CHAPTER ONE

INTRODUCTION

1.1 Communication
1.2 Mass Communication
1.3 Media Classification
1.4 Role Of The Studios
1.5 Studio Facilities
1.6 Studio Operations
1.7 Studio Acoustics
1.8 Planning & Organizing
1.9 Professional Studio
1.1 Origin of Communication

Communication is the essence of mankind and is an ever-continuing process and its need is as basic as the hunger for food. Just as people exist and society exists, so does communication. In fact it is communication that welds individual people together to form a society. In primitive times, man communicated with gestures and sounds, today he uses highly sophisticated means but the principle is the same that is in both instances there is a sender of a message, a receiver for understanding of the message conveyed.

The rapid progress made in communication processes in recent times has also brought about a slight change in the purpose of communication. Today we not only use communication to meet our basic and non essential requirements of life but we also use it for the purpose of introducing changes in socio economic and cultural life in order to progress and develop. Man today is so exposed to the different media throughout the day that the present generation could be well called the Comgeneration {communication generation}. 
It does not require much imagination to think of a situation in which there is no communication and in which individual humans are surrounded by walls of silence. In such a situation, society and civilization as we know today would disappear. Family and social life would disintegrate, governments would cease to function and trade and commerce would grind to a halt. This is the age of competition and survival in personal, business, media and political world depends on effective communication.

1.2 Communication And Its Types

According to Less Wall 'Who says what to whom in what manner and to what effect is communication'

According to Peter Little 'Communication is the process by which information is transmitted between individuals and or organisations so that an understanding response results'

According to William Newman 'Communication is an exchange of facts, ideas, opinions or emotions by two or more persons'

According to Henry Compton 'Communication is interaction among people'

Communication can be classified into several types depending upon the social group in which it takes place and upon the technical devices used to facilitate it. The group ranges from intrapersonal and interpersonal to group and mass.
1.2.1 Mass Communication

Simply understood mass communication is communication that flows from few to the many. The contents of the message may not be very different from that in interpersonal communication but the means used and the presentation of the message will be different. Although supposed to be common knowledge, it involves special techniques and scientific study of human behavior, social dynamics and tensions.

Mass communication are now disseminating information, transmitting knowledge and providing the speediest, the most effective means of communication. Mass media not only give the news but also provide information on different aspects of life and its problems. They also provide cultural fanfare and entertainment. They provide the motivation for social change; create the climate for development and influence attitudes and traditional practices. They also help in imparting various types of education and training, formal and informal.

In mass communication the communicating is done by a social institution that is responsive to the environment in which it operates, does the communicating. There is an interaction between the media and society. The media not only influences the social economic and political order in which they perform, they are in turn influenced by it.
Communication technology has increased the opportunity of education for illiterates and has made communication of information possible quickly and cheaply to the masses.

1.2.2 Role of Mass Communication

According to Emery, Ault, And Agee “Successful mass communication is person to person contact repeated thousands of times simultaneously”

According to Joseph Dominic “The process by which a complex organization with the aid of one or more machines produces and transmits public messages that are directed at a large heterogenous and scattered audience”

In short it’s the communication from one individual or group to a large no of persons. The function of the mass media is threefold; to inform to educate and to entertain. The media cannot by itself bring about development directly except when it takes the role of an educator but what the media can do and has done in many countries is to get a dialogue and discussion started which ultimately leads to development.

1.3 The Media Scene In India

The colonial past of India has had a remarkable influence on the way the mass media evolved, got entrenched into private and public sectors and was
perceived as either a means of earning money or controlling information and thus the thoughts of the people. For the purpose of analysis mass media in India can be divided into government owned and private owned media organisations and systems. The government of India manages under its exclusive control radio, television, news, documentary films and publicity through print, cinema and electronic media. The private owned media are involved with every aspect of media.

1.3.1 Classification Of Media

Print

The print media has an insignificant role to play for information and learning because of the still high rate of illiteracy in India. The first newspaper in India was published by James Hicky in 1780 and was called the Bengal gazette. The first newspaper under Indian management appeared in 1816 and was published by Gangadhar Bhattacharjee.

Radio

Radio came on Indian scene as soon as it appeared elsewhere in the world. It began in 1927 with 2 privately owned transmitters at Bombay and Calcutta. Later the government of India took over in 1930 and All India Radio was established in 1930.
Today the government is licensing the FM stations and by the end of
the year 2007 there will be 337 private stations in 91 cities for Radio in India.

Cinema

Many of us think sound was added to pictures many years after the first movie
film was shown. Strangely this is not the case. On October 6 1889 Dickson in
the USA showed an audio visual recording of himself greeting Edison.
Though Bhatvadkar had made some shots of the coronation of king Edward
VII in 1903 it was Dadasaheb Phalke who made the first Indian feature film”
Raja Harischandra “in 1913. It was a silent film with subtitles in English and
Hindi. Today India is the worlds largest film producing country and engages
over 20,00,000 personnel in this sector. However compared to the rate of
feature films, production of educational films is insignificant.

Television

The first television center in India was commissioned at Delhi in 1959 as a
UNESCO aided project its purpose was to gauge the effectiveness of television
in community development and adult education. The growth of Indian
television has been phenomenal in both scope and area in the last few years.
Doordarshan produces and telecasts programmes for education development
and entertainment and the private channels are also supplementing this role.

There are a large number of channels today and the numbering is growing.

1.4 **Studios and their Role**

Studios play an important role in creating and telecasting what is to be shared out with the masses, be it through the medium of films, television, or through the radio. It's a dedicated acoustic environment, which allows all the operations to be carried out in reasonable comfort and absolute safety.

They can be classified and defined in terms of its purpose and layout, its acoustics and treatments that can be used to modify them and its furnishings. These can be described for radio and recording studios and for television and film recording.

1.5 **Basic Studio Facilities**

These can be categorized as technical and production facilities, which include vision facilities and sound facilities and also scenic designs, costumes and make-up. They are classified under different facilities as depicted in the following: -
1. **Technical:** Vision facilities [including lighting]
   Sound facilities [including talkback]

2. **Production:** Scenic design [including graphic design]
   Costume
   Make up.

**TECHNICAL FACILITIES**

Technical facilities are usually permanent features within a studio and its associated environs, and do not change on a day-to-day basis.

**PRODUCTION REQUIREMENTS**

Production requirements on the other hand, change from one programme to another.

**LAYOUT OF CONTROL AREAS**

The three main control areas associated with the television studios are:

1. Production control where the director and his immediate production staff are located.
2. Vision control area where the lighting director and video engineers or operators are located.
3. Sound control area where the sound mixer audio controls specialist and his staff are located.

1.6 **Studio Operations**

The operational side of sound studio work, or the sound department of the visual media, includes the following.

- **A proper choice of acoustics setting:** selecting, creating or modifying the studio environment according to the specifications of the program.

- **Balance of the microphone:** selecting the suitable type of microphone setup and placing them to pick up the most satisfactory sound from the various sources.

- **Mixing:** The output from the microphones, replay machines, artificial reverberation devices and the remote studios all have to be effectively combined to achieve the desired result.

- **Controls:** It has to be ensured that the programme level [that is in relation to the noise and distortion levels of the equipments used] is not too high or too low and to verify that the medium of recording or radio or television transmission is done effectively.

- **Creating:** The sound effects [called either spot or hand or foley] must be used effectively for the desired result.
• **Playing records and recording into programmes**: This includes recording effects, music discs or tapes, interviews and reports, pre recorded sequences, etc.

• **Recording**: Ensuring that the resultant mixed sound reaches and is inscribed upon the recording medium without any significant loss of quality.

The person who is responsible for balancing, mixing and control may be a balance engineer [in commercial recording studios] or a sound or programme engineer.

The nerve center of any broadcast or recording lies in the control desk. It is here that all the different sound sources are modified as per requirements of the programme and mixed for the desired effect. In a live broadcast it is here that the final sound is put together and it is the responsibility of the sound supervisor to see that no further adjustments of any sort are necessary before transmission time.

The desk of the console, in most of the studios is the most impressive capital item. It often presents a varied array of faders, switches and indicators. It essentially, consists of a number of individual channels, each being associated with a particular microphone or some other source. All this is preset [altered according to need at times], so that the output may be combined into a number
of group controls, which can be operated easily by the sound engineer. These
in turn pass through a main control to become the studio output. That ‘varied
array’ plainly offers many opportunities to do different things with the sound.
Apart from the faders, of whom the function is obvious; many are used for
signal routing. Some allow modification of frequency content [equalization]
or dynamics [this includes compressors and limiters]. Others are concerned
with monitoring. There are more still for communications. Outside the desk,
there are specialized devices, which are inserted at chosen points for artificial
reverberation and further ways of modifying the signal.

In many desks, the audio signal passes first through the individual strips
[channels], then through the groups, then to the main control and out to ‘line’
In many other desks, the preset equalization, dynamics and some of the
routing controls are located away from the channel strips, so that these can all
be entered separately into the memory of a computer, thereby greatly
reducing the complexity and total area of the layout.

Apart from the microphones and control desk, high quality loudspeakers
system is of much importance in a studio. For a radio recording studio
especially, which is not merely a room in which sounds are made and picked
up by microphone it’s also the place where the shades of sound are judged.
The main thing that distinguishes a broadcasting studio from the other place where the microphone and recorder may be set up, is that two acoustically separate rooms must be used: one where the sound may be created in suitable acoustics and picked up by the microphone, and the other in which the mixed sound may be heard.

1.7 Studio Acoustics

Acoustics resonance [standing waves] can occur as the sound reverberates to and fro between parallel non-absorbent surfaces.

Acoustics resonance can be avoided by sound diffusion. This is usually achieved by introducing deliberate irregularities in the surfaces involved, so that the sound waves are scattered when they are reflected.

1.7.1 Acoustics Treatment

Three basic types of acoustics treatment are available to be used

1] Soft absorbers: - These are porous material applied to walls their action depends on the loss of sound energy, as the air vibrates in the interstices of the foam, rock wool whatever is used.
2] Helmholtz resonators: - Cavities open to the air at a narrow neck, resonate at particular frequencies. If the interior is damped they absorb at the frequency.

3] Membrane absorbers: - A layer of some material or a panel of hardboard is held in place over an air space. The material moves with the sound wave like a piston and this movement is then damped so that low frequency energy sound is lost.

1.8 Planning And Organising

In any organization, whether big or small, for its proper functioning and working, management functions play an important role and specially the function of planning. A lot of planning goes in, in the setting up of a studio and it’s functioning as well as in the activities in the studio setup.

In the small studios, no elaborate planning is necessary and one can easily get on an adhoc basis, but as the studio center acquires more facilities and staff, planning becomes imperative and some form of advance planning control is needed. Planning takes normally two distinct forms: the overall planning and allocation of station facilities and the planning of individual productions according to their specifications.
1.8.1 Co Ordination

The systems (programme) planning coordinates projected studio productions, and broadly estimates the staff, facilities and in some cases the financial arrangements required to stage these programmes. In a larger studio complex, this includes co-ordination of the equipment and installation, maintenance requirements, staging and lighting schedules as per the needs of the shoot and the use of ancillary technical facilities.

1.8.2 Production Planning

The production planning is concerned with the mounting of individual studio programmes. It consists of all those steps right from the translation of a script into the staffing requirements and requirements of the equipments and the necessary facilities needed to materialize the programme.

1.8.3 Floor Plan

The floor plan is one that details all the proposed staging layouts and is a scale plan of the studio with details of its facilities. This is usually to a scale of 1:50. Thus a floor plan becomes a blueprint for a particular show. Details of the furnishings, cameras, sound booms and any other operational equipment are subsequently marked on the plan.
1.8.4 **Studio Discipline**

Good studio discipline is necessary for the effective use of the studio and the maintenance of good programme standards. It is essential, the programme be well planned to avoid confusion and chaos on the sets of the studio and to enforce good production discipline

1.8.5 **Disturbances**

The disturbances should be kept to the minimum at the studio and this can be done in the following ways.

1. There should be strict observance of the studio condition, that is, on rehearsal the need for absolute silence in the studio and minimum staff interruption in the control rooms. On transmission and recording, the need for absolute silence is utmost importance.

2. The staff should be disciplined and trained as not to touch the studio props, caption stands, sound mixing desks, vision mixing desks, lighting consoles, etc which may have been carefully set up in a particular way at rehearsals.

3. All visitors should be kept at the minimum in the studios for better and effective control.

4. All the studio doors must be properly closed and the sign should be on outside the studio doors so as to avoid uncalled disturbance during recording.
1.9 **Requirements Of A Professional Studio**

A recording studio provides a harmonious environ so as to promote the following:

1. Ability to work during the chosen hours of use without disturbing, or being disturbed by, anything or anybody in the local community.

2. Recording musicians without delay.

3. Inspiring confidence in all the personnel involved in any recording.

4. Providing an adequate supply of clean, fresh air, in a temperature and humidity controlled environment.

1.9.1 **Sound Isolation**

Sound isolation also sets the dynamic range limit for a studio.

This latter point is very important in a professional recording situation, but it is often under-appreciated and thus neglected.

Also professional studios should be ready for whatever the musicians moderately require because capturing the artistic performance is the prime focus of their existence.
1.9.2 **Confidence in the system**

A professional studio should be able to operate efficiently and smoothly. Not only should the equipment be reliable and well maintained, but also all doubts and difficulties should be avoided and omitted as far as possible from the whole recording process.

This means that a professional studio needs recording rooms, which have good acoustics, and monitoring possible, that can allow a good judgement of selective sounds entering the microphone.

1.9.3 **The Complete System**

Studios should also be well ventilated, with good stability of temperature and humidity otherwise musicians may not feel comfortable and there can be a variation in the tuning of the instruments. Correcting the tuning later by electronic means is not a good and appropriate, professional solution to any of these problems because if the problems exist at the time of the recording it will definitely affect the performance negatively.
1.9.4 **Height**

Height of the studio is also of importance because good and desirable acoustics cannot be achieved in a studio with less height and this factor must be borne in mind by the studio owners when constructing a studio. This will assure the studio to be free of problematical compromises.

1.9.5 **General Requirements**

The general requirements of a studio should be carefully thought about before a location is chosen.

1. Noisy electro-mechanic systems, such as ventilator fans, disc drives and air conditioning units should not be allowed to disturb the recording or monitoring environments. Background noises above 30 decibels are not acceptable for professional use.

2. Choice of location can greatly simplify sound isolation requirements, but sometimes a convenient access for the clients may drive studios into a more noise sensitive areas.
3. An undisturbed recording environment may be essential for achieving great artistic performances.

4. The differences in perception between different people can give rise to different hierarchies of priorities in terms of what aspects of a sound and its reproduction are most important. Due to individual differences, the sound arriving at each individual is perceived differently.

5. Historically speaking recording studios have been relatively neutral environments. The function of the recording studio was seen as being to record the sounds, which the musicians produced as faithfully as possible.

6. There has been a great increase in the number of split air conditioning units used in studios, but they are not necessarily the most ideal, and if to be used must the quietest and aerodynamically profiled.

7. Colors and general decoration are a very important part of a studio environment but interior design should never be allowed to limit the work of the acoustic designer.
8. It is strongly recommended to connect all audio equipment to the same electrical power phase from point of view of safely and noise.

9. The control rooms must be in practical working environments.

10. Mixing consoles should be proportionate in size to the control rooms in which they are situated. A mixing console that occupies a great proportion of the space in a control room will negatively affect the sound quality of the monitor system.

11. The control rooms lead the recording personnel to achieve great mixes. In a studio the ambience can affect the performance and recording but in a control room the ambience is the property of listening in that room and that room alone and therefore needs more carefully designed.

12. Normally there is trend to buy large mixing consoles to create an impression on the clients but acoustically speaking the rule for mixing consoles is “the smaller the better”
“A recording studio is a system, just as a motorcar is a system. No haphazard combination of high quality gearbox, engine, wheels, tires, axles, and chassis will guarantee a well-performing car. The whole thing needs to be balanced.

The same principle works with a studio. All the requirements of the studio must be well organized and synchronized according to the individual specifications of each recording to produce the best possible output.”

[Recording studio design-Neval Philipe, Focal Press, 2003]