



# Extracts from the Register of Copyrights



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दिनांक/Dated:21/10/2024

- पंजीकरण संख्या/Registration Number : **L-155480/2024**
- आवेदक का नाम, पता तथा राष्ट्रीयता  
Name, address and nationality of the applicant : **BIRLA INDUSTRIAL & TECHNOLOGICAL MUSEUM , 19A, GURUSADAY ROAD, KOLKATA-700019 INDIAN**
- कृति के प्रतिलिप्यधिकार में आवेदक के हित की प्रकृति  
Nature of the applicant's interest in the copyright of the work : **OWNER**
- कृति का वर्ग और वर्णन  
Class and description of the work : **LITERARY/ DRAMATIC WORK BROCHURE HIGHLIGHTING THE SECTIONS, STORIES AND DISPLAY OF VINTAGE ITEMS RELATED TO COMMUNICATION TECHNOLOGY, AVAILABLE AT THE ARTIFACT-BASED SCIENCE MUSEUM GALLERY AT BITM, KOLKATA**
- कृति का शीर्षक  
Title of the work : **VINTAGE VOYAGE - COMMUNICATION TECHNOLOGY (BROCHURE)**
- कृति की भाषा  
Language of the work : **ENGLISH**
- रचयिता का नाम, पता और राष्ट्रीयता तथा यदि रचयिता की मृत्यु हो गई है, तो मृत्यु की तिथि  
Name, address and nationality of the author and if the author is deceased, date of his decease : **SUBHABRATA CHAUDHURI , BIRLA INDUSTRIAL & TECHNOLOGICAL MUSEUM,19A,GURUSADAY ROAD, KOLKATA-700019 INDIAN**
- कृति प्रकाशित है या अप्रकाशित  
Whether the work is published or unpublished : **PUBLISHED**
- प्रथम प्रकाशन का वर्ष और देश तथा प्रकाशक का नाम, पता और राष्ट्रीयता  
Year and country of first publication and name, address and nationality of the publisher : **2023 INDIA BIRLA INDUSTRIAL & TECHNOLOGICAL MUSEUM , 19A, GURUSADAY ROAD, KOLKATA-700019 INDIAN**
- बाद के प्रकाशनों के वर्ष और देश, यदि कोई हों, और प्रकाशकों के नाम, पते और राष्ट्रीयताएं  
Years and countries of subsequent publications, if any, and names, addresses and nationalities of the publishers : **N.A.**
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If the work is an 'Artistic work', the location of the original work, including name, address and nationality of the person in possession of the work. (In the case of an architectural work, the year of completion of the work should also be shown). : **N.A.**
- यदि कृति एक 'कलात्मक कृति' है जो किसी भी माल या सेवाओं के संबंध में उपयोग की जाती है या उपयोग किए जाने में सक्षम है, तो आवेदन में प्रतिलिप्यधिकार अधिनियम, 1957 की धारा 45 की उप-धारा (i) के प्रावधान के अनुसार व्यापार चिह्न रजिस्ट्रार से प्रमाणन शामिल होना चाहिए।  
If the work is an 'Artistic work' which is used or capable of being used in relation to any goods or services, the application should include a certification from the Registrar of Trade Marks in terms of the provision to Sub-Section (i) of Section 45 of the Copyright Act, 1957. : **N.A.**
- यदि कृति एक 'कलात्मक कृति' है, तो क्या यह डिजाइन अधिनियम 2000 के अंतर्गत पंजीकृत है? यदि हां, तो विवरण दें।  
If the work is an 'Artistic work', whether it is registered under the Designs Act 2000, if yes give details. : **N.A.**
- यदि कृति एक 'कलात्मक कृति' है, जो डिजाइन अधिनियम 2000 के तहत एक डिजाइन के रूप में पंजीकृत होने में सक्षम है, तो क्या यह औद्योगिक प्रक्रिया के माध्यम से किसी वस्तु पर प्रयुक्त की गई है और यदि हां, तो इसे कितनी बार पुनरुत्पादित किया गया है?  
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- टिप्पणी, यदि कोई हो/Remarks, if any : **NONE**

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*(Signature)*  
**उस्ताद अहमद अली**  
 Registrar of Copyrights



## Vintage Voyage - Communication Technology (Brochure)

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Reg. No. - L-155480/2024  
Date 21/10/2024

**Copyright Application submitted by:**

BIRLA INDUSTRIAL & TECHNOLOGICAL MUSEUM  
19A, GURUSADAY ROAD,  
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**Author:**

Mr. SUBHABRATA CHAUDHURI



*Subhabrata Chaudhuri*  
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# Vintage Voyage

An Exposition on  
Communication  
Technology



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Date 21/10/2024



Subh  
अज्ञानमो भङ्गि

Subhabrata Chaudhuri

To communicate is an action. It is also a choice. As a species, we've been keen to communicate. Our technologies have advanced parallel to the urge to tell our stories – louder, clearer and faster. Innovating, automating, improving and sometimes scraping it all to make way for better mechanisms – for better or for worse - the evolution of communicating devices is as alluring as the artefacts themselves.

Sectioned into four thematic zones, each celebrating true-tales about the men as well their machines, here BITM invites visitors to embark on a vintage voyage of rare collectives - each a functional piece, charting the evolution of communication technology - as we know it today.



We think of our data being in the 'cloud', but in reality it mostly travels around the world along vast cables. New and longer distance telegraph cables accelerated communication in the 19th century, speeding up the modern world. This incredible feat of engineering paved the way for modern, instantaneous communication.

### Telegraphy & Wall Street Crash

A contributing factor to 1929's major American stock market crash - the Wall Street Crash - was that the volume of trades overwhelming the New York Stock Exchange's efficient and essential system of telecommunications based on tickertape machines - leaving traders desperate for accurate information. With 16 million trades taking place, slips of paper that recorded the trades piled up faster than anyone could process them. Without the latest prices from the stock tickers, brokers and clients had agreed sales or purchases based on out-of-date information. Fortunes were lost, and it took years for the world's economies to recover.



Clean-up after the U.S. stock market crash

अभिलेख  
अज्ञान मंत्रालय



Transmit

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# Broadcast

## GEC Valve-based Radio



Wireless communication and broadcast technologies of today date back to the turn of the 20th century. The use of radio transmission between ships and shore were not only a fashionable novelty but a genuine life-saver. With a generation of returning First World War servicemen-turned-radio hams popularizing the idea of radio broadcasting, radio came into its own.

*"I was never so taken aback in my life—I was always afraid of things that worked the first time"*

– Thomas A. Edison on hearing his voice play back to him from his first tin foil phonograph.



Titanic's wireless radio room

## Wireless Telegraphy & Titanic

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As Titanic collided with an iceberg in calm seas on the night of 14 April 1912, Harold Cottam, operator on nearby Cunard liner Carpathia, was awake. He was in a position to receive the first distress signal from Titanic. Carpathia immediately turned and steamed the 60 miles towards Titanic's given position. Two hours earlier Titanic had foundered and sunk. But Carpathia's crew rescued over 700 survivors, retrieving 300 bodies from the water, and set course for New York. Without the wireless telegraph, there would likely have been no survivors at all.



30paisa  
आनंद भंडारी

# Tether

An aspect of modern life most of us would struggle to live without is instantaneous communication. From the first crackly telephone call to the 'smart' devices so many of us carry everywhere - one-to-one voice communication was slow to come but fundamental to change the way we interact.

*"It is certain that, in a more or less distant future, a speech will be transmitted by electricity. I have made experiments in this direction; they are delicate and demand time and patience, but the approximations obtained promise a favorable result".*

- Charles Bourseul, French telegraph engineer who proposed (but did not build) the first design of a "make-and-break" telephone in 1854.

Ahoy Alexander!

Had the inventor of telephone had his way, our greetings might have been very different today. Alexander Graham Bell had proposed 'ahoy' as a standard phone greeting - a nautical greeting used for centuries, derived from the Dutch "hoi," meaning "hello." Thomas Edison popularised the use of 'hello', as did the first phone books which included authoritative 'How To' sections on their first pages and "hello" was frequently the officially sanctioned greeting. Eventually, "hello" pushed past "ahoy" and never looked back. Yet, for his entire life, Bell preferred to answer the phone with "Ahoy."

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Bell's Liquid Transmitter Replica



अभिलेख  
अज्ञानमोक्ष



Community Radio in India, 1950s

Communication technologies that the British pioneered and propagated in India to reinforce control over their most prized colony - inadvertently consolidated and connected the sparse but strong calls for freedom that had begun to echo in the pre-independence period.

*“His sensitive detector of electromagnetic radiation, perfectly prompt in its self-recovery, should serve to revolutionise the existing methods of telegraphy...”*

– Review of Sir J.C. Bose’s wireless receivers  
The Electrician, December 1895

### Pioneering Ionospheric Imaging

Providing a better understanding of the Sun-Earth Physics, Prof. S. K. Mitra furnished the first experimental evidence of E-region of the ionosphere in 1930. But his introduction of ‘wireless’ to the post-graduate course in Physics at the Calcutta University pioneered the beginning of radio science teaching in India. Mitra’s laboratory participation in the second International polar year (IPY2-1932), for specific investigations on different aspects of the ionosphere marked India’s entry into organized international scientific research.

A skilled experimentalist, resourceful administrator, an erudite public speaker and an inspired teacher - Prof. Mitra went on to establish the first ionospheric field station at Haringhata, about 45 km north of Kolkata for ionospheric investigations in 1950 and played a pioneering role in radio broadcasting in India.



Ionosphere Recorder



360°  
अज्ञानान्तरिक्ष



Forms and functions change. What remains is the indelible impact that each technological evolution brings into our methods of information exchange. This vintage communication technology exposition is our attempt to show and tell how the past connects to our present and broadens the horizon leading to the future.

*Bon voyage!*



Vintage Voyage: Communication Technology - inaugurated on May 18, 2023, the International Museum Day - remains open for exploration at Birla Industrial & Technological Museum, Kolkata.

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### Visiting Hours to the Museum

9:30 am to 6:00 pm

Museum is open everyday, except on Holi & Diwali

Special concession for school students in groups

## Birla Industrial & Technological Museum

A Unit of National Council of Science Museums

Ministry of Culture, Government of India

19A, Gurusaday Road, Kolkata - 700019

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*Birla's*  
अज्ञानमोक्ष