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**ORIGINAL
FILE****FCC Advisory Committee on Advanced Television Service
Implementation Subcommittee Working Party 2 on Transition Scenarios****Report on Survey Regarding Software Availability**

One important ingredient in the transition to Advanced Television will be the availability of suitable programming in sufficient quantity to attract audiences to first buy the ATV receivers and to then watch the programs. The critical nature of this element of the transition led to a request from the Implementation Subcommittee to IS/WP-2 that it study the likelihood that major players in the program production and distribution businesses will provide programming appropriate for ATV early in the transition period. This report is the outcome of that study.

The inquiry into the likelihood of ATV participation by major players in program production and distribution took the form of a small survey of executives of some of the larger participants in the pertinent industry segments. It was decided to conduct a small survey first, with the expectation that there would be enough consistency in the responses that a much larger and time consuming survey could be avoided. If sufficient consistency were not found, then the wider survey could be undertaken.

The result of the small survey had sufficient consistency that the broader survey was not implemented. There was general agreement among those contacted that programming will be available in quantity from a wide range of sources. There was also good agreement on what the early forms of programming in ATV will be and how they will be provided. Also explored and reported herein are such related matters as the order in which various program types possibly will become available, the media and production format types likely to be used for production of different types of programs, and the quality levels and attributes necessary for ATV production.

The Survey

The survey was conducted during the months of July and August, 1992. It comprised a series of telephone interviews with the managers of major players in the program production, post production, and distribution businesses who are most concerned with the implementation of Advanced Television for their companies. Included in the contacts were managers at four broadcast television networks (three commercial, one public), a major subscription cable network, three Hollywood studios, one television production company, and one television post production company.

The survey was conducted by a single member of IS/WP-2 knowledgeable in the areas of both television program production and Advanced Television. The conversations with each industry participant lasted from half an hour to an hour. Explored during the discussions were the planning done for ATV programming, the timing of provision of the first ATV programming, the expected order of availability of programming by types, the sources of material to be produced and distributed, the expectations for installation of equipment, the minimum

characteristics required for ATV programming, and expectations for technical capability in program production and distribution.

Programming Expectations

The first area explored was the state of planning for participation in Advanced Television by the organizations represented by those interviewed. All of the organizations had considered whether and how they will provide ATV programming to their viewers and/or clients. This was a qualifying issue for continuation of the interviews, and all interviews proceeded from this point. This was also the only point on which there was universal agreement.

Participants were asked how long following an FCC decision on an ATV system they expected initially to provide such programming. Responses fell into two broad categories: those with explicit time periods and those for whom market factors were the drivers. In general, respondents from the broadcast networks and some of the studios gave explicit answers, with the time periods ranging roughly from one to two years. In one network case, this was qualified with a requirement that standards must be completed and equipment must be available to the defined standards. In one studio case, the explicit time period given was conditioned on there being a film scanner and other necessary equipment available in a post production house.

Respondents from the remaining studios, the cable network, and the post production community were less specific in their time assessments. They felt that their provision of ATV programming would depend heavily on market demand for their product. Some also tied this to the availability of both consumer and commercial hardware for the new system. The participant from the cable network made it clear that the timing for his company was unrelated to the FCC decision, per se, but was dependent on the availability of receivers to consumers. The respondent from the television production company pointed out that it will be sensitive not only to demand in the U.S. but also to demand for its product in Europe.

Next examined was the extent to which organizations were communicating with their suppliers or their clients and the expectations they had of them. The network participants were asked if they had spoken with their suppliers about providing material and whether they expected those suppliers to do so in the time frame during which they expected to initially provide programming to their viewers. The studio and production/post production participants were asked if they had spoken to their clients and whether they expected those clients to create a demand for material in the time frame.

In general, some of the broadcast networks and the post production company have spoken to their suppliers and clients, respectively; the other organizations have not had such conversations except very informally. Yet there was a universal expectation by the producers that the demand for programming will exist and by the networks that the material will be supplied to them when they need it.

Regarding the order in which programming will become available, there was general agreement that early material will be derived from film production and will fall into two categories: prime

time episodics and movies. This derives from the fact that material shot on film can be converted to HDTV form by scanning in a telecine. Thus all theatrical motion pictures can be made available relatively quickly. Since approximately eighty per cent of prime time material is shot on film, it, too, can be made available relatively quickly. Which of these two forms is seen as becoming available first depends upon the respondent's point of view - the networks tend to expect prime time programming first while the studios expect movies first.

Asked about who will be producing the material, the participants from the studios and the television production company expected to be producing it themselves; the post production company expected only to handle material produced by others - both as would be expected. The networks anticipated a mixture: obtaining some from producers and producing some material themselves.

The participants were asked to order the eventual inclusion of other types of material in the programming available to the public, whether they were involved with it themselves or not. They generally ranked sports as most apt to follow programming based on film production. It is seen as the type of programming most likely to benefit from a combination of the value of live pickup and the attractiveness to audiences of Advanced Television. Beyond sports, there was a general scattering of opinions on what other types of programming would come in what order. There was agreement among the commercial broadcast networks, however, that news will be last.

It should be noted that, throughout this examination, the perspective of the participant from public television was somewhat different from the other respondents. His view was that the first material to be distributed will be produced in video, as opposed to film, and will be material being produced now that is timeless in nature. Material will be produced both by his organization and by others, largely through co-productions, as has been the case so far. Beyond the initial ATV program material, a substantial amount of upconverted 525-line material, in component form, some of it possibly widescreen, is anticipated. The amount and exact form of this material will depend on co-production arrangements for ATV/HDTV.

Production Technology

There has been considerable interest in the necessary or appropriate levels of technology for the production of programming for use in the ATV domain. The possibilities range from full High Definition Television technology to intermediate levels of widescreen 525-line production to upconversion of standard 525-line and NTSC material. To explore the expectations of the respondents with regard to the level of production technology to be used, a series of questions was asked, some open ended and some with multiple choice answers. There was wide variability in the answers to these questions, but some strong tendencies do appear.

Material produced in film format will generally be transferred to full HDTV format for distribution in Advanced Television according to respondents from the production community. An interesting sidelight to this is that rather than transferring to HDTV and downconverting for NTSC use, a number of the producers intend to make a second transfer for NTSC (or PAL) use.

This includes the bulk of material shown during prime time and presumes a separate path to network affiliates or local cable headends rather than downconversion locally.

General agreement also existed that sports for ATV transmission will be produced in full HDTV. HDTV mobile units will have to be built to accomplish this. There was also a tendency among participants to expect economics, in various flavors, to influence the choice of technology for other types of programming. Among the considerations seen as determining are the size audience expected for a given program, the archival value of the program, the potential for international distribution, and the immediacy of the program's content.

One studio respondent indicated that his organization was contemplating shooting network and first run syndication of non-reality based programming on film, protecting 16:9, transferring to 525-line components, post producing in 525 lines, and upconverting to HDTV at the end of the process. They will not conform the film after editing because there is no budget to do so. It will also be very expensive to conform a new HDTV transfer later, although the film will be saved in case this becomes desirable. Digital component 525, when upconverted, is expected by this organization to be good enough for ATV transmission, given the economics of full HDTV production or post production.

Participants were asked when they expected their organizations to begin installing equipment for some level of HDTV operation. Answers from the broadcast network respondents divided between 0-1 and 1-2 years. The cable network, which has some equipment already, has a plan calling for backtiming from the availability of receivers to consumers and beginning to equip itself 1-2 years before that time. Virtually all of the other participants, all of whom are in the production and post production aspects of the business, indicated they will begin to add HDTV when their clients begin to demand it, when the audience begins to grow, and when the equipment becomes economical. In the words of one, "When we have to." A couple of the studios indicated that all of their video work is done by others, so they may never add HDTV equipment themselves. If they do, it likely will only be for monitoring, not production.

There has been considerable discussion within the industry concerning the possible use of lower performance levels of production than full HDTV for use in ATV transmissions. As part of its survey, IS/WP-2 was requested by FCC staff to explore this concept and to try to shed some light on what should constitute ATV material. Among the issues in this discussion have been such matters as the aspect ratio, the use of component vs. composite processing, the provision of multiple audio channels, and the required resolution.

Respondents were asked whether they agreed with the concept that something less than full HDTV performance will be adequate for production and distribution of programming for Advanced Television, at least for some users as an interim step. There was unanimous agreement with the concept, although not all felt it would necessarily fit their respective businesses.

Respondents were then asked what minimum characteristics they believed will be appropriate for production for Advanced Television to adequately differentiate it from currently produced

NTSC material. Answers to this varied widely. But there was a strong concensus on certain characteristics, namely 16 X 9 aspect ratio, component operation, multi-channel (some said digital) audio, and improved resolution, in the order of their frequency of inclusion. Improved resolution was deemed unnecessary by some.

Two responses were targeted at appropriate FCC Rules for programming to be carried on the ATV channel during the period that the FCC has proposed to permit stations to carry separate programming on their ATV and NTSC channels for purposes of developing ATV programming techniques. One suggested that since, in his opinion, simulcasting will essentially consist of upconverted NTSC material, then as a minimum, full HDTV (only as necessary to support the maximum capabilities of the transmission system) should be used as the source for any separate programming. The other suggested that material to be carried separately should be sufficiently different from NTSC that it would be shot differently and would therefore be difficult to downconvert to NTSC. Put another way, this approach would require material that would suffer if it were put through the constraints of NTSC and that would be competitively disadvantaged as a consequence.

Asked whether their companies would utilize video technology at a lower performance level than HDTV for production and/or distribution for Advanced Television, five said yes, three said no, and two said they did not know.

In summary, then, it can be said that there is good concensus among the program producers and network executives interviewed for this study that there will be adequate programming available for the launch of Advanced Television in the United States. The sample is small, but the degree of agreement leads to a conclusion that a wider survey, while it might expose a greater variety of opinions, especially with regard to specifics, will not lead to a substantially different outcome. For this reason, IS/WP-2 has chosen not to pursue the broader study but instead to issue this report.