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TV Viewers, Beware: Nielsen May Be Looking

By BILL CARTER

Soon, some people may be watching television sets that will be watching them back.

Nielsen Media Research disclosed plans yesterday to develop a "passive people meter" in conjunction with the David Sarnoff Research Center at Princeton. The device would measure television viewing without relying on the participation of viewers — a marked departure from Nielsen's current "people meter" system, which requires viewers to identify themselves by pushing buttons whenever they watch television.

Since it began measuring television audiences in 1950, Nielsen has been able to tell when sets in a sample household are on and what channels they are tuned to. The problem has been determining who in the family is watching at any

given time. Two years ago Nielsen introduced the people meter to provide that information.

The crucial component of the new system is an image-recognition device that would identify members of a household and record, second by second, when they are watching television, when they leave the room and even when they avert their eyes to read a newspaper.

Privacy Issue Raised

Nielsen and Sarnoff demonstrated a working model of the device at a news conference yesterday, at which the issue of invasion of privacy was raised. Nielsen executives faced questions about the system's similarities to the surveillance of Big Brother in George Orwell's novel "Nineteen Eighty-Four."

But Nielsen executives argued that the system will not be intrusive. "I don't think we're talking about Big Brother here at all," said John A. Dimling, executive vice president of Nielsen Media Research. "We're not scanning the room to find out what people are doing. We're sensitive to the issue of privacy." Mr. Dimling said it will be at least three years before the system goes into service.

The system will consist of a camera-like device and a computer attached to the top of each set in the households in Nielsen's sample group of television viewers. The computer will be programmed to store the facial images of each family member. The camera will be activated each time the set is turned on and will scan the room

Continued on Page D19, Column 1

Nielsen to Develop Meter That Can Watch TV Audience

Continued From Page 1

for faces it recognizes.

The same image-recognition technique has other possible applications, say in medicine and police work. Using a more sophisticated image-recognition system, police could, in theory, scan an airport for known terrorists or drug dealers.

If tested successfully, the passive system would replace the current people meter, which is only two years old. It was meant to provide more precise information about which members of the household were watching particular programs. The people meters replaced a system, used for 37 years, that relied on viewers filling out diaries.

The three major television networks have complained that people meters underestimate actual viewership.

Bored With Buttons

Research executives at the television networks have said that the button-pushing task becomes boring quickly, leading to inaccuracies; that many households refuse to cooperate, and that children cannot reasonably be expected to push the buttons to indicate when they are watching.

Nielsen now has 4,000 homes in its people-meter survey. But the networks have complained that the current two-year period each household participates in the survey is too long and leads to fatigue.

The network reaction to the people meter is at least partly derived from the effect the system has had on their business. Nielsen measurements of the networks' share of the audience declined 9 percent immediately after people meters were installed; a decline in ratings means a decline in advertising revenues.

The system will record when viewers even avert their eyes.

to make them leave the room, pick up a magazine or fall asleep.

Mr. Dimling said that only families that agree to participate will be included in the survey, just as they are in the current people-meter system. Under that system families are paid a small fee to begin the metering process and are rewarded occasionally with small gifts.

Mr. Dimling would not say what the monetary incentive for the passive meter system would be. Curtis Carlson, the director of information systems at Sarnoff, said, "The only information sent back to the Nielsen computers will be whether people are watching television."

He said the device will not actually record any other activity. It focuses only on facial features, he said, and decides first if it is a face it recognizes and then if that face is directed toward the set. Unfamiliar faces or

even possibly the family dog will be recorded as "visitors."

The system, based on a technique the Sarnoff researchers have labeled "smart sensing," relies on visual tracking similar to the operation of the human eye, Mr. Carlson said. Images on the periphery are screened out, and the camera centers on only the most compelling features.

Big as a Breadbox

The current prototype is about as big as a breadbox, Mr. Carlson said, and the next step in the development process will be to miniaturize the entire system. The goal is to have a machine about the size and shape of a videocassette recorder.

Nielsen and Sarnoff will also do an extended study and national testing to insure that the system can meet Nielsen needs before putting it into use.

Nielsen has plans to use the technology in other ways. For example, Nielsen now conducts a market research project in which consumers are asked to use a scanning device to read the product code on articles they buy. But because the people meter already requires so much work, Nielsen never asks the same household to participate in both the scanning and people-meter surveys.

Robert R. Brown, president of information services and technology for Nielsen, said the passive people meter could be combined with the scanning survey so Nielsen could track "market stimuli with buying patterns." Nielsen clients could in theory learn whether television advertising had a direct influence on viewers' buying decisions.

Nielsen has contracted with Sarnoff Research for exclusive use of the technology in the media and marketing area. Mr. Carlson said a different version of the same technology has been applied in at least one other business. He said it was against company policy to disclose which business, but he did say the Federal Government has expressed interest in the technology.

He conceded that as the technology becomes more sophisticated it could open up more questions of privacy. "Every technology can be abused," he said. But he stressed that his laboratory is more interested in possible medical applications. He said, for instance, that the system could eventually be used to increase the reliability of pap smears by using image recognition to identify abnormal cells and could provide a sophisticated object-recognition aid to the blind. Development of both is far down the road, he said.

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Ultimate Measurement

A passive system would address most of these complaints, Mr. Dimling said. He called the proposed system the ultimate audience measurement, "primarily because the respondents don't have to do anything."

The response to the Nielsen announcement at the networks and in the advertising community yesterday was favorable. Bart McHugh, senior vice president of DDB Needham, said, "A passive system is what we've all been screaming about."

Alan Wurtzel, senior vice president of research at ABC, said: "I really believe a passive system would be much better. I would hope they would get this out and in place as quickly as possible."

That information will be incorporated into the standard Nielsen process. Reports to clients will include both the number of viewers and demographic data on the makeup of a show's audience. Eventually, Mr. Dimling said, networks could know almost instantly which sections of a show the audience was most responsive to, and which bored them enough

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