

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	150	300	600	1,200	2,400	4,800
	75	150	300	600	1,200	2,400	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.

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2. The second part of the document focuses on the role of internal controls and audits in preventing fraud and mismanagement. It states that a robust system of internal controls is necessary to detect and deter any irregularities. Regular audits are also crucial to verify the accuracy of the records and to provide an independent assessment of the organization's financial health. The text suggests that these measures are not only protective but also contribute to the overall efficiency and effectiveness of the organization.

3. The third part of the document addresses the challenges faced in implementing these practices, such as limited resources, lack of training, and resistance to change. It acknowledges that while the benefits of good record-keeping and internal controls are clear, the initial investment and ongoing maintenance can be significant. However, the long-term gains in terms of reduced risk, improved decision-making, and enhanced public trust far outweigh the costs. The text encourages a proactive approach, where organizations invest in their infrastructure and personnel to build a culture of integrity and compliance.

4. Finally, the document concludes by reiterating the commitment to high standards of financial management and transparency. It calls for continuous improvement and a focus on the public interest. The text suggests that by adhering to these principles, organizations can ensure that they are not only financially sound but also trustworthy in the eyes of the public. The overall message is one of responsibility and a dedication to the highest standards of governance.

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.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and auditing. The text notes that incomplete or inaccurate records can lead to significant errors and potential legal consequences.

2. The second section addresses the challenges associated with data collection and analysis. It highlights the need for robust systems and processes to ensure the integrity and reliability of the data. The author suggests that organizations should invest in advanced technologies and training to overcome these challenges and maximize the value of their data.

3. The third part of the document focuses on the role of leadership in driving organizational success. It argues that effective leaders must possess strong communication skills, strategic vision, and the ability to inspire and motivate their teams. The text provides several practical tips for leaders to enhance their effectiveness and foster a positive organizational culture.

4. The final section discusses the importance of continuous learning and development. It stresses that in a rapidly changing environment, individuals and organizations must stay current in their knowledge and skills. The author recommends regular training, professional development, and a growth mindset to ensure long-term success and adaptability.

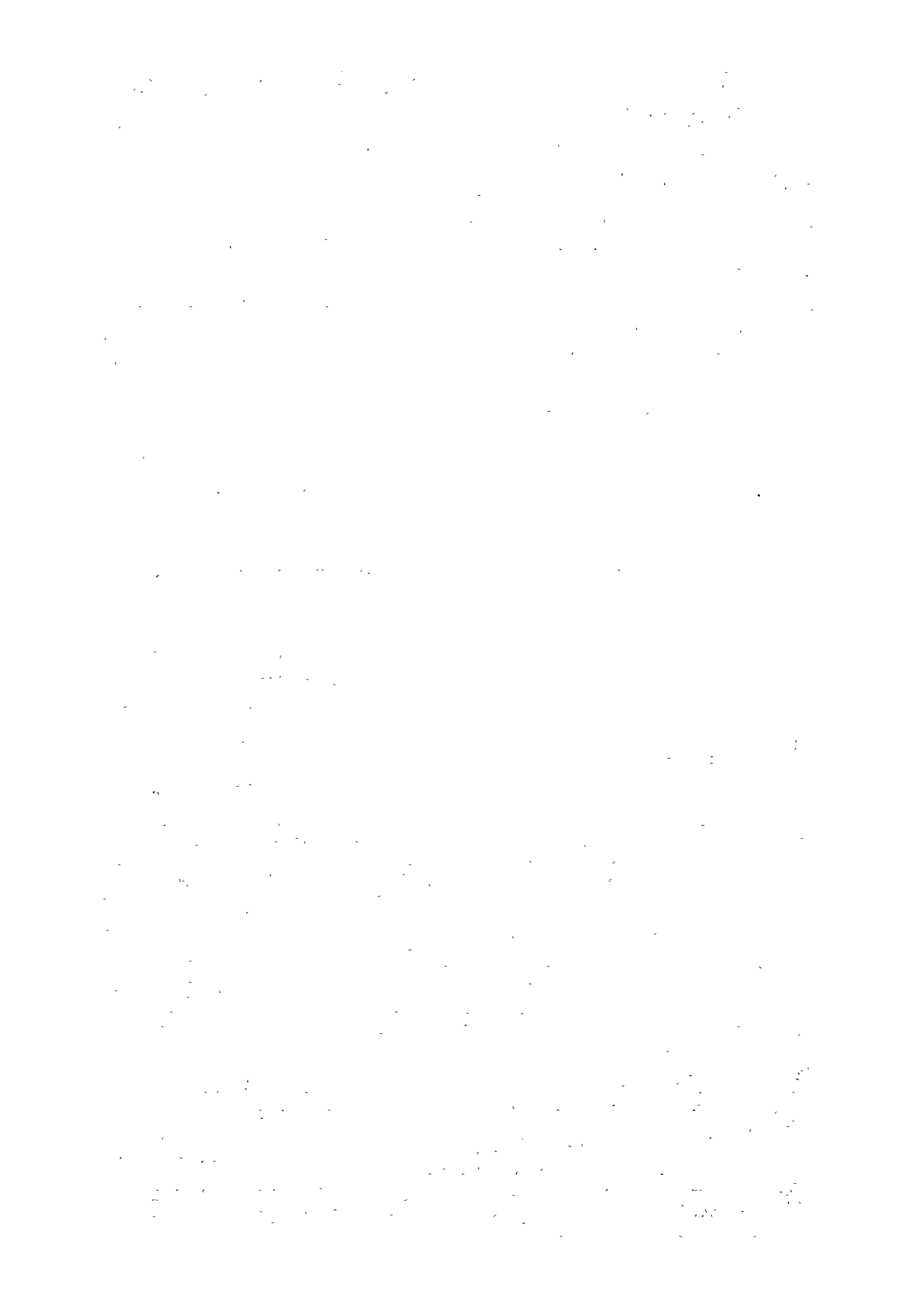
## 20.7.1 Vibration Protected Installation of Rotary Equipment:

- (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 through 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 equipment 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 Neoprene made. The vibration protection design should be approved by the Supervisor by submitting of the drawing.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and compliance with regulatory requirements. The text highlights that without reliable records, organizations may face significant challenges in identifying discrepancies, resolving disputes, and demonstrating their adherence to legal standards.

2. The second section focuses on the role of internal controls in ensuring the integrity of financial data. It outlines various control mechanisms, such as segregation of duties, authorization procedures, and regular reconciliations, which are designed to minimize the risk of errors and fraud. The document stresses that a robust internal control system is not only a safeguard for the organization's assets but also a key factor in building trust with external stakeholders, including investors and creditors.

3. The third part of the document addresses the challenges associated with data management in a digital age. It notes that the rapid growth of digital data has created complex environments where information is often scattered across multiple systems and platforms. This fragmentation can lead to data silos, inconsistent information, and increased vulnerability to cyber threats. The text suggests that organizations should invest in integrated data management solutions and implement strong cybersecurity protocols to protect their sensitive information.

4. The final section discusses the importance of regular audits and reviews in maintaining the accuracy and reliability of financial records. It explains that audits provide an independent assessment of an organization's financial health and internal control systems. By identifying weaknesses and areas for improvement, audits help organizations enhance their operational efficiency and ensure that their financial statements are presented fairly and accurately. The document concludes by emphasizing that a commitment to continuous improvement and transparency is essential for long-term success and sustainability.

(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

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2. The second part of the document outlines the various methods and tools used for data collection and analysis. It highlights the need for standardized procedures to ensure consistency and reliability of the data. The text also discusses the challenges associated with data integration from multiple sources and the importance of data validation and quality control.

3. The third part of the document focuses on the application of statistical techniques to analyze the collected data. It describes how statistical models can be used to identify trends, patterns, and correlations within the data. The text emphasizes the importance of selecting appropriate statistical methods based on the nature of the data and the research objectives.

4. The fourth part of the document discusses the interpretation and communication of the results. It stresses the need for clear and concise reporting of findings, supported by appropriate visual aids and statistical evidence. The text also highlights the importance of contextualizing the results and discussing their implications for the field of study.

5. The final part of the document provides a summary of the key findings and conclusions. It reiterates the importance of rigorous methodology and transparent reporting in ensuring the validity and reliability of the research. The text concludes by suggesting areas for future research and the potential for further exploration of the topics discussed.

### 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 Neoprene 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.

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2. The second part of the document focuses on the role of technology in modern record-keeping. It notes that digital tools and software solutions have significantly improved the efficiency and accuracy of data collection and storage. These tools often provide real-time updates and secure storage options, reducing the risk of data loss or tampering. However, the text also cautions against over-reliance on technology, suggesting that users should still maintain a level of manual oversight and verification.

3. The third part of the document addresses the challenges associated with data management and security. It discusses the increasing volume of data generated by various systems and the need for effective data governance policies. Key concerns include data privacy, access control, and the protection of sensitive information from cyber threats. The text recommends implementing robust security protocols, such as encryption and regular security audits, to mitigate these risks.

4. The final part of the document provides practical advice for organizations looking to optimize their record-keeping processes. It suggests conducting regular audits to ensure data integrity and compliance with relevant regulations. Additionally, it encourages the use of standardized formats and protocols to facilitate data exchange and integration across different departments and systems. The text concludes by emphasizing that a proactive approach to record-keeping is crucial for long-term organizational success and risk management.



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 coat 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<sup>2</sup>. 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)

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2. The second section focuses on the role of technology in modern record-keeping. It highlights how digital tools and software solutions have revolutionized the way data is stored and accessed. These technologies not only improve efficiency but also reduce the risk of human error and data loss. The document suggests that organizations should invest in reliable digital systems to ensure their records are secure and easily retrievable.

3. The third part of the document addresses the legal and regulatory requirements surrounding record-keeping. It explains that various industries and jurisdictions have specific rules regarding the retention and management of records. Compliance with these regulations is crucial to avoid legal penalties and ensure the integrity of the organization's operations. The text provides a general overview of these requirements, encouraging organizations to consult with legal counsel for more detailed guidance.

4. The fourth section discusses the importance of regular audits and reviews of records. It states that periodic audits help identify any discrepancies or areas where records may be incomplete or inaccurate. This process is vital for maintaining the reliability of the information used for decision-making. The document recommends that organizations establish a clear schedule for audits and assign responsibility to specific personnel.

5. The final part of the document offers practical advice on how to implement effective record-keeping practices. It suggests starting with a clear policy that defines what records should be kept, for how long, and by whom. The text also emphasizes the importance of training staff on these procedures and ensuring that all records are properly labeled and organized. Finally, it encourages organizations to regularly update their record-keeping systems to reflect changes in technology and regulations.

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).

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## 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  $5 \times 10^4$  cm<sup>3</sup>. 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
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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, 200, 250, 315, 400, 500, 630, 800 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.

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2. The second part of the document focuses on the importance of communication and collaboration between different departments and stakeholders. It stresses that effective communication is key to ensuring that everyone is on the same page and working towards common goals. This section also discusses the importance of regular meetings and updates, and the need for clear lines of communication and responsibility.

3. The third part of the document discusses the importance of risk management and contingency planning. It emphasizes that organizations should always be prepared for unexpected events and challenges, and that having a solid risk management strategy in place can help minimize potential losses and ensure business continuity. This section also highlights the importance of regular risk assessments and updates, and the need for clear contingency plans for various scenarios.

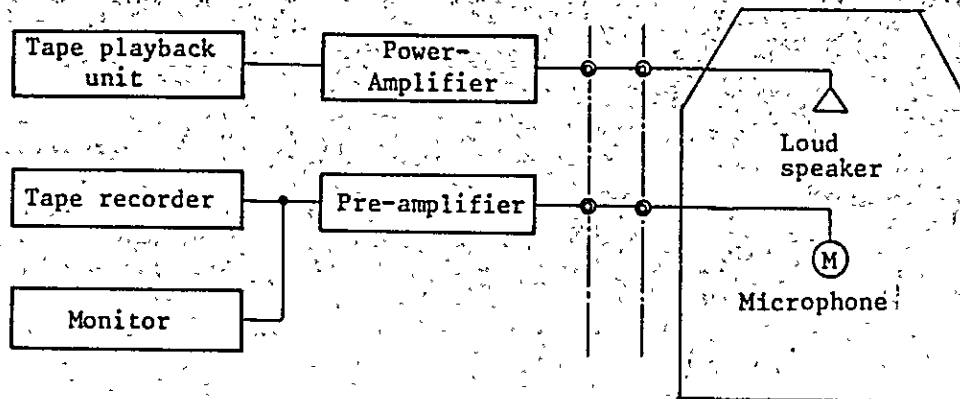
4. The fourth part of the document discusses the importance of employee training and development. It stresses that investing in employee education and skill-building is essential for long-term success and growth. This section also discusses the importance of providing ongoing training and development opportunities, and the need for clear career paths and performance expectations.

5. The fifth part of the document discusses the importance of maintaining a strong corporate culture and values. It emphasizes that a strong, positive culture can help attract and retain top talent, and that it is essential for driving innovation and productivity. This section also discusses the importance of clear communication of the organization's mission and values, and the need for consistent behavior and actions that reflect these values.



### 2.3 Circuit Configuration Necessary for Recording Reverberation Sound

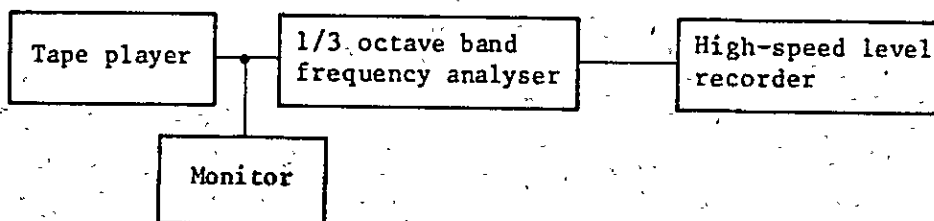
Circuits shall be arranged as illustrated below to permit playback of a sound tape and tape-recording of reverberation sound.



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 catbyre 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.

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2. The second section focuses on the role of technology in modern record-keeping. It highlights how digital tools and software solutions can significantly improve the efficiency and accuracy of data management. The author suggests that organizations should invest in reliable systems to ensure that their records are secure, accessible, and up-to-date.

3. The third part of the document addresses the challenges associated with data storage and security. It points out that as the volume of data grows, the risk of data loss or unauthorized access also increases. The text recommends implementing robust security protocols, such as encryption and regular backups, to protect sensitive information.

4. The fourth section discusses the importance of data analysis and reporting. It explains that raw data is only useful if it is properly analyzed and presented in a clear, actionable format. The author advocates for the use of data visualization tools and regular reporting to help stakeholders understand the organization's performance and make informed decisions.

5. The final part of the document provides a summary of the key points and offers some concluding thoughts. It reiterates that effective record-keeping is a cornerstone of successful business operations and that organizations should strive for continuous improvement in their data management practices.

(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 respect 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.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in the context of public administration and financial management. The text highlights that records should be maintained in a clear, organized, and accessible manner, ensuring that all relevant information is captured and preserved for future reference.

2. The second part of the document addresses the challenges associated with record-keeping, such as the volume of data, the complexity of information, and the need for standardized procedures. It suggests that implementing robust information management systems and protocols can help overcome these challenges and ensure the integrity and reliability of the records. The text also notes that regular audits and reviews are necessary to verify the accuracy and completeness of the data.

3. The third part of the document focuses on the legal and ethical implications of record-keeping. It stresses that records must be maintained in accordance with applicable laws and regulations, and that they should be used responsibly to support decision-making and public service. The text also discusses the importance of protecting sensitive information and ensuring that records are accessible to authorized personnel while maintaining confidentiality where required.

4. The fourth part of the document provides practical guidance on how to implement effective record-keeping practices. It recommends the use of clear and concise language, the adoption of standardized formats and templates, and the establishment of clear roles and responsibilities for record management. The text also suggests that training and education should be provided to staff to ensure they understand the importance of record-keeping and are equipped with the necessary skills to perform their duties effectively.

5. The fifth part of the document discusses the benefits of maintaining accurate records, including improved decision-making, enhanced transparency, and increased accountability. It notes that records provide a historical record of events and actions, which can be used to identify trends, assess performance, and inform future planning. The text also highlights that records are essential for legal and regulatory compliance, and that they can be used to resolve disputes and provide evidence in court.

6. The sixth part of the document concludes by reiterating the importance of record-keeping and the need for a commitment to high standards of accuracy and integrity. It encourages organizations to embrace a culture of transparency and accountability, and to invest in the resources and systems necessary to ensure the long-term success of their record-keeping efforts. The text also notes that record-keeping is an ongoing process that requires continuous improvement and adaptation to changing circumstances.

### 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 2.2 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.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in the context of public administration and financial management. The text highlights that records should be maintained in a clear, organized, and accessible manner, ensuring that all relevant information is captured and preserved for future reference.

2. The second part of the document focuses on the role of technology in enhancing record-keeping and data management. It discusses how digital tools and systems can streamline processes, reduce errors, and improve the efficiency of data collection and analysis. The text notes that while technology offers significant advantages, it also requires careful implementation and ongoing maintenance to ensure data integrity and security. The importance of training staff to use these tools effectively is also mentioned.

3. The third part of the document addresses the challenges associated with record-keeping and data management. It identifies common issues such as data loss, corruption, and inconsistent record-keeping practices. The text suggests that these challenges can be mitigated through the implementation of robust backup and recovery procedures, as well as the establishment of clear policies and standards for record-keeping. Regular audits and reviews are also recommended to ensure compliance with these standards.

4. The fourth part of the document discusses the importance of data security and privacy. It emphasizes that sensitive information must be protected from unauthorized access, disclosure, and misuse. The text outlines key principles of data security, including the need for strong access controls, encryption, and secure data storage. It also highlights the importance of regular security updates and vulnerability assessments to identify and address potential risks.

5. The fifth part of the document concludes by summarizing the key points discussed and reiterating the importance of a comprehensive record-keeping and data management strategy. It stresses that effective record-keeping and data management are not only essential for operational efficiency but also for ensuring the long-term sustainability and integrity of an organization's information assets. The text encourages organizations to adopt a proactive approach to these issues, continuously evaluating and improving their practices.

### 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.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and auditing. The text notes that incomplete or inaccurate records can lead to significant errors and discrepancies, which may have legal and financial consequences.

2. The second part of the document addresses the challenges associated with data collection and analysis. It highlights that gathering large volumes of data from various sources can be a complex and time-consuming process. However, the benefits of having comprehensive data are substantial, as it allows for more informed decision-making and the identification of trends and patterns. The document suggests that investing in robust data management systems and training personnel in data analysis techniques can help overcome these challenges.

3. The third part of the document focuses on the importance of data security and privacy. With the increasing reliance on digital data, the risk of data breaches and unauthorized access has become a major concern. The text stresses the need for organizations to implement strong security protocols, such as encryption, access controls, and regular security audits, to protect sensitive information. Additionally, it mentions the importance of complying with relevant data protection regulations, such as the General Data Protection Regulation (GDPR), to ensure that data is handled lawfully and ethically.

4. The fourth part of the document discusses the role of technology in modern data management. It notes that advancements in cloud computing, artificial intelligence, and big data analytics have revolutionized the way data is stored, processed, and analyzed. These technologies offer significant advantages, such as scalability, flexibility, and the ability to handle massive amounts of data. However, the document also cautions that the use of technology should be balanced with considerations of cost, security, and data quality. Organizations should carefully evaluate their options and choose the most appropriate technology solutions for their specific needs.

5. The fifth and final part of the document provides a summary of the key points discussed and offers some concluding thoughts. It reiterates that effective data management is a critical component of any organization's success, and that it requires a combination of sound practices, robust technology, and a commitment to security and privacy. The document encourages organizations to continuously monitor and improve their data management processes to stay ahead in a rapidly changing digital landscape.



#### 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 cases 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 point 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.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and compliance with regulatory requirements. The text notes that incomplete or inconsistent records can lead to significant legal and financial consequences for the organization.

2. The second section focuses on the role of internal controls in preventing fraud and errors. It highlights that a robust system of internal controls, including segregation of duties, authorization procedures, and regular audits, is critical for ensuring the integrity of the organization's financial statements. The document stresses that these controls should be designed to identify and prevent potential risks before they materialize.

3. The third part of the document addresses the challenges of data management in a digital age. It discusses the increasing volume of data generated by various operations and the need for effective data governance. Key points include the importance of data security, privacy, and the implementation of data retention policies. The text also mentions the role of technology in streamlining data collection and analysis processes.

4. The fourth section explores the impact of external factors on organizational performance. It examines how market conditions, economic fluctuations, and regulatory changes can influence an organization's financial health and operational efficiency. The document suggests that organizations should maintain a flexible and adaptive strategy to navigate these external uncertainties effectively.

5. The final part of the document provides a summary of the key findings and offers recommendations for improvement. It reiterates the importance of a proactive approach to risk management and the continuous monitoring of internal controls. The text concludes by encouraging organizations to embrace a culture of transparency and accountability to ensure long-term success and sustainability.

(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. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. The text notes that without clear records, it becomes difficult to track expenses, revenues, and other critical data points.

2. The second section focuses on the role of technology in modern record-keeping. It highlights how digital tools and software solutions can significantly improve the efficiency and accuracy of data collection and storage. The author suggests that organizations should invest in reliable technology to streamline their record-keeping processes and reduce the risk of human error.

3. The third part of the document addresses the challenges associated with data security and privacy. It stresses that as organizations collect and store more information, they must also take robust measures to protect this data from unauthorized access and breaches. The text provides several recommendations for implementing strong security protocols and ensuring compliance with relevant data protection regulations.

4. The final section discusses the importance of regular audits and reviews. It explains that periodic audits help identify discrepancies, errors, and areas for improvement in the record-keeping system. The author encourages organizations to establish a routine audit schedule and to involve independent parties to ensure objectivity and thoroughness in the review process.

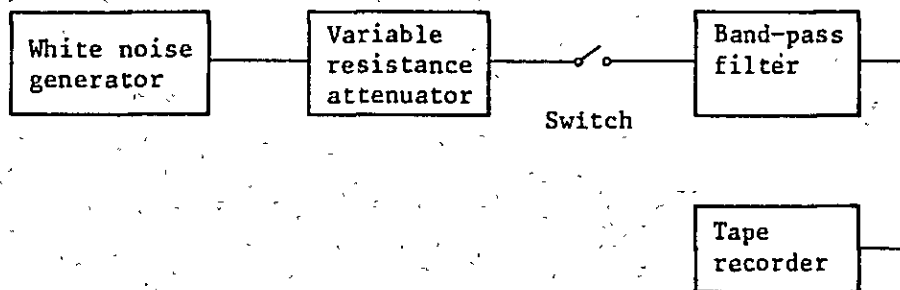
(1) Composition of the recorded tape.

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.



1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection practices and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and processing, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that the data remains reliable and secure.

5. The fifth part of the document discusses the importance of data governance and the role of a data governance committee. It outlines the key principles of data governance and the responsibilities of the committee in ensuring compliance with relevant regulations and standards.

6. The sixth part of the document focuses on the integration of data across different departments and systems. It discusses the benefits of a unified data ecosystem and the challenges of data silos.

7. The seventh part of the document discusses the role of data in decision-making and the importance of data-driven insights. It provides examples of how data can be used to identify trends, opportunities, and risks.

8. The eighth part of the document discusses the importance of data literacy and the need for training and development programs. It outlines the key skills and knowledge required for effective data analysis and interpretation.

9. The ninth part of the document discusses the role of data in innovation and the importance of fostering a data-driven culture. It provides examples of how data can be used to drive innovation and create new products and services.

10. The tenth part of the document discusses the future of data and the emerging trends in data management and analysis. It highlights the potential of artificial intelligence, machine learning, and big data in transforming the way we collect, analyze, and use data.

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	
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	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	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	5	Level adjustment of playback and recording systems

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for ensuring the integrity and transparency of financial reporting. This section also highlights the role of internal controls in preventing errors and fraud.

2. The second part of the document focuses on the implementation of robust risk management strategies. It outlines the need for a comprehensive risk assessment framework that identifies, evaluates, and mitigates potential risks to the organization's objectives. This includes both financial and non-financial risks, such as operational, legal, and reputational risks.

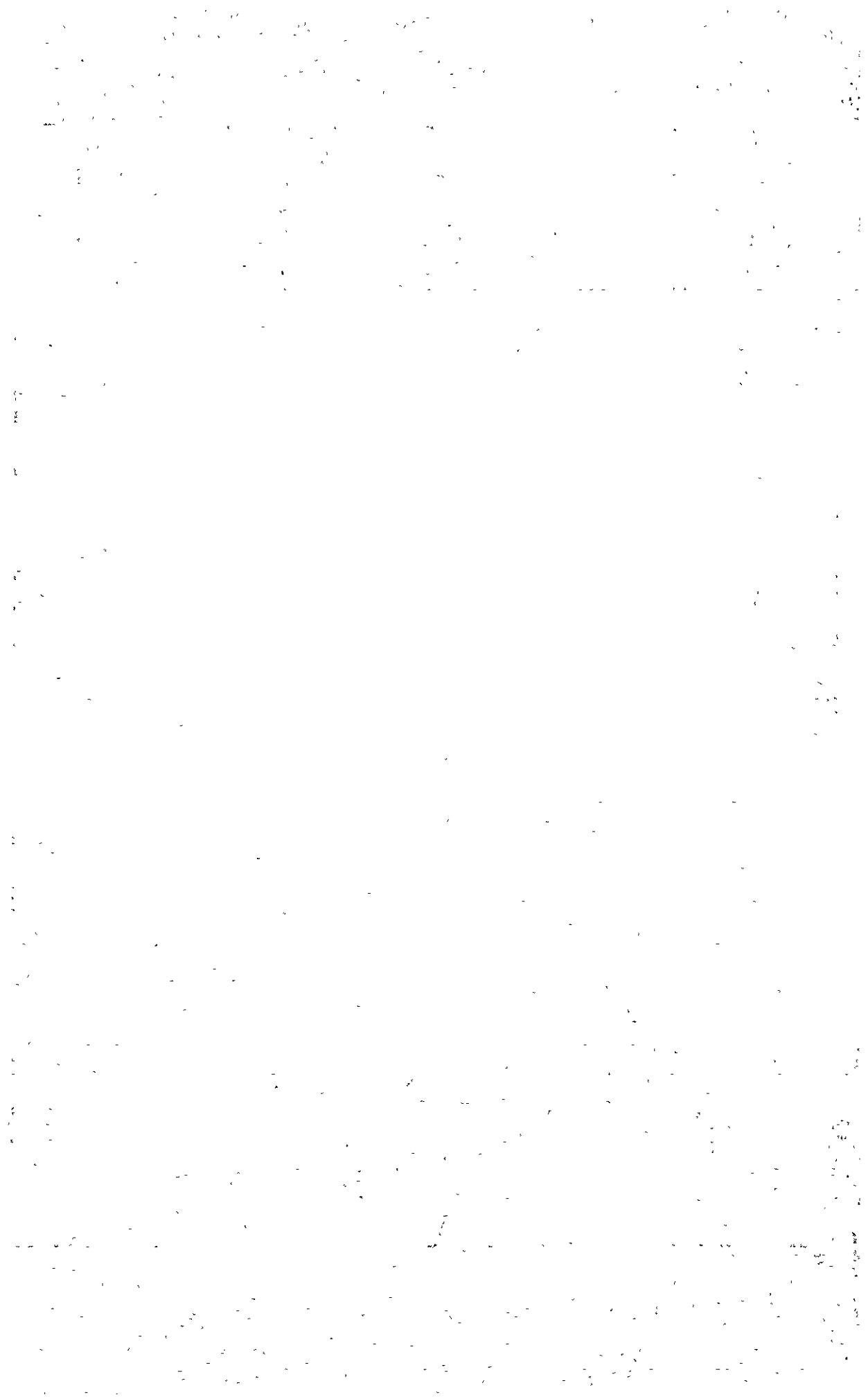
3. The third part of the document addresses the importance of effective communication and stakeholder engagement. It stresses that clear and consistent communication is vital for building trust and ensuring that all stakeholders are informed and aligned with the organization's goals and values. This section also discusses the role of transparency in fostering a culture of accountability and ethical behavior.

4. The fourth part of the document discusses the importance of continuous improvement and monitoring. It emphasizes that organizations should regularly review and update their policies, procedures, and controls to ensure they remain effective and relevant in a dynamic business environment. This includes the use of key performance indicators (KPIs) to track progress and identify areas for improvement.

5. Finally, the document concludes by reiterating the importance of a strong ethical foundation. It states that all actions should be guided by the organization's core values and principles, and that a commitment to ethical behavior is essential for long-term success and sustainability. The document also notes that regular training and education are necessary to ensure that all employees understand and adhere to the organization's ethical standards.



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 the 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.

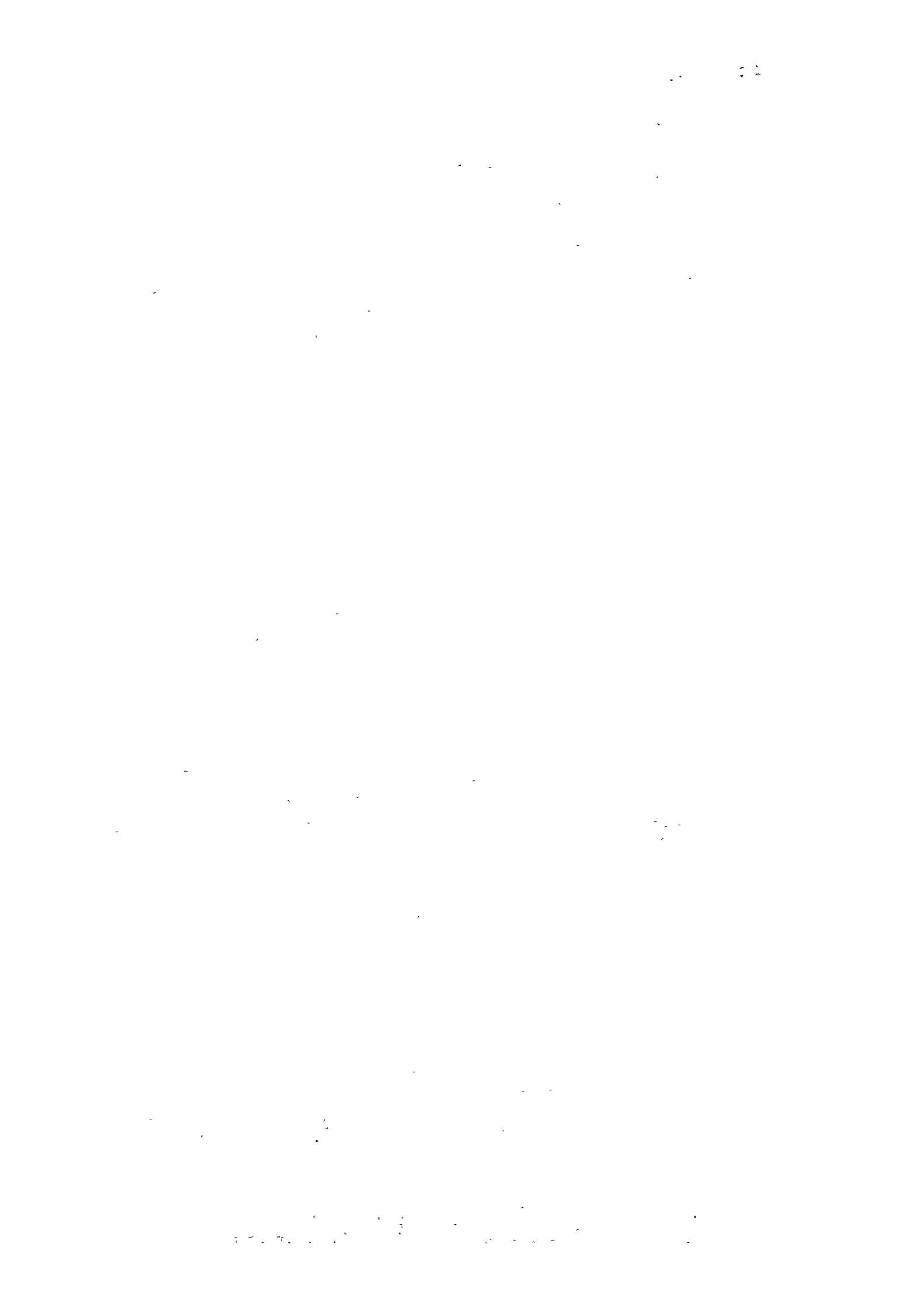
### (3) Equipment and circuit configuration

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









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