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April 27, 2016

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 certain cable operators to file periodically with the Commission “reports detailing CableCARD deployment and support.” The Commission noted that the “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 five cable operators who are required to report today – Cablevision Systems, Charter Communications, Comcast Corporation, Cox Communications, and Time Warner Cable – have deployed almost 590,000 CableCARDS for use in retail CableCARD-enabled devices. When the CableCARDS deployed by the next four largest incumbent cable operators are included, there have been approximately 621,400 CableCARDS deployed for use in retail devices by the nine largest incumbent cable operators. By contrast, those nine companies have more than 55,000,000 operator-supplied set-top boxes with CableCARDS currently deployed.

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).

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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: Brendan Murray
Julie Kearney

Cablevision: FCC CableCARD Report - Q12016

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 CableCARD is a routine practice and has been fully incorporated into the business. As with all the technical service issues, each occurrence is logged into an automated database for escalation and resolution.

1.	Current Number of CableCARD Subscribers	Current Number of CableCARD Subscribers	24,010	
		Deployed	35,379	
		Deployed Per Household	1.47	
2.	Number of CableCARDS in Inventory	25,197		
3.	How are CableCARDS Deployed	Customers can visit a Cablevision Optimum Store for self-installation of M-CableCARDS in their DCR CableCARD-compatible devices		
		Professional Installation		
4.	Percentage of Installations	Professional Installations	32%	477
		Customer Self-Installations	68%	992
5.	Average Number of Truck Rolls to Install a CableCARD	1.0		
6.	Monthly Lease Rate for CableCARD	\$2.00		
7.	Average Installation Cost (If applicable)	Professional Installation Fee	\$39.95	
8.	Number of Problems Encountered with CableCARDS (Installation and Post Installation)	2,371	Resolved on the phone with Standard troubleshooting	87%
			Resolved with a technician visit	13%
9.	Of the problems encountered, please list how they were resolved (Ex. TV Firmware upgrade)	Host DCR TV Issues(Samples)	<ul style="list-style-type: none"> • Problem Description: CableCARD does not bind with the host - Swap the CableCARD • Occurs During: Installation • Resolution: The technician will first unbind the CableCARD and install/bind another CableCARD. In some instances, the customer may need to contact the host TV manufacturer for a patch to be sent out for the specific host TV, or arrange for a professional visit by the manufacturer's technician. 	
			<ul style="list-style-type: none"> • Problem Description: Pixelation on most digital channels • Occurs During: Post-Installation • Resolution: Replace the service drop or components to verify signal levels are within specification or customers may need to contact the manufacturer directly to have Certified Technician perform a service call to install new hardware in the DCR TV Chassis. 	
			<ul style="list-style-type: none"> • Problem Description: DCR TV missing premium channels • Occurs During: Post-Installation • Resolution: Perform a "reboot" by removing the CableCARD and turning the DCR TV off. Channels are usually restored. 	

If the technician is unable to complete the installation due to technical issues, the technician is required to record the reason(s) why the install was not completed and the work order remains open. At the customer's request, a follow-up visit is conducted to further troubleshoot the problem and/or install a second (new) CableCARD. At this visit, additional personnel may accompany the technician to provide enhanced technical support. If a customer is unable to activate their equipment due to interoperability issue, Cablevision will contact the CE manufacturer to define the issue, resolve the problem and once again offer the customer the CableCARD installation.

The data (fix codes) collected from the problem are analyzed by the operations and engineering departments to determine if there are any systematic issues contributing to the CableCARD technology not functioning properly on the network.

Cablevision has also undertaken significant steps to pro-actively work with all the major CE-manufacturers to conduct the interoperability testing in our (single) test laboratory before any problems are experienced in the field.

**Charter Communications
FCC CableCARD Reporting
January 1, 2016 to March 31, 2016**

1. Current number of CableCARDS:

The total number of CableCARDS in service through March 31, 2016 is **56,514**.

2. Provide the number of CableCARDS in inventory:

Motorola Multistream	24,907
Motorola Standard	1,495
SA Multistream	4,517
SA Standard	43
Total	30,962

3. How are CableCARDS placed in service?

Customers may self-install or request a professional installation.

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

Service calls are not required for CableCARD installation.

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 March 31 was 1.0.

6. Monthly lease rate for a CableCARD?

The monthly lease for a CableCARD is \$2.00.

7. Average installation cost of a CableCARD (if applicable):

The average cost for a professional installation is \$49.99.

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:

With the exception of the below-listed issue, CableCARD problems encountered this quarter were routine installation issues. Network problems were resolved at the time of installation through Charter’s standard troubleshooting processes. Charter will continue to troubleshoot and resolve problems occurring with various makes and models of digital television hosts as they arise.

The illustrative problem with CableCARD installation and resolution for this quarter is listed below.

REGION(S)	ISSUE	RESOLUTION	HOST MFGR.
Various	Customers were unable to tune channels or channels were missing with particular host devices.	Problems were resolved by either swapping the CableCARD or repairing the host devices with the CableCARDs.	Various

**Comcast
FCC CableCARD Report
1/1/16 – 3/31/16**

Current Number of CableCARDS installed in active customer homes	335,065
Number of CableCARDS in Inventory	262,035
How are CableCARDS deployed: Truck Roll / Self Install / Both	Both
Total CableCARD New Installs	2,651
Number of Installs - Truck Rolls	1,404
Percentage of Installs - Truck Rolls	53%
Number of Installs - Self Installs	1,247
Percentage of Installs - Self Installs	47%
Average Number of Truck Rolls to Install a CableCARD	1.08
Monthly Lease Rate for Initial CableCARD	\$0.00
Monthly Lease Rate for Additional CableCARD in the Same Device	\$1.28
Average Installation Cost*	\$34.19

Process for Resolving CableCARD Problems

The Comcast CableCARD problem escalation process begins 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 CableLabs lists of Verified devices and any lists of any known issues 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.

Examples of Specific Issues and Resolutions

Customers occasionally attempt to move a CableCARD from one device to another creating service issues. CableCARDS do not automatically work properly when moved to a different device as the Card and Host must be "paired" in the headend control system. Comcast personnel and control systems are not equipped to handle moving CableCARDS in this manner so these situations require escalation to restore service in the new device. Comcast discourages this practice.

* In 2016, Comcast implemented a single professional installation fee in most of its markets. To account for this change, Comcast has revised its response to this question to reflect one combined average installation cost as opposed to the two separate figures that were listed in prior reports.

Cox Communications FCC CableCARD Reporting
1/1/2016 through 3/31/16

1. The number of Residential CableCARDS in service:

Cox TOTAL: 64,744
Cisco Total: 32,575
Moto Total: 32,169

2. General availability of CableCARDS:

Total CableCARDS available:

- a. Please provide an indication of supply availability for CISCO and Motorola CableCARDS. 26,574
Cisco CableCARDS: 14,574
Moto CableCARDS: 12,000

*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.

3. How cards are placed in service?

A professional installation or self install.

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

No. Self install is an option.

5. Average number of truck rolls to install a CableCARD?

The average number of truck rolls needed to install a CableCARD 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: 1.05

6. Monthly price charged for a CableCARD?

The average monthly rental for a CableCARD is \$1.99

7. Average installation cost of a CableCARD if applicable?

- a. What is the service charge to the subscriber for the installation?

The standard cost for a professional installation is \$50, (excluding discounts)

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

CableCARD Problems

- none

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

For any CableCARD issues encountered by a subscriber, Cox follows a prescribed 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

Cox Communications FCC CableCARD Reporting
1/1/2016 through 3/31/16

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, Cox maintains an intranet site containing 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.

In Q4 2012, Cox added the role of Regional CableCARD Liaison to the CableCARD support process. A Liaison is appointed within each region to oversee all CableCARD support, troubleshooting/escalation issues, training, product updates and communications. The Liaisons make sure CableCARD issues are resolved according to established troubleshooting and escalation procedures in a timely manner. They function as a liaison between all local and corporate engineering, customer service, supply chain, etc. and work closely with a newly appointed corporate CableCARD Product Manager in Customer Care.

**Time Warner Cable
FCC CableCARD™ Status Report
1/1/2016 – 3/31/2016**

Current number of CableCARDS activated: **98,082**

Current number of unique CableCARD customers: **72,034**

Number of CableCARDS available in inventory: **81,030**

How are CableCARDS deployed? **Service appointment or self-installation**

<i>Percentage of installs:</i>	Service Appointment:	45%
	Self Install:	55%

Average number of truck rolls to install a CableCARD: **1.0**

Monthly lease rate for CableCARD: **\$2.40**

Do you charge for CableCARD installs? **Some divisions charge a standard installation fee for CableCARDS while others waive the installation charge per division business procedure.**

What is the average installation cost? **\$30.00**

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

The processes reported in our previous submissions are still in place. The internal TWC SharePoint website is still in use for resolving existing and new CableCARD problems. The website also allows TWC divisions to share information on issues and work together to resolve them. The central CableCARD support desk continues to serve as an escalation point for all divisions and will shepherd an issue until resolution.

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 devices continue to cause reported issues and are common across all CE brands.

Resolution: The standard procedure is for the cable technician to inform the customer that a software patch from the CE manufacturer is required to upgrade the Host and correct the issue. After the CE manufacturer has completed the

upgrade, a follow-up service appointment is needed to re-install the CableCARD.

Problem: Host device losing services.

Resolution: Contact the CE manufacturers and work together on a resolution. In most cases, a firmware or hardware update is required depending on the model and date of manufacture. Replace CableCARD and/or resend billing activation codes.