20.5 VENTILATION WORK

20.5.1 Works for Blower:

20.5.1.1 Blower

(1) Multi-blade blower

a. Type

Multi-blade (Sirocco) type

b. Motor

As per drawing.

c. Accessories

Pulley, V belt, belt cover, foundation bolts, common foundation base, flanges with bolts, each 1 set.

d. Structure

(a) The blower should have the blade wheel and casing made of steel plate or other, all of which has stiff. Good weight balance of static and dynamic, the least vibration should be required in operation. The noise level in both side of delivery and suction should be under $91.5 + 10 \log_{10}$ kW (motor capacity). Frequency distribution is shown the following chart. Total power level should be used as standard.

Octave Band (Hz/s)	20 ~ 75	75 ~ 150	150 ~ 300	300 ~ 600	600 ~ 1,200	1,200 ~ 2,400	2,400 ~ 4,800	4,800 ~ 9,600
Blower noise	-1	-6	-11	-16	-21	-26	-31	-36

Oil filler should be provided at accessible place.

(b) The motor is used for V-belt drive, and should be able to control of belt tension by sliding the motor base.

e. Installation

(a) The blower and motor should be installed on common floor foundation. And then, they should be installed in accordance with the instruction given in 20.7

(b) At the connection of blower and casing, blower and duct, double canvas connection should be provided.

20.5.2 Duct Work:

20.5.2.1 Duck work

Shall correspond to 20.4.1 and 20.4.4.

20.6 AUTOMATIC CONTROL EQUIPMENT

20.6.1 Structure:

Operation of each equipment to be employed should be sure, and the mounting and maintenance should be easy.

20.6.2 Equipment to be employed:

(1) Thermostat

Proportional control type, insertion type

(2) Automatic valve

a. Dual position control type (Electric valve)

b. Proportional control three-way valve

20.6.3 Mounting:

(1) An electric driven motor should be mounted with the specified directions. Careful attention should be paid to the position of balancing relay at the mounting.

(2) For the electric driven valve, a by-pass valve should be provided unless otherwise specified. When an angle gauge is provided the piping should be arranged to assure the easy reading.

(3) The thermostat should be mounted in a manner to ensure the proper operation.

20.6.4 Test:

Operation of each equipment should be performed after the mounting.

20.6.5 Control System:

As per drawings.

20.7 VIBRATION PROTECTION - SOUND PROOF WORK

20.7.1 Vibration Protected Installation of Rotary Equipment:

(1) Equipment to be vibration protected

Motor, pump, blower and other devices on which the former machines are mounted without vibration protection. Provided, however, that vibration protection installation shall not be made for the equipment installed in the equipment building.

(2) Vibration protection material

Vibration protection rubber, or metal made vibration protection spring with proper damping device should be employed. The material is to be used with compressing load. The hardness, size and number of vibration protection rubber or spring should be obtained though calculation of the weight of vibration protected support system in which the frequency of own vibration should conform with the value given in the following table. In accordance with this method, the material should be selected among the standard products of relative manufacturers. When the weight of equipment is insufficient, the weight of support system should be increased by a basic or additional weighting method. The material of rubber should be Neoplane principally.

Classification of Equipment		Own Vibration	Vibration Protection Material
Equipment with rotation over 1200rpm		600	Rubber
Equipment with rotation of 1,200~850rpm		rpm x 1/2	Rubber
Equipment with rotation of 850~400rpm	Equipment installed at the next room or upper floor of auditorium and sub-control room.	rpm x 1/2	Spring
	Other equipment	360	Rubber
Equipment with rotation under 400rpm	Equipment installed at the next room or upper floor of auditorium and sub-control room.	rpm x 1/2	Spring
	Other equipment with power over 2.1 kW	rpm x 1/1.5	Spring
	Other equipmet with power under 2.0 kW	600	Rubber

The position of vibration protection support should be decided in a manner to have the uniform load on it.

The drawing of vibration protection design and drawing to indicate the supporting positions should be submitted to the Supervisor for approval.

(3) Installation work

a. Floor installation

Vibration protection rubber or springs in the shape of a mounting seat should be installed between the foundation concrete bed and equipment floor foundation. For installation, the mounting screw part should directly be buried into the foundation concrete bed with mortar. Instead of the mounting screw part, metal parts for mounting or a method to bury anchor bolts can be employed. In these cases, installation with correct position keeping right vertical line should be performed by utilizing jigs.

After the vibration protection rubber or springs are fixed firmly, equipment floor foundation should be installed on it. At electrical or plumbing work, careful attention should be paid not to make any connection or contact between the vibration protected support system and the non-protection parts. Posts temporarily utilized for the installation should be removed without fail.

As per design drawing.

b. Suspensory installation

Suspension type vibration protection rubber and turnbuckle type hanger should be attached to the suspension bolt of equipment. The hanger should be fixed to the insert buried in the specified position on upper slab. The distance between the surface of upper slab and the upper edge of hanger should be approximately under 30 mm principally. The equipment should be suspended after the suspension bolt is mounted to the hanger through the

vibration protection rubber should be provided at the specified position on the hanger, and the hanger should be adjusted to apply the load to the vibration protection rubber vertically. The suspension bolt of equipment suspended should not contact with the ceiling or sound absorbing box.

(4) Vibration protection at connection with pipe

At the connection of pump and water piping, blower and air duct, or air handling unit and air duct, vibration should be protected by utilizing a flexible joint as per 20.7 (4).

At electrical piping, vibration should be protected by using a flexible pipe or rubber hose.

(5) Omission by vibration protection

For rotary equipment with proper vibration protection, vibration protected installation can be omitted.

20.7.2 Vibration Protection of Water Piping:

(1) Piping to be vibration protected

For water piping specified in 20.4.5.2 (1) b. and water piping between a flexible joint and pump installed with vibration protection should be suspended or supported with vibration protection work.

(2) Vibration protection rubber

The suspension type or mounting seat type should be used in the structure where compression load is applied. Hardness and size of the rubber should be calculated based on the supporting weight (including the weight of water contained) where own vibration of the supported system will be approximately conform to the Table 20.7.1 (2). In this way, the rubber should be selected among the standard products of relative manufacturers.

For the interval of support to be taken, follow to 20.4.5.2 (1) b. The rubber should principally be Neoplane made. The vibration protection design should be approved by the Supervisor by submitting of the drawing.

(3) Details of work

For horizontal pipings, turnbuckle type hangers and suspension type vibration protection rubber should principally be applied. These parts should be mounted on the suspension bolt in case of single piping, and should be on the suspension bolt of the common receiving part in case of plural pipings in accordance with the instructions given in 20.7.1 (3) b. For vertical pipings, mounting seat type vibration protection rubber should principally be used. Both for the single and plural pipings, the vibration protection rubber should be mounted on the positions between the fixing metal parts of piping and the support post mounted on the structure wall or structure floor. The vibration protection support parts should not be contacted with the structure or other parts having no vibration protection. The loads of each vibration protection rubber provided on a support metal part should be uniform.

(4) Vibration protection joint for piping

For the piping to be connected with rotary equipment, a flexible joint should be applied. For the piping passing through the structure wall of studios, a flexible joint should be provided at the studio side. The flexible joint to be employed should be a rubber made flexible joint. The flexible joints should be mounted vertically. The length of a flexible joint should be as given below:

Nominal Diameter of Pipe (mm)	Length (mm)	Nominal Diameter of Pipe (mm)	Length (mm)
20, 25	200	100, 130	400
35 ~ 80	300	160, 180	500

20.7.3 Vibration Protection of Air Duct:

(1) Air duct to be vibration protected

For air ducts specified in 20.4.1 (3) (a), vibration protected suspension or vibration protected support should be applied. For pass-through parts of sound proof walls, and contacting parts with a blower, vibration protection joints should be provided.

(2) Material for vibration protection

Suspension type or mounting seat type vibration protection rubber and should principally be used. However, for specially light weighted air ducts, insulation material in band shape can be utilized. The hardness and size of vibration protection rubber should follow to 20.7.2 (2), and the intervals of supports should follow to 20.4.1 (1) (c). The rubber should principally be Neoplane made, and the design of vibration protection should be approved by the Supervisor by submitting the drawing. When the band insulation material is used, the material specified in 20.4.3 (1) should be cut in the shape of band. The finished thickness of insulation material should be over 10 mm. The parts to be vibration protected should be decided through consultation with the Supervisor.

(3) Detail of work

Refer to 20.7.2 (3).
The band of glass wool should be inserted between duct and support metal part or between duct and duct support ring. The width of band should be required one and half times of width of support metal part or duct support ring.

(4) Vibration protection joint

The vibration protection joint to be employed should be a soft rubber film made flexible connector, canvas joint or double canvas joint. The length of joint should be 100 ~ 300 mm in accordance with the size of air duct.

Even for the air duct which requires insulation or sound proof, mortar or other outer finish should not be provided at the vibration protection joint.

20.7.4 Acoustic Lining:

(1) Part where acoustic lining should be applied

Acoustic lining should be applied to the sound absorbing chamber or casing containing a blower, sound absorbing box specified in the drawing, sound absorbing curved air duct and sound absorbing straight air duct.

(2) Sound absorbing material

The sound absorbing glass wool board No. 1 b or c 24K specified in JIS A9505 should be used. The thickness should be 50 mm. Double glass wool board consists of two glass wool boards with each 25 mm thickness can be also acceptable. The coad with different color from that of the insulation material to be used (No. 2 cord specified in JIS A9505) for air duct should be employed.

(3) Details of work

One copper rivet should be soldered on the inner surface of side board of chamber or air duct for each 200 mm^2. The sound absorbing material with specified thickness, the glass cloth should be mounted on it, and should be fastened with washers with approximately 25 mm diameter. At the working, the copper rivet tip should not bread the surface, and the absorbing material should not be compressed to decrease its specified thickness.

20.7.5 Vibration Protection and Sound Proof Air Duct:

(1) Part where vibration protection and sound proof should be applied

The works should be applied for the parts indicated in 20.4.1, (3) (a).

(2) Details of work

a. Manufacturing

Following to the instructions given in 20.4.1 (1), (2)

short tubes with the proper length in consideration of the thickness of pass-through section (the structure and thickness of finish) should be manufactured. The surface of center part of the tube should be covered by insulation material with the thickness of two times (with rock-wool insulation) or three times (with glass wool insulation material) of the specified thickness in the length of the thickness of pass-through section plus 100 mm. Then, the outer surface should be covered and clamped by galvanized steel sheet with collar (25 mm) so that the thickness of insulation material should be the one specified. The length of short tube should be as minimized as possible. For the both ends of sound proof and vibration protection finish, no work is required at the covered part, while proper work should be applied at the exposed part through consultation with the Supervisor. The insulation material of the sound proof and vibration protection part should be cut with same length of the covered steel sheet.

b. Installation work

The vibration protection and sound proof air duct should firstly be installed temporarily. Then, air ducts should be connected with the above-mentioned duct at its both ends. The position of vibration protection and sound proof air duct should be adjusted so that the total air duct system can be properly positioned as specified. Then, the air duct should be fixed and the sound proof should be maintained by filling mortar into the pass-through section from its both sides.

At adjustment of the position of the vibration protection and sound proof air duct, the outer finished part of vibration protection and sound proof should not be detached from pass-through section (including the inner finished part).

APPENDIX I

INSTRUCTIONS FOR MEASUREMENT OF BUILDING ACOUSTIC CHARACTERISTICS

1. GENERAL:

1.1 Purpose of Measurement

Acoustic measurement shall be performed as part of completion inspection to insure that the acoustical aspect of the building design meets the design requirements.

1.2 Acoustic Characteristics to be Measured

The following acoustic characteristics shall be measured:

(1) Reverberation time

(2) Sound insulation

(3) Sound pressure level spectrum of noise

(4) Sound level of noise

1.3 Evaluation of Measurements

If the desired acoustic characteristics are not obtained in measurements, the provisions of Section (Acoustical Inspection) of the Specifications for Building Construction shall apply.

2. MEASUREMENT OF REVERBERATION TIME:

2.1 Outline of Method for Measurement

Intermittent sound recorded tape produced by means of the manner described in Section 6.1 hereof are played back and radiated to the test room where they will be accompanied with reverberation. The reverberation sounds will be taperecorded and the tape will be played back. The reverberation time will be measured by means of a 1/3 octave band frequency analyser, high-speed level recorder and other appropriate devices.

2.2 Measuring Instrument to be Used

(1) Tape recording and playback units

Tape recording and playback units to be used shall be of the semi-professional or professional higher class. One playback unit and recording unit are required. The tape speed shall be 19 cm/sec. The tape width shall in principle be full for recording or playback.

(2) Loud speaker for sound source

Transmission frequency band	50 ~ 10,000 Hz
Maximum non-distortion output power	Over 10W

The loud speaker for sound source shall produce a sound pressure level higher than 90 dB over all frequency band in the test room. The cabinet capacity shall be over 5×10^4 cm^3. The rear cover and the side panels of the cabinet shall be free from heavy vibration or trembling.

(3) Power amplifier for loudspeaker

The power amplifier in the control room or movable power amplifier, whichever is available, shall be used.

(4) Microphone

Frequency band	50 ~ 10,000 Hz

Omni-directional microphones of the moving coil type or condenser type shall be used.

(5) Monitor

(6) Wet and dry bulb thermometer

(7) 1/3 octave band frequency analyzer

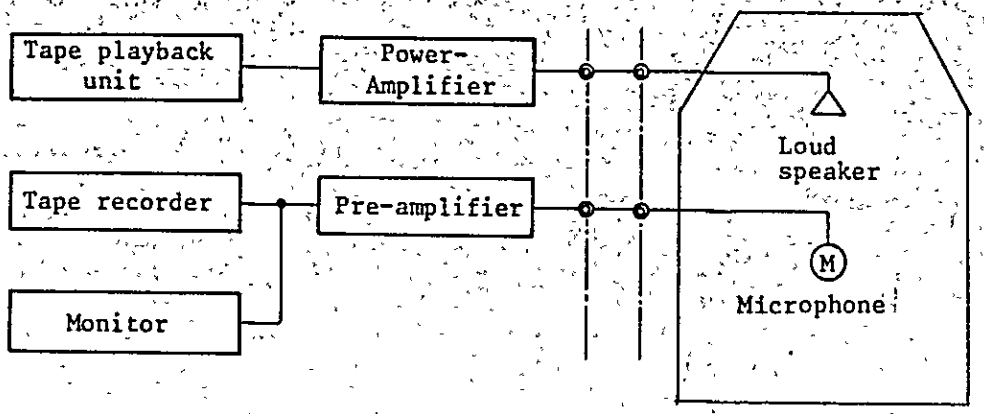
A 1/3 octave band frequency analyzer complying with the IEC Publication which is capable of selecting central frequencies in the 1/3 octave band at intervals of 50, 63, 80, 100, 125, 160 ~ 6,300, 8,000 and 10,000 Hz.

(8) High-speed level recorder

A high-speed level recorder having the characteristics similar to those of level recorders Type 2305 or Type 2307 manufactured by Brüel & Kjær, and capable of measuring a minimum reverberation time of 0.1 sec.

2.3 Circuit Configuration Necessary for Recording Reverbation Sound

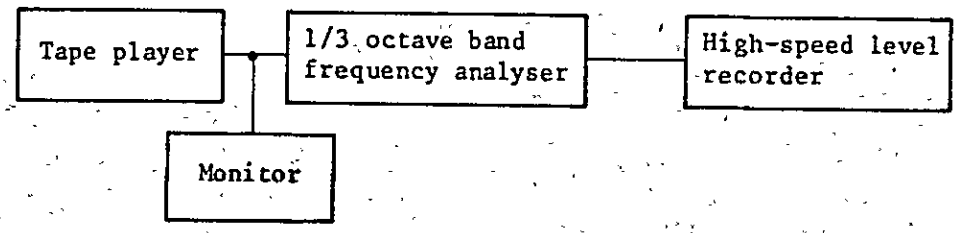
Circuits shall be arranged as illustrated below to permit playback of a sound tape and tape-recording of reverberation sound.



Circuit newly provided in this auditorium shall be used for the microphone and the loud speaker. If no existing circuits are available for this purpose, cables similar to cabtyre cable shall be used for connection.

2.4 Circuit Configuration for Frequency Analysis of Reverberation Time

The circuits required for this purpose shall be arranged as follows:



2.5 Positioning of Loud-speaker

(1) In A-1 studio

A loud-speaker shall be positioned in the center of the stage floor in such way that it will face to the audience sheet with a diagonal upward inclination. In the case of using inevitably a heavy loud speaker, it may be so positioned as to face full to the audience sheet. In unavoidable case, a procenium loud speaker may be used as a sound source.

(2) In other rooms

The loud-speaker shall be positioned at a room corner where there are no windows, doors, depressions or protrusions near by, in such way that its center axis coincides with a diagonal line of the room and that the back of the cabinet will look toward the room. It is preferable to protect the loud-speaker with sponge rubber against vibration.

2.6 Positioning of Microphone

(1) In A-1 studio

One position on the stage and three positions in the audience sheet shall be selected for installation of microphones in such way as to provide adequate distances between them.

(2) In other rooms

Microphones shall not be positioned at points of symmetry in a room, but some distances from all the wall surfaces. They shall be installed about 1,500 mm above the floor level in such way that the diaphragm will lie substantially horizontal. It is preferable to protect the microphones with sponge rubber or other suitable materials against vibration transmitted from the floor.

2.7 Interior Conditions of Test Room

The test room shall be kept unoccupied and all doors closed.

If the room is furnished with curtains or other fittings which may affect reverberation time, measurements shall be taken in repsect of two situations: with and without such furnishings.

For an auditorium provided with a stage sound-reflectors, measurements shall be taken in respect of two situations: when the sound reflectors are in use and when they are stowed and a wing curtain and middle curtain are used.

In making measurement, all the building equipment shall be kept out of operation and any construction-noise shall not be produced in the neighborhood. Temperature and humidity in the test room shall be measured before and after the measurement of reverberation characteristics and the mean for the measured values shall be recorded. If the values measured before and after measuring reverberation time are wide apart, then it shall be measured again.

3. MEASUREMENT OF SOUND INSULATION:

3.1 Outline of Method for Measurement

Tape-recorded noises of the octave band (sound source produced in the manner described in Section hereof) are radiated into the sound source room so as to form a diffused sound field.

The mean sound pressure level L_1, in the sound source room and the mean sound pressure level L_2, of the noise transmitting the test room through the test partition or test fittings shall be measured by means of an octave band frequency analyser and a sound level meter.

Frequency characteristics of the noise insulation factor (N.I.F.), or the level difference between L_1 and L_2, are the sound insulation characteristics of the test partition.

3.2 Measuring Instrument

(1) Tape Recorder/Playback

Same as in (1), Section 2.2.

(2) Loud speaker

Same as in (2), Section 2.2.

(3) Power amplifier

Same as in (3), Section 2.2.

(4) Sound analyser

A combination of ordinary sound level meter complying with IEC Publication and octave band frequency analyzer. Capable of measuring noise levels by the equalizing curves A and C and of analyzing central frequencies in the octave band at intervals of 63, 125, 250, 500, 1,000, 2,000, 4,000 and 8,000 Hz.

3.3 Fixtures to be Measured

Sound insulation measurement will be performed mainly in respect of doors and windows of the auditorium, control room and the projector room.

The expansion joints in the auditorium, joints between the tiered floors and the walls, and other parts of the structure will be checked for sound leakages.

3.4 Positioning of Loud-speaker

The loud-speaker will be positioned in such way that its back will face the fixtures to be measured. Its position and angle will be adjusted so as to form a diffused sound field uniformly on the surfaces of the test objects in the sound source room.

3.5 Sound Pressure Level of Sound Source Side

A sound pressure level above 90 dB must be obtained in every frequency band under test.

3.6 Positioning of Microphones

In both the sound source room and the sound receiving room, microphones will be installed 1 m apart from the surface of the objects under test, at five different positions distributed over the entire surface of the objects. Microphones will be supported in such way that their diaphragms will remain substantially horizontal.

If the tester is to hold a microphone, he must hold it at least over 60 cm apart and make sure that he does not conceal the sound source.

If the object under test is too high to distribute the microphones all over its surface, they may be positioned within the space ranging 1 m to 2 m above the floor level.

3.7 Surrounding Conditions of Test Object

Of the two rooms adjoining with the test object, the principal room on acoustics or the less noisy room will be selected for sound reception.

In both the sound source and sound-receiving rooms, the operation of air conditioning system will be stopped, and any construction noise will not be produced. If a fluorescent light generates a noise, this must be recorded, and measurement will be taken after turning off the light.

Special care will be taken to check places for heavy sound leaks, and if such places are found, they will be recorded. In spaces such as that between the studio and the sub control room, sound leakage often occurs in wire pipings and cable troughs. All pipings and troughs will be checked beforehand and filled with glass wool at both ends to prevent sound leakage.

3.8 Measurement of Background Noise and Correction of Measured Values

In the receiving room, background noises will be measured during measurement of sound insulation characteristics.

Background noises must be more than 3 dB lower than the mean value L_2 of the pressure level of noises transmitting to the receiving room.

4. MEASUREMENT OF NOISE PRESSURE SPECTRUM:

4.1 Outline of Method for Measurement

With the equipment under test kept in operation, the sound-pressure levels in the octave band will be measured by means of a sound level meter and a frequency analyzer, in respect of the positions and conditions of measurement described below.

All measurements will be taken on the spot and tape-recording will not be employed. Sound levels by the equalizing curves A and C of the sound level meter will also be measured at the measuring points for the sound pressure spectrum.

4.2 Positioning of Microphones

In the auditorium, microphones will be positioned on the stage, in the center, front and rear of the audience sheet, in all cased 1.5 m above the floor level.

In other rooms, microphones will be positioned 1.5 m above the floor level, substantially in the center of the room or in the center of each division of the room as a joint of measurement. They will be supported in such way that their diaphragms will remain substantially horizontal.

If the tester is to hold a microphone, he must hold it at least over 60 cm apart and make sure that he does not conceal the direction from which noises will be transmitted.

4.3 Conditions of Measurement

(1) Background noise

Before starting up the building equipment, background noises in the center of the room will be measured.

Noises other than test object to be measured will be prevented from being produced. For this purpose, all equipment other than those producing noises to be measured will be kept out of operation and any construction noise will not be produced. For a room which is affected largely by external noises, measurements shall be taken during the hours that such noises are at the lowest level.

In measuring background noises, the sound levels by the equalizing curves characteristics A and C of the sound level meter as well as the sound pressure spectrum will also be measured.

(2) Equipment noise

In each room, measurements will be taken of noises generated by the whole building equipment when in operation. If the values measured are smaller than the criteria shown in Section 4.4, measurements will not be taken during the operation of individual equipment. If the measured values are larger than the criteria and some equipment are considered to generate specially large noises, noise measurement will be made in respect of individual equipment, such as a ventilator and air exhauster, to trace the air conditioning unit which produces excessive noises.

4.4 Criteria for Evaluation of Sound Pressure Level Measurements of Noise

The criteria for the evaluation of sound pressure level of noise are as follows:

Studio	: NC-15
A-1 studio, CR	: NC-25
MCR, rehearsal room, listening room	: NC-30

4.5 Reading of Indicated Values

Noises keep fluctuating over a wide range in a low frequency band. If the range of fluctuation is below 2 dB, the mean of the indicated values will be read and recorded. If the range is above 2 dB, both the mean of the indicated higher values and the mean of the indicated lower values will be read and recorded.

5. MEASUREMENT OF SOUND LEVEL OF NOISE:

5.1 Outline of Method for Measurement

When only noises to be measured occur, the indicated values by the equalizing curves A and C will be measured by means of a sound level meter.

5.2 Other

Instructions of Sections 4.2 through 4.5 are all applicable to the measurement of sound level of noise.

6. PREPARATION OF SOUND SIGNAL RECORDED TAPE AS A SOUND SOURCE:

6.1 A Sound Signal Recorded Tape for Reverberation Time-Measurement

In case of the reverberation time measurement, the sound signal recorded tape mentioned below, shall be used as a sound source. That is a tape on which are recorded intermittent signals of white noises in each of four frequency bands ranging from 50 Hz to 10,000 Hz (Band 1, Band 2, Band 3 and Band 4).

(1) Composition of the recorded tape.

Table 6.1 shows the reverberation time measurement program in the recorded tape. The recorded tape is composed of 10 sections. The Interval between sections is about 10 seconds for auditoriums and about 5 seconds for other rooms.

(2) Tape speed : 19 cm/sec.

(3) Equipment and circuit configuration

The equipment and the circuit configuration are as illustrated below.

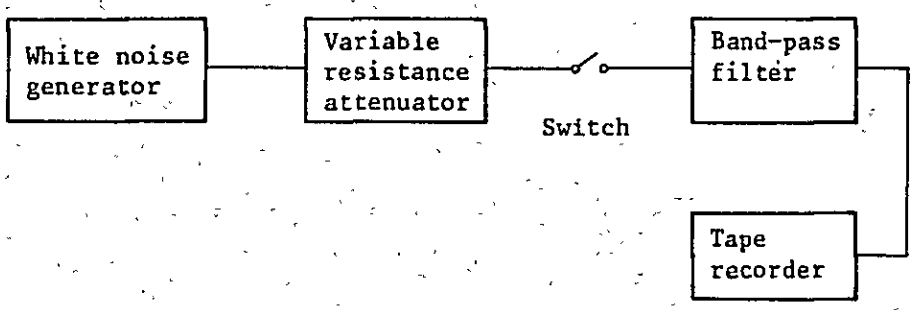


Table 6.1 Reverberation Time Measurement Program on Recorded Tape

Section	Recorded sound	Frequency Band of noise	(1) Hall			(2) Other rooms			Outline of Playback/Recording operation
			Unit time	No. of repetitions	Total time	Unit time	No. of repetitions	Total time	
Section 1	Leader tape announcement for tape identification and level adjustment signal	Band noises (1st, 2nd 3rd, 4th)	60		240	60		240	Level adjustment of playback and recording systems
Section 2	Signal for level adjustment of the 1st Band (continuous sound)	Band noise of 50~200Hz (1st)	5	1	5	5	1	5	Level adjustment of playback and recording systems
Section 3	Signal for reverberation time measurement of the 1st band (intermittent sound)	"	6	16	96	4	16	64	Recording of reverberation sound
Section 4	Signal for level adjustment of the 2nd band (continuous sound)	Band noise of 150 ~ 1,200 Hz (2nd)	5	1	5	5	1	5	Level adjustment of playback and recording systems

Section	Recorded sound	Frequency Band of noise	(1) Hall			(2) Other rooms			Outline of Playback/Recording operation
			Unit time	No. of repetitions	Total time	Unit time	No. of repetitions	Total time	
Section 5	Signal for reverberation time measurement of the 2nd (intermittent sound)	Band noise of 150 ~ 1,200 Hz (2nd)	6	11	66	4	11	44	Recording of reverberation sound
Section 6	Signal for level adjustment of the 3rd band (continuous sound)	Band noise of 1,100~ 4,000 Hz (3rd)	5	1	5	5	1	5	Level adjustment of playback and recording systems
Section 7	Signal for reverberation time measurement of the 3rd band (intermittent sound)	"	6	6	36	4	6	24	Recording of reverberation sound
Section 8	Signal for level adjustment of the 4th band (continuous sound))	Band noise of 3,800 ~ 10,000 Hz (4th)	5	1	5	5	1	5	Level adjustment of playback and recording systems
Section 9	Signal for reverberation time measurement of th 4th band	"	6	6	36	4	6	24	Recording of reverberation sound
Section 10	Sign-off announcement				20			20	

6.2 Sound Signal Recorded Tape for Sound Insulation Measurement

A recorded tape for sound insulation measurement is a tape on which continuous band noises (white noises as grouped in fixed band ranges) are recorded.

(1) Composition of the recorded tape

The tape is composed of recorded noises in four bands: 50 ~ 200 Hz, 150 ~ 1,200 Hz, 1,100 ~ 4,000 Hz and 3,800 ~ 10,000 Hz.

The duration of the continuous sound in each band shall be about 10 minutes.

(2) Tape speed

Tape speed shall be 19 cm/sec.

(3) Equipment and circuit configuration

The equipment and circuit configuration required are the same as for Section 6.1.