

No. 1

JAPAN INTERNATIONAL COOPERATION AGENCY
THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF INFORMATION

**BASIC DESIGN STUDY REPORT
ON
THE PROJECT FOR
REHABILITATION OF DHAKA TELEVISION
IN
THE PEOPLE'S REPUBLIC OF BANGLADESH**

NOVEMBER 1993

NHK Integrated Technology Inc.

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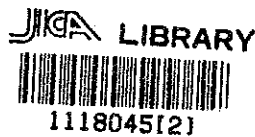
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NOVEMBER 1993

NHK Integrated Technology Inc.

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PREFACE

In response to a request from the Government of the People's Republic of Bangladesh, the Government of Japan decided to conduct a basic design study on the Project for Rehabilitation of Dhaka Television in the People's Republic of Bangladesh and entrusted the study to the Japan International Cooperation Agency (JICA).

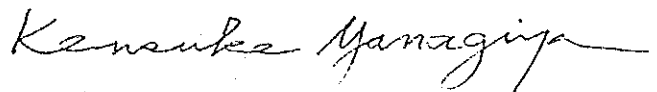
JICA sent to Bangladesh a study team headed by Mr. Kazuo Yanagisawa, Deputy Director, Private Broadcasting Administration Division, Broadcasting Bureau, Ministry of Posts and Telecommunications and constituted by members of NHK Integrated Technology Inc., from 12th June to 2nd July, 1993.

The team held discussions with the officials concerned of the Government of Bangladesh, and conducted a field study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Bangladesh in order to discuss a draft report and the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the People's Republic of Bangladesh for their close cooperation extended to the teams.

November 1993



Kensuke Yanagiya
President

Japan International Cooperation Agency

November 1993

Mr. Kensuke Yanagiya,
President
Japan International Cooperation Agency
Tokyo, Japan

Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Rehabilitation of Dhaka Television in the People's republic of Bangladesh.

This study was conducted by NHK Integrated Technology Inc., under a contract to JICA, during the period of June 7, 1993 to November 30, 1993. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Bangladesh and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

We wish to take this opportunity to express our sincere gratitude to the officials concerned of JICA, the Ministry of Foreign Affairs, and the Ministry of Posts and Telecommunications. We would also like to express our gratitude to the officials concerned of Economic Relations Division, the Ministry of Finance, the Ministry of Information, Bangladesh Television, the JICA Bangladesh office, the Embassy of Japan in Bangladesh for their cooperation and assistance throughout our field survey.

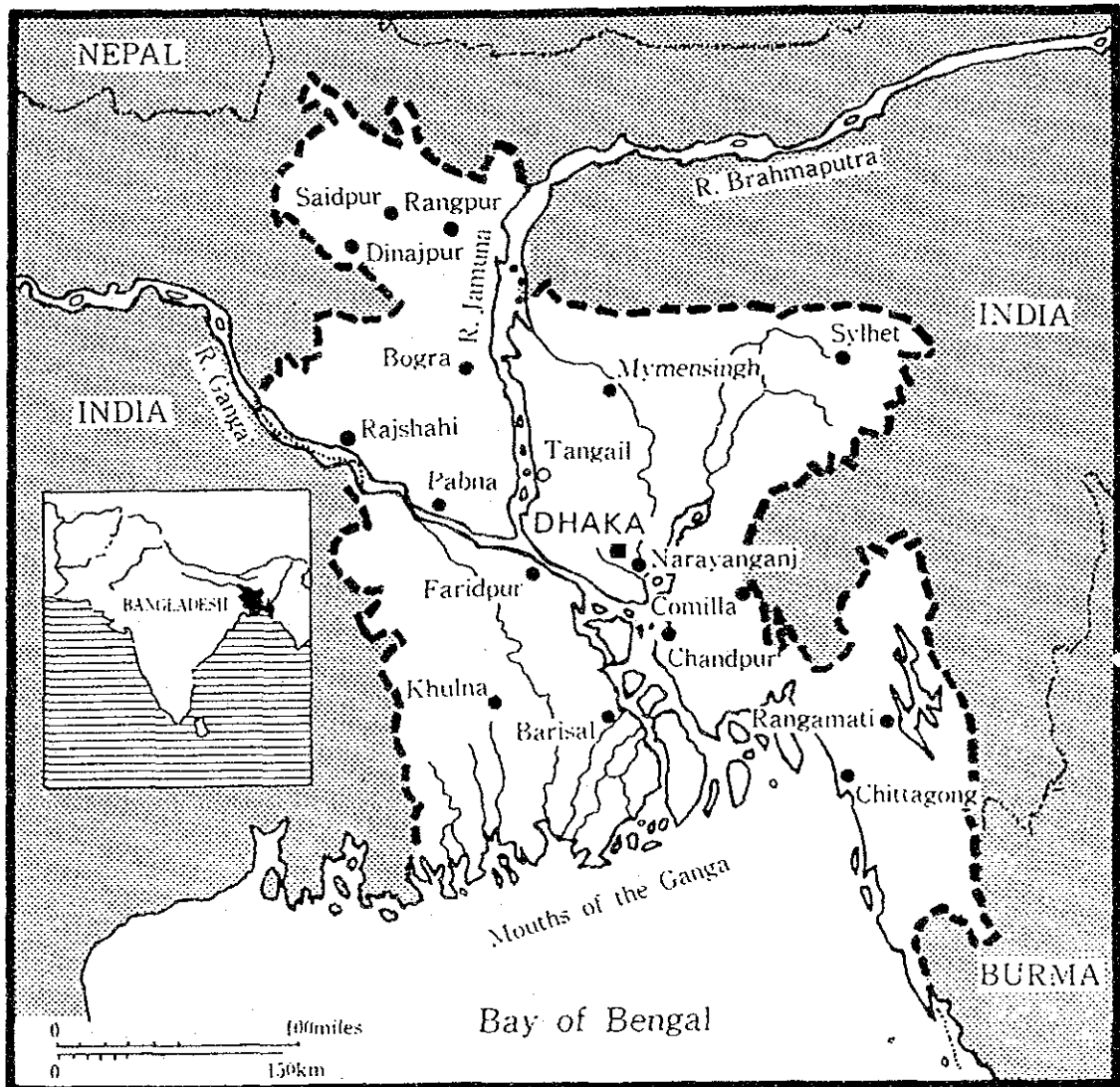
Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,



Osamu Karasaki
Project manager,
Basic design study team on
the Project for
Rehabilitation of Dhaka Television
NHK Integrated Technology Inc.

People's Republic of Bangladesh



S U M M A R Y

SUMMARY

Having only recently become independent (December 1971), the People's Republic of Bangladesh is currently making active efforts to develop itself under its fourth five-year plan (1990-1995). In order to more effectively promote this plan, the Government of Bangladesh has emphasized the importance of television broadcasting as a necessary form of mass-media for universally conveying information to its people and educating them at the same time. By broadcasting on such topics as education, agricultural promotion, regional development and weather, Bangladesh Television(BTV), which is under the management of the National Broadcasting Authority (NBA) (the only broadcasting body in Bangladesh), has greatly contributed to the development of the nation.

BTV produces all of its programmes at the television centre in Dhaka, the nation's capital in the centre of Bangladesh. In addition, BTV has transmitting stations in 11 locations throughout the country, including Dhaka and Chittagong, from where it broadcasts its programmes to 80% of the nation's population. From 1973 to 1974, the eighth implementation of yen credits enabled the Dhaka Television Centre to propose a plan and receive equipment for its television centre and other facilities, leading to colour broadcasts in 1980. In the last thirteen years, however, much of the equipment has become superannuated and manufacturers have stopped producing some of the necessary parts, making it difficult to properly maintain the facilities.

In order to overcome these conditions and increase the number of self production programmes, BTV has enacted a plan for the establishment of equipment for the new building completed in 1990 (including three studios) as well as for the rehabilitation and expansion for its existing centre. To implement this plan, the Government of the People's Republic of Bangladesh has made a request for grant assistance cooperation to the Government of Japan.

In response to this request, the Government of Japan decided to implement a basic design study, focusing on the rehabilitation of equipment within the existing station buildings. Following this decision, the Japan International Cooperation Agency (JICA) dispatched a basic design study team to Bangladesh for 21 days between 12 June 1993 and 2 July 1993.

The following is an outline of the study results and selected equipment for the Project.

Name of facility	Number of sets	Content
1. Master Control Room	1 set	This facility has three-system programme transmission capacity. It manages the assignment and switching of programmes from outside stations, the assignment, switching and transmission of programmes produced within the station as well as the generation and distribution of standard sync. pulse signals.
2. Assignment Switcher	1 set	This facility consists primarily of the assignment switcher which selects the new or existing VTR and telecine devices and switches between recording and playback functions.
3. News Continuity Studio	1 set	This studio facility is for the production and transmission of news programmes.
4. Drama studio facility	1 set	This facility is for the production of drama programmes as well as music and other large-scale programmes
5. Small-scale studio facility	1 set	This facility is for the production of small-scale music programmes, talk shows, educational programmes and other relatively small-scale programmes.

This plan is designed to rehabilitate existing equipment and must therefore be implemented without discontinuing broadcasts. For this reason, it is expected that the construction period will be extended. Furthermore, there is a need to produce and transmit programmes using provisional facilities.

In terms of the construction period, 3 months of planning and 12 months of construction and procurement are expected. Project expenses required for the Project for Bangladesh amounts to 100.6 lakh Taka.

The following results can be expected after completion of this rehabilitation plan.

- As existing equipment is superannuated and unstable, programme production and maintenance is difficult. In consequence of rehabilitation, stability and reliability of equipment will be raised, operation ratio will be improved. As a result, the number of programme production will be expected to increase.
- By adoption of high grade and multiple functioned equipment, it is possible to use freely high production technique, so it is expected to produce higher quality of programme.
- It is possible to improve of send out function with large and multiple functioned master control room. Moreover, it is possible to expand the facility in future.
- It is easy to exchange programmes with the other countries by adoption of 1/2 inch VTR.
- Adoption of CCD colour cameras make improvement of reliability of equipment and make maintenance easy.
- Adoption of VTR Assignment switcher make VTR editing easy, and improve variety of operation of VTR.

The current staff is sufficiently capable of maintaining operations after the completion of the Project. There is no need to make personnel adjustments. There will also be no large-scale changes in terms of maintenance and administrative expenses.

The skill level of the technical staff is sufficient to handle the equipment being provided through this plan. The level of presentation techniques of the production staff is also high. If the equipment are provided, BTV has the basics to produce and broadcast high-quality programme.

Through these measures, the Project will contribute to the improvement in the quality of life of the people of Bangladesh. Since there will be no problems in terms of operation and maintenance after completion, it will also be meaningful as an implementation of Japanese grant aid assistance.

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CHAPTER 1 INTRODUCTION

CHAPTER 1 INTRODUCTION

Television broadcasting in the People's Republic of Bangladesh is entirely under the operation of Bangladesh Television (BTV) which is under the jurisdiction of the Ministry of Information, the National Broadcasting Authority. There are no commercial broadcasting station. The television broadcasts in Bangladesh play an important role in education and the promotion of the government's development plans. Television broadcasts which appeal to the audio and visual senses are particularly effective in a country like Bangladesh which has a low literacy rate. The nation's fourth five-year plan emphasizes the importance of television broadcasts and makes it a major aim to maintain them.

Based on this policy, BTV put its energies into the construction of a new station building, including three studio rooms, inside the Dhaka Television Centre (completed in 1990). Based on this same policy, BTV has made a request for grant aid assistance to the Government of Japan to help in the implementation of its expansion and rehabilitation plans designed to expand and recover the station's capacity through the establishment of new equipment as well as the rehabilitation of existing equipment in the old station building.

Based on this request, the Government of Japan decided to conduct a basic design study on the Project for the rehabilitation of Dhaka Television through the renovation of its current equipment. Following this decision, the Japan International Cooperation Agency (JICA) dispatched a basic design study team led by Kazuo Yanagisawa, Deputy Director of Private Broadcasting Administration Division, Broadcasting Bureau, Ministry of Posts and Telecommunications, to the People's Republic of Bangladesh to conduct investigations from 12 June to 2 July 1993.

The study team conducted its site survey by consulting with the ERD (Economic Relations Division, Ministry of Finance), Ministry of Information, Bangladesh Television and other relevant parties representing Bangladesh.

While conducting the site survey, the team listened to and confirmed the background of the Project, beginning with its adoption and leading to the requests made for Japanese assistance, as well as the specific content of the request. Furthermore, the team examined the conditions of the current Dhaka Television Centre, which form the basis of the request, and conducted consultation on the specific scale and content for the implementation of the Project.

Following the site survey and return to Japan, the team conducted analyses and examination which confirmed the adequacy of the Project as a project for grant aid assistance, made basic designs for the facilities necessary and most appropriate for implementing cooperation, and drafted the final report. In order to explain and discuss on its contents, JICA dispatched another mission from 9 September to 18 September, 1993.

The member list of the study team, schedule of the survey, list of interviewees, minutes of discussions and other information are included in the data assembled in this report.

CHAPTER 2 BACKGROUND OF THE PROJECT

CHAPTER 2 BACKGROUND OF THE PROJECT

2-1 Background of the Project

2-1-1 Present Status of Television Broadcasting in Bangladesh

The Ministry of Information of the Government of Bangladesh includes the National Broadcasting Authority (NBA), which consists of two divisions, Bangladesh Television (BTV) and Radio Bangladesh (RB). NBA manages all broadcasting operations which currently consist of one television channel and three radio channels. There are no commercial broadcasting stations in Bangladesh. NBA operates all national broadcasts.

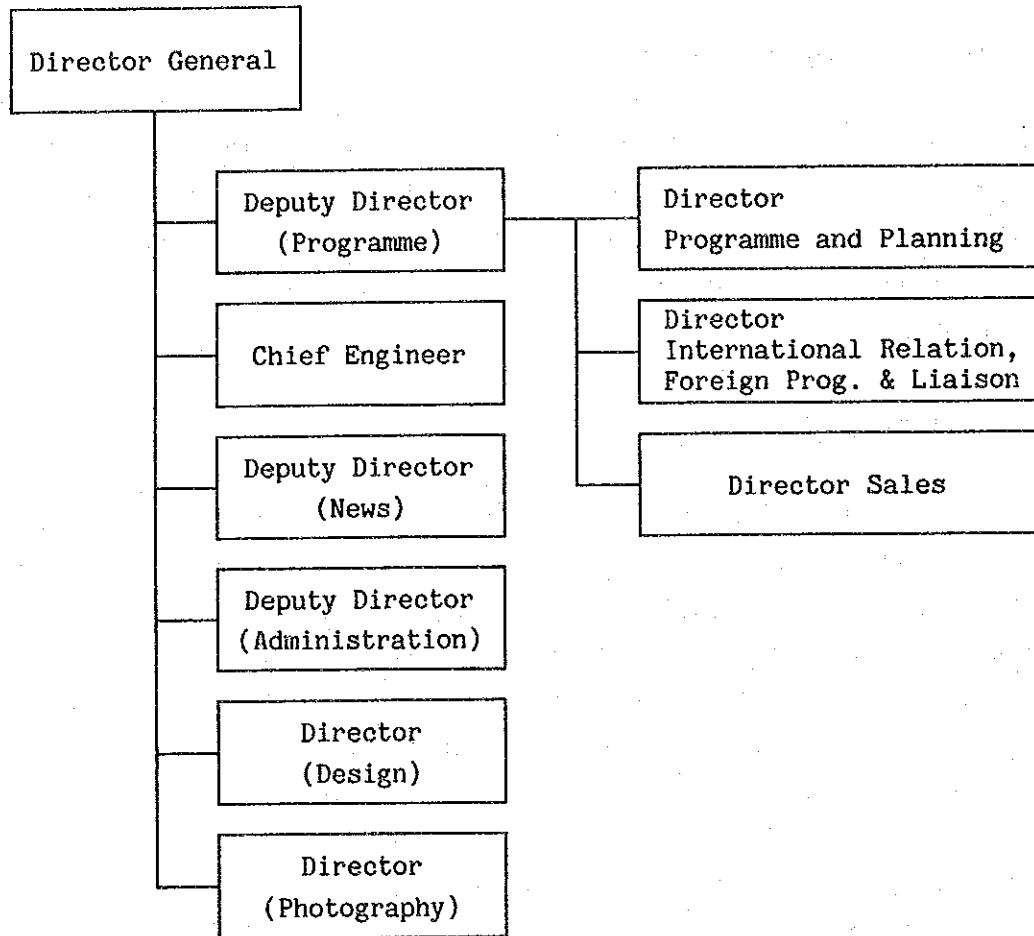
(1) Organization and outline of BTV

Television began in Bangladesh in 1964 as one local station of a Pakistan television. BTV emerged after the nation became independent in 1971. From 1973 to 1974, through the eighth implementation of yen credit, plans were adopted and assistance of equipment was implemented for the construction of the Dhaka television center. In 1980, colour broadcasting began using the PAL-B system. As part of the National Broadcasting Authority of Bangladesh, BTV currently employs a staff of 1,806 and provides coverage to 80% of the population through its eleven regional transmitting stations and the Dhaka transmitting station which are linked by a microwave relay network connecting to the television center in the Rampura region of Dhaka (this center has a 400-seat auditorium, one news studio and two other studios). In 1991, there were a total of about 500,000 television sets (140,000 colour and 360,000 black and white).

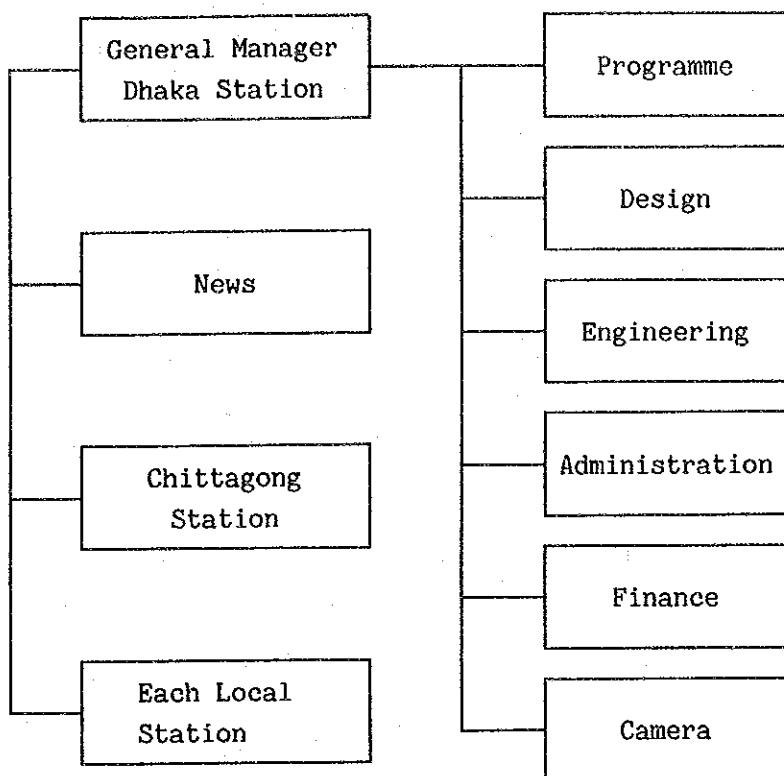
BTV is organized into a headquarters (administrative division) and operation divisions. The field office consist of Dhaka Television Station, Chittagong Television Station and other regional broadcasting stations as well as an independent News Division. There are regional News Division in four cities, including Chittagong and Khulna. Each of these divisions has several cameramen who collect news materials as it occurs locally. Other regional stations mainly employ technical staff for the

operation and maintenance of television transmitter (refer to organization chart).

Organization Chart for BTV (Headquarters)



Organization Chart for BTV (Field Office)

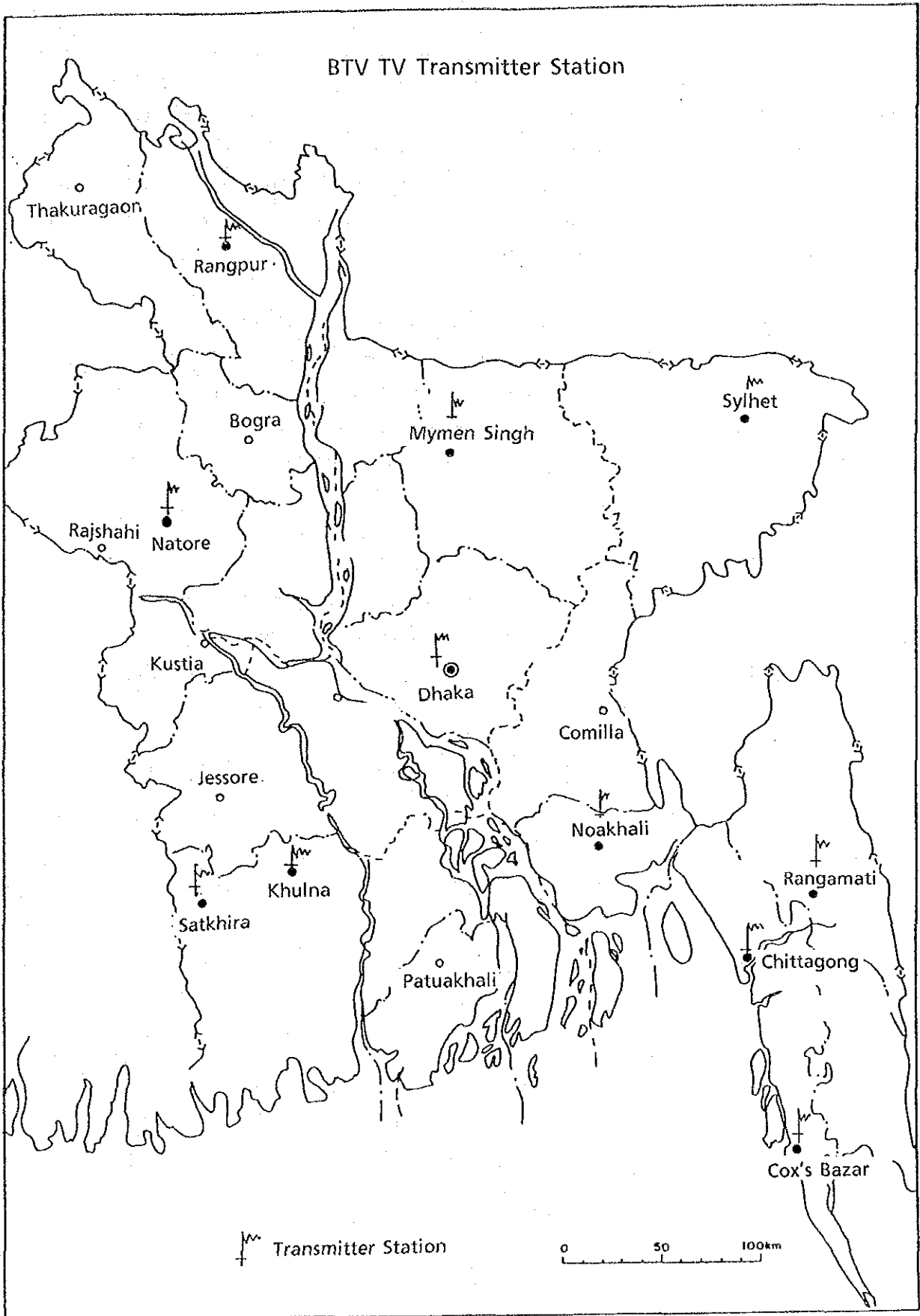


All programme production functions are currently located at the Dhaka Television Centre. All broadcast programme are produced at this television center. The regional stations receive programme assignments and broadcast these programme.

Table 2-1-1 BTV TV Transmitter Station

Station	Channel	Output Power	Remarks
Dhaka	Ch-9	10kW × 2	NEC
Rangpur	Ch-6	10kW	“
Natore	Ch-8	“	“
Mymen Singh	Ch-12	“	“
Sylhet	Ch-7	“	“
Khulna	Ch-11	“	“
Noakhali	Ch-12	“	“
Chittagong	Ch-5	“	“
Satkhira	Ch-7	1kW	LGT (France)
Rangamati	Ch-8	“	“
Cox's Bazar	Ch-10	“	“

BTV TV Transmitter Station



(2) Television broadcasting programme

BTV and RB produce and broadcast programme according to the Guidelines for Radio and Television Programmes established by the NBA (refer to data). The preface to this guidelines describes that "The responsibilities of Radio and Television as powerful mass media are enormous. The basic objective of broadcasting and telecasting are four-fold: dissemination of information, extensions of education, motivation for development activities and entertainment."

Since BTV is the only television station in Bangladesh (there are no commercial broadcasting station), the programme content, as noted in the broadcast schedule below, consists largely of government policy promotion, news, adult education, health, hygiene and other topics as well as dramas, music, movies and other forms of wholesome entertainment.

Programmes are:

Weekdays (Saturday to Thursday) : 17:00-23:45
(six hours and 45 minutes a day)
Holiday (Friday) : 8:00-12:30 and 15:00-23:45
(13 hours and 15 minutes a day)

There are 53 hours and 45 minutes of broadcasts a week.

The following chart shows the number of broadcasting hours per programme per week.

Table 2-1-2 Kind of Programme and Broadcasting hours/week

Programme	Hours/week	Ratio (%)
News, Information	10:30	19.6
Education	5:20	10.0
Programme for women & children	3:30	6.5
Religion	1:15	2.3
Culture & Entertainment	21:27	39.9
Sports	3:25	6.3
Others	8:18	15.4
Total	53:45	100.0

As shown in the table, news and information programme account for about 20%, educational programme for about 10% and drama, music and other entertainment programme for about 40% of the broadcasting hours. The "others" category includes programme aimed at youth and students.

Programme production conditions are marked down by superannuated equipment and studios. As a result, the broadcasting hours occupied by self production programme account for just over 30% of the total.

Table 2-1-3 Origin of programmes on weekly basis

Imported Programme	51.53%
Self Production Programme	32.00%
Others	16.47%

Programme Schedule (BTV)

	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.	Sun.
8:00					Morning Transmission		
				8:15	Opening Announcement Al-Quran		
				8:40	ALOR DISHARI		
9:00					NOTUN KUNRI		
10:00				10:05	NEWS AT TEN		
					MONER MUKURE		
11:00				11:15	a) Shukha Dikha		
				11:30	b) Moder Garob Moder Apha		
12:00					Film Show		
				12:30			
~~~~~							
15:00					Evening Transmission		
					Opening Announcement Al-Quran		
					Cartoon Film		
16:00					a) MOVIE OF THE WEEK		
					b) BANGLA FEATURE FILM		
17:00	Opening Announcement Al-Quran	Opening Announcement Al-Quran	Opening Announcement Al-Quran	Opening Announcement Al-Quran	SANGBAD	Opening Announcement Al-Quran	Opening Announcement Al-Quran
25	Cartoon Film						Cartoon Film
35		ESHO PARA SHIKHI	a) HIJAL TAMAL	School Debate		a) MONER KATHA	
18:00	Sports Programme		b) UNMESH		Sports Programme	b) AMRA NATUN	Sports Programme
		TV DEBATE	c) BONOPHUL			Cartoon Film	
30		COMPETITION	d) NIBEDON	ESHO PARASHIKHI		a) TARUNNYA	a) MAA O SHISHUR SHASTHA
19:00	a) SHAMACHAR					b) BISWABIDALAY RICHITRA	b) MAAEDER JANYE
	b) DESH O BIGGAN						
	Open University	Open University	Open University	JIBONER ALO	Open University	BANSHORI	Open University
25	Nazrul Songs	SANGEETA	Tagore Songs	Nazrul Songs	MALANCHA		Tagore Songs
20:00	8 O'CLOCK NEWS	8 O'CLOCK NEWS	8 O'CLOCK NEWS	8 O'CLOCK NEWS	8 O'CLOCK NEWS	8 O'CLOCK NEWS	8 O'CLOCK NEWS
30	a) SHUKHI NIR		a) KHATTER TALE TALE		Comedy Show	MATIO MANUSH	a) PROBAHO
21:00	b) JANOMAT/SHABER JONYE SHASTHO		b) SANGBAD PORUKRAMA				b) ANTORALE ARMI
			c) BISWA PARIKRAMA	E SHAPTAHER	a) MANABADHIKAR	a) BOLUN DEKHI	
30	a) BARNALI	Drama Series		NATOK	b) ANTORANGA	b) ABHIMAT	Film Show
	b) GHORE BAIREY		Film Show		c) UPOHAR	c) AMAR DESH	
30	c) ARSHI				d) ITTYADI		
	d) BHARA NADIR BANKE				e) ABOSHAR		
22:00	e) SHAPTADINGA						
	NEWS AT TEN	NEWS AT TEN	NEWS AT TEN	NEWS AT TEN	NEWS AT TEN	NEWS AT TEN	NEWS AT TEN
30							
23:00	Comedy Series		a) UJJIBON		Drama Series	Drama Series	a) Suro Hahan
		Film Show	b) KATHAMALA	Film Show			b) Chaya Chando
	Musical Programme		c) MUKTA KANTHO				c) Surobani
30			d) MUKHO MUKHI				d) Surer Akash
			e) SHANITO SHANKALPA				
40	KHABOR/THE NEWS	KHABOR/THE NEWS	KHABOR/THE NEWS	KHABOR/THE NEWS	KHABOR/THE NEWS	KHABOR/THE NEWS	KHABOR/THE NEWS
45	Tuesday's Programme	Wednesday's Programme	Thursday's Programme	Friday's Programme	Saturday's Programme	Sunday's Programme	Monday's Programme
	Close down	Close down	Close down	Close down	Close down	Close down	Close down



(3) Outline of existing facilities at the Dhaka Television Centre

The BTV Dhaka Station was originally established as a local station of Pakistan Televisions, becoming BTV after the nation's independence. Between 1973 and 1974, the current television center was constructed, and Centre started operation in March, 1975. Colour broadcasts began in 1980. At this time, most of the colour cameras and film equipment was replaced, but the audio equipment, lighting equipment and other equipment which could be used in its current state were not replaced. Now, even the replaced equipment is over thirteen years old and becoming superannuated. Four types of VTRs are being used, including a 1-inch B-format, 3/4-inch U-match high band, 3/4-inch U-match low band and an SVHS.

Existing facilities are as follows.

- a) Master Control Room (object of the Project), one room  
Most of the facilities (excluding video monitors) have been used since 1975. This facility consists of the programme sending out switcher (3-system output), sync. pulse signal generator, pre-set matrix, video distribution amplifier and audio distribution amplifier.
- b) VTR Room (partially object of the Project), one room  
This facility consists of six 1-inch VTRs, eight 3/4-inch VTRs, a VTR assignment switcher, VTR editing facility, and other equipment.
- c) News-Continuity studio (object of the Project), one room  
This facility consists of two colour cameras (with prompter), video equipment, audio equipment, two 1 inch VTRs, two 3/4-inch VTRs, monitor and lighting facilities.
- d) Drama Studio (object of the Project), one room  
This facility consists of four colour cameras, video production equipment, audio equipment, monitors and lighting facilities.
- e) Small-size Studio (object of the Project), one room  
This facility consists of three colour cameras, video production equipment, audio equipment, monitors and lighting facilities.

- f) Auditorium, one room  
 This facility consists of four colour cameras, video production equipment, audio production equipment, PA facility, monitors and lighting equipment.
- g) Telecine room (partially object of the Project), one room  
 This facility consists of three telecine devices, three opaque projectors and other equipment.
- h) Colour OB vans,  
 This facility consists of a large and a small OB vans. The small OB van, provided by Japanese assistance, has a power generator.
- i) TV transmitter, one room  
 This facility consists of one 20kW-TV transmitter (10kW x 2) for VHF channel 9, PIE and other equipment.

BTV constructed new studio building including three studios just behind of existing building. But interior finishing and air-conditioning facility of this new building has not finished yet.

#### (4) Financial status

The following table shows the financial status of BTV from 1990 to 1993.

Television subscription fees and advertising revenues are channeled directly to BTV. Total revenues for BTV amount to approximately 300 million taka (about 855 million yen) in 1991~1992. Expenditures amount to approximately 200 million taka, leaving a difference of approximately 100 million taka. BTV, however, has kept undistributed profits, giving it a healthy financial situation.

#### Summary of television license fees

Annual expenses for one colour television	800 taka
Annual expenses for one black and white television	200 taka
Annual expenses for one VCT capable of recording	950 taka
Annual expenses for one VCT with playback only	500 taka

	<u>1990-91</u>	<u>1991-92</u>	<u>1992-93</u>
	(Unit:Taka)	(Unit:Taka)	(Unit:Taka)
Revenues			
Television license fees	97,562,698	114,050,011	140,112,876
Television advertising revenues	154,548,501	185,096,119	227,252,173
Miscellaneous revenues	410,000	425,669	538,126
Total	252,521,193	229,571,799	367,903,175
Expenditures			
Personnel expenses			
Administrative staff	9,101,183	12,644,000	13,877,675
General staff	13,204,408	18,032,000	20,073,380
Various allowances	26,774,234	22,869,000	33,750,895
Program production fees & other expenses	121,360,000	140,550,000	160,661,128
Subtotal	170,139,825	194,095,000	228,363,078
Undistributed profits	82,081,374	105,476,799	139,540,097
Total	252,521,199	299,571,799	367,903,175

#### 2-1-2 National Development Plan

The Government of Bangladesh has planned and implemented five-year plan since 1974. Now fourth five-year plan (1990~1995) is on going. The major aims of this plan are as follows.

- 1) To restrict the rate of population growth
- 2) To increase industrial employment
- 3) To expand primary education and develop human resources
- 4) To conduct structural reforms and develop the technical base for achieving long-term plans
- 5) To become self-sufficient in terms of food

- 6) To become self-sufficient in terms of the minimum basic requirements for the nation's people
- 7) To promote economic growth
- 8) To promote independence
- 9) To increase the literacy of the general public

Bangladesh has only recently become independent and urgently needs to promote agriculture, build the nation through regional development and establish the national economy. Taking into account the nation's low literacy rate of 25%, Bangladesh is planning to use television as a means to promote the agricultural industry and population planning, unify the people, cultivate education, report weather forecasts, cyclone and meteorological information and other information, provide news and carry out other services. There are great expectations for television broadcasting which can convey both audio and visual information over a wide area.

The activation of human resources through an increase in the literacy rate is an important issue. Television is very effective as a means for achieving this aim.

To implement the National Development Plan mentioned above, securance of TV broadcasting which is most important mas media and increase of broadcasting programme, there are most expected by the Government. BTV also make effort to achieve this request.

#### 2-1-3 ITU Mission Reports

National Broadcasting Authority asked to ITU the Study Team on Renovations and Expansion of Dhaka TV Centre and Expansion of Radio and TV Coverage in Bangladesh. The Study was carried out in September 1991, and Draft Mission Reports are submitted to NBA in November 1991.

Summary of the Reports are as follows.

(1) Expansion of Radio and TV Coverage in Bangladesh

The aims and objectives of this mission were:

To help Radio Bangladesh to establish an FM network and the Bangladesh Television on expansion of TV coverage and the establishment of a second TV channel in the country.

Radio authorities have planned FM station/transmitters at six locations in the country. These transmitters may be consisted with TV transmitters and same tower could be utilised. As a result of survey, refurbishing of old radio studios at Dhaka and Chittagong and replacement of their equipment has to be done with the highest priority.

In regard to Television, the primary importance is to have nearly 100% coverage of the population with the existing TV service programmes via the microwave network of BTT (Bangladesh Telephone and Telecommunications).

New TV transmitters can be installed at 10 locations, suggested in Sec. 8 of the attached report on expansion of coverage. At Chittagong new TV tower needs to be constructed as presently the new antenna has been installed on the roof top of the building as a temporary measure only after the devastating cyclone in April 1991.

Regarding the Second Channel Television Service:

Although the primary importance is to have nearly 100% coverage of the population with the existing TV series programmes, there is a strong desire to establish second TV channel throughout the country, particularly broadcasting regional programmes. Existing microwave network is only capable of carrying a single TV channel and hence can only be used for the expansion of the National channel service.

## (2) Renovation and Expansion of Dhaka TV Centre

This report presents the change and modifications to the local project for B.M.R.E of Bangladesh Television central TV studios and programme production facilities in Dhaka.

The report also describes the system and equipment set-up in Dhaka, covering the old studios which are being used at present, the newly completed and yet non-equipped areas, as well as the new outside production and broadcasting facilities.

The B.M.R.E project is expected to be realised in phases for which the number, duration and starting dates of each are still unknown. For the purposes of this Report all recommendations are made under two arbitrarily defined phases.

Assumptions for the phases I and II were made as following:

Phase I: Covers all urgently needed rehabilitation, replacement and expansion work in a period of maximum 3 years from the date, i.e. in the period 1992 - 1994.

Phase II: Covers the remaining expansion and modification work to be done starting from the beginning of 1995.

Basic system and the principles of operation are as follows:

a) Beta SP format is recommended both for in and outside studio shooting and recording (See the Mission Report). Existing equipment which uses 1 in. 'B' Format should be maintained as long as they endure, but not be replaced by the new sets of the same format. Two B Format Players in best condition must be allocated and extreme care must be made to prolong their life, so that they can be used in transcribing some recorded material of important archival value.

b) If time permits, all low-band U-matic or S/VHS entries must be converted into Beta SP Format by using the special editing booths which shall be made available. If there is a shortage of time,

as may be the case for the news, direct playing of such tapes shall only be made from the News Studio Control Room.

- c) Even if the news material is on film it must either be pre-recorded on tape, or, if there is no time, played back from the central telecine room, and hence, a separate and dedicated telecine is not required in the News Studio.
- d) Each studio must have a sync. generator which can be slaved to the station master sync. generator.
- e) With the exception of the main programme transmission through Continuity Studios all video tape recording and playback must be decentralised, i.e. each functional production group must have its own VTR and player sets, while enjoying common editing facilities for post production.
- f) The list of camera manufacturers should include all reputable professional CCD camera manufacturers.

Adoption of CCD camera, adoption of 1/2 inch VTR and combination of master sync. pulse generator and slave sync. generators which are located in each studio, there are same as the Project basically. But there is some budgetary difficulty to replace VTRs at the same time. Therefore, the existing VTR should be replaced to 1/2 inch VTR successively, the Project adopted VTR Assignment Switcher to shift smoothly.

The Project aims to rehabilitate the appropriate amount of equipment which is urgent and as necessary, hence the number of the new equipment does not cover all mentioned in the ITU reports.

2-2 Outline of the Request

BTV planned a expansion and rehabilitation plan for increase of broadcasting hour and improvement of programme quality. The content of this plan is a large scale as follows.

Item	Name of facilities	Number of sets	Remarks
1	New Studio Building Facilities		
1- 1	Drama Studio	1	
1- 2	Small Studio	1	
1- 3	News Studio	1	
1- 4	Post Production Room	2	
1- 5	VTR Editing Facilities	6	
1- 6	Audio Editing Facilities	1	
1- 7	Measuring Instrument	1	
1- 8	Power Supply Facilities	1	
1- 9	Telephone Exchange	1	
1-10	Elevator	1	
1-11	ENG Equipment	5	
1-12	FIre Fighting	1	
1-13	Spare Parts	1	
1-14	Air-Conditioning	1	
2	Existing Studio Building Facilities		
2- 1	Master Control Room	1	
2- 2	Drama Studio	1	audio and lighting only
2- 3	Small Studio	1	ditto
2- 4	News-Continuity Studio	1	cameras only
2- 5	U-Matic VTR for Studio	6	
2- 6	Video Monitors	1	
2- 7	Auditorium	1	4 cameras only



Examining this request the Government of Japan decided to hold the Basic Design Study for rehabilitation of existing studio building facilities.



## **CHAPTER 3 OUTLINE OF THE PROJECT**



## CHAPTER 3 OUTLINE OF THE PROJECT

### 3-1 Objectives of the Project

Television broadcasting in Bangladesh play an important role in education, promotion of the government's development plans and other areas. The importance of television broadcasting is also emphasized in the nation's fourth five-year plan, in which one of the major aims is to provide for these facilities. BTV currently has only one station, the Dhaka Television Station, which performs programme production functions. In 1980, this station began to produce colour programmes, but not all of the equipment were converted for these purposes. The usable facilities (mainly audio equipment and lighting equipment) were used as they were. Now, even the new equipment has become over 13-years old and other equipment has become dysfunctional. For this reason, the facilities are not functioning at full capacity.

The Project aim at rehabilitation of programme production function of BTV, increase of programme production ability with effective production, and contributing to improve broadcasts qualities.

### 3-2 Study and Examination on the Request

#### 3-2-1 Appropriateness and Necessity of the Project




















In addition to the live news broadcasts, which are run three times a day, BTV currently broadcasts six hours and 45 minutes on weekdays (Saturday to Thursday) and 13 hours and 15 minutes on holiday (Friday).




















As shown in Programme Production Schedule, maximum use of the studios, including the auditorium. Since eight drama programmes are produced a month, the drama studio is used for production every day except Friday. A total of 12 educational and music programme are produced a week in the small studio. In spite of the superannuation of equipment and the occurrence of equipment failures, the programme production efforts of BTV are quite significant.

Due to a shortage of studios, the auditorium is used not only for programme open to the public, but also as a substitute for studios which are ordinarily used to produce programmes. (Refer to Programme Production Schedule.)

The BTV Dhaka Television Centre is in critical condition. The Project is designed to rehabilitate the facilities of the station in order to normalize its operations. The improvement in the quality of programme will contribute to improved service for viewers. BTV provides coverage to 80% of the population. This means that approximately 88 million of the nation's 109 million people will receive the benefits.

### Programme Production Schedule (Small Studio)

TIME DAY	8:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00	24:00
SUN	Set up								
MON	Set up								
TUE	Set up								
WED	Set up								
THU	Set up								
FRI									
SAT	Set up								

TIME DAY	8:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00	24:00
SUN	Set up								
MON	Set up								
TUE	Set up								
WED	Set up								
THU	Set up								
FRI									
SAT	Set up								

	REHARSAL
	RECORDING
	LIVE

### Programme Production Schedule (Drama Studio)

TIME DAY	8:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00	24:00
SUN		Set up							
MON		Set up							
TUE		Set up							
WED		Set up							
THU		Set up							
FRI									
SAT		Set up							

TIME DAY	8:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00	24:00
SUN		Set up							
MON		Set up							
TUE		Set up							
WED		Set up							
THU		Set up							
FRI									
SAT		Set up							

		REHARSAL
		RECORDING



### Programme Production Schedule (News-continuity Studio)

TIME DAY	8:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00	24:00
SUN			/				x	x	
MON							x	x	
TUE		/					x	x	
WED							x	x	
THU							x	x	
FRI							x	x	
SAT							x	x	

TIME DAY	8:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00	24:00
SUN							x	x	
MON		/					x	x	
TUE							x	x	
WED		/					x	x	
THU							x	x	
FRI							x	x	
SAT							x	x	

/	RECORDING
x	LIVE

### Programme Production Schedule (Auditorium)

TIME DAY	8:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00	24:00
SUN			REHARSAL	RECORDING			AUDIO & MUSIC RECORDING		
MON			REHARSAL	RECORDING			AUDIO & MUSIC RECORDING		
TUE			REHARSAL	RECORDING			AUDIO & MUSIC RECORDING		
WED							AUDIO & MUSIC RECORDING		
THU									
FRI							AUDIO & MUSIC RECORDING		
SAT			REHARSAL	RECORDING			AUDIO & MUSIC RECORDING		

TIME DAY	8:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00	24:00
SUN							AUDIO & MUSIC RECORDING		
MON			REHARSAL	RECORDING			AUDIO & MUSIC RECORDING		
TUE							AUDIO & MUSIC RECORDING		
WED			REHARSAL	RECORDING			AUDIO & MUSIC RECORDING		
THU			REHARSAL	RECORDING			AUDIO & MUSIC RECORDING		
FRI									
SAT			REHARSAL	RECORDING			AUDIO & MUSIC RECORDING		

	REHARSAL		AUDIO & MUSIC RECORDING
	RECORDING		

### 3-2-2 Component Factors of the Project

The Project focuses on the rehabilitation of equipment for the existing station building. Examinations were conducted prior to the site survey.

The content of the request is shown in detail below.

- 1) Master control room
- 2) Lighting equipment and audio equipment for the large and small studios.
- 3) Cameras for News-Continuity studio
- 4) U-match VTR used for Studio
- 5) Video monitor
- 6) Four colour cameras for Auditorium

These requests are for the unsystematic rehabilitation of superannuated equipment. This does not improve the functioning of the entire system. Taking item 3) above (Continuity studio) as an example, if only the camera is replaced and some kind of break down is occurred to the video and audio equipment within the sub-control room, the Continuity studio cannot functioned systematically. This would be an extremely ineffective investment.

The study team considered the rehabilitation of equipment systematically and proposed the following items.

- 1) Master control room
- 2) Assignment switcher
- 3) News-continuity studio
- 4) Large drama and small studios

Assignment Switcher consists of VTR Recording Switcher, VTR Playback Switcher and Telecine Switcher, and they will be installed VTR Room and Telecine Room respectively.

Recording and playback operation for VTRs, including existing 1-inch VTRs, 3/4-inch VTRs and newly equipped four 1/2-inch VTRs, will be controlled by this Switcher. Small capacity switcher is used currently.

The site survey was done based on these items. Consultations were conducted and discussions were made with BTV representatives.

The Dhaka Station is currently the only station producing programmes for BTV. Site surveys revealed that equipment had become more superannuated than originally imagined in Japan, and because spare parts could not be procured, some of equipment was left unable to be repaired. Since studios are operating constantly, the team decided it was essential to rehabilitate both drama studio and small studio facilities.

Exchange work of acoustic material in studios, which was not included in the request of BTV and as a result of discussion at the time of Basic Design Study the work will be done by BTV, should be implemented by Japan side. As a result of discussion at the time of explanation for draft final report is as follows:

- a. BTV cannot control the implementation schedule by themselves, because of internal regulations BTV cannot place an order with civil company for an article. In this case the interial finishing work (exchange work) will delay sometime. BTV worry about this matter.
- b. The exchange work should be done according to whole implement schedule. If the schedule delayed, not only whole schedule will delay but also operation term of temporary facilities will prolong. The operation term of temporary facilities should be kept short to prevent possibilities of occurrence of trouble and difficulty programme compilation.

As a result of mentioned above, the Study team concluded that it is the best way to implement the interial finishing work by Japan side. Therefore, the work will be include in the Project.

### 3-2-3 Study and Examination for Technical Cooperation

The BTV technical staff operates and maintains the current equipment. It has been determined through observation that the operation and maintenance skill level is high. Accordingly, it has been determined that there is no need to implement special technical cooperation for the Project. However, CCD colour cameras, 1/2-inch VTRs and other equipment which use techniques different from those used in the past will be introduced as a part of the Project, making it necessary to provide technical training before operations begin. For this reason, a decision was made to use opportunities during inspections of equipment at factories and during installation of equipment to implement a minimum level of training (including OJT).

### 3-3 Project Description

#### 3-3-1 Executing Organization and the Operational Structure

There are 702 persons working at Dhaka TV station including general manager and produced programmes. News Division has different organization, there are 56 persons including director working for news programme. Programme Division has 88 persons, Engineering Division has 184, Design Division has 105 and Camera Division has 55 persons. Number of working person is enough of necessary and sufficient. The equipment which is planned to provide in the Project is rehabilitation of existing equipment, therefore, current management system will be not necessary to change. The operation will be carried out free from special care.

BTV planning to modify interior finishing and layout of equipment rooms including studios. Judging from the financial affairs of BTV, BTV has an ability to prepare the budget on this work.

Moreover, technical quality of technical staffs of BTV are high, they have sufficient experience for programme production. Therefore, operation of the equipment will be executed without trouble, if on the job training for newly adopted that is, CCD colour camera and 1/2 inch VTR is carried out.

At present, BTV broadcasts 108 programmes including 22 news programmes and have broadcasting hours of 53 hours and 45 minutes per week. But ratio of self production programme decreased to about 30% because of superannuated equipment. After completion of the Project, this ratio will be improved.

### 3-3-2 Location and Condition of the Project Site

The BTV Dhaka Television Centre is located in the Rampur region in the northeast part of Dhaka City. The old station building, which includes the auditorium, the attached new station building (completed in 1990), the transmitter room and other facilities are located within BTV site. There is a major road running in front of the site which makes transportation very convenient.

### 3-3-3 Outline of the Facilities and Equipment

#### (1) Master control room facility

The master control room facility consists of an video and audio sending-out switcher, playback-only 1/2-inch VTR, captions scanner, character generator, frame synchronizer, video processor, station logo generator, cassette tape recorder, video and audio remote switcher, clock system, intercom, TV In-house Monitor, and other equipment. There is a need for three independent programme lines, including a local broadcasting, network line and satellite transmission. For this reason, three sending-out switchers are required.

For two of these systems, the local broadcasting and the network line, a facility which improves super imposition functions will be used.

The total number of input sources are 21 at present. In consideration of future expansion, however, there is a need for a switcher capable of 28 inputs sources.

A reentry switcher is set up in the sending-out switcher output. If trouble is happened with the sending-out switcher, reentry switcher can be used as emergency switcher instead of sending-out switcher.

For inputting remote signals from outside of the station, four inputs are provided. In order to synchronize these remote signals with signals in the station, four frame synchronizers (F/S) are set up in each circuit.

This output is selected by the remote switcher and two lines each are assigned to the drama studio, small studio and news continuity studio.

This facility includes an intercom for communicating from the master control room to each studio, VTR, telecine room and maintenance room.

## (2) Assignment switcher

Assignment switcher consists of VTR assignment switcher and telecine assignment switcher. These switchers are installed in the VTR room and telecine room, respectively.

Operations involving recording and playback of VTRs, including the existing 1-inch VTR, 3/4-inch VTR as well as the four 1/2-inch VTRs which will be established, are controlled entirely by this switcher. In consideration future expansion, the VTR and telecine switcher will be capable of expansion up to 32 inputs and 16 outputs. All of the cross-points of the switcher are audio follow video.

## (3) News-continuity studio

In addition to producing regular news programmes, this studio also fulfills a role as a continuity studio. This studio is also capable of simple VTR editing operation during non-broadcasting hours.

After completing overall renovations of the existing facilities according to this project, operations involving VTR recording and playback will be entirely controlled by the assignment switcher. However, since this studio requires a variety of functions, three dedicated VTRs will be set up in the studio. Two of these will be the existing 1-inch B format VTRs and one will be a new 1/2-inch VTR.

Two cameras with prompter will be used to improve stage effects.

In order to enhance presentations, one digital video effect capable of three-dimensional special effects will be set up.



A 20-channel inputs mixer will be used for sound. In addition, two cassette tape recorder and one CD player will be set up.

In addition, video and audio monitors necessary for programme production and signal control will be provided.

#### (4) Drama and small studio

These studios are used primarily for drama programmes and music and talk show programmes, respectively. Four cameras will be set up in the drama studio and three in the small studio as in the existing facilities. In the drama studio three large scale cameras with 7-inch view-finders and one small scale camera with high mobility will be used.

As noted in the section on the assignment switcher facility, the recording of programmes produced in the studio will be conducted entirely by the VTR in the assignment switcher. Accordingly, neither studio has a dedicated VTR.

The audio equipment in the drama studio require the capacity to clearly pick up sounds within a wide area. To achieve this, two large microphone boom stands which can be extended to a height of 4.5m will be set up. Lighting dimmer units for both studios will be mounted within the same frame. These will be capable of efficient maintenance and control.

In addition, video and audio monitors necessary for programme production and signal control will be established.

#### (5) Measuring instrument

One set of measuring instrument will be set up for the video and audio measurement. In the concrete, this consists of a television signal generator, wave form monitor, vectorscope, oscilloscope and a audio distortion meter/oscillator for audio measurement.

(6) Others

- Spare parts consisting primarily of modules and units and lamps for lighting will be prepared.

- Seven new 1/2-inch VTRs will be set up.

It is so difficult for BTV to procure the blank tapes for 1/2-inch VTR on the market that the lowest number of blank tapes are prepared to use for the time being.

- Acoustic materials for interior finishing work of studios are prepared because it is difficult to procure on the Bangladesh market.

3-3-4 Operation and Maintenance Plan

On regard of the type and specifications for the equipment which will be provided in the Project, special emphasis will be placed on structural simplicity and durability and the availability of extra items and consumables.

Life of the equipment can prolong with daily check and maintenance. The technical skill of technical staffs of BTV are high, and maintenance work is done constantly. Budget for maintenance for new equipment is estimated 3% of equipment cost according to experience. It is necessary to purchase blank 1/2 inch VTR tape, but purchase of blank 1 inch VTR tape will decrease. Therefore, estimated total cost for blank VTR tape will not change.

Financial situation of BTV is a healthy budget, operation and maintenance plan will be implemented without special care.

## CHAPTER 4 BASIC DESIGN



## CHAPTER 4 BASIC DESIGN

### 4-1 Design Policy

BTV has enacted a rehabilitation plan based on future broadcasting plans.

The rehabilitation carried out through this grant aid assistance plays a very important role in the fulfillment of this project.

Consideration will be given to the following points when making concrete plans.

1. The structure of the existing station building will be investigated and facilities will be arranged in such a way as to maximize the functions of each facility.
2. Master control room facility and assignment switcher facility will be designed with sufficient consideration to future expansion.
3. In determining the types and specifications for each facility, special emphasis will be placed on structural simplicity and durability and the availability of extra items and consumables.
4. In accordance with CCIR technical standards, equipment specifications will give consideration to electrical and mechanical safety and durability.
5. Consideration will be given to recent technology trends in the television industry. Facilities employing these new technologies will be introduced.

Based on the above design policy, the following new equipment will be introduced.

## 1. Introduction of CCD camera

Charge Coupled Devices (CCD) are one type of solid-state pickup devices. These devices have made considerable technological progress in the last several years.

In comparison with the conventional image pickup tube method, these devices are smaller sized, lighter weighted and have similar picture quality. They are also easy to handle. The CCD element, in particular, can be used semi-permanently, so there is no need to change elements. This makes the camera nearly maintenance free.

The CCD camera has replaced the image pickup tube-type camera as the most commonly used camera in the world.

## 2. Introduction of the 1/2-inch VTR

Currently, BTV uses primarily 1-inch and 3/4-inch VTRs. 1/2-inch VTRs are the most commonly used in the world because they are small sized and lightweight in addition to having high quality and operability. Furthermore, the picture quality is not reduced as a result of repeated dubbings. Accordingly, the broadcasting station should be equipped with these 1/2-inch VTRs as a medium for programme exchange.

#### 4-2 Examination of Design Conditions

In designing equipment, sufficient consideration will be given to BTV operations and the following will be treated as main conditions.

##### 1. Master Control room facilities

- The programme sending-out equipment requires three programme lines including those for local broadcasting, network line and satellite transmission. Two of these systems optimize the super imposition functions which are capable of simultaneously superimposing the time signals and station logo signals.
- There is a need for a system with an alternative emergency device which can quickly respond to system problems.
- Consideration must be given to future expansion by ensuring that the number of sending-out switcher input is sufficient. Extra spaces must be provided on the equipment racks for equipment to be installed future.

##### 2. Assignment switcher facility

- Consideration must be given to future expansion by insuring that there is enough input number in the VTR recording switcher, playback switcher and telecine switcher.
- Dubbing between each type of VTR can be carried out easily.

##### 3. Studio facility

- (1) Drama studio (floor space 330m²) and small studio (floor space about 210m²)

These studios are used primarily for drama programmes and music and talk show programmes, respectively.

- The number and specifications of cameras must enable free and rapid filming of the stage and set.
- Video production switcher must have special effects functions which are able to sufficiently express the intentions of the presentation directions.
- Audio devices must have various mixing functions and the capacity to clearly collect sounds within a large studio.

(2) News continuity studio facility

The strengthening and improvement of news programme content and the expansion of broadcasting hours is an important issue for BTV.

In addition to the production of regular news programmes, this studio needs to have a function which makes it possible to insert live programmes from news scenes by OB-Van, and functions for producing simple information programmes and other functions. As a programme sending-out equipment, this facility forms the core of the station together with the master control room facility.

Required conditions are as follows.

- This facility must have functions enabling simple VTR editing during non broadcast hours.
- A prompter equipment must be attached to the camera to increase presentation effects.
- This facility must also have sufficient functions as an continuity studio.



### 4-3 Basic Plans

#### 4-3-1 Layout Plans of Equipment

New equipment installed according to this project must be arranged in the location as the existing equipment, which will first be removed. Accordingly, there will be no major changes in the placement of equipment. However, due to an absolute condition prohibiting the cancellation of broadcasts during construction, there is a need to change the position of the master control room equipment and assignment switcher equipment. This equipment, however, will remain in the same room as the existing equipment.

After installing the new equipment, making adjustments and beginning operations, the existing equipment will be removed. The positioning of the new equipment is shown in the equipment layout drawings.

#### 4-3-2 Equipment Plan

As a result of the examination of the design policies and conditions, the compositions of the main equipment to be provided in each function room and its specifications are as follows.

##### (1) Master Control Room

###### 1) Video Equipment

① Programme Sending-out Switcher	3 sets	28-inputs, with audio switcher
② Monitor Switcher	1 set	
③ Remote Switcher	1 set	
④ Re-entry Switcher	1 set	
⑤ Video Distribution Amplifier	1 set	Necessary amount of amplifiers for making up system to be included.
⑥ Video Equalizing Amplifier	1 set	

⑦ Delay Line	1 set	Necessary amount of delay lines for making up system to be included.
⑧ Video Jack Field	1 set	20-inputs/outputs
2) Sync. Pulse Generating Equipment		
① Sync. Pulse Signal Generator	2 sets	With test signal generator
② Automatic Changeover Switcher	1 set	
③ Pulse Signal Distribution Amplifier	1 set	
3) Frame Synchronizer (F/S)	4 sets	
4) Video Processing Amplifier	1 set	
5) VITS Signal Inserter	2 sets	With VITS signal generator
6) Character Generator	2 sets	With TBC & monitor
7) Caption Scanner	1 set	With monitor
8) Video Timer	1 set	
9) Station Logo Generator	1 set	
10) Audio Equipment		
① Monitor Switcher	1 set	
② Remote Switcher	1 set	
③ Re-entry Switcher	1 set	
④ Audio Distribution Amplifier	1 set	
⑤ Limiting Amplifier	3 sets	
⑥ Audio Jack Field	1 set	
⑦ Cassette Tape Recorder	3 sets	
⑧ CD Player	1 set	
11) 1/2-inch VTR	2 sets	Playback only, with monitor
12) Monitoring Equipment		
① Video Monitor	23 sets	
② 20-inch Video Monitor	3 sets	
③ Video Monitor	1 set	Precision type
④ TV Receiver	1 set	
⑤ Waveform Monitor	1 set	
⑥ Vectorscope	1 set	
⑦ Audio Monitor	1 set	With power amplifier

⑧ Monitor Shelf	1 set
13) Clock System	
① Master Clock Device	1 set
② 1-second Slave Clock	10 sets
③ 30-second Slave Clock	15 sets
14) Room to Room Interphone	1 set
15) TV In-house Monitor	1 set
16) Operation Console	1 set
17) Rack Assembly	4 sets
18) Video Transformer	1 lot
19) Power Distribution Board	1 set
20) Installation Materials	1 set

(2) Assignment Switcher

1) Video Equipment

① VTR Recording Switcher	1 set	
② VTR Playback Switcher	1 set	
③ T/C Switcher	1 set	
④ Video Distribution Amplifier	1 set	Necessary amount of amplifiers for making up system to be included.
⑤ Video Jack Field	1 set	20-inputs/outputs

2) Audio Equipment

① VTR Recording Switcher	1 set
② VTR Playback Switcher	1 set
③ T/C Switcher	1 set
④ Audio Distribution Amplifier	1 set
⑤ Audio Jack Field	1 set

3) Monitoring Equipment

① Monitor Switcher	1 set	Audio follow video
② Video Monitor	2 sets	
③ Waveform Monitor	2 sets	
④ Vectorscope	2 sets	
⑤ Audio Monitor	2 sets	With power amplifier

4) 1/2-inch VTR	4 sets	Play/Rec, with monitor
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5) 1-inch VTR	5 sets	Existing equipment
6) 3/4-inch VTR	1 set	Existing equipment
7) T/C Equipment	3 sets	Existing equipment
8) Operation Console	1 set	
9) Rack Assembly	4 sets	
10) Power Distribution Board	2 sets	
11) Installation Materials	1 set	

### (3) News-Continuity Studio

1) Colour Camera		
① Camera Head	2 sets	CCD, with viewfinder
② Zoom Lens	2 sets	More than 14 times
③ Pedestal	2 sets	
④ Camera Control Unit	2 sets	
⑤ Prompter	2 sets	
2) Video Production Equipment		
① Video Production Switcher	1 set	More than 18-inputs, 2-M/K
② Digital Video Effect	1 set	3-dimension
③ Video Distribution Amplifier	1 set	Necessary amount of amplifiers for making up system to be included.
④ Video Jack Field	1 set	20-inputs/outputs
⑤ Character Generator	1 set	With computer, TBC & monitor
⑥ Caption Scanner	1 set	With monitor
⑦ Delay Line	1 set	Necessary amount of delay lines for making up system to be included.
3) Sync. Pulse Generating Equipment		
① Sync. Pulse Signal Generator	1 set	
② Pulse Signal Distribution Amplifier	1 set	
4) Audio Equipment		
① Audio Mixer	1 set	More than 20-inputs
② Cassette Tape Recorder	2 sets	

③ CD Player	1 set	
④ Audio Distribution Amplifier	1 set	
⑤ Audio Jack Field	1 set	
⑥ Microphones	6 sets	
Comprising ;		
· Uni-directional Condenser Mic	2 sets	
· Uni-directional Dynamic Mic	2 sets	
· Uni-directional Lavalier Mic	2 sets	
⑦ Microphone Stand	4 sets	Desk Stand
⑧ Cough-box	2 sets	
⑨ Desk	2 sets	
5) Monitoring Equipment		
① Video Monitor	16 sets	
② 20-inch Video Monitor	4 sets	With cart
③ Video Monitor	1 set	Precision type
④ Waveform Monitor	1 set	
⑤ Vectorscope	1 set	
⑥ Audio Monitor	2 sets	With power amplifier
⑦ Monitor Shelf	1 set	
6) 1/2-inch VTR	1 set	Play/Rec, with monitor
7) 1-inch VTR	2 sets	Existing equipment
8) Studio Intercom	1 set	
9) Studio Lighting Equipment	1 set	Lantern and Accessory
10) Switcher/PD Console	1 set	
11) Rack	3 sets	
12) Power Distribution Board	1 set	
13) Installation Materials	1 set	

#### (4) Drama Studio

##### 1) Colour Camera

① Camera Head	4 sets	CCD, with viewfinder One set out of four is handy type.
② Zoom Lens	4 sets	More than 18 times
③ Pedestal	4 sets	
④ Camera Control Unit	4 sets	

2) Video Production Equipment		
① Video Production Switcher	1 set	More than 18-inputs, 2-M/K
② Video Distribution Amplifier	1 set	Necessary amount of amplifiers for making up system to be included.
③ Video Jack Field	1 set	20-inputs/outputs
④ Character Generator	1 set	With computer, TBC & monitor
⑤ Delay Line	1 set	Necessary amount of delay lines for making up system to be included.
3) Sync. Pulse Generating Equipment		
① Sync. Pulse Signal Generator	1 set	
② Pulse Signal Distribution Amplifier	1 set	
4) Audio Equipment		
① Audio Mixer	1 set	More than 16-inputs
② Cassette Tape Recorder	2 sets	
③ CD Player	1 set	
④ Audio Distribution Amplifier	1 set	
⑤ Audio Jack Field	1 set	
⑥ Microphones	12 sets	
Comprising ;		
· Uni-directional Condenser Mic	3 sets	
· Uni-directional Dynamic Mic	2 sets	
· Omni-directional Condenser Mic	3 sets	
· Omni-directional Dynamic Mic	2 sets	
· Uni-directional Lavalier Mic	2 sets	
⑦ Microphone Stand	10 sets	Desk Stand, Floor Stand, Boom Stand (small)
⑧ Microphone Boom Dolly	2 sets	Length 1.2~4.5m
5) Monitoring Equipment		
① Video Monitor	10 sets	
② 20-inch Video Monitor	5 sets	With cart
③ Video Monitor	1 set	Precision type

④ Waveform Monitor	1 set	
⑤ Vectorscope	1 set	
⑥ Audio Monitor	2 sets	With power amplifier & cart
⑦ Monitor Shelf	1 set	
6) Studio Intercom	1 set	
7) Studio Lighting Equipment		
① Suspension Devices	1 set	
② Lighting Control Equipment	1 set	
③ Lantern and Accessory	1 set	
8) Switcher/PD Console	1 set	
9) Rack	2 sets	
10) Power Distribution Board	1 set	
11) Installation Materials	1 set	

(5) Small Studio

1) Colour Camera

① Camera Head	3 sets	CCD, with viewfinder
② Zoom Lens	3 sets	More than 16 times
③ Pedestal	3 sets	
④ Camera Control Unit	3 sets	

2) Video Production Equipment

① Video Production Switcher	1 set	More than 18-inputs, 2-M/K
② Video Distribution Amplifier	1 set	Necessary amount of amplifiers for making up system to be included.
③ Video Jack Field	1 set	20-inputs/outputs
④ Character Generator	1 set	With TBC & monitor
⑤ Delay Line	1 set	Necessary amount of delay lines for making up system to be included.

3) Sync. Pulse Generating Equipment

① Sync. Pulse Signal Generator	1 set	
② Pulse Signal Distribution Amplifier	1 set	

4) Audio Equipment		
① Audio Mixer	1 set	More than 16-inputs
② Cassette Tape Recorder	2 sets	
③ CD Player	1 set	
④ Audio Distribution Amplifier	1 set	
⑤ Audio Jack Field	1 set	
⑥ Microphones	10 sets	
Comprising ;		
· Uni-directional Condenser Mic	2 sets	
· Uni-directional Dynamic Mic	2 sets	
· Omni-directional Condenser Mic	2 sets	
· Omni-directional Dynamic Mic	2 sets	
· Omni-directional Lavalier Mic	2 sets	
⑦ Microphone Stand	8 sets	Desk Stand, Floor Stand, Boom Stand (small)
5) Monitoring Equipment		
① Video Monitor	9 sets	
② 20-inch Video Monitor	5 sets	With cart
③ Video Monitor	1 set	Precision type
④ Waveform Monitor	1 set	
⑤ Vectorscope	1 set	
⑥ Audio Monitor	2 sets	With power amplifier & cart
⑦ Monitor Shelf	1 set	
6) Studio Intercom	1 set	
7) Studio Lighting Equipment		
① Suspension Devices	1 set	
② Lighting Control Equipment	1 set	
③ Lantern and Accessory	1 set	
8) Switcher/PD Console	1 set	
9) Rack	2 sets	
10) Power Distribution Board	1 set	
11) Installation Materials	1 set	



(6) Measuring Equipment

1) Oscilloscope	2 sets	2-channel, With cart
2) TV Test Signal Generator	1 set	Colour Bar, Multi-burst, Window, Staircase
3) Waveform Monitor	1 set	
4) Vectorscope	1 set	
5) Audio Distortion Meter/Oscillator	1 set	Frequency Response, Noise, Distortion
6) Multi Meter	5 sets	
7) Hand Tool Set	5 sets	

(7) Raw Tapes for 1/2-inch VTR 1 set

(8) Spare Parts 1 set

(9) Acoustic Material for three Studios 1 set Glass Wool



### 4-3-3 Basic Design Drawings

- FIG 4-3-1 : Equipment layout of Master Control Room
- FIG 4-3-2 : Equipment layout of News-continuity Studio
- FIG 4-3-3 : Equipment layout of Drama/Small Studio
- FIG 4-3-4 : Equipment layout of Assignment Switcher
- FIG 4-3-5 : Schematic Diagram of TV Studio Bangladesh Television, Dhaka
- FIG 4-3-6 : Schematic Diagram of Video System for Master Control
- FIG 4-3-7 : Schematic Diagram of Audio System for Master Control
- FIG 4-3-8 : Schematic Diagram of Video System for Assignment Switcher
- FIG 4-3-9 : Schematic Diagram of Audio System for Assignment Switcher
- FIG 4-3-10 : Schematic Diagram of Video System for News-continuity Studio
- FIG 4-3-11 : Schematic Diagram of Audio System for News-concinuity Studio
- FIG 4-3-12 : Schematic Diagram of Video System for Drama Studio
- FIG 4-3-13 : Schematic Diagram of Audio System for Drama Studio
- FIG 4-3-14 : Schematic Diagram of Video System for Small Studio
- FIG 4-3-15 : Schematic Diagram of Audio System for Small Studio



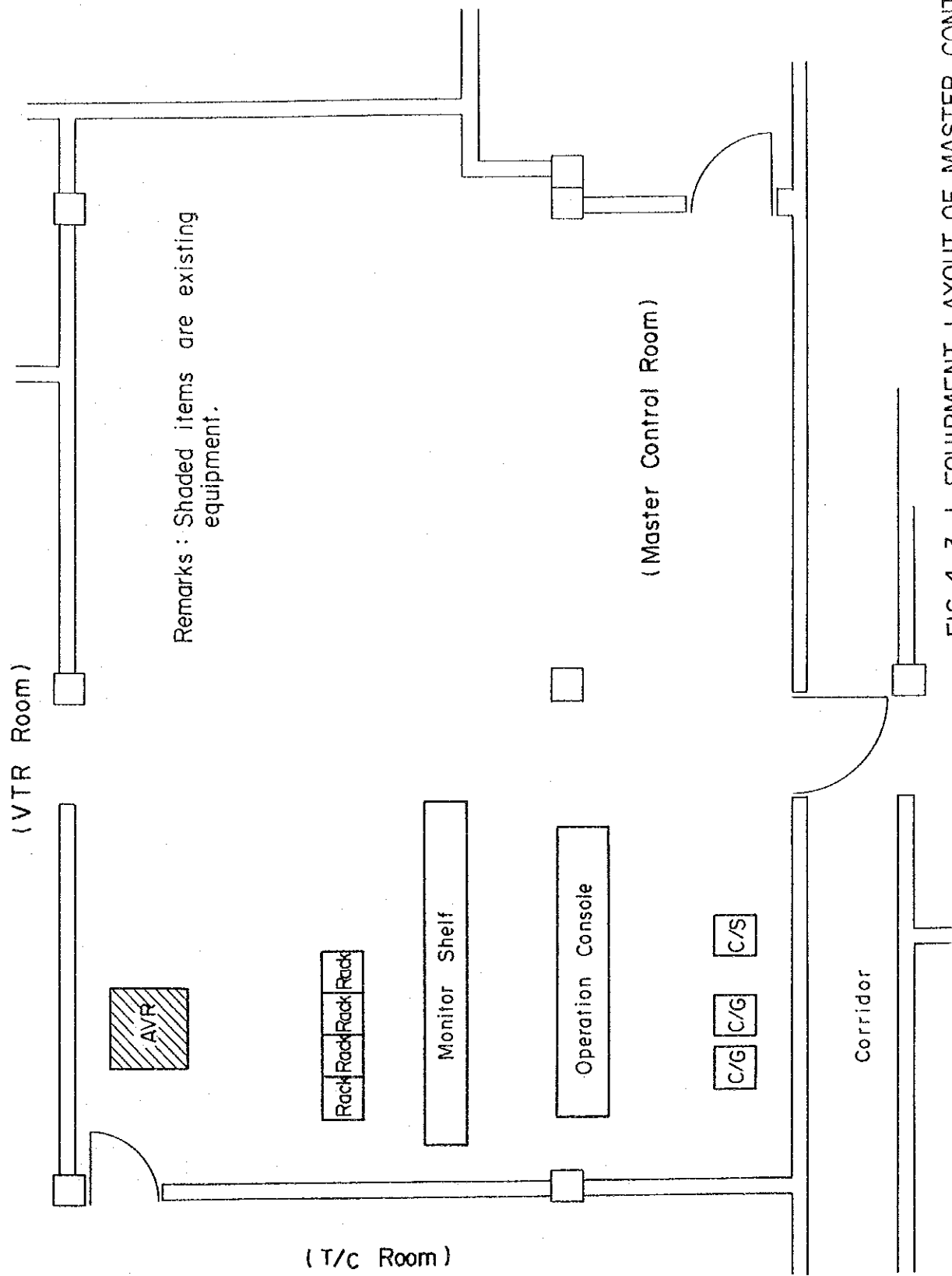


FIG 4-3-1 EQUIPMENT LAYOUT OF MASTER CONTROL ROOM



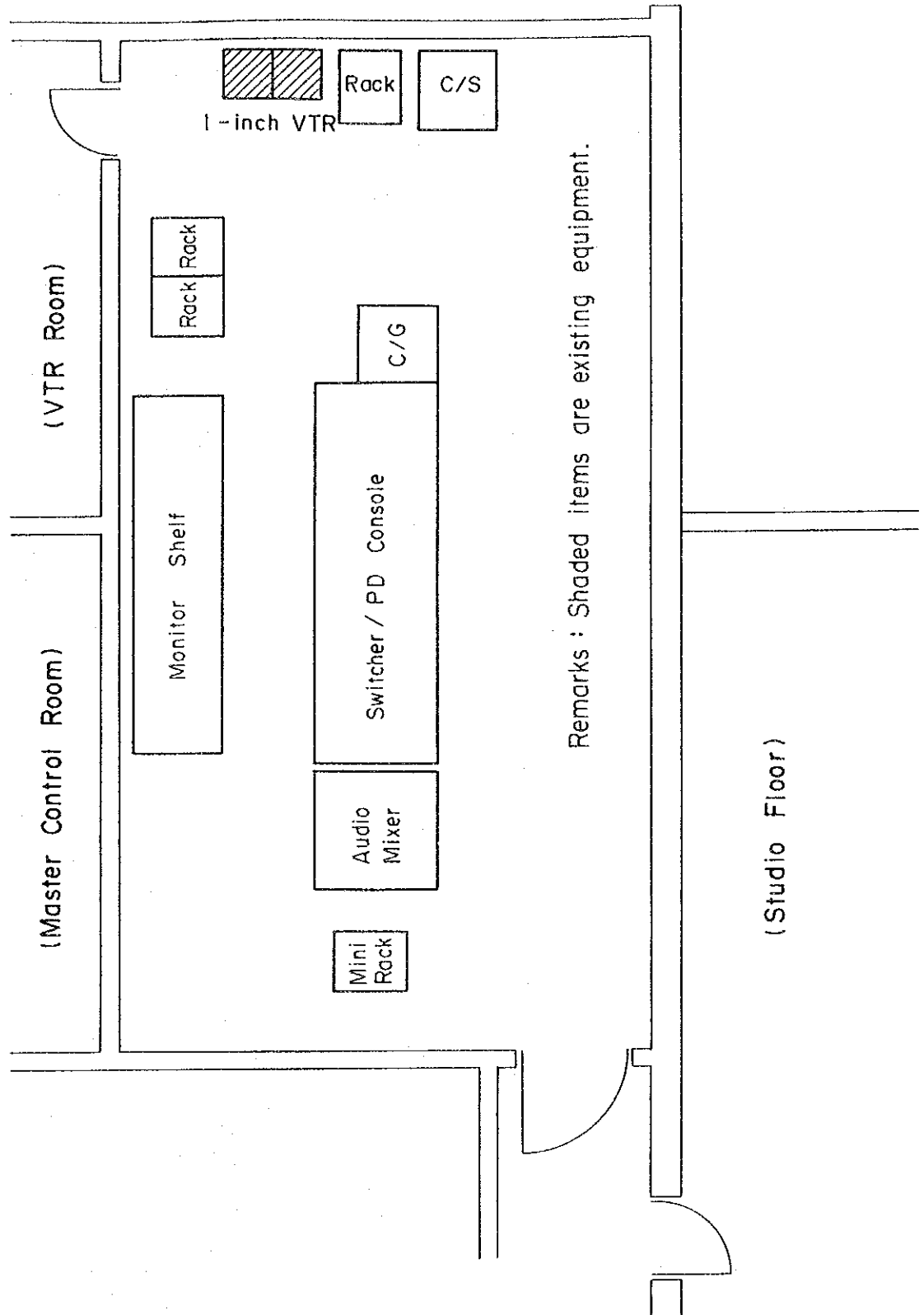


FIG 4-3-2 EQUIPMENT LAYOUT OF NEWS-CONTINUITY STUDIO







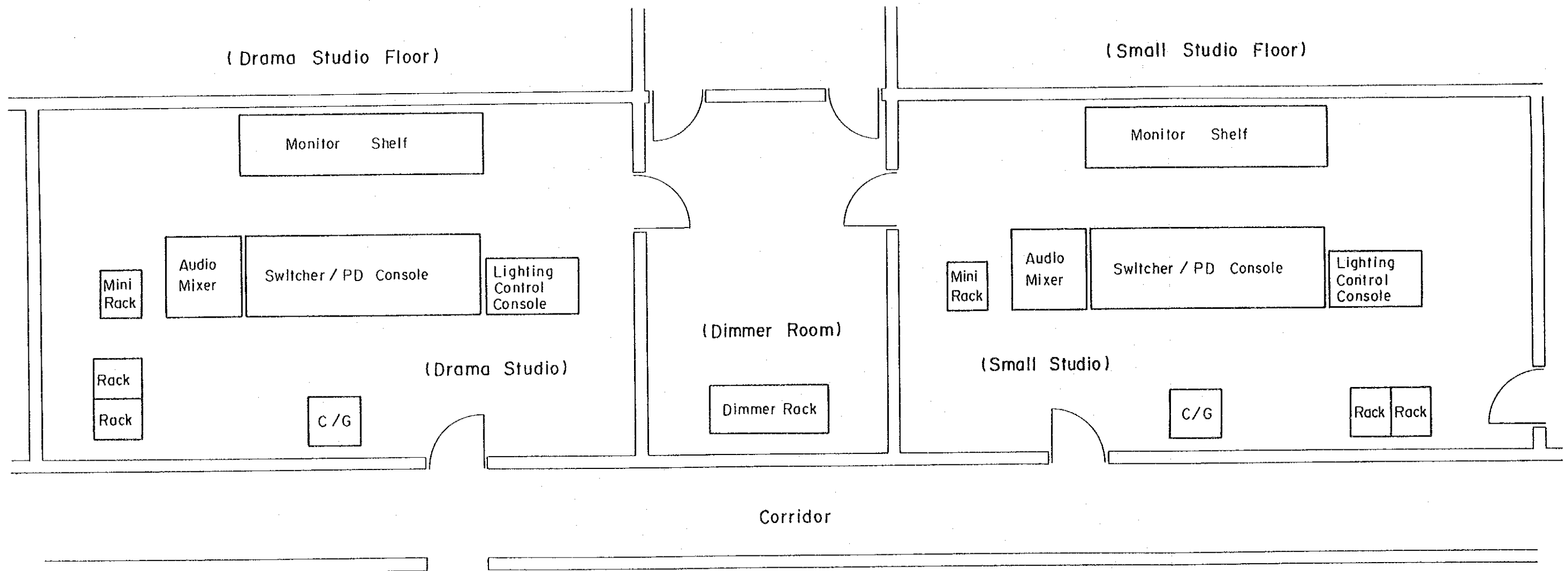
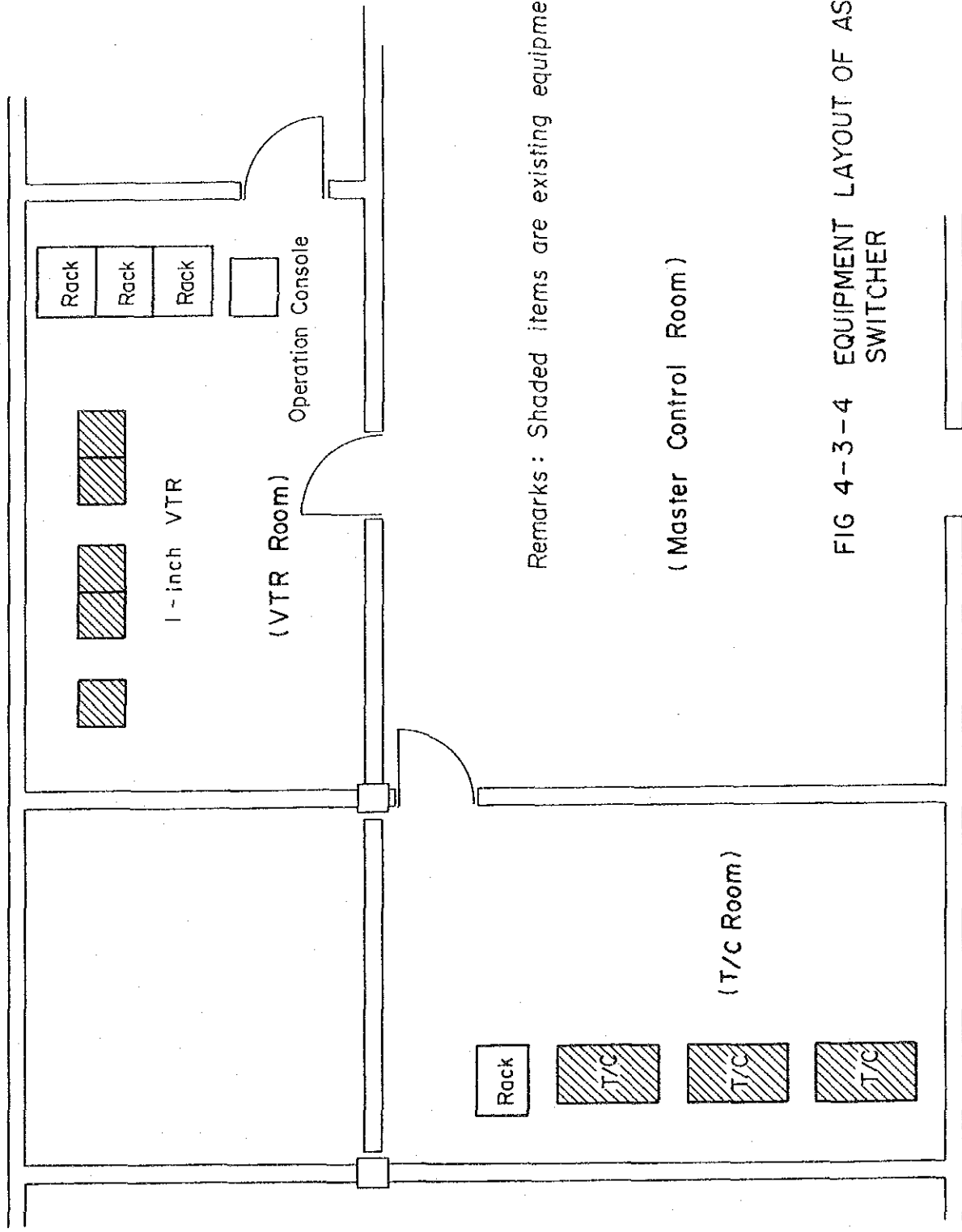


FIG 4-3-3 EQUIPMENT LAYOUT OF DRAMA / SMALL STUDIO







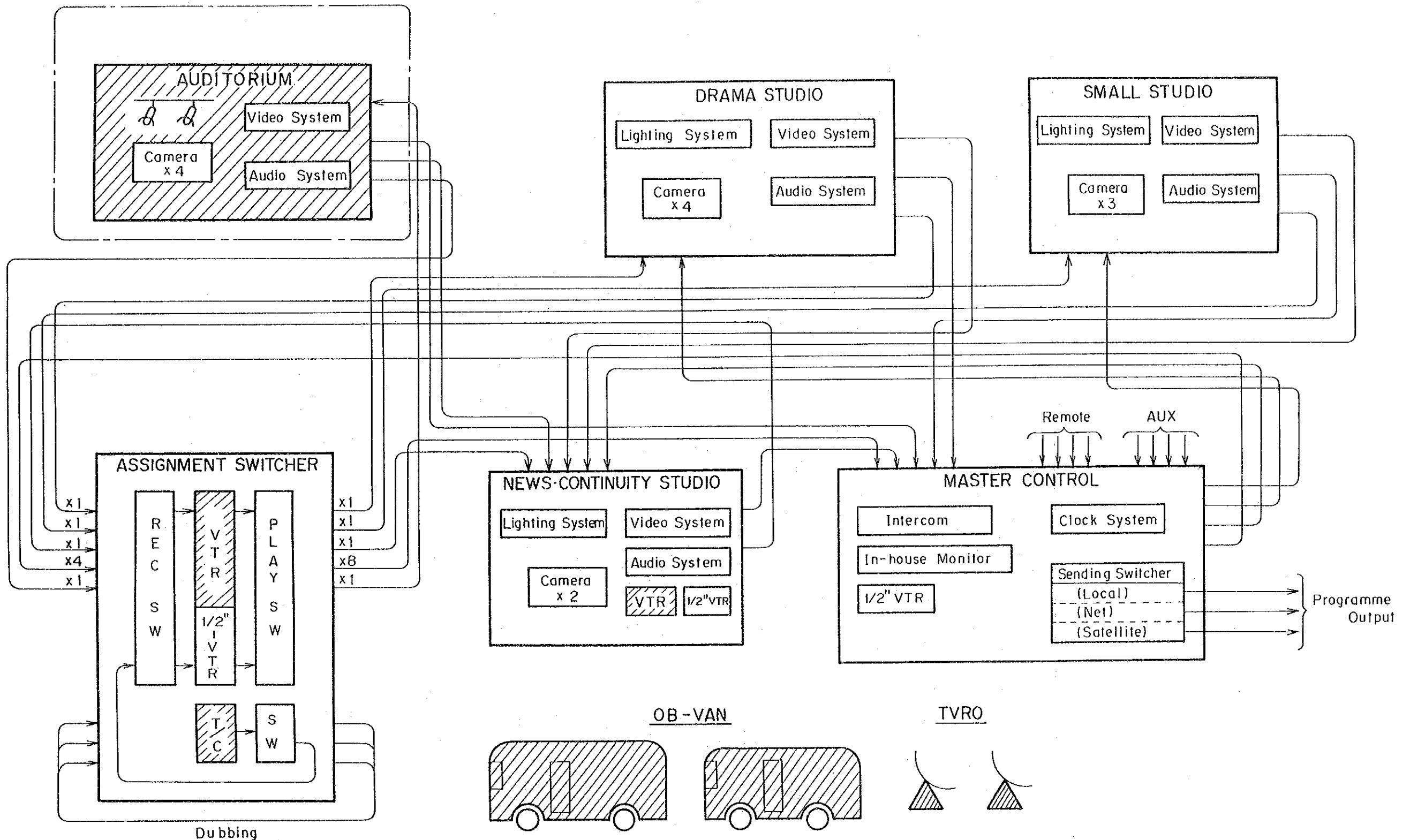
Remarks: Shaded items are existing equipment.

( Master Control Room )

FIG 4-3-4 EQUIPMENT LAYOUT OF ASSIGNMENT SWITCHER





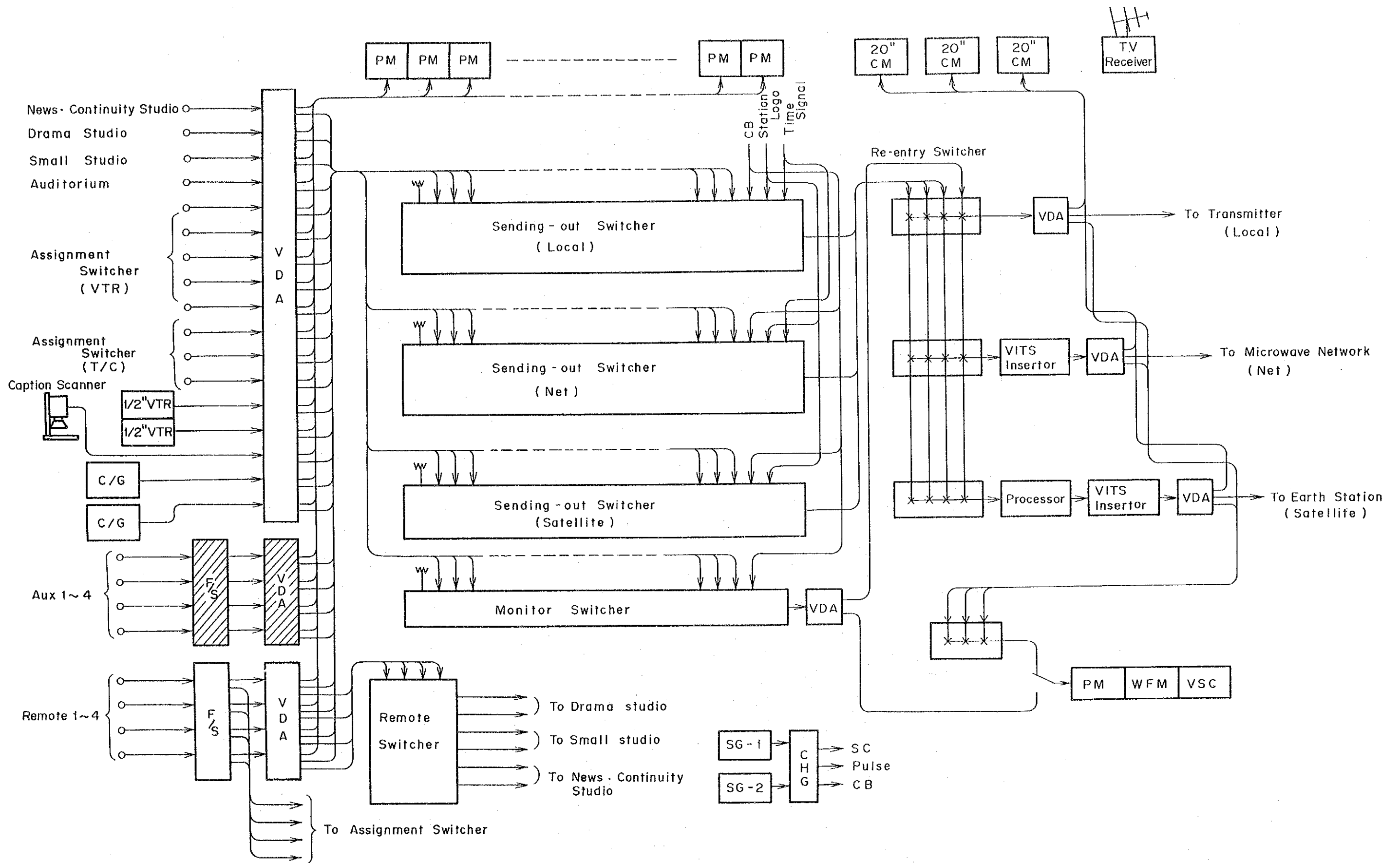


Remarks : Shaded Items are existing equipment.

FIG 4-3-5 SCHEMATIC DIAGRAM OF TV STUDIO BANGLADESH TELEVISION, DHAKA



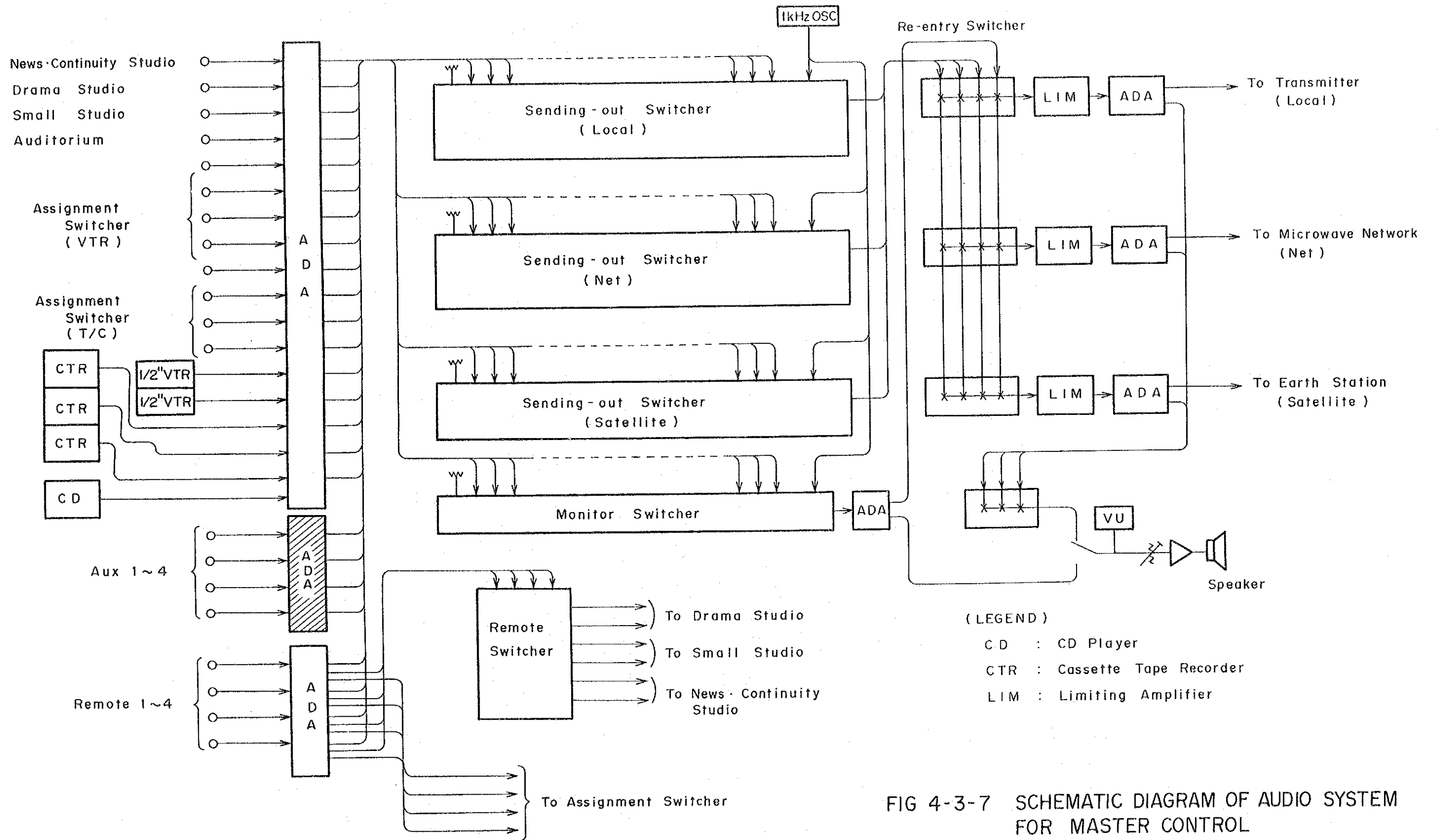




Remarks : Shaded items are plans for feature.

FIG 4-3-6 SCHEMATIC DIAGRAM OF VIDEO SYSTEM FOR MASTER CONTROL





Remarks : Shaded items are plans for feature

FIG 4-3-7 SCHEMATIC DIAGRAM OF AUDIO SYSTEM FOR MASTER CONTROL



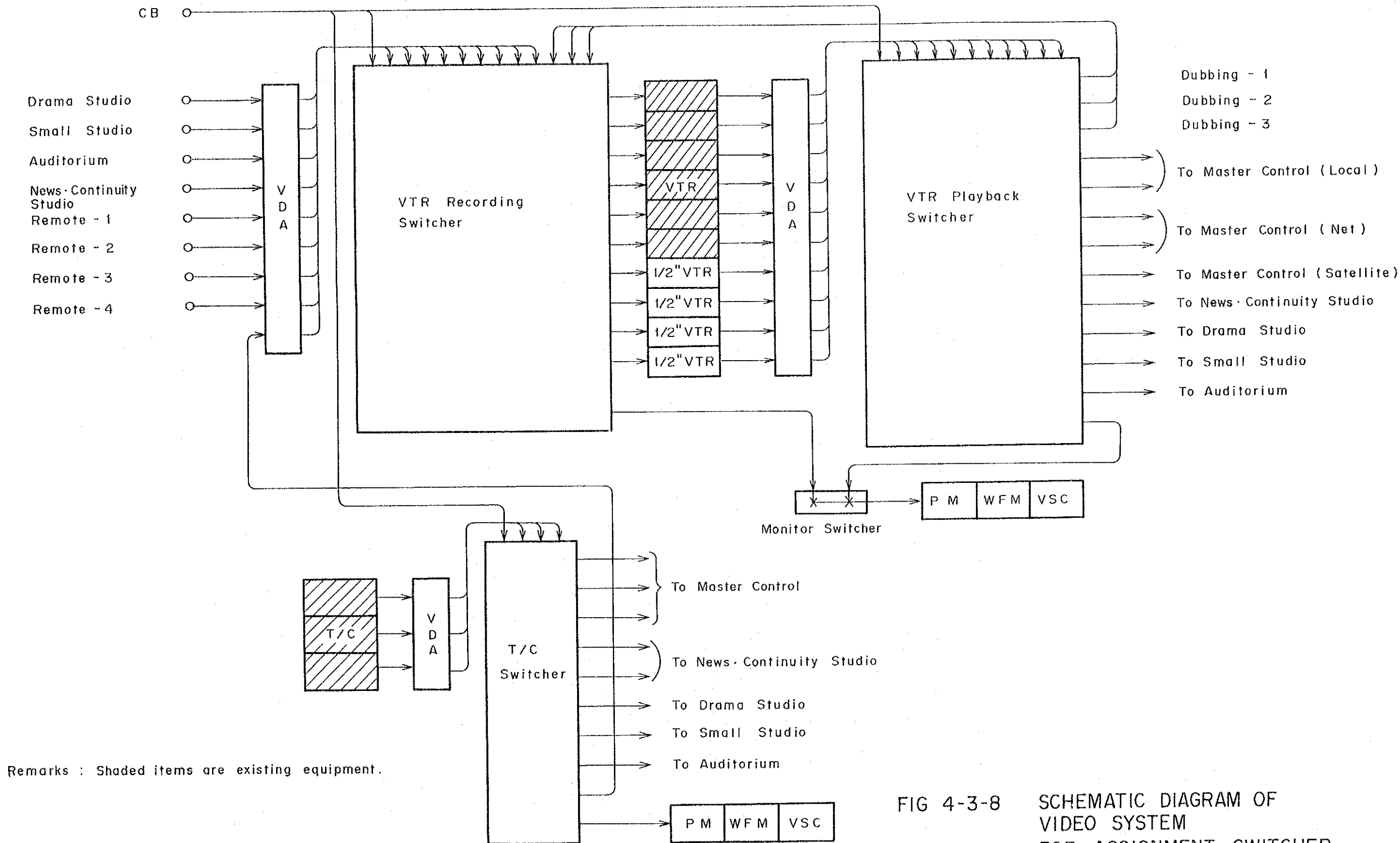


FIG 4-3-8 SCHEMATIC DIAGRAM OF VIDEO SYSTEM FOR ASSIGNMENT SWITCHER



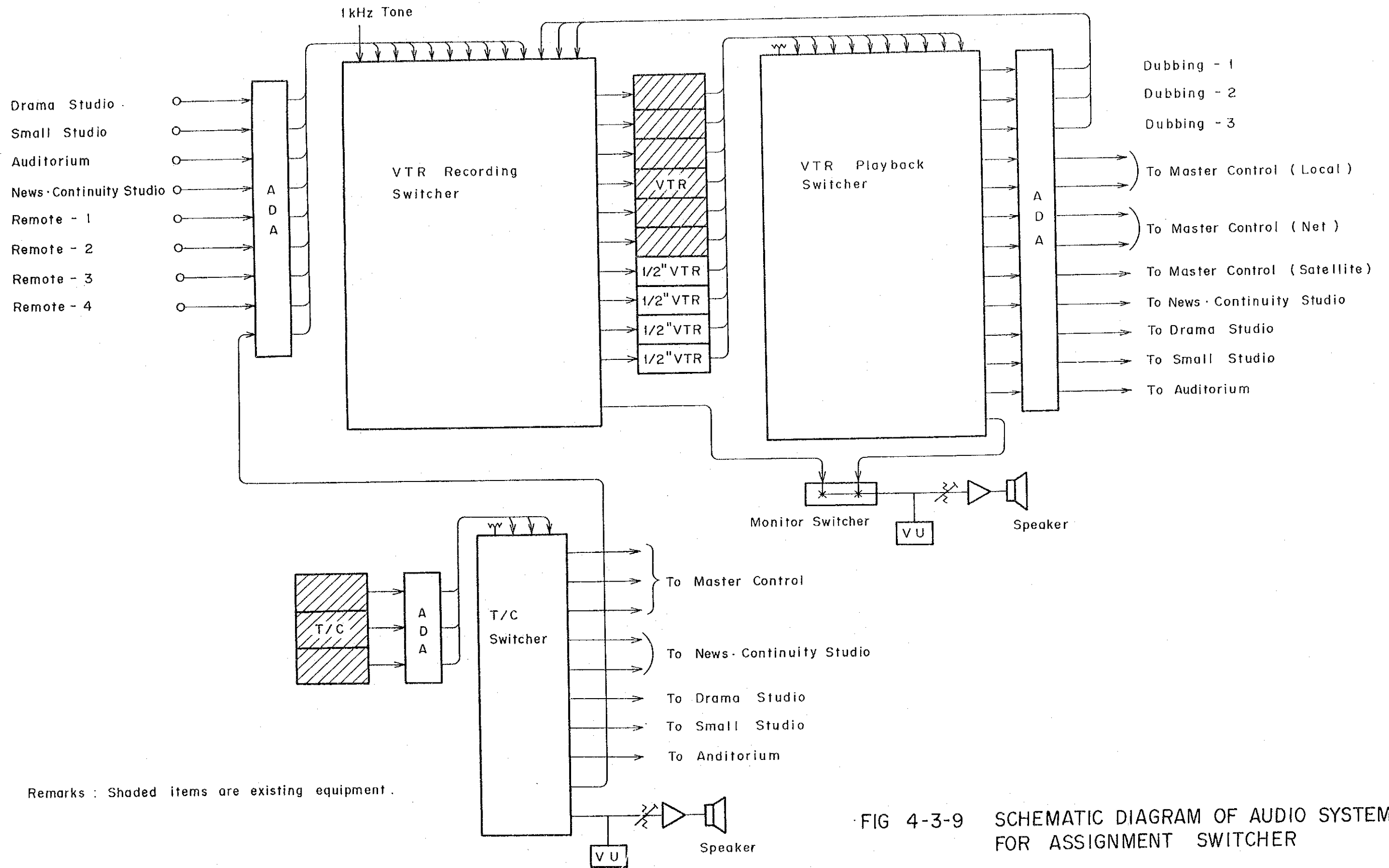
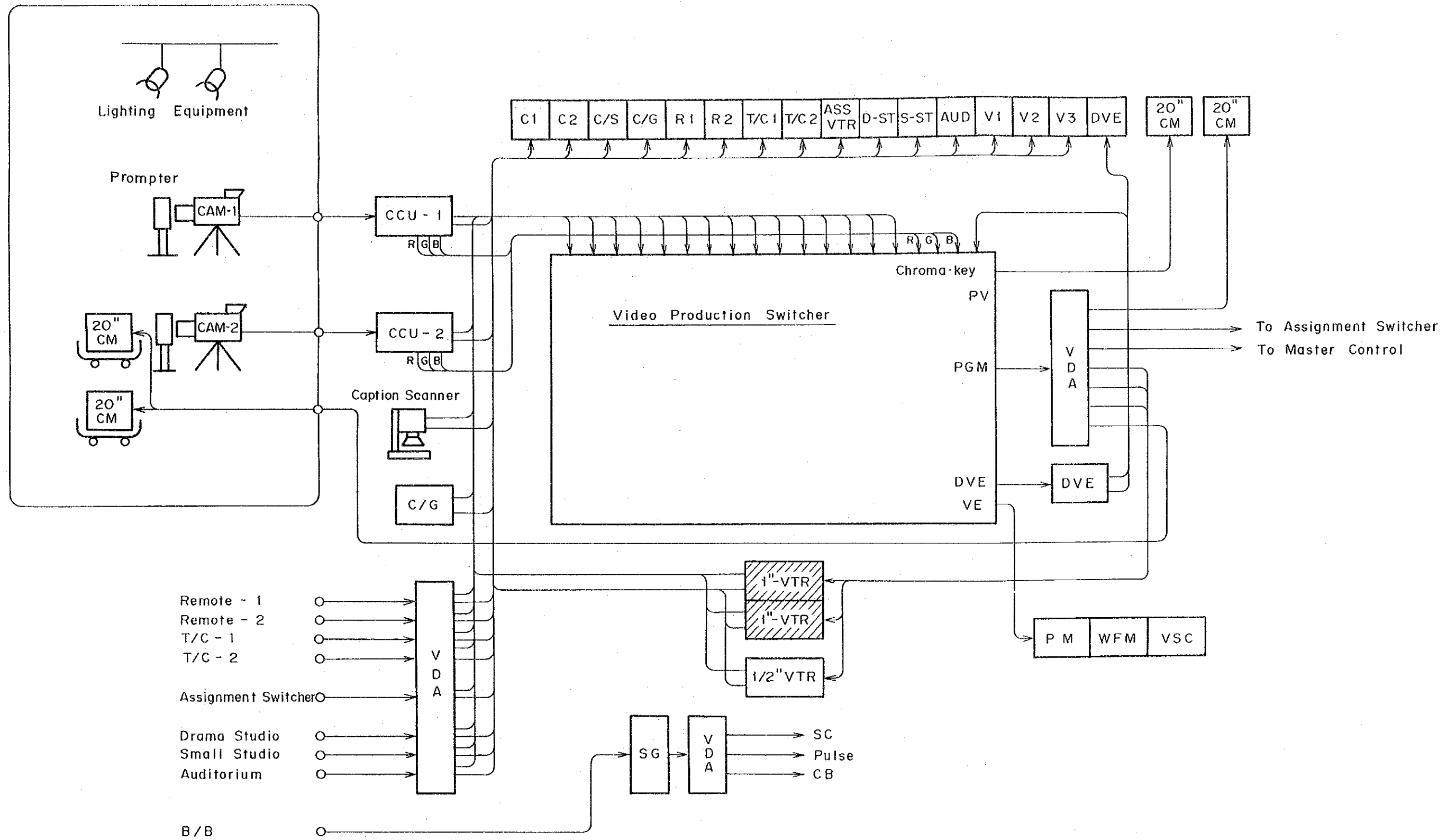


FIG 4-3-9 SCHEMATIC DIAGRAM OF AUDIO SYSTEM FOR ASSIGNMENT SWITCHER



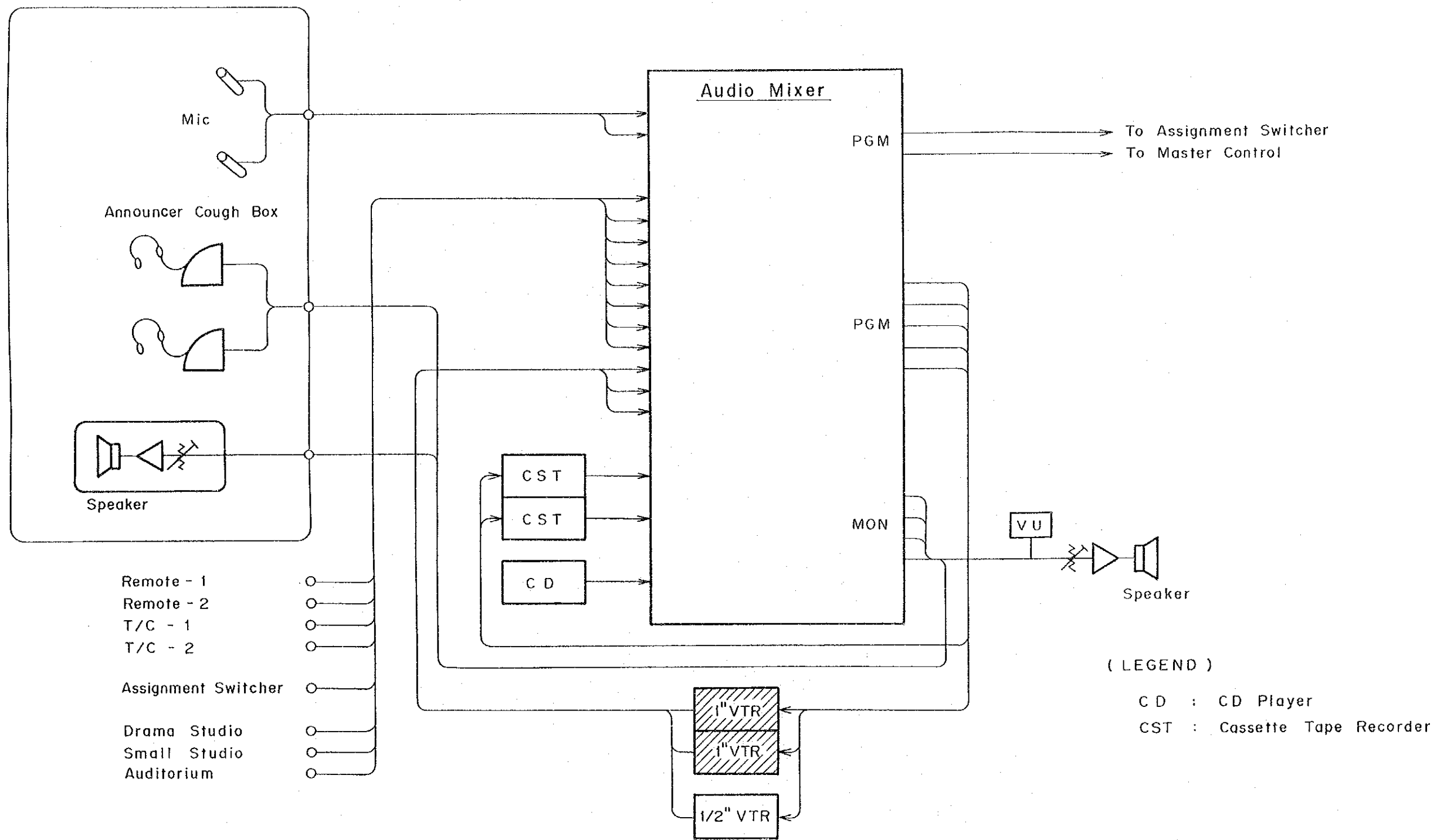




Remarks : Shaded items are existing equipment

FIG 4-3-10 SCHEMATIC DIAGRAM OF VIDEO SYSTEM FOR NEWS-CONTINUITY STUDIO





Shaded items are existing equipment.

FIG 4-3-11 SCHEMATIC DIAGRAM OF AUDIO SYSTEM FOR NEWS CONTINUITY STUDIO



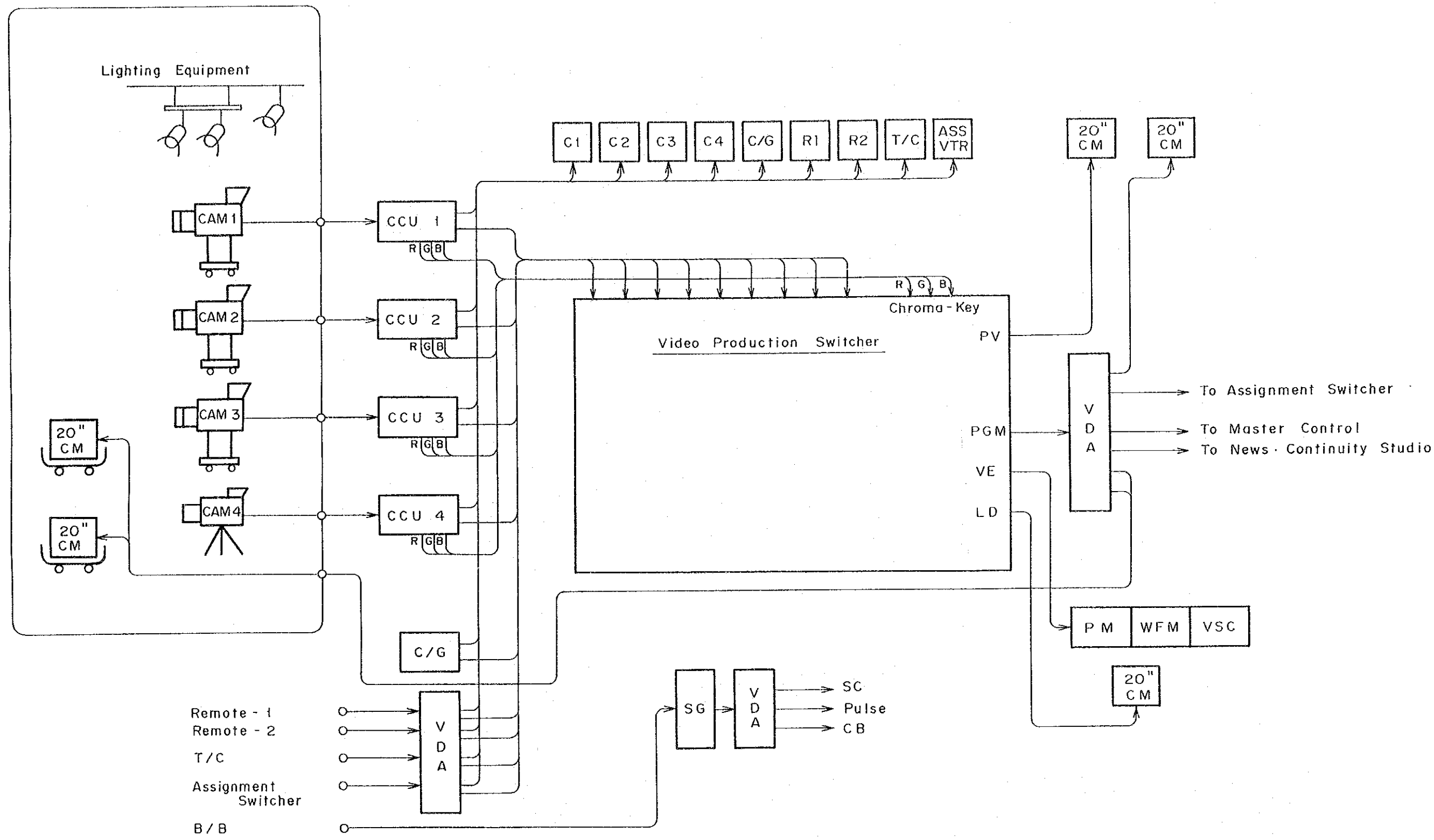


FIG 4-3-12 SCHEMATIC DIAGRAM OF VIDEO SYSTEM FOR DRAMA STUDIO



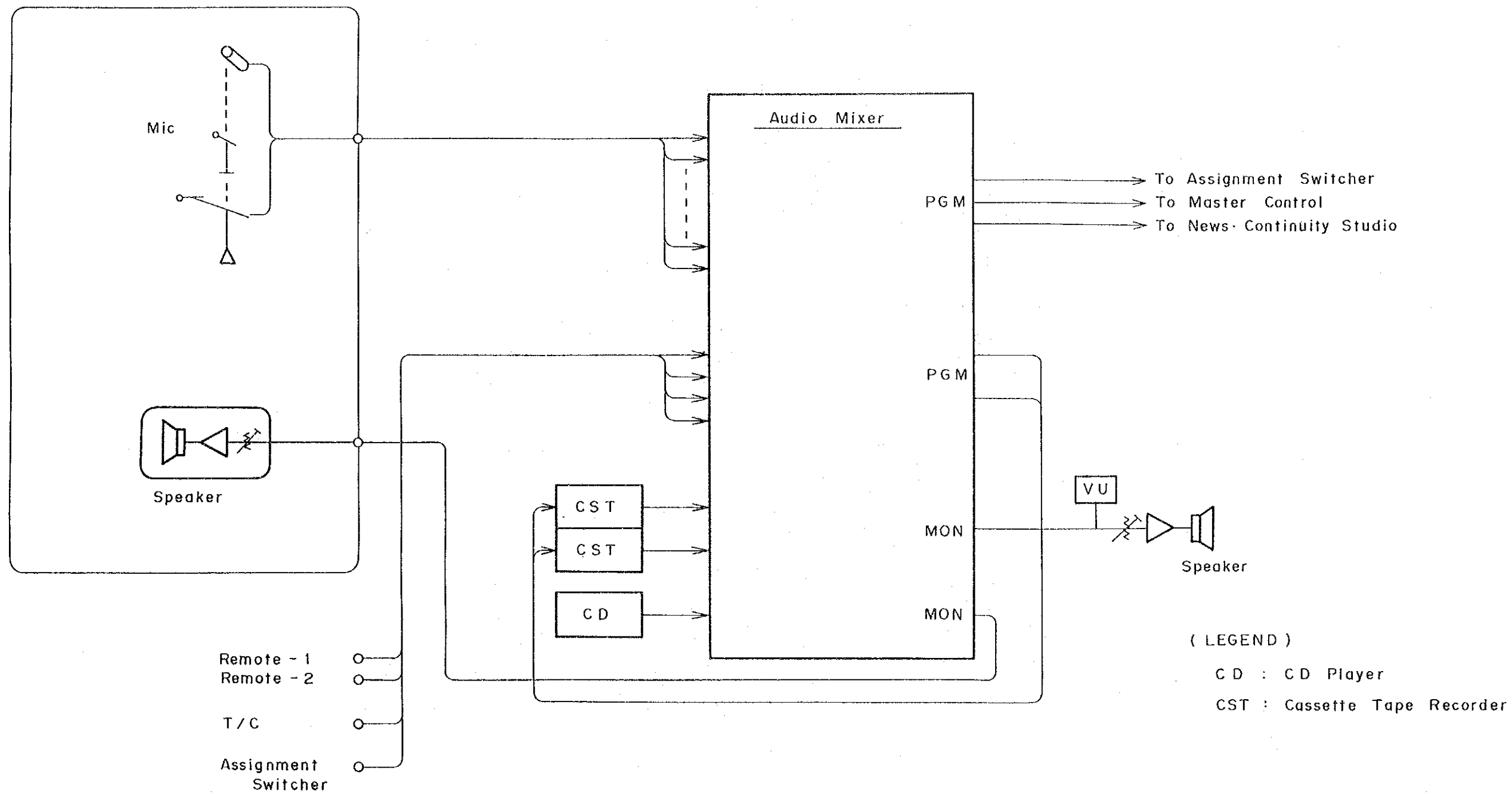


FIG 4-3-13 SCHEMATIC DIAGRAM OF AUDIO SYSTEM FOR DRAMA STUDIO





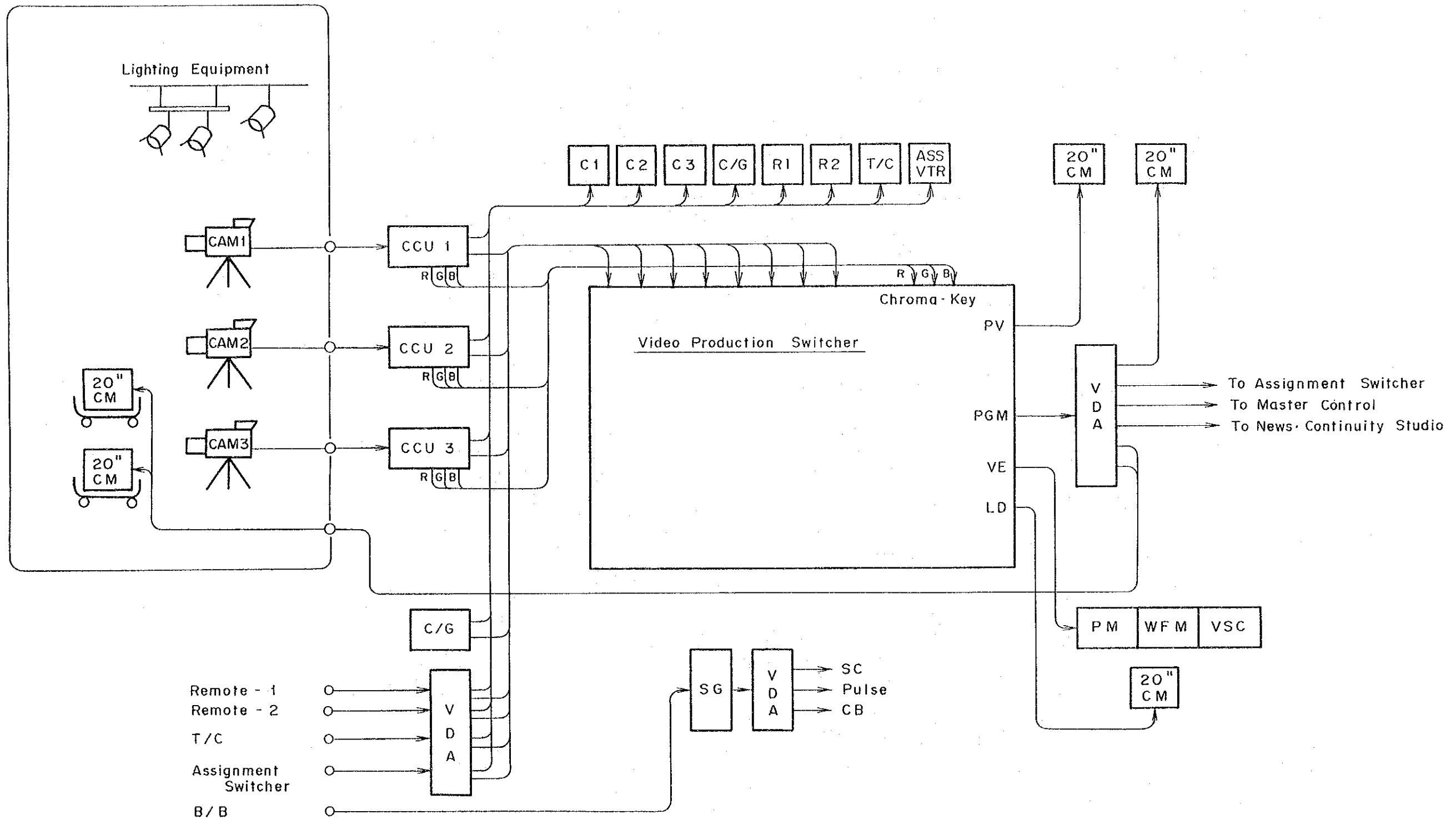


FIG 4-3-14 SCHEMATIC DIAGRAM OF VIDEO SYSTEM FOR SMALL STUDIO



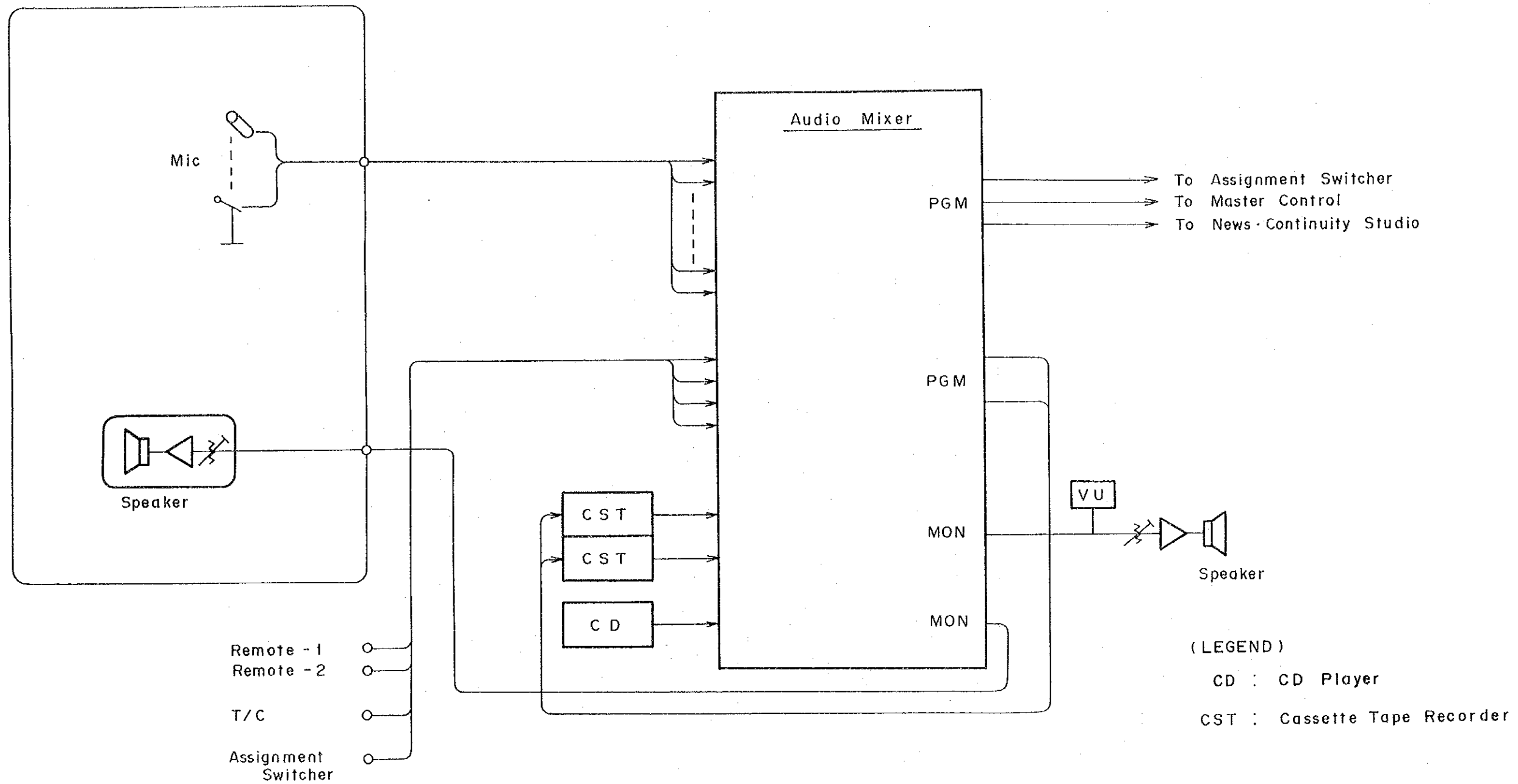


FIG 4-3-15 SCHEMATIC DIAGRAM OF AUDIO SYSTEM FOR SMALL STUDIO





#### 4-4 Implementation Plans

##### 4-4-1 Implementation Policy

After interior finishing of the studio and equipment room by BTV are completed, the project is to make nearly overall renovations of existing facilities.

The most efficient method of equipment installation is to remove the relevant existing facilities all at once and replace them with new facilities and equipment. However, this method requires that broadcasts be temporarily halted.

Accordingly, in order to implement the equipment installation while continuing broadcasts, the following construction methods need to be taken. First, construction should be undertaken in the small studio. This small studio should be provisionally operated as a master control. Following this, other existing facilities are to be removed, new equipment is to be installed and adjustments are to be made. Construction must be based on this kind of complex order of operations.

In order to smoothly implement this complex construction, there is a need for the individuals in charge from Japan and BTV to have close discussions, create a detailed plan for the implementation process and implement construction.

As a basic implementation policy for this project, the consultant must fully recognize the distinctive characteristics of the installation at these sites and put together a personnel plan which is in line with the grant aid assistance principles of the Government of Japan and consistent throughout implementation. The consultant is expected to reside at the site, not only during the implementation period, but also before if necessary. Furthermore, while maintaining close communication with all personnel involved, the consultant shall accurately adapt opinions and lead, supervise and advise in such a way as to smoothly implement installation without interfering with broadcasting. The consultant shall be involved in all aspects of the plan and work toward its completion.

#### 4-4-2 Supervision Plans

In order to facilitate the progress of this project, there is a need to give consideration to and advance the following points during the implementation stages.

##### (1) Detailed Design

- Facilities will be arranged in order to coordinate with the existing station building.
- consideration will be given to BTV operation and an appropriate sized system will be designed.

##### (2) To pay careful attention to implementation of a fair tender.

##### (3) Contract

To examine conditions of contract without omission.

##### (4) Approval of the Drawings

- Systems will be checked
- A check will be conducted to determine whether or not the number of staff and capacity of the equipment meets specifications.

##### (5) Factory inspections

A check will be conducted to determine whether or not the capacity of the equipment meets specifications under conditions which are as close as possible to the on-site installation conditions.



(6) Supervision of on-site installation work

- The utmost consideration will be given to maintaining close communication with those involved and not interfering with broadcasts.
- The transfer of technology will be sufficiently implemented on-site.

(7) Acceptance inspection on the installation site

- Consideration will be given to refunctioning of factory inspection data.

(8) Completion of construction work

- A check will be conducted to determine whether operations are running smoothly under the new system.

4-4-3 Scope of Work

The scope of work to be borne by Japan and Bangladesh in relation to the implementation of this project is as follows.

(1) Work undertaken by the Japanese side.

- Manufacture, installation and adjustment of equipment included in this project (including the procurement of Acoustic materials necessary for the interior finishing work of studios).
- Equipment (measuring instruments, spare parts and others) necessary for protecting and maintaining the above equipment and facilities.

- The transportation of equipment and facilities from Japan to the project site in Bangladesh (including the transportation of acoustic materials).

(2) Construction work undertaken by the Bangladesh side.

- Interior finishing work of studios and control rooms excluding exchange work of acoustic material in studios.
- Removal of existing equipment and cleaning.
- Remodeling of station building as the need arises in terms of equipment installation.
- Preparation of additional facilities such as electricity, air-conditioning, water supply and drainage.

The following items are expenses to be borne by Bangladesh.

- Provision of materials and information necessary for detailed design surveys.
- Procurement of all licensing necessary for the implementation of this project.
- To bear advising commissions of the Authorization to Pay (A/P) and payment commission to the Japanese foreign exchange bank for banking services based upon the Banking Arrangement (B/A).
- To ensure prompt unloading, tax payment and custom clearance of the materials and equipment for the Project at port of disembarkation.
- To accord Japanese Nationals whose services may be required in connection with the supply of the products and services under the verified contract such facilities as may be necessary for their entry into Bangladesh and stay therein for the performance of their work.

- In order to exempt Japanese Nationals engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in Bangladesh with respect to the supply of the products and services under the verified contracts, the cost of duties, internal taxes and other fiscal levies to be imposed under the Bangladesh Regulations shall be borne by the relevant Ministry/Agency concerned with the Project for which necessary budget provision shall be made by them.
- To maintain and use properly and effectively that the facilities constructed and equipment purchased under the verified contracts.
- To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment.

#### 4-4-4 Procurement Plan

The facilities and construction materials for this project are to be prepared by Japan. After production and assembly in Japan, these facilities will be inspected, disassembled if necessary, and transported. After arriving on-site, adjustments will be made for installation.

#### 4-4-5 Implementation Schedule

The necessary procedures to be taken for the implementation of the Project are:

- After the conclusion of the Exchange of Notes between the Government of the People's Republic of Bangladesh and the Government of Japan, a consultant agreement for the implementation of the Project will be made;

- after that, the detailed design and preparation of Tender Documents are carried out by the consultant and the Tender then takes place;

- after the evaluation of the Tender proposals, a contract for the execution of the Project will be made between the Government of the People's Republic of Bangladesh and the Japanese contractor.

Then, the work will begin.

The term of the implementation of the Project will be about 3 months for detailed design and tender, and 12 months for procurement and implementation.

The tentative implementation schedule is shown in Table 4-4-1.

Table 4-4-1 Implementation Schedule

Tentative Implementation Schedule

Item	1	2	3							(Total 3.0 months)		
Month												
Detailed Design and Tender		Site Survey										
		Home Office Work										
		Confirm of Tender Document										
			Tender									
			Contract									

Item	1	2	3	4	5	6	7	8	9	10	11	12
Month												
Procurement, Implementation												
						(Total 12 months)						
Interior finishing work												
B												
T												
V												
							Manufacturing, Procurement					
							Transportation					
								Installation, Adjustment				

■ Work in Bangladesh  
□ Work in Japan

4-4-6 Estimate of the Approximate Project Cost

Approximate project cost to be covered by the Bangladesh side is estimated at about 100.6 lakh TK as shown below.

1) Removal of existing equipment	2.2 lakh TK
2) Interior finishing work in all studio	98.4 lakh TK
<hr/>	
Total	100.6 lakh TK

## **CHAPTER 5 PROJECT EVALUATION AND CONCLUSION**





## **Appendices**

1. Member List of Survey Team .....	1
2. Survey Schedule .....	3
3. List of Interviewees .....	5
4. Minutes of Discussions .....	7
5. Guidelines for Radio and Television Programmes .....	29
6. Existing Studio Equipment of Dhaka Television .....	33



## **1. Member List of Survey Team**



## 1. Member List of the Servey Team

### (1) Basic Design Stage

<u>Name</u>	<u>Assignment</u>	<u>Present Post</u>
Mr. Kazuo Yanagisawa	Team Leader	Deputy Director Private Broadcasting Administration Division, Broadcasting Bureau, Ministry of Posts and Telecommunications
Mr. Eiji Iwasaki	Coordinator	Second Basic Design Study Division, Grant Aid Study & Design Department, Japan International Cooperation Agency (JICA)
Mr. Osamu Karasaki	Facility Plan	International Department, NHK Integrated Technology Inc.
Mr. Tetsuya Ota	Equipment Plan	International Department, NHK Integrated Technology Inc.
Mr. Takashi Miyagi	Equipment Layout Cost Estimation	International Department, NHK Integrated Technology Inc.

(2) Draft Final Report Discussion Stage

<u>Name</u>	<u>Assignment</u>	<u>Present Post</u>
Mr. Kazuo Yanagisawa	Team Leader	Deputy Director Private Broadcasting Administration Division, Broadcasting Bureau, Ministry of Posts and Telecommunications
Mr. Toshiyuki Iwama	Coordinator	Second Basic Design Study Division, Grant Aid Study & Design Department, Japan International Cooperation Agency (JICA)
Mr. Osamu Karasaki	Facility Plan	International Department, NHK Integrated Technology Inc.
Mr. Tetsuya Ota	Equipment Plan	International Department, NHK Integrated Technology Inc.

## **2. Survey Schedule**





## 2. Survey Schedules

### (1) Basic Design Stage

No.	Date	Contents
1	June 12 (Sat)	Depart Tokyo, arrive Bangkok (Karasaki, Ota, Miyagi)
2	June 13 (Sun)	Depart Bangkok, arrive Dhaka. Courtesy call to JICA Office, Meeting
3	June 14 (Mon)	Courtesy call to Ministry of Information at 9:30, Courtesy call to Bangladesh Television at 11:00, visit to Dhaka Television Centre
4	June 15 (Tue)	Courtesy call to ERD at 9:30, Meeting at BTV (explanation on Inception Report)
5	June 16 (Wed)	Meeting at BTV, Site survey, Meeting at 16:00
6	June 17 (Thu)	Site survey, Meeting at 16:30
7	June 18 (Fri)	Internal Meeting
8	June 19 (Sat)	Site survey
9	June 20 (Sun)	Team Leader arrive Dhaka, Site survey, Meeting
10	June 21 (Mon)	Site survey, Team Leader inspect the site
11	June 22 (Tue)	Join Meeting at ERD
12	June 23 (Wed)	Signing to Minutes of Discussions, Site survey
13	June 24 (Thu)	Courtesy call to Embassy of Japan, Depart Dhaka (Miyagi)
14	June 25 (Fri)	Team Leader and Mr. Iwasaki depart Dhaka. Site survey (Consultant member)
15	June 26 (Sat)	Site survey and Meeting (ditto)
16	June 27 (Sun)	ditto
17	June 28 (Mon)	ditto
18	June 29 (Tue)	ditto
19	June 30 (Wed)	Final Meeting at BTV, Meeting at JICA Office
20	July 1 (Thu)	Depart Dhaka, arrive Bangkok
21	July 2 (Fri)	Depart Bangkok, arrive Tokyo

(2) Draft Final Report Discussion Stage

No.	Date	Contents
1	Sept. 9 (Thu)	Depart Tokyo, arrive Bangkok (Karasaki, Ota)
2	Sept. 10 (Fri)	Depart Bangkok, arrive Dhaka
3	Sept. 11 (Sat)	Explanation of the Draft Final Report to Chief Engineer and Additional Chief Engineer, BTV at 10:00
4	Sept. 12 (Sun)	Official Members arrive Dhaka, Courtesy call to JICA Bangladesh Office at 14:50, Courtesy call to Embassy of Japan at 15:30
5	Sept. 13 (Mon)	Courtesy call to ERD at 9:00, Courtesy call to Ministry of Information at 10:30, Courtesy call to BTV at 11:30
6	Sept. 14 (Tue)	Courtesy call and Explanation of the Draft Final Report to Planning Commission at 8:30
7	Sept. 15 (Wed)	11:00 Joint Meeting at ERD
8	Sept. 16 (Thu)	10:00 Signature of Minutes of discussions at ERD, Embassy of Japan and JICA Bangladesh Office
9	Sept. 17 (Fri)	Depart Dhaka, arrive Bangkok
10	Sept. 18 (Sat)	Depart Bangkok, arrive Tokyo

### **3. List of Interviewees**



### 3. List of Interviewees

Mr. Nooruddin A. Almasood	Secretary, Ministry of Information
Mr. Dewan Zakir Hussain	Deputy Secretary, Economic Relations Division (ERD)
Md. Rafiqul Islam	Asstt. Chief, Economic Relations Division (ERD)
Mr. Sirajul Haq Talukder	Research Officer, Economic Relations Division (ERD)
Mr. M. Mokammel Haque	Member, Planning Commission
Mr. A K.M. Salamatullah	Director General, Bangladesh Television (BTV)
Mr. S.D. Khan	Chief Engineer, Bangladesh Television (BTV)
Mr. M.A. Wahed	Additional Chief Engineer, Bangladesh Television (BTV)
Mr. Mustafa Kamal Soyed	Deputy Director General & Station Manager of Dhaka Station, Bangladesh Television (BTV)
Mr. Fanuove Alamair	Director News, Bangladesh Television (BTV)
Mr. A. Mustafa	Director Photography, Bangladesh Television (BTV)

Mr. Anwar Hossain

Director Design,  
Bangladesh Television (BTV)

MD. Zahirul Islam

Senior Engineer,  
Bangladesh Television (BTV)

Mr. Matiur Rahman

Engineering Manager,  
Bangladesh Television (BTV)

Mr. Moyeedul Hoq Chy

Engineering Manager, Auditorium,  
Bangladesh Television (BTV)

Md. Saifullah

Engineering Manager, O.B. & ENG,  
Bangladesh Television (BTV)

## **4. Minutes of Discussions**





#### 4. Minutes of Discussions (Basic Design Stage)

MINUTES OF DISCUSSIONS  
BASIC DESIGN STUDY  
ON  
THE PROJECT FOR REHABILITATION OF DHAKA TELEVISION

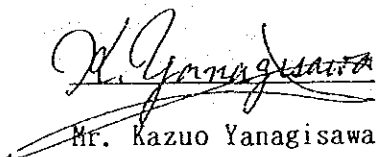
In response to the request from the Government of the People's Republic of Bangladesh, the Government of Japan decided to conduct a Basic Design Study on the Project for Rehabilitation of Dhaka Television (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Bangladesh a study team, which is headed by Mr. Kazuo Yanagisawa, Deputy Director, Private Broadcasting Administration Division, Broadcasting Bureau, Ministry of Posts and Telecommunications, and is scheduled to stay in the country from June 13 to July 1, 1993.

The team held discussions with the officials concerned of the Government of the People's Republic of Bangladesh and conducted field survey at the study area.

In the course of discussions and field survey, both parties have confirmed the main items described on the attached sheets. The team will proceed to further works and prepare the Basic Design Study report.

Dhaka, June 23, 1993.



Mr. Kazuo Yanagisawa

Leader,  
Basic Design Study Team,  
JICA



Dr. Saadat Husain  
Additional Secretary,  
Economic Relations Division,  
Ministry of Finance

## ATTACHMENT

### 1. Objective of the Project

The objective of the Project is to rehabilitate the facilities of Dhaka Television.

### 2. Project Site

The site of the Project is the Dhaka Television Center, Rampura.

### 3. Responsible Ministry & Executing Organization

Responsible Ministry : Ministry of Information  
Executing Organization : Bangladesh Television

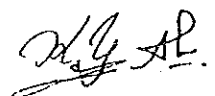
### 4. Project Equipment requested by the Government of Bangladesh

Main project equipment requested by the Bangladesh through discussions are shown in ANNEX-I.

### 5. Grant Aid system

The Government of Bangladesh has understood the system of Japan's Grant Aid explained by the team and the following items have been confirmed.

- (1) The consulting firm that was selected by JICA as per their set procedure and takes charge of the Basic Design work will be employed in principle as a project implementing consultant for smooth implementation of the Grant Aid Project.
- (2) Procuring products and services for implementing the Grant Aid Project shall be executed in accordance with "GUIDLINE FOR PROCUREMENT UNDER THE JAPANESE GRANT, 1991, JICA".
- (3) Necessary measures described in ANNEX-II will be taken by the Government of Bangladesh for smooth implementation of the Project.



6. Schedule of the Study

- (1) JICA will prepare the draft final report in English and dispatch a mission in order to explain its contents to the Government of Bangladesh around September, 1993.
- (2) In case that the contents of the report is accepted in principle by the Government of Bangladesh, JICA will complete the final report and send it to the Government of Bangladesh around December, 1993.

*H. Z. A.*

ANNEX- I

Project Equipment requested by the Government of Bangladesh;

1. One set of Master Control Equipment.
2. One set of Drama Studio Equipment.
3. One set of News Studio Equipment.
4. One set of Assignment Matrix Switcher.
5. Necessary Spare Parts for above Equipment.

Note:

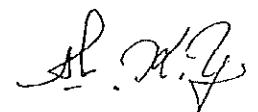
One set of Small Studio Equipment was also requested strongly by the Government of Bangladesh.

*H. G. A.*

ANNEX- II

Necessary measures to be taken by the Government of Bangladesh;

1. To demolish existing facilities and remove existing equipment, if required and agreed by both parties for the execution of works.
2. To complete interior finishing work of necessary facilities prior to the commencement of the equipment installation.
3. To provide facilities for distribution of electricity and other incidental facilities at the Project site.
4. To bear advising commissions of the Authorization to Pay(A/P) and payment commission to the Japanese foreign exchange bank for banking services based upon the Banking Arrangement(B/A).
5. To ensure prompt unloading, tax payment and custom clearance of the materials and equipment for the Project at port of disembarkation.
6. To accord Japanese Nationals whose services may be required in connection with the supply of the products and services under the verified contract such facilities as may be necessary for their entry into Bangladesh and stay therein for the performance of their work.
7. In order to exempt Japanese Nationals engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in Bangladesh with respect to the supply of the Products and services under the verified contracts, the cost of duties, internal taxes and other fiscal levies to be imposed under the Bangladesh Regulations shall be borne by the relevant Ministry/Agency Concerned with the Project for which necessary budget provision shall be made by them.
8. To maintain and use properly and effectively that the facilities constructed and equipment purchased under the verified contracts.



9. To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment. *R.*

*Al. K. G.*

(Draft Final Report Discussion Stage)

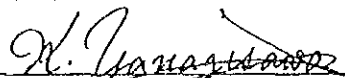
MINUTES OF DISCUSSIONS ON  
THE BASIC DESIGN STUDY ON THE PROJECT  
FOR REHABILITATION OF DHAKA TELEVISION  
IN THE PEOPLE'S REPUBLIC OF BANGLADESH


In June 1993, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study Team on the Project for Rehabilitation of Dhaka Television (hereinafter referred to as "the Project") to the People's Republic of Bangladesh and through discussions, field survey and examination of the results in Japan, has prepared the draft report of the study.


In order to explain and to consult the Bangladesh side on the components of the draft report JICA sent to Bangladesh a study team, which is headed by Mr. Kazuo Yanagisawa, Deputy Director, Private Broadcasting Administration Div., Broadcasting Bureau, Ministry of Posts and Telecommunications, and is scheduled to stay in the country from September 10 to September 17, 1993.

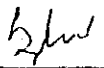
As a result of the discussions and field survey, both parties confirmed the main items described on the attached sheets. Based on those Minutes of Discussions, the team will proceed to further works and prepare the Basic Design Study Report.

Dhaka, September 16, 1993

  
Mr. Kazuo Yanagisawa  
Leader,  
Basic Design Study Team,  
JICA

  
Mr. Dewan Zakir Hussain  
Deputy Secretary  
Economic Relations Division,  
Ministry of Finance

Witness   
Mr. A. M. Aminul Haque Siddique  
Deputy Chief (Planning)  
Ministry of Information

  
Mr. MD. Zahirul Islam  
Senior Engineer  
Bangladesh Television

## ATTACHMENT

### 1. Components of the Draft Report

- (1) The Government of Bangladesh has agreed the equipment list (Annex 1) and tentative implementation schedule (Annex 2) proposed by the team.
- (2) The team proposed the following installation work plan of project equipment, in order to secure minimum production of programmes during the period.
  - 1) The equipment of the small studio should be replaced first while broadcasting would be continued with the other two studios.
  - 2) The equipment of the other studios should be replaced after the completion of the work in the small studio.
- (3) The exchange of acoustic material of the studios should also be done during the installation of new equipment and as quick as possible in order to avoid any delays on work schedule.

The Bangladesh side explained the complexity of governmental procedure and requested the work to be done by the Japanese side. The Japanese side assured to discuss the possibility with the ministries concerned in Japan.

The Government of Bangladesh agreed to the proposal mentioned above and that the related change of the programme compilation would be carried out under the full responsibility of the Bangladesh side.

### 2. Grant Aid Programme extended by Japan

The Government of Bangladesh has understood the system of Japan's Grant Aid explained by the team and the following items have been confirmed.

- (1) The consulting firm that was selected by JICA as per their set procedure and takes charge of the Basic Design work will be employed in principle as a project implementing consultant for smooth implementation of the Grant Aid Project.
- (2) Procuring products and services for implementing the Grant Aid Project shall be executed in accordance with "GUIDELINE FOR PROCUREMENT UNDER THE JAPANESE GRANT, 1991, JICA".
- (3) In addition to the Annex-II of the Minutes of Discussions signed and exchanged on June 23, 1993 the necessary measures described in Annex 3 will be taken by the Government of Bangladesh in accordance with the tentative implementation schedule for smooth implementation of the Project.



3. Comment on the Draft Report

The Government of Bangladesh will submit its comments on the draft report alongwith the economic viability of the Project in writing by mid October 1993 to JICA Bangladesh office for onward submission to JICA HDQ.

4. Further Schedule

The team will make the final report giving due considerations on the comments of the Government of Bangladesh by December 1993.

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Annex 1

List of Equipment

(1) Master Control Room

1) Video Equipment

① Programme Sending-out Switcher	3 sets	28-inputs, with audio switcher
② Monitor Switcher	1 set	
③ Remote Switcher	1 set	
④ Re-entry Switcher	1 set	
⑤ Video Distribution Amplifier	1 set	Necessary amount of amplifiers for making up system to be included.
⑥ Video Equalizing Amplifier	1 set	
⑦ Delay Line	1 set	Necessary amount of delay lines for making up system to be included.
⑧ Video Jack Field	1 set	20-inputs/outputs
2) Sync. Pulse Generating Equipment		
① Sync. Pulse Signal Generator	2 sets	With test signal generator
② Automatic Changeover Switcher	1 set	
③ Pulse Signal Distribution Amplifier	1 set	
3) Frame Synchronizer (F/S)	4 sets	
4) Video Processing Amplifier	1 set	
5) VITS Signal Insertor	2 sets	With VITS signal generator
6) Character Generator	2 sets	With TBC & monitor
7) Caption Scanner	1 set	With monitor
8) Video Timer	1 set	
9) Station Logo Generator	1 set	

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10) Audio Equipment		
① Monitor Switcher	1 set	
② Remote Switcher	1 set	
③ Re-entry Switcher	1 set	
④ Audio Distribution Amplifier	1 set	
⑤ Limiting Amplifier	3 sets	
⑥ Audio Jack Field	1 set	
⑦ Cassette Tape Recorder	3 sets	
⑧ CD Player	1 set	
11) 1/2-inch VTR	2 sets	Playback only, with monitor
12) Monitoring Equipment		
① Video Monitor	23 sets	
② 20-inch Video Monitor	3 sets	
③ Video Monitor	1 set	Precision type
④ TV Receiver	1 set	
⑤ Waveform Monitor	1 set	
⑥ Vectorscope	1 set	
⑦ Audio Monitor	1 set	With power amplifier
⑧ Monitor Shelf	1 set	
13) Clock System		
① Master Clock Device	1 set	
② 1-second Slave Clock	10 sets	
③ 30-second Slave Clock	15 sets	
14) Room to Room Interphone	1 set	
15) TV In-house Monitor	1 set	
16) Operation Console	1 set	
17) Rack Assembly	4 sets	
18) Video Transformer	1 lot	
19) Power Distribution Board	1 set	
20) Installation Materials	1 set	

(2) Assignment Switcher

- 1) Video Equipment
  - ① VTR Recording Switcher 1 set
  - ② VTR Playback Switcher 1 set
  - ③ T/C Switcher 1 set
  - ④ Video Distribution Amplifier 1 set Necessary amount of amplifiers for making up system to be included.
  - ⑤ Video Jack Field 1 set 20-inputs/outputs
- 2) Audio Equipment
  - ① VTR Recording Switcher 1 set
  - ② VTR Playback Switcher 1 set
  - ③ T/C Switcher 1 set
  - ④ Audio Distribution Amplifier 1 set
  - ⑤ Audio Jack Field 1 set
- 3) Monitoring Equipment
  - ① Monitor Switcher 1 set Audio follow video
  - ② Video Monitor 2 sets
  - ③ Waveform Monitor 2 sets
  - ④ Vectorscope 2 sets
  - ⑤ Audio Monitor 2 sets With power amplifier
- 4) 1/2-inch VTR 4 sets Play/Rec. with monitor
- 5) 1-inch VTR 5 sets Existing equipment
- 6) 3/4-inch VTR 1 set Existing equipment
- 7) T/C Equipment 3 sets Existing equipment
- 8) Operation Console 1 set
- 9) Rack Assembly 4 sets
- 10) Power Distribution Board 2 sets
- 11) Installation Materials 1 set

(3) News Continuity Studio

1) Colour Camera

- |                       |        |                      |
|-----------------------|--------|----------------------|
| ① Camera Head         | 2 sets | CCD, with viewfinder |
| ② Zoom Lens           | 2 sets | More than 14 times   |
| ③ Pedestal            | 2 sets |                      |
| ④ Camera Control Unit | 2 sets |                      |
| ⑤ Prompter            | 2 sets |                      |

2) Video Production Equipment

- |                                |       |                                                                            |
|--------------------------------|-------|----------------------------------------------------------------------------|
| ① Video Production Switcher    | 1 set | More than 18-inputs, 2-M/K                                                 |
| ② Digital Video Effect         | 1 set | 3-dimension                                                                |
| ③ Video Distribution Amplifier | 1 set | Necessary amount of amplifiers<br>for makin up system to be<br>included.   |
| ④ Video Jack Field             | 1 set | 20-inputs/outputs                                                          |
| ⑤ Character Generator          | 1 set | With computer, TBC & monitor                                               |
| ⑥ Caption Scanner              | 1 set | With monitor                                                               |
| ⑦ Delay Line                   | 1 set | Necessary amount of delay<br>lines for making up system to<br>be included. |

3) Sync. Pulse Generating Equipment

- |                                       |       |  |
|---------------------------------------|-------|--|
| ① Sync. Pulse Signal Generator        | 1 set |  |
| ② Pulse Signal Distribution Amplifier | 1 set |  |

4) Audio Equipment

- |                                |        |                     |
|--------------------------------|--------|---------------------|
| ① Audio Mixer                  | 1 set  | More than 20-inputs |
| ② Cassette Tape Recorder       | 2 sets |                     |
| ③ CD Player                    | 1 set  |                     |
| ④ Audio Distribution Amplifier | 1 set  |                     |
| ⑤ Audio Jack Field             | 1 set  |                     |

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⑥ Microphones	6 sets	
Comprising :		
· Uni-directional Condenser Mic	2 sets	
· Uni-directional Dynamic Mic	2 sets	
· Uni-directional Lavalier Mic	2 sets	
⑦ Microphone Stand	4 sets	Desk Stand
⑧ Cough-box	2 sets	
⑨ Desk	2 sets	
5) Monitoring Equipment		
① Video Monitor	16 sets	
② 20-inch Video Monitor	4 sets	With cart
③ Video Monitor	1 set	Precision type
④ Waveform Monitor	1 set	
⑤ Vectorscope	1 set	
⑥ Audio Monitor	2 sets	With power amplifier
⑦ Monitor Shelf	1 set	
6) 1/2-inch VTR	1 set	Play/Rec, with monitor
7) 1-inch VTR	2 sets	Existing equipment
8) Studio Intercom	1 set	
9) Studio Lighting Equipment	1 set	Lantern and Accessory
10) Switcher/PD Console	1 set	
11) Rack	3 sets	
12) Power Distribution Board	1 set	
13) Installation Materials	1 set	

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(4) Drama Studio

1) Colour Camera

- |                       |        |                                                               |
|-----------------------|--------|---------------------------------------------------------------|
| ① Camera Head         | 4 sets | CCD, with viewfinder<br>One set out of four is handy<br>type. |
| ② Zoom Lens           | 4 sets | More than 18 times                                            |
| ③ Pedestal            | 4 sets |                                                               |
| ④ Camera Control Unit | 4 sets |                                                               |

2) Video Production Equipment

- |                                |       |                                                                            |
|--------------------------------|-------|----------------------------------------------------------------------------|
| ① Video Production Switcher    | 1 set | More than 18-inputs, 2-M/K                                                 |
| ② Video Distribution Amplifier | 1 set | Necessary amount of amplifiers<br>for making up system to be<br>included.  |
| ③ Video Jack Field             | 1 set | 20-inputs/outputs                                                          |
| ④ Character Generator          | 1 set | With computer, TBC & monitor                                               |
| ⑤ Delay Line                   | 1 set | Necessary amount of delay<br>lines for making up system to<br>be included. |

3) Sync. Pulse Generating Equipment

- |                                       |       |  |
|---------------------------------------|-------|--|
| ① Sync. Pulse Signal Generator        | 1 set |  |
| ② Pulse Signal Distribution Amplifier | 1 set |  |

4) Audio Equipment

- |                                |        |                     |
|--------------------------------|--------|---------------------|
| ① Audio Mixer                  | 1 set  | More than 16-inputs |
| ② Cassette Tape Recorder       | 2 sets |                     |
| ③ CD Player                    | 1 set  |                     |
| ④ Audio Distribution Amplifier | 1 set  |                     |
| ⑤ Audio Jack Field             | 1 set  |                     |

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*M.G.*

(6) Microphones	12 sets	
Comprising ;		
· Uni-directional Condenser Mic	3 sets	
· Uni-directional Dynamic Mic	2 sets	
· Omni-directional Condenser Mic	3 sets	
· Omni-directional Dynamic Mic	2 sets	
· Uni-directional Lavalier Mic	2 sets	
⑦ Microphone Stand	10 sets	Desk Stand, Floor Stand Boom Stand(small)
⑧ Microphone Boom Dolly	2 sets	Length 1.2~4.5m
5) Monitoring Equipment		
① Video Monitor	10 sets	
② 20-inch Video Monitor	5 sets	With cart
③ Video Monitor	1 set	Precision type
④ Waveform Monitor	1 set	
⑤ Vectorscope	1 set	
⑥ Audio Monitor	2 sets	With power amplifier & cart
⑦ Monitor Shelf	1 set	
6) Studio Intercom	1 set	
7) Studio Lighting Equipment		
① Suspension Devices	1 set	
② Lighting Control Equipment	1 set	
③ Lantern and Accessory	1 set	
8) Switcher/PD Console	1 set	
9) Rack	2 sets	
10) Power Distribution Board	1 set	
11) Installation Materials	1 set	

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(5) Small Studio

1) Colour Camera

① Camera Head	3 sets	CCD, with viewfinder
② Zoom Lens	3 sets	More than 16 times
③ Pedestal	3 sets	
④ Camera Control Unit	3 sets	

2) Video Production Equipment

① Video Production Switcher	1 set	More than 18-inputs, 2-M/K
② Video Distribution Amplifier	1 set	Necessary amount of amplifiers for making up system to be included.
③ Video Jack Field	1 set	20-inputs/outputs
④ Character Generator	1 set	With TBC & monitor
⑤ Delay Line	1 set	Necessary amount of delay lines for making up system to be included.

3) Sync. Pulse Generating Equipment

① Sync. Pulse Signal Generator	1 set	
② Pulse Signal Distribution Amplifier	1 set	

4) Audio Equipment

① Audio Mixer	1 set	More than 16-inputs
② Cassette Tape Recorder	2 sets	
③ CD Player	1 set	
④ Audio Distribution Amplifier	1 set	
⑤ Audio Jack Field	1 set	
⑥ Microphones	10 sets	

Comprising ;

· Uni-directional Condenser Mic	2 sets
· Uni-directional Dynamic Mic	2 sets
· Omni-directional Condenser Mic	2 sets

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· Omni-directional Dynamic Mic	2 sets	
· Omni-directional Lavalier Mic	2 sets	
⑦ Microphone Stand	8 sets	Desk Stand, Floor Stand Boom Stand(small)
5) Monitoring Equipment		
① Video Monitor	9 sets	
② 20-inch Video Monitor	5 sets	With cart
③ Video Monitor	1 set	Precision type
④ Waveform Monitor	1 set	
⑤ Vectorscope	1 set	
⑥ Audio Monitor	2 sets	With power amplifier & cart
⑦ Monitor Shelf	1 set	
6) Studio Intercom	1 set	
7) Studio Lighting Equipment		
① Suspension Devices	1 set	
② Lighting Control Equipment	1 set	
③ Lantern and Accessory	1 set	
8) Switcher/PD Console	1 set	
9) Rack	2 sets	
10) Power Distribution Board	1 set	
11) Installation Materials	1 set	

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(6) Measuring Equipment

- |                                      |        |                                              |
|--------------------------------------|--------|----------------------------------------------|
| 1) Oscilloscope                      | 2 sets | 2-channel, With cart                         |
| 2) TV Test Signal Generator          | 1 set  | Colour Bar, Multiburst,<br>Window, Staircase |
| 3) Waveform Monitor                  | 1 set  |                                              |
| 4) Vectorscope                       | 1 set  |                                              |
| 5) Audio Distortion Meter/Oscillator | 1 set  | Frequency Response, Noise,<br>Distortion     |
| 6) Multi Meter                       | 5 sets |                                              |
| 7) Hand Tool Set                     | 5 sets |                                              |

(7) Raw Tapes for 1/2-inch VTR 1 set

(8) Spare Parts 1 set



(9) Acoustic Material for three Studios 1 set Glass Wool

*M.G.*

Annex 2 Tentative Implementation Schedule

Month	1	2	3	(Total 3.0 months)		
item	Site Survey	Home Office Work	Confirm of Tender Document	Tender	Contract	
Detailed Design and Tender						

Month	1	2	3	4	5	6	7	8	9	10	11	12
item						(Total 12months)	Manufacturing, Procurement	Transportation	(Installation, Adjustment)			
Procurement, Implementation												
B Interior finishing work												
T Removal of Small Studio Equipment												
V Removal of Other Studio Equipment												

 Work in Bangladesh  
 Work in Japan

K.F

Annex 3

Necessary measures to be taken by the Government of Bangladesh in addition to the Annex-II of the Minutes of Discussions of June 23, 1993.

1. To complete interior finishing work of the Master Control Room, Drama Studio Control Room, Small Studio Control Room, News Continuity Studio Control Room, VTR Room and Telecine Room.
2. To remove existing equipment in Master Control Room, Drama Studio, Small Studio and News Continuity Studio.
3. To enlarge the entrance of the Studio Control Rooms and Master Control Room for carrying-in the new equipemt, if necessary.

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*H.F.*



## **5. Guidelines for Radio and Television Programmes**





## 5. Guidelines for Radio and Television Programmes

The responsibilities of Radio and Television as powerful mass media are enormous. The basic objective of broadcasting and telecasting are four-fold: dissemination of information, extension of education, motivation for development activities and entertainment. For realisation of these objectives, Radio Bangladesh and Bangladesh Television will follow the undermentioned guidelines in formulation of their programmes:

1. Programmes shall be formulated on the basis of the State policies and the Principles of the Govt. of Bangladesh.
2. Realistic steps shall be taken to make the people of Bangladesh responsible citizens imbued with political, State, social policies and principles of the Government of Bangladesh and above all with patriotism.
3. There shall be expression and development of Bangladeshi nationalism for defending the sovereignty of Bangladesh, for political stability and also for economic development.
4. Efforts shall be made to reflect the country's traditional and own Muslim culture, heritage and ideologies for the development of Bangladeshi culture, establishment of intimate relationship of the people with Bangladeshi culture by inspiring various regional cultural trends with the ideals of Bangladeshi nationalism and patriotism.
5. Full respect shall be shown to all religious feelings. There shall not be any humiliation, sarcasm, aspersion or criticism against any people, religion, sect or individual. Communalism must be avoided.
6. As far as practicable, there shall be pictorial presentation of people's participation in development activities, especially voluntary participation and motivation of the people in such programmes. To achieve this end, discussion programmes with pictorial presentation shall be arranged. Efforts shall be made to

imbibe the people about the dignity of labour and utility of physical labour. It should be reflected through programmes that it is neither disrespectful to work with own hands nor any job or profession is lowly for personal and social welfare and economic development.

7. Efforts shall be made for presentation of healthy entertainment to the audience according to their cultural and recreational needs. Arts and artists of the remotest corners of the country shall be found out, patronised, encouraged and presented to the people through various programmes for harmonisation and enrichment of Bangladeshi culture.
8. Efforts shall be made to set a high standard for various programmes and for correct pronunciation of Bengali words. Bengali is our State Language. Under no circumstances, the standard of pronunciation shall be lowered in news bulletins and announcements.
9. The programmers of Radio Bangladesh and Bangladesh Television shall basically be broadcast in Bengali. These principles may be relaxed for news bulletins, foreign films, songs, and exchange-programmes maintaining consistency with overall programme guidelines.
10. Regional language may be used, if required, in drama, folk programmes and other items. But utmost care should be taken to avoid belittling or hurting any region or regional dialect.
11. To make the country self-reliant, the peasants, the labourers and other work-force shall be motivated to increase agricultural and industrial production and they shall be inspired to play responsible and important role. Different programmes must reflect the problems of common man and their hopes and aspirations.
12. The people shall be made conscious of the gravity of the population explosion through different programmes and they shall be encouraged to adopt effective measures in this regard. The programme for population control should be broadcast with due regard to traditional decency and decorum.

13. To make unlettered citizens conscious and enthusiastic, there shall be programme and publicity on literacy drive.
14. The people shall be motivated towards the development of industries in the country and that of indigenous technologies.
15. Encouragement shall be given for utilizing the creative thinking and powers of the youth and indications should be given for solving their problems.
16. Positive steps should be taken through programmes to imbibe the womenfolk for equal and active participation along their counterparts in all spheres of life like politics, economic and religious fields so that they can play a real meaningful role in nation building activities.
17. Children shall be given proper training to be courteous. They shall be taught cleanliness and made interested in religion, social affairs and national life and specially the ideals of the great personalities of Islam. In the programmes for the minor children a sense of respect, co-operation and goodwill towards parents and elders, family members and the neighbours shall be prominently reflected. Calumny, dispute and scene of quarrels shall be avoided in the programmes for the children.
18. Corruptions in all forms must be eradicated and clear remedial measures must be identified with a view to heightening the moral values and removing all forms of anti-social activities.
19. No indecent utterances should be broadcast or telecast in the programmes.
20. No views or opinion of any political nature should be propagated directly or indirectly or through advertisements in the programmes.
21. The programme shall be designed to reflect honesty, loyalty, discipline, patriotism, frugality and civic responsibilities in the individual, family and social life.

22. All concerned employees and members of the public shall be made conscious of their responsibilities in the maintenance and the preservation of national properties.
23. Sense of respect for law shall be imbued among the people.
24. No programme showing cruelty to human being or animal shall be projected. This may be relaxed in the case of dramas with due moderation.
25. The role of the freedom-fighters in the liberation war should be glorified in the programmes.
26. Vulgar scenes and kiss shall be totally avoided in all films and programmes, whether national or foreign. No programme of violence and terrorism or anything against our cultural values shall be projected.
27. White publicising the quality of any commodity in any advertisement no other commodity shall be undermined. The advertisement must not contain any indecent and obscene scene or utterance.

## **6. Existing Studio Equipment of Dhaka Television**



## 6. Existing Studio Equipment of Dhaka Television

	<u>Q'ty</u>	<u>Manufacturer</u>	<u>Open since</u>
(1) Master Control Room			
1) Audio/Video Sending Switcher	1 set	NEC	1980
2) Telecine Preset Switcher	1 set	NEC	1975
3) Video Mixer	1 set	NEC	1975
4) Sync Pulse Generator	1 set	NEC	1980
5) Audio Mixer 16-channel	1 set	NEC	1975
6) Audio Tape Recorder	2 sets	DENON	1975
7) Disc Player	1 set	DENON	1980
8) Intercom System	1 set	NEC	1974
9) B/W, Colour Video Monitor	6 sets	BTS, JVC	1980
10) Auido Monitor	7 sets	NEC	1974
(2) News·Announce Studio			
1) Colour Camera KCK-40	2 sets	BTS	1980
2) Teleprompter	2 sets		1972
3) Video Mixer 16-channel	1 set	BTS	1980
4) Caption Scanner	1 set	BTS	1982
5) 1-inch VTR	2 sets	BTS	1980
6) 3/4-inch VTR	4 sets	SONY	1991
7) Audio Mixer 12-channel	1 set	NEVE	1980
8) Audio Tape Recorder B67	1 set	STUDER	1980
9) Turn Table 938	1 set	EMT	1980
10) B/W, Colour Video Monitor	17 sets	BOSCH	1980
11) Auido Monitor	4 sets		1980
12) Lighting System	1 set	RDS	

(3) Small Studio

1) Colour Camera KCP-60	3 sets	BOSCH	1983
2) Video Mixing Console 17-channel R61ME	1 set	BOSCH	
3) Opaque	1 set		1978
4) Audio Mixing Console	1 set	<u>AMEK</u>	1983
5) Audio Tape Recorder B67	2 sets	STUDER	1992
6) Turn Table EMT938	1 set		1982
7) Microphone Boom Stand	2 sets		1975
8) B/W, Colour Video Monitor	1 set	BOSCH	1983
9) Audio Monitor	9 sets	NEC	1974
10) Lighting System	2 sets	RDS	1974

(4) Drama Studio

1) Colour Camera KCP-60	4 sets	BOSCH	1982
2) Camera Crane	1 set	VINTEN	1982
3) Video Mixing Console 20-channel RC21ME	1 set	BOSCH	1982
4) Audio Mixing Console 12-channel M-1000	1 set	AMEK	1982
5) Audio Tape Recorder PR99	2 sets	STUDER	1982
6) Turn Table EMT938	1 set		1982
7) Microphone Boom Stand	2 sets		1975
8) B/W, Colour Video Monitor	10 sets	3Q, BOSCH	1982
9) Audio Monitor	2 sets	NEC	1974
10) Lighting System	2 sets	RDS	1974



(5) VTR/TELECINE

1) Preset Switcher	1 set	NEC	1975
2) Video/Audio Distribution Amplifier	1 set	NEC	1975
3) 1-inch VTR	6 sets	BOSCH	1982
4) 3/4-inch VTR	8 sets	SONY	
5) T/C	3 sets		1990
6) OPAQUE	3 sets		1980
7) Video Monitor	1 set		1982

(6) Auditorium

1) Colour Camera KCK-40	4 sets	BOSCH	1981
2) Video Mixing Console	1 set	BOSCH	1981
3) 1-inch VTR	2 sets	BOSCH	1981
4) Public Address Console	1 set	NEC	1981
5) Film Vidicon Camera	1 set	NEC	1979
6) Sync Pulse Generator	1 set	BOSCH	1981
7) Audio Mixing Console	1 set	NEC	1981
8) Audio Tape Recorder DN-371	1 set	DENON	1979
9) Audio Tape Recorder B-67	1 set	STUDER	1981
10) Disc Reproducer	1 set	DENON	1979
11) Microphone Boom Stand	2 sets	TAKASAGO	1981
12) Stereo Power Amplifier	5 sets	JVC	1981
13) Wireless Microphone	6 sets	TAMURA	1981
14) B/W, Colour Video Monitor	23 sets	3Q, NEC, BOSCH	1981
15) Audio Monitor	17 sets		1981
16) Microphone	16 sets		1981
17) Lighting System	1 set	RDS	1981

(7) OB-Van-1

1) Colour Camera	KCP-60	2 sets	BOSCH	1983
2) Colour Camera	KY950E	2 sets	JVC	1987
3) Video Mixer		1 set	GVG	1983
4) 3/4-inch VTR		2 sets	SONY	1987
5) Audio Console	12-channer	1 set	NEVE	1983
6) Tape Recorder	PR99	2 sets	REVOX	1983
7) B/W, Colour Video Monitor		8 sets		1983

(8) OB-Van-2

1) Colour Camera	SK-97	3 sets	HITACHI	1985
2) Video Mixer	Panavision WJ-5600	1 set		1985
3) 3/4-inch VTR		2 sets	SONY	1985
4) Generator	JB-Gen set	1 set		1985
5) Audio Mixer	4-channer	1 set		1985
6) Stereo Cassette Tape		1 set		1985
7) B/W, Colour Video Monitor		4 sets		1985

(9) ENG/EFP

1) Colour Camera	MNC-100	3 sets	NEC	1985
2) Colour Camera	FPZ-31A	8 sets	HITACHI	1987/89
3) Colour Camera	KY-17E	3 sets	JVC	1990
4) Cam-Corder		2 sets	JVC	1990
5) 1-inch VTR	BCN-20	5 sets	BOSCH	1981
6) 3/4-inch VTR	BVU-110	5 sets	SONY	1985
7) VTR	PR4800E	9 sets	JVC	1987/89
8) 3/4-inch	VTRVO-8800P	5 sets	SONY	1988



JICA