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Matrix and Catalog Numbers in G&S Discography

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Author's note: Please note that the hyperlinks shown throughout this article will lead you to the corresponding web page in the Gilbert and Sullivan Discography website.

Introduction

This is the first part of a four-part article regarding the origins and uses of matrix and catalog numbers in Gilbert and Sullivan recordings. The second and third parts will be found in [Gramophone Company Matrix and Catalog Numbers](#) and [Victor Matrix and Catalog Numbers](#). The fourth part will be found in [Matrix Numbers in Recordings of Gilbert & Sullivan](#).

It is a remarkable coincidence that the première performances of Gilbert and Sullivan's fourteen collaborations — from the opening night of *Thespis* on December 26, 1871, to the closing night of their final effort, *The Grand Duke*, on July 10, 1896 — should have encompassed almost exactly the inventions of the tin-foil cylinder phonograph, the disc gramophone, and their respective recording processes. This series of articles deals with the concurrent evolution of the recording industry and the expanding discography of the Gilbert and Sullivan operettas and related works.

Many of the web pages on this site present detailed tables showing **matrix** and **catalog numbers** of recordings from the 78rpm era. Collectors and historians of old records have long known the importance of such numbers, but today a new generation of listeners is

discovering these recordings, thanks to the popularity of CD re-issues. This article explains the origin and uses of these numbers in some depth. It is hoped that new aficionados of 78rpm records, as well as seasoned collectors, will find their study of these historical performances enhanced by a deeper understanding of this topic.

The information below has been gathered from many sources, from different periods and different types and volumes of resources and references. The ultimate reference for the discussion of matrix and catalog numbers is the **matrix** itself or, in lieu thereof, a pressing or impression derived from that matrix or from a copy of that matrix, and the catalog number printed on the label. What one writer has seen may not be available to another. Nor will all observers agree necessarily with the interpretation of the information found on any given matrix.

The introduction and perpetuation of glaring errors into a document such as this one can occur quite easily. A single example will suffice. The bibliography in John Wolfson's book, [*The Savoyards on Record*](#), lists John R. Barnett's book, rather than John R. Bennett's book. This unfortunate error misleads the reader from one of the most important references in the discography of early vocal recordings, including many G&S sides. Since the Barnett book does not exist, this error is now disseminated throughout the community of G&S enthusiasts who, having read Wolfson's book, may have tried to locate that reference.

John Reginald Bennett's 9-volume compendium, [*Voices of the Past*](#), is a major reference to English, Italian, French, German, and Russian vocal recordings between 1898 and 1925. These volumes, of which Volume 1 covers Berliner, Gramophone, Gramophone and Typewriter (G&T), and His Master's Voice (HMV) acoustical recordings, mainly in English, encompass more than 25,000 vocal recordings.

From the beginning of disc technology, recordings of Gilbert and Sullivan were made largely in London by the Gramophone Company and its successors. Also from about the beginning, the latter was associated very closely with the Victor Talking Machine Company and its successors. Each company often imported, repressed, and issued recordings of the other. This article will focus chiefly on the matrix and catalog numbering systems used by these two companies, as well as the interrelation between them.

This writer has twelve "complete" original sets of early 78rpm recordings of Gilbert & Sullivan operettas, on either HMV or Victor pressings or both, from the [*1919 HMV Gondoliers*](#) (2 different copies) through the [*1936 HMV Mikado*](#), as well as some 210 different acoustical and 126 different electric 78rpm recordings. These include both single- and double-sided discs, on G&T, HMV, Victor, Victrola, and Red Seal, Columbia, Decca, and Zonophone labels. Among these are four 1902 single-sided G&T discs of Caruso recordings reissued on HMV 78s, the five Victor recordings of February 1906, and many early Gramophone & Typewriter, as well as Victor, single sides.

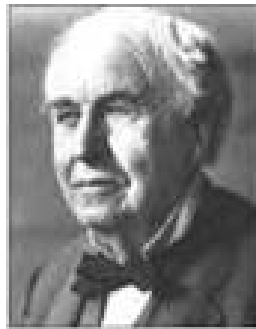
Examination of labels and of the unrecorded areas surrounding the labels of these early recordings provides much of the information presented herein. In addition, the manufacturers of LP and CD discs, especially Pavilion Records, Arabesque Records, EMI, and Symposium Records, provide informative liner notes. The information in the latter regarding both matrix and record numbers should be viewed with a critical eye. To illustrate this, one major company has listed a series of nine matrix numbers for recordings made in 1904, as 42580, 42590, 42600, 42610, 42620, 42630, 42640, 42650, 42660, and 42670. These numbers are far beyond any known matrix numbers in this series (see below). The correct numbers are 42590 to 42670, the suffix indicating that these recordings had been made in Paris under the supervision of the recordist Cleveland Walcutt (see below).

James C. Lockwood, proprietor of [78s2CD](#), and Chris Webster, proprietor of [Sounds on CD](#), have produced fine transfers of both acoustical and electrical G&S recordings. Liner notes included with their CDs provide many useful data. The former include photographs of disc labels from early acoustical sets, with matrix numbers below them.

There is "no possible doubt whatever," insofar as matrix markings are concerned, that *seeing* is *believing*. What you see is what you've got, regardless of what anyone else may say. With these caveats in mind, let us define the subject of this discussion.

Origin and Evolution of Matrix Numbers

Early Recording and Playback Equipment



Thomas Edison



Emile Berliner

One cannot dissociate the development of recordings on disc from that of the instrument for playing them — the one is useless without the other. This presentation will perforce include some historical background and progress of the individuals and companies concerned with both of these areas. I refer the reader to the references by [Gelatt](#) and by [Read and Welch](#) for more extensive details.

A **matrix** is a flat round plate upon which is etched, incised, or engraved a generally spiral groove containing information that can be converted to sound. The plate, or **matrix**, was developed largely by Emile Berliner, a native of Hanover, Germany, who came to the United States in 1870. While supporting himself with various odd jobs, he taught himself enough about electricity and acoustics to invent a microphone in 1877. In actual fact, Berliner's microphone transmitted sound very badly, and it was difficult, if not impossible, to discern words. Nevertheless, the sale of this instrument to the Bell Telephone Company gave Berliner the financial security and leisure to devote his attention to the problem of the recording and reproduction of sound.

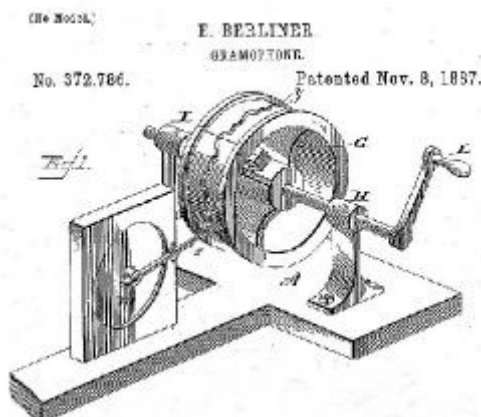


Leon De Martinville's Phonautograph 1857.
From the Smithsonian Collection.
 The first instrument to record sound.

Berliner was inspired by the *phonautograph*, an instrument for recording sound on paper coated with lampblack on cylinders or drums, invented in France by Léon de Martinville in 1857, of which he probably saw an example at the Smithsonian Institution (right) in 1879, when he lived in Washington. After experimenting with various forms of drums and cylinders, Berliner finally realized that these had little future. (This conclusion was contrary to their inventor, Thomas Edison, who had experimented with disc recording and discarded it in 1878 in favor of cylinder recordings, which he continued until 1913. Edison provided cylinders to enthusiasts as late as 1929!)



Edison's Tin-Foil Cylinder Phonograph
 The original instrument was fabricated by John Kruesi in Edison's Laboratory during December 2-6, 1877



Berliner's Original Cylinder Recording Machine

Berliner's first gramophone patent No. 372,786 (below) was applied for on May 4, 1887 and issued on November 8 of that year. This dealt with the lateral-cut recording of cylinders using lampblack applied to a "thin strip of paper, parchment, metal, or other suitable substance." According to [Gelatt](#), Berliner applied for a patent for the glass disc recording and photoengraving process on September 26, 1887. [Read and Welch](#) (page 128) give the date as November 7, 1887, which is confirmed by examination of the patent itself (left). Berliner soon changed to a flat glass disc coated with lampblack, or carbon, deposited on a film of linseed oil. De Martinville had also used this medium on paper for his phonoautograph. Berliner's work was principally based on not only de Martinville's instrument of 1857, but also Thomas Edison's experimental discs of 1878, and Chichester A. Bell (Alexander Graham Bell's cousin) and Charles Sumner Tainter's 1886 patents for recording on discs.

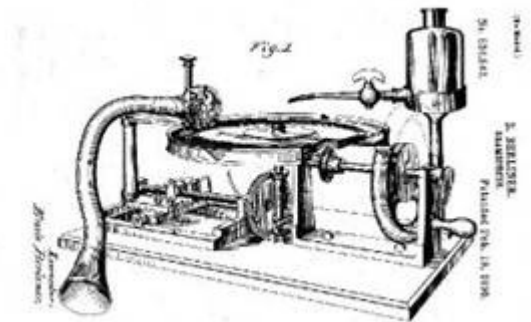
To record, the disc or plate, as it was commonly called, was rotated under a needle or **stylus** mounted on a feed screw (a major point which Berliner derived from his study of the phonoautograph) to move the stylus laterally across the plate. This was diametrically opposed to Edison's hill-and-dale movement of the stylus, which moved vertically. The stylus was activated through a horn or tube by a source of sound (hence the term **acoustical** recording). In his patent application of November 7, 1887 (see below), the attached diagram of the recording instrument shows unmistakably that the stylus is *beneath* the glass plate. After the recording was completed, he "fixed" the disc by coating it with varnish. This could then be played back by reversing the original recording method, that is, allowing the needle or stylus used originally to make the tracing in the lampblack to retrace it and thus reproduce the original sound.

Berliner initially used a glass disc coated with lampblack, or carbon, deposited on a film of linseed oil. De Martinville had also used this medium for his phonoautograph. Berliner's work was principally based on not only de Martinville's instrument of 1857, but also Thomas Edison's experimental discs of 1878, and Chichester A. Bell (Alexander Graham Bell's cousin) and Charles Sumner Tainter's 1886 patents for recording on discs.

The recording method proved successful, but the sound reproduction was far from perfect. Berliner's greatest problem, however, was to prepare multiple copies of the original recording, so that they could be sold. To do this, he photoengraved the original matrix onto a metal plate, producing a "negative" matrix, from which multiple "positive" copies could be stamped.

Due to the great difficulty and unreliability of the photoengraving process, Berliner quickly discarded the glass disc in favor of a polished zinc plate, which he first coated with a

solution of beeswax in benzene. When the benzene evaporated, a thin layer of wax remained, which could be cut by a laterally vibrating needle or stylus, as described above. After the recording had been completed, the wax was dissolved away, and the recording on the plate was "fixed," by dipping it into chromic acid. The disc or plate then became a **matrix**. Since the chromic acid ate away not only the metal surface exposed through the beeswax but also some metal on both sides of the groove, these early discs could be quite noisy.



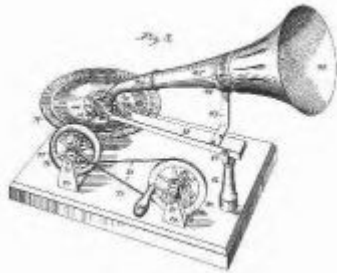
**Berliner's Disc Recording Machine,
November 7, 1887**

Patent, No. 564,586, was applied for on November 7, 1887 and granted on July 28, 1896. It dealt with photoengraving after recording in "a layer of semifluid ink or paint," described by Berliner as basically lampblack in a fatty or oily solvent, usually linseed oil, applied to a glass disc. This patent was crucial in the development of the recording and playback processes that bear his name. He describes how the recording was made with the stylus beneath the glass disc (see the photo above), so that the lampblack particles removed by the stylus would fall away, rather than accumulate on the disc. This patent also describes the making of a metallic copy of the original plate, which is a photoengraved onto a copper plate, from which further copies or playable discs can be made. Berliner describes the stylus as phosphor-bronze, for which he substituted iridium, one of the hardest metals known, under Patent No. 534,543 in 1895. Lastly in this patent, Berliner describes the gramophone itself.

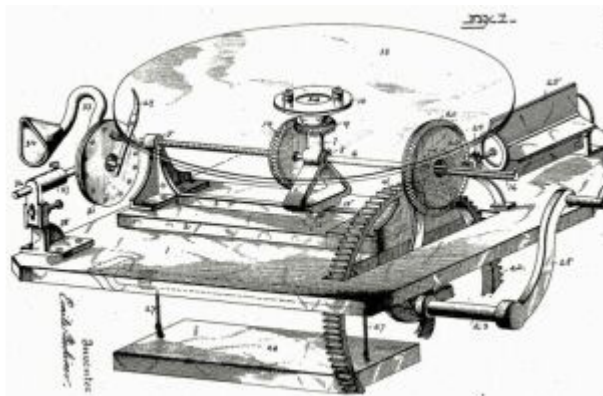


Berliner's 1887 Hand-Driven Gramophone

The instrument for playing the recorded glass plate back was essentially the same as that used to record on the plate. That is, instead of moving the stylus across the plate by means of a feed screw, a necessary adjunct for playing back cylinders, it was allowed to traverse the groove and vibrate according to the undulations it had made previously during the recording phase. The sound itself was directed into a horn by means of a sound box, or diaphragm, mounted between the stylus and the horn. To distinguish his invention from Edison's tin-foil "phonograph" of February 19, 1878, Berliner named his instrument a "gramophone." Although the two terms were to become synonymous, the phonograph referred specifically to a talking machine employing *vertical-cut cylinders*, and later discs, while the gramophone played *lateral-cut discs*.



Berliner's hand-cranked gramophone from the original Patent No. 534,543



Berliner's Recording Gramophone, 1892

Patent No. 534,543, applied for on March 30, 1892 and issued on February 19, 1895, as shown on the identification plate below, was crucial to the playback process, since it described not only the construction of the gramophone itself (see at left) but also the fact that the walls of the grooves produced during the recording process were of sufficient depth and stiffness to guide the stylus across the disc during playback, without any supplemental mechanism. The original diagrams in the patent papers (left) show clearly, and with a detailed description, that a bottle of alcohol was suspended above the disc to be recorded, so that it dripped onto the disc during the recording process. Berliner stressed that this refinement was essential in removing any dust particles that might fall on the disc, as well as in facilitating the removal of the recording medium in front of the stylus.



Berliner Gramophone Identification Plate 1895 showing three patent numbers

The final patent No. 548,623, applied for on March 18, 1893 and issued on October 29, 1895, dealt with the method for producing a zinc/copper negative from the original zinc matrix, from which were pressed hard rubber and celluloid records. The patent history of the cylinder phonograph and the disc gramophone is extremely complex and drawn-out, and is best left to authorities like [Koenigsberg](#) and others.

By 1896, a solid wax disc had replaced Berliner's wax-coated zinc plate. History indicates that the developer of this advancement was Eldridge Reeves Johnson (later to become the founder of the Victor Talking Machine Company), although he never applied for a patent. Bell and Tainter had earlier (1886) concluded that wax was the most suitable medium for any matrix, cylindrical or flat. [Perkins, Kelly and Ward](#) refer to the "Johnson all-wax process," which pretty well establishes its source. [Jerrold Moore](#), in his biography of Fred Gaisberg, confirms Johnson's invention. One may note that the wax used initially by Johnson in the development of his recording medium was derived from cylinder records purchased direct from Edison!

Since it was no longer necessary to "fix" the recorded plate with chromic acid or any other substance, the **masters** or **stampers** (see below) could be made directly. Moreover, a much smoother groove could be cut in the wax, thereby eliminating much of the noisy surfaces produced by the chromic acid etching, and a much superior sound resulted. However, the use of wax-coated zinc plates was not discarded entirely. Sometime in early 1899, Berliner purchased the rights from Eldridge Johnson to the latter's new method of preparing stampers by electroplating the matrix.

One considerable advantage of the all-wax plate was its relative softness, allowing it to be cut more easily than the hard wax cylinders required by the Edison process. These were necessary because each recorded cylinder was an original, since no practical method of molding recorded cylinders had yet been developed.

The **matrix** has the same characteristics as a record or disc. That is, it can be played back with a stylus to reproduce the sounds inscribed on it. In order to make multiple copies, **stampers** or **masters**, or "negative" pressings, are prepared from each matrix. These can then be used to press individual "positive" discs. Since stampers undergo considerable wear, they were made of extremely hard materials, such as hard rubber, vulcanite, and finally a shellac composition manufactured by the Duranoid Company of Newark, New Jersey. This last, composed of shellac, lampblack, and byritis, with cotton flock as a binder, was used for 78rpm records well into the 1950's. (*Note: this writer is deeply grateful to Emile Berliner for having selected hard rubber, and subsequently Duranoid, for making his final pressings. This writer dropped four early Gramophone records recently, and not one broke or cracked!*)

By late 1902 Johnson had developed a 5-stage process for manufacturing records. This consisted of electroplating the original wax matrix, from which a negative master was prepared, which was also electroplated. From this many "mothers" (metal discs which are positive or playable, as opposed to the negative master and the stampers) could be made.

The mothers were essentially duplicate or secondary matrices. From each mother one could make innumerable stampers, from which the final records were pressed. When a stamper wore out, after 500 or 600 pressings, a new one was produced from the mother, and the process could be continued. The 5-stage sequence was matrix - master - mother - stamper - record. Stamper indicators as high as 25D, meaning the 654th stamper from a single mother, have been seen.

Berliner licensed his patented processes, both for recording on flat plates and for playing them, to numerous recording companies, which proceeded to make recording instruments and recorded discs on a commercial basis. These included Edison's own National Phonograph Company and one of its subsidiaries, the Columbia Phonograph Company, as well as many others, in the United States; the Gramophone Company in England; and later in 1904, various other companies in Italy (Fonotipia), France (Pathé), Germany (Odeon), and other parts of the world.



Berliner's 1896 Improved Gramophone with Johnson's Spring-Wound Motor

Berliner was unable to develop a saleable gramophone until 1895. This machine was, of course, necessary if he was to make and sell discs using his recording process. The apparent problem was that the turntable of the original machine needed to be turned continually by a hand crank. This of course made it almost impossible to provide a steady rotational speed. The introduction of a direct-current motor provided little improvement. It was not until Berliner began to provide his Gramophone with spring-wound motors, developed and supplied by Eldridge Johnson, that he was able to produce a reliable and commercially viable instrument, the Improved Gramophone. There exist, in the hands of collectors, some of the hard rubber discs etched with recording dates as early as 1896, and bearing the type-faced etched title, "Berliner Gramophone Co., Washington, D.C."

Early History of the Gramophone Company

Early in 1894, Berliner offered a 21-year old man named Fred Gaisberg, who had been recording on cylinders for the Columbia Phonograph Company in Washington since July 1889, a similar job. Gaisberg, already adept at recording on cylinders, was amazed by the sound that could be obtained from disc recordings. Shortly thereafter, he moved his professional life to 1410 Pennsylvania Avenue, where in 1893 Berliner had formed the United States Gramophone Company, which held the patents, and there established a recording laboratory. The Berliner Gramophone Company was incorporated in Philadelphia on October 8, 1895, for the purpose of manufacturing gramophones.

In July 1897, Berliner sent his agent William Barry Owen to London, where in May 1898 he organized financial backing for and became the Managing Director of the Gramophone Company, which had exclusive rights (from Berliner) to sell gramophone instruments and records in Europe. A recording studio was set up at 31 Maiden Lane, The Strand, London, assembled from instruments provided by Eldridge Reeves Johnson (see [above](#)). On July 21, 1898, Fred Gaisberg, and his brother Will embarked for London, Owen having hired them as recording engineers or, as they were generally known in those days, *recordists*.

By May 1899, Owen had established the Deutsche Grammophon (DGG) branch of the Gramophone Company in Berlin, from which sub-branches were formed in Russia and Austria. These were followed by the Compagnie Française du Gramophone in Paris, and later by branches throughout the world.



**Trademark Registration TM34890
"His Master's Voice"**

In September 1899, William Barry Owen purchased the famous "His Master's Voice" picture from the artist Francis Barraud, who later made 24 copies for the Victor Talking Machine Company. For some reason, this potentially important trademark did not appear on G&T labels until August 1910, although the Victor Talking Machine Company used it as early as 1904. A United States trademark (above) was registered to Berliner on July 10, 1900. (*Note: [Read and Welch](#) say that Johnson registered the trademark! In fact, Berliner probably transferred the rights to the trademark along with other patent rights in 1901 (see below).*) Later in 1900, Owen added a typewriter manufactory, and shortly thereafter he changed the name of the company to the Gramophone and Typewriter Company. Soon after this he introduced an electric clock. Both of these failed; fortunately, he did not change the company's name. By the end of 1904, Owen had sold his interest, resigned his directorship in the company, and retired to the United States to raise chickens on Martha's Vineyard. His departure ended the company's infancy and childhood, and it now entered adolescence.

The Gramophone Company was incorporated in England in 1899 as a limited company, renamed the Gramophone & Typewriter Company, Ltd. on December 10, 1900, and the Gramophone Company, Ltd. again in November 1907. It finally merged in 1931 with English Columbia to form Electric & Musical Industries (EMI) and became one of the most successful recording companies. The company is best known by the acronym "G&T," which has also been written "G & T," as well as "G. & T." For ease of writing and compactness, this discography prefers the use of G&T.)

By 1900 the Gramophone Company was able to advertise some 5,000 different recordings in a series of small catalogs listing English, Scottish, Irish, Welsh, French, German, Italian, Spanish, Viennese, Hungarian, Russian, and even Persian, Hindu, Sikh, Urdu, Arabic, and Hebrew records. In 1903 the London musical instrument firm of Barnett Samuel, which had been established in 1901, had a stock of 100,000 records and 60 different "talking machines," and was selling 3000 records a day!

Hitherto, recording artists, if they may be called such, consisted of actors, minstrel singers, comedians, ragtime players, shouters, and the like. Fred Gaisberg realized that the future of gramophone recording lay with the great classical music performers. This realization initiated his and the other recordists' worldwide trips in search of musical talent. Among his other functions, he was to become the first great talent scout, the original "A and R" man, of the gramophone industry. He was the chief recordist for the Gramophone Company from 1898 until the end of the acoustical era in mid-1925, and remained the senior recording expert for EMI until his death in 1951.

Fred Gaisberg was responsible for recording, at one time or another, most of the greatest musical celebrities of the first half of the last century. The list reads like a Who's Who of musical artists. They included:

- The singers Enrico Caruso, Adelina Patti, Emma Calvé, Celestina Boninsegna, Nellie Melba, Luisa Tetrazzini, Francesco Tamagno, Mattia Battistini, Antonio Scotti, Leo Slezak, Titta Ruffo, Giuseppe de Luca, Fernando de Lucia John McCormack, Lauritz Melchior, Beniamino Gigli, and the two great basses Feodor Chaliapin and Pol Plançon;
- The pianists Wilhelm Backhaus, Alfred Cortot, Edwin Fischer, Walter Gieseking, Myra Hess, Sergei Rachmaninoff, Ignace Paderewski, Artur Schnabel, Artur Rubinstein, Vladimir Horowitz, Rudolf Serkin, and Arturo Michelangeli;
- The violinists Jan Kubelik, Fritz Kreisler, Jascha Heifetz, and Yehudi Menuhin;
- The great cellist Pablo Casals;
- The conductors Artur Nikisch, Arturo Toscanini, Bruno Walter, Adrian Boult, John Barbirolli, Wilhelm Fürtwängler, Fritz Busch, Felix Weingartner, Malcolm Sargent, Leopold Stokowski, and Georg Szell; not to mention,
- The Savoyards Richard Temple, Walter Passmore, Peter Dawson, Ernest Pike, John Harrison, Henry Lytton, Isabel Jay, and Amy Augarde, plus innumerable others.

One may note that in 1904, when Peter Dawson began to record for G&T, he was also making cylinders for their competitor, Russell Hunting, who was associated with Louis Sterling, and he later recorded the [1907 Russell Hunting Pinafore](#). Gaisberg and Hunting agreed that disc marketing and cylinder marketing were separate concerns, since a customer who owned one type of machine would probably not own the other!

Fred Gaisberg placed few if any of his artistic conquests under any sort of contract, but simply negotiated a fee for a set number of sides at any session. It was the Victor Talking Machine Company which took advantage of this lapse in commercial acuity, and signed most, if not all, of Gaisberg's artists, whom they then claimed as their own, to long-term contracts.



The label at right indicates the genre and quality of the selections which Thomas Edison proffered to the record buying public. Edison was tone-deaf, and had rather dreadful taste in what he considered entertainment. In 1912-1913 he conducted a European talent search to find vocal talent for his record company. His agents acquired over 300 cylinder recordings of some of Europe's greatest artists of that day. Each two-minute cylinder contained bits and pieces of musical works designed to provide Edison with some idea of the artist's abilities. In the end, Edison rejected all 300 or more cylinders and put them in storage! They were not opened again until 1999. These cylinders contain the sole record of many of the artists of that period.

Gramophone Company Matrix Numbers

Early Numbering Systems

Between 1898 and 1921, some 200,000 different recordings were made. Recording sessions supervised by the first eight recordists of the Gramophone Company and its successors account for nearly 160,000 of these recordings. A method obviously was needed to give each plate a positive and unique identification. Several early systems were proposed and used, but the volume of discs being produced outlived the practicality of nearly all of these systems.



Berliner 620z, May 15, 1896



Berliner 6015, before Feb 22, 1899

The initial system was the obvious one: Gaisberg and the other recordists simply wrote the required details in the blank space in the center of each plate (see above), there being no paper labels at the time. These details, together with the title (Berliner or Gramophone), the Trade Mark of the Recording Angel (precursor of Angel Records) and Catalog Number added afterwards, then appeared on every pressing from a given matrix, since the plate itself bore the markings in mirror writing. These discs also showed the dates of Berliner's five patents (see above), which did not include the gramophone patent No. 564,586. This practice continued until the advent of discs with paper labels in January, 1901.

[Bennett](#) lists a few 7-inch Berliner discs recorded as early as October 29, 1895. (However, for a possible 1890 recording, see [part 4](#) of this article.) These were probably made in Philadelphia. Symposium Records, in their liner notes for Symposium CD 1058, provide transfers of 39 selections issued under the Berliner label between 1890 and 1901. Four of these purport to have been recorded "c1890." [Read and Welch](#) (p.124) confirm that hard rubber discs are known having etched recording dates as early as 1896, and bearing the type-face etched title "Berliner's Gramophone Co., Washington, D.C.," which can be seen in

the photo to the left above. Bennett also states that recordings before 1898 can be presumed not to be of London origin.

Berliner established the Berliner Gram-o-phone Company in Montreal, Canada, probably in late 1896. Numerous discs exist from this period and venue, as shown below. All have the patent date February 24, 1897. In addition to the labels shown above, several other variations are known.



Showing the 5 patent dates



Early use of the Angel trademark, 1899?



Berliner with no apparent disc number, dated in 1899



Berliner 467



Berliner 489



Berliner 871

Recordings before November 1898 (August 2, 1898, according to Alistair Cooke) through 1900 were on 7-inch matrices only. The first known 10-inch recordings were made in London in April-May 1901, although the first known 10-inch matrix numbers date from recordings made in St. Petersburg in June 1901. Recording on 12-inch matrices began possibly as early as April 1902, although no numbers are yet known prior to early February

1903, from nine recordings under the supervision of Fred Gaisberg (matrix numbers 10-18) made in San Remo, Italy. (See [Perkins, Ward, and Kelly.](#))

The *reverse* side of single-sided discs often contained such additional information as the words of the selection, the celebrity status of the artist(s), as well as advertising of forthcoming recordings! Alternatively, it bore a large incised impression of the Recording Angel trademark. According to various sources, records made between the Gaisbergs' arrival in London in late July and November 1898 (however, see below) were not identified in any other way.

Commercial recording began in London on August 2, 1898, almost immediately after the Gaisbergs arrived. Between that date and November 1, no matrix or serial numbers of any kind were assigned to recordings, which were listed by catalog number only. Matrix *numbers* were introduced on or about November 1, 1898 (although they may have been used earlier). Each matrix plate was identified by a *single number*, which sometimes was modified by a prefix containing both numbers and letters, or by a suffix of similar makeup, or by both. The matrix number alone provided information as to *who*, *what*, and generally *when*, while the prefixes and/or suffixes, if any, indicated *where* and *how*. Either the prefix or the suffix or both could be separated from the main number by a hyphen. The suffix could contain either normal or superscript Roman or Arabic numerals.

To deal with these three sizes, a simple system was devised to distinguish the sizes, the different number series that might be used for each size, and the recordist in charge of the actual recording procedure. The 7-inch and 10-inch matrix numbers assigned before the introduction of the letter triplet system (below) were bare numbers, known as the *unlettered* series. Fred Gaisberg himself took the block of numbers from 1 to about 12000. However, if he used the same number for different size discs, it would be the latter-day discographer who could not distinguish them.

Between 1898 and 1900, an unlettered number series was used, the lowest known entry, No. 19, being Catalog Number E1026, recorded November 1, 1898. However, Bennett lists numbers as low as 1000, recorded on August 15, 1898, which probably had E prefixes. The last known number was No. 2079, Catalog Number E6288, recorded in London May 10, 1899. This, the original unlettered series, was recorded entirely in London by Fred Gaisberg, and often bore the suffix **FG**.

(*Note:* Berliner Catalog Number E1026 is known to be by Hawthorne, but it is listed in [Bennett](#) without the prefix. Bennett lists numerous bare matrix numbers as high as 13915, recorded in 1914. These are apparently errors in transcribing any suffixes present to numbers higher than 2079, as well as to omitting the **E** prefix from that series. Bennett lists many of H. Scott Russell's recordings of 1900-1901, for example, with bare matrix numbers that correspond directly with numbers listed in [Wolfson](#) as having the **a** suffix.)

Prefixes, Suffixes, and Triplets

Following the introduction of the all-wax process, a new series of matrix numbers appeared to distinguish these recordings. This involved the use of the **J** (for Johnson) prefix, the earliest known example being **J558**, Berliner 2749, dated May 3, 1900. By August 21 of that year the **J** prefix had disappeared.

The adopted system involved, initially, eight sets of lower case letter triplets. In this way it was relatively easy to identify the selection and the artist(s), the size of the record, and the recordist in charge. Fred Gaisberg took for himself the triplet **a/b/c**. His brother Will used

d/e/f, while William Sinkler Darby was assigned **g/h/i**, as well as **j** (and later shared **ad/ae/af** with Edmond J. Pearse). Franz Hampe had **k/l/m**, and Max Hampe was given **q/r/s**. The assignees for the **n/o/p** and **t/u/v** triplets were probably Cleveland Walcutt (later Joseph Sanders, George Dillnutt, and John D. Smoot), and Charles Scheuplein (later Fleming), respectively. Arthur S. Clarke received **x/y/z**. **w** is the only letter not having a series attached it.

As the only recording location at this time was London, it was not thought necessary to identify the plates with anything more than a simple number. The first problem was to identify the use of 7-, 10-, and 12-inch records. Moreover, as additional recordists were added to the staff, Gaisberg not only sent them all over the world to record the great and small celebrities of the time, but he also pre-assigned blocks of matrix numbers to them.

As more recordists were added or number blocks were exhausted, additional triplet series were made, simply by adding **a** to the first series, thus **aa/ab/ac**, **ad/ae/af**, and so forth. At least 16 different G&T Company recordists have been identified and associated with their respective triplets. This took the suffixes from **a** through **z**, and from **aa** through **az**. Belford Royal, a close friend of Eldridge Johnson, who had sent him to London to supervise the assembly of the gramophone parts he had sent, was given the suffix **R**, rather than start a **b-** series. Bennett lists many records having matrix numbers with the **R** suffix, from as low as 37**R** in June 1903 up to 268**R** in early 1904.

The triplet system began to take effect at the end of 1903, following the assimilation of the previously independent International Zonophone Company. The recordists continued to use their individual matrix number blocks, but now added their own unique suffixes. The reader will find numerous matrix numbers on recordings made before the introduction of the triplet letter system listed with various suffixes. When the company stopped making 7-inch discs, about the end of 1906, it was then necessary to assign only two doublet suffixes to each new recordist.

Gaisberg and other recordists made frequent tours throughout the world. From May 1899 to about August 1900, they used a number block from 2124 through 5041, which constituted the second *unlettered* series. The recording engineer was often identified by having his initials added as suffixes in upper case to each matrix number. Gaisberg himself used **G** or **FG**, occasionally also in lower case (confusion!). His brother Will used **W**, **WG**, or **WCG**, and even **W²** and **W^{II}**. Bennett lists matrix numbers such as **WCG.3974-R** and **4614.FWG** as late as January 1904. By March 1904, we find matrix numbers such as 4650**b**, indicating early use of the triplet system. The unlettered series ended at some point above 5000 (Bennett lists 6320 in October 1904), but was revived later to accommodate 7-inch records whose 10-inch counterparts already used the **b** series. Bennett lists the 9 recordings made in March 1902 by the great French bass singer Pol Plançon. All of these have matrix numbers with the suffix **G**, showing the late usage of this particular suffix.

Numerous exceptions, omissions, and errors exist, especially by the chief recordist, Fred Gaisberg. Between September 1902 and August 1903, he toured the Southeast Asia area, at which time he introduced his own personal block of **E** numbers, using **E100** to **E868** for 10-inch discs, and **E1000** to **E2189** for 12-inch discs. Not all the basic numbers were used, since he frequently began a new recording session or series with a round number, regardless of the last number used. These **E** numbers are not to be confused with the double-sided discs made after 1912. The latter were 10-inch discs, and included such artists as Ruth Vincent, George Baker, Edna Thornton, Harry Dearth, John Harrison, and others associated with the earliest Gilbert and Sullivan recordings.

It is important to note that *all* of the recordists used the same numbers. Only the suffixes were different, and they identified not only the recordist in charge, but eventually the date and place of the recordings. For example, during the period from November 1903 to January 1905 Fred was using the numbers 4601 to 6533 in the 10-inch series, that is, with **b** suffixes. During this same period, his brother Will was using 403 to 1593, but with **e** suffixes for the 10-inch sides. Again, Fred used 3000 to 4320 from February to November 1903. Will did not use these numbers until October 1905 through May 1906. This is why the suffixes during these early years are so important, and should *never* be omitted when describing or listing matrix numbers.

Another curious usage occurred when Will Gaisberg spent the winter of 1903-4 in Milan with the intention of recording the artists present. For this series he used matrix numbers from **Con** 1 for 7-inch discs, from **Con** 100 for 10-inch, and from **Con** 500 for 12-inch discs. Presumably, the **Con** prefix indicated the Continental Hotel, where he was staying! When the triplet system was introduced in late 1903, these matrix number series were converted to **1d**, **100e**, and **500f**. This practice was often applied to plain matrix numbers assigned by other recordists as well.

The acoustical recordings for which Fred Gaisberg was responsible are easily recognizable: the matrix numbers have either **a**, **b**, **c**, **G**, or **FG** suffixes. The highest numbers traced are 7496**a**, 20682**b** and 3503**c**, totaling over 31,500 recordings in some 20 years. During this period, Fred's brother Will was responsible for nearly 34,000 recordings. The recordist William Sinkler Darby, on his first European tour in 1899, covering some 13 European capitals from Madrid to St. Petersburg, produced no fewer than 2,450 zinc matrices!

On April 11, 1902, in a private drawing room on the third floor of the Grande Hotel in Milan, Fred Gaisberg paid Enrico Caruso the then princely sum of £100, about \$500, in spite of objections from the home office in London, to record ten sides that would literally shake the record making industry and the record buying public off its rather shaky perch! ([Gelatt](#) (p. 114), [Read and Welch](#) (p. 143), and [Fagan and Moran](#) (p. xlvii) all say March 18; [Moore](#) and [Bolig](#) confirm April 11.)

Earlier, in mid-1900, Gaisberg had traveled to St. Petersburg to record the great Russian basso Feodor Chaliapin, who was to become, among many other great musical artists, his lifelong friend. He was unsuccessful, and it was not until a few weeks before the Caruso recordings that the recordist Arthur S. Clarke succeeded in recording Chaliapin. These ten recordings were apparently made with zinc matrices, the obvious inference being that blank zinc plates traveled much better than wax plates! However, the Caruso recordings appear to have been made on wax plates, which Gaisberg carried personally to Hanover, Germany, where the stampers were made and the discs were pressed.

Since the letter triplet system was not initiated until about August 1903, the matrix numbers assigned to the Caruso recordings, as well as many others of the years 1902-3, were probably unlettered numbers. Thus, Bolig lists the matrix numbers for the April and November 1902 Caruso recordings without suffixes. Yet the Seraphim and Everest reissues both lists these twenty recordings with **b** suffixes. It seems probable that, after the introduction of the triplet system, many, if not all, earlier matrix numbers were updated by having a suffix **a** or **b** or **c** added! Many 1902-3 recordings listed in Bennett have the **b** suffix.

The original triplet system continued until about 1912, in some instances as late as the end of 1916. In 1912 it was modified by the introduction of the prefix **HO**. Considerable controversy surrounds the meaning and significance of **HO**. Some say that it indicated "Home Office," others that it stood for Holmes, the recordist in charge, and still others for

Holmes as the innovator of a new recording technique. The second theory is implausible since, according to the system, Holmes the recordist would simply have been assigned a new triplet. Regardless of its origin, its use initiated an entirely new series of matrix numbers, rather like starting all over again. The lowest number known to me is **HO116ae**, indicating that the recordist was Edmund J. Pearse.

Later Gramophone Company Matrix Numbers

The Recording Sessions table under the [1921 HMV *Patience*](#) shows that the HO/triplet system was dropped sometime between January and June 1921, and a new matrix system using the Bb/Cc prefix system, for 10- and 12-inch discs, respectively, was adopted. No change was made in the method of designating take numbers. The **Bb/Cc** prefix system was used until about late 1930, when it was replaced by an even more complicated system of alphanumeric prefixes, including 0B, 2B, 0E, 2E, etc. (discussed [below](#)). Apart from their place in the history and development of matrix numbers, they are of small interest here, except perhaps as a bookmark for recording dates.

In January 1931 the third system was introduced, using **0A/2A**, **0B/2B**, up through **0Z/2Z** for 10-inch and 12-inch matrices respectively. These were used through 1934, often more than one series being used simultaneously. The fourth and final system, lasting up until the end of the 78 rpm era in 1954, consisted in adding another letter to the prefix, thus **0AA/2AA**, **0AB/2AB**, **0BA/2BA**, and so forth, similar to the method used to expand the letter triplet system. The **0BA/2BA**, **0EA/2EA**, **0LA/2LA**, and **0RA/2RA** series are known. These are seen only on His Master's Voice double-sided discs. The matrix number itself, with the prefix, usually appeared on the record label, without take suffixes, which during this period were hyphenated Arabic numerals. It is the writer's conclusion that the 0 and 2 series, which were used by RCA until the end of the 78rpm era, were derived from **10** and **12** inch discs.

The same basic matrix numbers may, indeed occasionally do, appear with both prefixes, on 10- and 12-inch discs, respectively. At the beginning of the electrical recording era, about April 1925, Victor began imprinting a **V.E.** in a circle near or over the matrix number of imported electrical recordings, below the label of all such recordings. When electrical recordings replaced acoustical performances, it was common to use the same basic matrix number, and to replace **Bb** or **Cc** with **BVE** or **CVE**. The reader should note the difference between a matrix number with a **V.E.** overprint stamp, and one with a **BE** or **CVE** prefix. The former are electrically amplified or re-recorded from the original matrix, while the latter are new electric recordings.

During the period 1921-1924, certain major celebrities were given special prefixes to identify them. Thus, Luisa Tetrazzini was given the **BB** prefix, although these were never published. The great baritone Mattia Battistini, who had been recording since 1902, was given **BA** and **BK**, and **CA** and **CK** prefixes for his 10-inch and 12-inch 1921 recordings, respectively. The basso Feodor Chaliapin was given **BF/CF** and **BR/CR**, while Ezio Pinza used **BE/CE** and **BK/CK**. Tito Schipa was given the prefix **BM**.

Matrix numbers on the records themselves appeared either *raised* or *incised*. From my own observations, matrix numbers using the triplet system the **Bb/Cc** system described below were generally incised. That is, they were stamped onto the original matrix *before* the

stampers or masters were prepared. Matrix numbers in the **HO**/triplet system, on the other hand, appear to have been stamped onto the stampers themselves, using reverse dies. All **HO**/triplet matrix numbers that I have seen are raised on the records themselves.

G&T Catalog Numbers and Record Labels

To correlate the development of recording and playback equipment with the application of matrix numbers, one must consider also the evolution of the labels used by the various companies during their periods of growth and change. One should also note that many sides recorded as early as 1900 were issued as late as the end of the acoustical era, even on double-sided discs. It is therefore not uncommon to find the same selection on discs with the same catalog number but different labels. G&T record labels fall into some seven different categories: 1) pre-label Berliner and Gramophone Co.; 2) Gramophone & Typewriter Co., Ltd., and Sister Companies Concert and Monarch series; 3) pre-Dog Gramophone Co., Ltd.; 4) Gramophone Co., Ltd., with the Dog trademark; 5) His Master's Voice, large and small trademarks; 6) HMV B, C, D, and E series; and 7) HMV DA and DB Celebrity series. Most of the labels were printed in different colors to identify price categories. In addition, a dark green label was used for lesser recording lights, for both 10- and 12-inch discs, from as early as 1909 to 1921 or later.

Records made by the Gramophone Company between 1895 and December 20, 1900 were labeled either **Berliner** or **Gramophone** discs or both (see below), the details being etched into the matrix as described previously. From January 1901 until 1907, the discs were labeled **Gramophone**, using paper labels, and from 1907 until 1912 they were called **Gramophone & Typewriter** discs.



Left: Gramophone Record 4258, 7-inch, issued early in 1903. [Bennett](#) lists 7-inch sides as late as December 1905. **Center:** Gramophone Concert Record V.M. 5115, 10-inch. **Right:** Gramophone Monarch Record 054199, 12-inch, recorded February 7, 1908.

In January 1902, the first **Gramophone Concert Record** labels appeared on 10-inch discs. The Monarch designation for 12-inch discs was used from as early as June 1903 to as late as 1924. Red labels were introduced as early as March 1902 for both size discs. These generally indicated the more outstanding performers, e.g., Caruso, Plançon, De Luca, Ancona, and Scotti, while less well known artists were given black labels.



Left: Gramophone & Typewriter Company, Ltd., pre-Dog Monarch 052031, recorded in 1903.

Center: Gramophone Dog Monarch Black 05511 above was recorded in late 1908, but was not issued with the Dog trademark until August 1910. Manufactured by The Gramophone Co., Ltd. and Sister Companies, the latter phrase being in parentheses. The first double-sided black label "Concert" and "Monarch" discs appeared in September 1907.

Right: Gramophone Dog Monarch Pink 2-053050, recorded by Luisa Tetrazzini in New York, 1911. Note the double catalog number. The Concert and Monarch labels were replaced by the "His Master's Voice" style in August 1910.



All of the above have **THE GRAMOPHONE CO., LTD.** labels. The two shades of pink (Feb 11, 1906 and 17 Mar 1907 and the green label (April 3, 1914) were assigned to Caruso, while the orange was assigned to Battistini. The various colors assigned to these and other artists changed from time to time, and were generally based on the expected popularity, and hence price per disc, of the artist concerned.

Double-sided black label discs in both sizes appeared in September 1907. The "Angel" trademark was still in use in February 1910, to be replaced in August 1910 by the "His Master's Voice" trademark. Discs issued before the use of the HMV or Dog trademark are known as pre-Dog discs. Between August 1910 and February 1911, both trademarks usually appeared on G&T labels. Some time after August 1910 the Gramophone Company titles were all changed to "His Master's Voice," placed above the trademark.



Left: In March 1904, in the drawing-room of her mansion on Cumberland Place in London and under the supervision of Fred Gaisberg, Nellie Melba recorded 16 arias. One of her conditions for recording was that her issued records have a distinct and unique color label, in this instance, mauve (actually, lilac). G&T 03033 above

was from the second session in October 1904, when she was accompanied by the great violinist Ian Kubelik. This recording bore the matrix number 401c. Melba would remake this selection for Victor in New York in early February 1905.

Center Left: Gramophone Monarch 054199, pale green label, recorded in New York, February 7, 1908.

Center Right: This Monarch label has the same configuration as that shown above for the Monarch 2-053050 pink label, except for the black label.

Right: This **SCHALLPLATTE GRAMMOPHONE** 052122 disc is stamped "Made in Germany" outside the left side of the label. Recorded originally in New York on February 11, 1906.

The Gramophone Company used a rather complex system for assigning catalog numbers to their discs. This involved the use of a 5- or 6-digit number. Counting from the right, a zero in the sixth position indicated a 12-inch record, while its absence indicated a 10-inch record. The fifth position was used to indicate the language of the recording, i.e., 2=Russian, 3=French, 4=German, 5=Italian, 6=Spanish, etc. The digit fourth from the right indicated the voice or instrument, as 2=male, 3=female, 4=concerted, 5=piano, 7=violin, and so forth. This system appears to have been in effect from the first recording of Syria Lamonte in November 1898, and was used consistently throughout the period of single-sided discs.

From what one can gather from such references as Bolig, if the language was English (1 in the fifth position), it was omitted altogether and a 4-digit number was assigned. If the English recording was a 12-inch disc, the zero would occur in the fifth position. This system took no account of the record size, and number sequences could encompass 10-, 12-, and even 7-inch discs.

This system provided a block of 1000 recordings for a given set of third, second, and first numbers, i.e., from 000 to 999 in the first, second, and third positions. When the block was exhausted, a new series was begun by prefixing the numbers with 2-, 3-, 4-, and so forth, as necessary. Thus, the 2000, 3000, and 4000 series of G&T records were all vocal recordings in English. Recordings in Russian would encompass the 22000, 23000, and 24000 blocks, and so forth.

G&T introduced the "B" and "C" series of 10- and 12-inch double-sided discs in late 1912, using plum labels for both series. The 12-inch "D" series was not initiated until February 1918, while the 10-inch "E" series were issued the following year. Both series were issued with black labels. Single-sided discs, nevertheless, continued to be issued until about the end of the acoustical era.

(Concerning the recent compilation by [Michael Smith](#), this extremely valuable work lists all of the 2112 "D" series and 610 "E" series discs. HMV D1 was released in February 1918, and E1 was released in July of that year. The last "D" series was issued in November 1933, and the last "E" series was released in October 1930. Each listing consists of the disc number, a single-disc or serial number, the matrix number, and the recording date. This is followed by the selection itself, including the performer(s). Many of the disc numbers in the left-hand column have one or two dates beneath them. Dates without parentheses are assumed to be dates of issues, while those in parentheses are assumed to be the date when the issue was withdrawn from the catalog.

The second column contains either a single-disc or serial number. Unfortunately, Smith provides no explanation of any of the column entries, and one must conjecture for one's self. It is known that many double-sided discs in the "B", "C", "D", and "E" series were reissues of previously or even concurrently issued single-sided discs. The latter were issued as late

as 1924. At the same time, most "D" and "E" discs were issued only as double-sided discs. However, the practice of assigning single-side numbers continued as late as 1929.

Some time around 1928 it became the practice to assign serial numbers to recordings in the order in which they were accepted in the various recording sessions. These numbers took the general form of nn-nnnx, where the first pair of numbers were 32, 42, or 52. The significance of the different series is unknown. The numbers following the hyphen were generally sequential, in order of their acceptance. For the "E" series, the first numbers were 30, 40, 50, or 60. The obvious conclusion is that the "2" indicated 12-inch, and the "0" indicated 10-inch sides, as used in later matrix numbering systems.

The third column gives the matrix number. Smith states **HO** numbers as **Ho**. However, this is quite incorrect. The records themselves indicate clearly that the **HO** form was always used.

The fourth column is the recording date; only a few are missing. Among the earliest single-side reissues is John Harrison's "A wand'ring Minstrel I," from the 1906 Mikado recording on G&T 02073. This was reissued on HMV D242, the second side being Harrison's recording of "Thora," by S. Adams. The earliest single side reissued on HMV is Edvard Grieg's 1903 recording of his own "Au Printemps," issued originally on G&T 355110. The matrix number is 2147f, indicating that the recording was supervised by Will Gaisberg. Perkins et al. show this matrix number to have been used in 1907 in London.

The fifth and last column lists the selection(s), and the performer(s). In many instances sets were available as single discs. In these instances the dates of withdrawal are given for the individual discs. Where the entire set was withdrawn, the date is given under the last selection listed for the set.

In addition to the complete listings, this publication provides cross references of disc numbers in manual, automatic, and duplicate automatic recordings for both series. A listing is also provided of all of the discs recorded by each artist, as may be found in all of [Bennett's books](#).)



Left: HMV B. 9561, a 10-inch double-sided disc electrically recorded. The matrix number 0EA. 10963 can be seen at the bottom of the label.

Center: HMV C. 1406, a 12-inch double-sided disc electrically recorded. Note that the label on this side is 3-3/8", while that on the reverse is only 2-7/8".

Right: The Dog trademark usually appeared on the label in the language of the country where it was recorded. Thus we have "La Voix de Son Maître," "La Voce de la Padrone," and "Schallplatte 'Grammophon'." The title of the selection was often printed in the same language as that of the trademark. La Voce del Padrone DB 641, recorded

in New York, September 12, 1923, shows the original single-sided disc number 2-053217 at the left. This label is about 3" in diameter, while those of acoustical discs are generally 3½".

In an earlier day, such celebrities as Dame Nellie Melba were accorded a label color of their own, hers being mauve (actually, lilac). In August 1907, Caruso's recording of the quartet from Rigoletto was issued by G&T with a pale blue label, while his duets with Antonio Scotti had pale green labels. Battistini was accorded orange labels, while Patti and Tetrizzini received pink labels. The run-of-the-mill (!) artists, such as De Lucia, Giorgini, Ruffo, Journet, Boronat, Galvany, and others were all issued with the standard red labels. In August 1908 Caruso recordings were being issued with white, blue, green, and pink labels. All this was done in order to assign the various recordings to different price categories! The approximate order in increasing price was red, orange-lilac-pink, green, blue, and white. These colors appeared in varying shades, due to the difficulty of preparing batches of inks of the same hue.



Left: Showing the Recording Angel and His Master's Voice trademarks. Recorded in New York, January 19, 1912. Note the color variations in the background of the "His Master's Voice" trademark.

Center Left: Showing the GRAMOPHONE CO., LTD. Title with the His Master's Voice trademark. Recorded in New York, April 3, 1914. The green label was used for pricing.

Center Right: Showing the Gramophone Co., Ltd title with the His Master's Voice trademark. Recorded in New York, March 17, 1907.

Right: HMV V.B. 57, reissue of matrix C 2341, recorded on February 27, 1905. The **A** matrix number is printed at the bottom.

The Celebrity series were first given **DA** and **DB** letters in August 1924. together with all the old single-sided numbers. The latter were shortly dropped from the catalogs. By December of the same year, the **DJ**, **DK**, **DM**, **DO**, and **DQ** series had been introduced, again for pricing purposes. At this time the principal celebrity label color was red.



Left: HMV D.K. 119 with the Recording Angel. The speed is indicated as 78, while the reverse selection is given as 82. Note the small His Master's Voice trademark, above which is the statement, "This record is listed in Catalogue No. 2 which contains records of unique and historical interest not included in general record catalogue." All of the labels above have "Record manufactured by THE GRAMOPHONE CO., LTD., Hayes, Middlesex, England" around the outside of the ring at the bottom.

Center Left: This single-sided HMV 2-054049 shows the logo of the Gramophone Company, Limited. This unusual disc shows the Victor catalog number 89075 incised above the label at the 12 o'clock position, the matrix number A14272 in raised characters at 6 o'clock, a small "1" at 9 o'clock, and a raised "R" at 3 o'clock. In addition, a raised G&T number 2-054049 can be seen *underneath* the top of the label.

Center Right: The double-sided HMV D.O. 101 has the "Droite de Reproduction" logo. The D.D. series were the most expensive of the 12-inch HMV discs. The latter appeared only on one side of double-sided issues.

Right: The single-side version of "Addio dolce Svegliare" on HMV 054204 has the GCL logo.

From 1912 until at least the end of June 1924, single-disc numbers were assigned to each side of most of the now double-sided discs, although it is highly unlikely that single-sided discs were ever issued again. However, single-sided discs continued to be issued throughout the remainder of the acoustical era. When these were reissued on double-sided discs, as many of them were, the issuance of the single-sided version was discontinued. [Bennett](#) lists many of these sides under single-side numbers. In fact, the writer has checked the original disc labels or photographs thereof, of every acoustical set from the [1917 Mikado](#) through the [1936 HMV Mikado](#). Every side in every set has a single-side disc number imprinted on the label at the left (but see below).

In addition to the single- and double-side catalog numbers that appear on HMV labels in the first electric series, there appears another series of numbers, usually located under the double-side catalog number. These numbers are in sequence in each set. Their significance is not known at this time.

The labels on the Victor reissues in the first electric series reveals a series of numbers under the catalog number at the right. Some of these are in parentheses, some are not. These numbers are sequential within each set. It is not known whether the Victor numbers were meant to indicate single-side discs. The single-disc numbers on the HMV double-side discs, on the other hand, are entirely random. Of the three series of G&T numbers, that is, the matrix number, the single-side disc number and the double-side number, no sequence correlates with either of the other two. Moreover, G&T appears to have used this random number system on various discs in the electric **DB** series.

The Victor Red Seal release of the [1928 Yeomen of the Guard](#) shows two sets of numbers in parentheses below the record numbers on the labels. These run from 11220-A through 11230-B, indicating 11 double-sided discs from the manual coupling, and from 72381 through 72402, indicating 22 single-sided discs, which were never issued.

The only set which the writer has for comparison is the G&T issue of the [1927 Trial by Jury](#), catalog numbers D7507/10, which is the drop auto coupling, and the Victor reissue in album C-4, catalog numbers 9314/17, manual coupling. A comparison of the single-side numbers is shown in the table below:

Matrix Number	HMV Numbers		Victor Numbers	
	Double-Side	Single-Side	Double-Side	Single-Side ?
Cc11602-2	D7507-1	2-04639	9314-1	47392
Cc11603-2	D7507-2	2-04640	9314-2	47393
Cc11604-2	D7508-2	2-04641	9315-2	47395
Cc11606-2	D7510-1	2-04642	9317-1	47398
Cc11606-2	D7510-2	2-04660	9317-2	47399

Cc11644-2	D7508-1	2-04643	9315-1	47394
Cc11645-2	D7509-1	2-04644	9316-1	47396
Cc11646-1	D7509-2	2-04645	9316-2	47397

Conclusion

From about October 1898 until the advent of long-playing recordings, the matrix number was basically just that, a number. The number itself identified the artist(s) and the selection(s), as well as the recording date, if written records were kept. During the first half of the last century, numerous prefixes and suffixes were added, to identify each performance as completely and uniquely as possible. The suffix triplets identified the size of the record, as well as the recordist or recording engineer.

From the above discussion, one can identify five systems for numbering Gramophone Company matrices. The first used plain unlettered numbers, then the letter triplet system followed by the **HO**/letter triplet system. The **Bb/Cc** system and the **0A/2A** system with its adjunct **0AA/2AA** system followed this. After the introduction of tape recording, all of these early matrix number systems passed into history.

For a more exhaustive discussion of the problems of early matrix numbers, the reader is referred to the article "On Gramophone Company Matrix Numbers" by John F. Perkins, Alan Kelly, and John Ward, which appeared in the British magazine *The Record Collector*, Vol. XXIII, Nos. 3 & 4, May, 1976.

Victor's Use of Matrix Numbers

The Victor Company and its successors made no Gilbert and Sullivan recordings of any note, except the three sets on so-called long playing discs of the Victor Light Opera Company's [H.M.S. Pinafore](#), the Civic Light Opera Company's [Mikado](#), and the 1932 [Pirates of Penzance](#). None of these have discernible matrix numbers. The Victor releases of the Gilbert and Sullivan operas were imported and repressed from the original [Gramophone Company](#) matrices. However, the worldwide importance of the recordings and related activities of the Victor Company impels the writer to present a detailed study of the matrix number systems used by them.

Eldridge Reeves Johnson founded the Consolidate Talking Machine Company in August 1900. When he became embroiled in litigations over various patent rights, he approached Emile Berliner, and founded the Victor Talking Machine Company on October 3, 1901. Berliner received forty percent of the stock, for which he gave Johnson the rights to the gramophone patents, which apparently included those for both the manufacture of gramophones and the recording process. This seems evident from the three patent numbers on the identification plate for the 1895 Berliner Gramophone, shown in [Part One](#) of this article. Patent No. 372,786 of November 8, 1887, deals with both the gramophone itself and a recording process on cylinders; No. 534,543 of February 19, 1895, deals with the gramophone machine itself, while No. 382,790 of May 15, 1888, is concerned with the zinc plate recording process.

The Evolution of the Victor Label



Left: The first Eldridge Johnson label, introduced on seven-inch discs in the spring of 1900. A-56 was recorded on June 7, 1900, and remade on November 6.



Center Left: Johnson was ordered not to use the word Gram-o-phone on March 1, 1901. The result was the Improved Record label, which dropped the Consolidated Talking Machine Company name. This label also reflected Johnson's move from Philadelphia to Camden, although some reverse-side stickers from this period list both cities (the studio remained in Philadelphia for some time after the move). A-346 was recorded on October 5, 1900, and remade on June 5, 1901.

Center Right: Johnson first registered the Victor trademark on March 12, 1901, under his own name (the Victor Talking Machine Company had yet to be formed). This seven-inch version of A-639 was originally recorded on January 26, 1901, but was remade several times as the stampers wore out.

Right: The extremely rare Victor Ten Inch label marked the introduction of larger-diameter Victor discs. This label was in production for only a short time, probably in early-to-mid 1901, before being replaced by the Monarch label. #3008 was recorded on January 5, 1901.



Left: The Victor Monarch label was adopted for ten-inch discs later in 1901. The earliest version still listed Johnson as manufacturer. #3042 was recorded on January 21, 1901.



Center Left: The Victor Talking Machine Company was founded on October 3, 1901, and its name soon appeared in place of Johnson's on Victor labels. This ten-inch version of #300 (which retained the catalog number of the corresponding seven-inch version) was originally recorded on January 3, 1902.

Center Right: The first label design to incorporate "His Master's Voice" was registered on July 1, 1902. This seven-inch example was initially recorded in February 1901 but was remade several times over the following years. The small "B" to the right of the trademark indicates a contract pressing by the Burt Company, which at the time was owned by Columbia.

Right: The straight-line label was introduced in 1903, and the basic design would survive with some modifications for the next decade. This example was issued in late 1903.



Left: The first domestically recorded Red Seals were introduced in 1903 on the Monarch (ten-inch) and Deluxe (12-inch labels).



Center Left: The Deluxe label was reserved for twelve-inch discs. Company files for the elusive 2000-3000 series have been lost, but this example probably dates to 1903.

Center Right: Among the rarest Victor labels, the Deluxe Special was a short-lived series of 60-rpm, fourteen-inch discs introduced in March 1903. Company files no longer exist for these monstrous long-playing discs, few of which survive today.

Right: In March 1905, Victor discontinued the Monarch and Deluxe designations in favor of a uniform Victor label on all diameters. This early example of the "Grand Prize" label uses a master recorded by Enrico Caruso on February 1, 1904, which was originally issued under the Monarch label.

(The photos above are adapted from and reproduced with the permission of Kurt Nauck of [Nauck Vintage Records](#). The descriptions are courtesy of Allen Sutton of [Mainspring Press](#). My thanks and appreciation to both.)

The Pre-Matrix Period

Victor, or rather Consolidated, was making recordings as early as May 17, 1900. (Fagan and Moran indicate at least 17 earlier recording sessions, beginning on January 12, 1900.) Since they had not yet received the rights to Berliner's recording process, these recordings were largely surreptitious. At this time there were actually no matrix numbers. Instead, they used a "serial number", which was also the catalog or disc number. The term "matrix" was used at that time to designate the numbers assigned sequentially to any "takes" of a given serial number. Catalog numbers were assigned in blocks according to the size, and hence the price of the record.

The price of a record was determined by the amount of playing time for each size. In March 1903, a 7-inch record provided not more than 2 minutes of recorded sound, and cost 50 cents. A 10-inch disc that could play for about 3 minutes cost one dollar, while a 12-inch disc providing about 4 minutes of playing time was priced at \$1.50. At this time Victor announced the sale of the new 14-inch De Luxe Special discs, which played for 5-6 minutes, at \$2.00 each. These were all single-sided discs. When G&T, and then Victor, introduced double-sided records after 1912, the prices were increased accordingly.

The first number in the pre-matrix series, **A-1**, was assigned to a recording made by George Broderick on June 28, 1900, and consisting of a recital of a poem called "Departure," by Eugene Field. All Victor recordings up to April 30, 1903 received the **A** prefix, regardless of the size of the record. This continued up through **A-2324**, recorded about May 17, 1903. The second side **A-2** was recorded on May 17, 1900, and up to **A-109** many serial numbers were assigned out of the order in which the sides were recorded. This was correct beginning with **A-110**, recorded on July 11, 1900. The serial number also appeared as the record, or catalog number.

The first recorded take was not usually indicated on the record itself. Nearly all of the 2301 or more sides on 7-inch matrices were re-recorded on either 7-inch Victor discs with **V** prefixes and the same serial number, or with **M** prefixes, indicating a 10-inch or Monarch disc. The retakes were usually made much later than the original side, and in completely random order. The first 10-inch recordings were made on January 3, 1901, and were assigned a block of numbers beginning with **M**-3000 through **M**-3623. Twelve-inch, or De Luxe records were given serial numbers starting with 31000. Fourteen-inch, or De Luxe Special records started with number 41000. All of the latter were remakes, *i.e.*, re-recordings of earlier 12-inch takes.

A serial numbers were apparently assigned in blocks, **A**-1 through **A**-999 being allocated to domestic seven-inch records. The block starting with **A**-1000 was reserved for a group of European imports, including some of Fred Gaisberg's June 1900 Milan recordings. After **A**-1009 the numbers reverted to the domestic series through **A**-2000. The disc number **A**-1168 seems to have had the imprint **R**-1, indicating possibly the appearance of a 12-inch record, perhaps under a Royal label. This serial number initiated a series of some sixty recordings, made almost entirely by John Philip Sousa's band. Nearly all of these have **R**-imprints. For further details of this extremely convoluted system and its manifest results, the reader is referred to Fagan and Moran's first volume on the Victor pre-matrix series.

This series is known as the Pre-Matrix series, *i.e.*, before Victor had obtained legal rights to the Berliner recording process. The last recording session known to have used the A prefix numbering system was on May 1, 1903. The entire series is particularly noteworthy for its total lack of celebrities, with a few exceptions, including the great tenor Emilio de Gogorza, and the Sousa band. One complication which Victor introduced was the duplication of essentially all of its 7-inch recordings on 10-inch discs (see above). The reason for this is unknown, but the same serial number was usually used for both discs, the difference being the prefix letter. Take numbers consisted of a number suffix separated from the serial number by a dash.



Left and Left Center: Two Victrola labels, showing variations of the patent statements. Victrola 89040 and Victrola 95210, respectively. There were other variations.

Right Center and Right: Victor 88060. The box on the right is embedded on the reverse to identify an American Victrola Red Seal record.

Victor Matrix Numbers

The pre-matrix system ended on April 30, 1903, when, in Carnegie Hall facing Seventh Avenue in New York City, in a rented Studio 826, which had been converted into a recording studio, the first Victor Red Seal recording was made. From that time on they assigned their own matrix numbers. From its inception, Victor's matrix number system was quite different from that of the Gramophone and Typewriter Company, consisting of a letter prefix, a serial number, and a suffix number indicating the "take". [Fagan and Moran](#) point out that the

three components together make up the matrix number. The prefixes **A**, **B**, **C**, **D**, and **E**, were assigned to 7-, 10- 12-, 14-, and 8-inch discs, respectively. The first four sizes continued to be designated Victor, Monarch, Deluxe, and Deluxe Special, as they had been for the pre-matrix series. The 7- and 14-inch discs were abandoned almost immediately while the 8-inch disc was discontinued about 1908. The same selection, recorded by the same artist, would have the same matrix number with the appropriate prefix letter on each of the different sizes.

Since the first recording in Carnegie Hall had the matrix number **A**-1, there was some initial confusion. This was solved when this **A**-1 became 2182, and **B**-2, recorded on the same day, became 2181. This was simply a continuation of the pre-matrix numbering system, which had ended with **A**-2180 on April 23, 1903. The serial numbers continued from 1 through 104,075 in August 1936, at which point the matrix numbers started over again with 01.

According to [Perkins, Kelly, and Ward](#), this system was introduced by Victor when it took over some of the artists who had recorded formerly with G&T. Thus, all of Caruso's recordings following the 1902 Milan groups were made in Victor's New York studios up through March 10, 1908. Thereafter they were made either in New York or in Victor's studios in Camden, New Jersey. Victor signed its first contract with Caruso on January 28, 1904. Three days later, he made his first American recordings. Eight of the ten recorded sides had **B** matrices, while his first two 12-inch sides were assigned **C** matrices. This **B/C** prefix system was used, with some modifications, throughout the rest of the acoustical and the early part of the electrical recording period, as all but 10- and 12-inch disc sizes were soon dropped.

The Victor company kept track of the number of stampers, *i.e.*, negative copies of the master matrix, by placing one or more letters in front of the catalog number, which was generally imprinted on the disc at 12 o'clock. So-called "first editions" were imprinted **A**, while subsequent stampers had other letters. A stamper was used for a fixed number of pressings before it was discarded. An early pressing from a stamper with a higher letter was generally preferable, in terms of loudness and fidelity, to a late pressing from an earlier stamper.

From the time it was formed in 1901, the Victor Talking Machine Company and its several successors imported numerous matrices from the Gramophone & Typewriter Company, to be pressed and sold in this country and elsewhere. [Julian Moses](#) lists nearly 700 sides in Victor's Red Seal Celebrity series alone. Victor generally retained the original matrix number on imported G&T matrices. During the electrical recording era, Victor stamped over or near the G&T matrix number with **V.E.** in an oval or diamond. These are not the same as **BE** or **CVE** matrix numbers (see above).

At the same time, the Gramophone Company was importing Victor recordings to be repressed and issued in the European area. All of the Victor matrices issued by G&T retain the original Victor matrix number, and all have the **A** prefix, apparently for "American", regardless of the record size. [Bennett](#) lists many Victor recordings of the 1904-1905 period on the G&T label, having matrix numbers with **A** prefixes. Conversely, the writer has several early Victor pressings from G&T matrices, on which the prefix **A** has obviously been added to the original matrix number, presumably by G&T before they were imported by Victor. It is worth noting that G&T discs reissued under the Victor label usually had the notation "Recorded in Europe" printed under the name of the selection and/or artist.

After mid-1906, Victor no longer stamped their matrix number onto the disc in the area *around* the label, but apparently maintained it in the central area *beneath* the label. When these matrices were sent to G&T to be pressed and issued in England, the matrix number

was visible, and could be both printed on the label and reentered onto the disc area outside the label. G&T continued the practice of adding **A** to the original Victor matrix number stamped on the disc, to distinguish them from the original Victor matrix number, which had a **C** prefix for 12-inch discs (see above).

The writer has an original Victor 81062, a Caruso recording made in Victor's New York studio on February 17, 1905, on which the matrix number **B2344** has been handwritten. He also has a Plançon recording of 1906, Victor 85099, with the handwritten matrix number **B3029**. [Fagan and Moran](#) confirm the existence of both engraved and handwritten matrix numbers at the 6 o'clock position through the middle of March 1906.

A further anomaly exists with Caruso's January 21, 1914 recording of "Manella mia", on HMV 2-052091. The recorded area is so close to the label, that there was no room for G&T to enter the matrix number.

According to [John Bolig](#) in his discography of Caruso's recordings, **A** plates or stampers were the first editions. He says further that these designations appeared on the record next to the catalog number. He says also that early Victor records included the matrix number, but on later issues (after 1906) the matrix number on Victor pressings was replaced by the "take" number, usually a small Arabic numeral stamped on the disc to the left of the label, although sometimes it was an alphanumeric pair. One must distinguish here between the alphanumeric designation of the matrix edition, that is, whether it was the master matrix or a copy or stamper made thereafter, and any prefixes assigned to basic matrix numbers. The interested reader is referred to Fagan and Moran's excellent discussions of the markings on Victor matrices.

Another practice in this regard, apparently of the Gramophone & Typewriter Company, was to stamp both the Victor record number and its own record number on the matrix above the label, in addition to the matrix number itself. This has been seen on G&T discs from 1905 to as late as 1926, and can provide a wealth of information, if one knows exactly what one is looking at. Interestingly enough, all of the 4 discs seen, including the 1926 disc, were single-sided.

Within this concept one finds the occasional anomaly. The writer has HMV disc number 2-052061, Caruso's 1911 recording of "Io non che una povera stanzetta" from Leoncavallo's *La Bohème*, with the matrix number **CA11276**. The Victor number was of course **C11276**, and one would expect that a release by the Gramophone Company would have the matrix number prefixed with **A**. Even more interestingly, [Bennett](#) lists this matrix number with the **A** prefix alone.

Bennett lists matrix numbers as low as **A188**, issued in 1903, in his Italian Catalogue. This recording was attributed to "Francisco," one of several noms du disque used by Emilio de Gogorza. This is a Victor recording, repressed by G&T engineers. Moreover, Bennett lists all Caruso recordings on G&T labels with an **A** prefix, although the matrix numbers themselves are clearly those assigned by the Victor company. Of some interest is the fact that Bennett's Italian Catalogue seems to have been just that, a list of G&T recordings in the Italian language, but not necessarily made in Italy.

Victor's Electrical Recording Period

In February 1924, Victor began releasing its "Music Arts Library of Victor Records," using a special group of European recordings with masters imported from its English affiliate, the Gramophone Company, Ltd. The D'Oyly Carte Opera Company (*sic*) recordings of [The](#)

Mikado (1917) and *Pinafore* (1922) were among this group of releases. (See [Read and Welch](#), p. 258, who either saw the statement "Recorded under the direction of the D'Oyly Carte Opera Company" on the disc labels, and below this in parentheses "Mr. Rupert D'Oyly Carte," or else quoted someone else who had misinterpreted these statements.) The release of *The Mikado* was announced in the Victor supplement of March 1, 1925, and *Pinafore* in the supplement of August 1. See also [The Acoustical Mikado and Pinafore in America](#).

At the beginning of the electrical recording era, about April 1925, RCA began imprinting a **V.E.** in a circle near or over the matrix number of acoustical recordings, below the label of all such recordings. When electrical recordings replaced acoustical performances, it was common to use the same basic matrix number, and to replace **Bb** or **Cc** with **BVE** or **CVE**. The reader should note the difference between a matrix number with a **V.E.** overprint stamp, and one with a **BE** or **CVE** prefix. The former are electrically amplified or re-recorded from the original matrix, while the latter are *new* electric recordings.

Victor used these releases until the Western Electric recording process could be perfected, which was not until the following year. The first electric disc recording was probably made on or about February 1, 1925, when Victor allowed radio station WEAf in New York City to broadcast a recording by the violinist Renée Chemet. As with Berliner's original gramophone, the release of electric recordings was not practical until a phonograph capable of playing them faithfully could be provided to collectors. This occurred on what was known as Victor Day, which was November 2, 1925. On this date the electric Orthophonic Victrola was introduced to the public. At the demonstration of this instrument, John Philip Sousa, who had given Victor its first important testimonial in 1901, said, "Gentlemen, that's a band."



Victor Orthophonic Labels

In October 1925, Victor reissued Chaliapin's European recordings of the Coronation Scene from Moussorgsky's *Boris Godunov* on Victor 11485. The matrix numbers **Cc7064^{III}** and **Cc7066^I** are clearly visible on the pressings. Similarly, the matrix numbers **CR2142^I** and **CR2143^{III}** can be seen on the July 4, 1928, recording of the "Prayer and Death of Boris," Victor 15177. So too the matrix numbers on Chaliapin's recordings of "Le Veau d'Or" and "Vous Qui Faites l'Endormie," from *Faust*, on Victor 7600, and the Clock Scene from *Boris Godunov* on Victor 14517. Essentially all of the Victor repressings of Caruso's imported G&T recordings retain the original matrix numbers.

Examination of the Victor releases of the first electric series of Gilbert & Sullivan recordings shows that the original HMV matrix numbers were retained. However, they are generally

overstamped by **V.E.** in an oval or circle, making it difficult to read them. These are certainly exceptions to RCA's usual practice, which was to remove the G&T matrix number and replace it with its own *record number*. Therefore let the discographer beware of using RCA imported pressing for discographic data, for he/she will generally find little if any! What one *may* find is that the RCA *record number* has been stamped into the matrix used for the repressings.

In late 1928 the Victor Talking Machine Company merged with the Radio Corporation of America, and became the RCA Victor Division. From the beginning of its existence, this division had been inconsistent in its handling of matrix numbers, as can be seen from the comments above. In many instances the company rendered a disservice to both the discographer and the record collector when they repressed matrices imported from Europe.



RCA Victor Red Seal De Luxe Record 15-1007-B, 1948 reissue of the 1905 recording of Poi Plançon's "La Lazzarone" and "Le Filibustier"

I have, for example, the 1948 RCA Victor 'Red Seal' De Luxe Heritage Series issue number 15-1007, pressed on translucent red vinyl, of Poi Plançon's 1905 recordings of "O Isis" from *The Magic Flute* (side A) and "La Lazzarone" and "Filibustier" (misspelled "Flibustier" on the label) on side B (see picture above). On the unrecorded areas outside the labels on both sides, one can see readily that both matrix numbers have been shaved off or otherwise removed. They did not bother to smooth the area over on the B side, so it is quite evident, and the original matrix number **A2323** is still almost legible.

Victor was very haphazard in their placement of the label on the record surface, contrary to G&T, who almost invariably aligned the label with the incised matrix number at 6 o'clock. On Victor pressings of G&T imports one finds at least 3 different numbers. The G&T matrix number is usually maintained. If one orients this number at 6 o'clock, then the Victor catalog or disc number will be at 12 o'clock. If the record is to be issued in a set, and if the set has either slide or drop automatic coupling, the catalog number assigned to that set will be imprinted below or near the manual coupling number.

I have examined four sets of Victor's issues of the 1936 Mikado, including one manual coupling, three drop couplings, and three extra discs. With the G&T matrix number at 6 o'clock, I have seen the number 1 or 2 imprinted at 9 o'clock, while another number or alphanumeric combination appears at 3 o'clock, but upside down. These numbers are not only often extremely faint, but they may occur on the lead off grooves. Which of these imprints may indicate the stamper edition, I cannot say at this time.

In examining the four sets mentioned above, every record (all 192 sides!) was examined. In all instances except one, the matrix number had a **V.E.** in a diamond stamped over or near the matrix number. Some of these imprints are so faint as to be almost undetected. In one instance this imprint could not be found by any means. Moreover, the take number at 9 o'clock was 2 instead of 1.

In summary, the Victor Talking Machine Company used two basic systems for numbering their recordings. The pre-matrix system was used from (actually) May 1900 through April 23, 1903, and assigned various prefixes and blocks of numbers for 7-, 10-, 12-, and 14-inch recordings. From April 23, 1903 until the end of the acoustical era, the matrix numbers were sequential, using **B** prefixes for all 10-inch records and **C** prefixes for all 12-inch records, the production of 7-, 8-, and 14-inch records having been stopped before 1908.

The use of **B** and **C** continued as late as 1930. When the electrical recording era began, Victor changed the **B/C** prefixes to **BVE/CVE**. As early as 1938 Victor was using a matrix number system involving the block 045000 to 076000, which lasted until at least 1942. Little is known of this series. From about this time forward, until the end of the 78rpm era, Victor, now RCA, used various systems with a variety of prefixes. The purpose of these different and concurrent systems is unknown to the writer at this time. However, they still did not stamp the matrix number on the disc in any fashion.

At some period following World War II, Victor devised an elaborate system of prefixes, involving a four-character alphanumeric format, e.g., **D6-RB**. This had advanced as far as **E0-RC** by 1956, by which time, recording on 78 rpm matrices had ceased. However, it seems to have been continued into the LP period, up to **E4-RC** in 1956, but did not extend into stereo recordings. One may note that the **BSO/CSO** prefix was assigned to a series of Victor recordings made by the soprano Lucrezia Bori in July and August of 1937.

Matrix Numbers on Other Record Labels

In his *The Recordings of Enrico Caruso, A Discography*, John Richard Bolig writes:

Early Gramophone and Typewriter labels were red with gold lettering (much like the RCA Victor Red Seal issues). In 1908 G & T issued pink labels, and in 1909 the dog trademark was added. After 1909, G & T became the Gramophone Company Limited, and His Master's Voice or an appropriate translation appeared on the labels of all companies affiliated with the Gramophone Company Limited. Label colors were coded to indicate the language being sung, the record size, and the number of featured artists.

Pathé labels were etched into the rim of the cylinders and onto the surface of the discs.

Zonophone records had blue labels with gold lettering.

[The following applies to RCA recordings only.]

The symbol S/8 to the left of the label on several records refers to transcribed stampers (i.e., matrices). Later, the symbol 10S was used to refer to the same thing. Electronically-amplified or re-recorded records bear the symbol VE. The re-recordings with dubbed symphony orchestra are among the worst transcriptions ever produced. Although these sold well, the serious collector is rarely interested in transcriptions, unless the recordings appear in no other form.

(Note: I have several of these, and can vouch for their miserable effect on the ears! The collector should avoid them at all costs! I had the misfortune to purchase three Caruso re-recordings as my nearly first excursion into this area of collecting. They are certainly ghastly!)



Columbia Graphophone

The oldest name still extant in the recording industry is Columbia. Founded in 1889 and named for the District of Columbia where it was originally located, it was here that Fred Gaisberg first recorded cylinders under license from the American Graphophone Company and others. Early Columbia records in the acoustical era bore no distinguishing matrix numbers. Instead, from about 1912 until as late as 1930, the record number was the same as the one stamped on the matrix. After the introduction of electrical recording, a system of unique matrix numbers similar to that used by G&T and HMV was used, with various one- or two-letter prefixes. These included the use of **W**, **WA**, **WAX**, **WBX**, and so forth, as well as **CA** and **CAX**, through 1950. The added letter X in these series apparently indicated a 12-inch matrix. In most instances the matrix number, with the prefix but without any suffixes to identify different takes, appeared on the label. Sometimes an additional letter was added to the printed prefix, or the additional letter was stamped into the matrix but was not printed on the label. Columbia electric recordings are known in which the bare number is stamped onto the matrix, while the label has a 3-letter prefix. Confusion! After 1925, Columbia finally identified different takes by a simple hyphenated Arabic numeral suffix.

Columbia apparently used different matrix number systems for their European and American recordings. The reader is referred to the [Brooks and Rust](#) book listed in the Bibliography.



Columbia 1818, Walter Passmore's

"The Flowers That Bloom In The Spring," 1912



Columbia 1818, Walter Passmore's

"No Possible Doubt Whatever," 1912

Our knowledge of the matrix number system for Odeon is necessarily limited. Odeon, which has the distinction of having produced the first double-sided discs in 1904, seems to have used a simple identifying matrix number consisting of the plate number preceded by the prefix **Lx**. This system was used until at least 1911, perhaps later, Odeon merged with the Italian Fonotipia firm some time before 1912. Both companies also used **x** or **xx** prefixes, to designate 10- and 12-inch matrices, respectively. Fonotipia used **xPh**, **xxPh**, and **xxxPh** for 10-3/4, 12, and 13-3/4 inch discs, respectively, from October 1904 through the 1920's, while Odeon used **xB** and **xxB**, respectively.

Matrix Numbers in Recordings of Gilbert & Sullivan

Overview





William S. Gilbert



Arthur Sullivan

Most of the 78rpm recordings of Gilbert & Sullivan works from 1898 through 1936 were made by the Gramophone & Typewriter Company, later His Master's Voice. Since matrix numbers of this company provide the most difficulty in their interpretation, I will focus the discussion on the matrix numbers that one can expect to find on these discs.

The [Summary of Recording Histories](#) provides the full list of the complete sets and substantial abridgements that were published on 78rpm records. For detailed analyses of the Berliner, Gramophone & Typewriter, and His Master's Voice recordings of Gilbert and Sullivan, the reader is referred to the individual web pages dedicated to each of these recordings.

For purposes of our discussion here, the G&T (and successor company) recordings can be divided into four groups: those of the [19th Century](#), the [early G&T complete sets](#), the [HMV acoustical sets](#), and the [HMV electrical sets](#). Separate sections are dedicated to each of these. There are also brief sections on the [sets published by other labels](#) and [the LP era](#).

This discography's coverage of the 78rpm era deals mainly, although not solely, with the "complete" sets and substantial abridgements. [Francis](#) included in his scope sets consisting of "groups of five or more sides made at essentially the same time and place, and with the same performers." This would, of course, include the [four abridged HMV](#) and the [four abridged Columbia](#) sets, so "complete" does not seem to be the best adjective. Nevertheless, it is this group of recordings that is primarily the subject here.

There are considerable discrepancies in the details presented in the various sources, and if one does not have access to the records themselves, or to the studio recording sheets or ledgers, it is often difficult to know whom to believe. Before we consider the major series of recordings in detail, it is worthwhile to examine the specific problems that may arise in the treatment of these recordings in the sources, particularly [Wolfson](#) and [Francis](#) — the two that have the most detailed coverage of early G&S sets.

Wolfson vs. Francis

Some of the details (recording dates, matrix numbers, issue histories) for the early recordings listed in this discography were derived from John W. N. Francis's article, "The Gilbert and Sullivan Operettas on 78s," which appeared in the *ARSC Journal*, Volume 20, No. 1 (1988-1989). He in turn appears to have derived his information from the archives and recording sheets in EMI and Decca files. Francis states that "The following is taken from the author's discography *Operas on 78s*, forthcoming in 1990 from Greenwood Press." I have

been unable to locate this book anywhere on the Internet or elsewhere, and I have been informed that it was never published. Therefore, the sources that may be listed therein are quite unknown to me.

It would not be amiss to say that the writers of the recording sheets of EMI and Decca may have taken short cuts in setting down the information for each recording session. I refer specifically to the superscript Roman numerals that were used to indicate takes from about 1917 onward. It is doubtful that the data recorders would or could take the time to write these out correctly. Instead, it seems quite likely that they would indicate the take numbers by a hyphen and Arabic number following the basic matrix number.

If this is the case, it explains why Francis's matrix numbers for both the **HO** and **Bb/Cc** series indicate takes solely by hyphenated Arabic numeral suffixes. What he saw was what he wrote! Nowhere in his article does Francis ever say that he saw first-hand any of the discographic data that he presented.

John Wolfson, on the other hand, has an extensive personal collection of early Gilbert & Sullivan recordings on 78s, as indicated by the credits given to him by various recording companies, to whom Wolfson not only provided the discs for transcriptions, but also the liner notes.

Francis and Wolfson disagree on many aspects of the recordings, *viz.*, cast members and assignments, matrix numbers, record numbers, recording/issue dates, and so forth. My personal inclination is to accept data from one who is more likely to have observed them directly, in other words, Wolfson. See also the sections below. Unfortunately, there are many sets that Wolfson did not cover in detail.

Francis states that, "From 1907 [*sic*] to 1950, 29 complete sets of the Gilbert and Sullivan operettas were published on 78s, with at least two versions of each work and five of *The Mikado*...." In fact, there were closer to thirty-one sets. Although the [1907 G&T Gondoliers](#) had only 9 sides, and the first [1908 G&T Pinafore](#) only 8 sides, Francis's description of the [1906 G&T Mikado](#) is missing 5 sides, the addition of which would bring it up to 22 sides, hardly in the class of an excerpt or abridgement. Francis omits some 4 sides from the [1907 G&T Yeomen](#), but even his total of 15 sides hardly qualifies as an abridgement. He also relegates the second [1908 G&T Pinafore](#), for which he lists 17 sides, to the status of an abridged set. See also the tables below.

It is sometimes difficult to label a particular recording as "complete" or "abridged". Certainly Gilbert was probably never quite satisfied with any of the libretti and was constantly adding, omitting, and revising the operas up until his death. Many "complete" sets since the advent of electrical recording frequently omit second or third verses, not to mention entire selections. Of prime importance is the omission of "Come, Mighty Must" from all but two "complete" recordings of *Princess Ida*. Nor can one overlook the fact that almost none of the recordings from any period include the dialogue! Nor does this make them any less "complete".

G&S Recordings in the 19th Century

On August 19, 1898, a young man named H. Scott Russell walked into the G&T recording studio in Maiden Lane, and recorded three sides, including "Take A Pair Of Sparkling Eyes" from *The Gondoliers*. It was issued on Berliner 2006. Unfortunately, the matrix was lost or destroyed, and no copy of the record is known to exist. Russell repeated the recording on January 31, 1899, when it was assigned a matrix number of 1120 and issued as Berliner

2006-X. On November 21, 1900, Russell recorded "A Tenor Can't Do Himself Justice" from *Utopia Limited*, and on November 26, 1900, "Would You know The Kind Of Maid," from *Princess Ida*. These bore matrix numbers 1637a and 1611a and were issued on Berliner 2971 and 2973, respectively.

On October 3, 1898, a young woman named Syria Lamonte came to the Maiden Lane basement studio and recorded "When A Merry Maiden Marries," from *The Gondoliers*. It was issued as Berliner 3018 and apparently had a matrix number of 12y. It is the earliest known surviving disc of a Gilbert & Sullivan selection, since the earlier Scott Russell disc has been lost.

In an interview with the discographer Brian Rust in 1949, Fred Gaisberg said that he remembered Syria Lamonte (after more than 50 years!), that she was a barmaid, that she had a big voice, and that she was the first "artist" he ever recorded. This was less than 90 days after his arrival in London!

A recording on G&T 4014 of "Prithee, Pretty Maiden" from *Patience*, sung by a Miss Marwood and a Montague Borwell, was recorded on November 1, 1898. The matrix number appears to be 18y, having been recorded slightly later than the Lamonte disc. They made another, probably on the same date, and issued as G&T 4016, of "Things Are Seldom What They Seem." See the table below.

The Savoy Opera Chorus recorded three known sides, Berliner 3214, 4525 (not listed by [Bennett](#)), and 4526, matrix numbers 1850a, 1854a and 1855a. The first was of "Poor Wandering One," with Isabel Jay as the soloist. The other two were "A Heavy Dragoon" and the Act II Finale from *Patience*, on December 20, 1900. On the previous day, Walter Passmore had recorded two sides, "If You're Anxious For To Shine" from *Patience*, and "My Name is John Wellington Wells" from *The Sorcerer*. These bore matrix numbers 1833a and 1831a, respectively, and were issued on Berliner 2454 and 2455. The **a** suffixes identify the five sides as being recorded by Fred Gaisberg on 7-inch matrices. These are among the less than two dozen nineteenth century G&S recordings, of which 3 are included in Pavilion Records' [The Art Of The Savoyard](#), Volume I, and 7 more in Volume II. Volume I also includes Eleanor Jones-Hudson's recording of "Were I Thy Bride," from the [1907 Yeomen](#), as well as Amy Augarde's "I'm Called Little Buttercup," from the [1908 Pinafore](#). The HMV Treasury disc [Gilbert & Sullivan: The Early Records](#) includes six more discs from the nineteenth century.

G&S Recordings in the 19th Century

Matrix Number	Disc Number	Selection	Artist	Recording Date
	Berliner 2006	Take A Pair of Sparkling Eyes	H. Scott Russell	19 Aug 1898
12y	Berliner 3018	When A Merry Maiden Marries	Syria Lamonte	3 Oct 1898
18y	Berliner 4014	Prithee, pretty maiden	Marwood, Borwell	1 Nov 1898
	Berliner 4016	Things are seldom what they seem	Marwood, Borwell	
1120	Berliner 2006x	Take a Pair of Sparkling Eyes	H. Scott Russell	31 Jan 1899
1611a	Berliner 2973	Would You Know The Kind of Maid	H. Scott Russell	26 Nov 1900
1637a	Berliner 2971	A Tenor Can't Do Himself Justice	H. Scott Russell	26 Nov 1900
1831a	Berliner 2455	My Name Is John	Walter Passmore	19 Dec 1900

1833a	Berliner 2454	Wellington Wells If You're Anxious For To Shine	Walter Passmore	19 Dec 1900
1850a	Berliner 3214	Poor Wandering One	Isabel Jay & S.O.C.	20 Dec 1900
1854a	Berliner 4525	A Heavy Dragoon	Savoy Opera Chorus	20 Dec 1900
1855a	Berliner 4526	Patience, Finale Act II	Savoy Opera Chorus	20 Dec 1900

(Symposium Records CD No. 1058, "Emile Berliner's *Gramophone* — the earliest discs 1888-1901," lists an anonymous recording of "On A Tree By A River," with a date of *ca.* 1890. The catalog number, assumedly Berliner, is given as 59. The liner notes provide no further information. This, would, of course, be the earliest known recording of a Gilbert and Sullivan selection. Since it was most probably recorded in Philadelphia, the artist is not British! Nor can he maintain the key very well!)

The G&T "Complete" Sets

Matrix numbers for the G&T recordings listed in this discography are shown under the individual recordings' web pages. As far as is possible and known, these matrix numbers are correct, having been observed directly on copies of the original discs. It is unfortunate that early discographers presumed to "interpret" matrix numbers as well as other discographic information. We will treat of this further [below](#).

Fred and Will Gaisberg and/or their assistants supervised the first 5 G&T "complete" sets of Gilbert & Sullivan. Fred supervised the recording of the **b** and **c** discs, while the **e** and **f** matrices were recorded under the supervision of Fred's brother Will, all in London. The **b** and **e** sides are 10-inch discs, while the **c** and **f** sides indicate 12-inch discs. All of these recordings were issued and sold individually as single-sided discs.



Mr. Peter Dawson's Recording of "A More Humane Mikado," from the first "complete" series of 1906, on Gramophone Concert Record G.C.-3-2476

[Wolfson](#) indicates that the Sullivan Operatic Party (S.O.P.), which is credited on many of the early sets, consisted of artists such as Peter Dawson, Eleanor Jones-Hudson, Ernest Pike and Stanley Kirkby, artists whom the Gramophone Company considered to record well. One is inclined, however, to consider that the S.O.P. for each set comprised the solo artists in each group. Wolfson's own definition was that "The Sullivan Operatic Party was a name used to mean whoever was in the studio that day." From the recording details listed on the individual recordings' web pages, it is evident that the four artists named above were in all of the S.O.P.'s, Dawson and Kirkby missing one each.

[Bennett](#) refers to the *Savoy Opera Chorus* and the *Savoy Theatre Male Quartette*, which recorded in 1900 and 1903 respectively. The participants are not known, but the former probably included members of the December 1900 cast appearing in *Patience*, such as Henry Lytton, Walter Passmore, Robert Evett, Isabel Jay, and Agnes Fraser. These two groups may have been forerunners of the Sullivan Operatic Party. On April 24, 1903 the Quartette recorded at least three single 12-inch sides, with Henry Lytton singing three selections from *A Princess of Kensington*. The matrix numbers are 3524b, 3525b, and 8GR-WGG.

It may interest some readers to note that the Gramophone Company had in those days singing groups called *Grand Opera Party*, *Light Opera Party*, and even *Ragtime Chorus* and *Ragtime Quintette*. It is not beyond the realm of possibility that the first two of these were comprised of the same artists as the Sullivan Operatic Party. It is well known that G&T studio artists recorded most of the operas of the period, but in English!

Note the gaps in the matrix number sequences for various dates, e.g., 16 and 21 Aug 1906, and 18 Sep 1906. Alternative takes were probably made in these sessions for the selections involved. On the other hand, it is also possible that performers other than those involved in the selections below were in the studio, and that they made recordings while other performers rested between takes.

[Wolfson](#) omits completely listings for the [1907 Gondoliers](#) and the abridged [1908 Pinafore](#). [Francis](#) lists HMV B403/9 as the double-sided discs for the [1907 Yeomen](#), i.e., 14 sides, yet he lists two sides as being on B411. Moreover, Francis omits matrix number 9988b, as well as the last 3 sides on the set. The matrix number 6574b seems to be a misfit, since, according to [Perkins, Kelly, and Ward](#), this particular matrix would have been recorded in Vienna in early 1905! And while Gaisberg is known to have been in Vienna in the first half of 1905, it is extremely unlikely that he could have recorded the Sullivan Operatic Party in that city at that time!

One may note further that Fred Gaisberg's brother Will recorded the very first of these sides, as well as both sets of *Pinafore*. Fred Gaisberg recorded the remaining G&T sides. The only set that was not reissued on double-sided discs after 1912 was the abridged [1908 Pinafore](#).

It must be assumed that both Fred and Will Gaisberg, as well as the other G&T recordists, assigned matrix numbers in order of their use. It is therefore interesting to note that the first nine sides of the [1907 Yeomen](#) were actually recorded before the [1907 Gondoliers](#) excerpts, between 1 Feb and 5 Feb 1907, while the remaining 10 sides were recorded after *The Gondoliers*.

HMV Acoustical Complete Sets

All of the acoustically recorded sides from July 1917 through January 1921 were recorded by either Edmund J. Pearse or William Sinkler Darby, both of whom were assigned the **af**

doublet letter suffix. Matrix numbers of the rejected sides are shown on the respective web pages in italics, but many are unidentified. These may have been alternative takes of various sides, or, as stated elsewhere, they were not necessarily G&S selections, but may have been recordings of other selections by other artists. None of the acoustical recordings were ever issued as single-sided discs, although single-side numbers were assigned to most of the recordings before 1925.

One should also note that HMV, or His Master's Voice, was never the name of any recording company. It was solely a trademark used by the Gramophone Company, later EMI, and the Victor Talking Machine, later RCA Victor Company. It was derived from the logo of the dog Nipper listening to "His Master's Voice," which was used on the labels of both companies at one time or another. It occupied the entire upper half of G&T labels on double-sided discs, the words "HIS MASTER'S VOICE" being in an arc above the trademark.

From about mid-1912 to about mid-1921, the prefix **HO** was added to the triplet system for both 10- and 12-inch discs. When additional takes were required, the first matrix was usually not discarded, but simply filed, and additional plates were used for further takes. These matrices were assigned the next number in the recordist's assigned block. So in the [1917 HMV Mikado](#) we find the matrix numbers **HO**2766, 2767, 2768, 2770, 2772, 2774, 2776, 2778, 2780, 2789, 2791, 2796, 2797, 2799, 2801, 2803, 2805, 2807, 2810, 2811, 2813, 2816, 2818, 2914, and 2916 all rejected. Most of these were apparently first takes, the second takes being assigned the next number. We find a similar situation in the [1919 HMV Gondoliers](#).

This procedure quickly used up numbers. It was not until the [1920 HMV Yeomen](#) that the designation of takes was changed. From that time, each take of the same selection by the same performers was given the same matrix number, while the number of the take was designated by a superscript Roman numeral suffix, e.g., **HO**4282^I. Other recording companies, as well as G&T, sometimes let the bare number designate the first take, while only later takes were identified with the suffix number.

Most of the "Recording Details" and "Recording Sessions" tables on the individual recordings' web pages indicate alternate takes by a suffix number (e.g., Cc18640-2). My sets of HMV recordings of both the [1927 Gondoliers](#) and the [1930 Pinafore](#) indicate *all* alternate takes, including the first, by Roman numeral superscripts. Such a matrix number might appear as

Cc18640^{IAT2}Δ

[Note: On the preceding line, the number "18640" should be followed by "IAT2" in superscript, followed by a capital Greek delta. If you are not seeing that, then your browser is not capable of displaying all of the symbols used in this article as they are meant to appear.]

James F. E. Dennis, editor of the British monthly magazine *The Record Collector*, says in a note to Perkins, Kelly, and Ward's [article](#),

...where superscripts in small Roman capitals appear as part of the matrix number...they should be "shoulder high" and are so pressed in the disc. J.D.

G&T used this method to designate take numbers, from a superscript ^I to a superscript ^x, or higher, until almost the end of the 78rpm era. The superscript numerals and anything following them usually appear directly above a Greek delta, as Δ. Note that there are as many matrices with the same *basic number* as there are takes. Each take has its own

matrix, but they all share the number, differing only by the numeral used to indicate the take.

I am not certain of the meaning of such letters as **AT** in the superscript suffix above, nor of the **2** following it. It may refer to a recording engineer, as in earlier days. More than likely, however, they refer to the number of the stamper prepared from the original matrix plate. Whatever it may mean, it does not affect our understanding and interpretation of matrix numbers of this period.

[Bennett](#) does not generally indicate different takes of any recordings, although both [Bolib](#) and [Francis](#) do, but only by hyphenated Arabic numerals. One exception is Bennett's listing of G&T 2-2662, Pol Plançon's 1902 recording of Schumann's "Les deux grenadiers," in which the matrix number is given distinctly as "**1925^{II}G**," indicating that Fred Gaisberg had supervised the recording in London sometime between April and November of 1902. Various discographers have seen fit, not only to change superscript Roman numerals to normal Arabic numbers, but also to add hyphens in various places. This may prove confusing to the untutored record collector, especially when he/she is trying to locate a pressing of a particular take, which may not exist in the form in which he/she finds it written!



Left: HMV D 37, Side 4 from the 1919 acoustical recording of [The Gondoliers](#). Note the three different label designs. The 22 sides in this set bear three sequences of single-side catalog numbers, listed as such in Bennett.

Center: HMV D1334, Side 1 of the 1927 electrical recording of [The Gondoliers](#). This set of discs has single-side numbers apparently assigned but never listed or issued.

Right: HMV D1845, Side 4 from the 1930 electrical recording of [H.M.S. Pinafore](#). The series of numbers to be found at the 7:30 o'clock position are apparently related to the sequence of accepted takes, assigned during the recording sessions. The series 30-xxxx is generally found on 10-inch discs, while the 32-xxxx series was used for 12-inch sides.

Single-side numbers from 02829 to 02833 appear on 5 sides of solo selections sung by male artists, and from 04257 to 04265 on duet selections, while the numbers 04689 to 04695 are on the ensemble selections. A single number 03655 appears on the only female solo without choral accompaniment, on HMV D 40 side 2, "Kind Sir, You Cannot Have the Heart."

HMV Electrical Complete Sets

When the electrical recording era began in early 1925, the Gramophone Company was still using the **Bb/Cc** system of matrix numbers that had begun some five years before. This system remained in use through the end of 1930, encompassing the first eight electrical recordings of complete Gilbert & Sullivan operas. When the first three abridged sets were recorded, the Gramophone Company had begun to use the **OB/2B** system mentioned in a previous section. The next two complete recordings, as well as the abridged recording of the [1933 Sorcerer](#), also used this system. The final recording of Gilbert and Sullivan operas by the Gramophone Company, the [1926 HMV Mikado](#), used the extended **OEA/2EA** matrix numbering system.

On the respective web pages, the issued matrix numbers are derived from a variety of sources, including [Francis](#), liner notes to various LP and CD re-issues, and correspondence with visitors to this website who own copies of the original discs. [Wolfson](#) gives only the overall cast lists. The cast lists on the web pages are taken directly from the labels of these sets, and from the aforementioned sources. Attempts have been made on the individual web pages to reconstruct the recording sessions for each set wherever this is possible and rational. If the issued take is ^{II} or even higher, then we know that takes were made prior to the issued one.

For most of the sets, recording dates come from [Francis](#). Some dozen or more discrepancies in the recording dates of the HMV electrical recordings are evident. [Francis](#) gives all recording dates in the form of ddmmyy, with the month in lower case Roman numerals between the day and the year. Thus the recording date for "Our Great Mikado" is given as 19ix26, indicating September 19, 1926. The matrix number **Cc9462** indicates that it was recorded most probably on November 19, 1926, indicating a transposition of the **i** and **x** by Francis. The date of 29 September 1926 for the matrix **Cc9495^{IA}** appears to be an impossibility, since this would place it among the first matrix numbers of this recorded series. The date 29 November 1926 appears to be more likely, again pointing to the same transposition. These and other discrepancies are presented in the notes to the individual recordings' web pages. Except where the correction is obvious, these dates must remain unresolved until someone can refer to the original recording sheets.

The original matrix numbers on Victor repressings of the HMV electric recordings all are over stamped with the **V.E.** in a circle near or over the numbers. In addition to the matrix numbers, the Victor pressings provide record numbers on both the disc and the label, as well as what are probably the numbers assigned to the duplicate masters or stampers. The manual couplings bear only two numbers beside the matrix number, both on the record itself and on the label. The identity and significance of the second numbers, which are in sequence in each set, is unknown to me. The drop automatic side couplings (DC albums) have a third number added to both the disc and the label, which is the record number of the side in the manual sequence. Altogether, quite a jumble and clutter. The record numbers for the Victor issues are given in the various "Issue History" tables for each of these recordings.

Sets on Other Labels

The four [Columbia abridged sets](#) and the three [RCA Victor sets](#) belong in any G&S discography, although none of them involved the D'Oyly Carte Opera Company in any way (see, however, the 1930 Columbia abridged sets). But then, neither did most of the "sets" before 1922, with the occasional exception. Some of the artists, however, achieved standards of performance that equaled or exceeded those of their D'Oyly Carte brethren. Note that the short-lived long-playing 78rpm discs of RCA Victor had no matrix numbers. This secrecy on the part of the Victor Company has been noted and deplored by discographers for many years! I refer the reader to the various web pages for further discussion of their relative merits and deficiencies. (See the Civic Light Opera Company of New York City [Mikado](#) and [Pinafore](#), as well as comments on Victor's Long-Playing Record format under the [1930 D'Oyly Carte Pinafore](#).)

The [1930 Columbia Mikado](#) recording was the first in which the sides were recorded in order, followed by the [1931 Columbia Yeomen](#) and [1931 Columbia Iolanthe](#) sets. These are the only 78 sets recorded in this manner before the Decca/London releases. It was customary in the early years to record those selections to be sung by the artists on hand at any given session, since most of them had other obligations.

The last group of G&S sets on 78rpm matrices encompassed the first seven of the [1949/51 Decca/London recordings](#). The matrix numbers in this group are all quite straightforward. All seven sets were transferred shortly thereafter to the recently developed long-playing (LP) records, and they marked the end of the 78rpm recordings of Gilbert & Sullivan.

The LP Era

Matrix numbers continued to be used on LPs and even CDs, but they have special significance for 78's, as they are the only sure way of identifying a particular performance. Editing was essentially impossible in those days, and a side had to be recorded intact. The matrix number was stamped onto the master disc when the recording was made and was retained on copies of the master disc.

The seven operas [Decca/London recorded in 1949-50](#) (the mono sets with Martyn Green *et al*) were originally issued on 78rpm records. However, Decca was by now using a different system, and the sequence of matrix numbers no longer signified the order in which the items were recorded.

In the [Summary of Recording Histories](#) table, the matrix numbers for the 1949 Decca/London recording of [H.M.S. Pinafore](#) appear with either **1** or **1A** suffixes. This is found in [Francis](#), but the significance is unknown. None of the other 78rpm recordings in this series has such suffixes

My copies of London LL 71/2, the [1949 Decca Pinafore](#), have matrix numbers ARL 42-1ZE, ARL 43-1ZE, ARL 44-4ZE, and ARL 45-1ZE. The original Decca LP discs, LK4002/3, have the same ARL numbers, but with different suffixes. Moreover, the Decca numbers are stamped on, whereas the London matrix numbers are obviously inscribed by hand. The London and Decca labels, as well as the Richmond labels described below, have the ARL numbers printed on them without any prefixes.

The reissue of the [1949 Trial](#) recording on Richmond R.23050 carries the matrix numbers ARL-34-2NR and ARL-35-1NR. The numbers on the original Decca LK4001 pressing are ARL-34-3B and ARL-35-3A. The various other Decca and London pressings have similar matrix numbers, but with different suffixes. The reason for this is unknown, unless it was to indicate different copies from the master matrix. But why three of the London LL71/2 sides have the suffix -1ZE, and the other has -4ZE, is unexplained.

We said above that Victor was generally secretive about their (or G&T's?) matrix numbers and frequently burnished them off the matrices that they pressed. On the LP reprint of the [1927 Trial](#) and [1930 Pinafore](#), issued on RCA LCT 6008, the 4 sides have *very faint* matrix numbers of E2RP-4319-1S through E2RP-4322-1S. These sides also appear to have several capital letters (initials?) stamped opposite the matrix numbers. If these are the initials of the engineers who prepared the LP matrices from the original 78s, then we seem to be back where we started. The recording engineer's initials are once again stamped onto the matrix!

Uses and Applications of Matrix Numbers

The number stamped onto the matrix, in whatever format was current and in vogue at the time, provides identification of various aspects of the recording itself. The *bare number* identifies the selection and the various performers involved. These were usually (and hopefully!) recorded in the notebooks or on the recording sheets of the company's recording studios. Much of the information above and elsewhere has been extracted from these

notebooks. Unfortunately, many of them, particularly the early ones, were lost, destroyed, or mislaid.

The matrix number was usually entered in a notebook under a date, indicating when at least the *first take* of a selection had been recorded. It was customary in the early days to record not more than two or three takes of the same selection in a given recording session, although there appear to have been numerous exceptions (see the consolidated [Early G&T](#), [HMV Acoustical](#), and [HMV Electrical](#) recording sessions). If further takes were required, they were made on later dates, also two or three at a time. Thus, a take 9 or 12 might have been made at the fifth or sixth session, and these could have been weeks, months, or, as we shall see, as much as 4 years apart. Unless the notebooks are available, then, the dates of some published takes are often difficult if not impossible to establish.

In the first two decades of the last century it was thought important, or at least worthwhile, to identify the recordist or recording engineer, the individual in charge of the actual recording process. The reason for this *may* have been that he was paid according to the number of recordings made by him. The means used for this identification are explained above. After about 1925, with the advent of electric recording, this information was deemed superfluous, as indeed it was, since it contributed little if anything to the identification of a given performance. But at the time it did identify *who* supervised the recording, and generally *where* it had been recorded.

Another application of matrix numbers is to fit those of unknown date into their proper time frame. For example, if a matrix with the number 1234 is known to have been recorded on December 1, 1900, and another with the number 1256 was recorded on February 15, 1901, then at least the *first take* of any discs having numbers between these two can be assumed to have been recorded in the period bounded by those two dates. If one can establish that the unknown matrix number was indeed the first take, then one can affirm the approximate date of the recording. Dates for later takes are not easily established in this manner.

The biographical data of the performer(s) and the recordist can help establish dates for matrices of unknown or uncertain history. This technique works, for example, if an artist or recordist was in a certain city on a certain date, and if the artist has a recording that *may* have been made on that date, or the recordist can be identified by his suffix. If, on the other hand, the artist or recordist was not in that place at the time of that particular recording session, then the matrix could not have been prepared on that date.

Despite cavalier usage in some sources, Arabic and Roman numerals in matrix numbers are not interchangeable. The reason for this is a simple one: they each have their own significance. G&T used Roman numeral superscripts to identify take numbers. Victor, on the other hand, often used an Arabic numeral as the take number, and placed it on the matrix to the left of the label area. Columbia seems always to have used a hyphenated numeral suffix to indicate the take. See also the [comment](#) above by James F. E. Dennis.

Most record collectors content themselves with acquiring a particular performance of a particular selection by a particular performer, according to the record number. If an artist is known to have recorded the same selection more than once, it is a relatively simple matter to find the record numbers for the different performances and collect them accordingly. Thus, the great pianist Alfred Cortot recorded most of the works of Frédéric Chopin two, even three, times between 1919 and 1948. Each recording was issued under a different matrix number as well as a different record number. It is therefore quite easy to identify and collect them.

On the other hand, different takes, *i.e.*, performances, of the same selection by the same artists were occasionally issued under the same record number. Sometimes, an entirely different performance of the same selection by another artist, and with a different matrix number, was issued at a later date under the same record number. This writer has two complete sets of the [1919 G&T Gondoliers](#) set on G&T D 36/46. Both sets have the matrix numbers given in the "Recording Sessions" table in this discography, except that Side 12 in one set was pressed from matrix number **HO3880af**, while the other Side 12 was from matrix number **HO4550AF**. In both instances the labels designate the same artists — John Harrison, George Baker, Edna Thornton, Bessie Jones and chorus — even though Derek Oldham apparently replaced John Harrison on the later take.

Regarding the specific use above of the suffixes "af" and "AF", the latter occurs only in matrix numbers assigned during the recording of the [1920 G&T Yeomen](#). However, since several sides for the [1920 G&T Pirates](#), as well as the retake for the [1919 G&T Gondoliers](#), were recorded at the October 4, 1920 session, they also have the "AF" suffix. The only explanation I can see for this is that assistants to the recordist in charge (Pearse or Darby) picked up the dies for capital, rather than lower case letters, before stamping the master copies of the matrices. The error is all the more understandable, since he would have had to select reverse dies. This usage occurred in sessions between March 4 and October 4, 1920. It is of interest that the three sessions in July 1920 and that in August used the lower case dies.

Neither [Francis](#) nor [Wolfson](#) mentions the second take on matrix **HO4550AF**, nor the even later take of Tudor Davies on matrix **Cc2690^{III}** of "Take A Pair of Sparkling Eyes" from March 12, 1923. The labels from both Sides 12 provide the identical record number for the corresponding single-side disc, *viz.*, HMV 04693. [Bennett](#) lists neither of these recordings. But then, Bennett lists only HMV 02829, 02830, 02831, and 02833 out of the 22 sides, omitting all of the 04000 series. We are probably fortunate that John Harrison's poor voice is heard in only two solo selections in this recording, and that both of these were later re-recorded.

It should be noted that the photographs in the liner notes for Lockwood's transfers of the [1920 G&T Yeomen of The Guard](#) all show the matrix numbers with "AF" suffixes.

Conclusion

Matrix numbers are of relatively little interest to the record collector, unless he or she happens to be interested in discography as well. But even the record collector should be aware of such things as alternate takes, re-recordings, and the like. I have tried to point out the usefulness and applications of matrix numbers to the G&S discographer/collector, particularly as they are presented in the various **"Recording Details"** and **"Recording Sessions"** tables.

The only G&S recordings which present any real difficulty in the interpretation of matrix numbers are those of the Gramophone Company and its successors (see above). I have tried to sort this problem out insofar as it is applicable to the G&S recordings, plus a little more!

Whenever one finds information such as presented below in the bibliographic sources, one should recognize that much of the material is out of date almost as soon as one is finished reading, and hopefully more data are out there for the looking and the taking. I cannot emphasize too strongly that what one actually sees is what one should report. From various sources, *e.g.*, books, articles, liner notes from LP records and compact discs, one should be

well aware that many unfortunate liberties have been taken over the decades, only to be compounded elsewhere. Thus, **HO** matrix numbers have been presented as **Ho** numbers, and even as the suffix rather than the prefix. This applies also to the triplet system described above. The worst examples I have seen are matrix numbers in the form of "ac123**HO**"!

The function of the discographer is to determine *who, what, where, when, and how* each side was made, whether it is a cylinder, 78rpm shellac disc, long-playing vinyl disc, or digitally recorded compact disc. Matrix numbers for the latter are particularly difficult to identify!

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