



**TOGETHER**  
*for a sustainable future*

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# D00677



Distr.  
LIMITED  
Economic and  
Social Council  
1969  
WH/1969/CONF/11

United Nations Industrial Development Organization

Equipment for the Manufacture  
of Telecommunications Equipment  
(including low-cost receivers for sound  
broadcasting and television)

Vienna, 13 - 24 October 1969

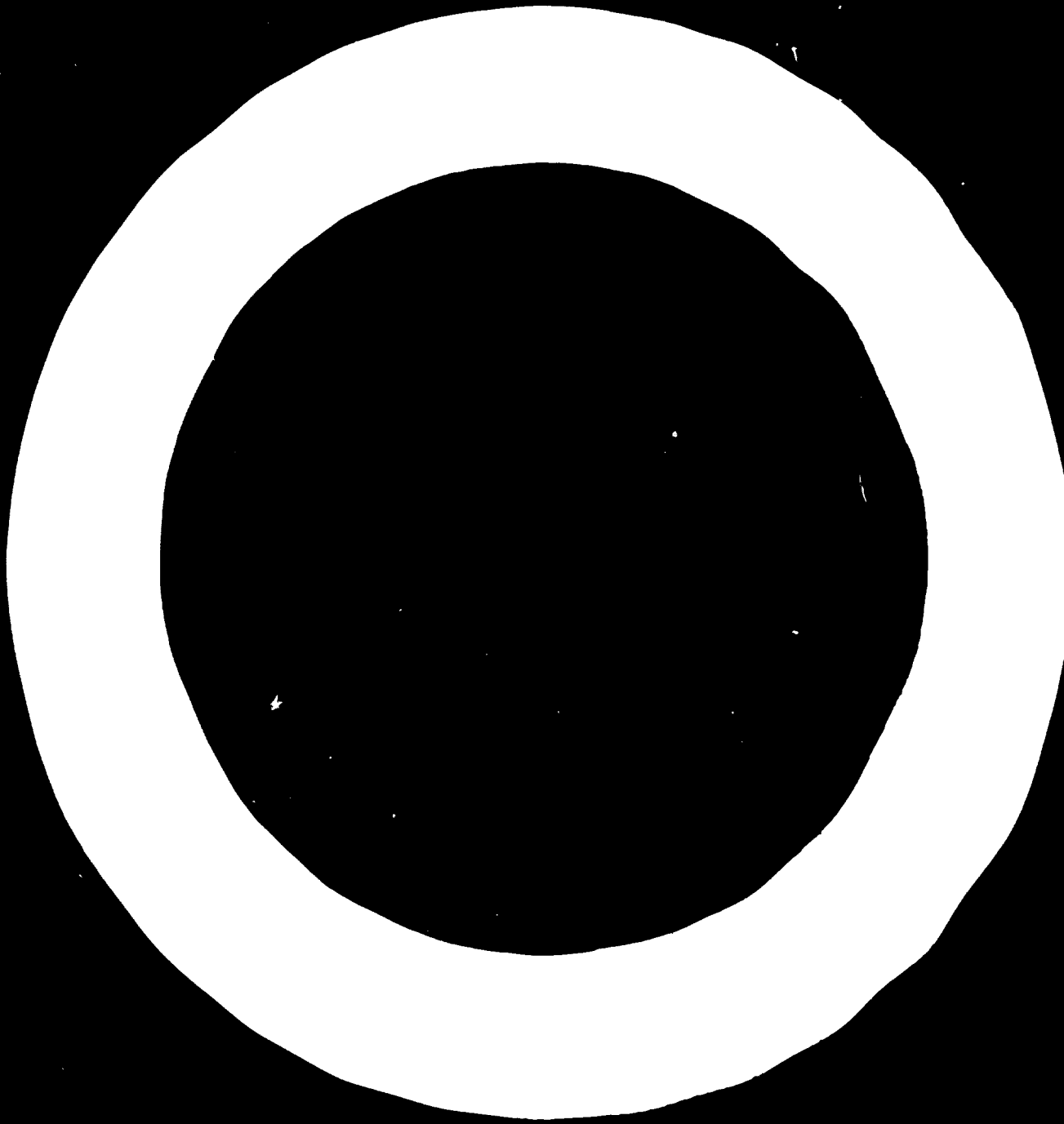
PRODUCTION, TRANSMISSION AND RECEIVING REQUIREMENTS  
FOR THE APPLICATION OF TELECOMMUNICATION TO  
TELEVISION BROADCASTING

United Nations Educational, Scientific and Cultural Organization

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UN/69-5444

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.



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are prepared to seek new occupations and to modify concepts, they are taken in by fads and fashions. But in a developing country adherence to the past is dominant, here a double task has to be performed: to infuse readiness to change, and to communicate new content in order to bring about such change.

#### The general impact of the media

There are two ways of looking at mass media as instruments of development: one may be concerned only with their content, to think of them, for instance, as tools of educational innovation or increased agricultural production, but prior to particular content is their role as media, as channels of communication which carry many different types of message. A road is important in its own right, independent of whether it carries lorries loaded with grain or carts which bring people to the nearest town, whether it is used for pleasure, commerce or even military movements. Similarly, media of mass communication are significant to national development through their capacity to transmit a whole range of programmes, all of which together tend to bring about a modern outlook on a world in rapid transformation:

- They promote the circulation of knowledge both vertically across all social strata and horizontally across the length and breadth of countries which lack an infrastructure of transport and communications. This spread of knowledge is the essential basis for any development effort.
- They link all parts of a country, bridge the gap between rural isolation and urban living, establish bonds of common outlook among the people of one nation and help them to see themselves in the world at large.
- They establish channels of communication essential to the workings of a modern political state which requires decision-making by all the people. Mass media of communication are vital in an age of mass participation in government.
- They provide a stimulus to modernization, new ways of thinking and behaviour. They arouse curiosity about the unfamiliar, the distant, the new, without curiosity there can be no thirst for education.
- The audio-visual media of communication are able to transpose into modern forms of expression oral and visual traditions of developing

countries, to integrate the outlook of the past with orientation towards the future. Radio, television and other mass media with special regard to literature and culture. The very presence of these media in the countries mentioned above increases familiarity with the concept of "radio" and television.

Application of the above principles

Before turning to specific applications, we must first refer to the total output of programs - radio, television and newspaper, the cumulative output of these programs in the countries mentioned above. In these countries the likelihood of a sufficient information content, particularly difficult to learn, is difficult to ensure. It is only possible to do this by means of a special program. Further consideration will be given to this program in the next section. The educational course is to be determined by the content of the program and publications. Willingness and ability to accept information is an important factor toward development of a country, and it is important to determine the structure and content of the program. It is important to note that, in short run, we should take a long-term view of the program.

Some of the important questions which arise in the development of a program are: (1) How to determine the content of the program? (2) How to determine the structure of the program? (3) How to determine the content of the program?

- Content - The content of the program should be such that it is suitable for all regions of the country, is suitable for national unity and for the development of the country. It should be such that it is suitable for the development of the country and for the development of the country. It should be such that it is suitable for the development of the country and for the development of the country. Participation in educational courses at the national and local levels require a coordinated program and will be such.

1/ The word "program" is used here in a broad sense and includes not only radio and television broadcasts but also publications and films.

- Economic and Social Development Basic, television and the film, as well as the newspaper, and the radio, they receive effective information and education. They are not only interested in the economic development of their country, but also in the social and cultural development of their country. They are particularly interested in the development of their country in the field of science and technology. They are particularly interested in the development of their country in the field of science and technology. They are particularly interested in the development of their country in the field of science and technology.

- Education The government has made great progress in the field of education. It has established a system of education that is based on the principles of equality and justice. It has made great progress in the field of education. It has established a system of education that is based on the principles of equality and justice. It has made great progress in the field of education. It has established a system of education that is based on the principles of equality and justice.

- Health The government has made great progress in the field of health. It has established a system of health care that is based on the principles of equality and justice. It has made great progress in the field of health. It has established a system of health care that is based on the principles of equality and justice. It has made great progress in the field of health. It has established a system of health care that is based on the principles of equality and justice.



Economic cooperation

The report deals with the broad lines of policy of the Government in the field of economic cooperation with the countries of the Eastern Bloc. It is a general survey of the work done in this field since the beginning of the year. The report is divided into two parts. The first part deals with the general principles of economic cooperation and the second part deals with the work done in this field since the beginning of the year.

Production of goods for export is one of the main tasks of the Government. It is a task which has become increasingly important in the last few years. The Government has taken a number of steps to increase the production of goods for export. These steps include the following: (1) the establishment of a special fund for the production of goods for export; (2) the establishment of a special fund for the production of goods for export; (3) the establishment of a special fund for the production of goods for export.

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UNESCO does not conclude from the survey report that the local manufacture of radio receivers - and subsequently television receivers - is universally the better solution as opposed to importation. Many of the factors affecting the decision to make or import will be considered by the UNIDO Development Meeting on the Manufacture of Telecommunication Equipment and the criteria to guide economic planners will undoubtedly be established.

It is evident that the secondary and "spin-off" aspects of setting up a local industry will be a major consideration and that these factors, as in broadcasting itself, will not be measurable in short-range economic terms. Savings in foreign exchange, training of local men and women, the provision of jobs and, last but not least, the participation in modern technology for its own sake, will be important if not over-riding considerations.

#### Limitations of mass media

An examination of communication media is of little value if it dwells exclusively on the media's structure. Economic indications apart, the potentialities of radio and television in development have been severely restricted by the restrictions imposed upon them. Radio and television have speed, immediacy, flexibility and wide diffusion capabilities, they also suffer from the fact that they are fundamentally one-way.

Effectively communication must be a dialogue. To respond to the trifling issue with our audience is to know why it turned red. Beyond these basically one-directional communications, however, the need for participation is shown increasingly. Indeed, participation is the essence of development. The extent to which broadcasting can surmount its one-way limitations will be largely the reflection of the present media industry landscape.

The possibilities of a dialogue - both real and implied - between the broadcaster and the audience begin with the producers' knowledge of and sympathy with the audience. Regular contact and flow of information between the two is essential. Thus, however, in most basically equipment-concentrated equipment, and their restricted facilities, do have a great deal to do with the environment of broadcasting and it is possible to measure how this facilitates affect the evolution of radio and particularly television.

Production

1. Good studios are the cornerstone of good, responsive programs. Poor studios are, however, the best possible assurance of bad programs. Except on rare occasions where spectators can tell otherwise, show the conditions, cramped ill-designed studios are frustrating, and poor programs. The staff has little pride in its work and a little pride in its work. The audience may be watching, but it is not watching. It is not watching. In almost the first available building and construction will be able to meet the broadcast needs, have installed the equipment and facilities where any kind of reliable, high quality program can be made.

Worked with inadequate facilities, the broadcaster has a full range of incentive nor opportunity to produce a high quality program. A heavy dependency on canned, formula programs will limit the scope of the program, needs will not be met.

Good studios are related to the quality of the production and the operations (or radio) in "temporary" facilities is increasingly necessary. Television and radio are here to stay. The industry has been slow to realize the importance of these facilities. The industry has also failed to realize that they are facilities which will grow in spite of a variety of factors. The industry has preferred to the world broadcasting with a rapidly growing number of stations and will continue to an ever-increasing number of stations in a variety of fields. Operational inefficiency and operational costs. A sound building, specifically designed to house a broadcasting operation, will be anticipated. 20 years growth, in a building of this size, can be a financial nightmare.

2. Studio design in broadcasting has tended to isolate operational functions in windowless rooms of poor design. This is poor human engineering and a contributing factor to poor operation and programs. A well-designed production center will have glass panels only where soft, natural or subdued lighting is essential. Otherwise, it should be a dark room housing a variety of functions. Intercommunication between individuals in a network which is essential to harmony and good production.

10. There are still some minor equipment bugs and technical vision which are a matter of time and effort. The system probably because that are not... (text is very faint and partially illegible)

11. All the... (text is very faint and partially illegible)

Paragraph 11

12. Transmission questions are substantially... (text is very faint and partially illegible)

2. In the event of a change in the law, the Board shall have the authority to amend the rules and regulations of the Board, provided that such amendments are not inconsistent with the purposes and objectives of the Act.

Board

The Board shall consist of seven members, five of whom shall be appointed by the Governor and two by the Senate. The members shall hold office for a term of four years, and shall be eligible for reappointment. The Board shall elect a Chairman and a Vice-Chairman from among its members. The Board shall meet at such times and places as it may determine. The Board shall have the authority to subpoena witnesses and to administer oaths.

Board

The Board shall have the authority to make and alter rules and regulations, not inconsistent with the Act, governing the practice of the profession. The Board shall have the authority to suspend or revoke the license of any member of the profession who is guilty of misconduct or who is incompetent to practice. The Board shall have the authority to discipline any member of the profession who is guilty of misconduct or who is incompetent to practice. The Board shall have the authority to discipline any member of the profession who is guilty of misconduct or who is incompetent to practice.

work on more practical non-electronic techniques, questionnaires, audience research, evaluations as well as qualitative examinations of broadcasting. But a broadcast system is reliable if it depends upon "instinct" or habit to maintain its output.

There is an immense field for engineers and technologists in applying their knowledge to this work line in the mass communication cycle. One possibility is suggested from the natural evolution of radio technology, the rapid reductions in size and weight. Lightweight recorders, audio and video offer the broadcast engineer a possibility to pay part of the isolation of his studies.

There is a reason why village recorders, complete with six or more monitors should not record simple programs in a village for playback the same evening. The program would not be broadcast at all, or perhaps some elements of them might be saved for a national broadcast. The main consideration is that "broadcasting" and broadcasters would be involved and seen to be involved with their audience. People, seeing themselves on television, are much less likely to look upon "the box" as an omnipotent and insympathetic "star light". The technique would be relatively costly as a van, such as is described, would be using vacuum service to cover 200 villages per year. But as cameras, switching and all the apparatus of television become less expensive and more reliable, the idea becomes more attractive than ever. Ten or even 50 vans may not be beyond the scope of a broadcasting organization.

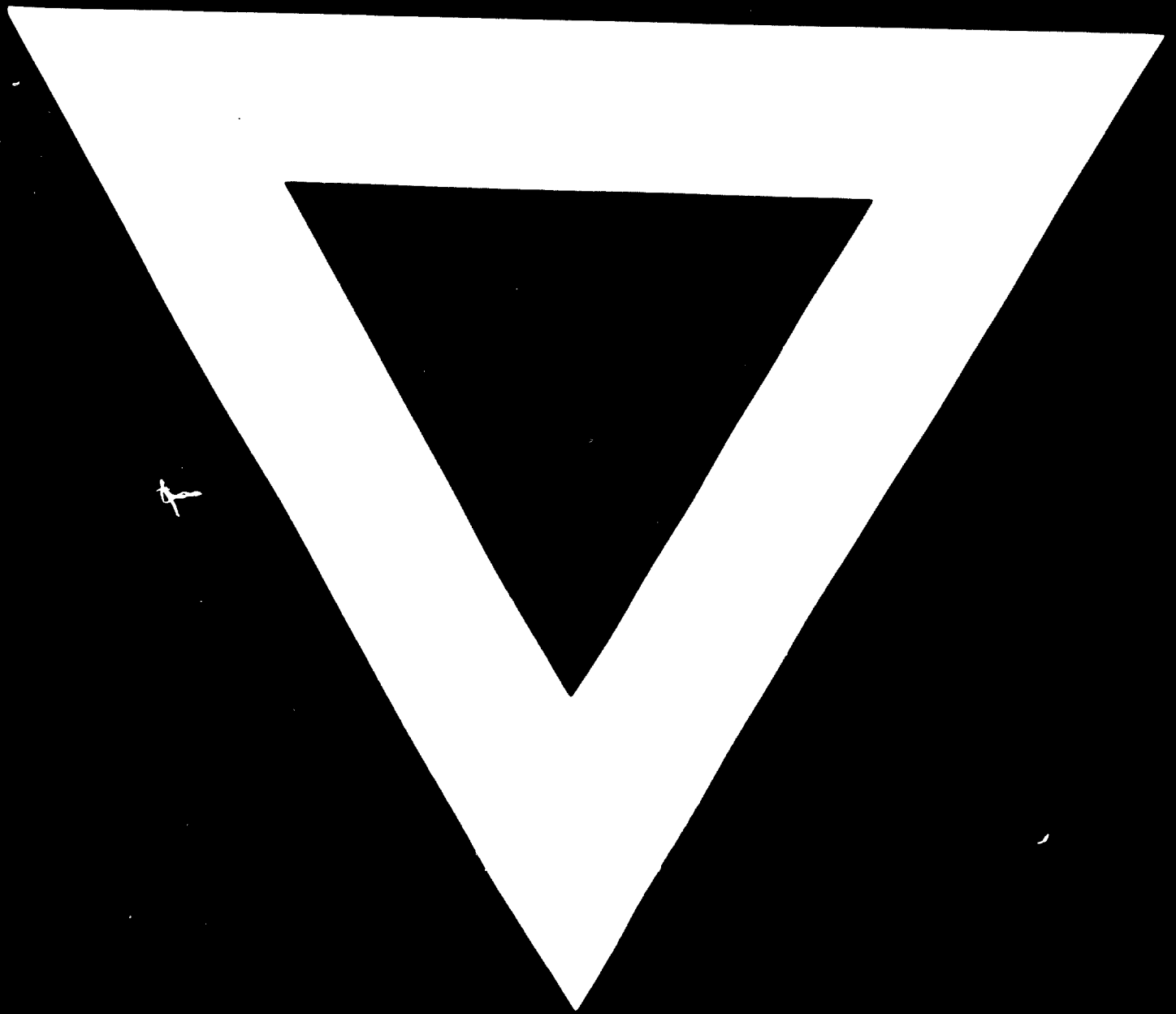
Broadcasting has moved in fifty years from the experiment of a handful of scientists to one of the largest and most universal institutions in the world. Within this institution, there is room and need for infinite variety and specialization. Whether it be in research, manufacturing, production and performing, transmission reception or feedback, there are few human interests which cannot be encompassed by professional opportunities in radio and television.

Broadcasting is, however, a public activity, and even in the most technologically developed countries its influence on the public is considerable in terms of what is known and probably even more significant in terms

of what is not known - the influence upon violence, for example.

In developing countries the responsibility of broadcasting is fundamentally public and whatever the technical, production or manufacturing considerations may be, it is this orientation which will decide whether or not radio and television play the developmental role of which they are capable.





**10 . 8 . 72**