directed the six largest multiple system operators (“MSOs”) – Comcast Corporation, Time Warner Cable, Cox Communications, Charter Communications, Adelphia Cable, and Cablevision – to file with the Commission “reports detailing CableCARD deployment and support” as well as “the effort to develop and deploy a multistream CableCARD.”² The Commission noted that the six “cable operators may file separate reports or a joint report.” As a matter of convenience, NCTA has compiled the individual company reports and is submitting them as attachments to this letter. Should the Commission have questions about any of these reports, please contact me and I will ensure that the questions are forwarded to the appropriate person at the relevant company for a response.

CableCARD Deployment and Support. The six largest MSOs – those which are reporting today and which serve over 80% of the cable subscribers in the country – have deployed approximately 150,000 CableCARDS. When the CableCARDS deployed by the next four largest companies are included, *there have been approximately 170,000 CableCARDS deployed by cable operators serving over 89% of the cable subscribers in the country.* In addition to this significant deployment of CableCARDS, as of June 19, 2006, 24 consumer electronics (“CE”) manufacturers have had over 450 product models (such as Digital Cable Ready DTV sets) certified or verified for use with CableCARDS.

¹ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Second Report and Order, 20 FCC Rcd. 6794 (2005).

² *Id.* at 21-23 (¶¶ 39, 44).

With almost 170,000 CableCARDS deployed for use with Digital Cable Ready products, it is not surprising that a few problems may have arisen, but they pale in comparison with the numbers of cards deployed. In fact, the attached reports detail issues that have arisen with both “host” devices built by CE manufacturers, as well as with CableCARDS which must work with those devices. Contrary to the suggestion in a recent CEA ex parte filing,³ the reporting companies have found that, where problems have arisen, the majority of them have been with host devices. These problems likely arise from the ability of CE manufacturers to “self verify” their devices rather than submit them for testing at CableLabs.

Charter’s report makes this point forcefully.

Problems with the manufacture of digital televisions are responsible for virtually all reported CableCARD issues Charter has experienced this reporting quarter.

Issues with digital televisions (CableCARD “host” devices) have made up the overwhelming majority of problems Charter has experienced since CableCARD reporting began. Charter’s June 1 to August 31, 2005 report to the Commission showed 69% of problems were caused by faulty digital television hosts. Problems with CableCARDS decreased thereafter as reflected in Charter’s installation experience and reports to the Commission, which showed that host digital televisions were responsible for 76% and 74% of CableCARD installation problems over the following two quarters, respectively. In Charter’s experience, problems with CableCARDS have now been virtually eliminated. During the current quarter, Charter’s reported problems show that at least 94% of installation issues were caused by faulty host digital televisions.

Both figures from the current quarter and the trend of the past year show that cable operators such as Charter have resolved the few existing technical problems with CableCARDS, while digital television manufacturers have shown little to no improvement in the production problems associated with host devices. Problems with digital television host devices include software defects, hardware defects, and other deficiencies.

In addition to problems with the testing of CE devices, reports from cable operators demonstrate that problems exist with coordination and communication between cable and CE representatives. For example, as Comcast reports:

Comcast places a high priority on making Host Devices work in our cable systems. The last thing we want is an unhappy customer.

Consequently, when problems do arise, we have worked with CE manufacturers to resolve CableCARD-related issues as quickly – and with as little inconvenience

³ Letter from Julie M. Kearney, CEA, to Marlene H. Dortch, CS Docket No. 97-80, March 23, 2006. We will be responding to that CEA filing shortly.

to the customer – as possible. Unfortunately, Comcast’s experience has often been that CE manufacturers seem more intent on casting blame than rolling up their sleeves and working with us, CableLabs, and our CableCARD suppliers to find workable solutions. Where CE manufacturers have worked with us, more often than not we have developed the necessary fixes in short order. Where, in contrast, they have refused to cooperate with us, problems have gone unresolved for longer periods of time.

For example, many CE manufacturers respond to our calls for help by suggesting that we try as many as 10 or more different CableCARDS hoping to find one that works with their Host Devices. Comcast technicians are frequently told that some CableCARDS are “just not compatible” so many need to be tried. In fact, as noted, we have seen very few cases where the CableCARD itself is the source of the problem. Either the Host Device needs a software upgrade or some other adjustment, or the Host Device simply does not operate on a consistent basis with the CableCARD. Sometimes the software deficiency in the Host can be overcome by reinstalling the same CableCARD again. In fact, *we find the same success rate from trying the same CableCARD several times as we see from trying different CableCARDS.*

Comcast recognizes that, at times, it has been responsible for CableCARD-related problems. These issues can include something as simple as a customer service technician failing to understand the proper steps to be followed to successfully install a CableCARD in a particular model to a customer service representative making errors in the billing and provisioning process. However, when Comcast makes mistakes, it acknowledges them and fixes them. If our colleagues in the CE industry took the same approach, most of the problems they complain about in their filings to the Commission would be resolved.

Multistream CableCARDS. The Commission also asked for periodic reports on the “effort to develop and deploy a multistream CableCARD.” As reported in our March 30, 2006 report, CableLabs has qualified a Multistream CableCARD device from CISCO/Scientific-Atlanta. The Multistream CableCARD will operate in a backwards compatible, single-stream manner with a single stream device (*e.g.*, in a unidirectional digital cable ready device) or in the multi-stream manner when paired with a multi-stream device (*e.g.*, OCAP 2.0 devices). To greatly facilitate rapid development of the Host Multistream CableCARD interface, the HPNx Pro test tool is also commercially available to manufacturers. It is expected that Multistream CableCARDS will be available from major MSOs within the next few months.

Ms. Marlene H. Dortch

June 26, 2006

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If you have any questions about the information being submitted with this letter, please do not hesitate to contact me.

Respectfully submitted,

/s/ Neal M. Goldberg

Neal M. Goldberg

cc: Natalie Roisman
Julie M. Kearney
Robert Schwartz

Adelphia FCC CableCARD Report

Reporting Period: March 01 thru May 31 2006

1. General availability of CableCARDS

Motorola: 3425 available inventory
SA: 7673 available inventory

2. The number of CableCARDS in service as of May 31st

Motorola: 9261
SA: 7499

a. How cards are placed in Service: Professional Install Only

3. Whether service calls are required for all CableCARD installations?

100% truck roll for installation

4. Average number of truck rolls to install a CableCARD:

Estimated at 1.05:1

5. Monthly price charged for a CableCARD: \$1.75

Average installation cost of a CableCARD:
\$40; price may be waived, subject to marketing and sales incentives.

6. Problems encountered in deploying CableCARDS and how problems are resolved?

For the billing quarter March 2006 thru May 2006, calls tracked using Adelphia billing systems:

a. Total trouble calls with problem code related to CableCARD: 2851
b. CableCARD T/Cs with problem codes related to installs: 210

Training aids, documentation and web tools are provided to local system personal to aid in resolving potential problems with CableCARDS. Issues which are not resolved at the local system level may be escalated to Adelphia's 24x7 Video Operations Group. This group maintains detailed CableCARD information, such as known issues lists, CE-supplied troubleshooting documentation and current software "s/w" releases in an effort to provide local systems with the information they'll need to complete a CableCARD installation. The following examples are representative of CableCARD or Host related issues that were escalated to this group during this reporting period. Some of these issues may have occurred multiple times:

Platform: Motorola **System:** HITs/Central

Issue: DTV locks when card is inserted

Corrective Action Taken: NAS has reconfigured the OOB SCVT cycle time to 2 minutes per the specification.

Status: Corrected issues

Platform: SA **System:** Waynesboro, VA

Issue: DTV reports this program contains audio only on some channels

Corrective Action Taken: Troubleshooting with host manufacturer revealed that the mpeg stream type was incorrectly set as mpeg1, which created the issue with this model DTV.

Updated stream type setting on all rate mux's to mpeg2

Status: Corrected issue

Platform: SA **System:** Londonderry

Issue: CableCARD TV is not receiving some analog or digital simulcast channels

Corrective Action Taken: Reseated CableCARD. There is a recurring issue where some CableCARD TVs do not track channel map changes per the specified SCTE 65 profile 1.

Status: Pending s/w upgrade(s) from host manufacturers

Platform: SA **System:** Staunton, VA

Issue: Three HD channels are not coming in; observed only on the CableCARD TVs

Corrective Action Taken: Changed the QAM handling those HD channels.

Status: Corrected issue.

Platform: SA **System:** Londonderry

Issue: CableCARD is not receiving any digital channels.

Corrective Action Taken: Field tech corrected RF wiring issue

Status: Corrected issue.

Platform: SA **System:** Mooresville

Issue: CableCARD is not receiving HD channels

Corrective Action Taken: Tech removed bad splitter from DTV input

Status: Corrected issue.

Platform: Motorola **System:** State College, PA

Issue: CableCARD stopped receiving channels

Corrective Action Taken: After completing card and RF plant troubleshooting with no resolution; referred customer to host manufacturer

Status: Open

Platform: SA **System:** Staunton, VA

Issue: CableCARD install - authorization failure message

Corrective Action Taken: Tried a second card, rebooted TV. Host DTV would not provide pairing information.

Status: Referred issue to host manufacturer

Platform: SA **System:** Plymouth

Issue: Missing analog channels

Corrective Action Taken: De-paired and then re-paired card and host.

Status: Corrected issue

Platform: SA **System:** West Palm Beach

Issue: CableCARD is not receiving HD channels

Corrective Action Taken: Corrected RF issues in customers house

Status: Corrected issue

Platform: SA **System:** Londonderry

Issue: CableCARD is not receiving all channels

Corrective Action Taken: Followed standard troubleshooting, no cause found. Tried new card install.

Status: Corrected issue

Platform: SA **System:** Lackawanna, NY

Issue: CableCARD lost encrypted channels

Corrective Action Taken: After completing card and RF plant troubleshooting with no resolution; referred customer to host manufacturer

Status: Open

Platform: SA **System:** South Dade

Issue: Several customers with CableCARDs are not receiving Digital Simulcast channels

Corrective Action Taken: CableCARDs do not work with nested packages, put Digital Simulcast package directly on card.

Status: Corrected Issue

Platform: SA **System:** Staunton, VA

Issue: DTV lost encrypted channels and is unable to load channel line-up

Corrective Action Taken: Tried install with several cards and completed all troubleshooting steps. Contact with host manufacturer resulted in misinformation from several representatives before identifying the issue as needed firmware upgrade on the DTV. Customer is waiting for host supplier to locate special tool and perform firmware upgrade.

Status: Open

Platform: SA **System:** Lackawanna

Issue: DTV not receiving channel 71 OLN

Corrective Action Taken: Resaved channel map and rebooted TV

Status: Corrected issue

Platform: SA **System:** Waterbury, CT

Issue: CableCARD is stuck in a code download loop.

Corrective Action Taken: Replaced card with new CableCARD and investigating root cause.

Status: Corrected Issue

7). Process in place for resolving existing and newly discovered CableCARD implementation problems:

A). Adelphia will regularly provide updates to training aides and documentation which is posted to several web sites for access by local system personnel. Adelphia has also deployed a new Customer Care troubleshooting web tool; Logically. This web tool provides work flow process tips to help resolve typical customer call issues and does include support for the CableCARD. This tool also provides on-line links for CableCARD training aids and documentation.

B). Adelphia also uses a centralized system for CableCARD install troubleshooting and support. All installs with issues can be escalated to our 24x7 video operations group which tracks issues in a bug database system called TrackIt. When appropriate, CE contacts are used to escalate issues that can not be resolved internally. Adelphia continues to support on site visits from CE vendors to aid in troubleshooting issues with DTVs or other CableCARD host devices.

C). Specific cable card trouble codes and fix codes have been added to the billing systems.

Cablevision FCC CableCARD Quarterly Report

Introduction: CableCARD technology, which enables digital televisions to display encrypted programming, has been available to 100% of Cablevision customers since July 1, 2004. The installation and service of CableCARDS is now handled as a routine practice in the normal course of business. As with all technical issues with a service provided by the company, when a problem is experienced and a resolution is determined, the information goes into a common database.

- 1. Current Number of CableCARD Subscribers:** 8,111 (as of June 15, 2006).
- 2. Number of CableCARDS in Inventory:** 5,260 / 2,730 NDS + 2,530 SA Powerkey
- 3. How are CableCARDS deployed:** All CableCARDS are professionally installed
- 4. Percentage of Installs:** 100% of installs are Truck Rolls
- 5. Average Number of Truck Rolls to Install a CableCARD:** 1.1
- 6. Monthly Lease rate for CableCARD:** \$1.25
- 7. Average installation Cost (if applicable):** Professional install fee is \$46.95. The professional installation fee structure was adjusted for all converter box, CableCARD and /or modem installations. This was an across the board adjustment to standardize the rate structure.
- 8. Number of problems encountered with CableCARDS:** 654 installation and post-installation problems were encountered during the period of April 1, 2006 through June 15, 2006.
 1. Host Related: 56%
 2. CableCARD related including "box hits": 36%
 3. Network Related: 8%
- 9. Of the problems encountered, please list how they were resolved: (Ex. TV Firmware upgrade)**

Host DCR TV Issues (Sample)

Problem Description:

CableCARD does not bind with the host - Swap the CableCARD. (Unbind first CableCARD with Addressable Systems Department and install/bind another CableCARD).

Occurs During:

Install

Resolution:

The installer will check the television menu guide for information on CableCARDS and follows the instructions in the menu. If that does not work, the customer is asked to call the host television customer service number for advice on how to obtain this information on installing the card. In some instances, the customer needs to contact the host TV manufacturer for a patch/chip to be sent out for the specific host TV or professional visit by the manufacture's technician.

Problem Description:

Difficulty upon initial set up. Once set up, every time TV turned on host ID and CableCARD ID appear on screen need to exit to watch TV.

Occurs During:

Install and Post-install

Resolution:

Engineering has escalated to manufacturer

Problem Description:

Pixilation on most digital channels

Occurs During:

Post-Install

Resolution:

Customers need to contact manufacturer directly to have a Certified Technician perform a service call to install new hardware in the DTV chassis.

Problem Description:

The TV only display channels 12 thru 78.

Occurs During:

Post-install

Resolution:

This problem is resolved from manufacturer with a software patch upgrade to version 1.2.8.

Problem Description:

During install the CableCARD goes into a code down load even though the CableCARD has the most current code.

Occurs During:

Install

Resolution: Engineering is working with the DCR TV manufacturer to determine the corrective action.

CableCARD Issues (sample)**Problem Description**

Customer getting CableCARD "no service" message every few minutes

Occurs During:

Post-install

Resolution:

Sent hit to CableCARD, customer removed card from DTV. Everything OK

Problem Description

DCR TV missing premium channels

Occurs During:

Post-install

Resolution:

Performed reboot by removing CableCARD and turning DCR TV off
Channels were restored

Problem Description

CableCARD error 161-4

Occurs During:

Post-install

Resolution:

Hit card and reset TV - resolved

Problem Description

Customer is missing channels 701,702 and 707. Customer says this problem happened before but only on this DCR TV.

Occurs During:

Post-install

Resolution:

Sent hit to CableCARD - problem fixed

Problem Description

Customer has black screens on premium channels only.

Occurs During:

Post-install

Resolution:

Hit card. Had customer turn off DCR TV and remove card, replace card. Resolved issue

Problem Description

Customer had very recent CableCARD install. When she goes to channels above 135 she gets a "no signal" message.

Occurs During:

Post-install

Resolution:

Checked outages, no open work orders, account OK. Hit CableCARD, turned off DCR TV, unplugged DCR TV, removed/reseated CableCARD – problem corrected.

**Charter Communications
FCC CableCARD Reporting
March 1, 2006 – May 31, 2006**

1. Current Number of CableCARD Subscribers as of February May 31, 2006:
The total number of Subscribers who have leased or purchased CableCARD devices through May 31, 2006 is 13,565.

2. Provide the number of CableCARDS in inventory:
SA CableCARD devices: 3755
Moto CableCARD devices: 4830
Total CableCARD devices: 8585

3. How are CableCARDS placed in service?
Installations of a CableCARD requires a professional installation, including a truck roll, in all serviced areas with the exception of the North Carolina/Virginia market area, in which there is a self-installation process. Self installations account for .005% of all CableCARD installations during the reporting period.

4. Whether service calls are required for all CableCARD installations?
Yes.

5. Average Number of Truck Rolls to Install a CableCARD?
The average number of truck rolls to install a CableCARD (i.e., the initial truck roll and any truck rolls within 30 days from the date of installation) through May 31 was 1.3.

6. Monthly Lease rate for a CableCARD?
The average monthly lease for a CableCARD device is \$1.50.

7. Average installation cost of a CableCARD (if applicable):
The average cost for a professional installation is \$32.00.

8. Process for Resolving CableCARD trouble calls:
Customers with a CableCARD problem are directed to call the Charter customer service number. Customer Service Representatives (CSRs) are trained about the features and benefits of CableCARDS, just as they are trained on any other Charter product offering. Some CableCARD calls are forwarded to the Advanced Services Team, whose members have more training and expertise on troubleshooting such calls. If the problem cannot be resolved over the phone, the CSR places a service order, which is then fulfilled by the cable installers and technicians. Charter maintains a record of any service calls for which a technician is dispatched.

Should a local cable installer or technician encounter a CableCARD problem, he/she reports such problem to his/her supervisor and the local technical support group. If the problem is not resolved at the local level, it is then escalated to corporate engineering or billing. If there appears to be a host problem, Charter has a designated member of its

engineering department contact and place a report with the consumer electronics vendor or with the host manufacturer to resolve the issue as appropriate.

9. Reported problems associated with CableCARDs and how they were resolved:

Problems with the manufacture of digital televisions are responsible for virtually all reported CableCARD issues Charter has experienced this reporting quarter.

Issues with digital televisions (CableCARD “host” devices) have made up the overwhelming majority of problems Charter has experienced since CableCARD reporting began. Charter’s June 1 to August 31, 2005 report to the Commission showed 69% of problems were caused by faulty digital television hosts.¹ Problems with CableCARDs decreased thereafter as reflected in Charter’s installation experience and reports to the Commission, which showed that host digital televisions were responsible for 76% and 74% of CableCARD installation problems over the following two quarters, respectively.² In Charter’s experience, problems with CableCARDs have now been virtually eliminated. During the current quarter, Charter’s reported problems show that at least 94% of installation issues were caused by faulty host digital televisions.

Both figures from the current quarter and the trend of the past year show that cable operators such as Charter have resolved the few existing technical problems with CableCARDs, while digital television manufacturers have shown little to no improvement in the production problems associated with host devices. Problems with digital television host devices include software defects, hardware defects, and other deficiencies.

Finally, the few installation issues associated with the network which were encountered this quarter were resolved *at the time of installation* through Charter’s standard troubleshooting processes. Charter continues to troubleshoot and resolve problems occurring with various makes and models of digital television hosts as they arise.

The problems and resolutions listed on the chart below are illustrative of the problems encountered at both the local and regional level as well as those that were escalated to Charter’s corporate offices. The digital television host manufacturer for each problem is identified by a letter only to maintain confidentiality.

¹ See *Charter Communications FCC CableCARD Reporting Through August 31, 2005*, Attachment to Letter from Neal Goldberg to Marlene Dortch, Commercial Availability of Navigation Devices, CS Docket 97-80 (filed October 3, 2005).

² See *Charter Communications FCC CableCARD Reporting September 1, 2005 to November 31, 2005*, Attachment to Letter from Neal Goldberg to Marlene Dortch, Commercial Availability of Navigation Devices, CS Docket 97-80 (filed December 29, 2005); *Charter Communications FCC CableCARD Reporting December 1, 2005 to February 28, 2005*, Attachment to Letter from Neal Goldberg to Marlene Dortch, Commercial Availability of Navigation Devices, CS Docket 97-80 (filed March 30, 2006).

DIVISION	TYPE	ISSUE	RESOLUTION	TV MFGR.
Northeast	Host	The CableCARD would not mate with the television.	The digital television set (i.e. the CableCARD "host") was replaced.	J
Northeast	Host	The CableCARD mated with the host but there was no channel map.	The host digital television set was replaced.	J
Southeast	Host	Freezing and information screen issues appeared with this host device. The manufacturer has been directly involved to resolve the issue.	Charter has been working with the digital television host manufacturer to resolve the issue.	D
Southeast	Host	The analog and digital channels would not display, and host or data ID could not be obtained.	Charter is still working with the digital television host manufacturer on resolution of this issue.	B
Southeast	Host	The host only displayed analog channels.	Troubleshooting was completed without resolution and the matter was escalated by the digital television host manufacturer to Charter's corporate offices. Charter continues to work with the manufacturer towards resolution.	E
West	Host	The host would not display digital channels	The digital television host required a software upgrade.	K
West	Host	No premium channels were available.	The digital television host was reset.	D
West	Host	Showtime HD was missing.	The digital television host was reset.	D
West	Host	Digital channels were missing	The digital television host was reset.	J
West	Host	The host television would not read the CableCARD.	The customer contacted the digital television host manufacturer for a firmware upgrade.	A

West	Host	The digital channels were showing a black screen only.	A firmware upgrade was sent to the digital television host from the manufacturer, after which the CableCARD worked properly.	K
West	Host	The host would not display digital channels.	The digital television host device needs a software upgrade to version 1.3.0.	K
West	Host	The music channels were missing.	The digital television host was power cycled.	F
West	Host	Missing PBS HD	The digital television host was reset.	D
West	Host	The host would tune digital channels without the CableCARD but was unable to show the channel map once the card was inserted.	The digital television host's out of band tuner was not working properly.	I
West	Host	The host would not tune digital channels.	After several CableCARD swaps, the customer upgraded to a high definition digital television.	H
West	Host	The digital channels were missing.	The digital television host was reset.	J
Great Lakes	Cable CARD or Host	The television will not detect the CableCARD.	This issue remains unresolved. The digital television host manufacturer has informed Charter that the error code means there is a problem with the CableCARD. Charter continues to work with the host manufacturers and card supplier to resolve the issue.	F

**Comcast CableCARD Data (Quarterly Report)
March, April, May 2006**

		Comcast Total
Current Number of CableCARD Subscribers		70,989
Number of CableCARD in Inventory		21,740
How are CableCARDs deployed:	Truck Roll / Self	Both
Install / Both		
Total CableCARD Installs		
	Number of Installs - Truck Rolls	17,079
	Percentage of Installs - Truck Rolls	97%
	Number of Installs - Self Installs	581
	Percentage of Installs - Self Installs	3%
Average Number of Truck Rolls to Install a CableCARD		1.07
Monthly Lease Rate for CableCARD		\$0
Average Installation Cost (if applicable)		\$13.97

Problems encountered and how resolved

There have been problems with one manufacturer's sets as these TV's have a particular setup sequence. This problem was finally corrected when our techs received the setup sequence.

Two other manufacturers' sets are not compatible with Motorola cable cards until the manufacturer provides a software upgrade for the set.

Technicians were not fully trained on card compatibility with certain new TVs. This was resolved after several trips to the house and by contacting the manufacturer.

Several sets of another manufacturer required a firmware update in order to receive the local FOX HD channel.

Another manufacturer's set had a defective CableCARD interface but the set was replaced and everything is working fine now.

A different manufacturer's set loses channels requiring channel list reorganization. Per the manufacturer, the set was not receiving SVCT. The set is now working now and the original issue has been escalated to Motorola.

Another manufacturer has an ongoing issue with a set losing all channels/map. Its service representative told us that a minimum of six cards need to be tried in all their sets as some Motorola cards just aren't compatible. The customer is now dealing with the manufacturer's repair center.

Process in place for resolving existing and newly discovered CableCARD implementation problems

Comcast has a CableCARD problem escalation process that starts with the local installer/technician and escalates to local supervisory personnel, then to the Division office, and finally to corporate engineering for further escalation to CableLabs or to senior contacts at the CE manufacturer as needed. The local market is expected to review CableCARD issues lists and troubleshooting information posted on an internal web site prior to escalation. If an issue with the CE Host device is suspected, the local market personnel also make an initial contact to the CE manufacturer's standard support line for help prior to escalation.

Communications Issues

Comcast places a high priority on making Host Devices work in our cable systems. The last thing we want is an unhappy customer.

Consequently, when problems do arise, we have worked with CE manufacturers to resolve CableCARD-related issues as quickly – and with as little inconvenience to the customer – as possible. Unfortunately, Comcast's experience has often been that CE manufacturers seem more intent on casting blame than rolling up their sleeves and working with us, CableLabs, and our CableCARD suppliers to find workable solutions. Where CE manufacturers have worked with us, more often than not we have developed the necessary fixes in short order. Where, in contrast, they have refused to cooperate with us, problems have gone unresolved for longer periods of time.

For example, many CE manufacturers respond to our calls for help by suggesting that we try as many as 10 or more different CableCARDS hoping to find one that works with their Host Devices. Comcast technicians are frequently told that some CableCARDS are "just not compatible" so many need to be tried. In fact, as noted, we have seen very few cases where the CableCARD itself is the source of the problem. Either the Host Device needs a software upgrade or some other adjustment, or the Host Device simply does not operate on a consistent basis with the CableCARD. Sometimes the software deficiency in the Host can be overcome by reinstalling the same CableCARD again. In fact, *we find the same success rate from trying the same CableCARD several times as we see from trying different CableCARDS.*

Comcast recognizes that, at times, it has been responsible for CableCARD-related problems. These issues can include something as simple as a customer service technician failing to understand the proper steps to be followed to successfully install a CableCARD in a particular model to a customer service representative making errors in

the billing and provisioning process. However, when Comcast makes mistakes, it acknowledges them and fixes them. If our colleagues in the CE industry took the same approach, most of the problems they complain about in their filings to the Commission would be resolved.

Cox Communications FCC CableCARD Reporting
March 01, 2006 through May 31, 2006

1. General availability of CableCARD devices:
Total CableCARD devices available: 7449
 - a. Please provide an indication of supply availability for SA and Motorola CableCARDS
SA CableCARD devices: 4268
Moto CableCARD devices: 3181

*The above numbers only include inventory available in our billing system and inventory currently assigned to FSRs. It does not include inventory assigned to subscriber accounts, inventory pending disposition or repair, etc.

2. The number of Residential CableCARD devices in service:
Cox TOTAL: 16,652
Moto Total: 7,701
SA Total: 8,951
3. How cards are placed in service
A professional installation, requiring a truck roll, is currently required for all CableCARD device installs.
4. Whether service calls are required for all CableCARD device installations?
Yes.
5. Average number of truck rolls to install a CableCARD device?
The average number of truck rolls needed to install a CableCARD device includes the initial truck roll for the install itself and any truck rolls required within 30 days of the install.

The average number of truck rolls to install a CableCARD was:

The breakdown for each month is as follows:
 - February 2006: 1.054
 - March 2006: 1.052
 - April 2006: 1.061
6. Monthly price charged for a CableCARD?
The average monthly rental for a CableCARD device is \$ 1.94
7. Average installation cost of a CableCARD if applicable?
 - a. What is the service charge to the subscriber for the installation?
The average cost for a professional installation is \$ 21.19

**Cox Communications FCC CableCARD Reporting
March 01, 2006 through May 31, 2006**

8. Problems encountered in deploying CableCARDS and how problems are resolved?

Total number of trouble calls for all CableCARD issues, escalated and un-escalated:

- March 2006: 1330
- April 2006: 1301
- May 2006: 1309

Only the issues that were escalated to the Atlanta corporate offices are described below. Cox also uses a bi-weekly conference call to distribute information to the systems, such as issues lists and CE-supplied troubleshooting documentation, in an effort to provide the systems with the information they'll need to avoid escalation.

Host Problems:

Site 7, Manufacturer 21

- Problem: Host did not download system channel map.
- Resolution: All Cox troubleshooting completed and issue continued to show itself. Customer referred to manufacturer.

Site 7, Manufacturer 21

- Problem: Host only received digital video channels when RF cable connected to antenna 1
- Resolution: Known issues. Customer directed to manufacturer for fix.

Site 7, Manufacturer 21

- Problem: Host only received digital video channels when RF cable connected to antenna 1
- Resolution: Known issues. Customer directed to manufacturer for fix.

Site 18, Manufacturer 19

- Problem: Host periodically loses channels in the channel map. Resetting host temporarily corrects.
- Resolution: Known issues. Customer directed to manufacturer for upgrade.

Site 19, Manufacturer 9

- Problem: Host does not display video, but plays audio.
- Resolution: Open issues. Follow up in progress.

Site 19, Manufacturer 13

- Problem: Host reporting back 161-2 error code during install. Multiple cards attempted.
- Resolution: Waiting to hear back from customer

Site 19, Manufacturer 17

- Problem: Host did not virtual channel map after channel map changes made in headend.
- Resolution: Issue is being reported frequently. Cold Init to card corrected, however, waiting on long-term fix from manufacturer.

**Cox Communications FCC CableCARD Reporting
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Site 19, Manufacturer 21

- Problem: Host did not display channels in the channel map greater than 100.
- Resolution: Host firmware upgrade corrected.

Site 19, Manufacturer 21

- Problem: Host did not virtual channel map after channel map changes made in headend.
- Resolution: Issue is being reported frequently. Cold Init to card corrected, however, waiting on long-term fix from manufacturer.

Site 19, Manufacturer 21

- Problem: Host did not virtual channel map after channel map changes made in headend.
- Resolution: Issue is being reported frequently. Cold Init to card corrected, however, waiting on long-term fix from manufacturer.

Site 19, Manufacturer 26

- Problem: Channel map not displaying in numerical order. Initiating a channel scan from the host does not correct.
- Resolution: Referred customer to manufacturer.

Site 24, Manufacturer 16

- Problem: Host continuously displays blue box that advises customer to contact Cox. Host will not display any pairing information.
- Resolution: Issue resolved. After completing all Cox troubleshooting with no issue found, customer was referred to contact the DCR device manufacturer for further assistance. Additional follow up with the customer confirms that the host and CableCARD devices are now functioning properly. Action taken by manufacturer unknown.

Site 24, Manufacturer 16

- Problem: Host continued to display messaging indicating that the CableCARD had an invalid date stamp. Multiple CableCARD devices were inserted with the same result.
- Resolution: After completing all Cox troubleshooting with no issue found, customer was referred to contact the host manufacturer for further assistance. Customer eventually opted to use a digital receiver.

Site 24, Manufacturer 12

- Problem: Host intermittently displays error code 161-53 on certain channels. Customer reports that he has ordered a host firmware upgrade from the manufacturer.
- Resolution: All Cox troubleshooting was completed with no resolution found. Manufacturer continues to work with the customer on the issue. No resolution to date.

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Site 24, Manufacturer 12

- Problem: After a 1 ½ years of proper functionality Host began displaying error messages/blue screens with message to contact
- Resolution: After completing all Cox troubleshooting with no issue found, customer was referred to contact the host manufacturer for further assistance. Customer reports that he was informed that a host firmware upgrade was needed.

Site 24, Manufacturer 13

- Problem: Host will not display various channels. Some channels will display briefly, show the host ID and then freeze.
- Resolution: After completing all Cox troubleshooting with no issue found, customer was referred to contact the host manufacturer for further assistance. Customer indicated in a follow up that all issues have been resolved. Resolution action unknown.

Site 24, Manufacturer 14

- Problem: Customer is unable to receive specific multiple channels.
- Resolution: After completing all Cox troubleshooting with no issue found, customer was referred to contact the host manufacturer for further assistance. Customer reports that a host firmware upgrade was needed, per manufacturer. Manufacturer continues to work with the customer to resolve the issue.

Site 24, Manufacturer 13

- Problem: Host will only display analog channels.
- Resolution: After completing all Cox troubleshooting with no issue found, customer was referred to contact the host manufacturer for further assistance. Customer eventually opted to use a digital receiver.

Site 24, Manufacturer 7

- Problem: Host periodically loses channels in the channel map -- the channel appears to be incomplete.
- Resolution: All Cox troubleshooting completed and issue continued to show itself. Customer referred to manufacturer.

Site 26, Manufacturer 19

- Problem: Host was periodically receiving 161-1 and 161-4 error codes.
- Resolution: Manufacturer replaced customer host.

CableCARD Problems

Site 1, Manufacturer 19

- Problem: After attempting to pair CableCARD, the card was unable to receive encrypted services.
- Resolution: Replaced CableCARD.

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Site 1, Manufacturer 16

- Problem: CableCARD not authorizing services.
- Resolution: Issue resolved by repairing CableCARD to host.

Site 19, Manufacturer 21

- Problem: CableCARD not authorizing services.
- Resolution: Replaced CableCARD.

Site 19, Manufacturer 8

- Problem: Host unable to lock OOB
- Resolution: Replaced CableCARD

Site 19, Manufacturer 8

- Problem: Host unable to display analog channels
- Resolution: Replaced CableCARD

Site 19, Manufacturer 16

- Problem: Host unable to display digital or HD services
- Resolution: Replaced CableCARD

Site 19, Manufacturer 17

- Problem: Host stopped displaying encrypted digital services some time after install.
- Resolution: Replaced CableCARD

Site 19, Manufacturer 21

- Problem: Host unable to display any digital channels
- Resolution: Sent a cold init to CableCARD.

9. Process in place for resolving existing any newly discovered CableCARD implementation problems
- a. Please describe any internal business process you have in place to report/track/resolve problems prior to escalation to the weekly call or joint call with CE.

For any CableCARD issues encountered by a subscriber, Cox follows the attached troubleshooting process. If the troubleshooting resolves the issue, no further action is taken. If the troubleshooting procedures do not correct the issue, the issue is escalated to one or more of the following personnel within the system: (i) the Digital test desk; (ii) the IT group, and/or; (iii) the system's DAC or DNCS administrator. If none of the foregoing is able to resolve the issue, a problem form is completed and sent to corporate engineering. The problem form collects specific details about the problem and alerts the engineering team to the relevant issues. Corporate engineering then follows up on the issue, contacting all of the necessary parties (including the CE manufacturers) until the issue is resolved.

In addition, a representative from each Cox system attends a bi-weekly conference call to discuss relevant CableCARD issues that have not yet been

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escalated, significant trends in the installation and maintenance of CableCARDs, and customer concerns within the system. Cox also uses this conference call to distribute important information to the systems, such as CE-supplied troubleshooting procedures or installation documentation. Atlanta operations and Engineering personnel are usually engaged on the call and work with the systems to resolve any issues or concerns.

In addition, Cox maintains an intranet site containing general information about CableCARDs and specific issue updates. Cox Customer Support, Field Service, and Field Service Support also may use this site to review troubleshooting guidelines or details from CE manufacturers.

The DAC and DNCS administrators in each system also have direct connections with ATL operations and engineering to escalate any issues that require immediate assistance.

**Time Warner Cable
FCC CableCARD™ Status Report**

Current number of CableCARDs customers: 23,202

Number of CableCARDs available in inventory: 20,231

How are CableCARDs deployed? Majority of TWC divisions require a service appointment.

Percentage of installs: Service Appointment: 85%; Self Install: 4%; Both: 11%

Average number of truck rolls required to install a CableCARD: 1.3

Monthly lease rate for CableCARD: On average: \$1.81. 25 divisions are at \$1.75.

Do you charge for CableCARD installs? Yes - 17 divisions, No - 11 Divisions

What is the average installation cost? \$20.39

What is your process in resolving existing and newly discovered CableCARD implementation problems?

The process reported in our previous submission is still in place. The web forum referred to as “eRoom” is still in use for resolving existing and newly discovered CableCARD implementation problems. The eRoom also allows TWC divisions to share information on issues and work together to resolve them.

Problems encountered with CableCARDs and their resolution

Our divisions continue to report a variety of different issues arising with respect to CableCARD host device installations.

Problem: Incorrect software/ firmware on host device. This continues to cause the most reported issues to date and is common across all CE brands.

Resolution: The cable technician informs the customer to contact their CE manufacturer and request a software patch to upgrade their Host device. A follow-up service appointment is needed after the CE manufacturer has completed the upgrade

Problem: Certain Host devices require dual inputs (analog and digital) for CableCARDs to function properly

Resolution: This installation has caused numerous mistakes to occur at time of installation because all other CE Host devices require a single input. In order to for these devices to work, a cable technician must install an RF splitter.

Problem: On certain Hosts devices, all digital services go black a few days after installing a CableCARD

Resolution: This issue has been tracked to a HOST TC ID = 0 fault that requires the customer to reseal the CableCARD before digital services are restored.

Problem: 161-6 error on host device. This error has occurred predominately on one brand of CE Host and is random and can go unnoticed for weeks. The device will stop displaying all content and show error 161-6. Although the error can be resolved by resetting the Host device, this is only a temporary fix.

Resolution: The permanent fix is to contact the Host manufacturer and have the DTV tuner replaced by a CE service technician.

Problem: Missing or no channels on Host device. In most cases this is caused by non-compliant customer installed in home wiring devices such as splitters and coaxial jumper cables.

Resolution: A cable technician will replace equipment and bring signal levels into spec along the lines for other equipment.

Problem: Host device needs clock reset before installing CableCARD

Resolution: System contacted Host manufacturer after unsuccessful installation to find that some of their devices require their clocks to be reset manually before installing a CableCARD. Host installation manuals did not include this information.