Chapter 9 Plan for Improvement of Broadcasting Facilities and Equipment

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9.1 Basic Policy

The improvement of broadcasting facilities and equipment will be based on the Master Plan, which encompasses the MOC management plan, implemented by the year 2000, as well as the SNBC management plan and overall programming reviews. The priority areas are as follows:

(1) Early Solution of Accumulated Obsolete Facilities and Equipment

The following factors will be taken into consideration when deciding plans for replacement of obsolete facilities and equipment.

1) Taking advantage of the latest technologies in terms of both their function and capabilities.

2) Supporting SNBC plans for management reform and programming reviews.

3) Providing large economic benefits.

(2) Modernization of Facilities and Equipment for Broadcast Programmes

The following factors will be taken into consideration when deciding plans for modernizing facilities and equipment.

1) Efficient operation and maintenance.

2) Immediate responses to development of programming plans and diverse programme production.

3) Sufficient contributions to the development of the broadcasting services.

4) Responsiveness to new media.

5) Procurement of spare parts for immediate repairs and introduction of equipment used worldwide.

6) Contributions to the modernization of facilities and equipment.

9.2 Facilities and Equipment for Programme Production

9.2.1 Rehabilitation of Obsolete Facilities and Equipment for Programme Production

Trial calculations show the total value of the main facilities and equipment currently owned by the SNBC for programme production to be approximately US$ 34 million (as of 1994). (This would be the investment required under 1994 prices to purchase the major production facilities and equipment currently owned by SNBC).

The average life of these facilities and equipment is thirteen years. Based on the assumption that renewal will take place every thirteen years, the investment needed for replacing obsolete facilities and equipment will come to approximately US$ 2.6 million each year.

There are also facilities and equipment that should already have been renewed as of 1994, but are still in use. These include 22 audio tape recorder/players at the Radio Centre, and five studio cameras and fourteen 2-inch VTRs from the old Television Centre. The total investment required is approximately US$ 6.2 million.

In the target year of this Master Plan, namely the year 2000, the central apparatus room at the Radio Centre, and the cameras and VTRs at the Television Centre will be due for renewal. By the beginning of the twenty-first century, renewal costs will peak.

There must be replacement of the accumulated facilities by the year 2000.

For efficient operations and cost-cutting, there is also the need for the early replacement of outdated facilities which are not yet due for renewal, but are obsolete in terms of function. One such example is the 3P cameras, which are not yet due for renewal, but are costly in both in terms of money (cost of pick up tubes) and time (registration).

(1) Facilities and Equipment for Radio Programme Production

1) Replacement of Production Facilities and Equipment at the Radio Centre

The Radio Centre's facilities and equipment directly relating to programme production and sending out have a total value of approximately US$ 5 million.

Of this, about US$ 1 million worth of facilities and equipment have outlived their standard renewal period of 15 years (20% of asset value).

In particular, two audio control desks, part of the Centre's main equipment, were made in 1973, and 22 audio tape recorder/players were made between 1962 and 1970.

These need to be replaced at the earliest possible opportunity.

2) Replacement of Production Facilities and Equipment at the OBCs

On-site investigations of the OBCs showed considerable dilapidation. Replacement of facilities at the OBCs need to proceed systematically, along with renewal at the Radio Centre.

(2) Facilities and Equipment for Television Programme Production

1) Replacement of Obsolete Facilities and Equipment at the Old Television Centre

As discussed in Chapter 3 (Current Situation of Broadcasting) and Chapter 5 (Basic Policy for Improvement of Broadcasting Services), most of the facilities and equipment at the old Television Centre have become dilapidated and antiquated and urgently need replacement and improvement.

The old Television Centre's facilities and equipment directly relating to programme production and sending out have a total value of approximately US$ 15 million. Approximately US$ 5 million worth of production facilities needs to be replaced. Exceptions are the OB vans, VTR vans, engine generator vans and telecine facilities.

For the sake of efficient operations, production studios and output functions, currently divided between two sites, all need to be transferred to the Television Centre. Facilities should be provided that are effective in terms of cutting operation and maintenance costs.

All production facilities at the SNBC are in the SECAM standard. However, the SNBC will adopt the PAL system, which is similar to the SECAM system, and used in many countries. The PAL

system has cost advantages, because the system is simple, and production facilities and equipment are plentiful and produced in large quantities.

Conversions into the SECAM standard will take place at the Central Apparatus Room.

Major items for improvement are listed below.

a) A new news studio of about 120m² will be provided at the Television Centre to replace the existing studio.

b) All the 2-inch VTRs will be replaced with the 1/2-inch helical VTRs.

Digital VTRs are becoming mainstream. However, considering the cost of such models and their recording tapes, the SNBC should employ 1/2-inch analogue VTRs which are widely used in the world.

This will help reduce the operational and repair costs, as well as expenses for tapes.

c) The three VTR editing rooms will be amalgamated into two 1/2-inch VTR A/B roll editing rooms.

The telecine facility VTR van will be decommissioned once operations start at the Television Centre, as described below.

2) Renewal of Production Facilities and Equipment at the Osh OBC

As covered in 3.7.2 (2)-1), production facilities and equipment at the Osh OBC are using an OB van made in 1983 that was discarded by the SNBC.

Programmes from the 120m² studio are produced with the OB van facilities.

Osh is a major metropolis of the Kyrgyz Republic, second only to Bishkek. Considering that almost half of the population of the Kyrgyz Republic live in Osh oblast, Osh OBC needs to strengthen ties with the SNBC in the area of programme production.

3) Renewal of Seriously Obsolete Facilities

a) All video cameras will be changed to models equipped with solid state image sensors (3CCD).

b) The base part of the camera will be of a single model, with accessories (CCU, finders, etc.) added to suit specific purposes.

c) The number of cameras in the studios and in the OB vans will be set at three each. If more are needed, EFP cameras will be used.

This will eliminate the expense of procuring pick up tubes.

9.2.2 Renewal of Obsolete Facilities and Equipment for Programme Production

Modernizing production facilities and equipment for improving broadcast programmes shall be determined in line with programming plans. As discussed in Chapter 6, the plans aim at increasing broadcasting time, improving the quality of information, education and cultural programmes, and the launch of a multilingual Kyrgyz TV 2 channel.

Renewal of the old TV Centre will not be sufficient to realize the above. Studios and video editing rooms at the Television Centre need to be brought into use.

(1) Production Facilities and Equipment at the Radio Centre

1) General Improvement of Radio Centre Facilities

The Radio Centre was built in 1969. There was renewal of its studio audio control desks and audio racks for radio operation from 1989 into the 1990s. But a general renewal of equipment will be required in the early 2000s, considering the age of the central apparatus room equipment, such as the audio sending out desks (made in 1986) and audio amplifiers (made in 1976 - 1988).

On the basis of future long term programming plans and running radio and television together, there is the need to consider modernizing the programme production and sending out

system, keeping in mind automation, efficiency and a high level of reliability.

2) Improvement for High Fidelity Sound Broadcasting

More digital audio machines are needed, such as CDs (compact disc players) and DATs (digital audio tape recorders), to gradually increase the amount of stereo FM broadcasts, which have low noise level and little interference.

3) Introduction of Compact-Size Facilities for Programme Production

Live phone-in music shows, telephone interviews, and radio debates by a small number of people are common ways of efficient and cost effective programme production.

It is therefore desirable to have a multi-purpose studio, operated flexibly by a small number of staff, yet equipped with a telephone broadcast capacity and a multiple-origination broadcast function.

(2) General Improvement of the Television Centre

Most equipment at the Television Centre was procured before 1988. By 2000, the target year for the Master Plan, the equipment will be at least 12 years old, with some exceeding their life spans. By the year 2003, most equipment will be due for renewal.

Furthermore, the major facilities involved in programme production and sending out at the Television Centre have a total value of approximately US$ 14 million, requiring large investments in a short period.

Therefore, the overall modernization of the Television Centre needs to start out by considering an overall modernization plan now, after sufficiently analyzing trends in global broadcasting in the 2010s.

Furthermore, in economic terms and in terms of deterioration, it is undesirable to keep expensive machines not in service.

There will be review of the current construction work. The following changes represent the absolute minimum required to have already completed facilities and equipment up and running at an early date.

1) 1/2-inch VTRs will be placed in the studios.

2) The four VTR editing rooms will be reduced to three. Two of the rooms will be used for 1/2-inch VTR A/B roll editing. The other will be used for 1-inch VTR editing and 1-inch VTR A/B roll editing to enable multiple dubbing.

The 1-inch VTRs will be re-deployed for sending out (two VTRs).

The remaining VTR editing room will be altered for use as a post production room (see 9.2.3 below).

3) Regarding the central apparatus room, only currently operational components will be put to use, mainly for the switchover of input and output lines outside the Centre.

4) Four sets of the telecine equipment will remain in operation, to download footage to video tapes for broadcast and studio insertion.

Programme material from foreign countries should be obtained, preferably in a video tape format.

5) Reliability of the programme transmission system between the Old Television Centre and the Television Centre should be improved.

9.2.3 Expansion of Programme Production Facilities and Equipment for the Improvement of Programmes

(1) Expansion of Programme Production Facilities and Equipment at the Television Centre

The following facilities and equipment will be introduced to improve news gathering operations, expand international news, implement multilingual broadcasts and foster efficient and active use of foreign programmes.

1) Built-in ENG camera capacity to support journalistic activities for better quality news and information programmes.

2) Small OB vans each with two video cameras to speed up news gathering, and facilitate video locations at high altitudes or in far away places.

3) Communications satellite receivers for direct-receiving and swift airing of foreign news programmes.

4) System converters for converting tapes of foreign news and programmes into the SECAM standard.

5) Special studios for voice over and dubbing, to convert the Kyrgyz language programmes into other languages and to convert foreign news and programmes into the Kyrgyz language.

6) Automated facilities (APCs), to ensure stable sending out and efficient allocation of staff to support the increase in broadcasting time (the number of programmes), the increase in resources, programme switching due to the introduction of the Kyrgyz TV 2 channel, emergency news transmissions and featuring of commercials.

7) A continuity studio ($20m^2$) to air programme information, to frame live or repeat shows, and to provide an emergency back-up in case of any operation failure.

Some space needs to be newly secured in the Television Centre to facilitate 5), 6) and 7).

8) VTR editing room 4 will be converted into a post production room to achieve rich visual images and to produce effective advertisements.

9) Small size FPUs for live broadcasts relaying images from the scene of an incident, sports, local seasonal events and scenery.

(4) Programme Production Facilities and Equipment at the OBCs

Television programme production facilities and equipment at the OBCs are simple consumer market equipment - except at the Osh OBC.

Upgrading the entire facilities and equipment will require massive funds; it will be difficult to undertake the task quickly.

The improvement should be introduced gradually and systematically, after thoroughly studying the role of SNBC's local broadcasts, viewers' needs, and the prospect of raising funds.

For now, in view of plans to expand the SNBC's domestic news and information programmes, in order to send out the latest local news and information, there is the need to modernize transmission facilities linking each OBC and the TVRT to directly send programmes to Bishkek using the TVRT's network.

9.3 Transmitting Facilities and Equipment

9.3.1 Replacement of Ageing Transmitting Facilities and Equipment

Transmitting is one of the bases that supports broadcasting services. A network must transmit high quality broadcast waves constantly to audiences.

Many skilled engineers work day and night to keep already aged transmitting equipment running smoothly. The facilities require many spare parts and are incurring increasing costs.

Specific plans for replacement must be formulated at the earliest possible date.

The following shows when and how many main transmitters will be due for replacement (excluding one 100W transmitter). We are assuming renewal after a useful life of twenty years.

32 are already over 20 years old as of 1994
5 will be due for replacement in 2000
16 will be due for replacement in 2005
15 will be due for replacement in 2010
8 will be due for replacement in 2015

Total: 77

Table 9.3.1-1 shows the transmitters in use.

The total value of the main transmitters comes to approximately US$ 50.7 million as of 1994. Under the assumption that these will be renewed in the 21 years between now and 2015, this will require an investment of approximately US$ 2.4 million per year. These calculations do not include the 150 kW long wave transmitter.

Postponing renewal means adding to the list of facilities that need to be replaced. In the year 2000, 47% of the main transmitters will be due for replacement.

The following principles must be borne in mind.

(1) Securing Sources of Revenue, Spreading Out Investments

A feasible long term plan is needed given the huge investments required.

(2) Giving Priority to Transmitters Used by the SNBC

In addition to domestic broadcasts, foreign networks are providing relay broadcasts. Bilateral agreements permit the relay broadcasts. However, thought is being given to scaling down or ending these broadcasts in order to open up some TV channels.

Replacement of facilities and equipment which are being used by the foreign stations will hinge on the outcome of the above considerations.

(3) Giving Priority to Equipment and Facilities at Transmitting Stations with Difficult Access

Many of the transmitting facilities in the mountainous Kyrgyz Republic are difficult to reach for maintenance purposes; some are located high in the mountains and others have no road access during winter due to snow.

(4) Giving Priority to Transmitters for Which Spare Parts are not Easily Obtainable

The older machines become, the more difficult it is to procure spare parts, because production has either ceased or the manufacturer no longer exists. Therefore, it is important to procure spare parts systematically in line with the replacement plan.

1) Radio Transmitting Facilities and Equipment

a) Long Wave

The long wave transmitting facilities and equipment at the Krasnaya Rechka Transmitting Station have been used since the Soviet period for broadcasting Radio Russia.

The transmitter, installed in 1972, is now 22 years old and long overdue for replacement.

It is necessary to decide whether to continue the long wave broadcasts. A decision on replacing the facilities and equipment will be left pending for the time being.

b) Medium Wave

Of the 17 operational high powered medium wave transmitters across the country, 9 or 59.2% will be twenty years old by the year 2000.

Seven transmitters are used by Kyrgyz Radio 1; they will be given priority in the renewal plan. Replacement of transmitters being used by foreign stations will wait until such time the Kyrgyz Republic reaches an agreement with the nations concerned and formulates a policy on domestic broadcasts. Replacement of the medium wave transmitters used by Kyrgyz Radio 2 will also be left pending, given that the service may suspend its medium wave broadcasts.

c) Shortwave

The shortwave transmitters, used by Kyrgyz Radio 1 and 2, were installed in the early 1960s and are among the oldest facilities in use.

There will be no replacement of the transmitters for the time being since shortwave transmissions will be re-deployed as a backup for the programme relay system. Priority will be given to transmitters directly linked to broadcasts.

d) FM

Of the 26 operational high powered FM transmitters, 14 or 53.8% were procured in the early 1970s.

Top priority will be given to the replacement of high power FM transmitters because FM transmissions will form the backbone of radio broadcasts.

2) Television Transmitting Facilities and Equipment

Among the approximately 325 TV transmitters in the Kyrgyz Republic, there are 28 high power transmitters in operation (accounting for 37% of the main transmitters). Seven of the high power transmitters are more than twenty years old - five are used by Kyrgyz TV. Some of these transmitters are of the Yakor model adapted for their current use. In the 2000s the 100W transmitters will also be due for replacement. As in the case of

the medium wave transmitters, priority will be given to transmitters used by the SNBC, as well as the private broadcasters (Piramida).

Decisions on the transmitters used by the foreign broadcasters will be linked to the outcome of talks between the Kyrgyz Republic and nations concerned, the establishment of a policy on domestic broadcasts and the establishment of a multilingual Kyrgyz TV 2 service.

We assume transmitters have a life of twenty years.

- By 2000, 28 transmitters will be in need of replacement.
- The total cost of acquiring new solid state transmitters will work out roughly to US$ 13.7 million (excluding the cost of transport, insurance, etc.).
- Assuming a phased replacement over the six years between 1995 and 2000, the amount of investment required each year will be approximately US$ 2.3 million.
- An average of four to five transmitters will be replaced every year.

Table 9.3.1-2 shows an example schedule for the replacement of transmitters. It has been formulated in a way to spread out costs and ensure construction at each of the transmitting facilities in the mountainous areas is fully completed before moving on to another site, as well as taking into account construction capabilities.

The investments will not be solely for transmitters. Consideration has to be given to a wide range of issues such as broadcasting expansion and modernization of the radio relay network. Given the difficulty in acquiring revenue, future finances and the use of funds, the annual investments may have to be staggered. The MOC is facing difficulties because of its revenue and expenditure structure and the poor financial situation of its enterprises. Private broadcasts have not reached a stage of maturity. The MOC must consider the following and arrive at a decision as soon as possible.

- Facilities being used by foreign stations to relay their broadcasts.
- Transferring ownership of the transmitters used by the SNBC to the SNBC (likewise transmitters used by the private broadcasters). The MOC could relinquish ownership but undertake contracts to maintain and operate the facilities.
- Studying the current situation of reception and reception needs. Although this goes against the principle of multiple channels, if possible the MOC should reduce the number of medium wave facilities currently used by Kyrgyz Radio 1. The reduction could be accomplished by integration or closures. The MOC should also shut down two medium wave facilities used by Kyrgyz Radio 2.

Table 9.3.1-1 Main Transmitters in Need of Replacement

Year	Facilities in Need of Replacement	User	Media				
			FM	TV	Medium Wave	Short wave	Long Wave
1994	Made before 1974	SNBC (Kyrgyz Radio & TV), SNBC Private Broadcasters	14	6 (includes private broadcasts, does not include 100W)	5	2	-
		Foreign Broadcasters	-	1 (does not include 100W)	3	-	1
2000	Made between 1975 - 1980	SNBC, Private Broadcasters	2	-	1 (for KGR 2)	-	-
		Foreign Broadcasters	-	2 (does not include 100W)	-	-	-
2005	Made between 1981 - 1985	SNBC, Private Broadcasters	4	3 (does not include 100W or 1-10W)	2 (includes one for private broadcasters)	-	-
		Foreign Broadcasters	-	7 (does not include 100W or 1-10W)	-	-	-
2010	Made between 1986 - 1990	SNBC, Private Broadcasters	6	4 (does not include 100W or 1-10W)	3 (includes one for KGR 2)	-	-
		Foreign Broadcasters	-	2 (does not include 100W or 1-10W)	-	-	-
2015	Made between 1991 - 1995	SNBC, Private Broadcasters	-	2	2	-	-
		Foreign Broadcasters	-	2 (includes one 100W)	1	1	-

Table 9.3.1-2 Example Schedule for Replacement of Obsolete Facilities

Year	Media	Number	Facilities to be Replaced			Annual Investment Required
1995	FM	4	- ORGOCHOR (4kW)	2		Approx. 240 million yen
			- TALAS (4kW)	2		
	TV	1	- ORGOCHOR (5kW)	1	"YAKOR"	
1996	FM	4	- NARYN (4kW)	2		Approx. 220 million yen
			- VOSTOCHNAYA (4kW)	2		
	TV	1	- NARYN (5kW)	1	"YAKOR"	
1997	FM	4	- OSH (4kW)	2		Approx. 240 million yen
			- YUZHNAYA (4kW)	2		
	TV	1	- ALAYKUU (5kW)	1	"YAKOR"	
1998	FM	4	- SULYUKTA (4kW)	2		Approx. 220 million yen
			- TELEKSAY (4kW)	2		
	TV	1	- SULYUKTA (7kW)	1	"YAKOR"	
1999	MF	1	- ORGOCHOR (2 x 25kW)	1		Approx. 230 million yen
	TV	2	- GULCHA (2.5kW)	1	"YAKOR"	
			- KANISHKIYA (2.5kW)	1	"YAKOR"	
2000	MF	1	- TALAS (7kW)	1		Approx. 220 million yen
	TV	2	- GULCHA (2.5kW)	1	"YAKOR"	
			- KANISHKIYA (2.5kW)	1	"YAKOR"	

9.3.2 Modernization of Transmitting Facilities and Equipment

The modernization of the transmitting facilities and equipment needs to be studied with care since the machinery has a long life span.

Digital broadcasts, now being proposed worldwide, may become a reality by the year 2010. The overall costs of digital broadcasts are high because of the high costs of launching satellites and producing transponders. But in the near future the costs should come down, allowing for effective broadcasts using satellites.

But the immediate task in the Kyrgyz Republic is to replace old transmitting facilities and equipment (including the television tower, the radio and television transmitting centre in Bishkek, etc.) to enable stable and high quality broadcasting services, as well as efficient operations and maintenance.

The country's radio transmitting facilities are mostly located near relay facilities for the public telecommunications network (microwave radio relay network). Most FM and television transmitting facilities are also installed in the relay stations.

A modernization plan should proceed with emphasis on the following factors, with careful consideration of the following to modernize the programme transmission facilities and equipment.

(1) Improving Reliability and Stability

Transmitters will be upgraded to fully automated or unmanned models.

There has to be full consideration of reliability in the designing stage. But this must be tempered with the cost factor for redundancy of equipment, and the effects on viewers in the service areas.

Leaving the problem of costs aside, elsewhere in the world 20 kW television transmitters and 100kW medium wave radio transmitters have already been developed; there are moves to develop practical medium wave digital transmitters.

These developments are contributing greatly to the improvement of reliability.

The development of solid state transmitters also improves transmitting stability dramatically to a point where maintenance is no longer needed, safe for the replacement of worn and changed parts.

(2) Improving Operability and Durability

The maintenance-free transmitters do not immediately eliminate human operation. Monitoring is needed to prevent breakdowns and to maintain high quality broadcasting services.

Consideration should be given to automated monitoring and control systems for transmitters at or above 100W in power. Field checks (checks of the electrical characteristics in the service areas) should be used to monitor lower power transmitting facilities.

Data gathered from remote monitoring and field checks should be analyzed by computer to determine when staff should go out to work on the installations.

Other data, such as the number of transmitters, installation dates and records of past problems, should be entered into computers to foster efficient technical management and to have all information available at a centralized source.

9.4 Programme Transmission Facilities and Equipment

Most of the facilities and equipment for programme transmission are aged to the same degree as the transmitters.

The development of the information society is seeing the development of high-speed mass transmission public telecommunications systems. At present, there is a shift to optical fibre networks and the digitization of microwave circuits.

Optical fibre networks, in particular, are one of key technologies for network building. But considering the topography of the Kyrgyz Republic, the nation's information network should be based on digital microwave circuits, ideal for long distance transmission, while incorporating the merits of an optical fibre system.

If the microwave transmitters and receivers now in use as part of broadcasting programme transmission networks are to be digitized as in CCIR recommendations, an investment of an estimated US$ 36.7 million will be needed.

Among them, Rasbet-type transmitters and receivers in particular are aged. Digitization of these equipment, if implemented in five years, will require an annual investment of an average US$ 3.7 million.

Therefore, taking this into consideration, it is necessary to urgently draw up a national plan for an information infrastructure in the Kyrgyz Republic. Such a plan should be used as a guideline for the improvement of programme transmission facilities and equipment.

9.4.1 Replacement of Ageing Facilities and Equipment for Programme Transmission

Replacement cannot be carried out immediately even after a plan for a national information infrastructure has been drawn up. The existing facilities have to be maintained for the interim. It is therefore necessary to do the utmost to secure spare parts and make temporary repairs in some cases to stretch out equipment life.

9.4.2 Programme Transmission for Kyrgyz TV 2

(1) Nationwide Coverage of the Second TV Channel

Foreign broadcasters operating in the Kyrgyz Republic are under review.

It may be possible for the new Kyrgyz TV 2 service to use some of the lines currently being used by the foreign broadcasters.

In this case the existing system would only have to be supplemented. Establishing a new network would entail large costs. There should be consideration of using the back up facilities as a short term measure.

(2) Local Broadcast on the Second TV Channel

Programmes are sent out from Bishkek to central facilities in regional areas, and from there to local relay facilities.

The branch-like structure of central and relay stations does not necessarily correspond to administrative borders; it instead conforms to the nation's topography.

The network needs to be reorganized to allow local services in each oblast. Central facilities should be established in the OBCs and be linked to transmitters in the oblast. Bishkek will be at the top of this network. This will require the construction of new facilities and installation of lines to the transmitting facilities. But using the system for television alone would be too costly and uneconomical, with no apparent merits. Consideration should be given to using the existing network, establishing temporary lines between the OBCs and transmitting facilities.

Chapter 10 Facility Maintenance and Operation Plans

Chapter 10 Facility Maintenance and Operation Plans

10.1 Basic Policy

The basic policy is as follows:

(1) The aim is stable provision of high-quality broadcasting services, with a focus on efficiency and sustainability.

(2) In order to run broadcasting facilities and equipment accurately and to fully display their functions, basic items will be drawn up for programme production sites and transmitting facilities regarding preparation, operation, control, monitoring, action and so on.

(3) The policy shall be applied to facilities and equipment installed according to the plan in Chapter 9.

(4) Regular maintenance, checks and repairs are to be specified, with consideration of some being entrusted to outside contractors.

(5) Programme production facilities and equipment are to be managed by the SNBC; transmitting facilities and equipment are to be managed by the MOC.

The SNBC and MOC must each specify and carry out work according to a set of essentials for maintenance and operation.

a) The essentials will be demarcated according to each device and piece of equipment. The aim is to simplify maintenance items, clarify work at main and local sites, make work more efficient and to stabilize the facilities and equipment. Inspection points, the maintenance required, maintenance standards and points of special attention will be specified for each device.

b) The facility operation essentials must contain sections for routine work and emergency measures. In addition to basic matters, it must include specific examples and safety facts as far as possible, such as human accident prevention.

Routine work will basically be a continuation of current regulations. Emergency measures are to be included in the maintenance plan.

Recently installed transmitting and production facilities and equipment are highly reliable; the number of breakdowns has dropped.

Breakdown are generally divided into three categories:

Early breakdowns are those that occur in newly made products, or those which have been remodelled. They can be traced to faults by the designer, manufacturer or handler. In this case, close contacts between the user and the manufacturer can lead to a quick settlement. The problem can be avoided by introducing perfected products.

Sudden breakdowns occur after early breakdowns have been repaired, and during the period in which the breakdown rate is low. The symptoms vary, and may result from the environmental conditions in which the equipment is placed, and the number of components in the equipment.

The reliability degree (1/failure rate) follows index distribution, and the number of breakdowns that occur during a fixed period follows the Poisson distribution.

Fatigue breakdown occurs when parts wear down physically or undergo chemical change after prolonged use, or when these factors together impede functions. They include lowered vacuum tube emission, reduced electrolysis condenser capacity, and bearing fatigue.

Fatigue breakdowns can be predicted by computer and be prevented through appropriate maintenance.

Even if there are fewer breakdowns, regular maintenance and preventive measures cannot be ignored. The maintenance plan must therefore be drawn up carefully.

At the same time, it is necessary to train maintenance technicians in other countries to improve their skills.

10.2 Maintenance Plan

10.2.1 Programme Production Facilities

Integrated circuits and digitization have greatly increased the reliability and stability of programme production facilities. But since they have become highly complex, once breakdowns occur, high-level knowledge and specialized skills and equipment are needed; broadcast station engineers can no longer repair them.

Therefore, programme producers in Japan and other countries usually ask specialized businesses or the manufacturers to do the repairs. The main task of the maintenance manager is to find out which unit or device has broken down and why. This trend is likely to increase as facilities and equipment become more advanced.

It takes quite a long time to have foreign-made equipment repaired by the manufacturers or agents, because of the long period for shipment, etc. This must be taken into consideration when organizing the maintenance plan.

Since there are many types of programme production equipment, it is impossible to make an across-the-board maintenance plan. Individual maintenance plans must be drawn up with emphasis on making work efficient and simple.

(1) Maintenance Work

An office in charge of maintenance will be set up within the SNBC Headquarters for efficient implementation of the following:

1) Standardized maintenance jobs

2) Quick response to changes in maintenance activities brought about by the introduction of new facilities and equipment

3) Effective routines and preventive maintenance

4) Stocking and managing of spare units and parts, with consideration to cost efficiency.
This will require the following:

* Producing operation and maintenance essentials based on the SNBC's facility and equipment maintenance plan.

* Defining inspection points and maintenance schedules by referring to the equipment manuals, and making allowances for the surrounding environmental conditions.

* Ensuring a planned supply and supervision of spare parts, and securing the necessary funds.

Parts will be replaced in case of a breakdown or during routine maintenance. Inventory shortages would harm the system's reliability, while too many spare parts will mean many precious assets are not being used.

The appropriate number of spare parts can be derived as follows:

At starting point of time (0), to decide 'S', which is the number of stock spare parts, so that the shortage rate during a given period (t) falls below 'α'. The rate of breakdowns follows the Poisson distribution. If 'X' is the number of components that will break down between time '0" and 't', the necessary number of spare parts is equal to 'S' which completes the following formula:

$$P(X>S)= \sum_{X=S+1}^{\infty} a^X e^{-a} / X! \alpha$$

Where α = NλKD

N : number of components currently in use
λ : failure rate (number of incidents/time)
K : supplementary coefficient
D : supplement period

Normally, the shortage rate is 1% (α=0.01), and the supplementary coefficient K=4.

* Establishing Close Partnership with Contractors and Manufacturers

Close relationships with contractors and manufacturers are suggested to ensure the swift repair of failed units. Some manufacturers may not even have an office in the Republic, which means consideration must be given to the training of people who will be able to do the repairs.

* Supervision of Facilities and Equipment

All facilities and equipment must be filed on to computer and include the name, the date of manufacture, model, manufacturer maintenance record and current operating conditions of each unit. The maintenance record must be analyzed by computer for the purposes of preventive maintenance and eliminating any weak spots in reliability.

* Replacement Plans

Ageing facilities and equipment lead to breakdowns and poor picture and sound quality. In addition, huge repair costs are needed to keep them in operation.

Since replacement requires large singular investments, they must be a regular item in budgeting and included in long term planning to spread out the costs.

The appropriate renewal time is generally said to be when the difference between the average yearly investment (the cost of the device divided by the number of years in use) and repair costs becomes minimal. It includes the period of fatigue breakdowns when repair costs suddenly increase. Accumulating and analyzing data on computer of each unit are indispensable; computerized supervision must be actively promoted.

* Training of Maintenance Staff

As highly sophisticated equipment is introduced, it will be difficult to detect failure points and to appropriately supervise the facilities unless the system as a whole is understood.

In the future it will be necessary to actively promote

planned domestic training courses and the sending of engineers to foreign broadcasting organizations for study. For the time being, it will be necessary to promote on-site training, when new units undergo factory inspection or installation.

(2) On-site Maintenance

Following the establishment of an office in charge of maintenance, on-site staff involved in programme production will do the following:

* Draw up specific on-site maintenance tasks based on the maintenance and operation essentials.

* Make initial adjustments and checks for abnormalities when units are put in service.

* Take emergency measures when breakdowns occur.

10.2.2 Transmitting Facilities and Equipment

The MOC broadcasting network, together with the programme transmission network, branches from Bishkek to central stations, and from there to local facilities.

At present, all stations are manned except for those that transmit at very low power. But as facilities and equipment are modernized and automated, different facilities maintenance and operation plans will be necessary.

(1) Maintenance Tasks

Transmitting stations are scattered across the nation; the central stations are located hundreds of kilometres away from Bishkek. The maintenance plan must, therefore, be organized and implemented with regional cooperation in mind.

A central office in charge of nationwide maintenance, similar to the one at the SNBC, will be set up in the TVRT for efficient implementation of the following:

1) Standardized maintenance tasks

2) Quick response to changes in maintenance activities brought about by the introduction of new facilities and equipment

3) Effective routines and preventive maintenance

4) Stocking and managing spare units and parts, with consideration to cost efficiency

The TVRT central office in charge of maintenance (Bishkek) will implement the following:

* Draw up operation and maintenance essentials based on the MOC's facility and equipment management plan.

* Define inspection points and maintenance schedules by referring to equipment manuals, and making allowances for the surrounding environmental conditions.

* Ensure a planned supply and supervision of spare parts, and securing the necessary funds.

* Establish close partnerships with contractors and manufacturers.

* Manage facilities and equipment across the nation.

* Introduce computerized records of equipment and facilities.

* Analyze failures and carry out preventive maintenance.

* Carry out field checks of all very low power transmitting facilities.

* Draw up replacement plans.

* Train maintenance staff.

(2) Maintenance Bases

Maintenance personnel will be placed at a number of central stations, taking geographical conditions into consideration. The maintenance personnel will carry out the following tasks:

* Decide on maintenance details and carry out maintenance based on the operation and maintenance essentials.

* Organize emergency repair crews and rapid responses for breakdowns.

* Manage inventories of spare parts and spare units.

* Daily monitoring of transmitters in their area of jurisdiction through remote monitoring systems.

Chapter 11 Formulation of Projects

Chapter 11 Formulation of Projects

11.1 Basic Policy

Plans were introduced in Chapters 5 - 10 of this report to achieve the goals of improving and developing broadcasting services in the Kyrgyz Republic. Some of the plans should not be left for 2000, the target year of the Master Plan, but be dealt with at an early stage in the form of projects. The projects will commence in the period 1995-1996 which is the commencement date of the Master Plan.

Similar projects will be grouped into programmes:

Programme	Project
Improvement of Radio and TV Broadcast Programmes	Improvement of Programming
	Improvement of Programme Production
Improvement of Sources of Revenue	Introduction of Receiving Fee System
Improvement of Operations	Functions of the Public Key Broadcaster
	Operating Plans
	Financial Management and Accounting
Responding to Audiences	Structure Responsive to Audiences
Broadcasting Facilities and Equipment	Replacement of Old Facilities and Equipment
	Provision of Facilities and Equipment to Improve Programmes

11.2 Programme for Improvement of Radio and TV Broadcast Programmes

With the independence of the Kyrgyz Republic, the SNBC became the key broadcasting station of the nation. It was no longer part of the broadcasting network of the former Soviet Union. This means it was no longer dependent upon Moscow and has to conduct broadcasts on its own effort. At the same time, the SNBC assumed new roles. The SNBC is now expected, through its broadcasting services, to contribute to democratization, the changeover to a market economy and harmony between the various ethnic groups in the nation.

The SNBC is also expected, as the key broadcaster in the Kyrgyz Republic, to broadcast programmes that captivate the hearts of the audiences and win their support. To achieve this goal, the SNBC should improve its programming and the content of programmes.

11.2.1 Project for Improvement of Programming

(1) Purpose

This Report proposes a plan to increase broadcasting time in stages by the end of the year 2000. The SNBC should take the initiatives to implement this plan.

The project will improve programming functions of the SNBC. The project will commence quickly; it will foster increased awareness of the importance of programming functions and a grasp of how to utilize facilities and equipment. Under the project there will be consideration of the questions: What sort of programmes should be broadcast? When should they be broadcast? How can effective and efficient programming be achieved?

(2) Activities

A work group will be established to study radio and television programming for the year 2000. The groups will continually invite and obtain the opinions and advice of outside scholars and experts in various fields.

1) Sub-groups

The work group will establish two sub-groups that will study the following items:

a) Radio Programming Sub-group
- Programming that utilizes the special features of different transmitting media
- Relay broadcasts from foreign stations

b) Television Programming Sub-group
- Policies for an effective and efficient phased increase in TV broadcasting time
- Increase in multilingual programmes and programming for the new Kyrgyz TV 2 service.

2) Members

Staff appointed by the heads of divisions involved in programming, production (including studio directors) and research; staff appointed by the heads of OBCs.

3) Term

The work group will be established in early 1995 and will exist as long as it is necessary.

4) Schedule

The work group will meet once a month. Each meeting will last for half a day. The group will submit medium and long term proposals on programming in 1995, 1997 and the year before 2000 to the SNBC President.

5) Organization in Charge

The SNBC.

11.2.2 Project for Improvement of Programme Production

(1) Purpose

There is a need for better and smooth continuity between programmes. Continuity within each programme also needs improvement. The project will improve presentation techniques in order to create attractive programmes.

The improvements will play a large part in having the public accept the introduction of a receiving fee system.

(2) Activities

A Direction Skills Study Group will be established to improve the programme production abilities of staff. Staff will also be sent overseas for training. Foreign experts will be invited to give advice.

1) Direction Skills Study Group

a) Tasks

The Group will watch videos of foreign produced programmes to study camera work, continuity and presentation. It will also consider ways of eliminating the blanks between programmes and establishing continuity in the broadcasts as a whole. Poor continuity and blanks are a result of programmes not being produced according to their set times.

b) Members

The Group will be made up of younger staff involved in production, including announcers, directors and cameramen as well as technicians.

c) Schedule

The Group will meet twice a month. It will study news programmes in 1995, entertainment programmes in 1996, and cultural and educational programmes from 1997. The results should be reported to the Vice-Presidents in charge of Radio and Television Broadcasting.

2) Training in Other Nations

a) Tasks

Mid-career staff will be sent abroad for training to improve their production skills. Over a period of several years at least one staff member will be sent abroad each year. The staff should report their experiences to other staff members once they have returned.

b) Participants

Production and technical staff named by the SNBC President.

c) Term

One or two staff members will be sent abroad from 1995.

3) Experts form Abroad

a) Tasks

The SNBC will invite programme production experts in other nations who will work on joint production with SNBC staff members and provide advice. The foreign experts should come in and after 1996, when new facilities and equipment will begin to be provided under the Master Plan.

b) Qualifications

Programme producers or people with experience in producing programmes.

c) Schedule

Foreign experts should be invited in 1996.

11.3 Programme for Improvement of Sources of Revenue

11.3.1 Project for Introduction of Receiving Fee System

(1) Purpose

We earlier proposed the introduction of a receiving fee collected from listeners and viewers. The receiving fee system could replace state subsidies as the major source of revenue for the SNBC by the year 2000. This project will consider whether such a plan can be realized. People involved in the project will design a system and prepare for its introduction.

The consensus might be that receiving fees are inappropriate. In this case the SNBC will remain dependent on state subsidies, and as such, the project will have to examine the outlook for funding from the national coffers.

(2) Activities

This project will decide whether a receiving fee system is to be introduced in the Kyrgyz Republic. Those involved with the project will consider and evaluate whether fees are necessary and valid. Systems in other nations will be a topic for study and appraisal.

If fees are given the green light, the project will design a system. Items such as who will have to pay the fees, how much they will be, the collection period and methods of collection will have to be studied and worked out in detail. The project will also have to establish procedures and a framework for the system's introduction.

A receiving fee system will have a big impact on broadcasting in the Kyrgyz Republic and affect the lives of the people. There will have to be willingness on the part of the SNBC and consensus among the public for its introduction. Two project teams will be established: a Receiving Fee Deliberation Council; and a Preparatory Project Team.

1) Receiving Fee Deliberation Council

The Council will examine and discuss the basic items relating to the introduction of a receiving fee system. It will be necessary to decide when the Council is established and how a final decision on a receiving fee system will be arrived at. The Council will consist of representatives from various fields:

- Supervising government authorities (Office of the State President, MOC, Ministry of Finance, etc.)
- Prominent public experts (academics, opinion leaders, etc.)
- General public (people from both rural and urban areas)
- Public services organizations

2) Preparatory Project Team

The Team will implement the decisions of the Receiving Fee Council. Assuming the Council decides to introduce a receiving fee, the Team will design a receiving fee system and prepare for its introduction. Suitable members for the Team will be decided by the Council.

(3) Project Schedule

The project will basically work according to the following schedule, although details are subject to change when necessary.

Phase 1: Preliminary Research

(Research and collection of information)

- Environment within the Kyrgyz Republic for the introduction of a receiving fee system
  * Financial situation of organizations involved in broadcasting
  * People's living conditions, people's concepts of mass media, especially of broadcasting
  * The economy, state finances and relevant legislation
  * Other related matters
- Receiving fee systems in other countries
  * Social position of broadcasting networks/stations; how receiving fee system have come to be introduced; their current situation
  * Receiving fee structures
  * Problems with the system, future tasks and plans
  * Other related matters

Phase 2: Study and Evaluation

(Examination and evaluation as to whether or not a receiving fee system should be introduced, and establishing basic matters about the system)

- Evaluation of research findings
- Studying basic matters about a receiving fee system
  * Ownership and management form of the broadcasting entity and how the operator should stand in relation to receiving fee revenue
  * From whom reception fees should be collected and how much the fees should be
  * Other related matters
- Evaluation of the feasibility of the receiving fee system and decision on whether or not such a system should be introduced in the Kyrgyz Republic.

  If a decision is made against the system, the project will be terminated.
- Defining a receiving fee system in the background of the nation and society
- Requesting legislative bodies to enact laws to enforce the receiving fee system

Phase 3: Receiving Fee System Design

- Planning for system's introduction and operation
- Organization, method and schedule for collecting fees
- Planning preparatory tasks

Phase 4: Preparation for Introduction of Receiving Fee System

- Activities to promote public understanding
- Establishment of an organization to collect receiving fees
- Necessary items to begin fee collection

(4) Project Schedule

Phase 1:	Preliminary Research	January to February 1995
Phase 2:	Study and Evaluation	April to December 1995
Phase 3:	Design of System and System Operation	January to June 1996
Phase 4:	Preparation for Introduction of Receiving Fee System	July to November 1996
	Begin Collecting Fees	December 1996

11.4 Programme for Improvement of Operations

11.4.1 Project for Functions of the Public key Broadcaster

(1) Purpose

As the public key broadcasting station in the Kyrgyz Republic since the nation's independence in 1991, the SNBC has an obligation to inspire public participation in national development. National development is centred on the establishment of democracy and a market-oriented economic system. The SNBC must utilize the special characteristics of broadcasting media, which is the ability to spread a diverse range of information immediately over a wide area. The SNBC has to provide public broadcasting services that gain wide acceptance of the public if it is to effectively fulfill its mission.

For the SNBC to gain wide public acceptance, it is very important for each staff member to overcome the past reliance on centralized authority, which was the case in the Soviet period. Staff members will have to realize in themselves the mission of the SNBC and gather the desire to accomplish it. The purpose of this project is to foster in employees the sense that they are members of a broadcasting organization. Seminars targeted at employees will focus on the functions of a public key broadcaster.

(2) Activities

This project is a training project; human resources will be developed through seminars.

1) Essentials

The seminars will first increase understanding of the functions of a public key broadcasting station. There will then be case studies and group discussions of the services provided by public key broadcasters in other nations.

The focus will then shift to the current state and problems of broadcasting services in the Kyrgyz Republic. The SNBC will be included in this examination. There will be debate and distilling of opinions on what sort of services the SNBC should provide. What should be done in terms of management structure, finances, programming and production, facilities and equipment,

responding to audiences?

The draft Broadcasting Law put forward by the SNBC will also be an issue in the debate. Are any areas relating to broadcasting services in need of amendment? Any points raised will be passed on for reference to relevant areas in the SNBC.

Participants should be able to gain a common awareness of the SNBC's mission and an adequate understanding of the importance in achieving it.

2) Participants

Between 50 and 100 people will attend each session to allow for effective instruction and discussion. The same seminar will be held on a number of occasions to ensure that as many employees as possible can participate.

Managers of the TVRT will be invited to attend the first session on the functions of a public key broadcaster.

Instruction should be given by people well versed in the functions of public key broadcasters and the cases in various countries. Foreign experts could act as instructors.

3) Term

The seminars are an important training project that would help build a basis for improving and reinforcing broadcasting services of the SNBC. They should therefore be implemented in the first half of 1995, which is immediately after the Master Plan is to be implemented.

4) Schedule

One seminar should last for four days. The following is an example schedule.

Time	Agenda	Forms
First day		
Morning	Functions of a public key broadcasting station	Lecture, Q & A
Afternoon	〃	Group discussion
Second day		
Morning	Broadcasting services in other countries	Lecture, Q & A
Afternoon	〃	〃
Third day		
Morning	Broadcasting services in the Kyrgyz Republic	Group debate
Afternoon	Functions of the SNBC	〃
Fourth day		
Morning	Functions of the SNBC	Group debate
Afternoon	Broadcasting Law in the Kyrgyz Republic	Lecture, Q & A

The first seminar should be attended by executives of the SNBC and the TVRT, and senior managerial staff of the SNBC.

The second and subsequent seminars should be held from time to time according to similar schedules. If an instructor is invited from abroad and cannot stay long in the nation, he or she can teach the first and the second seminars. In that case, someone from among the executives or senior officials in the SNBC can be chosen as the instructor for the subsequent seminars.

(3) Organization in Charge

The SNBC.

11.4.2 Project for Operating Plans

(1) Purpose

The SNBC will only be able to improve and develop broadcasting services when it develops an operating structure. The structure must clarify basic operating policy and goals, allocate funds to provide well-chosen broadcasting services and establish suitable operating methods. These items require a long term and comprehensive approach. They must be put into effective practice through plans. The plans must be clearly presented both within and outside of the SNBC.

The SNBC was for a long time under the direction of Moscow and lacks experience in formulating long term, comprehensive plans. The organization has not drawn up any long term plans since the nation's independence. This project will reflect on this situation and will consider and develop operating plans.

(2) Activities

This project will fix on the methods involved in drawing up medium and long term operating plans. These plans have been suspended at the SNBC but will be resumed.

(3) Structure

Medium and long term plans provide the operating principles for the whole of the organization. It is therefore essential that executives and those involved in operational planning to participate in the project. Two groups will be established: a Medium & Long Term Plan Committee; and a Medium & Long Term Plan Project Team. The former will be composed of executives who consider basic policy and plan frameworks and who give approval to plans. The latter will consist of employees responsible for or connected with planning (i.e. staff involved in putting forward methods, procedures and proposals). Given the lack of experience in drawing up medium and long term operating plans, the SNBC will seek the assistance of outside consultants.

1) Medium & Long Term Plan Committee

The Committee will consist of SNBC executives. It will also seek the participation of suitable outside specialists.

2) Medium & Long Term Plan Project Team

The Team will consist of the following members:

- 4 or 5 staff members involved or connected with operational planning
- 1 specialist from outside of the SNBC

(4) Process

Phase 1: Survey of the Current Situation

- Study of the outside environment of broadcasting services
- Study of the SNBC's operations and structure of management, other related matters

Phase 2: Studying and Establishing Basic Elements of Operating plans

- Studying, confirming and establishing a basic operating policy, the SNBC's future position and other basic matters
- Establishing a system of operating plans, including an annual operating plans and medium and long term plans

Phase 3: Designing a Procedure for Compiling Plans

- Designing in more detail items established under Phase 2, including design of a plan format
- Developing a manual for compiling plans

Phase 4: Compiling Operating Plans

- Compiling plans according to the manual made under Phase 3
- Plans to be formulated: medium and long term operating plans, and a short term operating plan

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Application of Operating Plans

(5) Project Schedule

Phase 1:	Survey of the Current Situation	March 1995
Phase 2:	Studying and Establishing Elements of Operating Plans	April to May
Phase 3:	Designing a Procedure for Compiling Plans	June to July
Phase 4:	Compiling Operating Plans	August to December
	Application of Operating Plans	From January 1996

11.4.3 Project for Financial Management and Accounting

(1) Purpose

The purpose of this project is to establish a financial management system adequate for the SNBC in a new era.

One goal of the Master Plan is to introduce a receiving fee system in the Kyrgyz Republic. If in fact the SNBC decides to make such a system the main source of its revenue, instead of state subsidies, it is essential for the SNBC to have an adequate management system and especially a financial management system fit for a new management form. Even if the SNBC continues to be a state-owned broadcasting station in the future, the SNBC will come under obligations to achieve business results, make its financial situation public, and assume more responsibility for its management. This will only be natural as the nation makes efforts toward democratization and the development of a market-oriented economy. To respond to a call for more thorough management of its operations, the SNBC will have to revise its current financial management system or replace it with a new one.

- Current Situation of Financial Management and Accounting

  The SNBC continues to use a system of financial management and accounting (hereinafter called financial management) dating back to the Soviet period. As such it covers practically all elements of financial management that the government would expect of a state-run corporation. But the system is not fit to deal with corporate business in a timely and adequate manner, neither

can it make public the SNBC's financial situation nor exercise internal control over management. There are many aspects that need to be improved for efficiency.

This situation seems to have been caused by many factors. One factor is that the SNBC inherited the financial management system of the former Soviet Union.

Another factor lies in the organization itself. The SNBC consists of three separate entities: the central administrative departments, the Radio and Television Centre, and the Kyrgyz Telefilm Movie Studio. Each entity has its own financial management system. The central Planning and Economic Department has its own system of financial management, since it is part of the state administrative framework, as do the other two entities.

Among the central administrative departments, there are departments in charge of programming and production. These departments have embedded in themselves functions that are beyond the sort of financial management required of a government body.

Another inhibiting factor is that all aspects of financial management are carried by hand.

(2) Activities

The following will be the scope of the activities of the project to achieve the purposes stated above:

(Items)

* Financial control system, accounting system
* Budget control system
* Fund control system
* Cost control system
* Other matters involving financial control and accounting

(Scope)

* Examining and improving the system
* Writing rule books about the system
* Automation of processing (Computerization)
* Manual for procedures

(3) Structure

Financial and accounting systems are related to the SNBC's management. The project will be basically carried out by the executives and staff of the SNBC. Financial and accounting systems are important functions of management and require a long term approach. Two groups will handle the project: a Financial Management Committee; and a Financial Management Project Team. The former will consist of SNBC executives and the latter of staff members involved in financial management and accounting.

1) Financial Management Committee

The Committee will consider and approve basic items relating to a financial management system and supervise the Project Team. The Committee will consist of the following members:

- SNBC President and Collegium
- Key members of the Project Team (Team leaders, etc.)
- Outside experts on financial management and accounting

2) Financial Management Project Team

The Project Team will study systems of financial management and consider and design a financial management system for the SNBC with the approval of the Committee. The Team will be made up of the following people:

- 7 or 8 SNBC staff members serving in financial and accounting divisions or involved in accounting duties
- 2 or 3 specialists on financial management and accounting from outside of the SNBC

(4) Process

The process of this project will basically be as follows, although details are subject to change when necessary.

Phase 1: Survey of Current Situation

(Study and evaluation of current situation)

- Items concerning outside release
  - * Materials and financial documents currently released outside
  - * Legislation, standards, etc. on financial control and accounting
  - * Case studies on accounting in public corporations
- Matters to be internally dealt with
  - * Financial statements used in management
  - * Matters involving financial control and accounting:
    - ◦ Regulations
    - ◦ Powers and responsibilities of relevant organizations
    - ◦ Organizations in charge of financial management and their scope of duties
    - ◦ Various books used for financial management and accounting
    - ◦ Methods for financial management and accounting, schedules
  - * Other related matters

Phase 2: Studying and Establishing Basic Items

- Items concerning outside release
  - * Information and materials released to the public
- Matters to be internally dealt with
  - * Relevant organizations and their scope of duties
  - * Powers and responsibilities in financial management
  - * System of keeping books for financial management and accounts
  - * Methods and schedules
  - * Other matters related to financial management
- Developing standards

Phase 3: Detailed Design

- Designing flows of work and procedures
- Designing books used in financial management
- Developing manuals for financial management

Phase 4: Trial Implementation of New System

- Preparation for introduction
- Seminars on the new financial management system for staff in relevant organizations
- Working on other items necessary for the introduction of the new system
- Tentative introduction

(5) Project Schedule

Phase 1:	Survey of Current Situation	January 1995 to March 1995
Phase 2:	Studying and Establishing Basic Items	April to September 1995
Phase 3:	Detailed Design	October 1995 to March 1996
Phase 4:	Trial Implementation of New System	April to December 1996
	Changeover to the New System	January 1997

11.5 Programme for Responding to Audiences

11.5.1 Project for a Structure Responsive to Audiences

(1) Purpose

To function as the nation's public key broadcaster, the SNBC must gain the support and trust of listeners and viewers; business operations have to be more responsive to their wishes.

The SNBC currently responds to audiences through the Centre of Sociological Studies and Forecasts within the Administration Department and the Quality Control Division within the Planning and Economic Department. The former consists of only 6 staff members; and the latter is not organized in a way to react directly with listeners and viewers.

This project will establish a working group to draw up proposals for a new structure responsive to audiences. Such a structure is urgently needed. The aim will be to put the new structure in place soon after proposals are made.

(2) Activities

The project will draw up proposals for a new structure responsive to audiences and put it in place.

1) Work Group

a. Activities

(i) The Group will initially conduct case studies of how public key broadcasters in other nations respond to listeners and viewers. Sincerity, courteousness and promptness are the essence of a responsive system. The SNBC could learn from any private enterprises in the Kyrgyz Republic that are known to provide excellent customer services.

(ii) The Group will then conduct group discussions to formulate proposals on a new structure suited to the SNBC. The Group should consider the following:

- Services that will handle letters and phone calls from listeners and viewers, and visitors to the station.

- Ensure the audience feedback received by the service staff is passed on to programming and production, technical, management and other relevant divisions and acted upon.

- Public relations activities, such as public announcements, programme previews, advertisements in newspapers and periodicals.

- Assess public opinion through meetings with audiences and questionnaires.

b. Participants

Staff in the Centre of Sociological Studies & Forecasts and the Quality Control Division will be involved in the project, as well as other staff who will work in the new structure. The new structure will require a lot more staff compared to the number currently involved in audience services. A total of about 30 staff from the programme, technical and management divisions should also be involved in the project.

Instruction should be provided by persons enlightened in the essentials of broadcasting enterprises and customer relations. The experts could be brought in from overseas.

c. Timing

The Work Group will commence its activities in the latter half of 1995.

d. Schedule

The Work Group will meet twice a week. Each meeting should be convened in the morning or early afternoon and last half a day.

The first and second gatherings of the Work Group will consider the situation in other nations. Subsequent meetings will involve the drawing up of proposals for a new structure responsive to audiences. If necessary there will be the formation and convening of sub-groups on programmes, engineering, management, etc.

The Group will work for a total 10 weeks. The foreign expert/s need not attend every meeting if they are unable to remain long in the Kyrgyz Republic. Instructors should be selected from among the SNBC participants to fill in any remaining time.

2) Implementation of Proposals

a. Timing

Proposals should be implemented in early 1996 after the Work Group has finished its activities. There should be a phased introduction of the new structure to allow staff and operations to become properly established. The project will handle the first stage.

b. Procedure

The Work Group will consider the urgency of duties, necessary staff numbers and ease of operations. The new structure could be implemented in three stages. An example follows:

Stage 1

- Establishment of services to handle letters, phone calls, visitors
- Establishing routes to pass on feedback from audiences

Stage 2

- Building up of feedback system
- Establishment of public relations services

Stage 3

- Building up of public relations services
- Commencement of public opinion assessment duties

Stage 2 and 3 should be implemented in the period between 1997 and 2000.

c. Tie-ups with the OBCs

The SNBC should work together with the OBCs to respond to listeners and viewers.

3) Organization in Charge

The SNBC.

11.6 Programme for Broadcasting Facilities and Equipment

11.6.1 Project for Replacement of Old Facilities and Equipment

Replacement of obsolete facilities of the SNBC and OBCs should be given priority since these facilities are essential for improving and expanding programme production. There will be consideration of the replacement of the TVRT's facilities and equipment.

(1) Purpose

As is shown in Chapter 9, equipment to be mentioned below will be replaced as an urgent project. The replacement will be implemented from the second to the fourth year of the Master Plan in order to contribute to the improvement of broadcast programmes, and the reduction of maintenance and running costs.

1) Obsolete facilities and equipment which are more than two years beyond the time limit for replacement and difficult to obtain necessary parts.

2) Obsolete facilities and equipment which could greatly contribute to the efficient production of programmes through replacement and renovation.

3) Some of the obsolete equipment which could effectively reduce the maintenance and running costs.

(2) Renewal

1) Old Television Centre

The 200m² studio will be transferred to the Television Centre in the second year of the Master Plan. The new studio will be able to handle production of Kyrgyz language news and information programmes.

Figures 11.6.1-1 and 11.6.1-2 show the set-up of the video and audio systems in the new studio.

The functions of three of the Old Television Centre's VTR editing rooms will be shifted to the Television Centre. The second year of the Master Plan will see the four VTR editing

rooms at the Television Centre reduced to three. Two editing rooms will be used for 1/2-inch VTR A/B roll editing. The current 2-inch VTRs will be replaced.

2) TV Cameras

The camera in use were produced between 1980-1990. Some of the cameras are not yet in need of replacement, but they are very expensive to operate because of the large amount of pick up tubes they go through. The pick up tubes are not of very good quality. The tubes in some cameras have to be replaced three or four times a year.

In the second year of the Master Plan the cameras will be replaced by 3CCD cameras. Three 3CCD cameras will be provided for each of the three studios and two OB vans. The handy camera (installed in the small OB vans) and EFP cameras will be available in cases where more than three cameras are required.

3) News Gathering Equipment

The four EFP Cameras and the VTR editing devices (three β cam VTRs) in use were manufactured in 1988. Two of the cameras are single tube models. They will be replaced in the fourth year of the Master Plan.

4) Radio Centre

Sixty-five of the magnetic audio tape recorder/player units will need to be replaced by 2000. Twenty-eight of the units will be replaced in the fourth year of the Master Plan, as will two small-sized audio mixers, which were produced in 1973.

5) Osh OBC Studio

The 120m² studio operates temporary sub control devices in an OB van scrapped by the SNBC. The studio is well overdue for renewal. The studio will be fully renovated in the fourth year of the Master Plan.

(3) Cost

1) Old Television Centre

- Studio facilities

Replacement costs of the video sub control and audio control devices and lighting equipment will be approximately US$ 1.242 million (12.42 million Som), excluding the cost of cameras.

- VTR editing rooms

Cost of six 1/2-inch VTRs and two sets of controllers: approx. US$ 676,000 (6.76 million Som).

2) TV Cameras

Cost of six 3CCD cameras (three for each studio, and three for each OB van): approx. US$ 2.28 million (22.8 million Som).

3) News Gathering Equipment

Cost of four EFP cameras, VTR editing equipment (including three VTRs): approx. US$ 620,000 (6.2 million Som).

4) Radio Centre

Cost of 28 audio magnetic tape recorder/player units and two small-sized audio mixers: approx. US$ 798,000 (7.98 million Som).

5) Osh Studio

Cost of three cameras, three VTRs, video sub control devices, audio control devices and lighting equipment: approx. US$ 1.602 million (16.02 million Som).

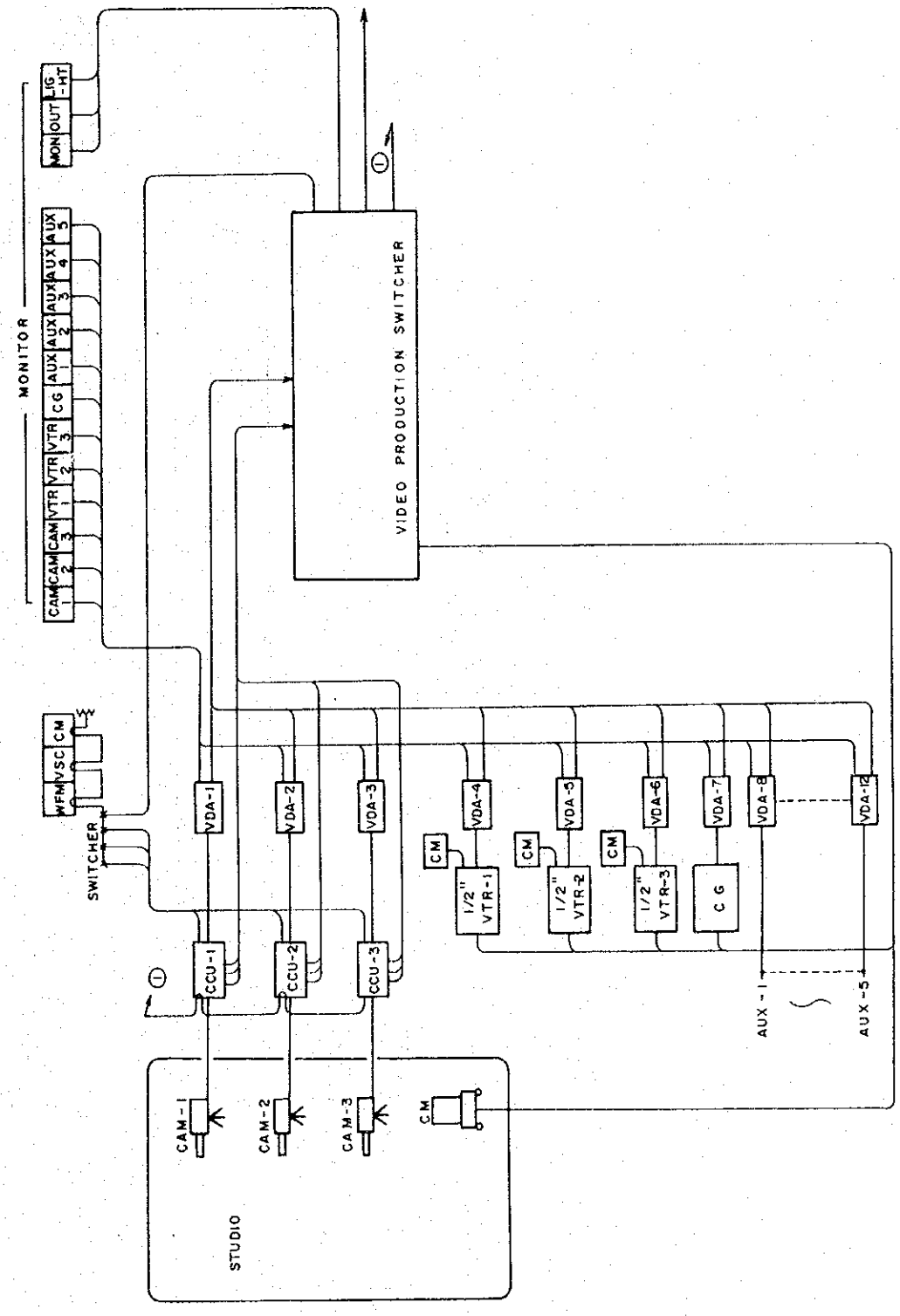

Figure 11.6.1-1 New TV Studio Video Block Diagram

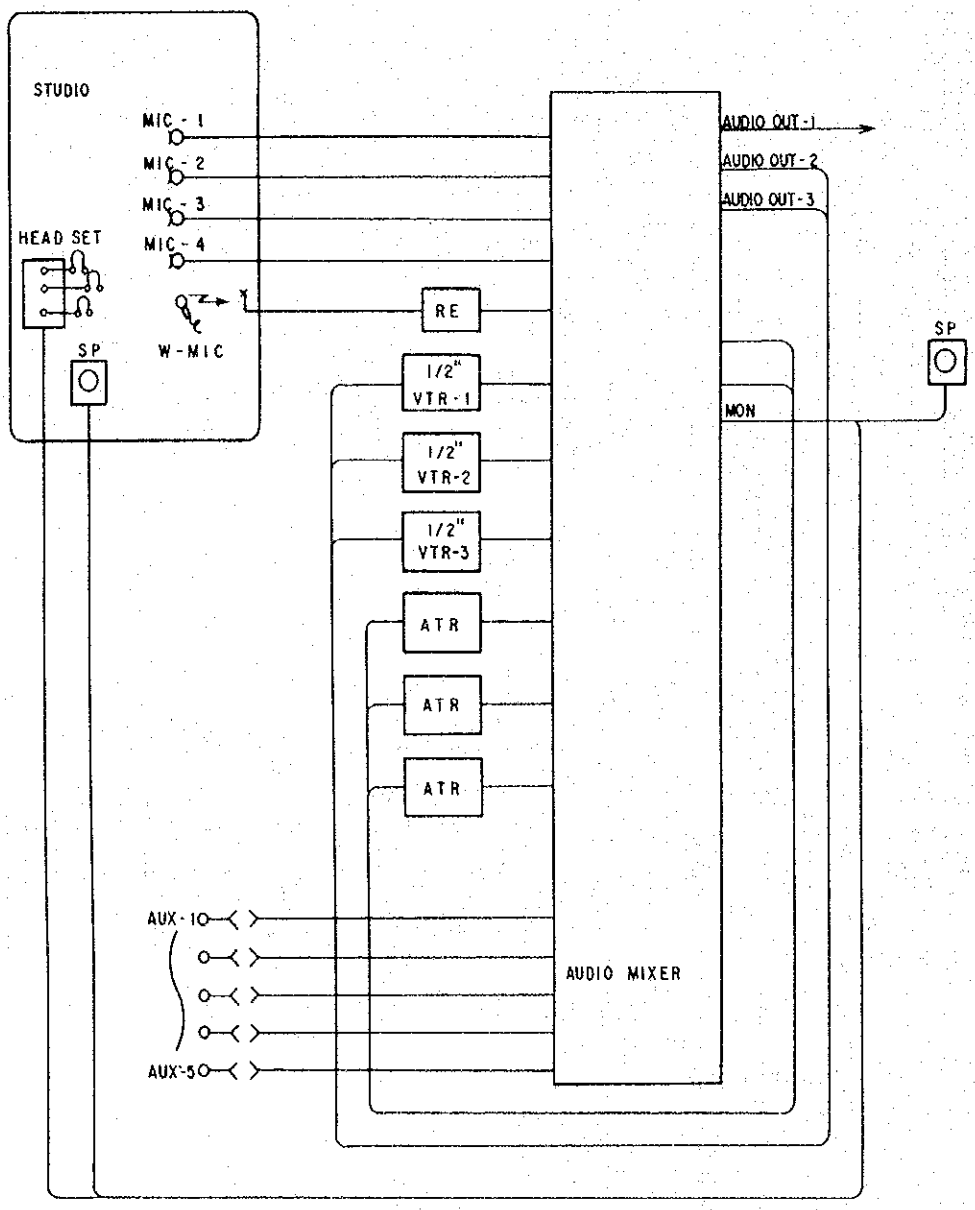

Figure 11.6.1-2 New TV Studio Audio Block Diagram

11.6.2 Project for Provision of Facilities and Equipment to Improve Programmes

(1) Purpose

The aim is to improve facilities and equipment outlined in Chapter 9. This will enable the SNBC to double its Kyrgyz language television broadcasts, improve news and information programmes, prepare for the establishment of a separate multilingual Kyrgyz TV 2 service and effectively use foreign produced programmes by the year 2000, the target year of the Master Plan. The project will introduce equipment to enable the SNBC to handle the increase in facilities and programme production, as such contribute to effective budget control and facilities management.

(2) Improvements

1) News and Information Programmes

a) The following news coverage equipment will be provided in the second and third years of the Master Plan:

Equipment	Number	Site of Installation
EFP camera (VTR β integrated type)	2	SNBC Bishkek
EFP camera (VTR VHS integrated type)	16	SNBC Bishkek, SNBC's oblast bureaus
VTR editor (VTR β x 2)	2	SNBC Bishkek
VTR editor (VTR VHS x 4)	8	SNBC Bishkek, SNBC's oblast bureaus
Small-sized OB van (handy camera x 2, VTR x 1)	1	SNBC Bishkek
FPU	2	〃
VTR (β)	9	〃

b) To effectively use foreign news and information programmes, the SNBC will be provided with three satellite receiving equipment and three system converters in the third year of the Master Plan.

2) Foreign Produced Programmes

a) The following facilities will be provided in the third year to utilize foreign produced programmes:

- One audio dubbing studio (See Figure 11.6.2-1)
- One voice over studio (See Figure 11.6.2-2)

3) Facilities & Equipment to Improve Quality of SNBC Produced Programmes

a) The 4th VTR editing room at the Television Centre will be developed as a post production room in the second year of the Master Plan (See Figure 11.6.2-3).

b) The TV master control room will be installed in the third year of the Master Plan (See Figure 11.6.2-4).

c) A continuity studio (equipped with one camera and VTRs, etc.) will be installed with the master control room (See Figure 11.6.2-5).

d) The old Television Centre and the Television Centre are currently linked by coaxial cables that are subject to breakdowns. An STL system will be installed for both Kyrgyz TV 1 and Kyrgyz TV 2 to ensure stable sending of programmes.

4) Computer System to Improve Management

5) Reception Service Cars

Two reception service car will be provided in the third year to improve reception conditions.

6) STL Linking the SNBC & OBCs

In the third year STLs will be installed at the OBCs (excluding Osh OBC and Chui OBC) to improve sending out of programmes.

7) Osh OBC News and Information Programmes

The following equipment will be provided to the Osh OBC in the fourth year of the Master Plan to develop its news and information programmes.

Equipment	Number
Small-sized OB van (handy camera x 2, β cam VTR x 1)	1
FPU	1
EFP camera (with VTR β)	2
VTR (β cam)	4
VTR editor (VTR β x 2)	1

(3) Costs

1) News and Information Programmes

a) Cost of EFP cameras, VTRs, OB van, etc.: approx. US$ 2.101 million (21.01 million Som).

b) Cost of satellite receiving facilities and system converters: approx. US$ 130,000 (1.3 million Som).

2) Foreign Produced Programmes

a) Cost of dubbing studio: approx. US$ 220,000 (2.2 million Som).

b) Cost of voice over studio: approx. US$ 60,000 (60,000 Som).

3) Cost of facilities and equipment to improve SNBC produced programmes

a) Post production room: approx. US$ 335,000 (3.35 million Som).

b) TV master control room: approx. US$ 736,000 (7.36 million Som).

c) Continuity studio: approx. US$ 747,000 (7.47 million Som).

d) STLs: approx. US$ 600,000 (6.0 million Som).

4) Cost of computer system: approx. US$ 400,000 (4 million Som).

5) Cost of reception service cars: approx. US$ 200,000 (2 million Som).

6) Cost of STLs for four OBCs: approx. US$ 600,000 (6 million Som).

7) Cost of small-sized OB van, EFP cameras, VTR editor, etc. for Osh OBC: approx. US$ 1.392 million (13.92 million Som).

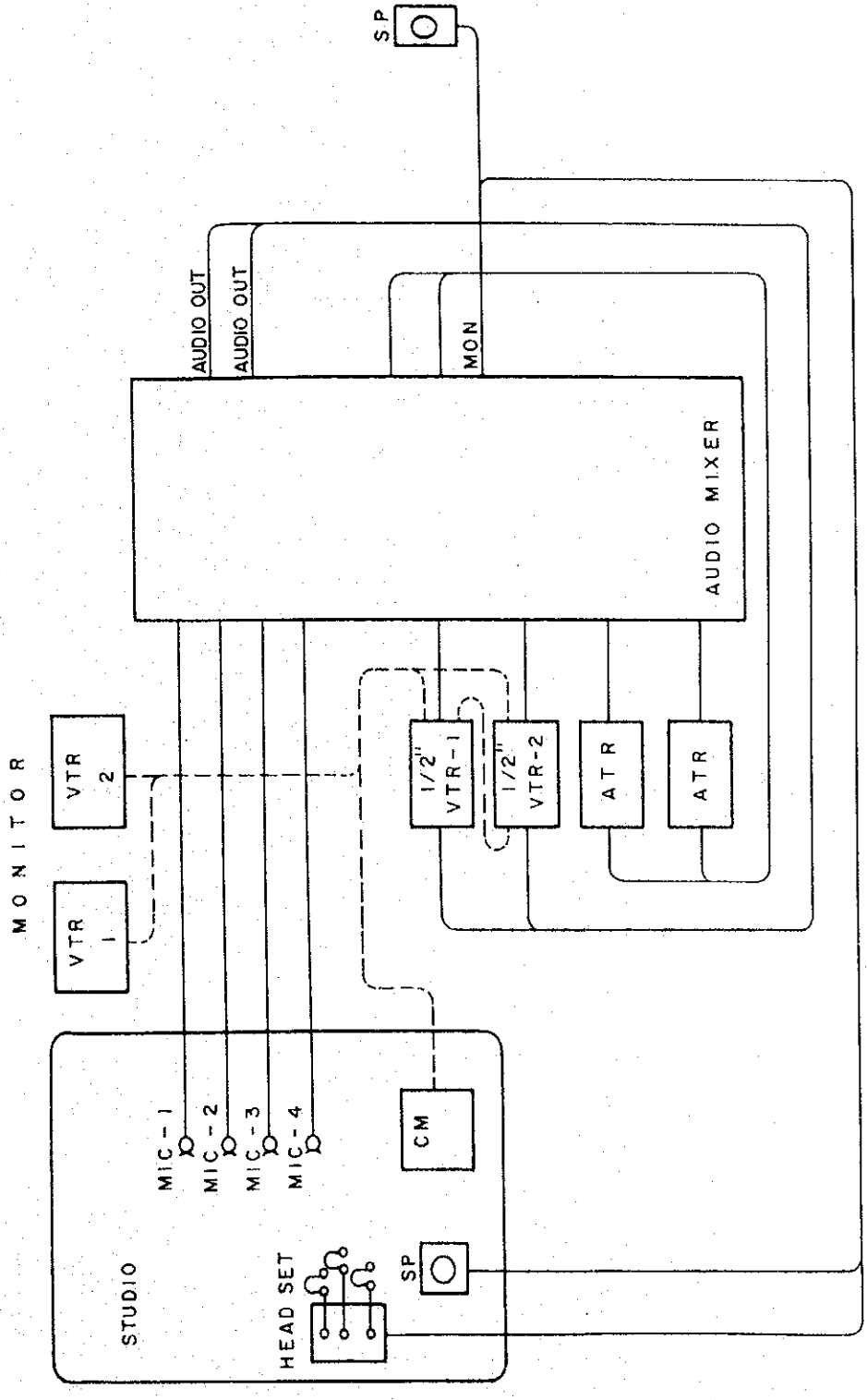

Figure 11.6.2-1 Audio Dubbing Studio Block Diagram

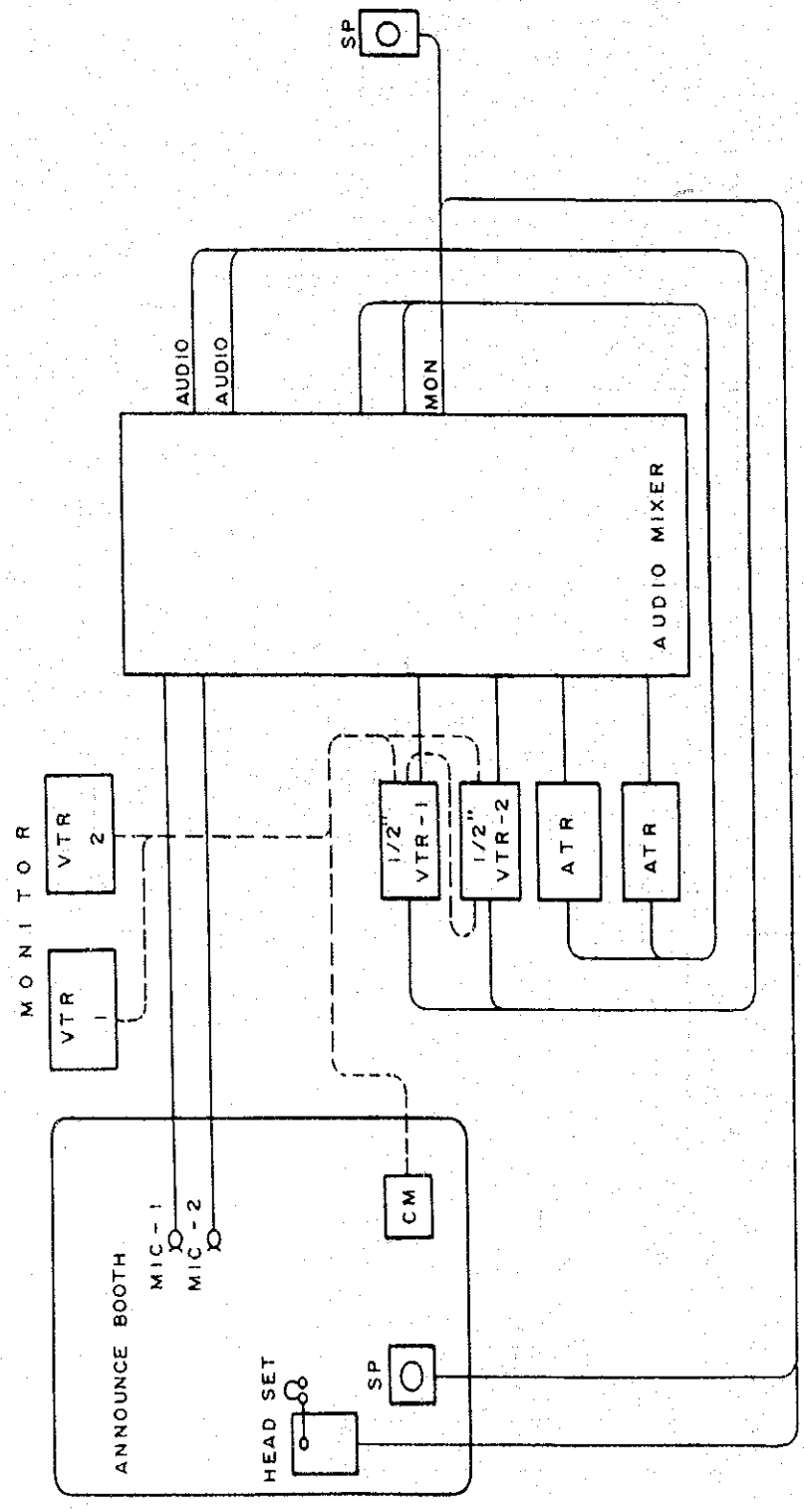

Figure 11.6.2-2 Voice Over Studio Block Diagram

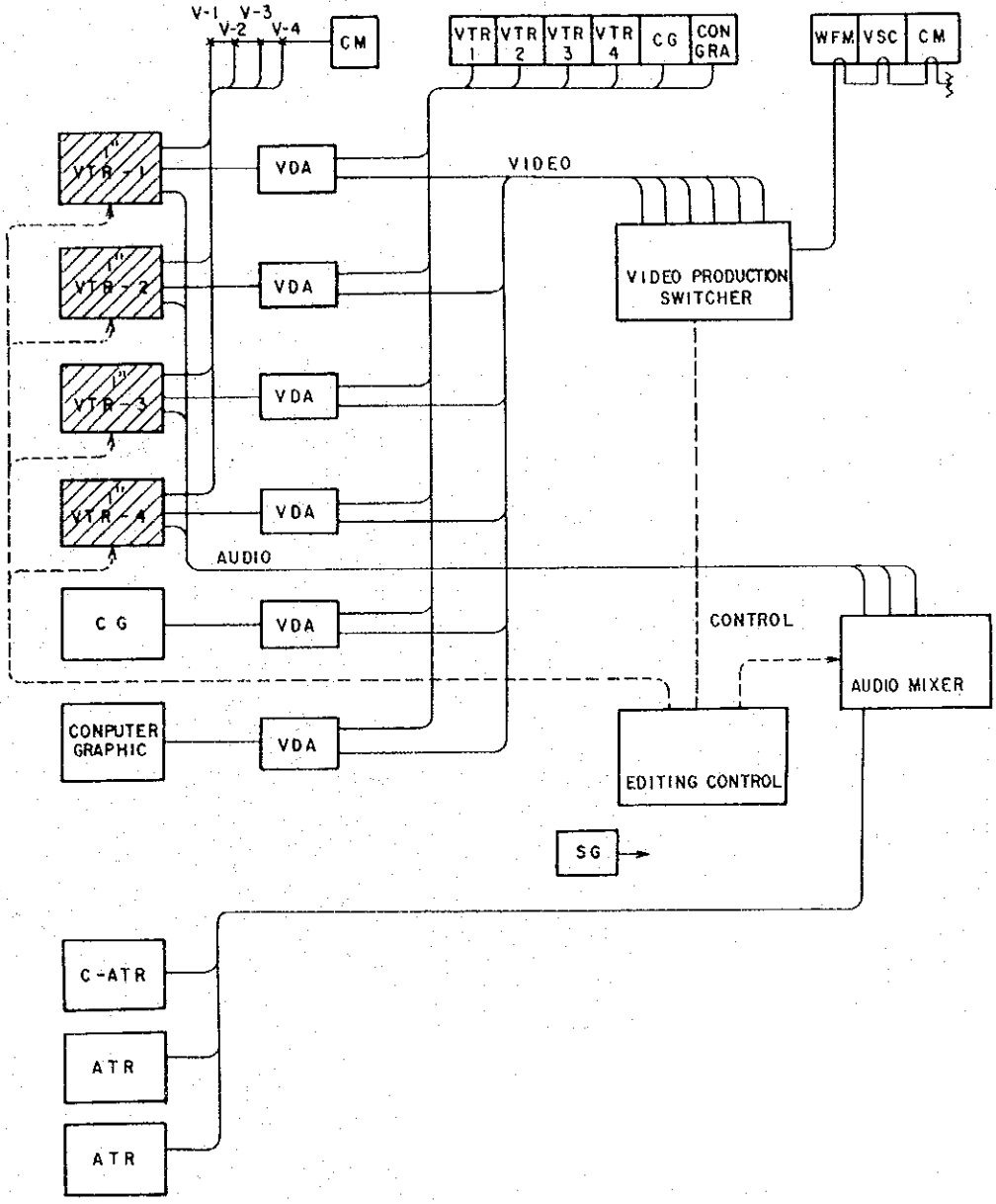

Figure 11.6.2-3 Post Production Block Diagram

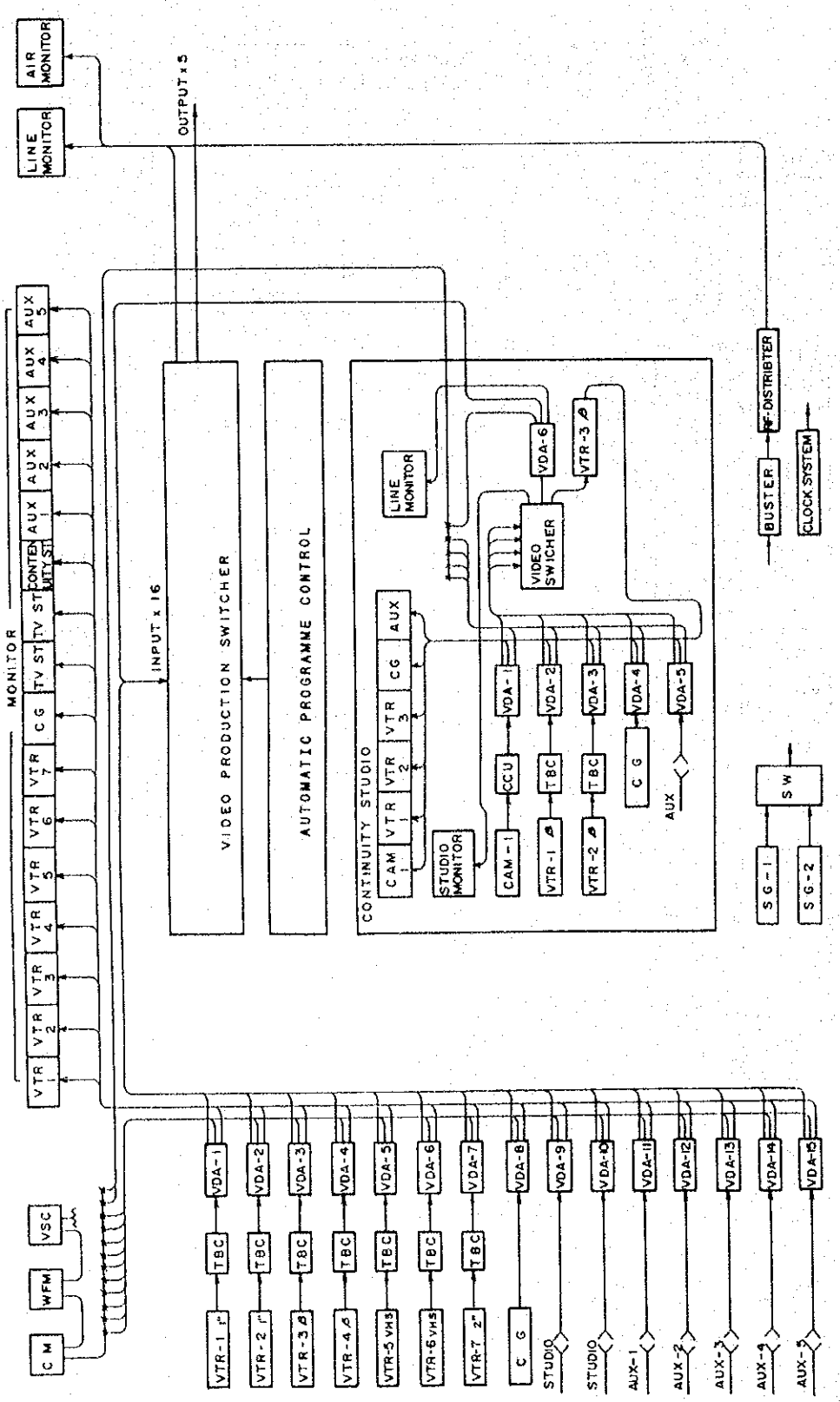

Figure 11.6.2-4 Master Control and Continuity Studio Video Block Diagram

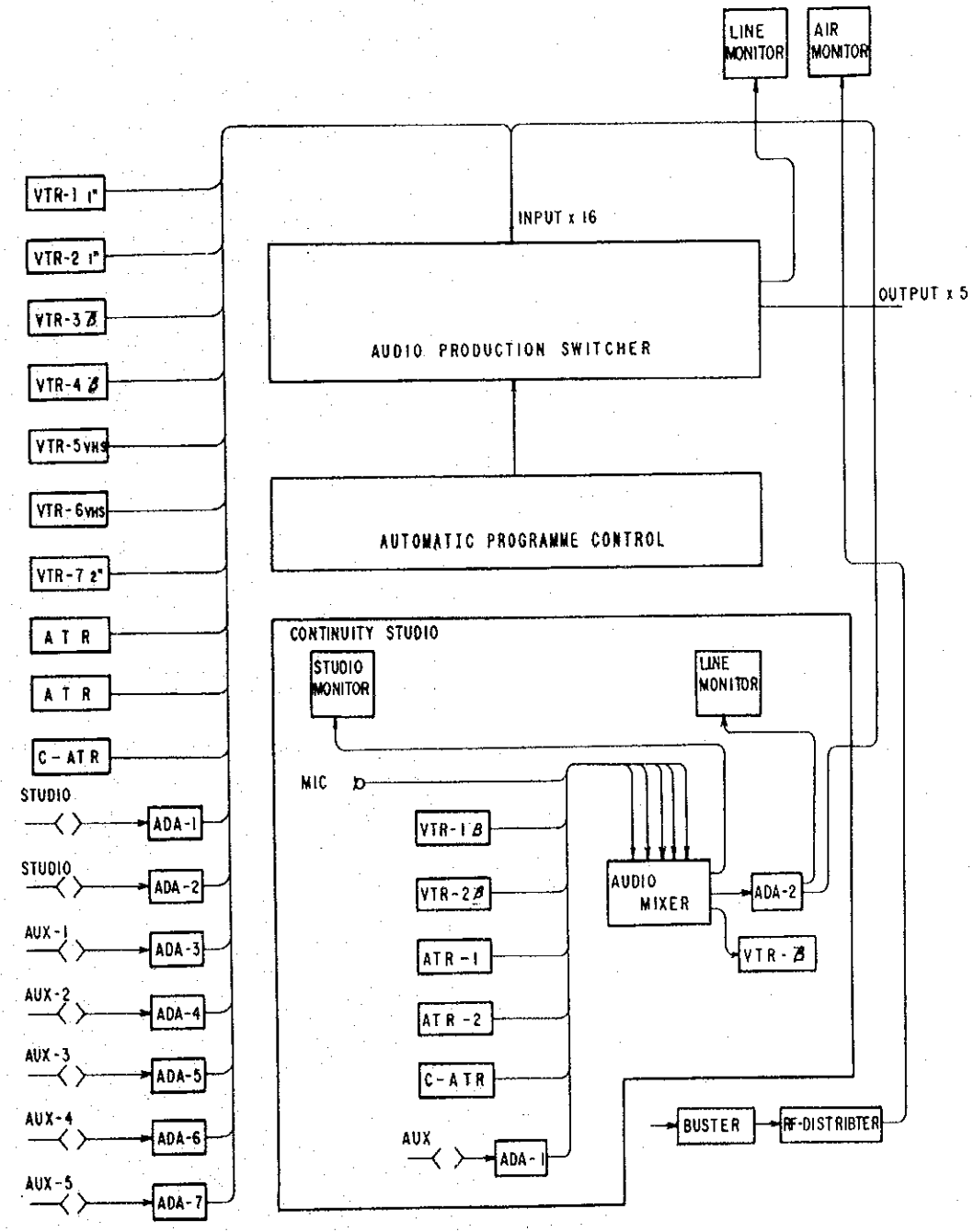

Figure 11.6.2-5 Master Control and Continuity Studio Audio Block Diagram

Chapter 12 Financial Plan

Chapter 12 Financial Plan

12.1 Overview

Financial planning is indispensable for a broadcasting enterprise to improve and enrich its broadcasting services. This financial plan has been tentatively calculated up to 2010, incorporating the necessary financial considerations to realize the Master Plan and to expand broadcasting services. The first year of this financial plan will be 1996, since the budget for 1995 has been already compiled and submitted to the government, and also because the receiving fee system is planned to start from 1996.

This financial plan is linked to the Master Plan schedules of improving and enriching broadcasting services, such as increasing broadcasting time and the establishment of a Kyrgyz TV 2 service. Necessary operating costs and investments will be mostly determined in the SNBC operating plans. The Master Plan envisions that government subsidies will cease after 2000.

We have presented proposals in the form of tables. There is little choice in alternative proposals for bank interest rates on loans, state subsidies and the amount charged and collected for receiving fees (e.g. if fees are beyond what households can pay, subsidies will have to continue). Inflation is a necessary element in calculations. The outlook for the economy appears bright yet uncertain. However, these calculations do not incorporate inflation, i.e. the inflation rate is set at zero.

12.2 Sources of Revenue

Receiving fees will be the main source of revenue under the financial plan. However, a receiving fee system is yet to be introduced and the ability of each household to pay fees sufficient to cover the SNBC's operations is unclear. An early project in the Master Plan will consider whether a system can be introduced. It is quite possible that the idea will be rejected. Nevertheless, receiving fees are deemed necessary to achieve the goals set forth in the Master Plan.

If receiving fees are rejected, state subsidies will have to match the projected income from receiving fees in the financial plan. The income has to be secured in order to realize the Master Plan goals. State subsidies would have to continue and be increased - improvement and development of broadcasting services will not be possible otherwise.

While advertising programmes are expected to provide some revenue, there are limits, since the SNBC is the nation's key broadcaster; it is a network that contributes to the public and is expected to respond to the public in terms of its broadcast programmes. Given the SNBC's character as the public key broadcaster, we envisage that income from advertising programmes will not be very large; it will only be a supplementary feature in the company's operations.

12.3 Revenue and Expenditure

12.3.1 Balance of Revenue and Expenditure

Even if the SNBC is able to collect the projected receiving fee income, we calculate that the enterprise will not record a surplus in its operations until 2007. The SNBC will remain in deficit until then because of the large building and equipment depreciation costs and equipment maintenance costs (see below). The revenue and expenditure calculations exclude interest payments on long term loans taken out to procure facilities and equipment (see Table 12-1, Table 12-2).

12.3.2 Details of Revenue and Expenditure

(1) Receiving Fees

Under this financial plan receiving fees collected from listeners and viewers (the public) will be the major source of revenue for the SNBC's operations. The plan expects that receiving fees of 3 Som per month will be collected from December 1996. Initially, there will be collections from 50% of households, with this ratio gradually increasing to 95% by 2000. With the termination of state subsidies in 2000 (according to the Master Plan), the receiving fees will be increased to 5-9 Som per month to allow the SNBC to further maintain and expand broadcasting services as a financially independent organization (see Table 8.3.1-4).

(2) Income from Advertising Broadcasts

As mentioned earlier, we believe that income from advertising broadcasts will only supplement the organization's revenue. Based on the figures for 1994, we assume that income from advertising programmes will grow no more than 10% per annum (N.B. - the figures exclude income for commercials on privatization that have been funded by foreign aid organizations.)

(3) Personnel Costs

According to the Master Plan, staff numbers will be gradually reduced to 900 from the current 1,100 by 2000. Based on the outlays for personnel in 1994, we project that personnel costs will increase 5% per annum. Although it falls out of the range of the Master Plan,

our figures assume that the SNBC will continue to operate with about 900 staff members until 2010. We believe the number of personnel can be reduced through improving the functions of broadcasting facilities and equipment and greater efficiency. We recommend that personnel costs be established in terms of a ratio against other costs. We have not presented a ratio here since the basis is yet to be determined. (See Table 12-3.)

(4) Transmitting Fees

We determined transmitting fees for radio and television broadcasts based on 1) the total fees the SNBC expects to pay to the TVRT in 1994; 2) current transmitting fee charges; and 3) the increase in broadcasting time outlined in the Master Plan. The TVRT may charge higher fees in the future, but this financial plan does not envisage any increase in charges until 2010. (See Table 12-4.)

(5) Production Costs

Annual production costs were calculated on the 1994 figures and the increase in broadcasting time. We have not considered any increase or reduction in costs arising from an improvement and enrichment of programme content. (See Table 12-5.)

(6) Depreciation of Equipments

Most of the equipment and machinery (hereafter collectively referred to as 'equipment') in use was procured during the Soviet period. There was severe inflation after the nation's independence. As a consequence, the depreciation costs in relation to the purchase costs are almost negligible. We generally assume a useful equipment life of seven years, meaning most of the existing equipment will have fully depreciated by the time this financial plan takes effect in 1996.

The Master Plan calls for replacement and additions in equipment over the period 1996-1998. Replacement of dilapidated equipment after 2000 is also incorporated in the financial plan (replacement will be at such time maintenance costs make it more economic to buy new equipment - see below). We have calculated depreciation costs on the assumption of a useful life of seven years and 10% residual value. (See Table 12-6.)

(7) Equipment Maintenance Costs

Maintenance costs (worked out as a percentage of purchase cost) varies according to the equipment. We have assumed that annual maintenance costs for most equipment will be 3% of the purchase price in the first 13 years after installation, with the ratio rising to 8% at 14-15 years and 16% thereafter. At this point (16 years after installation) it will be more economical to purchase new equipment. We assume every item of equipment will be replaced in the 16th year after purchase. (See Table 12-7.)

(8) Depreciation of Buildings

The SNBC owns five buildings of reinforced concrete construction (two office buildings, the Radio Centre, the Television Centre, and the Old Television Centre). Similar to depreciation costs of broadcasting equipment, it is misleading to determine building depreciation costs based on construction costs in the past. We have assumed construction costs of 30,000 Som per square metre in buildings that house broadcasting equipment (Radio Centre, Television Centre); construction costs for the office buildings is worked out at 3,000 Som per square metre (1/10 of buildings with broadcasting equipment). Given the reinforced concrete construction, we estimated a useful life of 60 years and 10% residual value. The Old Television Centre is not included in the calculations because under the Master Plan it will be closed in 1996. (See Table 12-9.) Below is an outline of the buildings included in our calculations.

Building	Floor Space	Year of Construction
Radio Centre	4,500m²	1969
Television Centre	8,700m²	1971
Office Building A	4,000m²	1964
Office Building B	6,000m²	1980

(9) Building Repair Costs

We calculated building repair costs at 50,000 Som per annum, based on the 1994 figures.

(10) Other Costs

Based on the actual percentage in 1994, we calculated other miscellaneous costs to be 20% of the combined personnel costs, transmitting fees, and production costs.

12.4 Cash Flows

12.4.1 Cash Flows

The Master Plan envisages that a large amount of funds will be required to replace and purchase additional equipment in the period 1996-1998 for the improvement and development of broadcasting services. The aim is to make the SNBC financially independent in 2000 through receiving fees. State subsidies will continue to be necessary until that date; they will be the only means of funding the replacements and additional equipment. An increase in subsidies will be necessary since the receiving fees will still be inadequate at this stage to cover operating costs. If receiving fees are collected according to plan, the SNBC can wean itself from its dependence on state subsidies from the end of 2000. The SNBC should be able to cover shortfalls in the period 2003-2006 through long term loans. (See Table 12-2.)

12.4.2 Details of Cash Flows

(1) Procurement of Funds

1) Net Profit and Loss

Net profits are a source of funds for daily operations. However, given that depreciation costs not associated with cash flows, state subsidies will be required until 2000 to make up for shortfalls.

2) Sales of Old Equipment

Old equipment that has been replaced can be sold to provide income. We assume the old equipment can be sold at one-tenth of the price of the new equipment. (See Table 12-8.) However, whether such prices can actually be obtained in or outside of the Kyrgyz Republic is unclear.

3) State Subsidies

Even though receiving fees were introduced before 2000, state subsidies will continue to be necessary till the end of the century to fund equipment purchases and broadcasting operations. The Master Plan mentions it is possible to operate and pay for equipment solely from receiving fees after 2000. But if a receiving fee system is not introduced, an increase in state subsidies will be necessary.

4) Long Term Loans

Government subsidies will make up for the shortfall of funds until 2000. After that date the SNBC will have to make up for shortfalls through long term loans. The shortfalls will be pronounced in the period 2003-2006, requiring at least a minimum of loans. We have calculated repayment in a ten year period (with repayments of principal and interest averaged out) to ensure a sound financial basis without debts in the future. We assume an interest rate of 10% per annum. The SNBC must carefully study whether it can repay loans and establish a repayment plan before it borrows money. (See Table 12-6.)

(2) Operation of Funds

1) Equipment Investments

The SNBC will rely on outlays from the state that do not need to be repaid (state subsidies, etc.) to fund equipment purchases until 2000. After that date, equipment investment will have to be funded by receiving fees and loans.

2) Repayment of Long Term Loans

Long term loans taken out for the period 2003-2006 will be repaid in ten years. Loan repayments (made up of principal and interest) will be averaged out. Before borrowing money it will not only be necessary to make sure of the soundness of finances, but also to evaluate if the benefits of the loan on the organization's operations will outweigh the interest payments.

(3) Net Increase of Cash, Cash Balance

The cash balance refers to the total of cash procurements subtracted by the cash outlays for operations. If there is a negative balance, the daily broadcasting operations can continue if the cash balance from the previous term can cover the shortfall. The broadcasting operations may not be able to continue if the shortfalls can not be covered. It is necessary at all times to consider the organization's financial condition and to draw up appropriate measures for the future if necessary.