

1-10 Required Resources (TV Studio, OB Van etc.) and the Number of Production Staff for Educational TV Broadcasting (ETV).

Table 1-2 shows ETV programs which are to be produced in accordance with the developing plan of ETV compilation through 1st stage and the final stage in parallel with the R-2 developing plan.

In the following, required resources and the staff will be described for each program.

(1) 1st Stage

1) Rebroadcast of GTV Cultural Programs

(RTVD: in charge of) ETV (1)

Rebroadcast of GTV programs will be compiled on ETV with no production resources except on-air recording and reproducing VTR.

2) Illiterate Adult Education Programs. (Refer to Table 1-8)

(SEEBAC: in charge of) ETV (2)

TV-B studio will be used for producing two programs a day and 10 programs a week.

SEEBAC	PD	10	
RTVD	TD (SW)	1 x 2 (shift)	
	MIX	1 x 2	"
	Camera	3 x 2	"
	Light	2 x 2	"
	Video Engineer (VE)	1 x 2	"
	Scenery men	2	

3) "Teachers' Hour" and Foreign Production ETV (3)

o "Teachers' Hour" (Three days a week) (Refer to Table 1-8)

(SEEBAC: in charge of) ETV (3a)

This program will be produced by the use of TV OB Van under the direction of SEEBAC PDs.

The required staff

SEEBAC	PD	3
RTVD	OB Van Staff	8
(TD 1, Mix 1, Camera 3, Light 2, VE 1)		

TELEVISION
1st Stage

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Crew	SEEBAC			RTVD		
								'2'	'3a'	'3b'	'8'	An	
TV - B	'2'	'2'	'2'	'2'	'2'	'8'	2	10			1		
OB Van	'3a'		'3a'		'3a'		1	3					1
EFP													
FV - 1	'3a'	'3b'	'3a'	'3b'	'3a'		1			2			
FV - 2													

'2': Illiterate adult education
'3a': "TEACHERS' HOUR"
'3b': Foreign production
'8': "CHILDRENS' HOUR"

An: Announcer

Table 1-8

- o "Foreign Production Program" (Two days a week) (Refer to Table 1-8) (RTVD: in charge of) ETV (3b)

This program will be converted from foreign language to Spanish by using reproducing VTR inserting to FV control room, and the recording VTR.

The required staff

RTVD	PD	2
	Announcer	1
RTVD	FV-staff (TD 1, Mix 1)	2
	VTR VE	1

- 4) "Children's Hour" (Refer to Table 1-8)
(RTVD: in charge of) ETV (8)

TV-B studio will be allocated on Saturday for the production.

The required staff

RTVD	PD	1
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with TV-B studio production staff

- (2) 2nd Stage (Refer to Table 1-9)

- 1) In-School Education Programs for Primary School (1st-4th grades) (SEEBAC: in charge of) ETV (4)

TV-B studio will be allocated for this series of production, making 2 programs a day and 10 for a week.

10 SEEBAC PDs will be necessary, but as stated before, the surplus 10 PDs who were used to work for radio in-school education (1st-4th grades) will be transferred to this job. Therefore, no additional PDs will be needed.

- 2) Illiterate Adult Education Programs (SEEBAC: in charge of) ETV (2)

(SEEBAC: in charge of)

In the 2nd stage, the resource will be changed from TV-B studio to TV OB Van, and 2 programs will be made a day and 10 for a week, which require 10 SEEBAC PDs. With regard to the OB Van production staff, one more crew will be added with two shift operation.

TELEVISION
2nd Stage

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Crew	SEEBAC			RTVD			
								'2'	'3a'	'4''5'	'8'	'9'	An	
TV - B	'4'	'4'	'4'	'4'	'4'	'8'	2		10*		1			
OB Van	'2'	'2'	'2'	'2'	'2'		2	10						
EFP	'5' '3a'	'5' '3a'	'5' '3a'	'5'	'5' '3a'		5 1		(10)**					
FV - 1	'3a'	'3b'	'3a'	'3b'	'3a'		1				2			1
FV - 2	'5'	'5'	'5'	'5'	'5'		1							1

'2': Illiterate adult education

'3a': "TEACHERS' HOUR"

'3b': Foreign production

'4': In-school, primary 1st to 4th grade education

'5': In-school, primary, 5th to 6th grade education

'8': "CHILDRENS' HOUR"

'9': Middle-class english conversation course

* : PD transferred from RADIO

** : PD on additional duty ("C" RADIO)

Table 1-9

The required new staff

RTVD	Staff of OB Van	8
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3) In-school Education for Primary School (5th - 6th grades)

(SEEBAC: in charge of) ETV (5)

Resources for this series will be EFP (Electronic Field Production) equipment such as portable small TV camera and VTR and FV-2 control room for the post-production. The production cycle will be 3 days for field pick-up, 2 days for the editing and one day for the post-production in FV-2. 10 PDs are necessary, but six can be transferred from R-2 In-school Primary Education (5th to 6th Grades), and by four from R-2 Primary 1st to 4th Grades who were belonged to group C as mentioned before.

The required new staff

RTVD	EFP Crew 2 x 5 crew	10
"	Announcer	1
"	Staff of FV-2	2
	--TD(SW) + Mix 1--	

4) "Teachers' Hour" ETV (3a)

(SEEBAC: in charge of)

The resource will be changed from OB Van in the 1st stage to EFP and FV-1 in the 2nd stage.

3 PDs will continuously conduct the production.

The required new staff

RTVD	EFP Crew	2
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5) "Foreign Production" Program ETV (3b)

(RTVD: in charge of)

The resources and the staff will be the same as the 1st stage.

6) Children's Hour ETV (8)

(RTVD: in charge of)

Same as the 1st stage.

7) Middle-class English Conversation Course ETV (9)

(RTVD: in charge of)

The resource will be TV-B studio and to be allocated on Saturday.

The required new staff

RTVD	PD	1
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(3) 3rd Stage (Refer to Table 1-10)

1) In-school Primary (1st - 6th grades) Education Programs

(SEEBAC: in charge of) (ETV 4 and 5)

TV-B studio will be used for this series of production which will be conducted by newly organized 10 SEEBAC PDs. 5 PDs from In-school TV Program for the Lower Grades (1st - 4th) and 5 surplus PDs of Radio In-school Programs for Primary 5th -6th Grades so that no additional PDs are required to this program.

2) Educational Programs for the 7th - 8th Grades..... ETV (7)

(SEEBAC: in charge of)

TV-B studio will also be allocated. 5 SEEBAC PDs are engaged in this production, of which 4 PDs who was engaged in the In-school Educational Radio Programs for the Primary 5th to 6th Grades in the second stage, and 1 PD who was engaged in those of TV for the Primary 1st to 4th Grades in the same stage can be assigned.

The required new staff

RTVD	Scenery-men	2
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3) Illiterate Adult Education Programs ETV (2)

Same as 2nd stage.

The resource is TV OB Van and 2 programs will be made a day.

4) "Teachers' Hour" and Foreign Production Program

..... ETV (3)

The production system in the 3rd stage will be as in the 2nd stage.

5) English Conversation Course ETV (6)

(RTVD: in charge of)

The resources will be EFP and FV-2. 3 PDs of RTVD are newly added, since this program is produced through Monday to Friday, 5 days.

TELEVISION

3rd Stage

	SEEBAC							RTVD									
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Crew	'2'	'3a'	'4&5'	'7'	'10'	'3b'	'6'	'8'	'9'	An
TV - B	'4 & 5' '7'	'4 & 5' '7'	'4 & 5' '7'	'4 & 5' '7'	'4 & 5' '7'	'8' '9'	3				'10' '5'				1		
OB Van	'2'	'2'	'2'	'2'	'2'	'10'	2	10				'13'					
EFP	'3a' '6'	'6'	'3a' '6'	'6'	'3a' '6'		1	3									
FV - 1	'3a'	'3b'	'3a'	'3b'	'3a'								2				1
FV - 2	'6'	'6'	'6'	'6'	'6'												1

'2': Illiterate adult education

'3a': "TEACHERS' HOUR"

'3b': Foreign production

'4 & 5': In-school, primary, 1st to 6th grade education

'6': English conversation course

'7': Educational programs for 7th and 8th grades

'8': "CHILDRENS' HOUR"

'9': Middle-class english conversation course

'10': Vocational education for illiterate adults

An: Announcer

*1: 5 from the existing PD in charge of '4' /TV

*2: 5 transferred from RADIO ('3')

*3: Transferred from

RADIO: Four PDS ('3')

TELEVISION: One PD ('4')

*4: Transferred from TELEVISION '4'

The required new staff

RTVD PD 3

- 6) "Children's Hour" and "Middle-class English Conversation Course" (RTVD: in charge of) ETV (8, 9)
Production system will be as in the 2nd stage.

- 7) Vocation Educational Programs for Illiterate Adult.
(SEEBAC: in charge of) ETV (10)
One day production on Saturday by means of TV OB Van will be conducted, which requires one SEEBAC PD. The PD who was engaged in the in-school educational TV programs for the primary 1st to 4th grades in the 2nd stage can be transferred for this job.

With regard to the staff for ETV continuity control room, 3 shift operation is needed in the 3rd stage.

The required new staff

RTVD ETV continuity staff 2

Summerizing items mentioned above in this 1-10 and in 1-5, the R-2 and ETV production staff required are shown in Table 1-11.

- 1-11 Training Plan for the Personnel of Educational Radio and TV Program Production
(Refer to Table 1-12)

- (1) Radio staff training
Subjects of training
Program Director Plan and production of educational program, as well as stereo live music.
Mixer Stereo sound pickup and mixing in/outside studio
Radio Technician Operations of new studio equipment and transmitting facilities

It is desirable that the program producers of various government agencies and RTVD closely cooperate in the production work.

Table 1-11 Number of Staff Required

Stage		1st	2nd	3rd (Final)
SEEBCAC	PD	24*1	32	23
R	RTVD PD	5	10	19
A	Announcer	5 + 1*2	5 + 1*2	5 + 1*2
D	Mixer	5	9	9
I	R-2 Master	4	4	6
O	Maintenance	3	3	3
	Administration	1*2	1*2	1*2
Sub Total		46 + 2*2	63 + 2*2	65 + 2*2
SEEBCAC	PD	13	23	32
T	RTVD PD	3 + 1*2	4 + 1*2	7 + 1*2
E	Announcer	1	2	2
L	TV-B Staff	16	16	24
E	OB Van Staff	8	16	16
V	FV Staff	2	4	4
I	VTR Editing	1	1	1
S	ETV Master	4	4	6
I	Scenery	2	2	4
O	EFP Crew		12	12
N	Administration	1*2	2*2	2*2
Sub Total		50 + 2*2	84 + 3*2	108 + 3*2
Total		96 + 4*2	147 + 5*2	173 + 5*2

*1 six are existing staff

*2 administrative staff

Table 1-12

Year	Stage	1st			2nd			3rd										
		'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	2000
TRAINING IN FOREIGN COUNTRIES																		
<u>INDIVIDUAL COURSE</u>																		
Executive (Engineering)																		
Executive (Program)																		
<u>COLLECTIVE COURSE</u>																		
TV Engineering (Basic)																		
TV Engineering (Advanced)																		
Sound Broadcast Engineering																		
Educational Programs (Basic)																		
Educational Programs (Advanced)																		
TRAINING IN THE DOMINICAN REPUBLIC																		
<u>ON-THE-JOB TRAINING *</u>																		
Engineering																		
Sound Broadcasting																		
Television																		
Program																		
Sound Broadcasting																		
Television																		
<u>ASSISTANCE OF EXPERTS FROM ABROAD</u>																		
<u>Engineering</u>																		
TV Transmission																		
TV Production																		
Program																		
Educational Programs																		

	NUMBER OF STAFF		
	1st	2nd	3rd
E	13	17	19
TV	32	55	65
P	30	43	43
TV	17	28	40

E: Engineering
P: Program

* : Staff who have participated in the training in foreign countries should conduct the OJT in cooperation with the experts.

At the beginning, the program directors of the educational programs could work with music, but for music programs of large scale some expert directors will be necessary.

For the training of mixer, experience of stereo mixing will be needed, after studying the basic theory of stereophonics.

For these training, it is desirable to participate in the group or individual training courses conducted by the experienced foreign broadcasting organization.

Because the number of participants are limited, it is preferable to ask the dispatch of foreign experts in these fields, and permit participation of many personnel in the OJT.

(2) TV program staff training

At present, the number of producers is scarce in RTVD. This problem should be solved as soon as possible. Although the educational program is rather simpler than the general program, the producer of educational program should acquire the knowledge of education and teaching. For that purpose, special training will be required.

If those program staff, mentioned before, were recruited among the general public, the high skill and knowledge can not be expected with the applicants. If a well qualified person is procured, higher wages will be required. This problem should be resolved through close cooperation between SEEBAC and RTVD.

For the training, it is desirable to participate in the group or individual courses conducted by the experienced foreign broadcasting organization.

Because the number of participants are limited, it is preferable to ask the dispatch of experts. Staff who participated in the course should be an instructor of on-the-job-training after returning home.

(3) Technical Staff

In the educational programs technical matters are not different from the general programs.

Because all the facilities are renewed, all technical staff should learn the operations. Maintenance work, in which quite many technicians were engaged before, will be greatly decreased with high reliability of the newly installed equipment, and consequently, it will be possible to have more persons join production works, after receiving training.

Because the outside production including at hall and stage of RTVD will increase, the training of outside production will be necessary.

As stated above, it is desirable to participate in the foreign training courses. The effect of training should preferably spread in the job.

1-12 Use of Programs or Materials made by Foreign Countries in the Initial Stage

Whenever good locally-produced programs or materials are available in this country, they will be utilized. However, it seems rather difficult to make genuine educational from the beginning, it is desirable to utilize the appropriate packaged programs or program materials produced by the experienced foreign organization.

Of course, the following attention should be paid: that is, first of all, those programs or materials should be reviewed by SEEBAC prior to be utilized. In the drama and animation, the narration should be lip-synchronized in Spanish. If the script is prepared in Spanish translation, it should be recorded at FV studio. Science programs, could be made using the film segments if available.

As the curriculum of the foreign programs is different from the Dominican's, for the use of school program, it is better to modify to meet the country's own need. If the curriculum is nearly same, the programs may be used at school.

In the first stage, the contents are to be limited by the primary school education, however, in future it is desirable to use dramas and documentaries for the international exchange of culture.

CHAPTER 2 NATIONWIDE UTILIZATION PLAN FOR EDUCATIONAL BROADCASTING

With the completion of this Project, new educational radio and television broadcasting cover the whole territory. However, the number of receivers is relatively scarce in the rural area. If the new broadcasting aims only at the peoples who own the receivers, most of pupils and illiterate adults can not utilize the programs, in other words, the target of Project cannot be attained.

In order to solve this problem, the installation of "group receiving system" at the schools in the rural areas is strongly recommended.

Recognizing the above matters, the Dominican Government should provide this system as many as possible at the time of inauguration.

- (1) Contents of a system
 antenna, color television set, radio-cassette recorder with FM, cabinet.

- (2) Place of installation
 primary school (some systems will be installed in the class rooms of PEEC project.)

- (3) Area of installation
 rural area, suburbs of small town or city, etc. at the trial stage. (Variations are preferable.)

- (4) Operation and custody
 Operation, custody and keeping of the key are entrusted to the controllers.

- (5) Curriculum
 Because the school hours are fewer in the rural area, educational programs will be preferably adopted in the school curriculum.

(6) Survey of viewers' intention

An operation diary is to be recorded by the controller, and will be submitted regularly to the central body. By analyzing these diaries, the intention of viewers, such as the favorable program and time, will be obtained. It helps to form a plan-do-see cycle.

CHAPTER 3 PROGRAM PRODUCTION AND TRANSMISSION FACILITIES

3-1 Radio and Television Facilities for the Production of Educational Programs

Although two TV-studios are provided in the RTVD's building in Sto. Domingo, one (TV-B) of the two is not furnished with studio-control facilities, lighting facilities, air-conditioning or a complete cyclorama.

Therefore, proper action on those problems has to be included in this Project.

However, there is only one studio (TV-B) for ETV, thus a shortage of studios for ETV program production will arise, because ETV broadcast must principally be composed of the programs produced by RTVD.

To cope with the problem, it will be necessary to take measures as follows.

- (1) Positive utilization of Audience Hall on the 4th floor, Lecture Room on the 1st floor, and outdoor stage in front of the RTVD building.
- (2) Application for outside program production
- (3) Production of package programs, by means of FV control rooms, by adding narration, music and effect sound to procured programs or program materials from foreign countries.
- (4) Installation of OB Van, FV control facilities, electronic field-production (EFP) equipment, VTR editing systems, etc.

Regarding radio studios, even though existing two recording studios (one studio now in use has about 90 m² floor area, and the other an announce booth of about 8 m², but with no control equipment), will be rehabilitated, there will still remain shortage of studio space. New installation of four talk-studios will be required.

The following table is the reference between new names and the old ones of the radio rooms in consequence of the installation of new talk-studios.

<u>Floor</u>	<u>New Name</u>	<u>Old Name</u>
1 F	R-2 Continuity Room	(Archives)
	R-1 Continuity Room	(Record Library)
"	Radio Master	(Vacancy)
"	Lecture Room	(Lecture Room)
2 F	Studio A	Recording Studio
"	Studio B	Announce Booth for Recording
4 F	Studio C - Studio F	Announcers Office

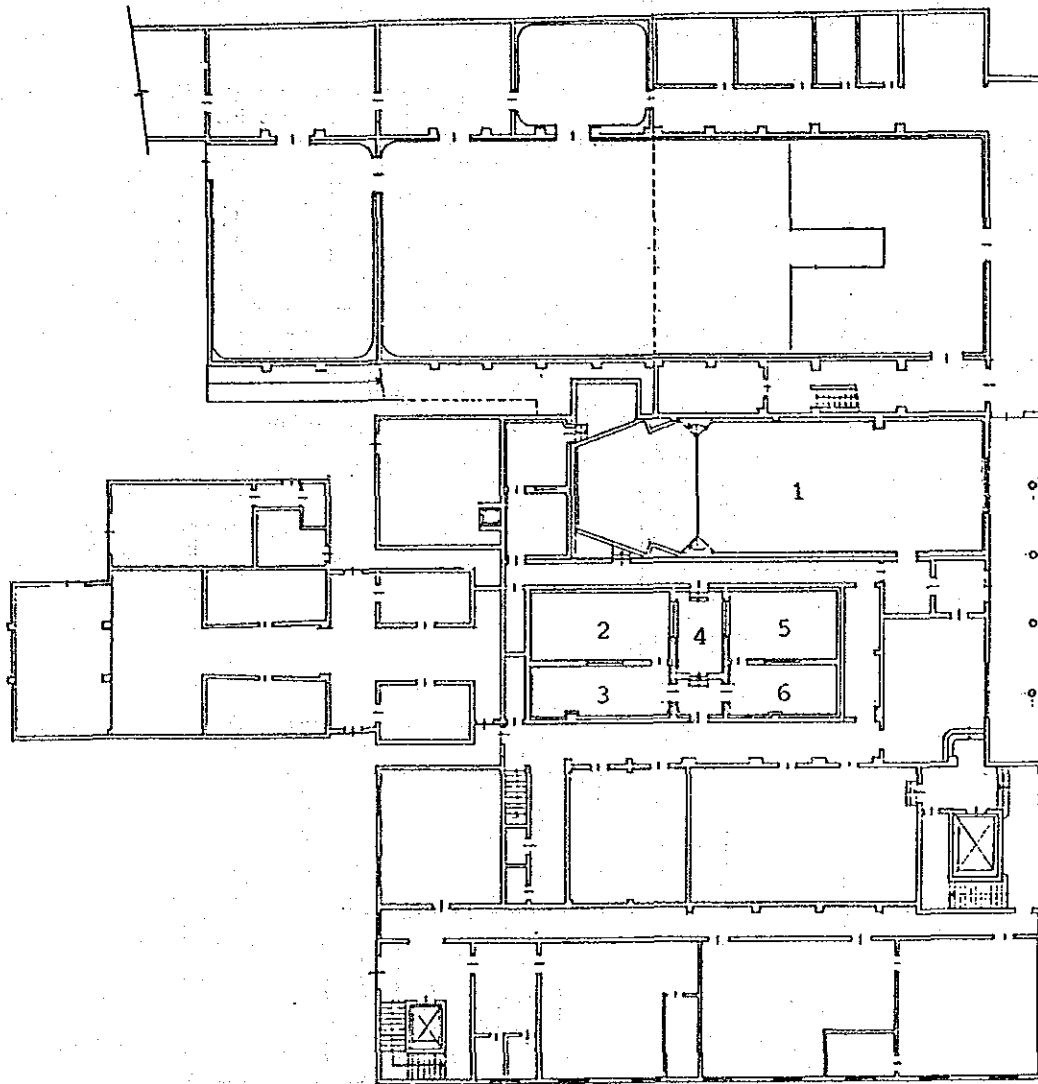
New floor plan is shown in Fig. 3-1 - Fig. 3-4.

3-2 Remodeling and Repairs of TV-B Studio

TV-B studio has a floor area of about 250 m² with a seating area of about 90 m² under the gallery (TV-B control room on the 3rd floor), and is available for 3-camera operation.

Besides the new installation of lighting facilities, and a 26 m class cyclorama to raise production capability, it will be necessary to furnish with an air-conditioning system and to repair the studio wall, studio floor and so on.

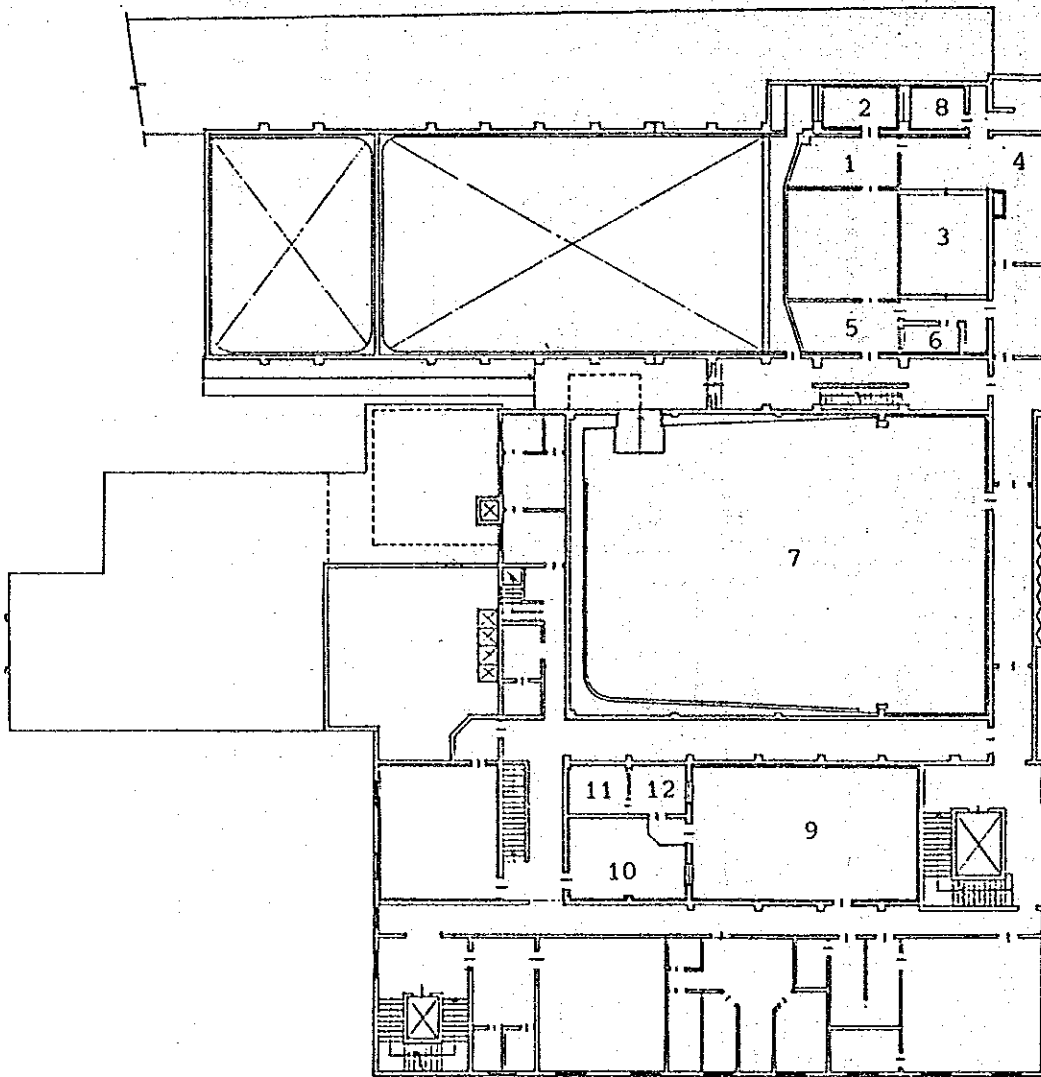
1. Lecture Room
2. R-1 Continuity (Studio)
3. R-1 Continuity (Control)
4. Radio Master Control
5. R-2 Continuity (Studio)
6. R-2 Continuity (Control)



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Fig. 3-1 1F Floor Plan

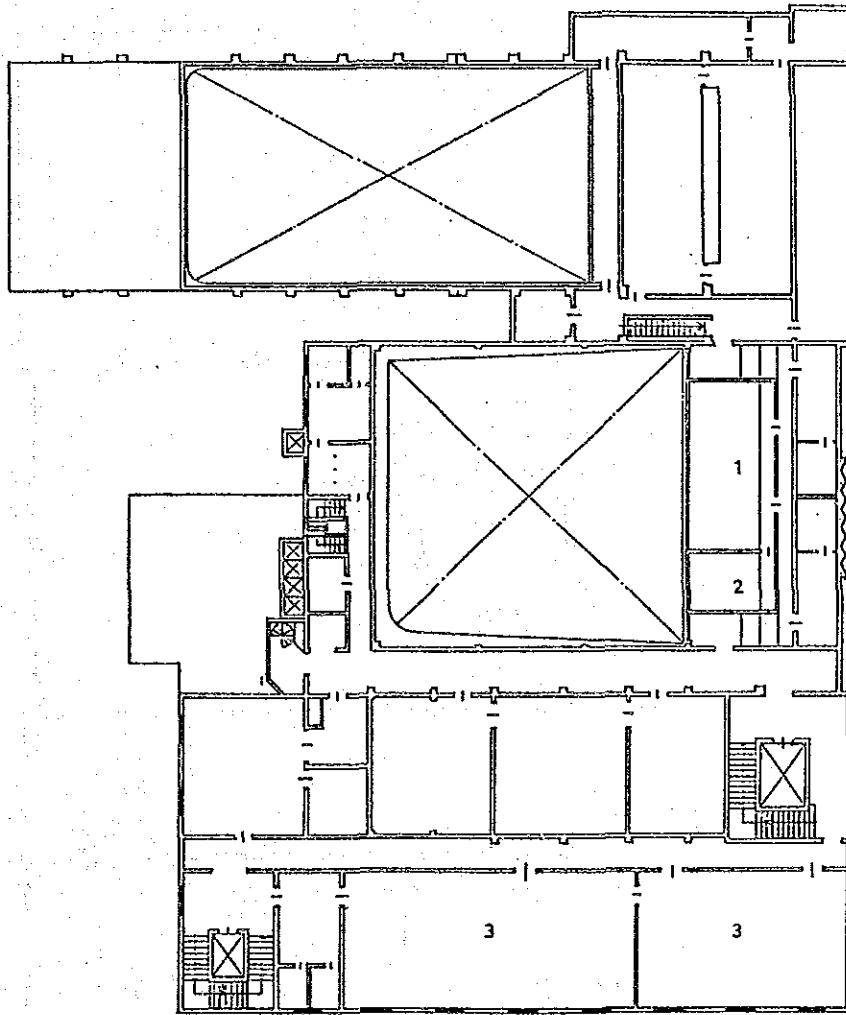
1. FV-1 Control
2. FV-1 (Announce Booth)
3. TV Master Control
4. Telecine
5. FV-2 Control
6. FV-2 (Announce Booth)
7. TV-B Studio (Floor)
8. VTR Editing
9. Studio-A (Floor)
10. Studio-A (Control)
11. Studio-B (Floor)
12. Studio-B (Control)



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Fig. 3-2 2F Floor Plan

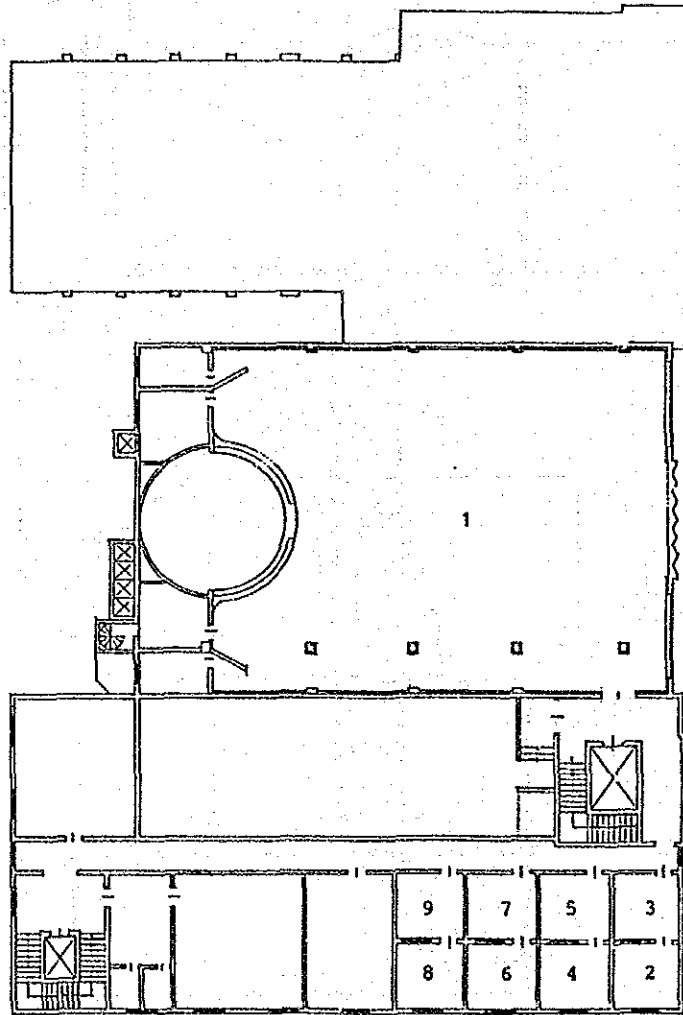
1. TV-B Control
2. Announce Booth of TV-B
3. Producer Office



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Fig. 3-3 3F Floor Plan

1. Audience Hall
2. Studio-C
3. Studio-C Control
4. Studio-D
5. Studio-D Control
6. Studio-E
7. Studio-E Control
8. Studio-F
9. Studio-F Control



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Fig. 3-4 4F Floor Plan

The required power capacity for studio lighting has to be 150 kVA approximately.

The Studio floor plan is shown in Fig. 3-5.

The TV-B control room and its associated rooms require partial modification works such as removal of partition wall, leveling of the floor. Remodeling the rear wall of the room is considered in order to enlarge the depth. Detail of the works is described in 3-9 and shown in Fig. 3-6.

3-3 FV-Control-Room Equipment for ETV Production

In order to cope with the shortage of ETV production studios, outdoor program production by means of EFP equipment can be an effective measure to obtain necessary program materials.

The FV control-room-equipment is indispensable to make a package program by means of post-production such as insertion of comments, TELOP, music and so forth.

Two FV control rooms (FV-1 and FV-2) will be required to be newly installed with associated announce booths in the rooms in the close vicinity to TV master control room. Floor plans of FV-1 and FV-2 are shown in Fig. 3-7.

Remodeling work of the related rooms is necessary, and detail of the work is described in 3-9 of this Chapter.

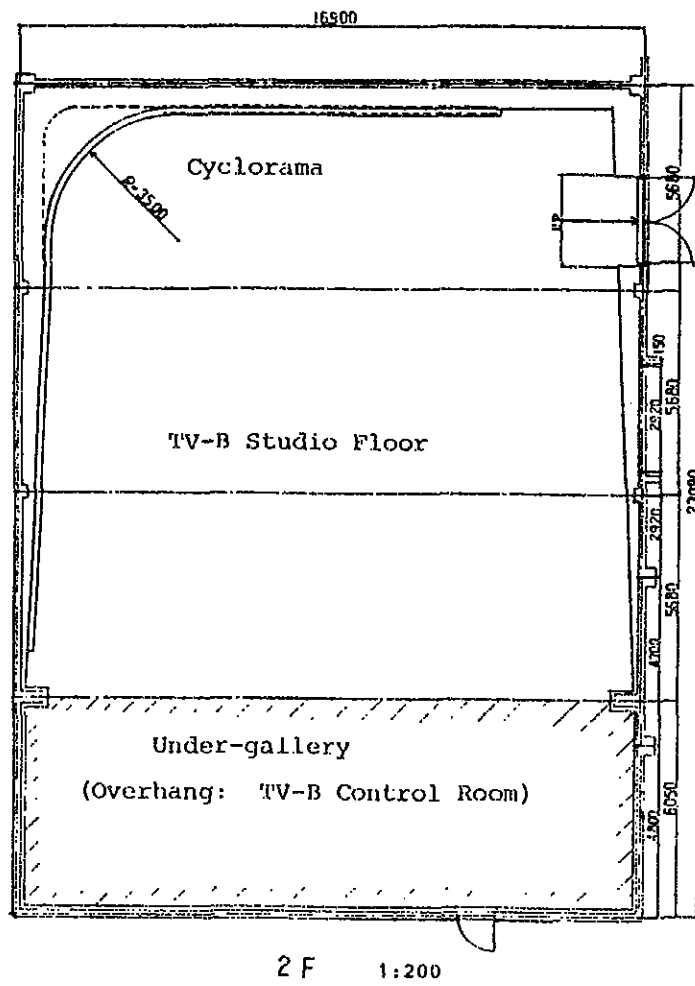


Fig. 3-5 TV-B Studio Floor (2F)

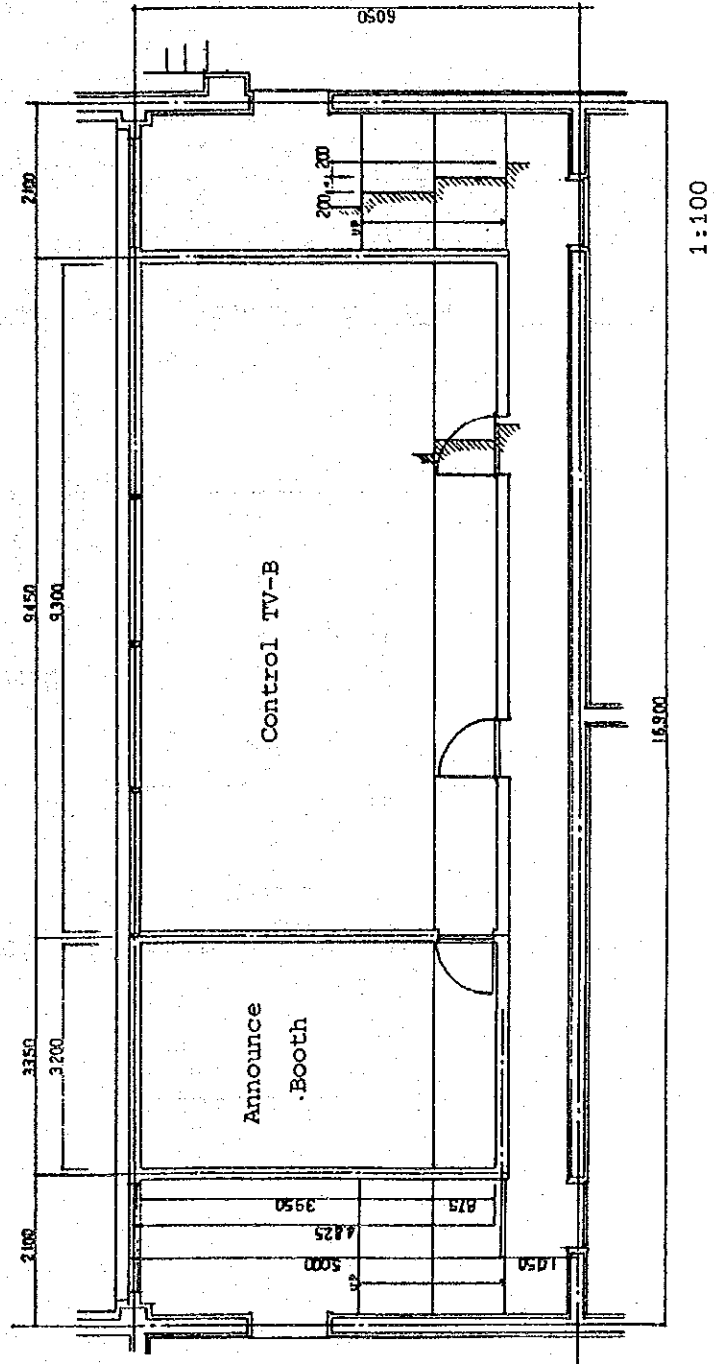


Fig. 3-6 TV-B Control Room (3F)

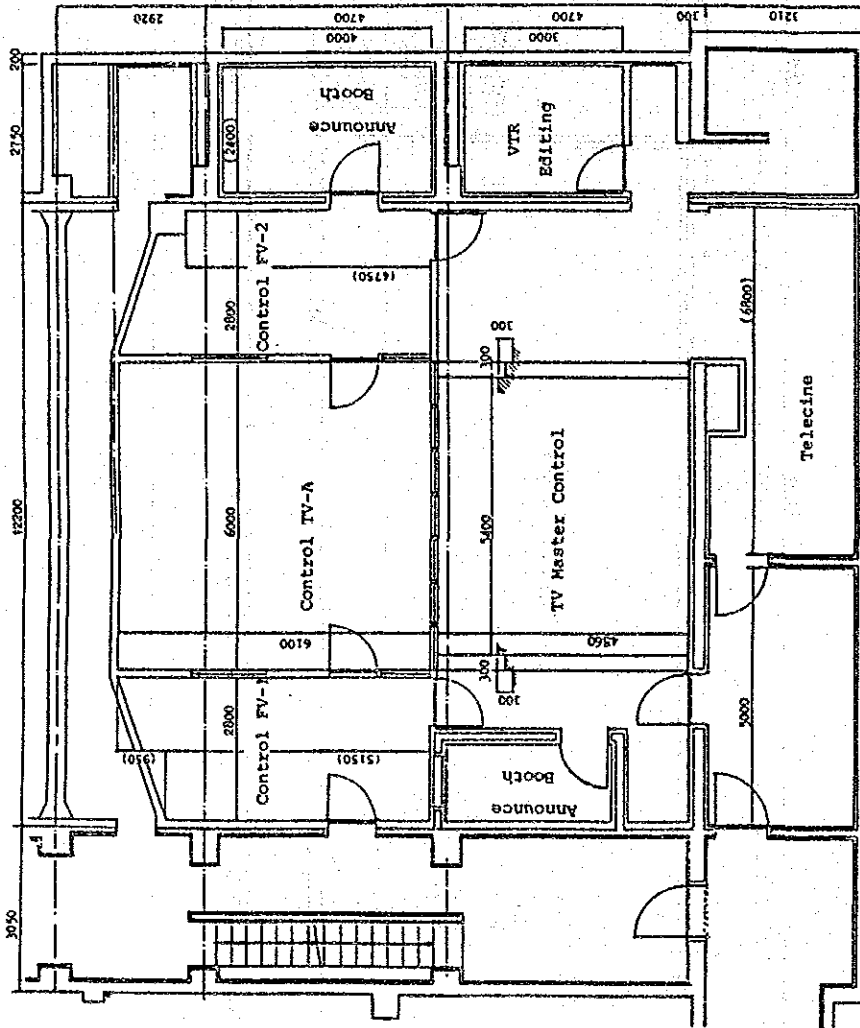


Fig. 3-7 TV Master Control Room, FV Control Rooms, etc. (2F)

3-4 Utilization of Audience Hall on the 4th Floor, Lecture Room on the 1st Floor, and the Outdoor Stage.

Concerning the Audience Hall on the 4th floor, Lecture Room on the 1st floor, and Outdoor Stage, these with the related wiring pipes and ducts were built with the establishment of the RTVD's building. However, to date no production equipment to enable production of audience participation programs for radio and TV have been installed.

To enable positive utilization of these facilities where audience participation programs can be relayed, necessary cables and wires connecting to TV-B studio control rooms, TV master control room and radio master control room have to be newly installed.

For the TV program production at Outdoor Stage, use of an ETV OB Van will be adequate.

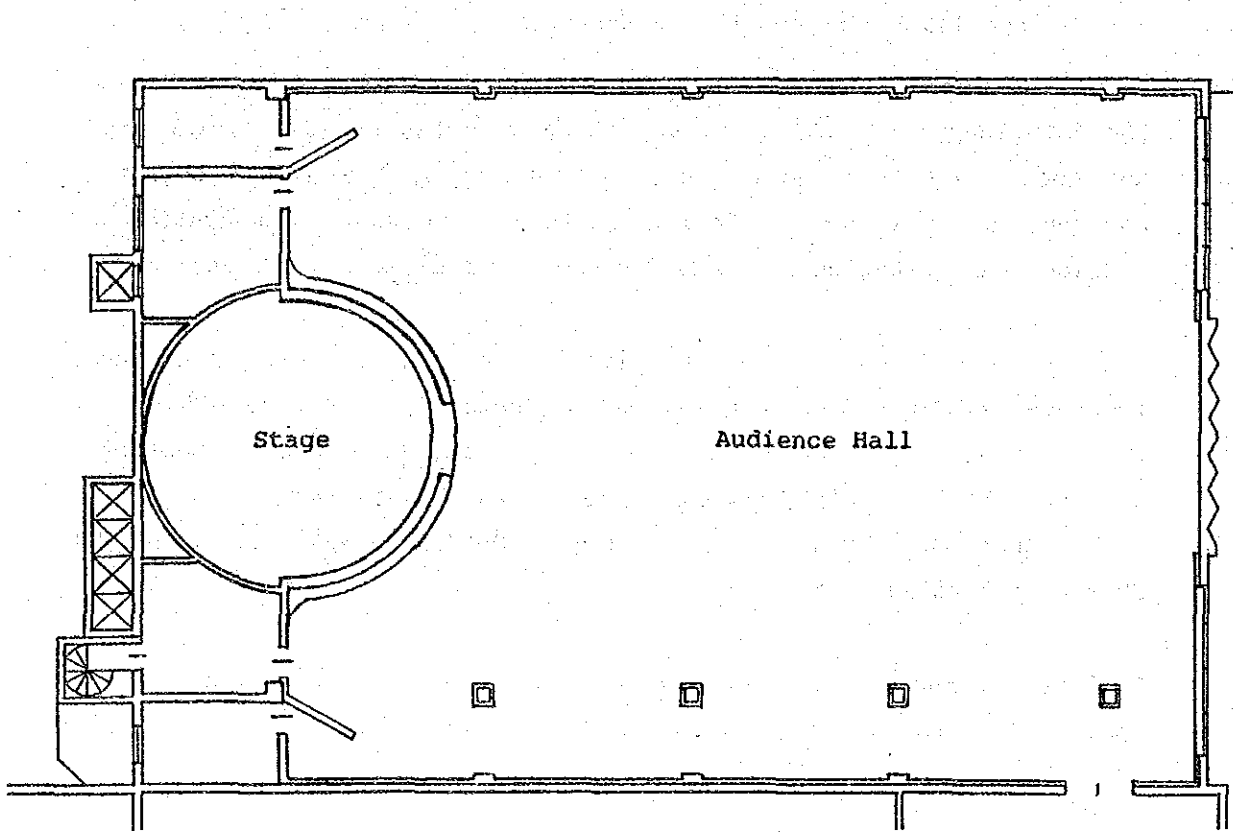
Outlines of Audience Hall on the 4th floor and Lecture Room on the 1st floor are shown in Fig. 3-8, and Outdoor Stage in Fig. 3-9.

3-5 Outside Program Production Facilities Including OB Van for ETV and the Related Indoor Facilities

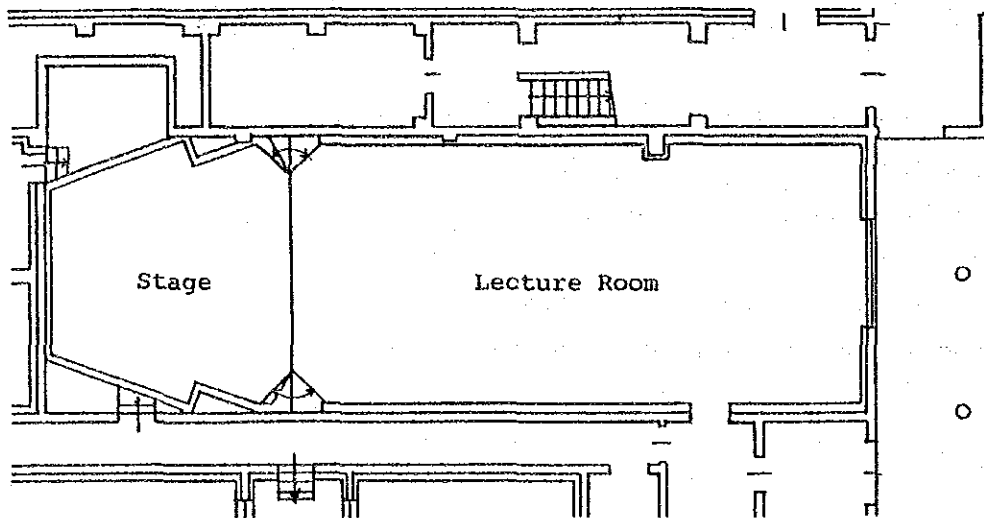
To cope with studio shortage and to enrich the ETV programs, EFP system and OB Van system will need to be newly installed.

Concerning OB Van, a vehicle of 6 - 7 meters in length will be adequate by taking into account the domestic road situation, maneuverability, economical point.

The OB Van will be equipped with three camera chains, VTRs, engine generator, and air-conditioning system.

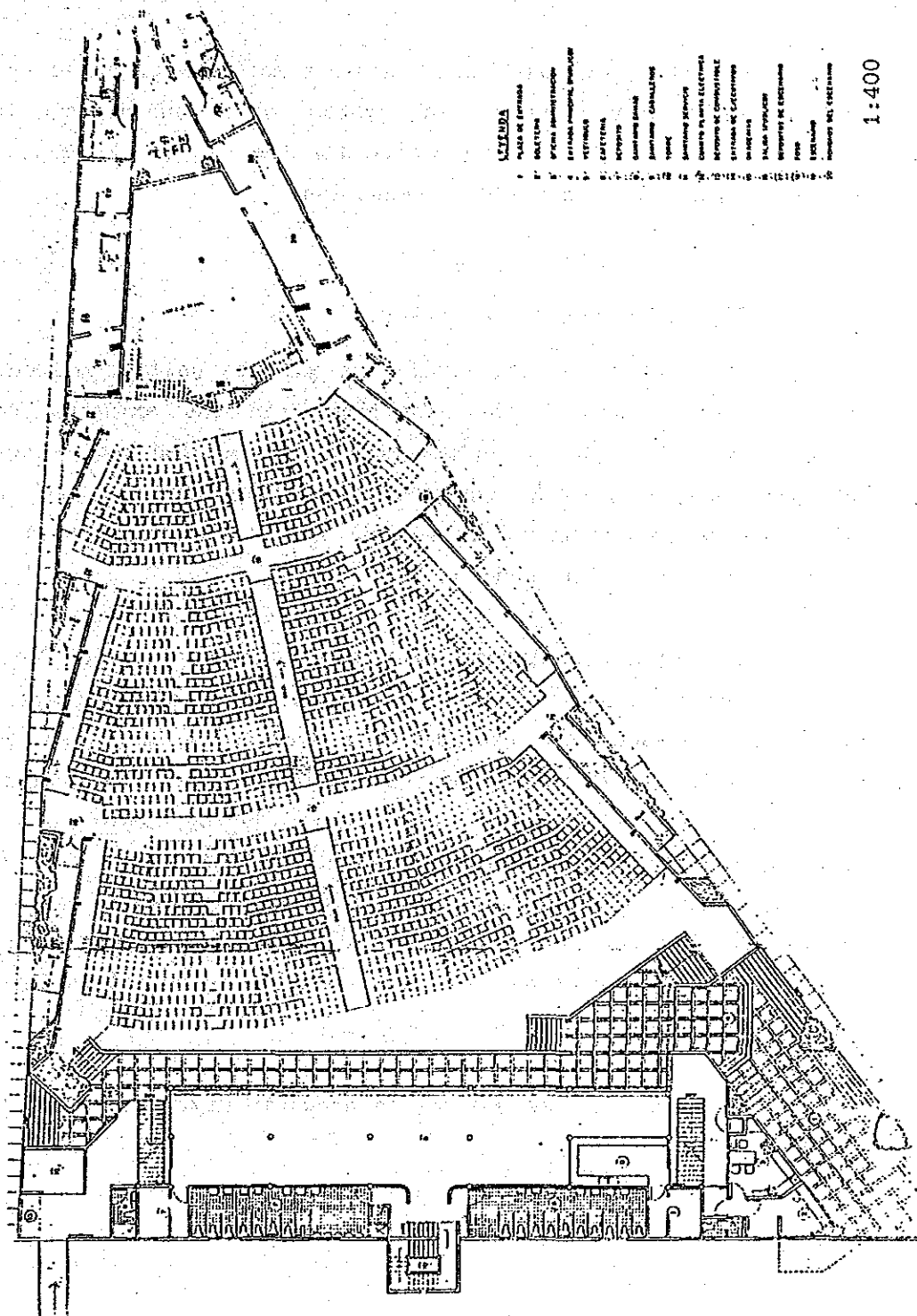


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Fig. 3-8 Audience Hall (4F) and
Lecture Room (1F)



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Fig. 3-9 Outdoor Stage

The EFP system, which is very useful to realize a wide spread of coverage from urban to rural areas for collecting ETV program material, acquires a greater importance as a measure to obtain better instructional results by producing ETV programs outdoors efficiently.

Regarding VTR editing of program material recorded by EFP, it will generally occupy the editing system for a considerable length of time. Thus, the VTR editing system for the use of EFP must be newly provided apart from the studio production.

3-6 ETV Master Control Facilities

ETV master control facilities will be newly provided, and it is possible to install the facilities in the existing TV Master Control Room. As the ETV broadcast will be carried out by reproducing package programs, VTR equipment for reproducing use and for simultaneous recording of broadcast use will be installed in close vicinity to ETV master control.

A telecine equipment has to be newly provided for the ETV program production. For installation of the equipment, it is necessary to take into consideration that there will not be enough space inside the TV master control room and that the equipment will generate considerably high level of noise during operation. Thus, in view of maintaining close operational relationship with staff in charge of the TV master control, it will be adequate to install the equipment in a room which locates adjacent to the TV master control room and is being used as an office room for technical administration. Refer to Fig. 3-7.

ETV video system diagram is shown in Fig. 3-10 , and the sound in Fig. 3-11.

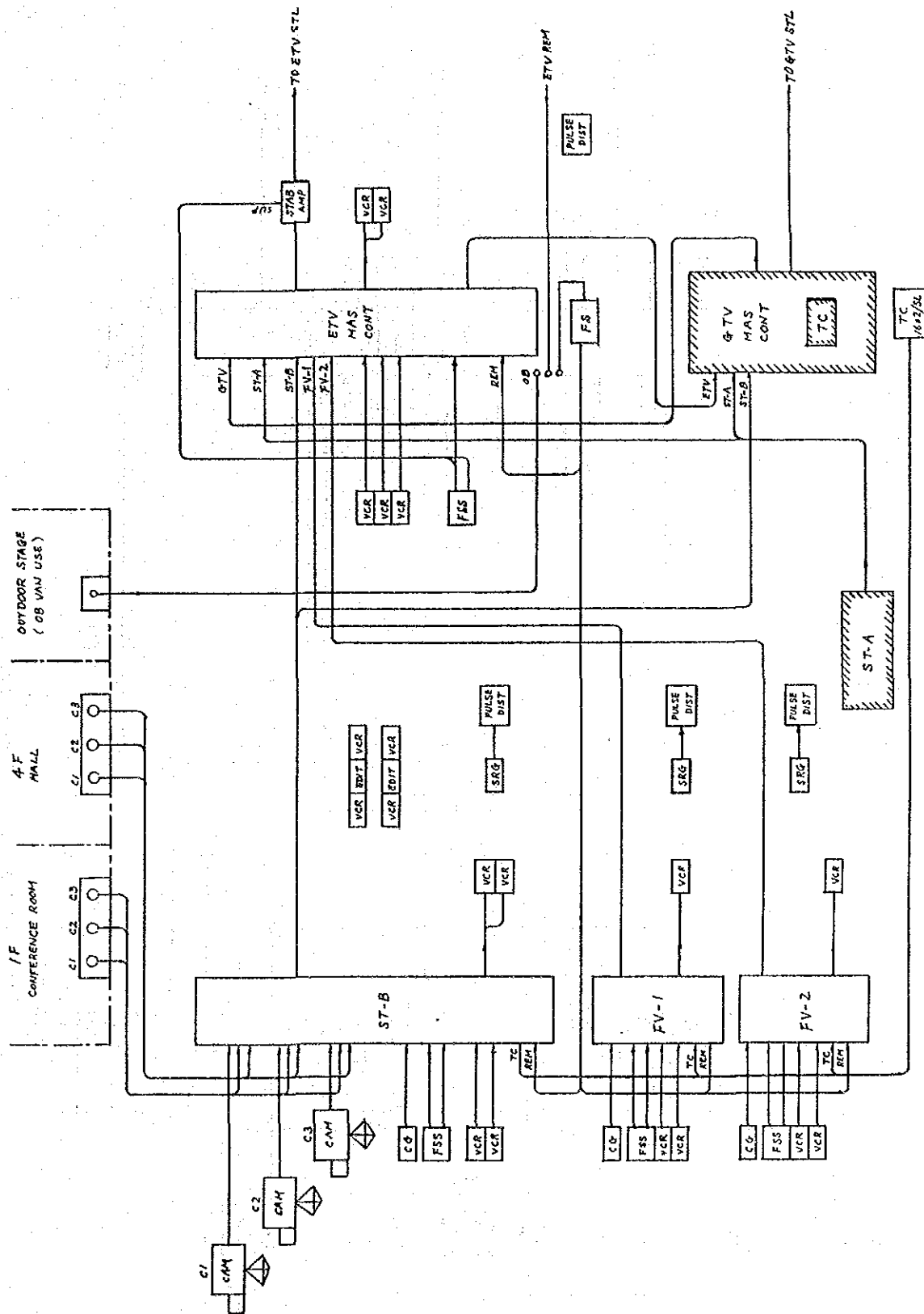


Fig. 3-10 ETV Video System Diagram

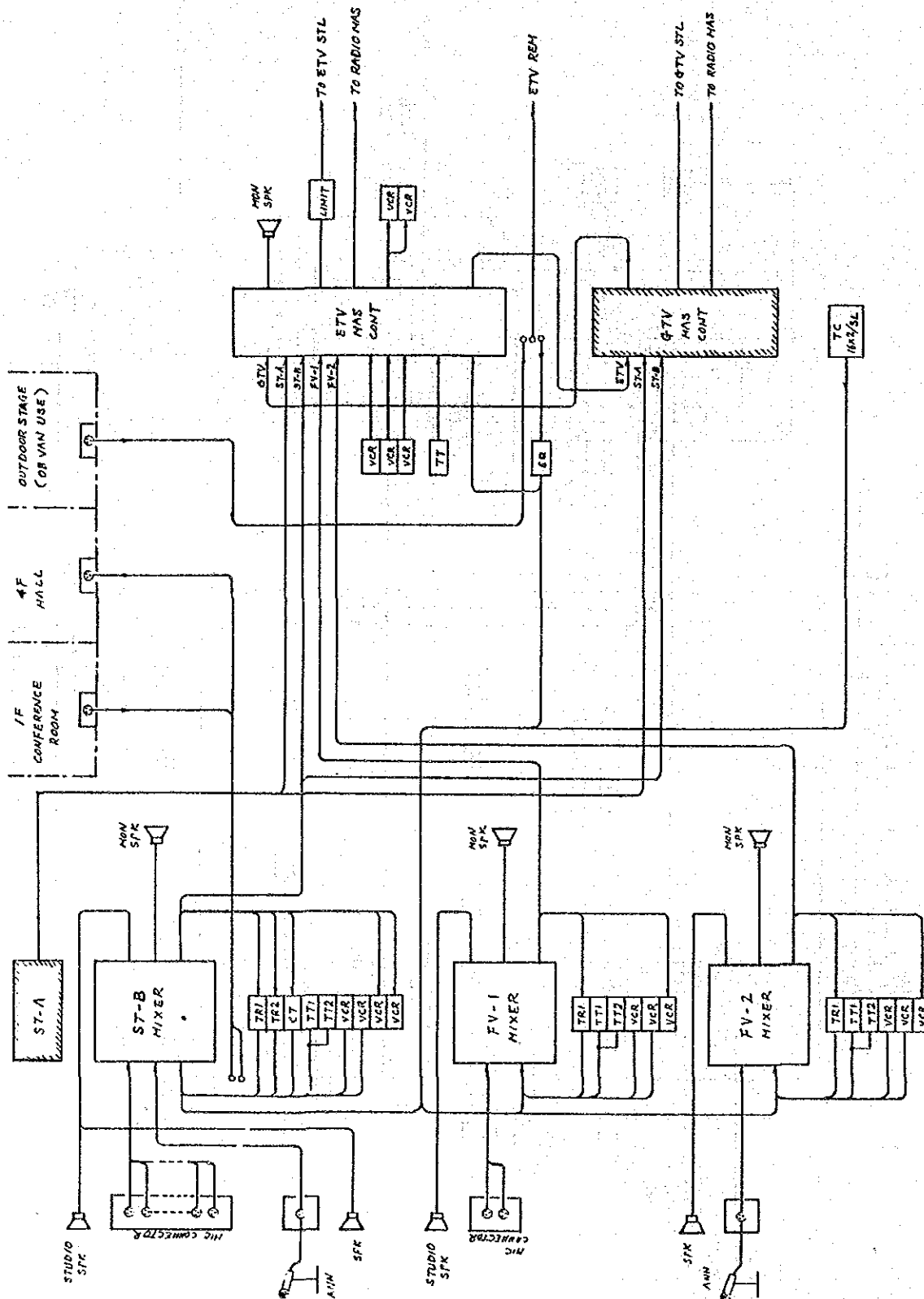


Fig. 3-11 ETV Audio System Diagram

3-7 Master Control Room and Continuity Room Facilities for Radio

R-2 Continuity Room, together with Radio Master Control Room and R-1 Continuity Room, can be newly located on the 1st floor, and visual access among the three rooms will be through glass windows.

All incoming and outgoing signal lines in relation with each continuity room will be conducted through radio master control room.

In connection with the new room allocation mentioned above, the relating rooms will necessitate remodeling work including building of new partition-walls. Detail of the work is described in 3-9 of this Chapter.

Radio master control room and continuity rooms are shown in Fig. 3-12.

3-8 Production Studios for R-2

A production studio (studio A) is on the 2nd floor, which is the only large studio having a studio floor of approximately 90 m². The studio of this scale is indispensable for the production of round-table discussions, forums, and programs with audience participation such as pupils, parents, and instructors. However, the existing audio control system equipped with the studio is not possible to handle the stereophonic signals, therefore, the replacement of the existing audio control system is necessary.

Studio B has been built as a talk studio (9 m²), but has not been provided with audio control system until now. For the full utilization of the studio, new installation of audio control system is necessary.

Studio A and Studio B are shown in Fig. 3-13.

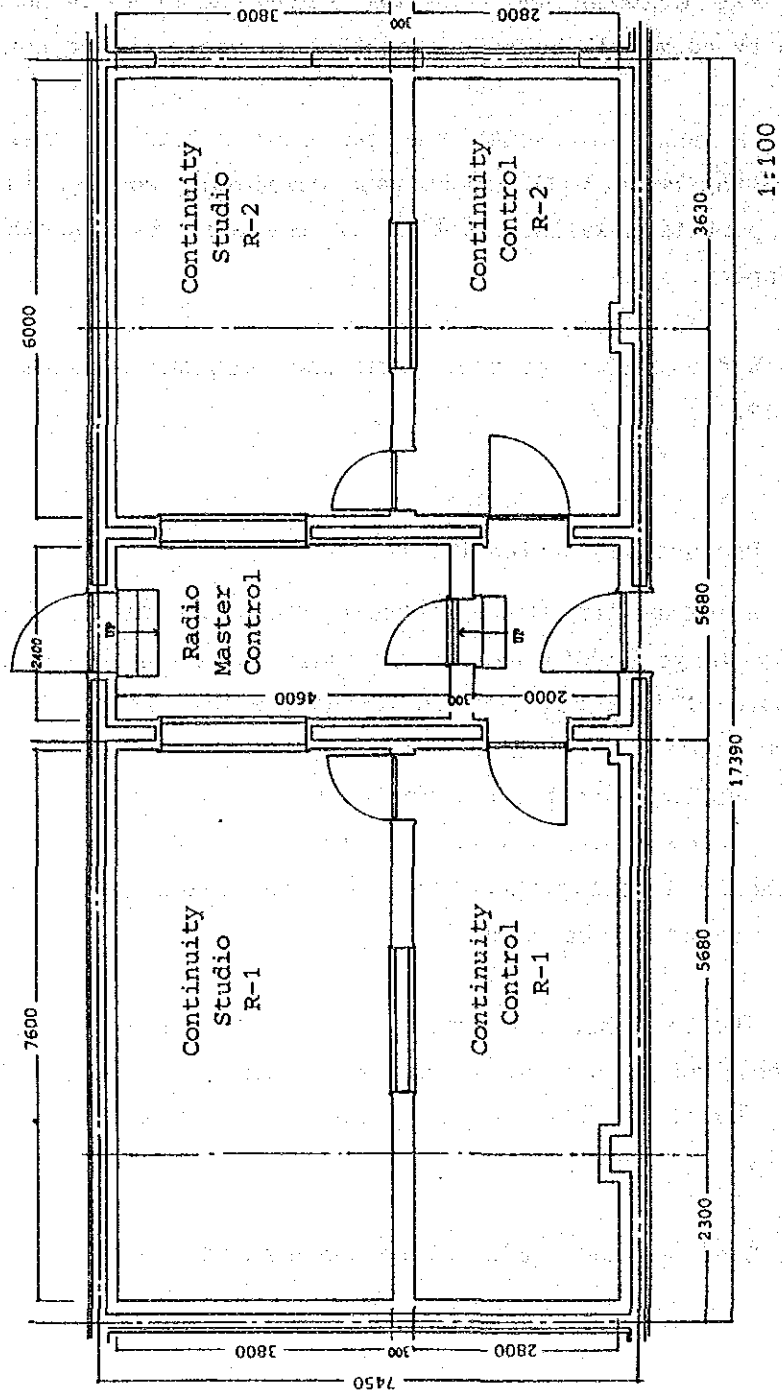
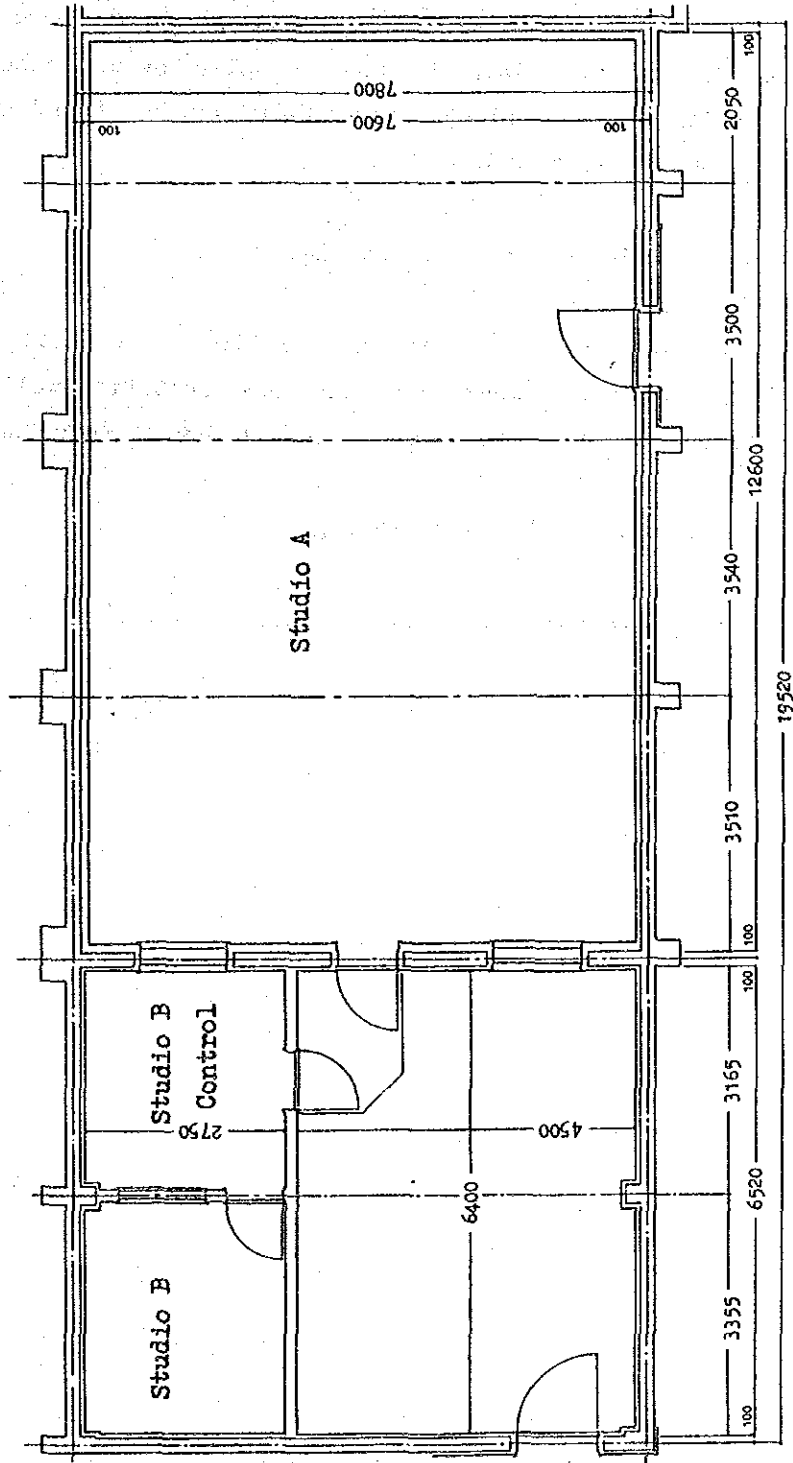


Fig. 3-12 Radio Master Control Room and Continuity Rooms (1F)



1:100

Fig. 3-13 Studio A and Studio B (1F)

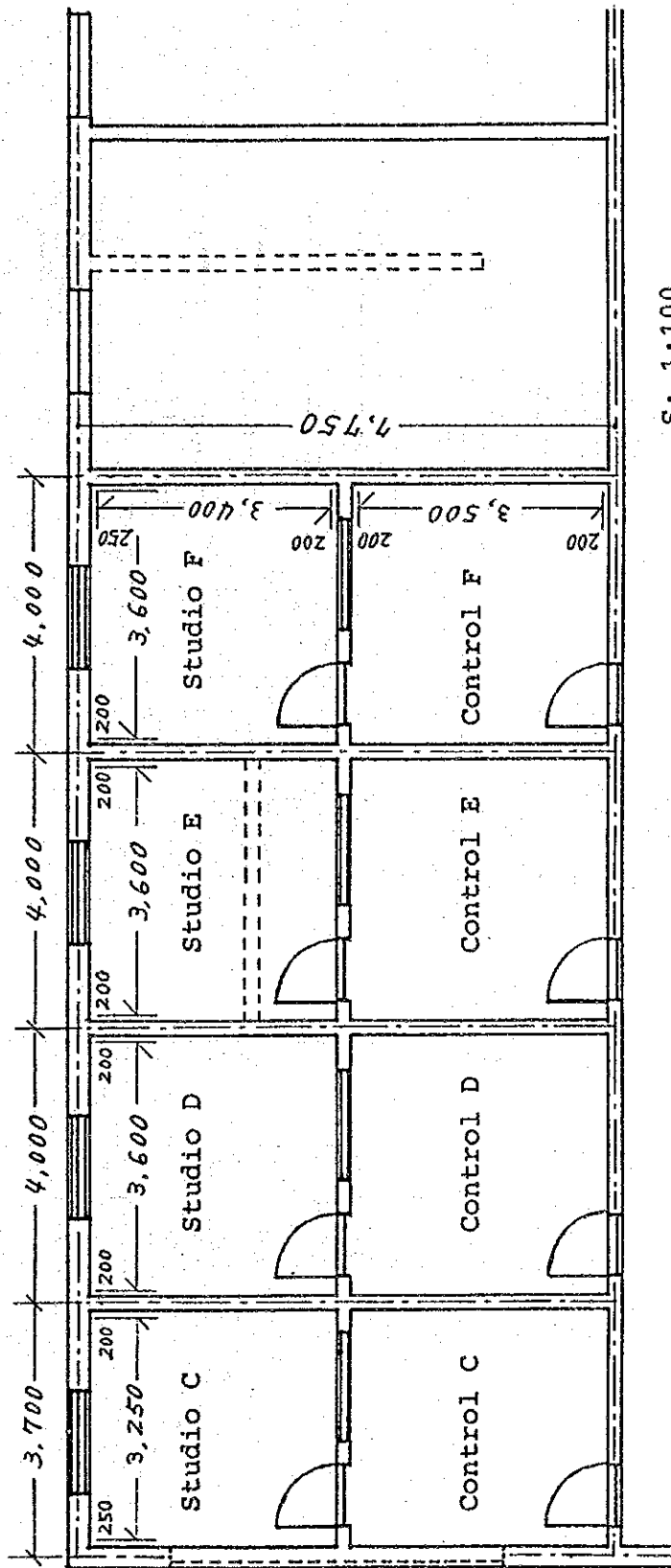
Regarding a talk-studio which is one of the essential facilities for educational program production, installations of more than five studios will be necessary. On the 4th floor, there is a room where a studio-block composed of 4 rooms of 9 m² class talk-studios can be allocated. This is now occupied by an announcers office. By remodeling this block, four talk-studios (Studio C to Studio F) will be newly allocated.

Studio C to Studio F are shown in Fig. 3-14.

In connection with the new installation of those talk-studios, required remodeling work including new partition-walls will be necessary. Detail of the work is described in 3-9 of this Chapter.

Radio system diagram is shown in Fig. 3-15.

Outline of broadcast facilities mentioned above is listed in Table 3-1.



S: 1:100

Fig. 3-14 Studio C to Studio F (4F)

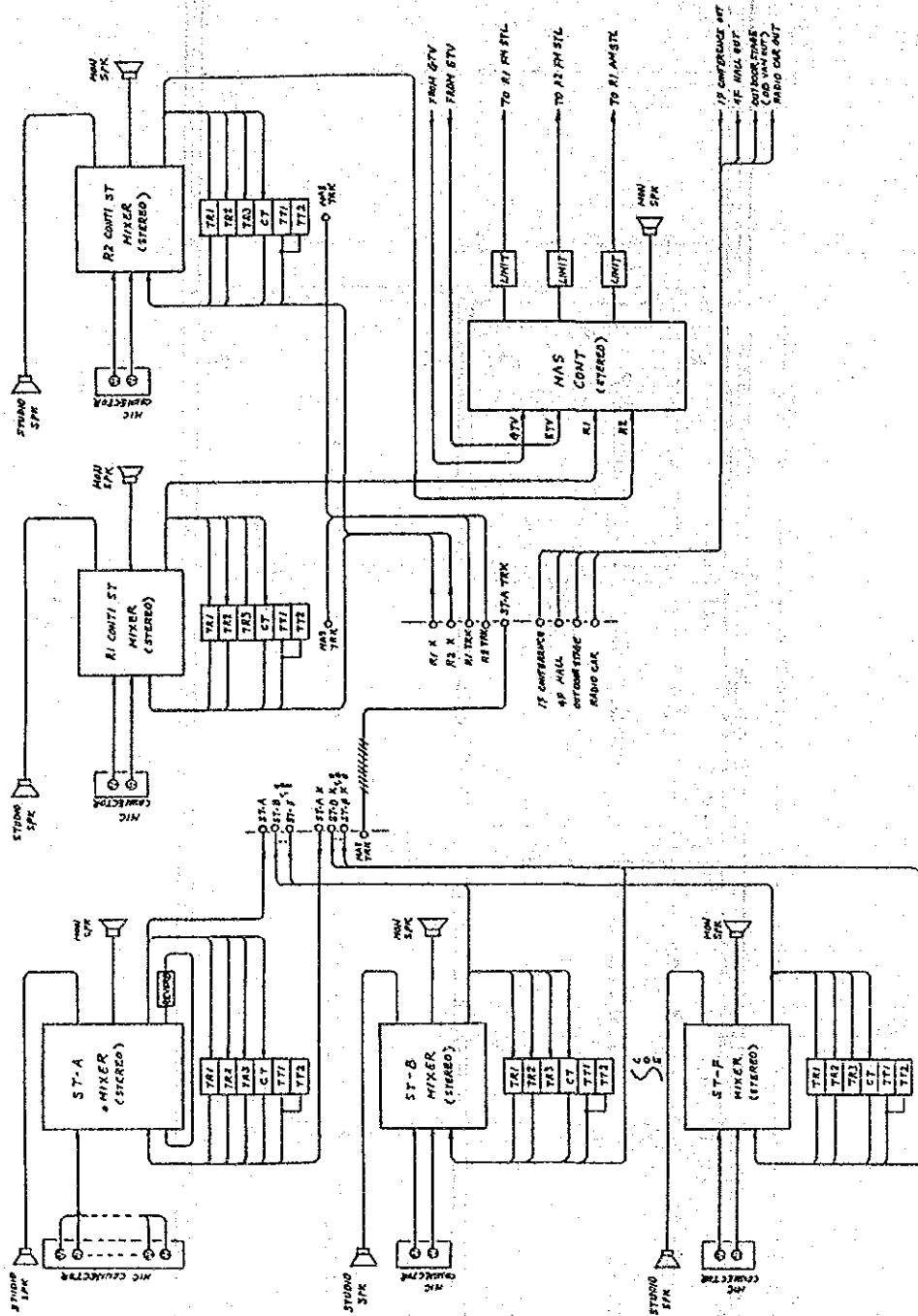


Fig. 3-15 System Diagram of Radio

Table 3-1 Broadcast Facilities

	Item	Quantity	Note
TV-B Studio	Portable Color Camera	3 sets	x 20 Zoom lens
	Video Control System	1 lot	
	Audio Control System	1 lot	
	Color FSS	1 set	Vertical scroll and horizontal scroll
	VTR for Insertion	2 sets	
	VTR for Recording	2 sets	
	Record Player	2 sets	
	Audio-tape Recorder/ Reproducer	2 sets	
	Audio Cassette Recorder/ Reproducer	1 set	
	Character Generator	1 set	
	Video and Audio Monitors	1 lot	
	Microphone	1 lot	
	Microphone Stand	1 lot	Including boom-stand
	VTR Editing System	1 lot	Including monitors
	Lighting Facilities	1 lot	Fixed batten
Cyclorama	1 lot	Fixed type	
	Others		
FV-1 Control	Video Control System	1 lot	
	Audio Control System	1 lot	
	Color FSS	1 set	
	VTR	3 sets	
	Record Player	2 sets	
	Audio-tape Recorder/ Reproducer	1 set	

	Item	Quantity	Note
FV-1 Control (Continued)	Character Generator	1 set	
	Video and Audio Monitors	1 lot	
	Microphone	1 lot	
	Microphone Stand	1 lot	
	Announce Table	1 lot	
	Others		
FV-2 Control	Video Control System	1 lot	
	Audio Control System	1 lot	
	Color FSS	1 set	
	VTR	3 sets	
	Record Player	2 sets	
	Audio-tape Recorder/ Reproducer	1 set	
	Character Generator	1 set	
	Video and Audio Monitors	1 lot	
	Microphone	1 lot	
	Microphone Stand	1 lot	
	Announce Table	1 lot	
ETV Master Control	TV Master Control System	1 lot	
	Color FSS	1 set	
	VTR	5 sets	
	Record Player	1 set	
	Video and Audio Monitors	1 lot	
	Frame Synchronizer	1 lot	
	Telecine System	1 lot	
	Intercom. (Room-to-Room)	1 lot	
Others			
Audience Hall	Lighting Facilities	1 lot	Portable
	Audio Mixer	1 set	Portable
	Others		

	Item	Quantity	Note
Lecture Room	Lighting Facilities	1 lot	Portable
	Others		
Outdoor Stage	Lighting Facilities	1 lot	Portable
	Others		
TV OB Van	Vehicle	1	
	Portable Color Camera	3 sets	x 17 Zoom lens
	Video Control System	1 lot	
	Audio Control System	1 lot	
	VTR	2 sets	
	Audio-tape Recorder/ Reproducer	1 set	
	Video and Audio Monitors	1 lot	
	Engine Generator	1 set	
	FPU System	1 lot	Including parabolic antennas
	VHF Communication System	1 lot	Mobile use
	Others		
EFP	EFP System	1 lot	
	VTR Editing System	1 lot	Including monitors
	Others		
Radio Master Control	Radio Master Control System	1 lot	Stereophonic spec.
	Audio Monitor	1 lot	
	Intercom. (Room-to-Room)	1 lot	
	Clock System	1 lot	
	Others		

	Item	Quantity	Note
Continuity Control	Audio Control system	2 lots	Stereophonic spec.
	Record Player	4 sets	Stereophonic spec.
	Audio-tape Recorder/ Reproducer	6 sets	Stereophonic spec.
	Audio Cassette Recorder	2 sets	Stereophonic spec.
	Audio Monitor	2 lots	
	Microphone	2 lots	
	Microphone Stand	2 lots	
	Announce Table	2 lots	With fader unit
	Others		
Studio-A Control	Audio Control System	1 lot	Stereophonic spec.
	Record Player	2 sets	Stereophonic spec.
	Audio Cassette Recorder	1 set	Stereophonic spec.
	Audio-tape Recorder/ Reproducer	3 sets	Stereophonic spec.
	Audio Monitor	1 lot	
	Microphone	1 lot	
	Microphone Stand	1 lot	Including boom-stand
	Announce Table	1 lot	With fader unit
	Others		
Studio-B Control to Studio-F Control	Audio Control System	5 lots	Stereophonic spec.
	Record Player	10 sets	Stereophonic spec.
	Audio-tape Recorder/ Reproducer	15 sets	Stereophonic spec.
	Audio Cassette Recorder	5 sets	Stereophonic spec.
	Audio Monitor	5 lots	
	Microphone	5 lots	
	Microphone Stand	5 lots	
	Announce Table	5 lots	With fader unit
	Others		

3-9 Modification Contents of RTVD Building in Sto. Domingo

Modification contents of RTVD building in Sto. Domingo are shown in Fig. 3-16 to Fig. 1-19.

3-10 Air-Conditioning Facilities in RTVD

For the new demand of studio equipment to be installed in RTVD building in Sto. Domingo, the existing air-conditioning system does not have the capacity.

Therefore, new air-conditioning system has to cover the new TV-B studio equipment and the radio studios.

And by load decrease of the existing system caused by the additional new one, air-conditioning of PD's room on the 3rd floor will be improved due to the surplus capacity of the existing air-conditioner.

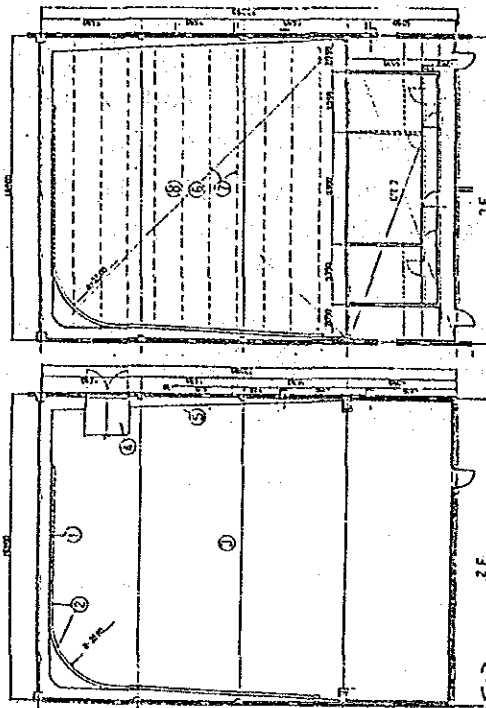
The new-air-conditioning and ventilation equipment is to be supplied with electric power and it would be preferable to divide the system into two to meet with the big load difference between TV studio and radio studios, thus to economize the running cost. Regarding the location of the above mentioned equipment, it is better to install it at the pantry room which has not been used and its roof from where the air ducts are fed to each room.

The designed heat load is 111,000 kcal/hour for TV facilities and 81,000 kcal/hour for radio facilities, and the required compressor demands are 34 kW/hour for the TV and 18 kW/hour for the radio.

The capacity of supply and exhaust fans is 50,000 m³/hour (11.0 kW/h; each one) for TV and 18,000 m³/hour (8.5 kW/h; each one) for Radio.

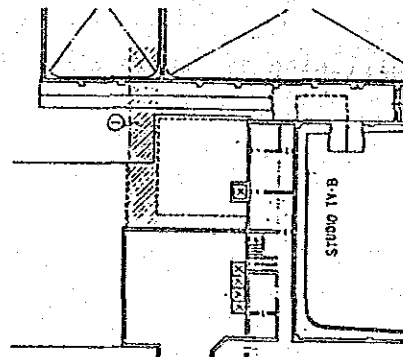
As the electric power consumption is 56.0 kW/h for TV and 35.0 kW/h for Radio, a sum total of 91.0 kW/h is estimated. The new plan of the air-conditioning system is shown in Fig. 3-20 to Fig. 3-23.

S 1:4.00



[1]

- 1 remove the existing cyclorama
- 2 new arrangement of cyclorama
- 3 smoothing the floor level and fine arrangement
- 4 remove the existing slope and new arrangement
- 5 modification of inner walls partially
- 6 remove the entire ceiling
- 7 new arrangement of supporting for the lighting battens
- 8 new arrangement of ceiling
- 9 secondary electric works
- 10 supply and exhaust water arrangement and gas pipes arrangement

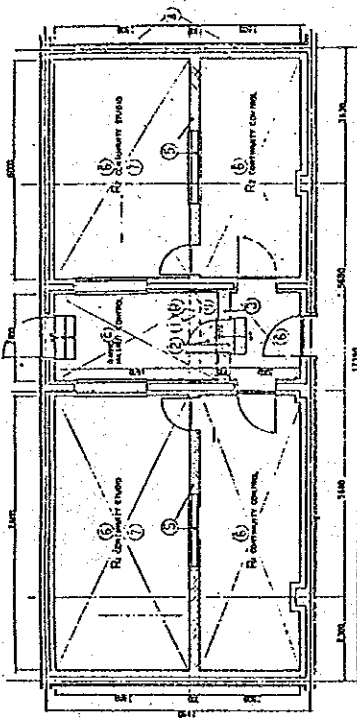


[2]

- 1 remove the existing wooden house for ducting, entirely

Fig. 3-16 Modification Works for TV-B Studio Floor

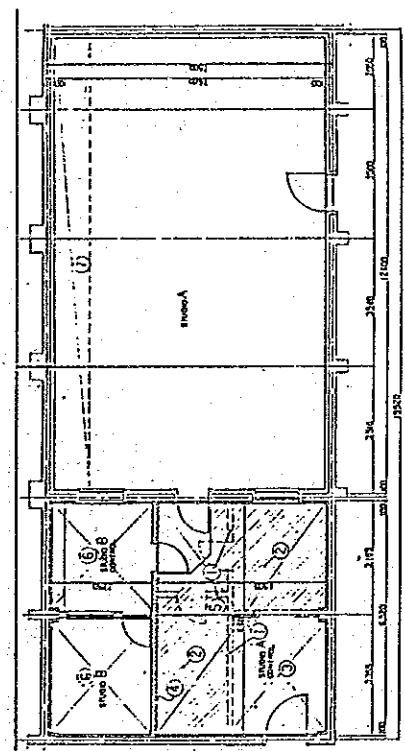
S 1 : 200



[3]

[3]

- 1 remove the existing wall
- 2 high level floor and the stare step arranged
- 3 arrangement of the wall with the door
- 4 remove the window
- 5 arrangement of the wall
- 6 remove the ceiling and new arrangement
- 7 floor arrangement
- 8 floor arrangement
- 9 remove the inner walls and the new arrangement
- 10 electric consent switch and lighting works



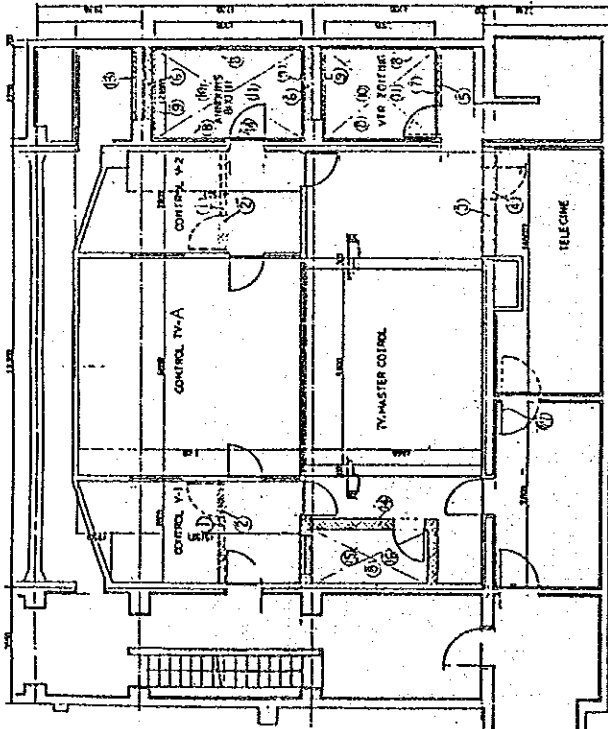
[4]

[4]

- 1 remove the existing wall
- 2 high level floor arrangement
- 3 remove the floor and new arrangement
- 4 remove the inner wall and new arrangement
- 5 remove the ceiling and new arrangement
- 6 remove the ceiling and new arrangement
- 7 remove the ceiling and new arrangement
- 8 electric consent, switch and lighting works

Fig. 3-17 Modification Works for Radio Master Control Room, Continuity Rooms and Studios A and B.

S 1:200



(5)

(5)

- 1 remove the existing walls with the door
- 2 floor, walls ceiling modified
- 3 remove the existing walls (with door)
- 4 floor, walls, ceiling modified
- 5 remove the existing wall (with door)
- 6 new provision of the wall
- 7 new provision of the wall
- 8 remove the existing walls and new arrangement
- 9 new arrangement of inner walls
- 10 new arrangement of the floor
- 11 remove the existing wall and new arrangement of the ceiling
- 12 remove the existing door and new arrangement
- 13 arrangement of the wall
- 14 arrangement of the wall and the door, windows
- 15 newly arrange the floor
- 16 remove the existing ceiling and arrangement
- 17 the door changed to open direction
- 18 electric consent, switch, lighting works
- 19 electric distribution pannel removed
- 20 dusts in the ceiling modified together with supply and exhaust opening arranged

Fig. 3-18 Modification Works for TV Master Control Room and The Related Rooms

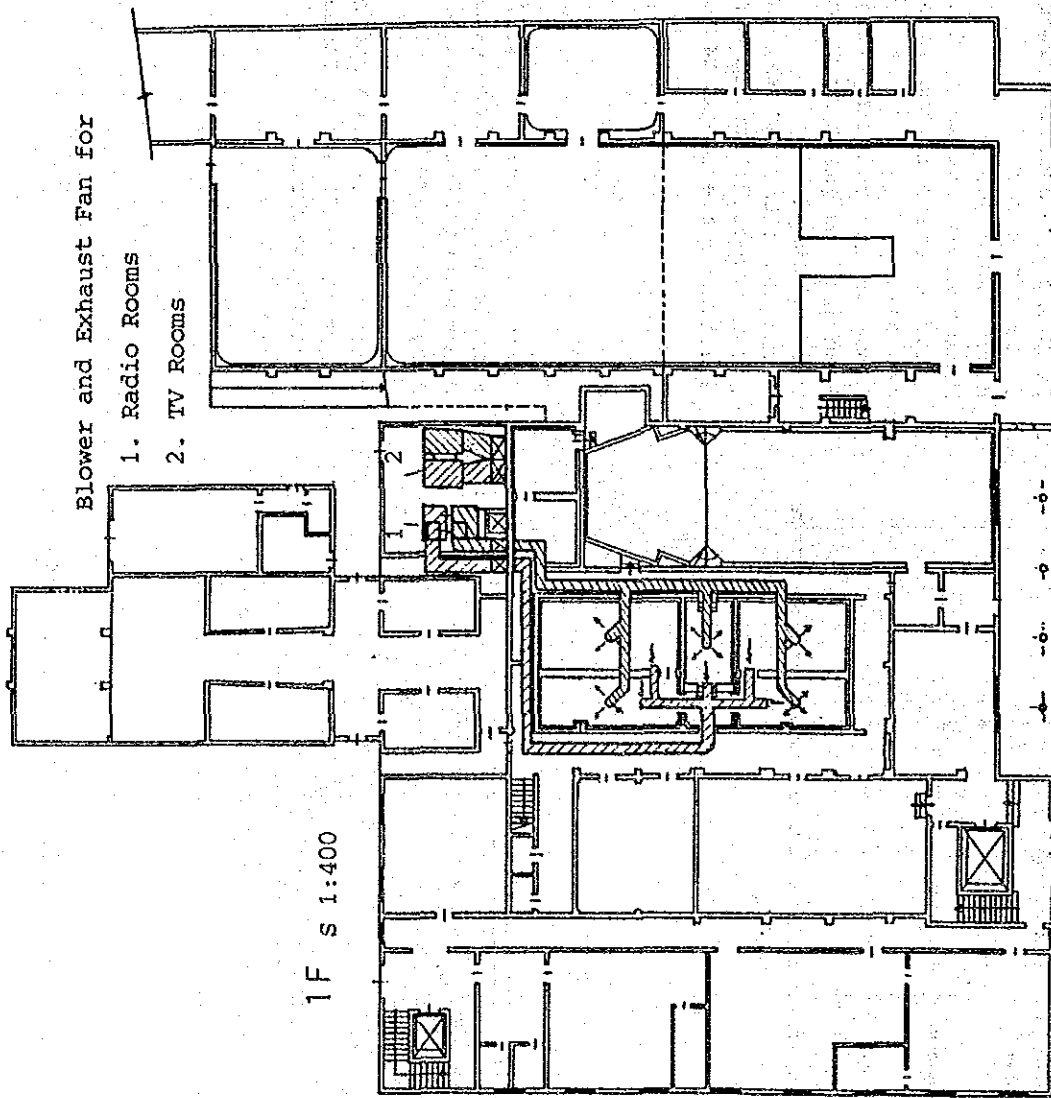


Fig. 3-20 Air-Conditioning Plan (1F)

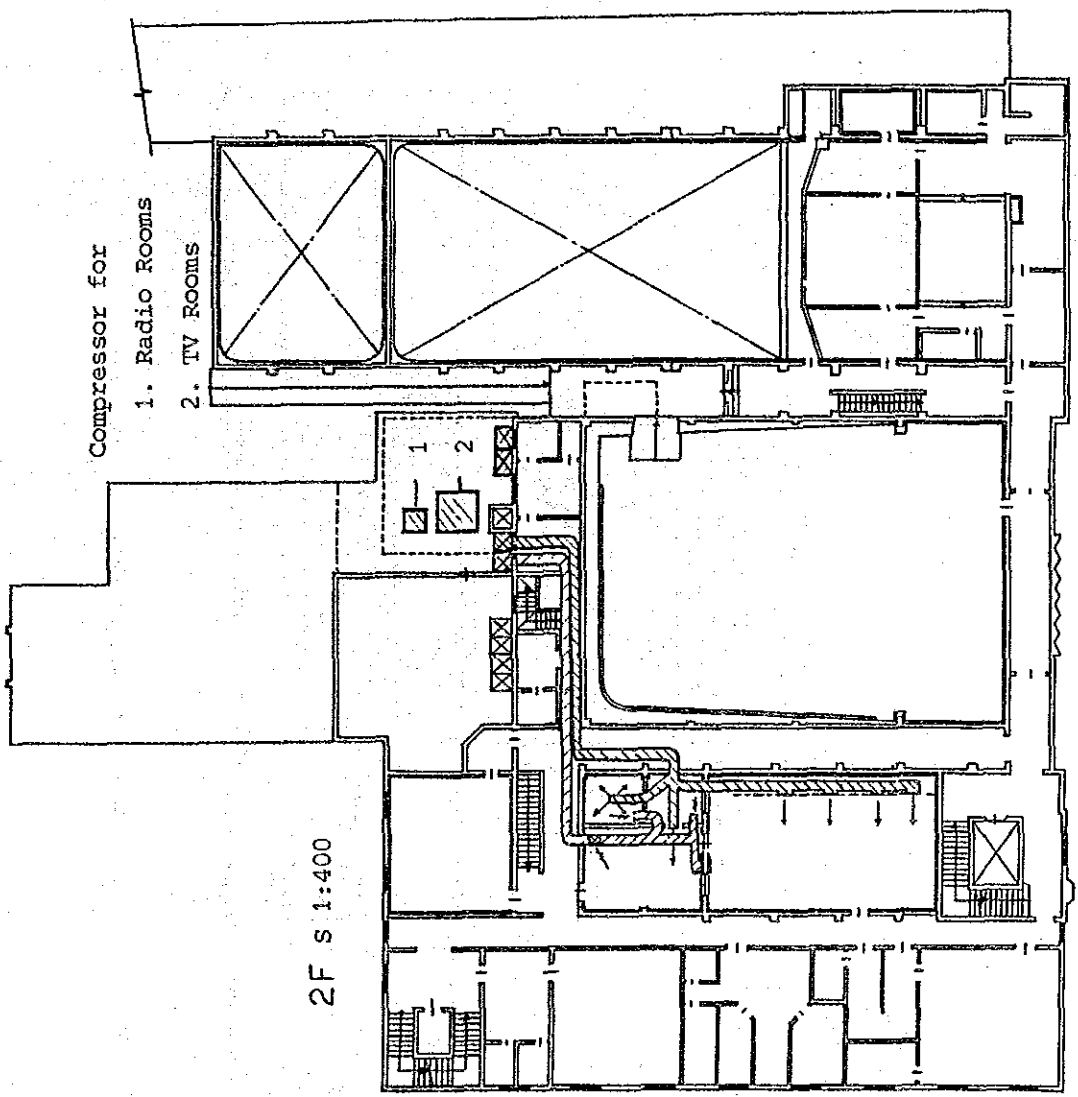


Fig. 3-21 Air-Conditioning Plan (2F)

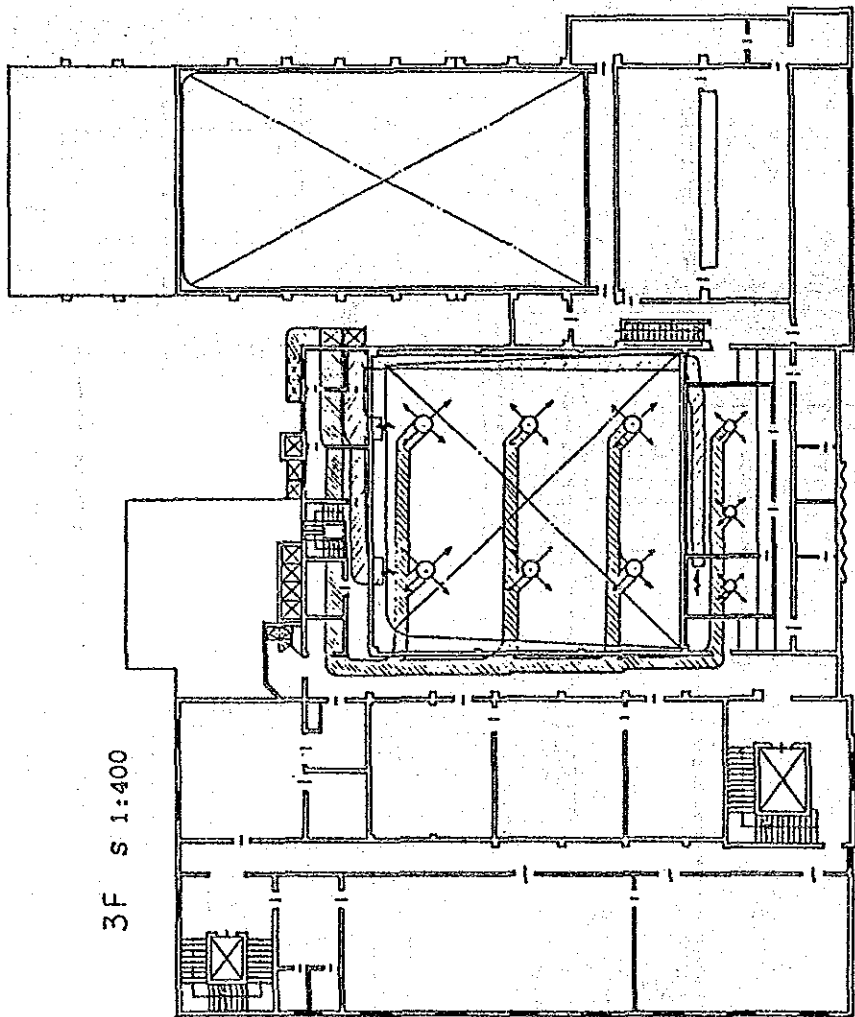


Fig. 3-22 Air-Conditioning Plan (3F)

4F S 1:400

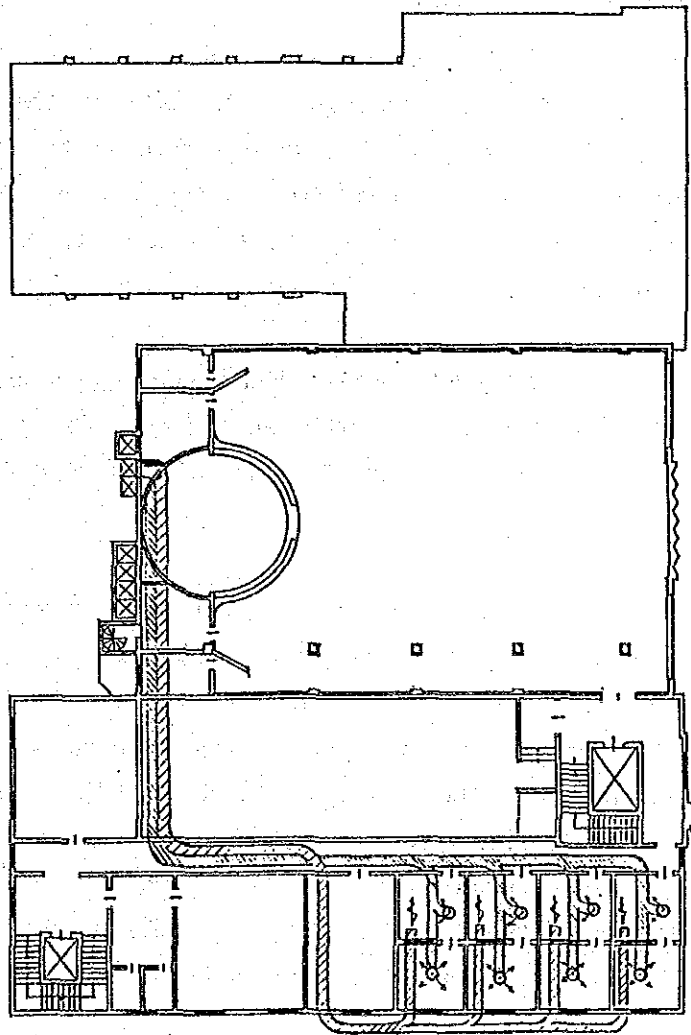


Fig. 3-23 Air-Conditioning Plan (4F)

3-11 Electric Power Receiving Facilities

Demand of electric power for the new TV-B studio lighting equipment is about 150 kVA and also including that for other broadcasting facilities and air-conditioning, the total demand is estimated about 250 kVA.

At present, RTVD has a power receiving capacity of 931 kVA, so it is not necessary to change the receiving power demand when new facilities are installed.

3-12 Emergency Power Supply

Emergency power facilities are installed to prevent the broadcasting service from interrupting in case of the failures of city power, as well as to supply minimum electricity to master control (TV synchronizing pulse system, program sending-out system and STL system for radio and television, etc.) and broadcast transmitter, together with emergency lamps to enable the staff to work.

One set of 62.5 kVA engine-generator (3-phase, 60 Hz) has been used for this purpose in the RTVD Building in Santo Domingo, and can remain available after the installation of new equipments for R-2 and ETV.

In accordance with the completion of this Project, the present emergency power supply will have as much surplus in its power capacity as the power consumption (50 kVA approx.) of the TV transmitter in the RTVD Building, because the TV broadcasting will be made from Alto de la Bandera station after the Project finished. With the utilization of this surplus power for feeding the new equipments for R-2 and ETV (approximate power consumption will be 14 kVA for R-2, 25 kVA for ETV, 2 kVA for STL and 3 kVA for the emergency lamps), the existing emergency power facilities will be still of use in the future.

CHAPTER 4 PLANNING OF BROADCASTING NETWORK

4-1 Study of Educational Radio Broadcasting Network Plan

4-1-1 Network Plan of MF Radio Broadcasting

Fig. 4-1 shows an educational radio broadcasting network plan originally presented. With regard to the current frequency assignment of MF radio in this country, Table 4-1 shows the present status.

As seen from this Table, the already allocated MF frequency channels of 10 kHz spacing are almost fully occupied. In Sto. Domingo, there are radio stations with about 30 kHz spacing, and, even at the 10 kHz detuning point, sensitivity of the station still remains.

Thus, it is too much crowded to be able to separate each station by an ordinary radio receiver.

On the other hand, if an R-1 antenna is excited by a new R-2 frequency by means of a common feeding technique, R-2 frequency assignment will become more difficult.

Besides, due to existing superannuated antenna mast as well as transmitter, the execution of construction works will be extremely difficult.

Under such circumstances, to assign new frequencies to new educational MF radio stations of 5 - 20 kW in Sto. Domingo (Villa Mella), El Seibo, Santiago, Las Matas de Farfán and Oviedo is also difficult from the above mentioned technical and physical points of view. If it would be possible to do so, some existing commercial radio stations would have to be abandoned.

Besides, the MF broadcasting network plan has many disadvantages in terms of construction cost and running cost together with maintenance point of view, thus it was found that the execution of the original MF plan was impossible, as the result of the survey in the Dominican Republic.

As a matter of fact, the Government promulgated a law which enacts that there shall be no more new channel assignment allowed on

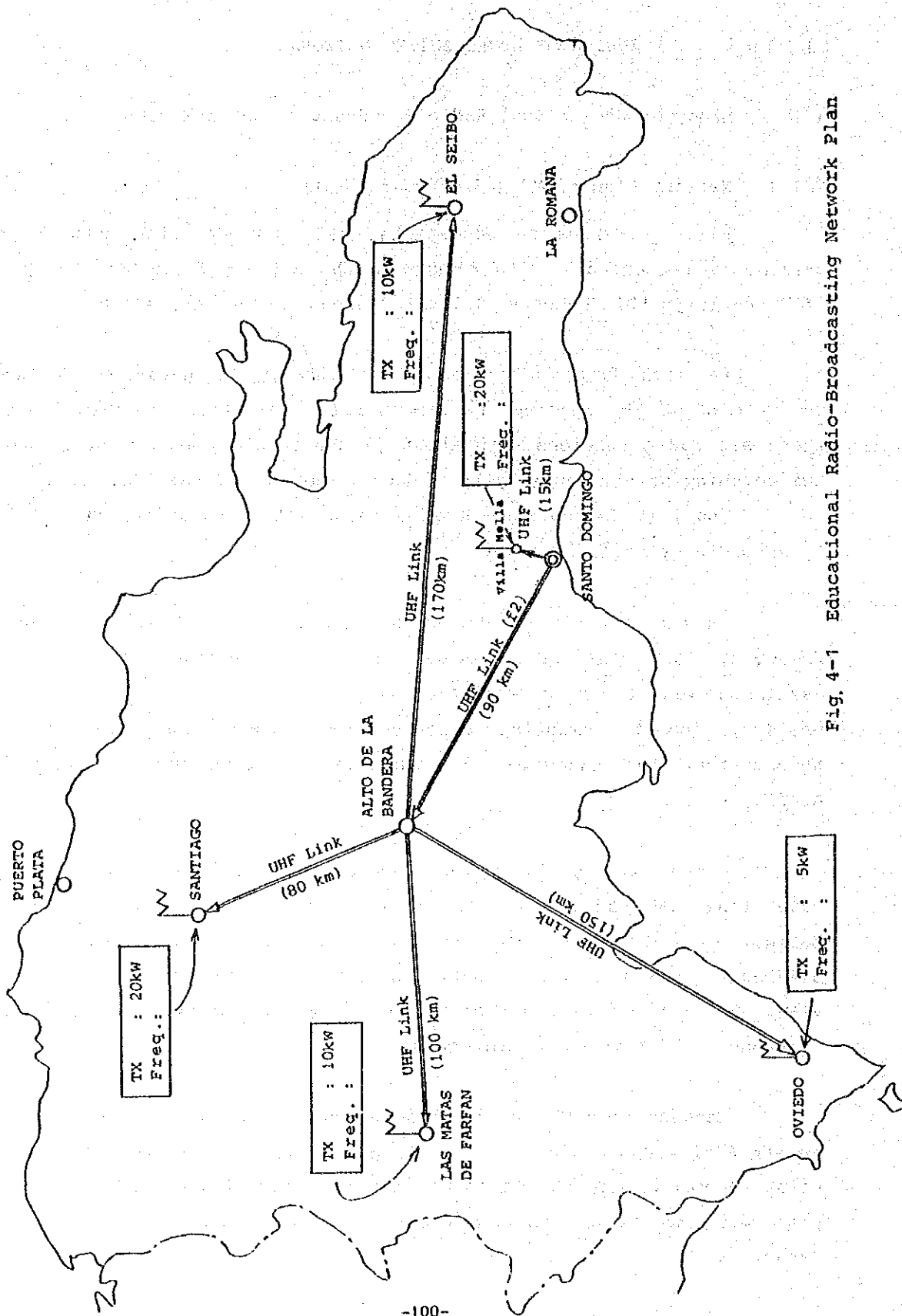


Fig. 4-1 Educational Radio-Broadcasting Network Plan

Table 4-1 Frequency Allocation for MF-Radio Stations

No. AM-1/5

Frequency	Main Area of the Station		
	SANTO DOMINGO	SANTIAGO	OTHER CITIES
540	"RADIO ABC" 5kW/1kW		
50			
60		"RADIO RITMOS" 500W/25W	
70	"RADIO CRISTA" 5kW/1kW		
80			
90			LA VEGA "RADIO SANTAMARIA" 10kW/1kW
600	"STUDIO 600" 10kW		
10		"RADIO ACCION" 2.5kW/1kW	
20			
30	"RTVD" 15kW/2.5kW		MONTE CRISTY "RADIO MONTE CRISTY" 1kW/250W
40			
50	"RADIO UNIVERSAL" 20kW/1kW		
60		"RADIO QUISQUEYANA" 2kW	
70			SAN PEDRO "RADIO 670" 1kW/250W
80			SANTIAGO RODRIGUEZ "RADIO ZAMBA" 500W/250W
90	"RADIO GUARACHITA" 5kW/1kW		
700			MAO "RADIO MAO" 1kW/250W
10			
20		"RADIO NORTE" 5kW/250W	
30	"BROADCASTING NACIONAL HIZ" 10kW/1kW		
40			
50		"RADIO ALEGRE" 5kW/1kW	
60	"RADIO SANTO DOMINGO" 5kW		

(Continued)			
kHz	SANTO DOMINGO	SANTIAGO	OTHER CITIES
770			TAMBORIL "RADIO TAMBORIL" 500W
80			CONSTANZA "RADIO CONSTANZA" 1kW/250W
90	"LA VOZ DEL TROPICO" 5kW/1kW		
800			
10			
20		"RADIO SANTIAGO" 5kW/1kW	
30	"RADIO HIJB" 10kW/2.5kW		
40			PUERTO PLATA "RADIO ISABEL DE TORRES" 500W/250W
50			
60	"RADIO CLARIN" 50kW/5kW	"RADIO CLARIN" 10kW/1kW	
70			
80			MAO "RADIO SANTA CRUZ" 1kW/250W
90	"RADIO CONTINENTAL" 5kW/1kW		
900			PUERTO PLATA "RADIO PUERTO PLATA" 5kW/1kW
10			LA VEGA "RADIO LA VEGA" 1kW/250W
20	"RADIO DIAMANTE" 5kW/0.25kW		
30		"ONDAS DEL YAQUE" 5kW/1kW	
40			
50	"RADIO POPULAR" 10kW/5kW		
60			PUERTO PLATA "LA VOZ DEL ATLANTICO" 1kW/250W
70			VILLA TAPIA "RADIO VARIEDADES" 500W/250W
80	"LA VOZ CULTURAL" 10kW/1kW		
90		"RADIO CIBAO" 1kW	
1000			DAJABON "RADIO BELLER" 1kW/250W

(Continued)			
kHz	SANTO DOMINGO	SANTIAGO	OTHER CITIES
1010	"RADIO COMERCIAL" 50kW/250W		
20			
30			LA VEGA "RADIO NOVEDADES" 5kW/250W
40	"RADIO CENTRAL" 10kW/5kW		
50		"LA HISPANIOLA" 10kW/250W	
60			SAN PEDRO DE MACORIS "RADIO MAR" 1kW/250W AZUA "RADIO AZUA" 1kW/500W
70			SAN FRANCISCO DE MACORIS "HIBI RADIO" 5kW/250W
80	"RADIO RPQ" 1kW/500W		
90		"RADIO AMISTAD" 1kW/250W	
1100			NAGUA "RADIO NAGUA" 1kW/250W SAN PEDRO MACORIS "RADIO ORIENTE" 1kW/250W
			SAN JOSE DE OCOA "RADIO OCOA" 1kW/250W
10			JARABACOA "RADIO JARABACOA" 3kW/250W
20	"RADIO ANTILLAS" 5kW		
30		"RADIO EXITOS" 10kW/250W	
40			SAN JUAN "RADIO ANACAONA" 1kW/250W
50	"ONDA MUSICAL" 5kW/1kW		
60		"EMISORA RADIOLANDIA" 5kW/250W	
70			
80	"RADIO MIL" 10kW/250W		
90		"RADIO AZUL" 5kW/250W	
1200			SAN PEDRO DE MACORIS "RADIO DIAL" 1kW/250W AZUA "RADIO MONTERIO" 1kW/250W
10			SAN FRANCISCO DE MACORIS "RADIO MERENGUE" 5kW/250W
20	"RADIO HIN" 10kW/1kW		
30			MOCA "RADIO IDEAL" 1kW/250W

(Continued)			
kHz	SANTO DOMINGO	SANTIAGO	OTHER CITIES
1240			PUERTO PLATA "LA VOZ DE LA LIBERTAD" 1kW/250W
			BARAHONA "RADIO BARAHONA" 5kW/250W
50			SAN FRANCISCO DE MACORIS "LA VOZ DEL PROGRESO" 5kW/250W
			LA ROMANA "RADIO JUVENTUD" 250W
60	"RADIO VISION" 1kW/250W		DAJABON "RADIO MARIEN" 1kW/250W
70		"RTVD" 1kW/250W	BANI "RADIO AMBIENTE" 1kW/250W
90			BONAO "RADIO BONAO" 1kW/250W
			JANICO "RADIO JANICO" 500W
			BARAHONA "RADIO GUABOCUYA" 5kW/250W
1300	"RADIO RADIO" 1kW/250W		
10			LA VEGA "RADIO REAL" 500W/250W
			EL SEIBO "RTVD" 1kW/250W
			BANI "RADIO BANI" 500W
20			SAMANA "RADIO BOYA MUSICAL" 500W
30			MOCA "LA VOZ CULTURAL DE LAS FUERZAS ARMADAS" 5kW/1kW
40			SAN JUAN "RADIO CENTRO" 1kW/250W
50	"RADIO LISTIN" 1kW/250W		LA ROMANA "RADIO RUTAS" 250W
60			LA VEGA "RTVD" 1kW/250W
			MONTE CRISTI "RTVD" 250W
70			BARAHONA "RTVD" 1kW/250W
			ELIAS PINA "LA VOZ CULTURAL DE LAS FUERZAS" 5kW/250W
80		"RADIO NACIONAL" 5kW/1kW	EL SEIBO "RADIO SEIBO" 5kW/250W
90			SAN CRISTOBAL "RADIO SAN CRISTOBAL" 1kW/250W
			SAN JUAN "RTVD" 1kW/250W
1400			LA VEGA "ONDAS DEL VALLE" 250W
			PEDERNALES "RTVD" 250W
10	"LA GRAN MUSICAL" 1kW/250W		HIGUEY "RADIO SOL" 250W
			NEYBA "RADIO NEYBA" 250W
			RIO SAN JUAN "RADIO GRI" 1kW/250W
20			COTUI "RADIO ORO" 250W

(Continued)			
kHz	SANTO DOMINGO	SANTIAGO	OTHER CITIES
1430			
40	"RADIO RENEVO" 5kW/250W		NAGUA "RADIO RAHIA" 1kW/250W
			HIGUEY "RADIO CAYACOA" 250W
			SAN JUAN "RADIO SAN JUAN" 5kW/1kW
50			SALCEDO "RADIO UTIL" 250W
60			HATO MAYOR "RADIO RENACIMIENTO" 1kW/250W
70			BARAHONA "RADIO SUR" 1kW/250W
			SAN FRANCISCO DE MACORIS "RADIO SAN FRANCISCO" 1kW/250W
80	"RADIO DISCO" 5kW/1kW		
90			MOCA "RADIO RONDA" 250W
1500			PUERTO PLATA "RTVD" 1kW/250W
			HIGUEY "RADIO COLOR" 250W
10	"RADIO PUEBLO" 10kW/250W		
20			
30		"RADIO 1530" 5kW/1kW	
40	"RADIO EL MUNDO" 1kW/250W		LA ROMANA "LA VOZ DE LA ROMANA" 250W
50			TAMAYO "RADIO ENRIQUILLO" 10kW/1kW
60		"RADIO MAIBA" 1kW/250W	PEDERNALES "RADIO PEDERNALES" 5kW/250W
70	"RADIO AMANECER" 5kW/250W		
80			SAMANA "RADIO SAMANA" 1kW/250W
90		"RADIO HIT MUSICAL" 1kW/250W	
1600	"RADIO REVELACION" (1605kHz) 5kW/250W		

radio and TV service, considering the above-mentioned crowded situation of present radio and TV frequency channels. (refer to Material 4-1)

4-1-2 FM Broadcasting Network Plan

(1) Fortunately, RTVD has another FM channel (99.9 MHz) already assigned for future FM broadcasting besides an existing FM transmitter (96.1 MHz) which is now being used for the distribution of R-1 programs, transmitting from Alto de la Bandera. The 99.9 MHz has not been used up to now, therefore using this frequency for the new educational radio broadcasting (R-2), transmitting from Alto de la Bandera can cover nearly the entire territory of the country.

(2) In this case, there may arise a problem with respect to the receiver side that how much percentage of the AM and FM common receiver are in use, in the whole country.

With regard to this, there are 81 FM stations with 67 frequency channels (as shown in Table 4-2) and in 1983, among total radio receivers, FM receivable receivers are prevailing 87.7%, and considering further increase of this number in the future, there will be no problem.

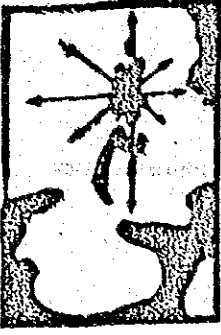
Table 4-3 shows the number of FM receivers in the country.

(3) The population coverage of the FM broadcasting and its estimated field strength in the whole areas.

Referring the field data of the Survey in the whole Dominican territory, the estimated field strength of R-2 FM signals from transmitter of 10 kW output at Alto de la Bandera is shown in Fig. 4-2.

According to this, it can service about 4,800,000 people in the country and the population coverage is 85.3%.

El Caribe



Y concretar la verdad, y la verdad os hará libres San Juan VII, 32

Santo Domingo, República Dominicana, Miércoles, 9 de Agosto de 1978

Diez Centavos

Pasada ser Ley Congelación Frecuencias de Radio y TV

Por Minerva Isa

La Cámara de Diputados convirtió ayer en ley un proyecto que congela los permisos para la asignación de nuevas frecuencias de radio y televisión, en una sesión caracterizada por encendidos debates.

Esta legislación, según la cual, en el país sólo podrán operar siete canales de televisión, fue aprobada de urgencia.

El proyecto había sido aprobado hace una semana por el Senado, también en dos lecturas consecutivas.

Con su aprobación, la Cámara Baja desestimó una solicitud de la Asociación Dominicana de Radiodifusoras (ADORA), para que celebrara vistas públicas, a fin de que técnicos en la materia expusieran sus argumentos.

De los 62 diputados asistentes, 58 votaron en favor y cuatro en contra.

La sesión se caracterizó por encendidas discusiones que en un caso llegaron al enfrentamiento personal, teniendo que intervenir algunos legisladores para apaciguar los ánimos. En varias ocasiones el presidente de la cámara, doctor Atiles Guzmán Fernández, tuvo que hacer llamamientos al orden.

Los defensores del proyecto, encabezados por el diputado Juan

Esteban Ojivero, vicepresidente de la cámara, argumentaron que la congestión de frecuencias de televisión a la empresa Orbe, S. A. no afectaría a las empresas similares existentes o en vías de instalación.

Y eslabaron que basaban este criterio en un alegado informe técnico suministrado por la Dirección de Telecomunicaciones.

Varios diputados criticaron a los medios de comunicación que se pronunciaron en contra del proyecto y alegaron que no podían constituirse "instrumentos" de los empresarios de televisión que "no tienen argumentos que defender sus intereses".

Los diputados que votaron en contra del proyecto fueron Federico Ibarra, Ramón Aníbal Contreras, Ana Salime Tallán, Nelson Reyes, Carlos y Ramón Eligio Bautista Ramos.

Reyes, Contreras y Ramos votaron en favor de se aplazara el conocimiento del proyecto, para que técnicos en la materia edificaran a los legisladores, debido a que "los diputados no saben lo que van a aprobar". Esta moción fue rechazada.

Tampoco fue acogida la solicitud del diputado Contreras para que se comprobaran durante la sesión las discrepancias existentes entre el proyecto original aprobado por el Senado y el que se concretó ayer.

Contreras señaló que en el proyecto original no se hacía

referencia del canal 70 en Navisa, de Rahinté, el cual está contenido en el texto del segundo.

Guzmán Fernández explicó que el que se conocía en la Cámara de Diputados correspondía "textualmente" al aprobado por el Senado.

Sin embargo, al compararse ambos textos se observa que el original tiene un párrafo que expresa lo siguiente: "Canal 7 en Santo Domingo y 11 en Santiago, de Radio HIN, C. por A."

Mientras que el otro texto dice: "Canales 7 en Santo Domingo, 7 y 11 en Santiago y 70 en Navisa, de Radio HIN, C. por A.", lo cual fue atribuido a errores mecanográficos.

Por su parte, el diputado Lebrón dijo que "si el pasado jueves el proyecto se hubiera conocido, este se hubiera caído".

Periodistas que conversaron con varios senadores el miércoles y jueves observaron el brusco cambio de criterio experimentado en muchos de ellos, que durante esos días les manifestaron estar en contra del proyecto, y que expresivamente, ayer, dieron su voto aprobatorio. Varios de estos legisladores se habían pronunciado en público en contra del proyecto en los pasillos del Congreso. E inclusive, momentos antes de iniciarse la sesión,

Página 13, Colección 2, 4, 5, 6, 7 y 8

Table 4-2 Frequency Allocation for VHF-FM Stations

No. FM-1/5

Frequency	Main Area of the Stations			
	SANTO DOMINGO	SANTIAGO	ALTO DE LA BANDERA	OTHER CITIES
88.1				SAN CRISTOBAL "RADIO SAN CRISTOBAL" 250W
.3				
.5	"RADIO MIRADOR" (88.6MHz) 5kW			
.7				
.9				
89.1	"NACIONAL HIZ" 5kW	"RADIO MAIBA" 250W		
.3				
.5				BARAHONA "RADIO BARAHONA" 3kW
.7	"RADIO PEQUEVO" 250W			
.9				
90.1	"RADIO GUARACHITA" 1kW	"RADIO EXITOS" 1kW		
.3				SAN JUAN "RADIO SAN JUAN" 250W
.5	"RADIO ECO" 1kW			PUERTO PLATA "LA VOZ DE LA LIBERTAD" 10W
.7				LA VEGA "RADIO METRO" 500W
.9				
91.1	"RADIO HIN" 250W			
.3		"RADIO 1530" 250W		
.5				
.7	"RADIO PUEBLO" 500W			
.9				
92.1	"LA SUPER" 250W	ONDAS DEL YAQUE (92.0MHz) 50W		
.3				
.5	"RADIO CENTRAL" 5kW			
.7				LA VEGA "RADIO NOVEDADES" 250W

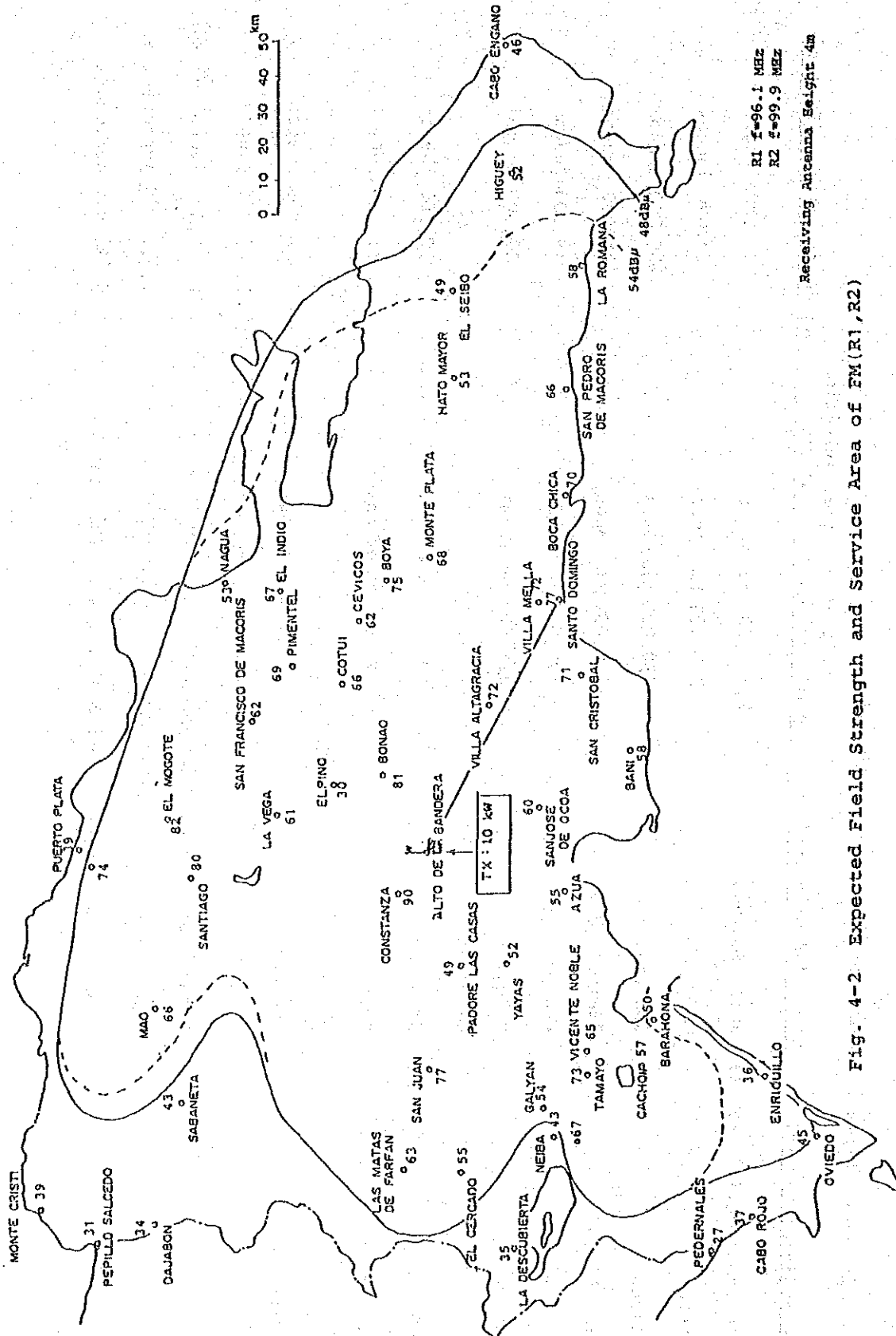
(Continued)				
MHz	SANTO DOMINGO	SANTIAGO	ALTO DE LA BANDERA	OTHER CITIES
92.9	"REVELACION EN AMERICA" 3kW			
93.1				
.3		"EMISORA RADIO-LANDIA" 100W		
.5	"RADIO ALFAOMEGA" 5kW			
.7				
.9				BONAO "RADIO NOVEL" 1kW
94.1	? 5kW			
.3		"RADIO AZUL" 1kW		
.5	"RADIO RADIO" 3kW			SAN FRN, MACORIS "RADIO MERENGUE" 1kW
.7				LA ROMANA "RADIO RUTAS" 1kW
.9				
95.1	"RADIO COMERCIAL" 10kW	"RADIO RITHOS" 250W		
.3				SAN JOSE DE OCOA "RADIO OCOA" 250W
.5				
.7	"RADIO HIJB" 1kW			
.9				
96.1			"RTVD" 3kW → 10kW	
.3				
.5	"RADIO CRISTAL" 250W			
.7				MOCA 1kW
97.1	"RADIO POPULAR" 5kW	"RADIO CIBAO" 250W		MONTE CRISTI "RADIO MONTECRISTI" (97.0MHz) 250W
.3				FUERTO PLATA "LA VOZ DEL ATLANTICO" 250W
.5	"RADIO HIGO" 5kW			LA VEGA "RADIO REAL" 250W

(Continued)				
MHz	SANTO DOMINGO	SANTIAGO	ALTO DE LA BANDERA	OTHER CITIES
97.7				LA ROMANA "RADIO GUIA" 500W
.9				LA VEGA "RADIO SANTA MARIA" 250W
98.1	"RADIO UNIVERSAL" 5kW	"RADIO ALEGRE" 500W		
.3				
.5	"LA VOZ DEL TROPICO" 100W			
.7				JARABACOA "RADIO JARABACOA" 25W
.9				AZUA "RADIO MONTERIO" 3kW
99.1	"RADIO CONTINENTAL" 250W	"RADIO SANTIAGO" 250W		
.3				NAGUA "RADIO BAHIA" 1kW
.5	"RADIO LISTIN" 5kW			
.7				PUERTO PLATA "RADIO PUERTO PLATA" 250W
.9			"RTVD" 250W → 10kW	
100.1				SAN JUAN "RADIO CENTRO" 250W
.3		"RADIO MONUMENTAL" 1kW		
.5	"RADIO CIMBA" 10kW			
.7				LA VEGA "RADIO LA VEGA" 5kW
.9				
101.1	"HIJL-FM" 10kW			
.3				
.5	"LA FUERZA MUSICAL" 2.5kW			COTUI "RADIO HIN" 60W
.7				
.9		"RADIO AMISTAD" 250W		
102.1	"LA "X" 10kW		"LA "X" 10kW	
.3				SAN FRANCISCO DE MACORIS "HIBI RADIO" 3kW

(Continued)				
MHz	SANTO DOMINGO	SANTIAGO	ALTO DA LA BANDERA	OTHER CITIES
102.5				
.7			"LA VOZ CULTURAL" 100W	
.9				
103.1	"RADIO HIT" 10kW			
.3				
.5		"RADIO NORTE" 1kW		SAN PEDRO DE MACORIS "RADIO ORIENTE" 60W
.7	"RADIO DIAMANTE" 250W			
.9				
104.1	"RADIO STO. DOMINGO" 250W	"RADIO QUISQUEYANA" 250W		
.3				
.5	7 5kW			
.7				SAN PEDRO DE MACORIS "RADIO DIAL" 250W
.9				
105.1	"RADIO ABC" 250W			
.3				
.5			"RADIO CLARIN" 1kW	
.7				
.9				
106.1	"RADIO DISCO" 250W			
.3				
.5	"RADIO VISION" 250W			
.7		"RADIO HIT MUSICAL" 250W		
.9				
107.1	"VOZ CULTURAL" 1kW			

Table 4-3 Lista de número de receptores de FM radio.

<u>Zona de aereo servicio</u>	<u>La ciudad principal</u>	<u>Populaciones en aereo servicio de AM radio general actual-</u>	<u>No. de receptor de FM radi</u>
Santo Domingo(Villa Mella)	Santo Domingo	2,732,000 personas	882,000 juegos
La Vega	La Vega	240,000 personas	68,000 juegos
Santiago	Santiago	790,000 personas	260,000 juegos
Puerto Plata	Puerto Plata	140,000 personas	45,000 juegos
Monte Cristi	Monte Cristi	70,000 personas	19,000 juegos
El Seibo	El Seibo	120,000 personas	32,000 juegos
	La Romana		
San Juan	San Juan	205,000 personas	60,000 juegos
Barahona	Barahona	125,000 personas	33,000 juegos
	Enriquillo		
Pedernales	Pedernales	16,000 personas	4,000 juegos
Total:		4,438,000 personas	1,403,000 juegos
		Numero total de receptor de radio FM en 1983 ano :	1,403,000 juegos(87.7%)
		Numero total de receptor de radio AM en 1983 ano:	1,600,000 juegos(100%)
		Populaciones total en Rep. Dominicana en 1981 ano :	5,628,000 personas



R1 f=96.1 MHz
R2 f=99.9 MHz

Receiving Antenna Height 4m

Fig. 4-2 Expected Field Strength and Service Area of FM(R1,R2)

4-1-3 Comparison between MF Plan and FM Plan

MF Plan

- o It is required to build 5 radio stations (Sto. Domingo and other 4 cities).
- o Assignment of MF channel is difficult.
- o Sharing antenna with 2 frequencies is difficult because of weakness and superannuation of the mast.
- o It is inconvenient to operate and maintain the facilities because of the scattered locations.
- o Alternation of output power at night and day in order to avoid interference to abroad is troublesome.
- o Construction cost will be high because of 5 stations to be newly built.
- o Sound quality is rather poorer than FM, and no stereo available.
- o Population coverage is 85 - 86%.

FM Plan

- o Only one station built at Alto de la Bandera can cover the whole territory.
- o Already, RTVD has 99.9 MHz (not yet being used).
- o The transmitting antenna (R-2) can be shared with R-1 transmitter.
- o Only one station at Alto de la Bandera is convenient to operate and maintain it, and is very effective.
- o No need to alter and no trouble with foreign countries in terms of interference.
- o Construction cost is cheaper than MF plan. (about 1/5)
- o Sound quality is excellent with stereophonic sound.
- o The same population coverage as AM Plan.

- o Reassignment of current frequency allocation is needed.
- o Adjacent channel stations have to be moved 400 kHz or more from the R-2 FM (99.9 MHz).

From the above considerations, FM plan is the optimum and feasible plan for R-2 educational broadcasting in the Dominican Republic.

(For Reference)

When 99.9 MHz FM R-2 broadcast is operated, there will be adjacent channel interference occurred with 200 kHz apart from the 99.9 MHz of which stations are Radio Centro (San Juan 100.1 MHz, 250 W) and Radio Puerto Plata (Puerto Plata 99.7 MHz, 250 W).

Generally, when two FM stations broadcast in the same area, the required radio frequency protection ratio between the two is recommended by CCIR Recommendation 412-3 (Table 4-4 and Fig. 4-3). According to this, for the 200 kHz apart FM station, the D/U (Desired to Undesired Ratio) in the field strength of the both stations must be more than 7 dB.

Of course, this value of 7 dB cannot be kept because of the same service area. Therefore, the two FM stations have to be assigned apart from each other in terms of frequency channel. In the Dominican Republic, 400 kHz spacing for two FM stations for the same service area is practically taken.

However, as shown in Table 4-2, FM frequency channel assignment in the country is almost fully occupied, therefore, any channel assignment for the nationwide R-2 broadcasting is not possible without expelling the 200 kHz adjacent stations to at least 400 kHz apart frequency channels.

No trouble in terms of adjacent channel interference would occur by shifting to 100.3 MHz from 100.1 MHz (Radio Centro), to 98.5 MHz from 99.7 MHz (Radio Puerto Plata).

Table 4-4 Radio-frequency Protection Ratio

Frequency spacing (kHz)	Radio-frequency protection ratio (dB)			
	Monophonic		Stereophonic	
	Steady interference	Tropospheric interference	Steady interference	Tropospheric interference
0	3.6	2.8	4.5	3.7
2.5	3.1	2.7	5.1	4.3
5.0	2.4	2.2	5.1	4.3
7.5	1.6	1.6	4.5	3.7
10.0	1.2	1.2	3.3	2.5
15.0	0.8	0.8	1.8	1.4
20.0	0.6	0.6	0.7	0.7
25.0	0.2	0.2	0.2	0.2
30.0	-0.7	-0.7	-0.7	-0.7
35.0	-1.5	-1.5	-1.5	-1.5
40.0	-2.0	-2.0	-2.0	-2.0

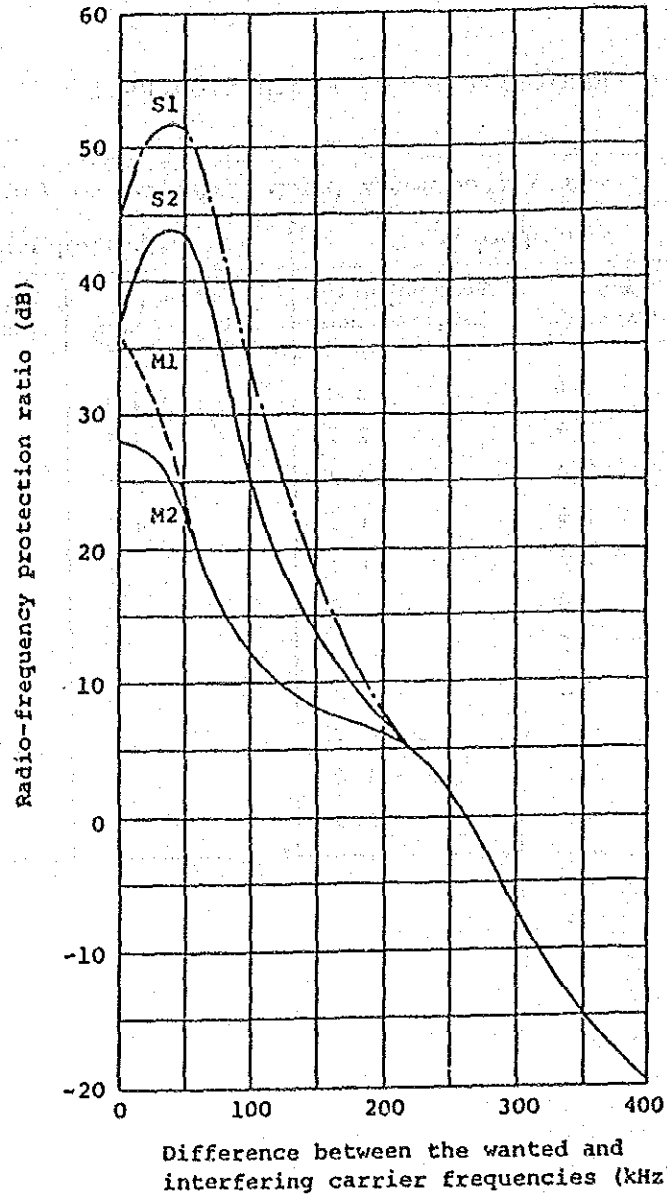


Fig. 4-3 Radio-frequency protection ratio required by broadcasting services in band 8 (VHF) at frequencies between 87.5 MHz and 108 MHz using a maximum frequency deviation of ± 75 kHz

- Curve M1 : monophonic broadcasting; steady interference
- Curve M2 : monophonic broadcasting; tropospheric interference (protection for 99% of the time)
- Curve S1 : stereophonic broadcasting; steady interference
- Curve S2 : stereophonic broadcasting; tropospheric interference (protection for 99% of the time)

(CCIR Rec, 412-3)

4-2 Study of TV Network Plan

4-2-1 Planning of New Educational TV (ETV) Broadcasting Network

Table 4-5 shows present status of TV channel assignment in the Dominican Republic. As known from the Table, there is no available channel for nationwide ETV broadcasting.

However, RTVD has Ch. 4*¹, 5*², 12*³ for the nationwide broadcasting network of the existing TV (GTV). Ch 5 is now being used for the purpose of distribution of GTV from Alto de la Bandera. Therefore, using this Ch. 5, to broadcast ETV programs from Alto de la Bandera is the only possible method.*⁴

Fig. 4-4 shows the plan of ETV broadcasting network which can serve about 4,800,000 people in the whole country and the population coverage is 85.3%.

- *1 Ch 4 is being used in Sto. Domingo and Santiago
- *2 Ch 5 is for the distribution purpose of GTV
- *3 Ch 12 is used for the translators in the rural areas such as La Romana.
- *4 For the present, Alto de la Bandera will be only station for ETV. If it is necessary to add ETV translator station in the future, the station can be installed at the same site with GTV.

4-2-2 Plan of GTV Broadcasting Network in Compliance with the New ETV Network

Because of the usage of Ch. 5 for ETV network, how to distribute GTV programs and how to cover the areas where people who are used to watch GTV by Ch. 5 for the program distribution cannot receive GTV but ETV, are the problems to be solved.

In order to cope with this problem, three plans had to be studied as follows.

(1) Plan I

For the GTV program distribution to the rural translators, micro-wave links and UHF links are used. For covering the

Table 4-5 Channel Allocation for VHF TV Stations (Existing)

CH	2	3	4	5	6	7	8	9	10	11	12	13	UHF
Trans- mitting Site	T.ANT o 30kW		RTVD o 16kW	RTVD, o 5-6kW		RAH o 5kW		COL o 17kW		T.SIS o 5kW		T.IND o 1kW	RTVD. Ch 14 Ch 83
SANTO DOMINGO													
ALTO DE LA BANDERA													
SANTIAGO			RTVD o 250W									T.ANT o 5kW	
EL MOGOTE	COL o 5kW							T.SIS o 6-7kW		RAH o			
LA ROMANA								COL o			RTVD o		
PUERTO PLATA								COL o 10W			RTVD o 100W		
DAJABON											RTVD o 0.25W		
BARAHONA											RTVD o 100W		
LA DESCUBIERTA											RTVD o 0.25W		
ENRIQUILLO											RTVD o 0.25W		
CABO ROJO											RTVD o 100W		
EL CERCADO											RTVD o 5W		
T.ANT: TELEANTILLAS RAH : RAHINTEL COL : COLOR VISION T.SIS : TELE SISTEMA T.IND: TELE INDE RTVD : RADIOTELEVISION DOMINICANA													

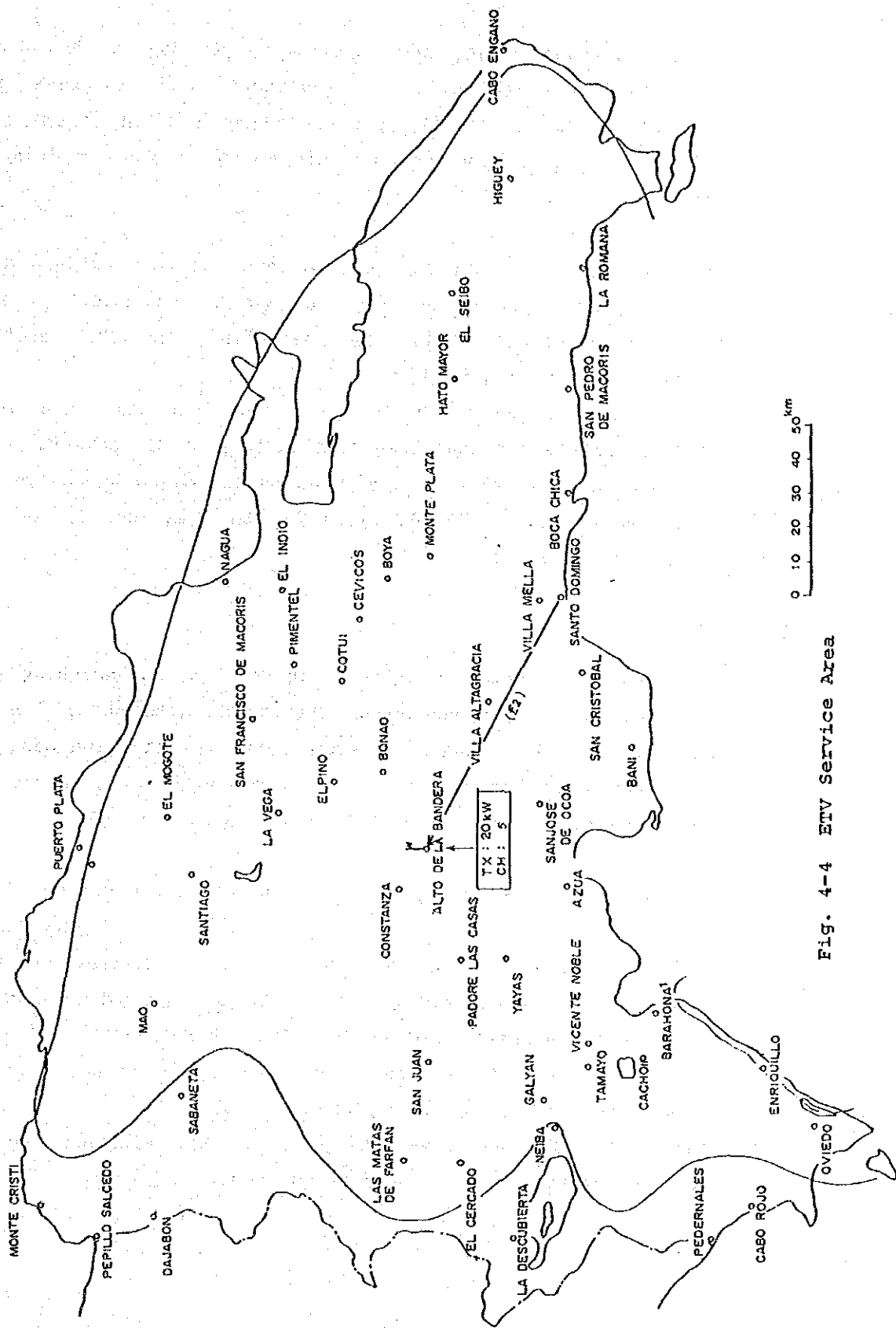


Fig. 4-4 ETV Service Area

areas mentioned above, new stations at El Mogote, San Juan, Azua and Ban# to be built and La Descubierta to increase its power (0.25 W to 100 W), and the other existing translator stations to remain the same as before. This plan is shown in Fig. 4-5.

In this plan, some anticipated problems are that between Azua and Ban#, and also between Barahona and La Descubierta, there might be co-channel beat zones occurring, therefore another channel would be required.

The UHF link between Enriquillo and Cabo Rojo will have to be studied whether one span transmission is possible or not.

According to this plan, the population who can not receive GTV is estimated about 640,000 (11.4 %), in other words, the GTV population coverage is 88.6 %.

(2) Plan II

To cover the areas mentioned above, it is necessary to construct a Ch. 3 broadcasting station at Alto de la Bandera which uses a directional radiation pattern toward the west and south areas, and to set up a new relay station at El Mogote to cover the north. The Plan II is shown in Fig. 4-6.

However, in this plan, the allocation of new Ch. 3 is inevitable the adjacent interference with Ch. 2 and Ch. 4 (RTVD) in Sto. Domingo and Ch. 2 at El Mogote station. Furthermore, another antenna for GTV is required because of its directional pattern which is different from ETV's.

Also, for the north and east translators, it is necessary to provide SHF or UHF links as plan I.

Thus, Plan II has many demerits, so that further considerations about Plan II should be omitted.

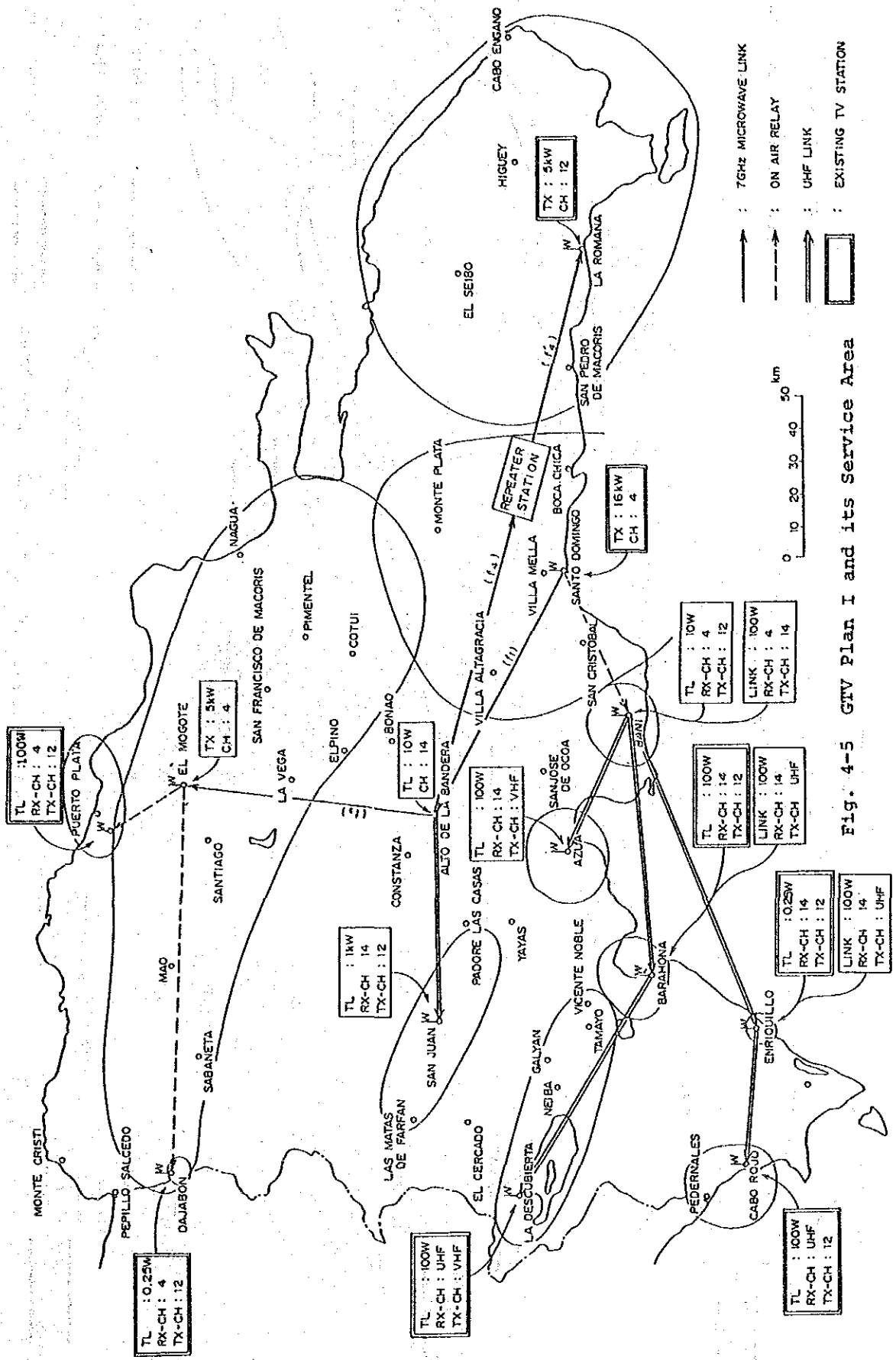


Fig. 4-5 GIV Plan I and its Service Area

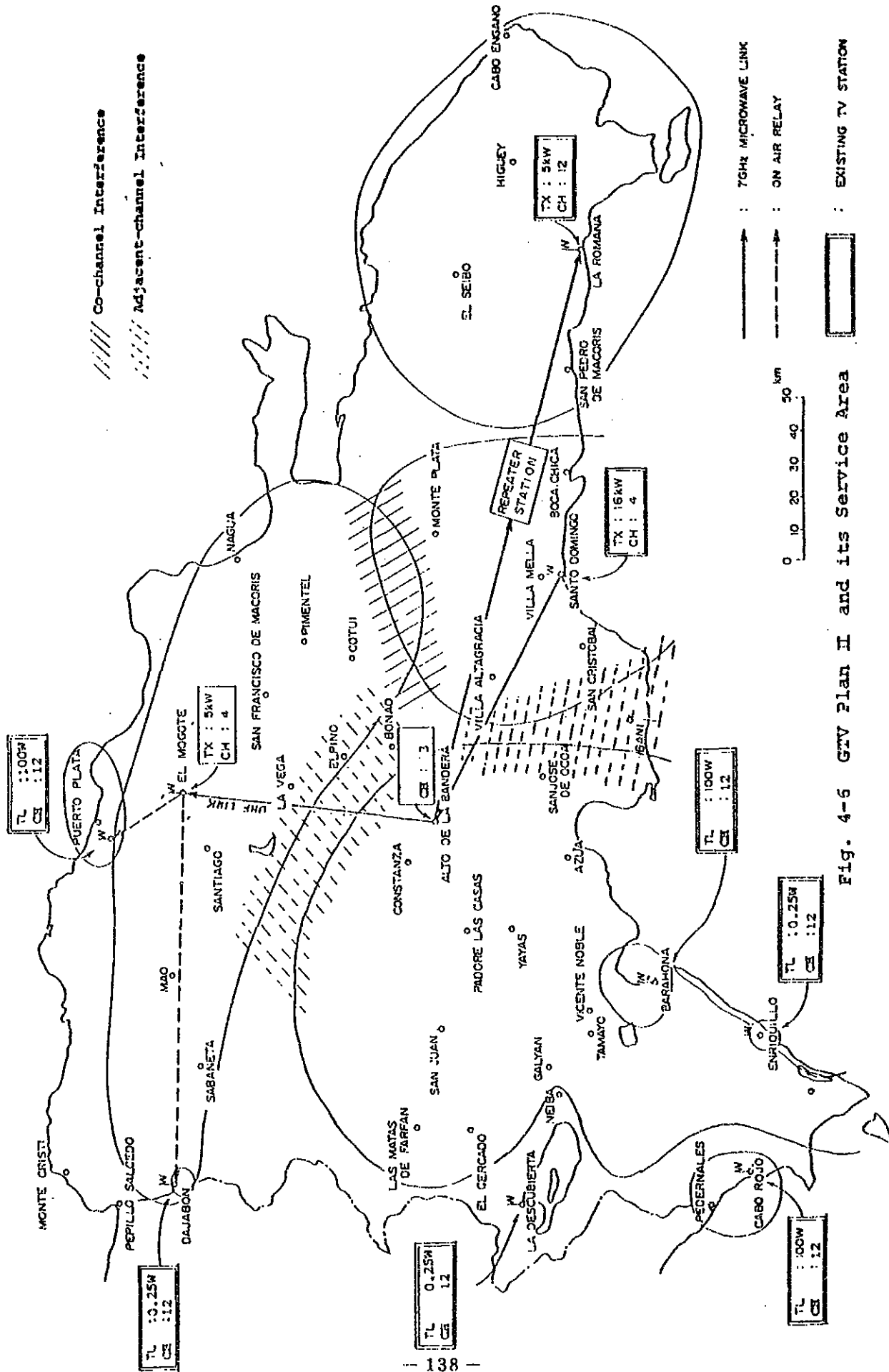


Fig. 4-6 GRV Plan I and its Service Area

(3) Plan III

Transmitting GTV programs nationwide using Ch. 4 from Alto de la Bandera as well as ETV with 20 kW transmitter and the existing GTV rural translators remaining as before is the Plan III which is shown in Fig. 4-7.

- 1) Plan III can cover almost whole territory of the country using already assigned Ch. 4, 5, 12, for both GTV and ETV. And at the same time, by the strong radiation power from Alto de la Bandera station, while maintaining enough field strength (estimated 70 - 85 dB) in Sto. Domingo, it can increase greatly the receiving field strength in the whole rural areas much more than before.
With 20 kW transmitter output and the antenna, having 1 face of the tower attached by 12 stages of 2-dipole antenna and 6 stages for the rest 3 faces, so that in the direction of maximum radiation, it can increase the receiving field strength by about 16 dB up in comparison with the present.
- 2) Installation of both GTV and ETV transmitters and, in addition, R-1 and R-2 FM transmitters at the same site (Alto de la Bandera) can much contribute to the decrease of the construction and the maintenance costs.
- 3) As a matter of problem, in the middle section of Sto. Domingo, approximately 28% of the TV receivers may be forced to install out-door TV antenna which is fairly simple with 3 elements or so. But, the cost is relatively cheap so that there would be no serious problem. Although the field strength of RTVD is strong enough inside Sto. Domingo, some differences in field strength between RTVD and a private TV station may exist somewhere in the vicinity of the private station. However, no problem will occur practically.

4) The expected field strength of GTV and ETV transmitted with above mentioned condition from Alto de la Bandera, putting the basis on the field data of the survey, is shown in Fig. 4-8. In this plan, it can serve about 4,950,000 people including those in 8 translators' service areas, and the total population coverage is 88%. The service area is shown in Fig. 4-9.

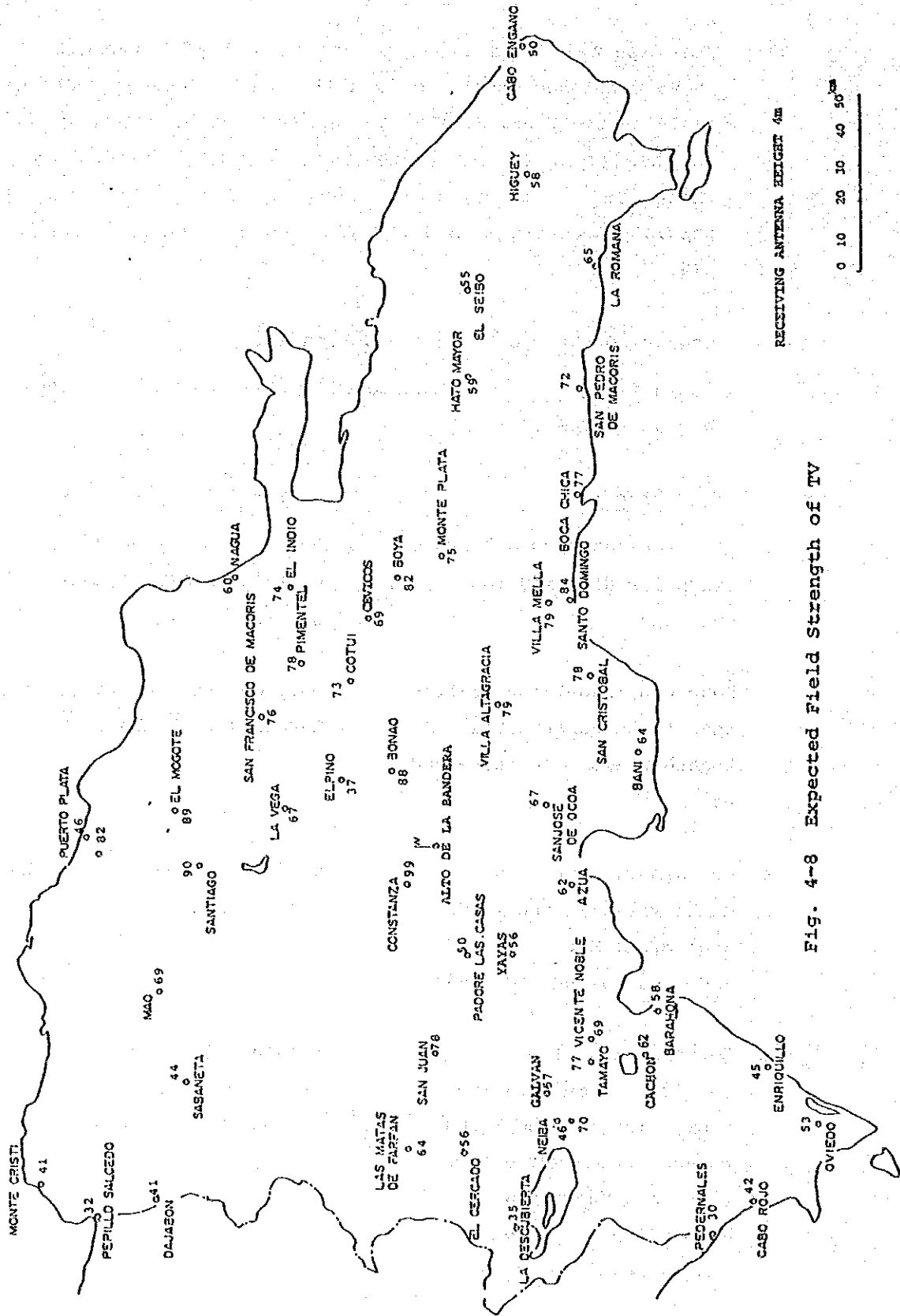
(4) Comparison between Plan I and Plan III

Summarizing the items mentioned in (1) - (3), the comparisons are as follows.

Plan I

Plan III

- | | |
|---|--|
| <ul style="list-style-type: none"> o The plan requires SHF and UHF links for distribution of GTV programs. o Four new translator stations have to be constructed together with one increased power. o Co-channel beat trouble might yield in the middle zone of El Mogote (Ch. 4) and Sto. Domingo (Ch. 4) o Co-channel beat of Ch. 12 between Azua and Baní, also, Barahona and Descubierta might occur. Then, another channel allocation has to be considered. o Receiving condition in Sto. Domingo is not changed. | <ul style="list-style-type: none"> o On-air-program relay can distribute GTV without any specific links. o Only one station (Alto de la Bandera) to be built. o No interference no co-channel beat caused. o Already allocated Ch. 4, 5, 12 can be used and there would be no interference problem. o About 28% of receivers in Sto. Domingo have to install outdoor antenna. |
|---|--|



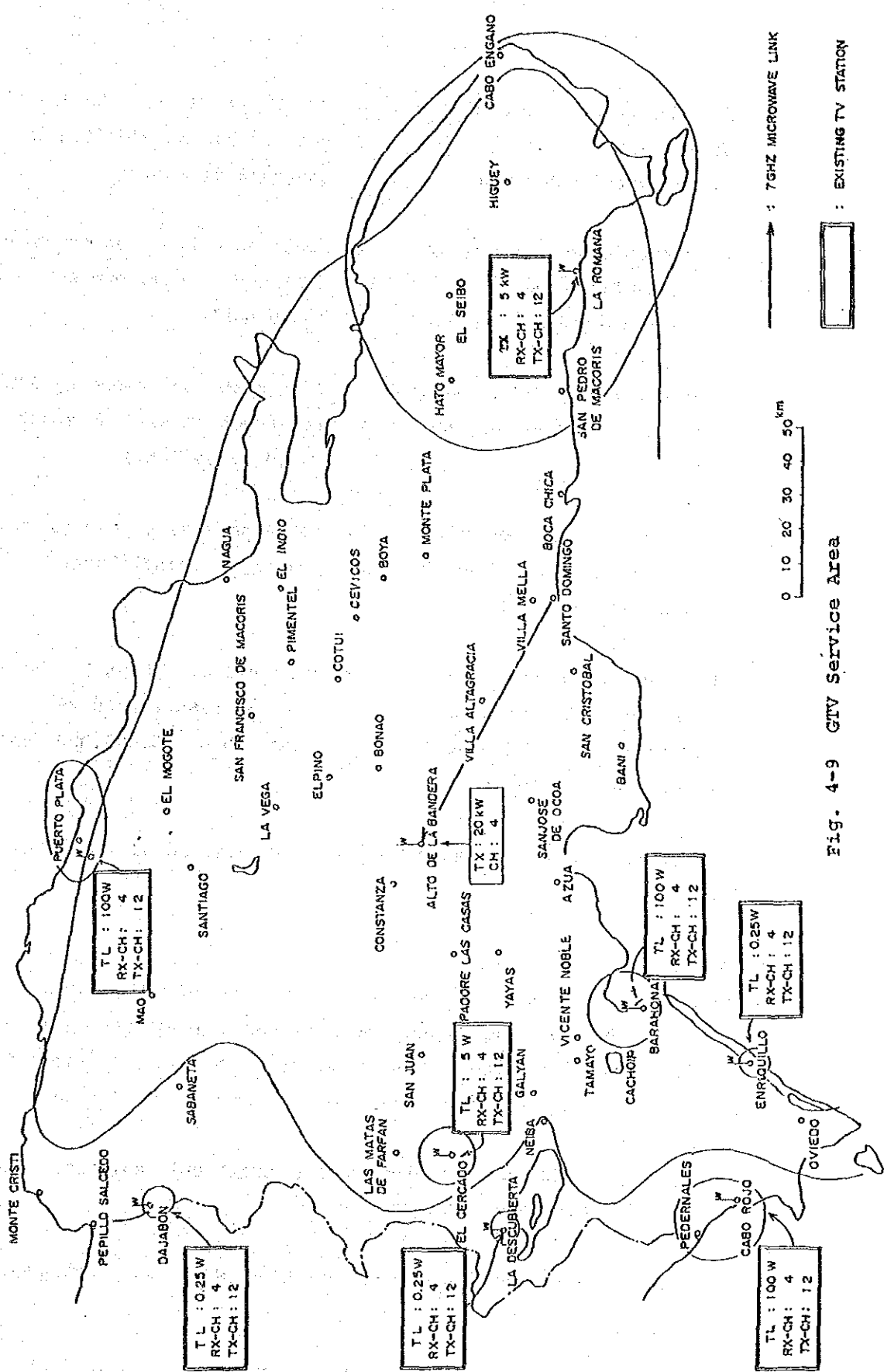


Fig. 4-9 GTV Service Area

- o For the viewers, directions of GTV and ETV antennas differ with each other.
- o Construction cost is large because of the new construction of the 4 stations and 1 modified.
(Corresponding GTV, the cost will be about 700,000,000 Yen.)
- o Maintenance and operation cost will be expensive due to many translators.
- o The cost of Dominican side civil work will be also expensive (for GTV cost about 220,000,000 Yen).
- o For the viewers, both GTV and ETV can be received in the same direction.
- o Small amount of construction cost due to only one station to be built.
(The cost corresponding GTV construction will be about 250,000,000 Yen.)
- o Not expensive because of small number of translators.
- o Compared with Plan I, the cost will be less expensive (cost about 60,000,000 Yen).

Considering above reasons, Plan III is considered as an optimum plan.

Reference:

Besides above mentioned methods, the use of UHF channels was studied. However, the output power of UHF transmitter will require at least 100 kW and the antenna gain must be raised several dB more and, in addition, there are very few UHF receivers diffused in the rural areas.

Consequently, UHF method was not a practical solution and was omitted from our consideration.

4-2-3 Consideration on Interference Problem with Foreign Countries

(1) Interference with Haiti

Because of higher mountains in the west area of Alto de la Bandera, by which the radiation toward Haiti will be

interrupted. TV channels now being used in Haiti are Ch. 8 and Ch. 10, therefore, there will be no problem arisen. It can be said also that there would be no trouble for Ch. 4 and 5 of Alto de la Bandera from Haiti's radiation.

(2) Interference with Puerto Rico

For the east from Alto de la Bandera, there are very few obstacles to interrupt the radiation, so that the propagation of Ch. 4 and Ch. 5 are in good condition. The signals might reach via over sea propagation to Puerto Rico about 370 km far east. The signals would be received as over-horizontal propagation and the field strength is calculated as follows.

$$E \doteq \frac{56 \times 2^{1/4} \times (R \times a)^{5/4} \times W^{1/2} \times (h_1 \times h_2)^{9/8}}{\lambda^{1/2} \times d^4}$$

W: Effective radiated power	.....	400 kW
d: Distance between transmitting point and receiving point	.....	370 km
λ : Wave length	.....	3.8 m
h_1 : Height of transmitting point	.....	2,900 m
h_2 : Height of receiving point	.....	10 m
a: Radius of the Earth	.....	6,370 km
R: Effective radius factor	.....	4/3

The result of the calculation is $E \doteq 35$ dB.

Therefore, for the area where the receiving field strength of Puerto Rico station (Ch. 5) be assumed 54 dB,

$$D/U = 54 \text{ dB} - 35 \text{ dB} = 19 \text{ dB.}$$

Furthermore, by taking into account the OFFSET CARRIER method adopted between Alto de la Bandera and the station in Puerto Rico (both in Ch. 5) and the directivity of a receiving antenna, no occurrence of the trouble is expected.

CHAPTER 5. TRANSMITTER SITE AND FACILITIES PLANNING

5-1 Building and Tower at Alto de la Bandera

5-1-1 Site

For the new transmitting facilities and the antennas, utilization of existing building of RTVD at Alto de la Bandera is not possible because of lack of space. Also, the existing tower cannot be utilized for installing of new antennas due to the weakness of the frame and its superannuated conditions.

Therefore, the construction of a new building and a tower are necessary, and it is possible to acquire the site in the military zone on the top of the mountain without any disturbance to the military communication facilities and others. Besides there will be no difficulty in construction. Fig. 5-1 shows the site location.

To locate the building directly beneath the tower, in other words, within the space where the legs of tower stand, is very effective in order to minimize the required site space as well as to avoid lightning attack, and also has the merit of being able to rise up the feeder directly from the transmitting house.

5-1-2 Building

Taking into account that the building shall be located under the tower and its shape is rectangular, it is possible to contain the GTV, ETV transmitters and R-1, R-2 FM transmitters together with other accompanied equipment within the 14.5 m x 14.5 m building with a underground room utilizing the slanting land. Fig. 5-2 shows a plan of the building layout.

For the cooling system of transmitters, it is better to adopt the individual forced-air-cooling system.

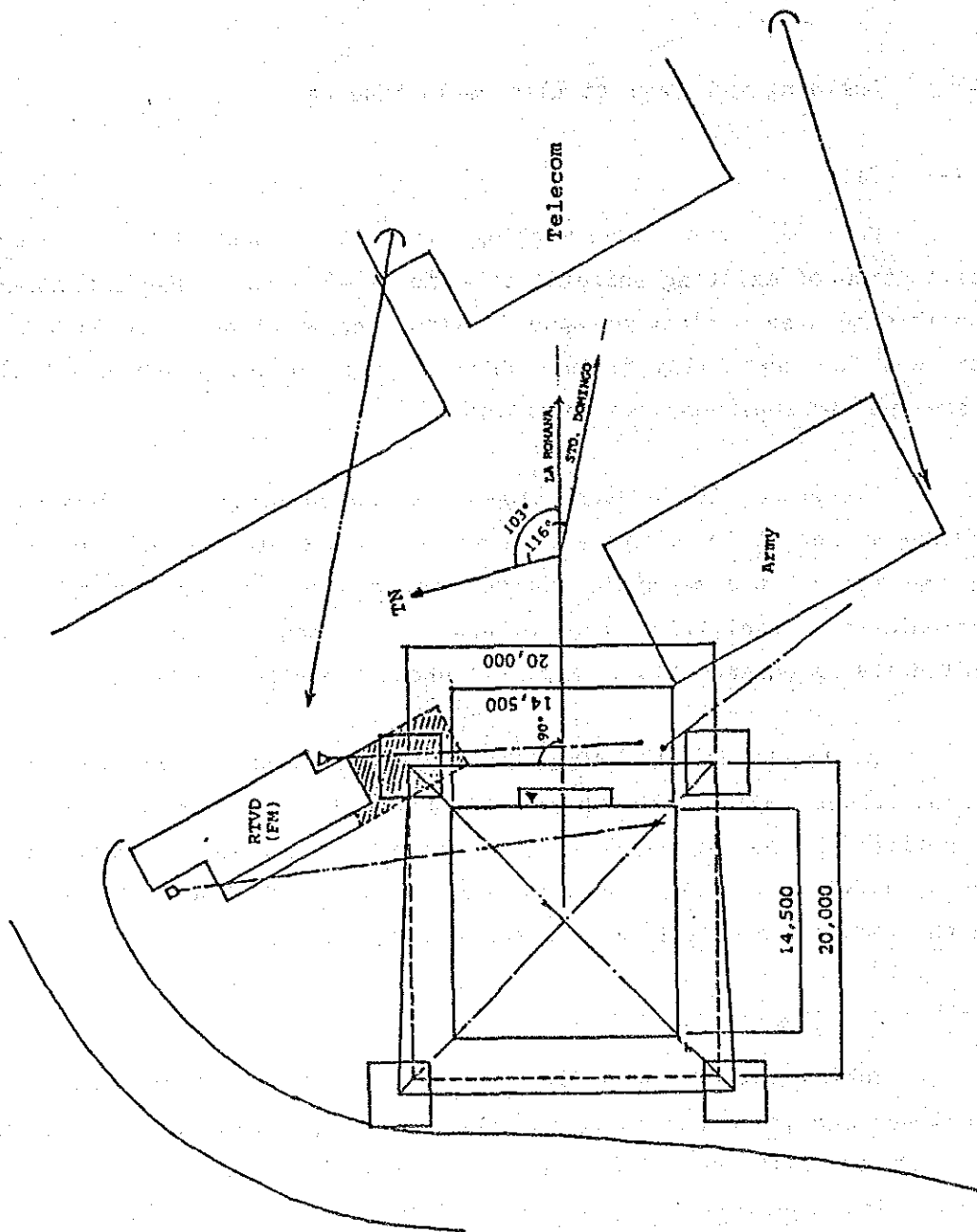
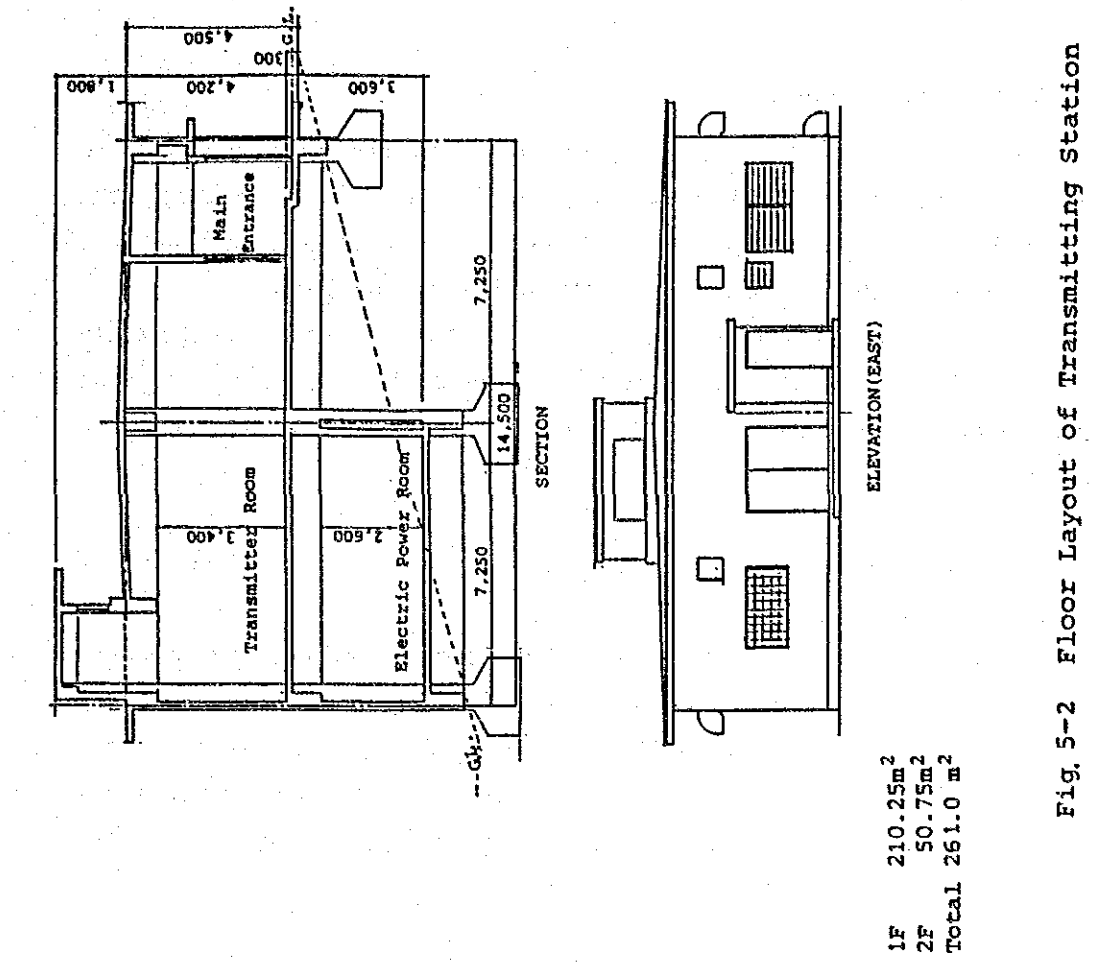


Fig. 5-1 Site Plan (ALTO DE LA BANDERA)



1F 210.25m²
 2F 50.75m²
 Total 261.0 m²

Fig. 5-2 Floor Layout of Transmitting Station
 (ALTO DE LA BANDERA)

5-1-3 Tower and Antennas

Fig. 5-3 shows the tower structure. In order to avoid radio propagation disturbance to the military and other communications, the tower shall be of self-standing structure without guy-wires, and the required tower height shall be 120 m above the ground level.

The lengths between each leg of the tower are normally 20 x 20 m in the shape of rectangular. As shown in Fig. 5-1, one side of the tower shall face in the direction of Sto. Domingo and La Romana.

From the top to bottom, various antennas are attached to the tower as follows.

Omni-directional antenna for VHF communication, FM antenna composed of 2-dipole panels shared by R-1 and R-2, TV antenna composed of 2-dipole panels shared by GTV and ETV, and on a platform in the middle of the tower, a parabolic antenna for TV OB program relay and a receiving antenna (450 MHz band) for sound program relay and, below that, parabolic antennas of SHF STLs are attached.

2-dipole panels comprising GTV and ETV antenna are set up with 12 stages on a tower face toward La Romana and Sto. Domingo direction and 6 stages each on the rest of the three faces, in order to have directional radiation characteristics.

FM antenna is composed of 6-stage 2-face and 3-stage 2-face. The radiation patterns of FM and TV are shown in Fig. 5-4 and Fig. 5-5 respectively.

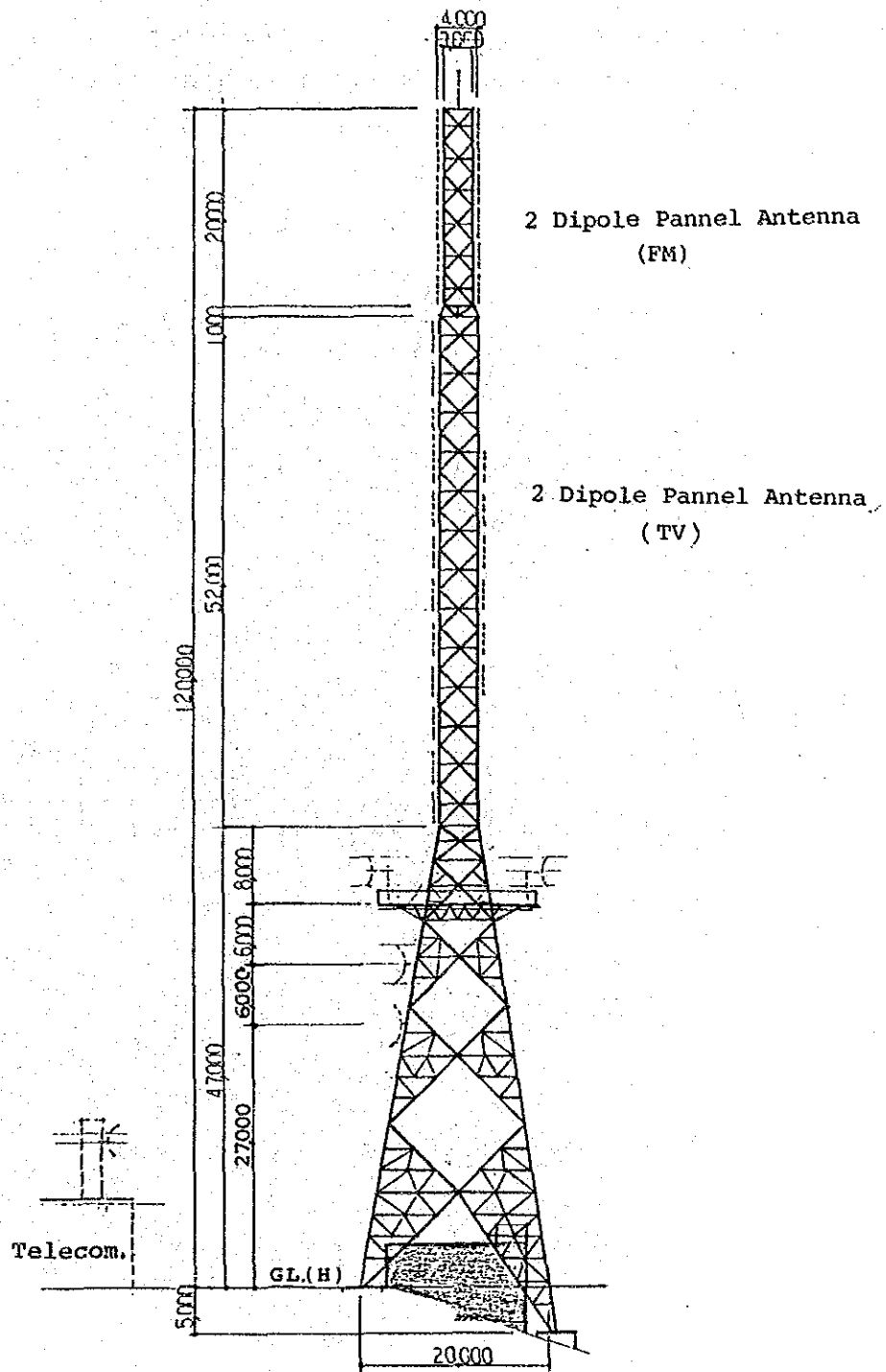
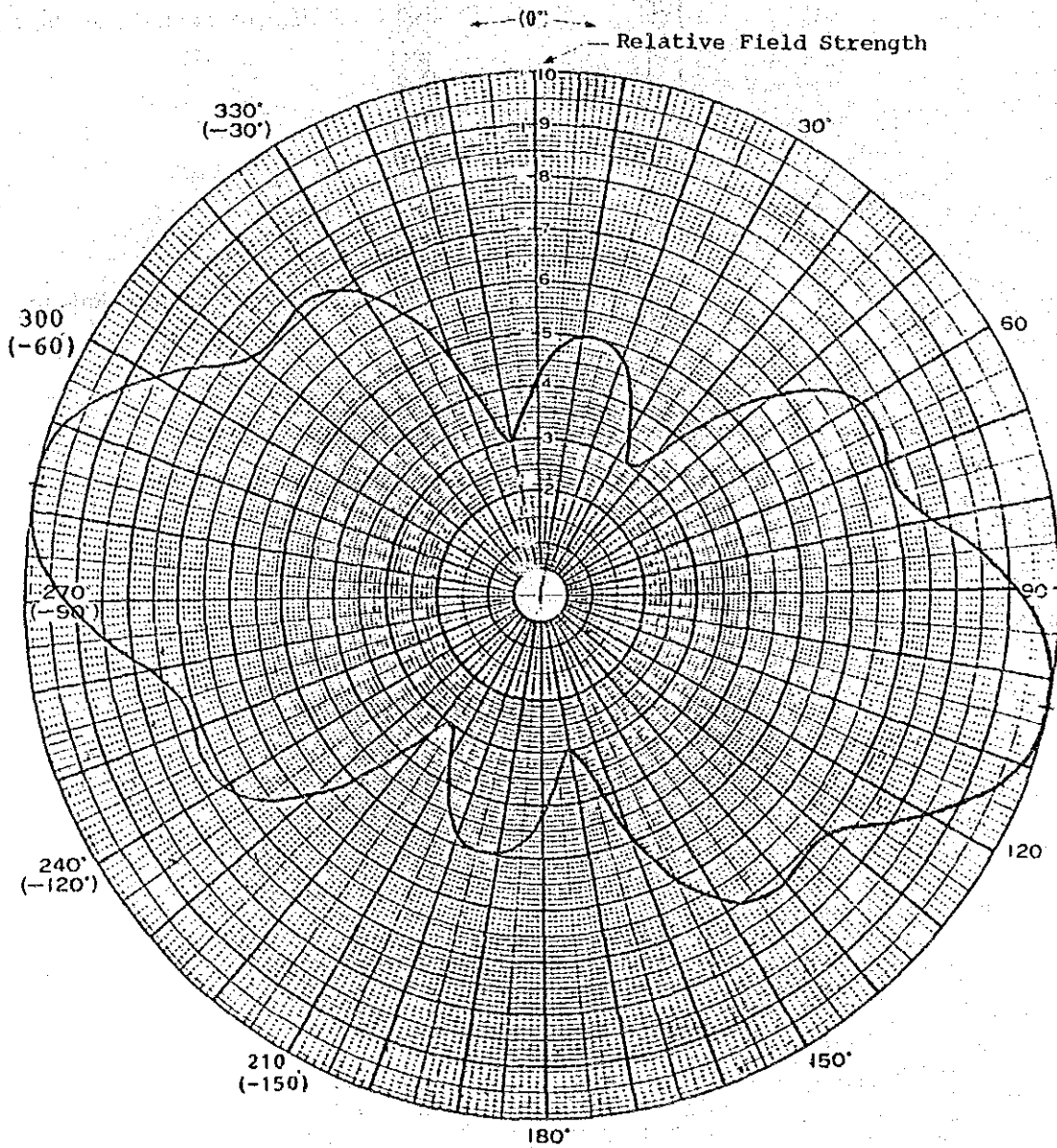
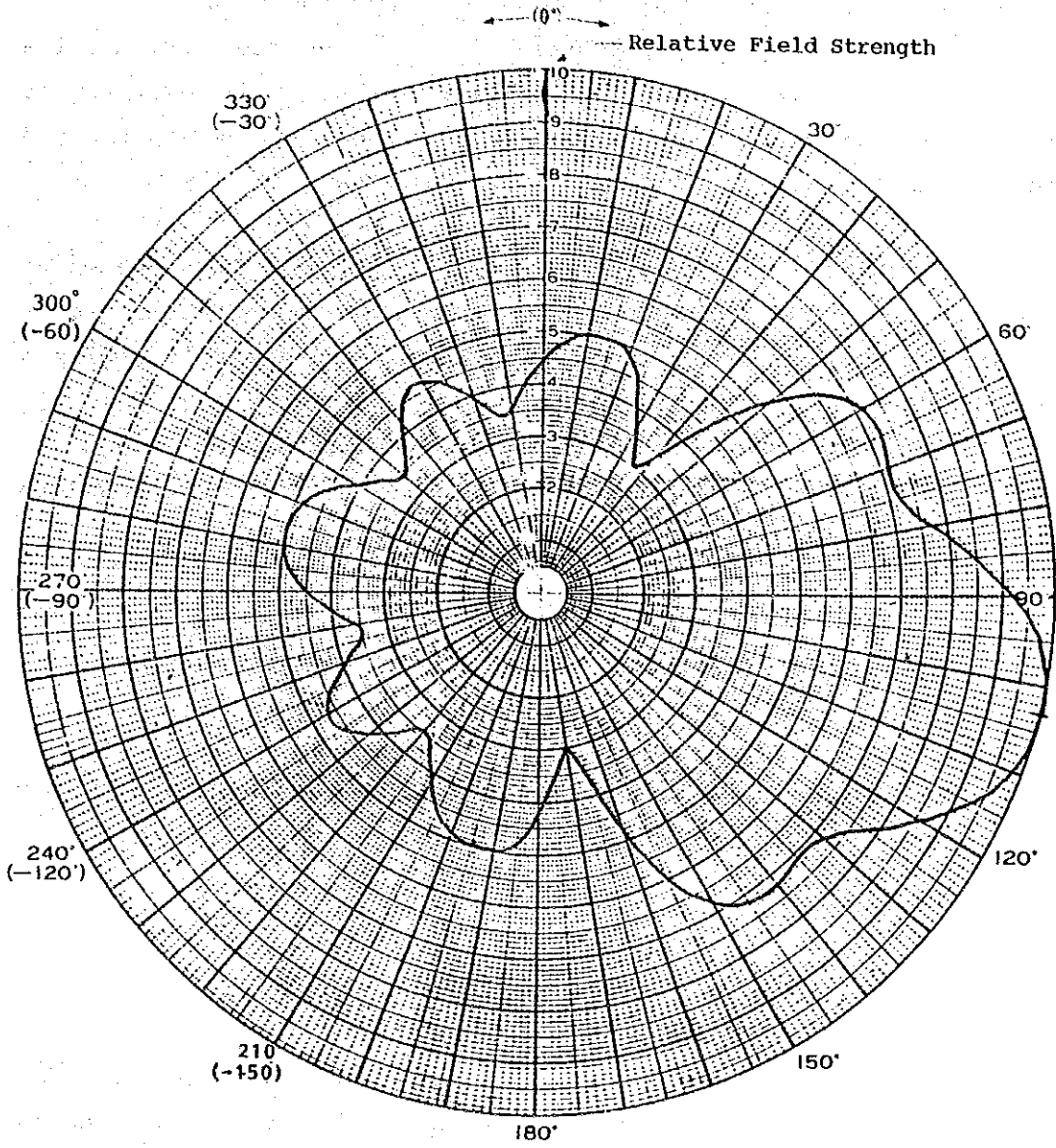


Fig. 5-3 Transmitting Antenna and Tower
(ALTO DE LA BANDERA)

Fig. 5-4 Horizontal Pattern of Transmitting Antenna
 ALTO DE LA BANDERA Station R1 R2 (FM)



<p>Fig. 5-5 Horizontal Pattern of Transmitting Antenna ALTO DE LA BANDERA Station GTV ETV</p>	



5-1-4 Construction of the Building and the Tower

For the construction of the building and the tower, the access road to the area assures that there will be no problem for the transportation of the construction materials by overland traffic.

And also, it is about one hour distance from the town of Constanza where is convenient as the base of transportation.

With regard to the site which is on a inclined land, and the basement of the tower to be adjacent to the road, it is necessary to make a precise measurement of the site in terms of horizontal and vertical aspects together with geological test including its strength.

As for the transmitter building, it will be about 260 m² of the space. In compliance with the new tower's construction, it is required to remove a part of the existing building and to modify a part of guy wiring of the existing mast.

However, as the frames of the tower will be made abroad, the build-up of the tower requires to be carried out under the direction of accompanying skillful supervisor.

5-2 Transmitting Facilities on the Top of Alto de la Bandera

(1) FM transmitters for R-1 and R-2

The transmitting antenna is used in common to R-1 and R-2, and Fig. 5-6 shows the block diagram.

R-2	on-line	10 kW	1
	standby	1 kW	1
R-1	on-line* ¹	10 kW	1
	standby	1 kW (using existing one)	

*¹ The existing R-1 FM transmitter is being used for the daily operation, so that it cannot be utilized for the new purpose, therefore, new one has to be installed in advance.

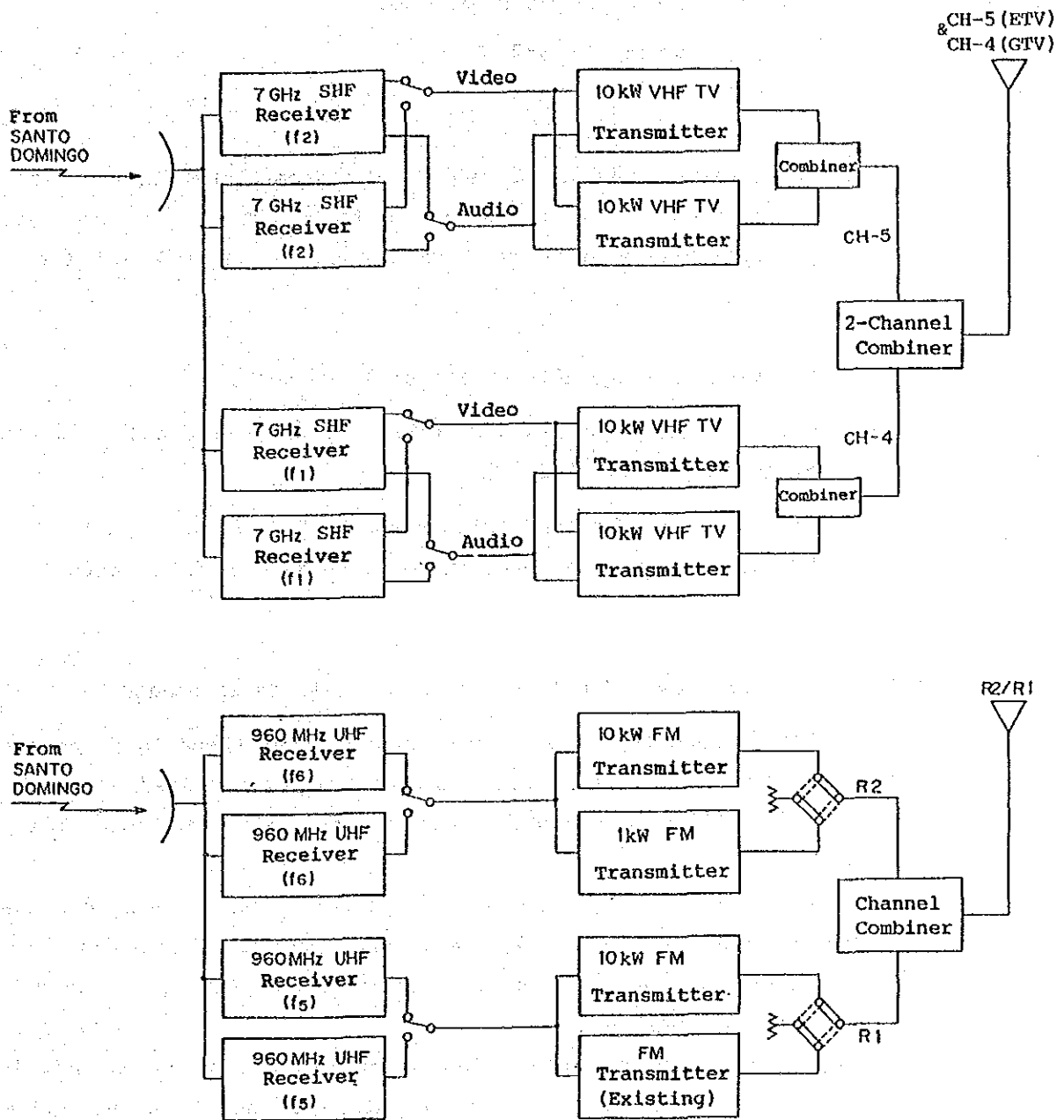


Fig. 5-6 Block Diagram of ALTO DE LA BANDERA Station

(2) TV Transmitters for ETV and GTV

Fig. 5-6 shows the block diagram.

ETV	20 kW	1*2
GTV	20 kW	1*2

*2 parallel running of two 10 kW transmitters; in the case of emergency, the faulty one is to be cut off and the system reliability will be high enough. ETV and GTV are the same.

(3) STL (Sto. Domingo RTVD - Alto de la Bandera)

Fig. 5-6 and Fig. 5-7 show R-1, R-2, GTV, ETV, and STL block diagram respectively.

Radio ....960 MHz band (with standby) R-1, R-2:	each 1
TV .....micro-wave band (with standby) GTV, ETV:	each 1

5-3 Electric Power Supply Equipment at Alto de la Bandera

With regard to the electric power source, there is a generator building adjacent to the military zone which is now feeding electric power to the RTVD transmitters and to the military communication facilities.

At present, one generator is used daily and alternated between two others (110 kVA x 2, 95 kVA x 1), those two generators serve also as emergency back-up units. The present state, in terms of reliability, is fairly good.

For the electric power demand of newly constructed building and the transmitters inside, it is required to supply about 250 kVA for the purpose, and as the result of inquiry of RTVD to the Electric Power Supply Corporation, it has been reported possible to meet the demand.

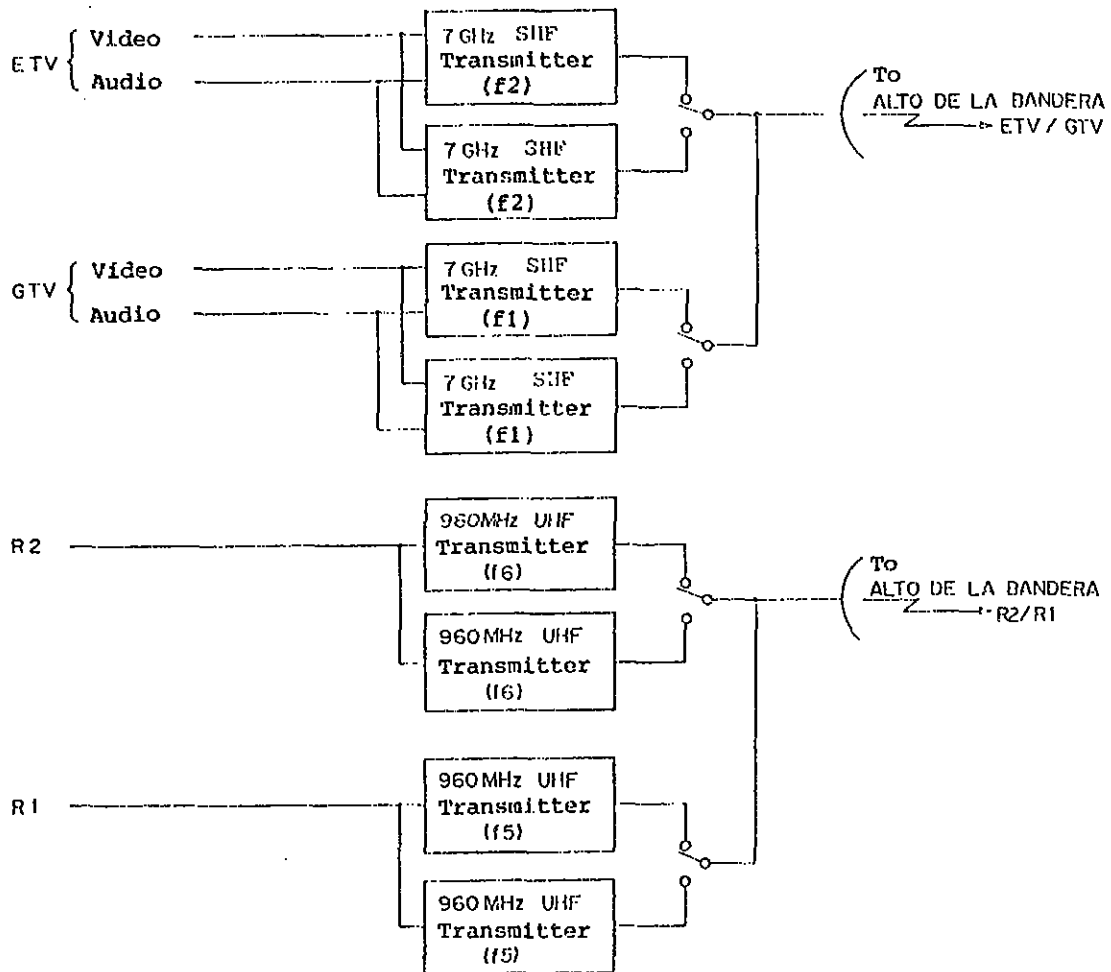


Fig. 5-7 Block Diagram of STO. DOMINGO Station

5-4 Modification of the Rural Translators of GTV.

Since Ch. 5 which is now being used for the distribution of GTV programs from Alto de la Bandera to the rural GTV translators, will be changed to Ch. 4, the receiving channel of each translator has to be altered in compliance with the change.

The stations which are to be modified are as follows: La Romana, Puerto Plata, Dajabón, La Descubierta, Barahona, Cabo Rojo, Enriquillo and El Cercado.

The block diagrams are shown in Fig. 5-8, Fig. 5-9, Fig. 5-10, and Fig. 5-11 respectively, and the outline of transmitting facilities is shown in Table 5-1.

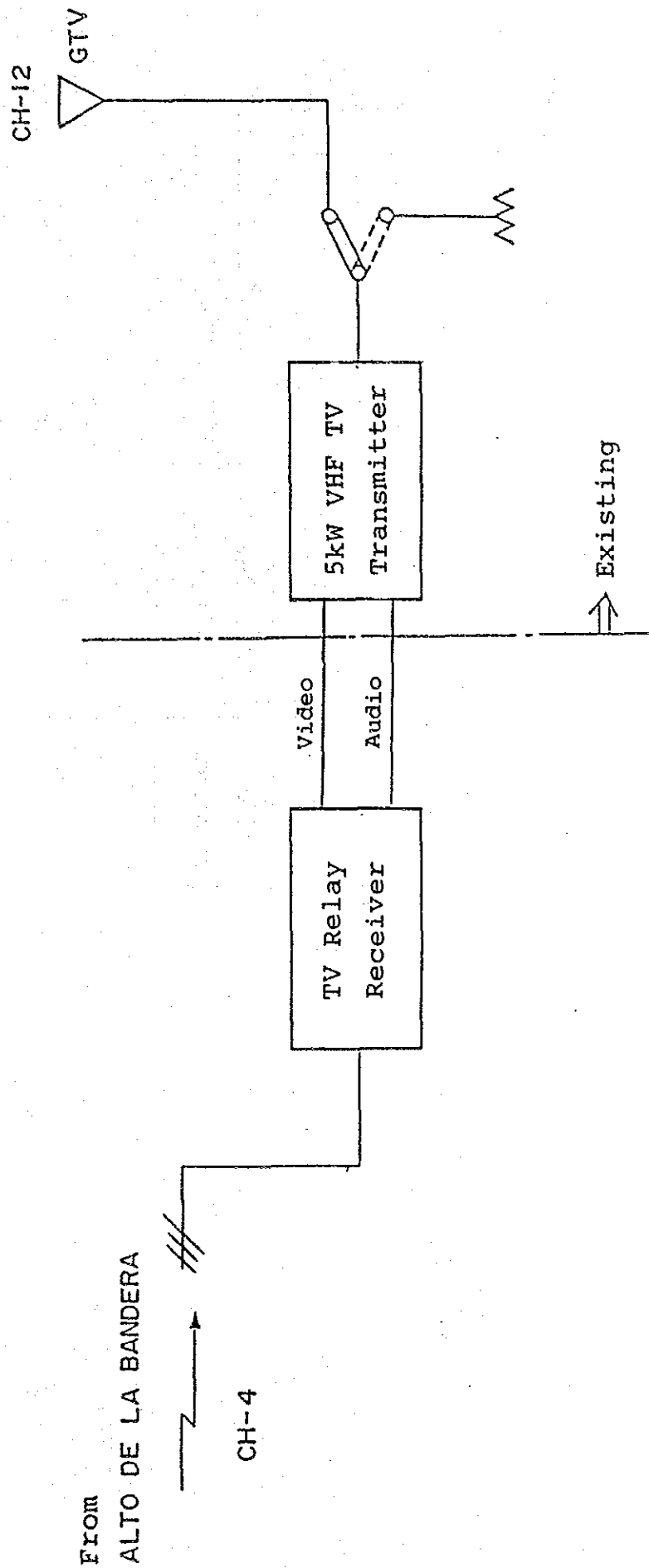


Fig. 5-8 Block Diagram of LA ROMANA Station

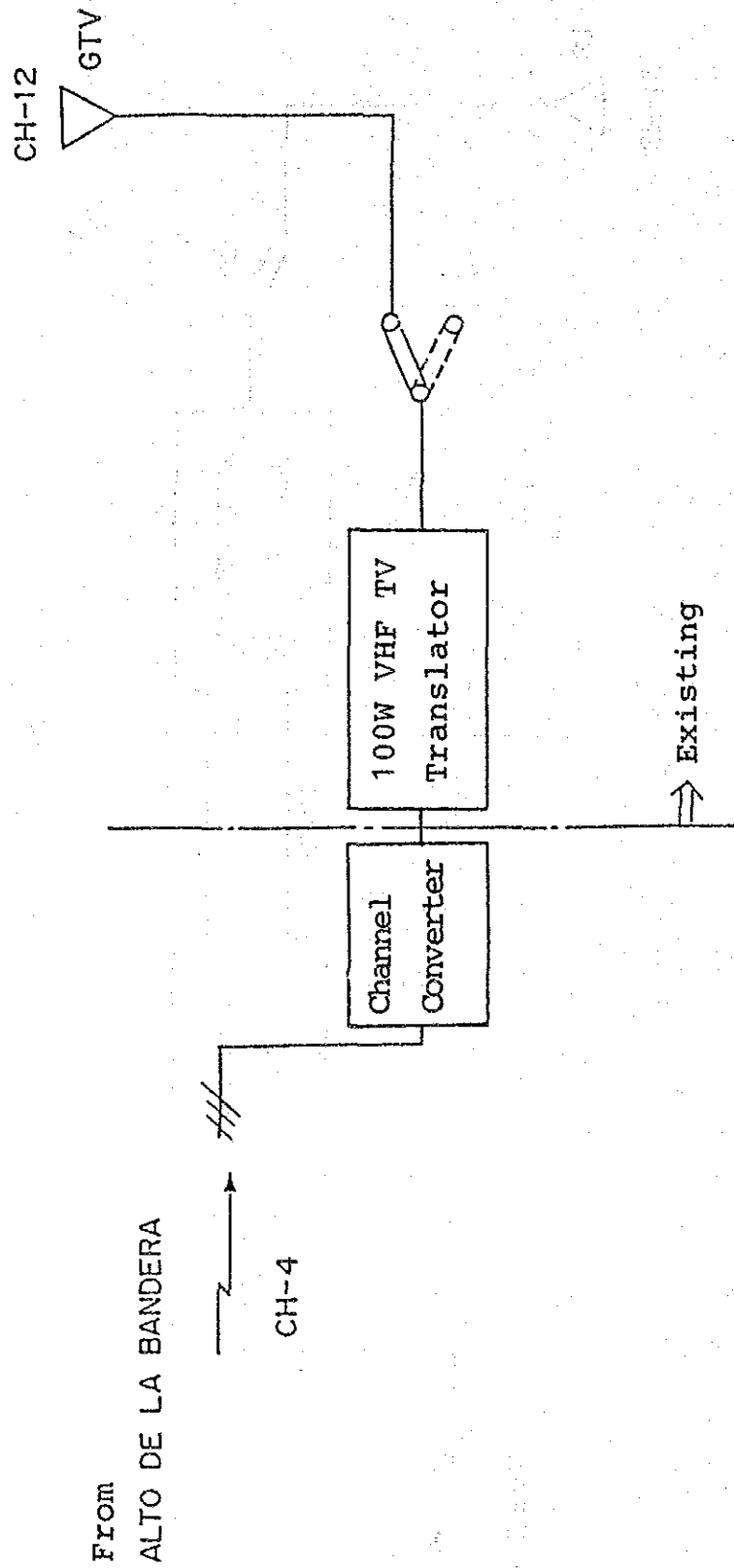


Fig. 5-9 Block Diagram of PUERTO PLATA/CABO ROJO/BARAHONA Station

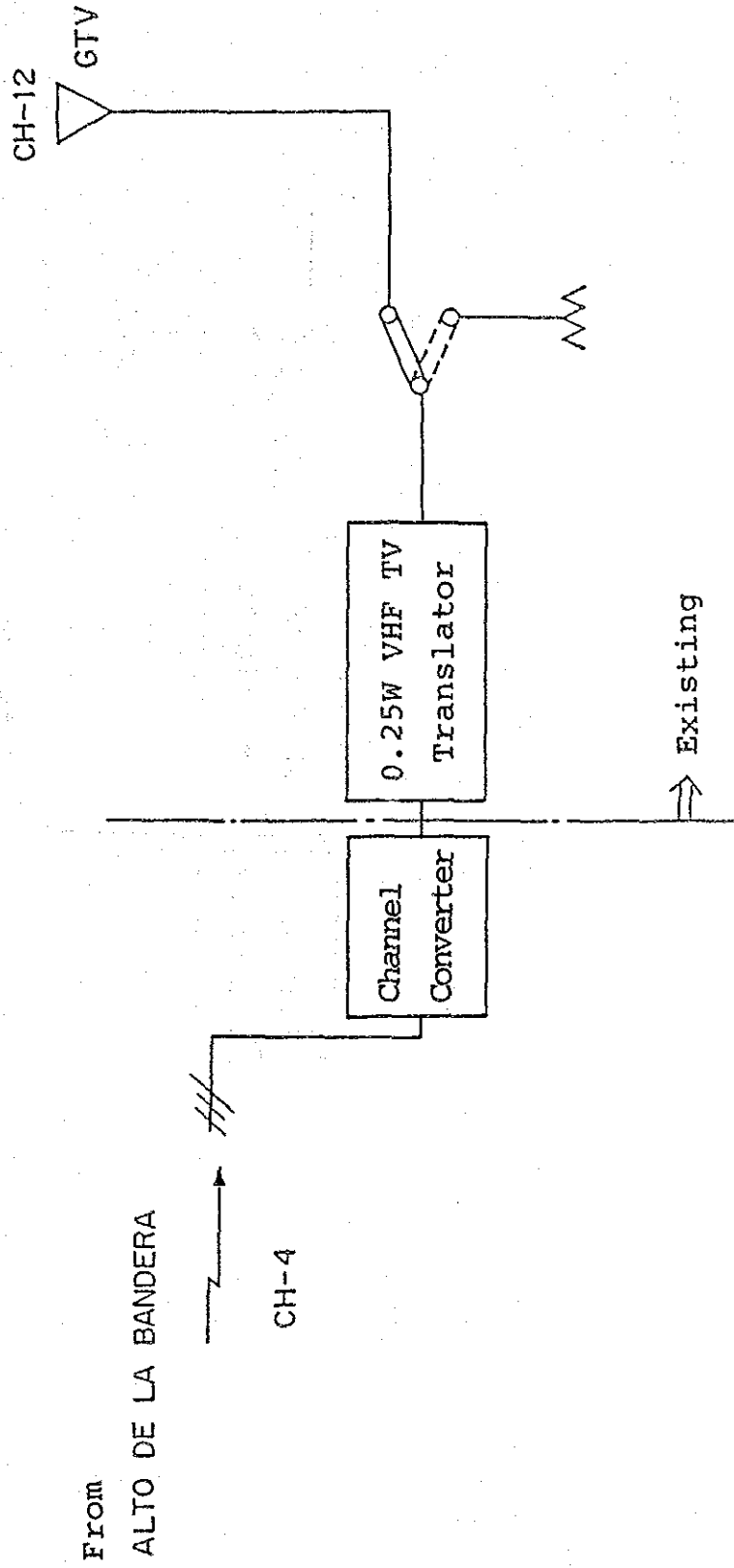


Fig. 5-10 Block Diagram of DAJABON/LA DESCUBIERTA/ENRIQUILLO Station

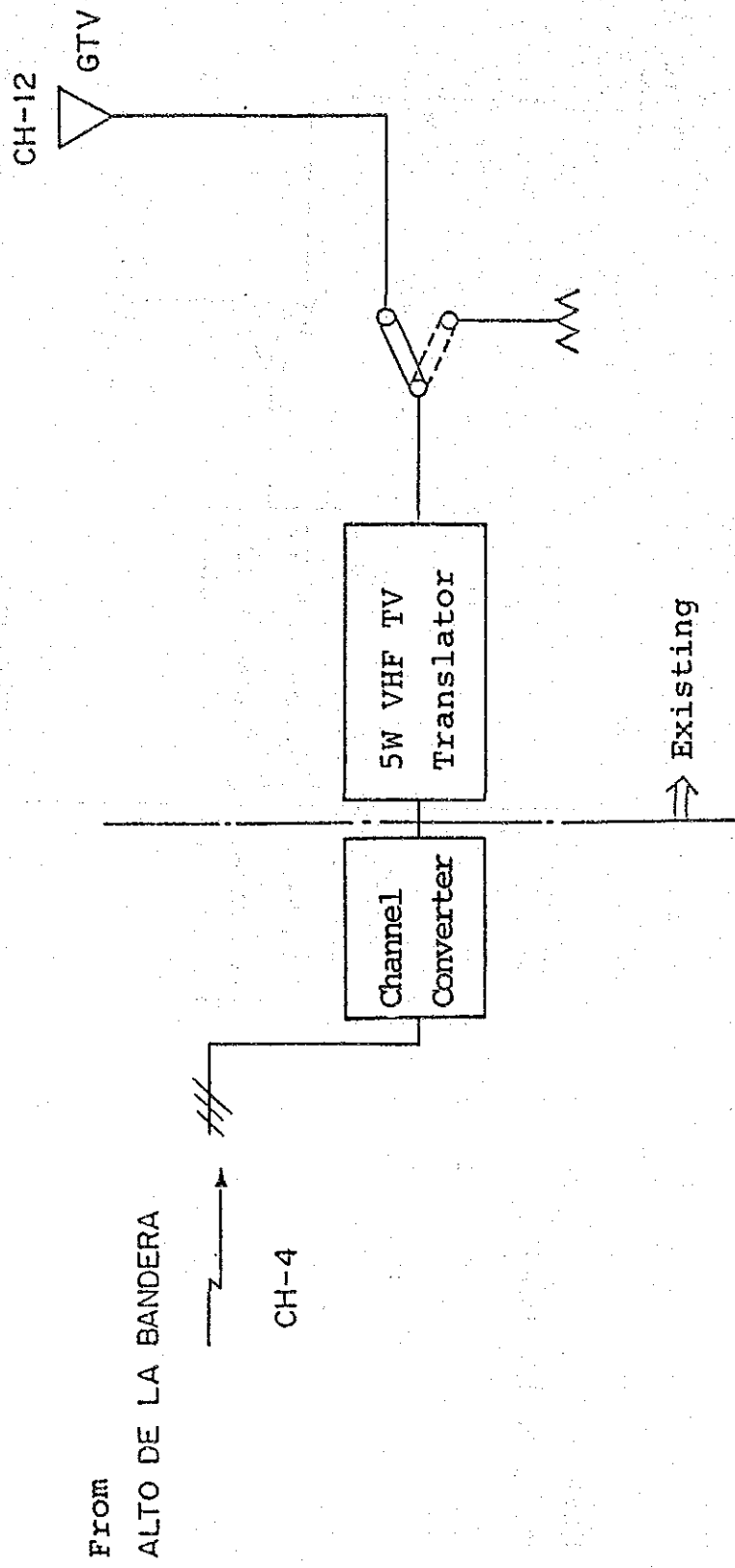


Fig. 5-11 Block Diagram of EL CERCADO Station

Table 5-1 Outline of Transmitting Facilities

Facility Items	Quantity	Note
10kW VHF-FM Transmitter System	2 lots	1 lot each for R-2 & R-1
Output Equipment	2 lots	1 lot each for R-2 & R-1
Input Equipment	2 lots	1 lot each for R-2 & R-1
Associated Equipment	2 lots	1 lot each for R-2 & R-1
1kW VHF-FM Transmitter System	1 lot	Standby for R-2
Channel Combiner	1 lot	Combining R-2 & R-1
20kW VHF TV Transmitter System	2 lots	For ETV and GTV Systems. Each system is composed of two sets of 10kW transmitter connected in parallel.
Output Equipment	2 lots	1 lot each for ETV and GTV
Input Equipment	2 lots	1 lot each for ETV and GTV
Associated Equipment	2 lots	1 lot each for ETV and GTV
Channel Combiner	1 lot	Combining ETV and GTV
STL System for FM Radio	2 lots	For R-2 and R-1 systems (960MHz bands). Each system is composed of a transmitter-receiver pair including each standby equipment.
STL System for TV	2 lots	For ETV and GTV systems (SHF bands). Each system is composed of a transmitter-receiver pair including each standby equipment.
Transmitting Antenna for FM Radio	1 lot	18 panels of 2D-Antenna; Combining R-2 and R-1
Transmitting Feeder System	1 lot	
Transmitting Antenna for TV	1 lot	30 panels of 2D-Antenna; Combining ETV and GTV
Transmitting Feeder System	1 lot	
STL Antenna System for FM Radio	1 pair	Combining R-2 and R-1
Feeder System	1 lot	
STL Antenna System for TV	1 pair	Combining ETV and GTV
Feeder System	1 lot	
Antenna Tower	1 lot	120m high; common use with ETV, GTV, R-2 and R-1; including ancillary equipment
Receivers or Channel-Converters	8 lots	For the alteration of receiving channel of rebroadcasting stations related.

CHAPTER 6 CONSTRUCTION SCHEDULE

It will require 27 months to finish the construction after the contract of consultant.

The work will be carried out mainly at Alto de la Bandera and at RTVD in Sto. Domingo.

The work at Alto de la Bandera will be started with the construction of the building and the tower foundation, and the work must be completed by the arrival of the tower materials and the transmitting equipment.

On the other hand, the work of RTVD in Sto. Domingo requires the remodeling of the studio facilities, and to be cascaded by building inside work, because the work has to be done while continuing the program production and the broadcasting.

The construction schedule is shown in Table 6-1.

In order to make the Project progress smoothly, an appointment of skillful consultant would be desirable.

The consultant is to carry out administration and adjustment of the whole construction schedule, to make preparations of the tender documents, especially documentation of the tender specifications, to evaluate and review the offered proposals, to approve the drawings prepared by the supplier, and to witness the factory inspection of the equipment to be installed and the final test of the total facilities.

Table 6-1 Implementation Schedule for the Educational/Cultural Broadcasting Project of RTVD

Project start	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	month
Consultant Contract	0																		
Basic Design and Preparation of Tender Documents	0	2																	
Tender	0	2	4																
Tender Evaluation	0	2	4	6															
Supplier's Contract	0	2	4	6	8														
Approval of Drawings	0	2	4	6	8	10													
Design, Manufacture of Equipment, Tower and Antenna	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Transportation	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Installation	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
(Civil Works by the Republic Side)	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Alto Bandera site *1	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
RTVD Sto. Domingo *2	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36

*1 Building and Tower Foundation etc.
 *2 Modification of Studios and Air-conditioning etc.

CHAPTER 7 CONSTRUCTION COST

The required construction cost for the execution of this Project is shown in Table 7-1.

The assumptions for the calculation of the cost are as follows.

- (1) Calculation is made on the basis of November 1984, and the prices of equipment and construction materials listed here are C.I.F. (Cost, Insurance and Freight) to the nearest port in the Dominican Republic.
- (2) The costs for the building, the foundation work for antenna tower, and the inland transportation are estimated by local currency.
- (3) For the fluctuation of economic rate during the construction, some of the contingency will be applied.
- (4) Money exchange rate calculated here is ¥245 = US\$ 1 = RD\$ 3.23 at the time of January 1985.

Table 7 - 1 Construction Cost

US\$1=RD\$3.23=245YEN
 unit=thousand US\$
 (unit=thousand RD\$)

	Foreign Currency	Local Currency
1. Broadcasting Equipment	8,367 (27,024)	
(1) Transmitters and Translators	1,416	
(2) STL Equipment	483	
(3) Studio Equipment	5,023	
(4) Antenna System with Tower	766	
(5) Measuring Equipment	297	
(6) Spare Parts	382	
2. Building and Tower Foundation (Alto de la Bandera)		200 (646)
3. Modification of Studios with Air-Conditioning (Sto. Domingo)		363 (1,173)
4. Installation Fee	1,290 (4,164)	
5. Procurement of Program and Program-Materials	204 (659)	
6. Inland Transportation		102 (330)
7. Contingency ※1	986 (3,185)	67 (215)
8. Consultant Fee ※2	759 (2,452)	
Sub-Total	11,606 (37,484)	732 (2,364)
Total	12,338	(39,848)

※1 10% of the total of item 1 to item 6

※2 7% of the total of item 1 to item 7

CHAPTER 8 PERSONNEL PLANNING

Adding the required administrative personnel to the necessary personnel for the new educational Radio (R-2) and Television (ETV) program production mentioned in 1-5 and 1-10, the following Table 8-1 shows the total required number of personnel in the respective fields.

Table 8-1 Number of Staff Required

Stage		1st	2nd	3rd (Final)
SEEBCAC	PD	24*1	32	23
R	RTVD PD	5	10	19
A	Announcer	5 + 1*2	5 + 1*2	5 + 1*2
D	Mixer	5	9	9
I	R-2 Master	4	4	6
O	Maintenance	3	3	3
	Administration	1*2	1*2	1*2
Sub Total		46 + 2*2	63 + 2*2	65 + 2*2
SEEBCAC	PD	13	23	32
T	RTVD PD	3 + 1*2	4 + 1*2	7 + 1*2
E	Announcer	1	2	2
L	TV-B Staff	16	16	24
E	OB Van Staff	8	16	16
V	FV Staff	2	4	4
I	VTR Editing	1	1	1
S	ETV Master	4	4	6
I	Scenery	2	2	4
O	EFP Crew		12	12
N	Administration	1*2	2*2	2*2
Sub Total		50 + 2*2	84 + 3*2	108 + 3*2
Total		96 + 4*2	147 + 5*2	173 + 5*2

*1 Six are existing staff

*2 Administrative staff

CHAPTER 9 OPERATION COST

Additional operation cost for the new educational R-2 and ETV required for RTVD is shown in the following Table 9-1. (not including the cost of Item 9-3)

Table 9-1 Total Amount of Operation Cost for R-2 & ETV
(RD\$ 3.23 = US\$ 1 = 245 YEN)

	1st stage	2nd stage	after 3rd stage
	RD\$	RD\$	RD\$
Operation Cost (Total)	1,514,000	2,211,000	2,460,000

9-1 Annual Operation Cost for the Transmitter Site at Alto de la Bandera

(1) Cost for electric power

The average broadcasting hour per day for R-1 (FM) and R-2 (FM) is 18 hours, and for TV 16 hours.

Radio (FM): RD\$ 0.109 x 50 kW x 18 H x 365 days \doteq RD\$ 35,800

TV : RD\$ 0.109 x 110 kW x 16 H x 365 days \doteq RD\$ 70,000

Total \doteq RD\$ 106,000

(2) Maintenance cost RD\$ 86,000

(1) + (2) = RD\$ 192,000

9-2 Annual Operation Cost of RTVD in Sto. Domingo

(1) Program production cost

Based on the practical operation in RTVD, the cost for one TV program production is assumed as follows:

half hour program RD\$ 100

one hour program RD\$ 200

As for a radio program production, 30% of TV program production is assumed.

Table 9-2 shows program production cost for each year.

Table 9-2 Program Production Cost

		1st stage		2nd stage		after 3rd stage
Radio	*1	RD\$ 81,120	*2	RD\$ 123,240	*3	RD\$ 142,680
TV	*4	166,400	*5	384,800	*6	395,200
Total		247,520		508,040		537,880

- *1 RD\$ 30 x 40 programs/weeks x 52 weeks = RD\$ 62,400
- RD\$ 60 x 6 programs/weeks x 52 weeks = RD\$ 18,720
- *2 RD\$ 30 x 55 programs/weeks x 52 weeks = RD\$ 85,800
- RD\$ 60 x 12 programs/weeks x 52 weeks = RD\$ 37,440
- *3 RD\$ 30 x 35 programs/weeks x 52 weeks = RD\$ 54,600
- RD\$ 60 x 28 programs/weeks x 52 weeks = RD\$ 87,360
- RD\$ 60 x 12 months = RD\$ 720
- *4 RD\$ 200 x 16 programs/weeks x 52 weeks = RD\$ 166,400
- *5 RD\$ 200 x 37 programs/weeks x 52 weeks = RD\$ 384,800
- *6 RD\$ 100 x 20 programs/weeks x 52 weeks = RD\$ 104,000
- RD\$ 200 x 28 programs/weeks x 52 weeks = RD\$ 291,200

(2) Cost for electric power

$$\text{RD\$ } 0.110 \times 220 \text{ kW} \times 10 \text{ Hours} \times 300 \text{ days} = \text{RD\$ } 72,600$$

(3) Personnel cost

According to the Chapter-8 (Personnel Planning), required cost is shown in Table 9-3, assuming RD\$ 700/month for the average personnel cost.

Table 9-3 Number of Staff and Personnel Cost

	1st stage	2nd stage	after 3rd stage
Number of Staff	100	152	178
Personnel Cost	RD\$ 840,000	RD\$ 1,276,800	RD\$ 1,495,200

(4) Maintenance cost RD\$ 162,000

(5) Sum of (1) - (4) is shown in Table 9-4.

Table 9-4 Operation Cost for RTVD Sto. Domingo

1st stage	2nd stage	after 3rd stage
RD\$ 1,322,000	RD\$ 2,019,000	RD\$ 2,268,000

9-3 Expenditure related to the Project Development

Installation of receiving equipment for the radio and TV educational broadcasting in every school is essential.

The estimated cost is supposed as follows.

(1) By the opening year of the R-2 broadcasting on the air (1989), a radio receiver is to be equipped in every class-room, which amounts to 24,200 sets, and in accordance with the increasing number of the pupils, 700 sets will be added every year for the succeeding years.

(2) With regard to the TV receiving set, 370 sets are to be installed for 5% of the whole primary school's number to begin with, and 270 sets are to be equipped annually for the successive years.

Table 9-5 shows the sum of the expenditures mentioned above.

Table 9-5 Expenditure for the Required Receiving Sets in Schools

		Radio set		TV set	Sub Total
1st year	*1	RD\$ 3,630,000			RD\$ 3,630,000
2nd year	*2	RD\$ 105,000			RD\$ 105,000
3rd year	*2	RD\$ 105,000	*3	RD\$ 555,000	RD\$ 660,000
4th year	*2	RD\$ 105,000	*4	RD\$ 405,000	RD\$ 510,000
5th year	*2	RD\$ 105,000	*4	RD\$ 405,000	RD\$ 510,000
	*2	RD\$ 105,000	*4	RD\$ 405,000	RD\$ 510,000
up to 12th year	*2	RD\$ 105,000	*4	RD\$ 405,000	RD\$ 510,000

*1 RD\$ 150 x 24,200 sets = RD\$ 3,630,000

*2 RD\$ 150 x 700 sets = RD\$ 105,000

*3 RD\$ 1,500 x 370 sets = RD\$ 555,000

*4 RD\$ 1,500 x 270 sets = RD\$ 405,000