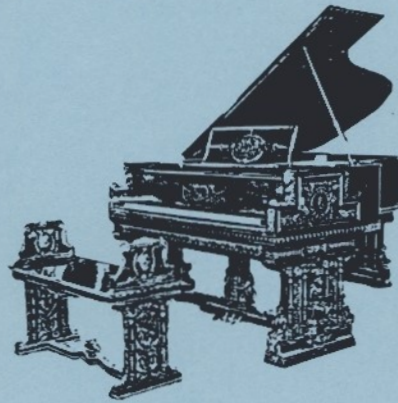




AMICA

TECHNICALITIES



Volume VI
1989 - 1993

Compiled by Terry Smythe



Foreword

Early in 1972, Founding Member **Mel Luchetti** compiled and published the first **AMICA Technicalities**, Volume I, containing technical articles written by **AMICAnS** and published in the early **AMICA Bulletin**s from 1969 through to 1971. Since then, a number of **AMICA Technicalities** have been compiled and published, all containing the technical achievements of **AMICA** members around the world.

This Volume VI carries on the tradition, containing the technical articles written or contributed by **AMICA** members for the **AMICA Bulletin** in the years 1989 to 1993. It is notable that this issue contains reprints of technical articles found in technical journals from the 'teens and 20's. Hopefully, more will emerge in the years to come for publication in future issue of the **AMICA Bulletin** and subsequently published in future compilations of **AMICA Technicalities**.

With some concern, a shortage of technical articles over the past 5 years about player piano restoration is noted. With the many player pianos constantly being restored worldwide, it would seem quite reasonable to expect that some technical articles would emerge from time to time. Surely there are some achievements about many of them that would be of interest to all members.

Furthermore, other than **Craig Brougher's** fine book on Orchestrion building, the last 5 years has seen a dearth of technical articles about restoration of nickelodeons and violin machines. It would seem reasonable that they too should have been the focus of equally intensive restoration efforts, out of which there are certain to be achievements of interest to all.

We have many positive opportunities of great significance to further our aims and objectives, and nourish a magnificent slice of musical heritage. One of **AMICA's** aims is "To educate the public of the historical and cultural significance of automatic musical instruments." What better way to contribute to this goal than by our members documenting their achievements through the pages of the **AMICA Bulletin**, such as the fine contributions by **Jim Weisenborne** and **Doug Henderson**. Please, care enough to share!

Enjoy!



Terry Smythe

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Reproducing Pianos

Reproducing Piano Systems: Their Evolution and Compatibility

By Jeffrey Morgan

Some persons who are involved with reproducing pianos are of the opinion that the Ampico system was not perfected until the introduction of the Model A mechanism in 1920.

I cannot agree with this statement; nor can I agree that perfection was achieved with the introduction of the Model B in 1929. Rather, I feel it is appropriate to say that the Ampico continued to evolve and develop during its entire lifetime. Let me explain . . .

From 1913 through 1919 Ampicos read the same "software" (i.e., music rolls). By this I mean rolls which were coded similarly to the later Model A rolls, but with one important exception, i.e., the source of control of the pump amplifier.

Early Ampicos from the period 1913-1919 (often inaccurately referred to as "Stoddard-Ampicos") achieve amplification automatically by sampling vacuum levels from the treble side of the stack only. Thus, early Ampico rolls were coded accordingly. Extremely early (1912-- the true Stoddard units) Ampico systems had no amplification at all; therefore, it must be assumed that the original Stoddard-Ampico rolls were coded accordingly.

When played by the appropriate roll, these early Ampicos function extremely well. There were many design and production changes during these early years, but they did not significantly affect performance quality. Rather, the changes were more oriented toward streamlining the manufacturing process and simplification of hardware and components. The system continued to use the same software (rolls).

A very important point in Ampico evolution was reached in early 1918. At that time, American Piano Company changed their source of supply of pneumatic components. Through the latter part of 1917 Ampico stacks and pneumatic components had been manufactured by the Auto Pneumatic Action Company of New York City. Indeed, Auto Pneumatic's trademark "Deluxe" was usually displayed proudly in the piano's spoolbox, along with either the term "Stoddard-Ampico" or a regular "The Ampico" decal.

However, from 1918 through the end of Model B Ampico production, American Piano used the Amphion Piano Player Company of Syracuse, New York, as its supplier of pneumatic components. This association eventually led to Amphion being totally absorbed by American Piano in the early 1920s.

The important point to be noted here is that, from 1918 until introduction of the Model A in 1920, the design used for expression components (except for pedal units) was the same as that of the previous Auto Pneumatic units -- yet the hardware, components and style of manufacturing were distinctly Amphion's. This reproducing action was still an early Ampico, with an early expression system designed to use early rolls coded with treble-only amplifier activation. Essentially, the execution changed while the design remained the same. This has confused many collectors/rebuilders who see Amphion components and thereby assume that the instrument is a Model A. Not yet . . . !

In general, Ampico manufacturing history can be divided into three main periods (and the music rolls can be divided into the same three periods). These periods are as follows:

Phase #1 -- Early Ampico, circa 1913 through 1919. Crescendos 11 seconds slow, 2 seconds fast. Amplifier controlled by treble stack vacuum exclusively.

Phase #2 -- Model A Ampico, 1920 through 1928. Crescendos 11 seconds slow, 2 seconds fast. Amplifier controlled by either bass or treble stack vacuum.

Phase #3 -- Model B Ampico, 1929 to about 1941. Crescendos 4 seconds slow, 1/2 second fast. Amplifier controlled by its own perforation on music roll. Instant-spill capability for stack. Also, sub-intensity controlled by its own perforation.

There is some minor overlap at transition points (especially Model A to Model B). However, they are not particularly relevant to the present discussion. To be thorough, one might also mention as a "sub-phase" the extremely early Ampico (i.e., the true Stoddard-Ampico and its rolls) which had no amplification.

An Ampico from any of these time periods can produce magnificent performances -- when playing music rolls from its own period. But, in truth, the rub comes when one attempts to play a roll from a "wrong" period. Despite pronouncements of "experts," the rolls from different periods of Ampico evolution are not compatible with all Ampico pianos. One can play a roll from a different period and still hear music, of course, but the performance will not be an accurate one. This topic will be discussed in much greater detail in a forthcoming article titled "Fidelity and the Ampico," by Barden, Morgan and Howe. This article will appear in a later issue of the *AMICA News Bulletin*.