

A period of rapid evolution in bass playing and its effect on music through the lens of Memphis, TN

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2011 Rhodes Institute for Regional Studies



Music, like all other art forms, has multiple influences. Social movements, personal adventures and technology have all affected art in meaningful ways. The understanding of these different influences is essential for the full enjoyment and appreciation of any work of art. As a musician, specifically a bassist, I am interested in understanding, as thoroughly as

¹ <http://rockabillyhall.com/SunRhythm1.html> (date accessed 7 /15/11).

possible, the different influences contributing to the development of the bass' roles in popular music, and specifically the sound that the bass is producing relative to the other sounds in the ensemble. I am looking to identifying some of the key influences that determined the sound that the double and electric bass guitar relative to the ensembles they play in. I am choosing to focus largely on the 1950's as this is the era of the popularization of the electric bass guitar. With this new instrument, the sound, feeling and groove of rhythm sections were dramatically changed. However, during my research it became apparent that this shift involving the electric bass and amplification began earlier than the 1950's. My research had to reach back to the early 1930's. The defining characteristics of musical styles from the 1950's forward are very much shaped by the possibilities of the electric bass guitar. This statement is not taking away from the influence and musical necessity that is the double bass, but the sound of the electric bass guitar is a defining characteristic of music from the 1950s onward. Currently in both recorded and live music, the two most popular instruments that play the role of the bass are the double bass and the electric bass guitar. Interestingly, these two instruments have as many significant similarities as differences.

The advancements and innovations in equipment relative to bass playing can be studied separate from their use in ensembles; however these change's effects on the overall sound of music must be examined and interpreted from musical examples during this period. As to make a more focused conclusion on my broad topic, how the popularization of the electric bass changed the sound of music, I have decided to use individuals with ties to Memphis as examples in my research. I have chosen to do this not only because of the proximity of the resources, as I am studying at Rhodes College, but also the wide variety of styles that were

thriving in Memphis during the 1950's. The diversity of music during this era and even today in Memphis provides a common backdrop for this shift in the sound of music to be observed.

Before the shift: background on the Double Bass

The double bass has been around since the late 1500's and consequently has had time to develop through many different musical styles and different players. "The double bass of today is a violin and not a viol. In an instrument so large, those features which it shares with the viols are dictated by utility, and not by the need to conform with a *priori* classification."² The reason the modern double bass is more violin than viol is a product of technology. The production of more dense strings has allowed for string lengths to be reduced while still producing a low pitch. The materials used in to produce strings have changed as well creating a more favorable tone when played without frets. The availability of quality lighter materials and more modern structural design have created a more practical and playable instrument. These factors have allowed modern double basses to exhibit fretless fingerboard and share many construction techniques with violins. The integration of these characteristics of violins is no doubt what allowed for the development of virtuosity on the instrument, leading to its increase in popularity. An understanding of the physical traits of the modern double bass is integral to understanding its history and influences. The double bass' different traits show the engineering influences and this in turn represents the different musical influences and what the luthiers goals were for the instrument. The tuning in fourths and the sloping shoulders represent the viol influence, and the curved bridge shows the Italian influence on design and playing

² Eric Halfpenny, *A Note on the Genealogy of the Double Bass*, The Galpin Society Journal, Vol. 1 (Mar., 1948), 45.

capabilities and style. While the fretless fingerboard, number of strings and construction techniques show the inspiration from the violin family within the instrument.³

Challenges: Motivations for an Alternative to the Double Bass

To fully understand the definitive changes within rhythm sections that accompanied the popularization of the electric bass guitar it is important to understand the motivations for the electric bass guitar's invention. This motivation came from many different angles and not just Leo Fender's ingenuity, craftsmanship and entrepreneurial spirit. Motivation for the invention of an alternative to the double bass came from bass players in all genres of music as well other musicians who experienced the pros and cons of employing the double bass.

Double basses come in two main varieties, both of which are expensive. A high quality double bass will be carved out of solid wood. This produces an extremely resonant instrument that produces a full and of quality tone throughout its range. These carved basses are very costly to purchase, in modern times usually not dropping below five thousand dollars in price and are frequently over twenty thousand dollars. The cost and effort of ownership is dramatically increased by the very specialized maintenance of the expensive instrument. Maintenance is often required on these fully carved instruments as changes in temperature and humidity can cause the wood to shrink, swell or warp. This increased sensitivity to its environment is one of the largest down sides to a fully carved bass. Because of a fully carved basses value and sensitivity to its environment there are many necessary precautions needed to protect it during

³ Michael Praetorius, *Syntagma Musicum Band II: De Organographia Wolfenbuttel 1619, Kassel: Barenreiter*. Print 53.

transport. In fact, the cost of a hard-shell case for a double bass, which is necessary for flying or any serious travel, will cost several thousand dollars by itself.

There is an alternative in the world of acoustic double basses to the fully carved bass and that is the laminate bass. This is an acoustic double bass where plywood instead of a solid piece of wood is used to form the body. The utilization of plywood, even high quality plywood, does not do any favors to the tone or playability, only price and durability. Price and durability are some of the biggest challenges for working double bassists to overcome with his instrument when trying to making a living by playing bass. The dramatically reduced purchase price as well as maintenance expenses make it much more affordable for many more musicians to put a double bass in their hands. The plywood body was also much less sensitive to changes in temperature and humidity and therefore made traveling with the bass much easier and less risky. In addition to the plywood stabilizing the bass' response to environmental factors, the plywood construction was able to stand up to significantly more abuse. The combination of dramatically reduced retail and maintenance costs and the improved durability is usually enough to overcome the loss in tone and playability. The creation of the laminate double bass was a very important step leading to the success and versatility of the double bass from the 1930s forward. Memphis certainly would not have experienced the extensive double bass presence in blues, country, jazz, and rockabilly during the 1950s if American made laminate basses such as the Kay were not available. There just were not the financial resources and often there still are not in many musical situations to employ the use of a double bass built to the standards of the original designers in Italy. While this paper focuses on the roles of the double and electric bass guitars, and it is worth noting that the invention of the laminate double bass

was almost as influential on bassists and their bands as the invention of the electric bass guitar. Just as the electric bass guitar brought a bass register instrument to many new musicians so did the laminate upright. School systems all across America had their band and orchestra rooms stocked with Kay laminate double basses and cellos and it is crazy to think that this increased availability and affordability did not develop musicians that might not have had a chance or instrument otherwise.

Another complaint besides the high price of double basses was their large size. This made it difficult for smaller players to play the standard size (3/4) double bass as well as made transport a challenge. A favorite story of mine involves Bill Black, Elvis' first bassist, strapping his double bass to the roof of the Cadillac he was touring with Elvis in.⁴ Imagine the challenges and risks involved in doing this. Who knows what kind of case or gig bag he had for his double bass, but even with it being a laminate bass it was still in a very risky position to be affected by dramatic temperature and humidity changes being on top of a car which is touring all over the United States. It must have been very worrisome for Bill Black and other double bassists to know that the instrument on which they made their livelihood was often at risk during transport.

Unlike the electric bass guitar, the double bass is a very different instrument than the electric or acoustic guitar. This difference requires the double bass player to have an adequate skill and experience level to even play a note in tune much less developing a playing proficiency that was suitable for performing. The large fretless fingerboard of the double bass consequently makes it difficult for a musician who has not spent time practicing on the double bass to play

⁴ Personal Interview with Joe Fick (7/23/11).

even a simple accompaniment line. This is not the case for a guitarist who picks up the electric bass guitar. The transition is much more direct and the only notable difference is the scale of the instrument. A standard Fender Stratocaster has a string length of 25.5 inches while a Fender Precision Bass has a standardized string length of 34 inches.⁵ The many differences between guitars and double basses made it very difficult for a dedicated guitarist to switch easily and play a simple bass line in a song at a performance level. The creation of an electric bass guitar was a step to standardize the string section. This means that it made it easier for a player of fretted string instruments to transfer from one instrument to the other.

One of the most significant complaints about the double bass before the popularization of the electric bass guitar was how difficult it was to amplify the large, low-pitched acoustic instrument. The low range of the double bass is really at the core of the amplification struggle. One of the true shortcomings of the laminate double bass is that the materials it is made out of, usually 4-7 layers of thin maple laminate are glued together and pressed into the shape of the basses various pieces. The laminate bass' short coming lies in the glue and the multiple pieces of maple laminate greatly reduce the bass' resonance. This reduced resonance translates to reduced volume as the glue and increased numbers of pieces used to construct the body of the bass inhibit the bass from vibrating as much as it could if it was build from solid pieces of wood. Here again lie the fiscal challenges of the double bass. Double basses whose bodies are carved out of solid pieces of quality tone woods require a skilled luthier to perform all of the work by hand and the materials and labor in this type of bass is much more expensive.

⁵ [http://support.fender.com/manuals/instruments/57_Precision_Bass_VintageSeries_\(US1983\)_manual.pdf](http://support.fender.com/manuals/instruments/57_Precision_Bass_VintageSeries_(US1983)_manual.pdf) (date accessed 7 /15/11).

The issues with volume prior to the invention of adequate acoustic and electric bass amplification could not be solved entirely by all bassists using fully carved basses. However the use of a laminate bass does result in reduced volume and less control over the subtleties of the instrument. Different situations lead to either one type or the other, but it is impossible to ignore how the quality of the instrument affects the tone and volume as well as how far out of reach the price tag of quality basses are for many quality bassists.

Thomas Martin was a double bassist in the 1950s and here is his take on early double bass amplification.

“Early bass amplification (50's) was rather elementary and consisted of basically a microphone and an amplifier and speaker in one cabinet. The best of these systems was developed by "AMPEG". This consisted of a microphone attached to the inside end of an endpin. There was a screw terminal on the outside of the endpin and the lead could be put into the amplifier in the speaker case. Later in the 50's "AMPEG" made an amplifier that came out of the speaker cabinet so as to limit feedback and distortion. The cabinet was not very large and held basically a 15" Altec-Lansing speaker. The character of the bass note sought was a nice round note with a natural decay. The rule was to adjust the level of amplification to just below the stage at which it became noticeable. So the early bass amps could be viewed as aids rather than serious amplification. I was one of the first to use an "AMPEG" bass amp in a big band(Tommy Dorsey Orchestra) and the danger was the increased note length and changed character although one could keep up a bit better with the general level of the band (leaving only the piano with the problem). The biggest problem was to come when all the instruments became embroiled in a battle of volume supremacy which is still ongoing - caused by the possibility of a more audible bass note.”⁶

⁶ Thomas Martin E-mail Interview (7/19/11).

The large acoustic body, low frequency pitch range and completely inadequate low frequency amplifiers (until 1952-54) made amplifying the double bass a nightmare and often so difficult that it was not even attempted. The amplification issue spawned other issues related to playing technique and role of the double bass within the ensemble. The first truly effective bass amplifiers did not come around until the late 1960's and early 1970's with the introduction of the Sun Line of amplifiers. Both the 200s and the Coliseum gave us a taste of what a bass amplifiers could be capable of today.⁷ Bassists would have a particularly large role in terms of innovations in live and recorded sound. Phil Lesh and friends out in San Francisco were behind the beginnings of the Alembic company which introduced all sorts of electronic innovations in packages that could be used to make music, especially loud music. One of these huge innovations was the first effective amplification system for a large concert setting. Phil Lesh the bassist for The Grateful Dead combined his musicianship with friends in the electronics industry to not only to invent with an effective way of amplifying the bass guitar to a satisfactory volume while keeping quality and control over the tone, but they also began running a live sound business. This was because Alembic's innovations in electronics, largely inspired by Phil Lesh, lead to the invention of the first live sound equipment which adequately delivered sounds to a stadium sized crowd. The modern live music experience in a large concert setting really began with Alembic's electronic innovations. All of these electronic innovations were largely inspired and financed through the success the Alembic Company had in the customization and production of electric basses and guitars. Alembic's invention and utilization of their PA system and improved electronic musical instruments really was a summing moment for the electrified

⁷ Dave Roe Interview (7/23/11).

music world. The “Live Dead” recording represents a point where instruments were no longer hindered by the amplifiers they were running through and electric instruments were advanced enough to not hinder their players. For a long time bassists had been lost in the mix, under-powered and restricted by their equipment, this time was now over.⁸

Coping with the challenges of Double Bass: New inventions and playing techniques

Before the popularization of the electric bass guitar is when double bassists and their ensembles had to cope with the limitations of the double bass at the time. This was a period when double bassists created several solutions to the inadequacies of performing with their double bass at the time. The most notable shortcoming of the double bass was the difficulty in amplification and consequently the relatively low volume of the double bass compared with the rest of the ensemble. The double bass’ volume limitation was a huge factor when it came to performing and composing music. Not all bassists or band leaders were content with this volume limitation and decided to be inventive. The two traditional ways of playing the double bass are coll’arco (playing with a bow) and pizzicato (playing with the fingers). Bassists desiring more volume created a style of playing with the fingers called “slapping”. This technique combines a much harsher and rougher plucking of the string in a way that often causes the string to hit the fingerboard on its return. The added force of the harsh pluck and the percussive sounds of the strings on the fingerboard dramatically increased the volume of the double bass. This technique has become closely associated with rockabilly and country music because of several reasons. Until the 1960s, country music purists such as those who

⁸<http://www.alembic.com/family/history.html> (date accessed 7 /28/11).

frequented the Grand Ol' Opry did not think that drums had any place in country music.⁹ This left a gaping rhythmic hole that began to be filled by double bassists who perfected the “slapping” technique and began providing not only harmonic support for their ensemble but also a driving percussive effect as well. This technique of playing bass has become integral to these styles, especially earlier country and rockabilly, because of the motive and setting for the music. Often country music is much focused on telling a story and because of this the added volume of drums was not really considered necessary. However, a double bass functioning as both bass and percussion really fit the style. Country and rockabilly music has its origins in rural areas of the country where resources were limited. The need to be inventive and make do with what you had was a big part of being successful. Early hillbilly music and blues and the cultures that spawned them are what brought about the wash tub bass. A wash tub bass is exactly what it sounds like, a large metal basin turned upside down with a broom handle on top and a string stretching from the top of the broom handle to the wash tub below. The pitch is changed by holding the broom handle at different tensions/angles and percussive effects could be produced by any sort of rhythmic pattern on the wash tub. This is a perfect example of making do with what you have, and another example of how expensive and out of reach even a cheap double bass could be.

One early solution to the large size of the double bass and consequent difficulties in transporting the instrument was the invention of the stick bass. Stick basses are essentially a bodiless double bass. A traditional double bass neck and string setup is amplified by magnetic coil pickups. These basses were dramatically smaller much easier to transport than their

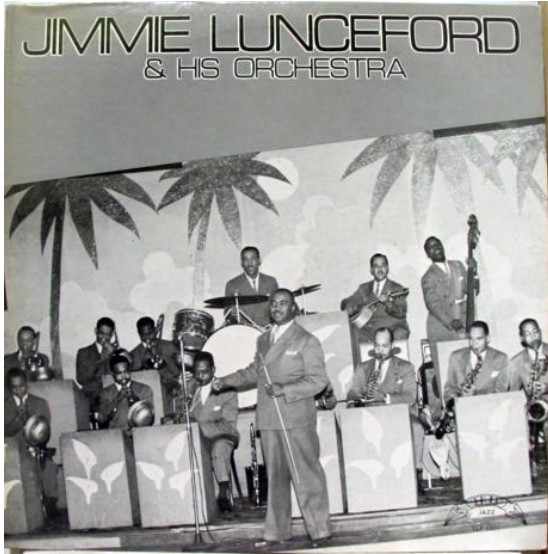
⁹ Dave Pomeroy, “Retro-Rama: 1940 Kay C-1”, *Bass Player*; Jan 2010; 21,1; p.16.

acoustic cousin. One result of stick basses being easier to transport is a lower risk of damage during transport. I have briefly spoken about the fiscal challenges of playing and touring with the double bass and having a bass that is easier to take care of during transport is a big deal. The maintenance on any electric style bass is much easier as the instrument is generally not as affected by environmental factors and changes. When these style basses began to be used by bands in the late 1930's and 1940's the amplification that accompanied these early electric double basses was nothing close to what we have today. Says long-time professional bassist, Dave Roe, "decent bass amps didn't exist until way into the 60's, and pickup technology even now is fairly primitive."¹⁰ The amplifiers that were used in conjunction with these stick basses in the 1930's and 1940's were so primitive that the volume of these early stick basses when amplified could not exceed the volume of a traditional acoustic double bass without compromising tonal quality. Even until the 1970's it is arguable that the ability of a pickup to accurately capture the tonal complexity of a double bass was severely lacking. Keeping in mind the type of amplifiers and pickups used in and with these early stick basses it is hard to imagine the volume or tone being much of an improvement over a traditional acoustic double bass. I have an inclination to think that the tone produced by the early stick basses and their accompanying amplifiers must have been inferior in flexibility, complexity and desirability than the tone produced by their unamplified acoustic counterparts. These facts and deductions make me believe that the only reasons for the utilization of a electric double bass or stick bass in the late 1930's and 1940's was for the enhanced ease in transportation and the subsequent less attention and lower maintenance costs of keeping the bass in proper playing order. I am

¹⁰ Personal Interview with Dave Roe (7/23/11).

not trying to take anything away from the invention, production or utilization of these instruments during this time, I am rather defining their significance in the change in bass playing during this early era of electrification.

One of the first players to experiment with the early stick bass was Moses Allen. Moses Allen was born in Memphis, Tennessee and was a student at Manassas High School. His music instructor, Jimmie Lunceford, formed a band of all students called the Chickasaw Syncopators of whom Allen was the bassist for. Moses Allen remained the bassist for Jimmie Lunceford's Orchestra during the many years they toured the nation. I am sure it was a combination of the travel and the ever changing venues that the orchestra played at which inspired the acquisition of the early stick bass for Moses Allen. Early experimenters with the electric bass such as Moses Allen illustrate the ingenuity of bassists and bandleaders that helped move the music and the musician's experience forward. Notice the picture below: Moses Allen in the top right of this album cover playing the stick bass to which I have been referring.



11

The bass that Moses Allen toured with during his tenure with the Jimmie Lunceford Orchestra was as groundbreaking as Jimmie Lunceford and his musical and social influence. Both the stick bass and The Jimmie Lunceford Orchestra toured around the country providing dancers with an electric, original performance never experienced before. Even with transportation being much more efficient and convenient than it was during the 1930's, 40's and 50's transporting a double bass in modern times has not followed the same trend. On this point, Roe says, "to this day, transporting an upright is a major challenge, and becoming more so. Most airlines won't even consider it anymore. In the 50's, it usually meant strapping it on a vehicle or putting inside tour vehicles which took up at least the space of one or two people."¹² Especially with the same challenges existing today as 60 years ago with transporting double basses, the forward thinking of Moses Allen and Jimmie Lunceford should not go unrecognized.

¹¹ Jimmie Lunceford. LP. Prod. Songs writ. Jimmie Lunceford, NYC, NY: Decca, 1940.

¹² Dave Roe Interview (7/23/11).

Bassists have had to be innovative when dealing with the challenges of playing the double bass, and there is one particular example that I feel characterizes their creativity extremely well. The size of the double bass, like other large instruments, has often caused the bassist to feel as though he needed to stay in one place throughout the performance. The instruments size inhibited the player from being part of the visual performance as a more mobile singer or guitarist might be. Not all bassists were inhibited from energetically performing by the size of the double bass. However some bassists used the large size of the double bass as an aide in their performing. While it was not terribly uncommon for a concert attendee to see a bassist spin their double bass, some bassists went to another level of performance and showmanship with their double bass. Marshall Lytle is thought of as one of the first, if not the first player to do this.¹³ Even though the era when the electric bass guitar was popularized, bassists such as Marshall Lytle used the large double bass to their advantage by doing stage stunts that could only be performed on a large instrument. These stunts included standing on the bass while playing, lying on the ground and having the bass on your feet in the air while playing, and giving the guitarist or horn player a short ride across the front of the stage on top of the double bass. Antics such as this became associated with the early rock-n-roll players and especially the rockabilly players. Showmanship such as this that was developed on and specifically for the double bass has helped keep specific roles of the double bass alive, especially here in Memphis and in the regions where rock-n-roll was born. Players such as Joe Fick, have made their name and musical impact here in Memphis by keeping alive a style on the double bass that created during the late 1940's and 1950's. Players like Fick are

¹³ Interview with Marshall Lytle, <http://www.artofslapbass.com> (date accessed 7 /11/11).

double bass specialists in an era that has many more convenient options for a bass player. Fick specializes in slap double bass and employs many of the showmanship stunts pioneered by players such as Marshall Lytle. The development and persistence with styles such as this has allowed for the double bass to possess a specific niche where it cannot be replaced, even in a musical genre, early rock-n-roll, which was really popularized by the young and fresh character of the electric bass guitar. The irony and intermingling of these two different bass instruments run very deep in my research project.

The Beginnings of the Electric Bass Guitar

The origins of the electric bass guitar begin with two men “In the later part of 1930 or perhaps the very first of 1931, a man, *Art Stimpson*, from Spokane, Washington, came to Seattle, especially to see and meet [Paul Tutmarc]. Art was an electrical enthusiast and always taking things apart to see what made them function as they did. He had been doing just this with a telephone, wondering how the vocal vibrations against the enclosed diaphragm were picked up by the magnet coil behind the diaphragm and carried by the wires to another telephone. [Paul Tutmarc] became interested in this "phenomenon" and began his own "tinkering" with the telephone. Noting that tapping on the telephone was also picked up by the magnetic field created behind the diaphragm, he was encouraged to see if he could build his own "magnetic pickup"¹⁴. Paul Tutmarc was a steel guitar player and thought to employ this technology to pick up the vibrations from his guitar strings instead of his voice. Tutmarc was a perceptive man and thoughtful man, not only thinking of himself when he had his first successes with his magnetic pickup. “My dad, being a band leader and traveling musician,

¹⁴ Bud Tutmarc, The true facts on the invention of the electric guitar and electric bass (date accessed 7 /15/11).

always felt sorry for the string bass player as his instrument was so large that once he put it in his car, there was only enough room left for him to drive. (It was a common musical joke during this era for the bass player to be expected to be either late or not make the gig as he had to drive and navigate by himself) The other band members would travel together in a car and have much enjoyment being together while the bass player was always alone. That is the actual idea that got my father into making an electric bass. The first one he handcarved out of solid, soft white pine, the size and shape of a cello (see photo above). To this instrument he fastened one of his "friction tape' pickups and the first electric bass was created. This was in 1933."¹⁵

Recall the inadequacies in early bass amplification expressed by Thomas Martin and Dave Roe. These limitations severely affected the success of Tutmarc's early electric string instruments, especially his early electric basses. Tutmarc's electric bass was almost 30 years ahead of the amplification technology that would allow it to flex all of its abilities. This had to of been a large factor into Tutmarc's line of Audiovox electric instruments not being as large a success as product lines to come later. Despite Tutmarc's instruments not having the accompanying technology to reach their full potential, his integration of magnetic coil pickup technology into string instruments and especially low range string instruments was indicative of the type of innovation to come soon thereafter. Tutmarc's thought and motivation for the creation of an electric bass also falls right in line with one of the largest reasons for the production of an alternative to the double bass, and Tutmarc was providing solutions in 1933. Notice the pair of pictures below (left, full line of electric string instruments including the Model 736 bass fiddle (1936), which is pictured in the middle. Right, Tutmarc with his wife and first

¹⁵ Tutmarc, The true facts...(date accessed 7 /15/11).

electric bass, this picture ran in the Seattle Post Intelligencer in 1933)



16

The Popularization of the Electric Bass

While inventions such as Tutmarc's have showed some of the potential of electric string instruments, it was not until 1951 that an electric variant of the double bass emerged that brought the technology to the masses. The man behind this revolutionary instrument was Leo Fender. "More than just a new model or a new brand, Leo's invention embodied a new class of musical instrument: a fully electric, fretted bass held and played like a guitar. For decades afterward, "Fender Bass" would be the generic term for *all* electric basses, even if Gibson, Gretsch, or any other manufacturer made the instrument. Although others would seize Leo's idea, Fender basses--the three pre-CBS incarnations of the Precision and the later Jazz--would be the most popular electric basses ever made.... The 1951 prototype was a crude beast.

¹⁶ <http://tutmarc.tripod.com/paultutmarc.html> (date accessed 7 /15/11).

Acceptable tuning keys did not exist, so Fender bought acoustic-bass tuners and custom-made string posts to fit his peghead design. Both Leo and his employee George Fullerton remembered using steel-wrapped gut strings, as George Beauchamp had done with the 1930s Rickenbacker bass. Randall doubts Fender used those strings for very long and suggests that he soon turned to piano strings. To go into full production, the factory ordered custom strings and tuners from V.C. Squier and Kluson, respectively. The bass required new tooling for the body, neck, and hardware; although Leo designed it in the image of the Telecaster, only a few parts for the two instruments were compatible, including the neck plate, strap hanger, and jack ferrule.

The bass had a removable neck cut from a 4'' × 33'' maple board. The 34'' scale length, derived from a physics textbook borrowed from secretary Elizabeth Nagel Hayzlett, a student at UCLA, proved to be perfect; it necessitated a string tension that created a more euphonic resonance. According to Fullerton, Leo tried different scales on his test bench; he chose the longest scale players could easily fret, as he saw no use making an instrument some players could not manage. In the '60s, he would develop shorter-scale models that played easier but didn't sound quite as good as the original.

The prototype Precision body started as a 14'' × 21'' × 2'' ash board; cut to size and finished, it cost \$7.47 to make. To accommodate playing high notes and to cut weight, Leo gave it deep cutaways. The flowing curves of the instrument followed the function of the cutaways in the way swept wings aid the aerodynamics of a jet fighter. (Since the idea worked well on the Precision, Leo recycled it for the Stratocaster guitar in 1953; this interplay between bass and guitar designs would continue throughout his career.) The first Precision Bases had no edge

contours--only squared-off cutaways. Additional features included a black pickguard cut from a 4' x 8' sheet of 1/16'' Phenolite plastic. The single-coil pickup had four poles, one directly under each string. Each instrument had a tone and volume control. The bridge had two pressed-fiber saddles, sometimes mistaken for Bakelite.

The early bass had a fine, musical tone--but modern players rarely hear it the way Leo intended, as the instrument came with lifeless flatwound strings and a rubber mute glued onto the inside of the bridge cover. Even played through Leo's treble-heavy amps, the tone was big and bellowing, more like that of a string bass than a guitar. This tone was one reason Don and Leo coined the name "Precision Bass": the new instrument's pickup and solid body made a precise bass tone unpolluted by the harsh, dissonant overtones Leo heard in acoustics. The Precision produced even harmonic overtones that sounded the way he thought a bass should. There were other reasons for the name. The fretted neck off, red precise intonation, matching the notes of the piano's tempered scale. The name also paid homage to Leo's expensive machines, which cut fretboards with the meticulous accuracy of scalpels; it suggested a precise product made in a precise manner."¹⁷ In the advertisement below from 1953, notice which attributes of the Precision Bass are used to market it specifically against the double bass.

¹⁷Richard Smith, http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&res_dat=xri:iimp:&rft_dat=xri:iimp:article:fulltext:iimp00017705 (date accessed 7/15/11).

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18

Leo Fender provided musicians with a revolutionary product; however he was not one of the players that popularized the new bass instrument. It took players and bandleaders with progressive and open minds to put the new bass on trial in their ensembles. One of the earliest and most influential players to use the Precision Bass in 1951 was Monk Montgomery. Montgomery was the brother of guitarist Wes Montgomery and not only utilized the early Fender Bass in time playing with the Montgomery Brother, but also during his time playing with

¹⁸ <http://www.fender.com/support/articles.php?section=articles&category=product-manuals> (date accessed 7/28/11).

Lionel Hampton. Lionel Hampton was a large figure in jazz during the 1950's and his endorsement of the Fender Precision Bass was a big deal.



The endorsement by Hampton is significant because he was a jazz player. The sound of the Precision Bass came to characterize genres of music such as rock-n-roll and funk, but to this day most jazz is characterized by the tone of a double bass. The use of the Fender Bass in early jazz is a testament to the bass' appeal in its early years, as the conveniences of using the Fender Bass outweighed the different and not so jazzy tone it produced. Monk Montgomery was also a double bass player. This being the case, I believe that this authenticates Montgomery's actions in using the Fender Bass so extensively with the Lionel Hampton Orchestra. Montgomery was a

¹⁹ Downbeat Magazine, July 30, 1952, p. 41.

much respected bassist of this era and without a doubt Fender can attribute some of the Precision Bass' early success to its utilization by Montgomery and Hampton's Orchestra. Here is an account by Max Bennett, a Los Angeles session player. "In 1954 I saw Monk Montgomery playing his Fender bass with Lionel Hampton. I was knocked out--he sounded great. A few years later, while I was with Peggy Lee in Las Vegas, I sat in with some friends who had a rock band, and I played the bassist's Fender. I thought, Hmmm--I like this, but I was busy with my upright career and didn't give it a second thought. Then, in 1962, I was working with Henry Mancini at the Greek Theater in L.A., and I had to play a set outside. I didn't want to take my upright, so I borrowed a Fender and an amp, and that clinched it for me. I went out and bought a '62 sunburst P-Bass just like James Jamerson's for \$150."²⁰

"Leo Fender used to say, "Manufacturing is problem solving." Certainly in the 1940s, existing basses presented problems that had confounded musicians and instrument makers alike for many years"²¹ Leo Fender clearly developed a product that solved

Opposition to the popularization of the electric bass guitar

Some double bassists saw it as a threat to their livelihood. The electric bass guitar equipped with frets made it much easier to play in tune, and the much shorter scale made it very similar to the feel of an electric guitar. These two factors made it much easier for a guitarist to play a simple bass line and with much less practice. The ability for guitarists to play

²⁰ Chris Jisi, http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&res_dat=xri:iimp:&rft_dat=xri:iimp:article:fulltext:iimp00213215 (date accessed 7 /15/11).

²¹ Richard R. Smith http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&res_dat=xri:iimp:&rft_dat=xri:iimp:article:fulltext:iimp00017705 (date accessed 7 /29/11).

functional bass lines would obviously put bassists, especially double bassists with their added burdens in less of demand. This was not the case in all types of music as some genres were and still are very much characterized by the utilization of the double bass. As this trend began, some bassists began playing electric exclusively while some remained loyal to the double bass and advocated for its use in popular music.

“When I began playing the electric bass, my approach to the instrument was to play with my thump, because technically I was after the down stroke. I never played with my fingers. There is a different effect going down then coming up... If you play with your thumb, you can't come up like you can with a pick (techniques have been pioneered since this quote that would have stunned Monk, ex. Victor Wooten)...I have no examples of influences here. I was an innovator on the electric. The stroke is used on guitar, but that's another instrument. Conventional players despised the electric bass. It was new and a threat to what they knew. In fact by being new, it WAS JAZZ.....” –Monk Montgomery/Electric Bass Innovator²²

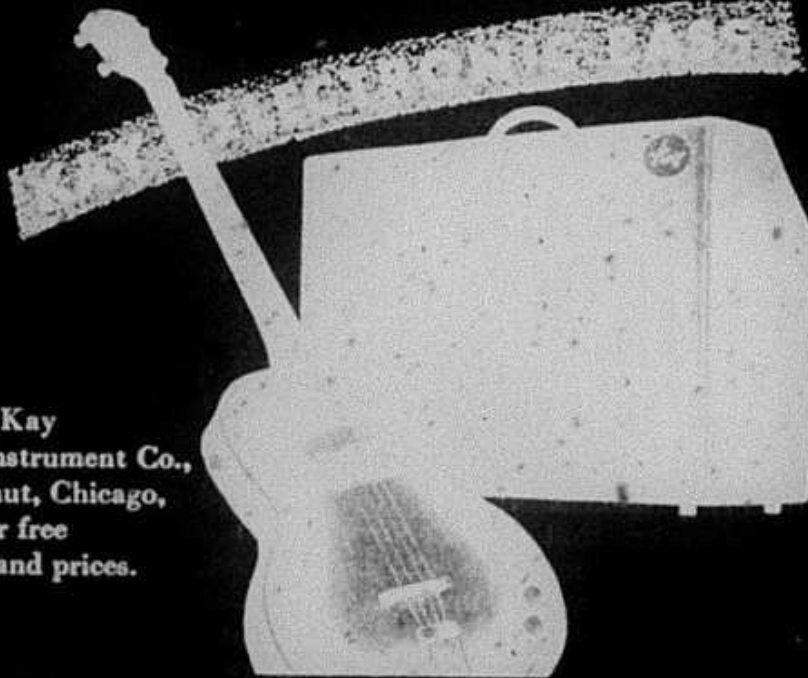
²² <http://www.rodgoelz.com/electricbasshistory.htm# Introduction>.

Guitarists! **DOUBLE ON BASS**

Now, any guitarist can learn to play bass almost overnight. A perfect double for the guitarist, the Kay electronic bass is held like a guitar, fingered like a guitar. But pitch, range and tone are the same as a big bass viol!

An entirely new "voice" for

small ensemble or full orchestra, it's a bass that permits a variety of tone effects—from long, sustained tones to fast, 16th note progressions. If you, too, want to increase your earnings, as hundreds have, make a date with your favorite dealer and try the electronic Kay.



Write the Kay
Musical Instrument Co.,
1640 Walnut, Chicago,
Illinois, for free
literature and prices.

23

It doesn't take too much imagination to see how a double bassist in the early 1950s might react when he saw an advertisement such as this. If playing the double bass was your job

²³ Downbeat Magazine, December, 1952, p. 12.

during this era you had to made a decision, either become proficient on an instrument that is much more electric guitar than double bass, or work hard to find your niche in changing times. Finding your niche in this time often involved sticking to musical genres which called specifically for the presence of a double bass or employ changes in playing technique and equipment to keep your double bass playing relevant as musical sounds and styles change and shift. The pressures caused by advancements in technology and their effects on musical styles are a huge

part of why the 1950s is such an important period in the development of rhythm sections.

The beat's by Bates

THE DAVE BRUBECK QUARTET

...the bass by Kay

TRY ONE!

"It takes a solid 'beat' to back up the Brubeck group, and Kay is the bass that really delivers!" That's Bob Bates' sentiment! Fact is, he has been using a Kay bass since '46. Ruggedness is important, too, specially if you play a lot of one-nighters. Kay's laminated construction takes wear and tear that would keep ordinary basses in the repair shop. Try a Kay at your dealer's... write for free bass catalog. Kay, 1640 Walnut, Chicago 12, Illinois

December 14, 1955

3

24

The above advertisement and endorsement is from 1955. This is one year after Fender introduced the evolved and more powerful Bassman amplifier. This new Bassman combo was truly a development that allowed the power and intricacies of the electric bass guitar to be

²⁴ Downbeat Magazine, December 14th, 1955 p. 3.

heard. The timing of this Kay advertisement and endorsement represents an attempt to not let the emerging electric bass guitar take hold of the whole market. I don't think Kay's marketing team chose The Dave Brubeck Quartet's Bob Bates by accident either. Brubeck was and still is a respected name in jazz and the endorsement by Bates during the mid 1950s is clearly an attempt to maintain the prevalence of the double bass in jazz. This advertisement also shows some of the difficulties in marketing the double bass in the era when the electric bass guitar was becoming popular and available. This Kay advertisement stresses the ruggedness of the Kay's laminate construction compared with other more expensive fully carved double basses. Kay is choosing to focus on how their double basses are superior to other double basses. This makes sense as double basses were the bulk of their production however it does not seem to be a very effective marketing technique during the period where the marketing of the electric bass guitar was almost solely based on comparisons with the double bass. The number of electric basses sold during the 1950s had to have a significant effect on how many double basses were sold and from a business perspective I would think that Kay would attempt to prove that their basses not only are better than other double basses but are superior to electric bass guitars as well. Instead of trying to purely combat the electric bass guitar with their double basses, the Kay instrument company recognized the musical and business potential in the electric bass and began to produce and advertise them as well as the laminate double basses they are so well known for. In the first advertisement example the Kay electric bass guitar was said to have the same "pitch, range and tone as the big bass viol". This seems like a conflict of interest for the Kay instrument company to be producing and advertising electric bass guitars as genuine replacements for double basses, which just so happened to be the bulk of their

production line. Instead of a conflict of interest I believe it is a business' recognition of forward progress and a commitment to not be left behind. This type of decision gives me a sense of the change that was really happening in rhythm sections during the 1950s. A successful business has no nostalgia or sentimental feelings towards the out of date and unprofitable and this perspective from such an iconic American double bass manufacturer speaks volumes about the change in this era.

While instrument manufacturers took an expected business-like approach to this era of change, some players took the same approach. One of these players was legendary Memphis bassist Bill Black. Early in Black's career the electric bass was not an option so he was exclusively a double bassist. Some of the musical projects that Bill Black was involved in were extremely progressive (ex. The early Elvis Presley trio) and this really put Black's bass playing on the forefront of the era.²⁵ Black's recordings at Sun Studios helped define an era of double bass playing with his iconic slap style that can be heard on so many of the early Elvis recordings (ex. Blue Moon of Kentucky by Elvis Presley recorded at Sun Studios). Despite his beginnings on double bass Bill Black's influence extended to the Fender bass as well. "Jailhouse Rock" recorded in 1957 by Elvis Presley was the first song broadcast across the nation to feature the sound of the Fender bass. This recording represents a bassist within an existing ensemble who is changing with the times. Elvis represented music moving forward since his very first hit and in an attempt to stay on the cutting edge of music's advancement the sound of the ensemble had to evolve as well. As the 1950's progressed and the sound of the Fender bass was infiltrating more and more ensembles it began to be the change in sound, feel and groove that was

²⁵ Jerry Naylor, "The Rockabilly Legends", p. 38, PBS.

pushing music forward. Not to mention greatly influencing the genres that defined the 1950's. Bill Black's switch to the electric bass guitar can be observed on his later recordings with Elvis, however they can be most fully appreciated from the recordings of Bill Black's Combo. Bill Black's Combo played standards from all genres and Black inserted the sound of the Fender bass on top of songs that everyone already knew. This is what makes the recordings from Hi Studio in Memphis, TN of Bill Black's Combo such great references on how the sound of the Fender bass changed music.

In modern times the switching from one bass to another is necessary but for different reasons. During the 1950's bassists would switch from the double bass to the Fender bass because of transportation and the lack of technology to amplify the double bass and shape its tone. Today there is amplification and tone shaping technology available that largely removes these issues from using a double bass. While the transportation issue still remains, the available technology today allows for the choice between the two different basses to be more a musical decision opposed to a pragmatic one. This shift can be illustrated by professional bassist Dave Roe. Roe began his bass playing career on the electric and changed as his professional opportunities required. When asked about his experience on both the double bass and electric Roe said, "My experience is wholly unique: my playing upright was handed to me as a bona fide job requirement: Johnny Cash offered me a job that demanded it, and I was forced into a crash course on the instrument. This had two components: 1) learn upright bass, and 2) learn a style that was foreign to me-rockabilly-which forced learning another sub technique-slap upright rockabilly bass, which cannot be done on an electric bass. Other than the role of the bass, which is to provide harmonic foundation to the music, because of this sub technique, my

existing concept was pretty much non-transferable. I wasn't able to move my styles and chops to the upright, I had to learn a style beyond all of that. This did eventually become very rewarding. I also learned the history of the style going back way before rockabilly, I was also compelled to learn what is essentially a completely different instrument. Keep in mind that bass guitar IS a guitar: one uses basically guitar technique. Upright bass is its own singular entity.”²⁶

When comparing the experiences of Bill Black and Dave Roe, it becomes apparent that each of them has a similar mindset although in different eras. This approach to bass playing means that you will play either one or the other depending on what the song, venue or style requires. What make their experiences different are the possibilities and flexibility afforded by their equipment as well as the state of music in the 1950's compared with present times. To further explain this, Bill Black's slap bass style was employed because the band did not have a drummer and a percussive element was needed as well as the slapping increasing the volume of the unamplified double bass. Currently when Dave Roe plays slap double bass he is doing it because of that styles tradition within rockabilly music. When Roe plays slap double bass there is almost always a drummer and his double bass is plugged into a sophisticated and powerful amplifier. In regard to the state of music in the two different eras, the musicians of the 1950's were looking forward and developing new styles. While today I feel that the majority of people, including myself in the paper, are looking back. Bill Black began using the Fender bass because it was part of an evolving sound and he did not want his ensembles to get left behind. Currently there is a demand for double bass because music from decades past is associated with that specific instrument. The point of this comparison is that a similar attitude to playing bass has

²⁶ Personal Interview with Dave Roe

led two bassists down very different paths because of what equipment available to them during their careers as well as the state of music they played in.

How the two instruments have influenced each other

The double bass and the electric bass guitar have complimented each other significantly. What I mean by that is innovations on each instrument have and continued to benefitted the other version of the bass. The most significant development of this type is in string technology. Before the middle of the 20th century double bass players used gut strings. This is not to say that wound, or over-spun strings were not around before this time, they had just yet to be mass produced and marketed so that working musicians could use them. "One of the last major technological advances in string making was the invention of over-spun, or "wound," strings. The discovery that gut, wire, or silk could act as a core material, around which extremely fine wire could be spun, allowed for the final increase of elasticity that instrument makers needed to solve their range problems. What is probably the earliest documented reference to over-spun strings appears in a manuscript written in 1664. It noted that,

...The recently invented way of loading gut strings makes their sound much louder; for the drawn metal wire, with which they are wound, gives vehemence to all the vibrations and the wire, being seven or eight times longer than the string, it is so loose that neither its parts or particles undergo movement in its vibrations which is able to cause any noise, so that only the string can produce noise and it can only produce that which is natural to its tension, the windings of metal wire not being able to give it any stiffness or hardness.

As this selection implies, over spinning the string's core adds only mass to the string without adding stiffness, so a thick over spun string is no stiffer (or less elastic), than it's thin core. That's why the over spun string, when compared to a monofilament of the same gauge, results in added "vehemence" and only the "noise" which is "natural to its tension."

Increasing the elasticity of the string material not only allowed for more compact and playable instruments with an extended musical range, but also relieved many string problems that bedeviled the musician, such as pitch distortion and inharmonicity."²⁷ These types of strings have appealing traits as well as shortcomings. As stated earlier, before adequate bass amplification high enough volume when playing with an ensemble was an issue. A serious improvement in the volume battle was the utilization of flat-wound steel strings on the double bass. Gut strings have plenty of attack but not much sustain to speak of. The flat-wound steel strings have significantly more sustain and volume. The improvements in string technology that evolved into flat-wound steel double bass strings was pioneered for low range electric instruments whose strings would need to be metal to be amplified through a wound-coil pick-up. Not to mention be of a higher density than gut strings to maintain the same low range with a shorter string length. The demand for the electric bass guitar helped push the innovation of low range strings and this innovation helped with sustain and volume on double basses. Due to the nature of the materials used to make gut strings, usually mutton serosa, each string is unique even though the manufacturer does their very best to standardize for performance and playability. Using steel to make strings allowed for the material used to be completely uniform and standard. The gauge and response of a string could not be guaranteed to be uniform on all

²⁷ The History of Stringmaking, William R. Cumpiano, Frets Magazine, August 1979

spots on the string. This guaranteed consistency allows for the player to depend on the response of his strings to be uniform across the range of the instrument. Steel strings also allowed for the action, height of the strings above the fingerboard, to be lower, especially in the upper register. This really opened up a range of the double bass that was very hard to play in before due to the height of the strings off the fingerboard. The utilization of steel strings effectively extends the range of the double bass as the strings are still close to the fingerboard in upper register. Steel strings started becoming very popular after their introduction for this variety of reasons, not to mention that they were and continue to be less expensive and more durable. This is very important in the fiscal challenge of being a double bassist. (The invention of the electric bass probably promoted developments and changes in the upright bass, in how it was played and the equipment (steel strings instead of gut).

Certain instruments are desirable in specific roles for a variety of reasons. In the case of the double bass, there are many appealing aspects to how it fulfills the role of a bass instrument within an ensemble. Understanding these characteristics is important in understanding how the double bass defined its role within an ensemble prior to the popularization of the electric bass guitar as well as understanding why and when the double bass is used after the electric bass' popularization. There are certain qualities of a double bass that an electric bass guitar cannot possess; many of these qualities have to do with tone and presence. The biggest difference between an acoustic and an electric instrument is only the acoustic instrument depends on the vibration of the entire instrument for the production of the sound. In electric an instrument all that is required is the vibration of the string. This is the single largest difference between the two instruments contributing to their unique tonal

presences. The tonal qualities of the instruments are affected by many different things. Let us begin with the double bass as its tonal characteristics are much more organic and complex. The tone produced by the double bass is influenced by every piece of material that is vibrating when a note is played. This begins with the strings, the resonant tone woods used to construct the bass, the metal hardware on the bass, the end pin and the surface the end pin comes in contact with. All of these individual things have a tonal quality or personality that affects the overall perceived tone. The unique combination of these different aspects is what determines the character of a double bass' sound. This combination of different elements is very influential in an acoustic instruments tone as the instrument is designed to maximize the vibrations in all materials for the production of as loud and resonant a tone as possible. Because acoustic instruments utilize all of these different vibrations to produce its tone the double bass "occupies a much larger space in the sonic picture of a recording track, which makes it much more difficult to control"²⁸ yet delivers the unique and full tone that double basses are known for. From a pure tonal perspective this is what separates the double bass from its electric counterpart and the tone is the most common reason for the double bass to be chosen over the electric bass guitar.

The electric bass guitar is just as dependent on vibrations to produce tone as the double bass but it does not experience the diversity of vibrations that its acoustic counterpart does. The tone on an electric bass is affected by the materials it is made, and resonant woods are definitely utilized in the production of them. However, the tone of the electric bass guitar is less influenced by the variety of the materials that are vibrating when you play a note. This is the

²⁸ Interview with Dave Roe (7/23/11).

case as the electric bass guitar is designed to be amplified by means of a pickup opposed to projecting the vibrations through a hollow resonant body. This leads to a tone that “sits in a much more compact band of the recording spectrum” than the double bass. This is a result of the pickups being strategically placed right under and very close to the strings. The design is such because the body of the bass is not designed to resonate and project the sound as in an acoustic instrument. Because of this the strings do not produce nearly the volume when vibrating causing the pickups to have to be placed very close. The important part of all of this is that the tone of an electric bass guitar is not influenced by nearly as many factors, that is until it gets to any sort of pre amp or any other tone shaping technology. The tone of an electric bass guitar being “much more compact” is a very common reason for it being chosen over the double bass. This is the case as amplification of a sonically diverse tone is much more difficult, even to this day. The amplification of the electric bass guitar is much easier than the amplification of the double bass. The tone that is delivered from the electric bass guitar’s strings to its pickups is much less complex than the tone of a double bass delivered to its microphone or pickup. This makes the tone of the electric bass guitar much easier to alter between the time it reached the pickups and the time it reaches our ears. This tone shaping is performed by a variety of electronics that are specifically designed to alter the more compact tonal signal of the electric bass.

These key tonal differences are the most important musical differences between the two instruments and the main reason that one bass is chosen over the other as well as why both instruments are currently in demand.

How the bass' role has changed

The most concise way to describe this is that the double bass during the first part of the 20th century was performing the role of a bass instrument, but was not able to contribute to the ensemble more than that. As ensembles get louder as the century progresses, the bass begins to not be able to satisfy the role of a low register instrument as it was not really able to be heard. This begins an era when the double bass is essentially slowing the progress of music. This was caused by lack of volume alone. The electric bass guitar emerged and the lack of volume improved somewhat but the new instrument gave new players a chance to contribute to the low end. The electric bass guitar is inherently easier to play and because of that the increased numbers of players, some converts from guitar, brought new ideas and feels to bass lines. As amplification begins to become adequate in the late 1960's the double bass is able to be used with ensembles which play at a much higher volume, and the number one inadequacy of the double bass is solved.

The role of the bass in an ensemble has changed from a necessary burden to almost anything it wants to be. The result is a bit vague the way I describe it but that is the point. The technology that exists today allows the bassist to take a leading role or to just support the song. This is possible on the electric bass guitar or double bass. When thinking about this conclusion today it seems rather obvious and insignificant. This is not the case at all. The double bass today is just as much burden to lug around as it was a hundred years ago yet offers infinitely more possibilities. Technology allows for the tone and character of a double bass to be amplified to an entire stadium full of people. The modern double bass is used in many different types of music from Romantic to Rock-a-Billy. Shown by the demand for its use, it poses characteristics

very desirable in a low-range string instrument. The double bass' modern popularity through a diverse field of music can be attributed to its five hundred years of development; An evolution that has had influences from different cultures, input and inspiration from luthiers as well as a players and support from many composers through the eras. As a result, the modern double bass currently experiences widespread utilization by different cultures, and is a playable piece of art that exhibits the beauty of nature and the human soul harmoniously.

So why is the electric bass guitar still so popular? It was the bridge that was necessary to get from the sound before WWII to the present day. It is a different instrument that was able to pick up the slack left by the double bass during the middle of the 20th century. The developments in electronics that would follow the invention of the electric bass guitar would further enable the double bass in the areas it was lacking before. Because of the double bass we have the electric bass guitar and because of the electronic support invented for the electric bass we currently have a double bass with truly limitless possibilities. I have written this as a testament to the Fender bass and the technological advancements that followed. Thank to these developments, bassists and their fellow musicians are able to choose between acoustic and electric depending on musical preference. The music of today is ever more flexible as bassists now control their equipment, not the other way around.

By no means comprehensive, this list of recordings illustrates the shift in sound from musicians and studios in Memphis, TN.

1. Jimmie Lunceford and His Chickasaw Syncopators- In Dat Mornin' (1930-06-06, Memphis, TN) "The Ultimate Jazz Archive" Membran Music Ltd. 2005
2. Carl Perkins- Honey Don't (1956, Memphis, TN) "Sun Rockabillyies Volume One" Sun Records
3. Bill Black's Combo- In the Mood (1964) "Bill Black's Combo Goes Big Band" Hi Records
4. Booker T. & The MG's- Groovin' (1967) Single, Stax Records
5. Jean Knight- Mr. Big Stuff (1971) "Mr. Big Stuff" Stax Records