DJANGO'S

How Mario Maccaferri and Selmer created a radical new guitar for the jazz age

By François Charle

IN THE EARLY 20TH CENTURY, THE birth of jazz necessitated new guitars that were loud enough to function as rhythm instruments in ever-larger bands. The major established guitar manufacturers, such as Martin and Gibson, adapted their output to the demand, and new manufacturers sprang up all over the world. In Europe, the production of musical instruments differed from one country to the next. Spain specialized in classical guitars, for example, while Italy produced both classical and steel-string guitars as well as mandolins. In France, guitar making was centered in Mirecourt in the Vosges mountains, where both gut- and steel-string instruments were produced using adaptations of the Spanish classical guitar design. Many Italian luthiers emigrated to France at this time and became responsible for a substantial portion of the country's guitar production.

One of these luthiers was Mario Maccaferri, who worked in the shop of Luigi Mozzani and was also an accomplished classical guitarist. In the early '20s, in fact, Maccaferri and Andrés Segovia were the two leading guitarists who regularly performed in Europe's concert and recital halls. In contrast to the very classical school to which Segovia belonged, Maccaferri had adopted his master Mozzani's technique of using a metal thumbpick, a practice he always retained and defended.

Above left: Mario Maccaferri (center) and crew at work in the Selmer workshop at Mantes la Ville, 1932; above right: the Quintet of the Hot Club of France (Stéphane Grappelli, Joseph Reinhardt, Django Reinhardt, Louis Vola, and Pierre Baro Ferret); left: an early Selmer ad in *Jazz Hot* magazine.

At the end of the '20s, Maccaferri moved to Paris and then to London with a new vision of the guitar. He gave guitar lessons and a few concerts, notably in the Wigmore Hall in London, but he was obsessed with the desire to improve the performance of the guitar. He met a furniture maker in London, who allowed him to use his wood and machines, and began working on the prototype for a new guitar. At the beginning of 1931, he presented the fruit of his work to the brothers Ben and Lew Davis, managers of the London branch of the Selmer company. They suggested that Maccaferri speak directly to Henri Selmer, the founder and head of the company in Paris. Selmer agreed that his company would take on the production of Maccaferri's guitars, and he left the management of the entire project to Maccaferri. His only request was that the line include jazz and Hawaiian models, which were then in fashion.

In 1931, Maccaferri began working for the Selmer Company in Paris, where his visions became reality. He reproduced some of the innovations he had learned from Mozzani, such as the cutaway and the two-piece saddle for better compensation. Also on Maccaferri's drawing

PATRICK VERONAUD

Orchestra model (commonly known as Jazz model) and the later Selmer model with oval soundhole and 14-fret neck.

board were necks reinforced with aluminum bars, backs and sides made of three-ply laminate for lightweight strength, enclosed tuning machines, and the feature that was most important to him—a vibrating soundbox inside the body of the guitar.

It was Maccaferri's responsibility to organize his Selmer workshop, adapting the machines, saws, lathes, and planes and getting together the tools and wood needed before training his workforce. The shop quickly grew to employ about ten men, for the most part wood turners and cabinetmakers who were reassigned to this new workshop. Maccaferri used some of the existing metal-working machines to make the tuning machines and tailpieces. All the molds, templates, forms, and special tools were made on site.

Maccaferri continued to design innovative instruments throughout his life, applying for his last patent in 1989, at the age of 89.

Maccaferri's personal experience and everything that he had learned in the workshop of Mozzani stood him in good stead. With the help of the team around him, he was able to set up the first production line. He himself made the drawings of the various models that he wished to have manufactured and gave everybody the necessary instructions.

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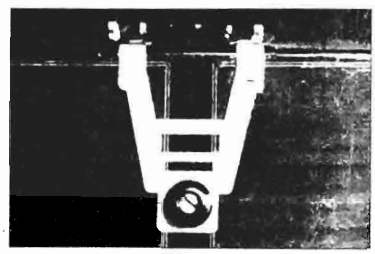
Mario Maccaferri proudly displays the first plastic guitar ever made, the G30.

FROM CONCERT HALL TO BANDSTAND

The first guitars were manufactured in 1932. Maccaferri had a natural predilection for the classical model, as he was first and foremost a classical guitarist. This model, which he called the Concert, incorporated the design principles of the Spanish classical guitar. The

Mando-Style Tailpieces



FRANÇOIS CHARLE

Adopting the method of attaching the strings that was used on mandolins (which had already been taken up for certain guitars), Maccaferri designed a tailpiece that was affixed to the bottom of the body. The machines and the metal used in the Selmer workshops facilitated the creation of this tailpiece, which became a hallmark of these guitars.

Six holes were drilled into the upper end of the tailpiece, and a stud was riveted into each one. These mushroom-shaped studs were designed to take loop-end strings, but they had a hole pierced through the middle that enabled them to accept ball-end strings as well. The lower end of the tailpiece was fixed to the guitar by three small screws. A button for attaching a strap was sometimes added to the middle screw, but this was a later practice. Selmer guitars were intended to be played sitting down.

On the first guitars, the tailpiece rested on a small piece of ebony that reinforced the rim of the body. The ebony was later replaced with a simple piece of green felt, which was much less effective.

bridge was glued to the soundboard, which was flat and braced underneath with fan strutting. The neck was wide and the fingerboard flat. The Concert also featured a cutaway, a two-piece saddle, and a second internal body.

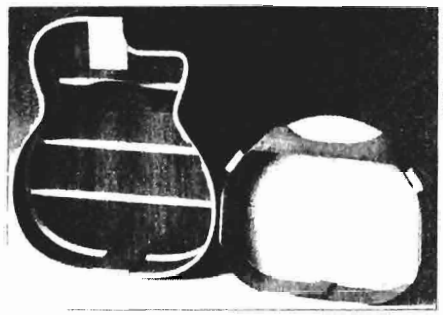
As soon as he began working at Selmer, Maccaferri turned his attention to developing steel-string models. He was less familiar with the fledgling world of jazz guitar, so he immersed himself in it by frequenting the clubs in Paris where jazz was performed, returning to his workbench with ideas.

The first steel-string Maccaferri introduced was the Orchestra, followed by the Hawaiian, the four-string Tenor, and the Eddie Freeman (named for the famous banjoist-turned-guitarist). These models incorporated many of the features of the Concert, such as the second soundbox, as well as introducing a mandolin-inspired "bent" soundboard and tailpiece and other designs specific to steel strings.

Maccaferri's steel-string models were an immediate and startling success. Gypsy guitarist Django Reinhardt took up the Selmer guitar and helped make it one of the most popular instruments in France. The famous Quintet of the Hot Club of France, a group founded by Reinhardt and Stéphane Grappelli, included bass, violin, Reinhardt's guitar, and two other guitars whose role was to provide accompaniment. These guitars had to be powerful enough to provide an effective rhythm section, and the Selmer was up to the task. Reinhardt had previously used many guitars of various makes, but once he came across the Selmer, he never again looked elsewhere. When the Selmer Orchestra model (which became known as the Jazz model) was introduced, he remained faithful to it for the rest of his career.

Unlike most jazz guitarists of the time, who basically improvised on the

The Inner Soundbox



Maccaferri's unique inner soundboxes were usually made of walnut and pine and shaped to follow the curves of the outer guitar body's lower bout. Three or four little blocks anchored the whole assembly within the outer body. The inner soundbox was not flush against the body sides; spaces were left between the box and the body that allowed the sound waves to circulate. The soundbox was also glued to the transverse brace, just below the lower lip of the D-shaped soundhole. The assembly, consisting of the soundbox, the brace, and the positioning brackets, was fixed inside the body, and then the top was glued down over the assembly. The sound was projected out of the body via a crescent-shaped reflector placed level with the upper edge of the soundhole and glued to the back of the body.

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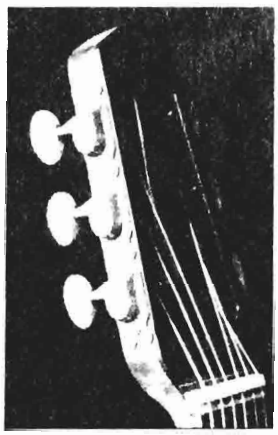
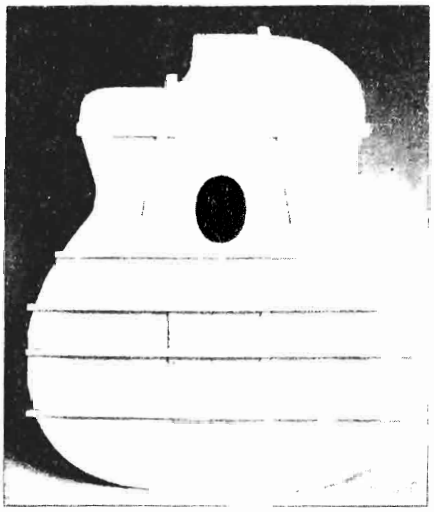
Fine Tuning



The tuning machines fitted to Selmer guitars were an undeniable novelty. Tuning machines at the time involved two cog wheels that were fixed onto a base plate with only one or two teeth meshing at a time. The whole mechanism was unprotected and needed regular lubrication. These tuning machines lacked precision and had a relatively short lifespan.

Maccaferri's innovation, which was later taken up by other manufacturers and is still used today, was to enclose the gears inside a casing fixed to the base plate. This casing protected the two cog wheels and provided them with a bearing surface, holding them tight against each other. A lubricant was incorporated during assembly, thus ensuring permanent self-lubrication for the gears. Maccaferri also increased the number of teeth meshing at any one time by replacing the straight-cut teeth with spiral-shaped gears. At least four teeth were in permanent contact, ensuring greater sturdiness and precision.

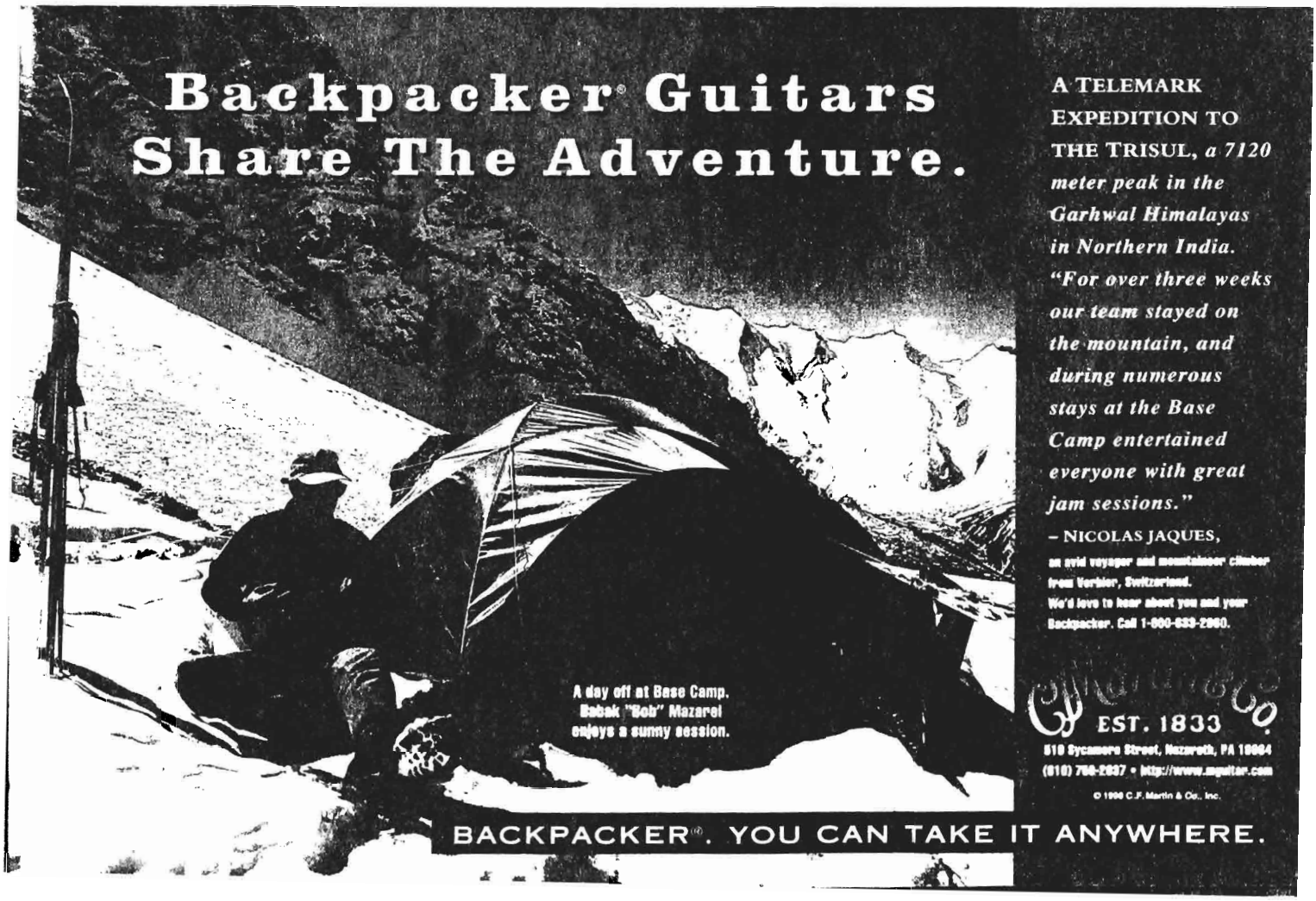


Soundboard bracing in the Selmer model.

chord harmonies without shifting their left hands. Reinhardt used the entire range of the instrument for his trademark phrases, running his hand up and down the length of the fingerboard at high speed in perfectly articulated movements. This required an instrument of great balance and clarity, and the acoustic qualities of the Selmer proved to be incomparable.

The Selmer company began supplying Reinhardt with free guitars in exchange for his endorsement. When he went to the USA to play with the Duke Ellington Orchestra, he did not take a guitar. He was sure that he would have a wide choice of guitars in the U.S. He was quickly disappointed, however, and found that American electric jazz guitars did not suit his playing at all. A Selmer guitar was sent to him, and he amplified it by adding a Stimer pickup in the early '50s.

Reinhardt's first instruments featured the large, D-shaped soundhole,



Jazz model mold.

which would later be replaced by a small oval soundhole. The Jazz model would also lose its internal soundbox, and its neck would be modified to have 14 frets clear of the body. Maccaferri eventually admitted that the extra soundbox did not make any positive contribution to the projection of the steel-string models. He did think that it gave the Concert model a better quality of sound—that the wavering of certain notes was eliminated and the notes that tended to be louder or weaker were brought to the same level.

MOVING ON

By the end of the first year of production, about 200 guitars had been made. Almost all of them were sent to the Ben Davis building at 12 Moor Street in London, where promotion and sales were handled. At the end of the following year, Maccaferri left the Selmer company, apparently after having a row with Selmer about his contract. After his departure, the Selmer company continued to produce the Orchestra model but abandoned all the others. In 1936–37, the model took on the unique characteristics—the small oval soundhole and 14-fret neck—known today.

Selmer guitars cost about a third more than the average guitar in France, and numerous makers, including Favino, Di Mauro, Larsato, and the Gérome brothers, began producing lower-priced copies. Each luthier put his own stamp or personality into his design, however, and to this day, the only Selmer copy that faithfully and scrupulously follows the Selmer design is the Maurice Dupont guitar (see Gearbox, June '99).

Paradoxically, it was precisely at the moment when the guitar market was really taking off that Selmer called a halt to 20 years of manufacturing its famous guitar. During those 20 years (1932–1952), a relatively small number of guitars had been turned out (less than a thousand), but they had been copied by French luthiers and then by foreign guitar makers. Their story remains today a brief episode in the saga of the Selmer company, which still considers this production activity to have been almost anecdotal.

When the Selmer Orchestra model (which became known as the Jazz model) was introduced, Reinhardt remained faithful to it for the rest of his career.

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Inside the Jazz Model

In order to make his steel-string jazz models loud enough to be heard among the other instruments in the band, Maccaferri dreamed up a soundboard bent behind the bridge like the top of a Neopolitan mandolin. Other steel-string guitars on the market at the time had flat soundboards or arched tops carved from a single piece of solid wood. On a mandolin, the bridge is held in place not by glue but by string pressure. The pressure of the bridge puts the soundboard under tension both along its length and along its width. Maccaferri adopted this construction principle for his Orchestra model, although the angle of the "bent" top was more acute. The top also appeared to be arched across its width, because it was glued to slightly curved braces.

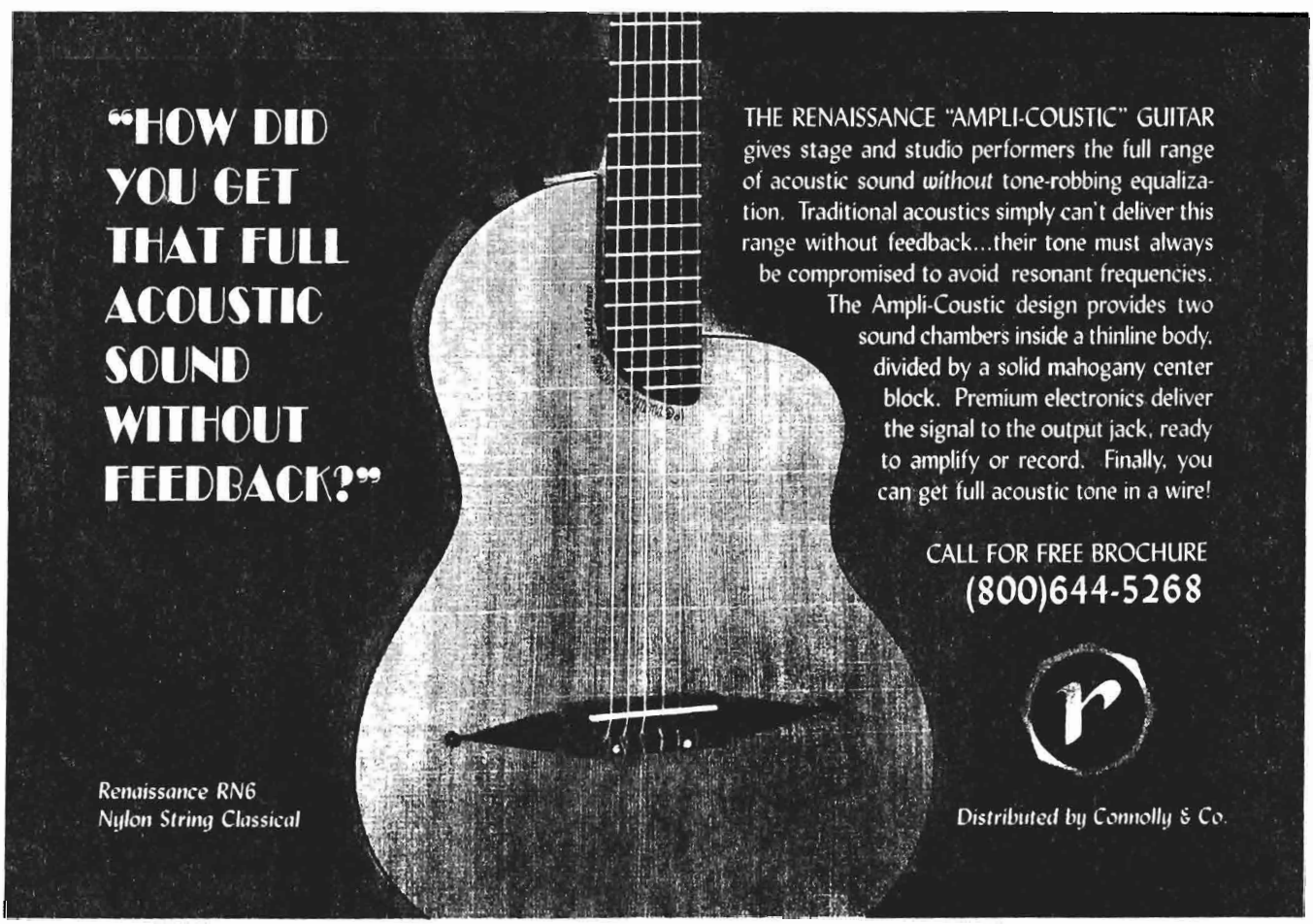
The Orchestra's body, which also featured the double soundbox, had a cutaway as a standard specification, but it could be ordered with a full upper bout. The dimensions and appearance were the same as those of the Concert model. The bracing system used four main transverse struts and four smaller struts running longitudinally. A plastic pickguard could be added, but it tended to hinder the player and very few were ordered. The bridge was not glued to the soundboard but was held in place by string pressure. Two small pointed pieces of ebony bracketed the floating bridge and enabled it to be easily placed in the proper position.

Most of the guitars had three-piece necks made of walnut reinforced with aluminum strips. The nut only served as a string spacer and had a zero fret in front of it. The end of the fingerboard on the treble side was extended in front of the soundhole to provide 24 frets for the top string.

Maccaferri remained all through his life a luthier with a passion for the guitar. He also developed superior reeds for wind instruments in the 1930s, plastic reeds during World War II, plastic clothespins (which would make him rich) and plastic tiles in the late '40s, and injection-molded plastic guitars and ukuleles in the '50s and '60s. He continued to design innovative instruments throughout his life, applying for his last patent (concerning the construction of a plastic violin) in 1989, at the age of 89.

Even though Maccaferri never met Django Reinhardt, he enabled him to find the ideal instrument for his style of playing, and their two names will be forever linked. Today, the Selmer Jazz model is above all used by Reinhardt's admirers. Numerous quintets copying the style of the Quintet of the Hot Club of France are in Europe, the United States, and elsewhere, and the legendary Selmer guitar is sought after by musicians and collectors around the world.

ADAPTED FROM the new book *The Story of Selmer Maccaferri Guitars*, by François Charle, 17, Galerie Véro-Dodat 75001 Paris, France. ■



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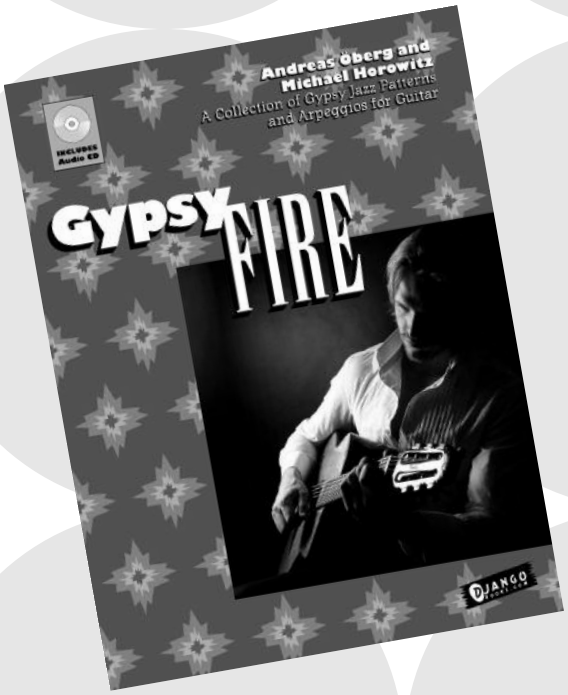

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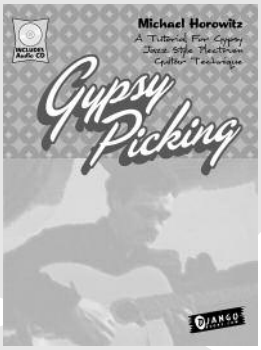

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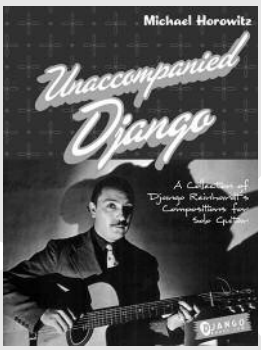

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