Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC. 20554

In the Matter of	)	
	)	
Interference Immunity	)	**ET Docket No. 03-65**
Performance Specifications	)	
for Radio Receivers	)	
	)	
Review of the Commission's	)	**MM Docket No. 00-39**
Rules and Policies Affecting the	)	
Conversion to Digital Television	)	
	)	
	)	

To: The Commission

COMMENTS of Nickolaus E. Leggett
N3NL Amateur Radio Operator

The following is a set of comments from Nickolaus E. Leggett, an amateur radio operator (Extra Class licensee – call sign N3NL), inventor (U.S. Patents # 3,280,929 and 3,280,930 and one electronics invention patent application pending), and a certified electronics technician (ISCET and NARTE). My comments are directed at the impact of receiver standards on simple radio kits and projects used by beginning students of electronics.

Needs of Beginning Students of Electronics

Electronics technology is a mysterious subject to people who are first encountering it. These beginning students need to work with very simple electronic circuits and radios in order to develop mental models of electron and signal flows. As they work with these simple circuits they learn the functions of the discrete radio components (such as resistors, capacitors, coils,

diodes, and transistors) and they see how these parts work together to provide the functions of signal detection, amplification, and output.

The current marketplace offers simple radio receiver kits and electronics project sets that allow the beginner to build and operate very simple radio receivers. These kits are offered by vendors ranging in size from very large firms such as Radio Shack to small organizations such as the Crystal Set Society. Typically these receivers use two or three transistors and a small set of passive components. Some of these receivers are even simpler, such as single-diode crystal sets and one-tube receivers. These receivers generally operate in the AM, FM, and short wave broadcast bands.

All of these very simple receivers allow people to teach themselves the basics of radio electronics. I used such radios myself in learning electronics and moving ahead to more advanced capabilities (and certifications) in the field of electronics.

America needs people who want to learn radio electronics for the following reasons:

1. Novice radio builders will often advance on to careers in electronics technology and engineering. Thus the little radios serve as a recruiting process into engineering and technology. Many children are introduced to electronics this way.
2. Learning the functions and operation of discrete components encourages a sophisticated view of electronics that is useful for high-quality engineering analysis.
3. Some of the builders of these radios will proceed to invent new electronics technology that is useful to the Nation's economy. They will create these inventions either as employees of technology firms or as independent inventors.

4. People with a detailed hands-on knowledge of electronics can improvise communications in emergency situations that can arise during widespread natural disasters or terrorist events.

Impact of Receiver Performance Standards on Simple Radio Kits

If receiver performance standards are applied to these simple radios, their educational function can be defeated. The radios would have to be redesigned with much more complicated circuits to meet the standards. The parts count and circuit complexity would be greatly increased. Integrated circuits probably would be added to the circuit. The simplicity that allowed the beginner to grasp the functioning of electronic circuits would be lost.

As a result of this increased complexity, electronics would remain as a mysterious "black box" for many people. These people would never have the opportunity to grasp the basic simplicity and elegance of electronics theory. This is a very real concern in the educational area. Indeed, I remember the great difficulty that I originally had in learning the operation of components, such as transformers, that now seem obvious to me.

Suggested Actions

My recommendation is that such educational radios and project kits not be subject to receiver performance standards of any sort. These radios and project kits should be explicitly excluded from any such standards.

Respectfully submitted,

Nickolaus E. Leggett, N3NL
1432 Northgate Square, Apt. 2A
Reston, VA 20190-3748
(703) 709-0752
nleggett@earthlink.net

March 31, 2003