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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Implementation of Section 17 of the Cable Television Consumer Protection and Competition Act of 1992	)	ET Docket No. 93-7
	)	
Compatibility Between Cable systems and Consumer Electronics Equipment	)	

REPLY COMMENTS IN SUPPORT OF
PETITIONS FOR RECONSIDERATION

Hewlett-Packard Company ("HP") hereby respectfully submits these comments in support of the petitions for reconsideration filed regarding 76.630 (c) in the above-referenced proceeding.

I. INTRODUCTION

HP is a manufacturer of more than 12,000 information products. The company recently began development of next-generation digital cable television (CATV) set top terminal devices. An obstacle we face as a new entrant in this market is having to accommodate the many incompatible implementations of common features in set top terminal devices. HP is concerned that rule 76.630 (c) in the above-captioned proceeding will compound this problem by mandating that new technologies are compatible with every known prior implementation, even those that are of limited function and are technically obsolete or inferior. Therefore, HP supports those petitioners urging the FCC to delete rule 76.630 (c).

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II. THE RULING CREATES UNNECESSARY TECHNICAL COMPLEXITY FOR MANUFACTURERS WHILE PROMOTING OBSOLETE TRANSMISSION & CODING SCHEMES THAT WERE REPLACED LONG AGO IN ORDER TO BETTER SERVE CONSUMERS' NEEDS.

Many infrared ("IR") coding schemes used in the past for remote controls to operate set top terminal devices have been discontinued for technical reasons. Problems such as susceptibility to interference, limited range and limited angle of operation drove manufacturers to create newer, better designs, thus improving subscriber satisfaction.

Requiring new advanced digital receivers to contain technically obsolete coding schemes seems in conflict with the Commission's stated policy of providing new technologies and services to the public.

Furthermore, the requirements in the rule present an excessively complex design problem. Taken alone, an individual IR implementation is not very complex. However, attempting to manufacture an IR receiver that can accommodate all varieties of existing IR transmitters and codes is extremely complex. Trying to accommodate the difference in optical wavelength, multiple types of pulse coding, unmodulated and modulated techniques, and modulation carriers at various frequencies to create a single implementation presents a daunting design challenge.

Alternatively, designing each of those possible systems as an orderable option from the cable operator would be exceedingly complex, in that cable operators would have to specify, order, stock and distribute the right set top terminal devices to the right customers.

Further complicating this picture is the fact that, even within an individual manufacturer's line of equipment, there is no consistency between the function selected and the IR code generated. Determining the function from the IR code itself is not possible as each IR code can have a different meaning based on the set top terminal device with which the remote control was designed to operate. There is also no guarantee that different consumer electronic equipment manufacturers have not used similar transmission schemes with completely different remote control functions. Making this mapping between the function and the transmitted code subscriber configurable or optionally orderable adds yet another layer of complexity to both the design and usability of the set top terminal device. Instead of the remote control being a customer convenience, it may well become a major inconvenience.

III. COPYRIGHT AND INTELLECTUAL PROPERTY RESTRICTIONS OF SOME IR CODES WILL THWART THE DEPLOYMENT OF NEW ADVANCED SET TOP TERMINAL DEVICES.

Some of the IR coding schemes and signaling conventions are proprietary and protected as intellectual properties. Licensing such codes may be possible in some but not necessarily all cases. Additional licensing fees would, at best, raise the cost of manufacturing set top terminal devices or, if licensing is not available, advanced digital set top terminal devices, such as those HP is developing, could not be used by a cable system simply because of prior use of an incompatible IR remote control scheme. Either one of these situations would restrict the availability of new technologies and services to cable operators and their subscribers.

Moreover, with respect to IR coding schemes that are proprietary or protected, it is not clear that a cable operator would know how to specify the IR codes that he required or that vendors, such as HP, would be able to deliver a set top terminal device that could respond to those codes and simultaneously respond to the extended set of IR codes that will be necessary in digital set top terminal device capable of accessing 500+ channels of interactive video, audio, and data services.

IV. THE RULING'S PROHIBITION AGAINST CABLE OPERATORS CHANGING IR REMOTE CONTROLS BY UPGRADING SET TOP TERMINAL DEVICES IS AN OVERLY BROAD SOLUTION TO A MINOR INCONVENIENCE.

HP recognizes that prohibiting the cable operator from disabling a set top terminal device's remote control capability when the subscriber owns the remote control is a valid objective. That objective is consistent with the policy of providing new technologies and services to the subscriber. However, it is not clear that, by upgrading set top terminal devices, subscribers will lose the functionality of their owned remote controls. Because most subscriber-owned remote controls are the user-programmable or pre-programmed types, most subscribers simply will reprogram their remote controls to be as compatible as possible with new set top terminal devices. The prohibition against cable operators changing IR remote control codes by upgrading set top terminal devices seems to be a complex, and maybe unworkable, solution to address this problem.

V. THE REAL ISSUE IS THE LACK OF STANDARDS. RATHER THAN ATTEMPTING TO MANDATE COMPATIBILITY, THE COMMISSION SHOULD ENCOURAGE RELEVANT INDUSTRIES TO DEVELOP COMMON INTEROPERABILITY STANDARDS.

HP agrees with the Commission that consumers would benefit if the ever increasing number of remote controls were limited to a standard set for common consumer electronic equipment, and that equipment manufacturers would benefit by being able to design to well defined specifications or standards. HP believes, however, that attempting to mandate universality of remote controls across an industry by requiring compatibility with every known prior implementation is simply an unnecessary and unwarranted burden. It would be far better to recognize that the diversity of set top terminal devices and consumer electronic remote controls is the real problem. The Commission should encourage the CATV and Consumer Electronics Industry Associations to work together to develop a set of common interoperability standards which would encompass the known core set of remote control functions and provide for extensibility as this technology progresses. The Commission is currently cooperating with several working groups at this time in related areas, and HP supports the notion raised in the petition from the National Cable Television Association that perhaps this type of desirable compatibility could be addressed in conjunction with the ongoing work of the CAG's Decoder Interface Committee.

In conclusion, HP concurs with the petitioners who ask that the Commission delete rule 76.630 (c) and recognize that it is valid and desirable for cable operators to upgrade

their subscriber terminal equipment in order to provide new technologies and services to the public. Furthermore, HP concurs with petitioners who suggest that the Commission may additionally consider requiring that cable operators advise their subscribers that subscriber-owned remote control units may not be functional or may have limited functionality when new cable terminal devices are deployed, as well as strongly encouraging the CATV and Consumer Electronics Industry Associations to work together to develop a set of common interoperability standards for remote controls.

Respectfully submitted,

HEWLETT-PACKARD COMPANY

By: Cynthia Johnson

Cynthia Johnson
Government Affairs Manager
HEWLETT-PACKARD COMPANY
900 17th Street, NW, Suite 1100
Washington, DC 20006

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