

**Bry-Air**® a reliable ally in preserving Indian culture at the **American Institute of Indian Studies**

## Application Industry Case Study

### OVERVIEW

Country : India

Location: Gurgaon

Industry : Archives

Client Name:

The American Institute of Indian Studies

Application area:

Recordings of Indian Music and oral traditions in tapes



## AMERICAN INSTITUTE OF INDIAN STUDIES

A gateway to Indian Culture and Scholarship

Nestled in the busy by lanes of Gurgaon- in the National Capital Region of India, the American Institute of Indian Studies exudes an aura of being a center of knowledge and learning. This impressive red and white brick building also houses the Archives and Research Center for Ethnomusicology- one of the most extensive collections of recordings/magnetic tapes and cassettes and archival documents relating to Indian music and performing arts.

The collection is of over 30,000 hours today. Some of these recordings date as far back as the 1930s.

Since 1961, the American Institute of Indian Studies has been the knowledge gateway for the USA on Indian scholarship. Its two research centers, the Archives and Research Centre for Ethnomusicology and the Center for Art and Archeology further the aims of the AIIS.

"Air-conditioning is not sufficient tool for long term preservation of archival recordings. While it can provides temperature stability - it is cannot control humidity-which is even worse for archival preservation. Higher humidity results in higher rates of hydrolysis which is very damaging for magnetic tapes"

**Dr. Shubha Chaudhuri**  
Associate Director General (Academic)  
American Institute of Indian Studies

**Problem:**

Condensation of moisture on magnetic tapes and cassettes resulting in deterioration of material. Moisture is responsible for

- Mold formation
- Loss of readable data
- Decreased magnetic capability
- Deterioration of the binder/backing of tape

**Solution:**

Bry-Air Desiccant Dehumidifiers maintain ambient condition of 19°C and 43% RH.

**Benefits:**

With the moisture menace out of the way, AIIS now successfully preserves its precious records for posterity. Fluctuations in weather conditions also are no longer a deterrent to preservation efforts.

**The Archives and Research Center for Ethnomusicology**

The Archives and Research Center for Ethnomusicology has an extensive collection of unpublished and published recordings of Indian music and oral traditions.

As Indian music and performance cultures are based on the oral tradition in India, the recordings of these are the only way to preserve a record of them. The Archives also boasts of an extensive and meticulously documented library. For nearly 30 years, the center has maintained the most stringent conditions within the archives and its vaults for the preservation of magnetic tapes which have analog as well as digital recordings. State-of-the-art technologies concurrent with the latest know-how are employed for storage.



**Temperature and Humidity Control for preservation of tapes and digital files at the Archives and Research Center for Ethnomusicology, American Institute of Indian Studies.**

Tape preservation requires stable levels of temperature and humidity in areas of storage as well as handling and reference. Humidity is a natural enemy of tape preservation. Varying levels of humidity is even more dangerous causing condensation and creating moisture which is trapped inside the tapes. In the presence of humidity, mould and fungus grow, and also cause hydrolysis which causes binder breakdown of magnetic media. When materials absorb moisture, they cause degeneration and provide a base for micro-organisms to multiply and breed causing irreparable damage. As low temperatures have to be maintained through air conditioning, lowering of temperature raises the Relative Humidity.

The only solution is dehumidification.

In certain instances it has been observed that installation of a dehumidifier has been sufficient safeguard for long term preservation of archival material.



“Bry-Air Compact Dehumidifiers have aided us in effectively keeping the humidity under control and thus have proved to be an effective ally in our efforts for preserving our archival materials”

**Dr. Shubha Chaudhuri**  
Associate Director General (Academic)  
American Institute of Indian Studies

**Related Application Areas:**

Bry-Air ideal for Archives/ Museums and Libraries for the preservation of

**Paper**

- Files
- Computer Printouts
- Manuscripts
- Records
- Maps
- Books
- Hand Written Documents

**Photographic Media**

- X-rays
- Negatives
- Positive Transparencies
- Microfilms
- Safety Film
- Sheet Film
- Roll Film

**Magnetic Media**

- Tape
- Hard Disk Drives
- Optical Storage
- Computer Disks
- Floppy Disks
- Minidisc
- Video and Audio Tapes

**Moisture problems while handling Magnetic Media**

Moisture is a major source of trouble for magnetic (tapes, cassettes) and photographic media alike.

Fungus growth is more prominent in silver gelatin films (diaz and vesicular films are considerably resistant to fungus growth). It is necessary to stop the fungus growth in its tracks before it causes a permanent damage.

Magnetic tapes require extensive care. They have to be stored in low and stable temperature and humidity conditions. Dust also should be prevented from entering the storage areas. High temperatures and humidity can result in loss of readable data because of decreased magnetic capability and deterioration of the binder / backing of tape. The moisture menace is elevated during the monsoons when moisture content in the storage area is alarmingly high. Such high humidity or moisture levels increases the probability of fungal growth. Many varieties of fungi including genera Alternaria, Aspergillus, Epicoccum, Paecilomyces, Penicillium, and Trichoderma colonise on the diskettes fouling the device by causing Binder breakdown.

Processed films are quickly affected by moisture and can be damaged irretrievably over a period of time. Moisture damages its gelatin content, encourages development of mold, increases dimensional changes, accelerates decomposition of nitrate support and deterioration of both B&W and color images.

**Bry-Air an able ally in preserving Indian Music**

Bry-Air has a history of aiding preservation efforts in museums, libraries and archives world-wide. It has been associated with preservation efforts at Arkib Negara, Victoria Memorial, Sharjah Library, Mao Museum, etc. The problem of archival preservation at the American Institute of Indian Studies was typical and yet unique. At the Archives and Research Center for Ethnomusicology- magnetic tapes were facing the damaging consequences of condensation of moisture. The problem became much more severe during monsoons when humidity touched peak values of 52-65% RH.

Bry-Air Desiccant Dehumidifiers were installed for maintaining ambient conditions 45% RH while keeping the temperature of 16-18°C. The installation of dehumidifiers such as the Bry Air models actually raise the temperature of the area, and thus the temperature has to be lowered even further.

Initially the requirement was for a single compact dehumidifier in a smaller area. Over the years, 3 more compact dehumidifiers were installed at the archival vaults of the center.



**Similar Projects:**

- Brunei Palace - Bandar Seri Begawan, Brunei
- Arkib Negara - Kedah, Malaysia
- National Film - Kuala Lumpur, Malaysia
- Victoria Memorial - Kolkata, India
- Thailand Princess Library - Thailand
- Gulf Library - Abu Dhabi, UAE
- Delhi College of Engineering - Delhi, India
- Max Muller Bhavan - Delhi, India
- All India Radio - Delhi, India
- ABS-CBN Broadcasting Network Inc. - Manila, Philippines
- Hong Kong Movie City - Tseung Kwan O, Hong Kong ... and many more

**Design and Structure of the Archival vault**

The room is insulated with fiber glass from all sides to aid the stability of temperature and humidity. Movement is also restricted.

As the fluctuation of temperature and humidity is dangerous to our archival holdings, they had to choose a temperature and humidity range that could be maintained through the year, given the high range of variation in Delhi. For instance, in winter it would be possible to maintain temperature between 12-14°C and humidity around 40% but this would mean that the temperature and humidity would not be maintained at that level in the summer and monsoon when the outside temperature and humidity are much higher.

It was therefore planned for the temperature of the room to be maintained between 16-18°C and the RH at 45% ± 5%. The Bry-Air Dehumidifiers had a nominal capacity of 100 CFM. The temperature and humidity are consistently monitored (three readings are taken in the duration of 12 hours, and minimum maximum for each 24 hours) and reported. A generator backup ensures that power to the vault is never off for more than 5 mins.

In case of any inconsistency, report is immediately sent to concerned authorities, who work round the clock. Consistent vigilance, air-conditioning and the Bry-Air Dehumidifiers have been responsible for preserving records for nearly 30 years now.



With over 50 years of experience in Humidity and Moisture control, Bry-Air offers you moisture control solutions for a wide array of applications. From compact to engineered- our dehumidifiers are designed to suit your unique moisture/humidity control needs. Today the best and the most recognized names in the industry have opted for Bry-Air Desiccant Dehumidifiers. From drying tiny seeds, to providing ambient conditions for life saving drugs and microchips, to mothballing huge freighters....we have done it all.

**4 Easy way to Reach us**

Submit online form at [www.bryair.com](http://www.bryair.com)



Email us at [bryairmarketing@pahwa.com](mailto:bryairmarketing@pahwa.com)



Locate and call



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Enter Bry-Air... exit moisture

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