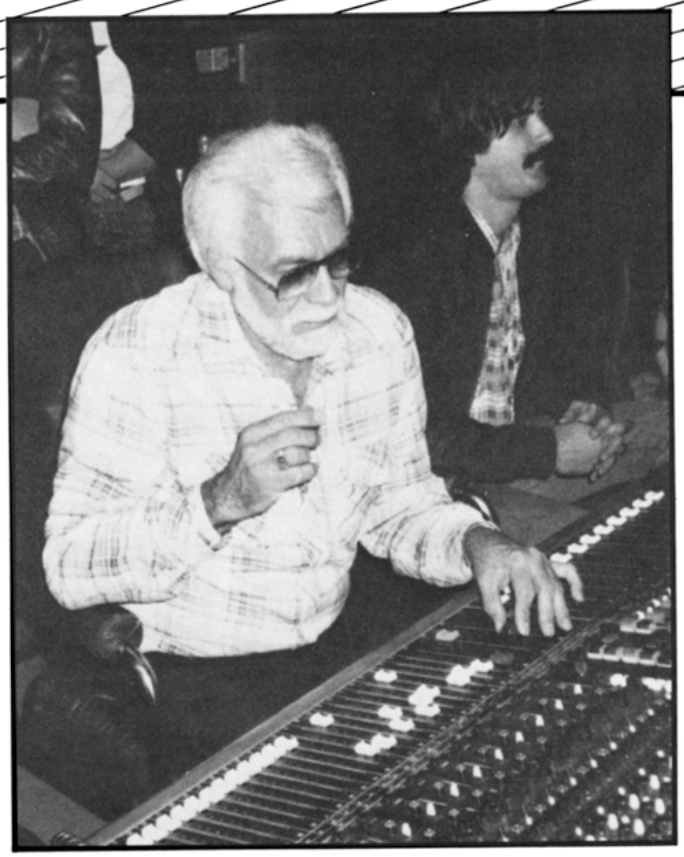
# PART 1
# BILL PORTER: ENGINEERING ELVIS



**by Larry Blakely**

A creative and exceptional sound engineer, Bill Porter has mixed over 7,000 recording sessions and has 300 chart records, 54 top ten and 37 gold records to his credit. Among these records are such classics as "Stuck On You," "Are You Lonesome Tonight" and "Return to Sender" by Elvis Presley, "Pretty Woman" and "Crying" by Roy Orbison, "Last Date" by Floyd Cramer, "Cathy's Clown" and "Dream" by the Everly Brothers, and nearly half of the golden oldies still being played. Bill is also a pioneer in the field of high quality sound reinforcement and was noted as one of the first who could create sound in a live performance, that could equal the sound of a record. At the request of Elvis Presley he mixed the sound for all the Elvis concerts from 1970 until the time of Elvis' death.

"In 1960, I had 15 songs on the Billboard "top 100" in one given week and it was my second year at RCA," notes Porter. "I did a lot of country recording, but I was really into the pop sound and I wanted clean sounding records. I first worked with Elvis in 1960 after he had gotten out of the army. I found out later that they had brought him to Nashville because I was making a name for myself, and at this time they wanted everything in their favor. I didn't know I had made that big of an impression on anybody, but apparently I had. I knew who Elvis was, but I wasn't impressed; he was just another artist to me, although I did respect his talents. When Elvis arrived he talked about things that happened while he was in the army, demonstrated karate and told me about movies he would make. When he was introduced to me, he said 'hello' and that was about it. As I started getting a balance on the first tune there was an unusual feel in the room. I couldn't figure out quite what it was. So I looked behind me and right over my shoulder was Chet Atkins, Steve Shoales (Chet's boss from New York), Colonel Parker and a VP from RCA. They were all standing there like they were going to grab me if I made a mistake, and they stayed right there until the first song was done. The tension was so thick that you could cut it with a knife. The song we recorded was 'Stuck on You.' We did this tune in 5 or 6 takes, which took about 45 minutes. Then we did a tune called 'Fame and Fortune.' Elvis worked all night long until about 8:00 the next morning.

"When we recorded 'Fame and Fortune' I was using U-47 microphones on vocals. Elvis tended to 'pop' the microphone with 'p's' and 'b's' and he had popped the mike 3 or 4 times on this tune. We didn't have anyway to remove it as there were no roll-off filters, etc. Anyway, most of the record players in those days wouldn't reproduce low frequencies like that. I stopped Elvis several times when he popped the microphone and the last time I did he said 'What the hell is wrong now?' This of course made me a little nervous about stopping him. If you listen to 'Fame and Fortune' you will notice the first 'F' is kind of lost because he was gun shy. He did pop the mike a couple of times but I let it go through, keeping my fingers crossed, hoping that it wouldn't cause a problem in mastering.

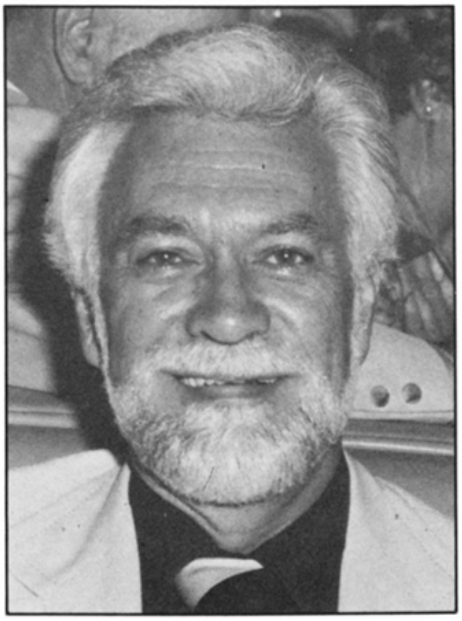
"The Elvis sessions were hard and we would work all night long. They would usually bring in greasy hamburgers about 2:00 in the morning and we would all take a half hour break. The musicians used to lay out on the studio floor and flake out for awhile. Meanwhile I would playback their songs and they would say 'Yeah man, it sounds great!' I cut the biggest record that Elvis ever had, 'It's Now or Never' which sold about 4 million copies."

"Elvis came to Vegas in 1969. The International Hotel (now the Las Vegas Hilton) had opened with

Barbara Streisand as their first act. Elvis was the second act and came out in August and brought an 8 track master with a tune on it called "Suspicious Minds." The producer (Felton Jarvis) brought this tape to my studio and wanted to add some horns to it but Elvis didn't come. I stopped over to see part of the show one night at the International Hotel and was quite impressed with what they had going. I had not seen Elvis since 1967, when I was working at the Dunes Hotel. When I saw him at that time, I had asked him if he remembered who I was and he said he did, and that was the extent of our conversation.

"Elvis called me in December of 1969 and said he was coming back to Vegas again in January of 1970. He asked if I could help him out and do his live sound. I told him I didn't know much about live sound and he said he was not pleased with what he had before, and felt I could do a better job. He said he couldn't hear himself, and he just wanted to see what I could do. So I went over to the hotel and saw the stage monitors hanging about 18 feet over the stage. There were three of them and only one was working. It came time for Elvis to rehearse and the monitors still weren't fixed. Elvis said he couldn't hear anything and wanted to know what I was going to do about it. I was kind of caught in the middle, I was working for Elvis and I also sold equipment to the people at the hotel. So I called back to the studio and asked them to bring over some Shure Vocal-Masters and some amplifiers. The Vocal-Master had just come out and it was ***the*** thing in portable P.A. systems. I took two of the Vocal-Master speakers (which were about 5 feet high) and laid them down on the stage and propped them up so they focused the sound at Elvis's head. I plugged his mike into the Shure power amplifier/mixer and took a feed from this mixer into the house console. I got the gain set so he could hear himself and he was excited. Next I did some checking on the house system and made some adjustments and changes on it. By the time I was through it sounded pretty decent. It was time for the show and Elvis wanted me to mix the show for him each night. And although I didn't know how to mix live sound, I did it just like I would mix records. It sounded good and I learned about feedback in a hurry. Elvis had gotten a lot of compliments from artists and movie stars who had come by to tell him how good it sounded. They told him it sounded just like a record.

"As a result, Elvis told me I had a steady gig and he wanted me to mix every show for him. He said there would be some touring, and



some work in Vegas. I wasn't sure I really wanted to do that. But I tried it and started touring a little, mixing the house sound. When we first started touring we would contract different sound companies in different cities. It was a zoo because the equipment was always different and I was in charge of trying to make all concerts sound the same. After using several sound companies, I found that I preferred Clair Bros. and we worked out a deal for them to furnish the sound equipment on an exclusive basis. Bruce Jackson had built a fantastic stage monitor system, it was good and loud and could knock you down. The first year we did only a couple of tours and worked in Vegas twice a year for one month periods. We then started doing more tours which would last from 15 to 18 days. One tour we did 15 cities and 25 shows in 18 days. During those tours all you saw was the airport, the hall you were working in and your hotel room if you had time to stop. We worked in some of the worst halls. (One in Denver had a 9 second delay at 300 Hz and at other frequencies there were delays of 5 to 6 seconds.) We played in a couple of pretty good rooms too; one of the best I have ever seen was in Atlanta, Georgia (The Omni) that held 25,000 people and it sounded just like we were working in a studio. We usually used an overhead hanging speaker system for the house sound.

"Elvis would always play tricks on me to see if I was on the ball. He would take the mike and point it directly at the speaker and sometimes I would catch him and get the level down before it did. Then all of a sudden he would do it real fast and sometimes it would squeak; then he would laugh and say that he caught me. I toured with Elvis for seven years. I was changing planes in Boston on the way to his Portland, Main concert when I heard about his death. It was about 9:00 at night and I was paged as I got off the airplane. I was asked to see the ticket agent and was given a phone number to call. The man who answered was my daughter-in-law's step father. Nobody else was there so I asked him why they wanted me to call. He said he didn't know but it might have been to tell me that Elvis had died. I told him he must have meant Elvis' father because he was really sick. But he said that it was Elvis. I didn't believe him. When I walked out of the booth, the Delta girl said she knew what it was, but she didn't know how to tell me. I was stunned. She asked me what I wanted to do and I said that I wanted to go on because everyone else was there. It really hit me while I was on the plane. Elvis was a personal friend as well as an employer." ■

**The Bill Porter story continues in the September Mix.**

Bill Porter (on right) in session at Nashville's historic RCA Studio B in 1961, with producer Chet Atkins

# BILL PORTER

## PART 2

**by Larry Blakely**

*Bill Porter, a consummate craftsman in the field of audio engineering, has achieved more success and recognition than almost anyone else in the industry. His "Exploits with Elvis,"(reported in last month's Mix) are only a small part of his many-faceted career which includes engineering over 7000 recording sessions, with 300 chart records, 57 top-ten and 37 gold records to his credit.*

*In 1975 Bill joined the University of Miami School of Music to work with the staff in planning and developing the first 4 year degree course in music engineering (professional recording). This was the first course of its kind offered anywhere in the world, which he personally taught until 1981 when he joined Auditronics (a well known console manufacturer) in Memphis, Tennessee. We now present the rest of Bill Porter's story, told in his words:*

"In 1954 WALC-TV was going on the air in Nashville, where I was living at the time. I decided that I wanted a job as a camera man. I loved television and photography; I used to take pictures, and process my own film. So I went to the station and applied for the job. I was hired as an engineer because of my TV repair background even though I didn't know too much about engineering

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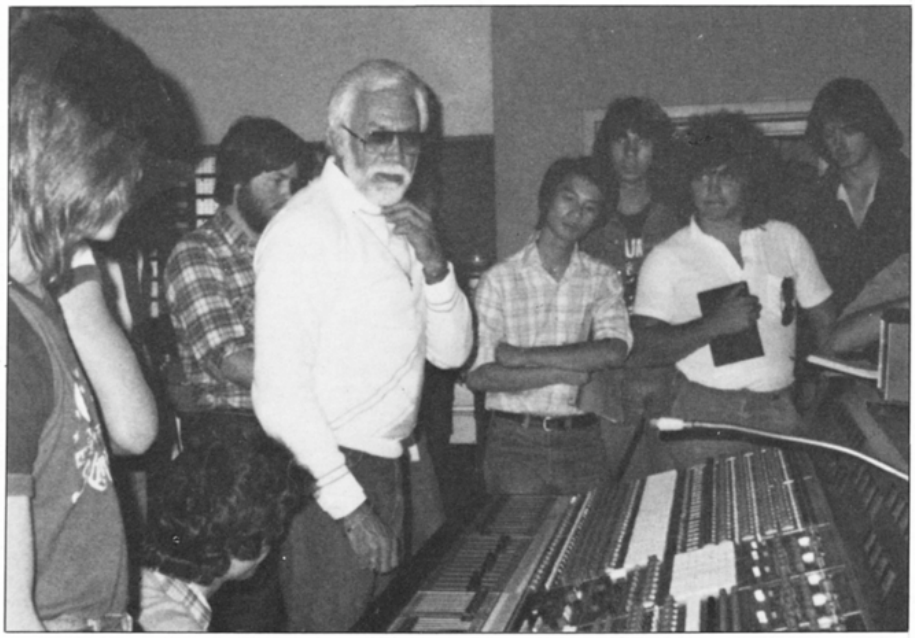


*Teaching a recording class at the Trebas Institute in Canada*

## Top 10 Popular Records Engineered by Bill Porter

| Date | Artist | Song | Chart Peak | Date | Artist | Song | Chart Peak |
|---|---|---|---|---|---|---|---|
| 10/63 | Bobby Bare | 500 Miles From Home | 10 | 2/62 | Roy Orbison | Dream Baby | 4 |
| 8/59 | The Browns | Three Bells | 1 | 2/63 | Roy Orbison | In Dreams | 7 |
| 3/60 | The Browns | The Old Lamplighter | 5 | 4/64 | Roy Orbison | It's Over | 9 |
| 10/60 | Floyd Cramer | Last Date | 2 | 8/64 | Roy Orbison | Pretty Woman | 1 |
| 3/61 | Floyd Cramer | On The Rebound | 4 | 4/60 | Elvis Presley | Stuck On You | 1 |
| 6/61 | Floyd Cramer | San Antonio Rose | 8 | 7/60 | Elvis Presley | It's Now or Never | 1 |
| 12/62 | Skeeter Davis | The End of the World | 2 | 11/60 | Elvis Presley | Are You Lonesome Tonight | 1 |
| 9/63 | Skeeter Davis | I Can't Stay Mad At You | 7 | 2/61 | Elvis Presley | Surrender | 1 |
| 8/59 | The Everly Brothers | Till I Kissed You | 4 | 4/61 | Elvis Presley | I Feel So Bad | 5 |
| 4/60 | The Everly Brothers | Cathy's Clown | 1 | 6/61 | Elvis Presley | Marie's the Name | 4 |
| 6/60 | The Everly Brothers | When Will I Be Loved | 8 | 8/61 | Elvis Presley | Little Sister | 5 |
| 9/60 | The Everly Brothers | So Sad | 7 | 3/62 | Elvis Presley | Good Luck Charm | 1 |
| 2/61 | The Everly Brothers | Walk Right Back | 7 | 8/62 | Elvis Presley | She's Not You | 5 |
| 2/61 | The Everly Brothers | Ebony Eyes | 8 | 10/62 | Elvis Presley | Return to Sender | 2 |
| 1/62 | The Everly Brothers | Crying In The Rain | 6 | 6/63 | Elvis Presley | Devil in Disguise | 3 |
| 5/62 | The Everly Brothers | That's Old Fashioned | 9 | 4/65 | Elvis Presley | Crying in the Chapel | 3 |
| 7/61 | Connie Francis | Together | 6 | 9/69 | Elvis Presley | Suspicious Minds | 1 |
| 1/64 | Al Hirt | Java | 4 | 1/60 | Jim Reeves | He'll Have to Go | 2 |
| 5/60 | Hank Locklin | Please Help Me I'm Falling | 8 | 7/62 | Tommy Roe | Sheila | 1 |
| 9/60 | Bob Luman | Let's Think About Living | 7 | 8/64 | Ronnie and Daytonas | GTO | 4 |
| 8/61 | Bob Moore | Mexico | 7 | 9/61 | Sue Thompson | Sad Movies | 5 |
| 6/60 | Roy Orbison | Only the Lonely | 2 | 12/61 | Sue Thompson | Norman | 3 |
| 9/60 | Roy Orbison | Blue Angel | 9 | 10/60 | Johnny Tillotson | Poetry in Motion | 2 |
| 4/61 | Roy Orbison | Running Scared | 1 | 8/61 | Johnny Tillotson | Without You | 7 |
| 8/61 | Roy Orbison | Crying | 2 | 5/62 | Johnny Tillotson | It Keeps Right On Hurtin' | 3 |

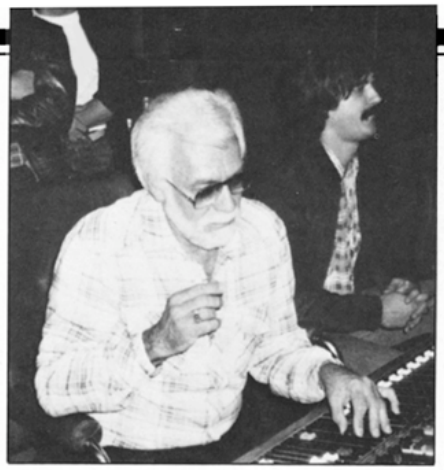
*(continuted from page 64)*
and TV. We spent about two months at the TV station doing installation and wiring. I tried to learn all I could. When the station was ready to go on the air the chief engineer said 'Well Porter, you are the low man on the totem pole and you are going to do audio!' I was about 22 years old at the time. The audio console was a General Electric with program and audition outputs, four microphone inputs, announce mike input, two turntable inputs and S.O.F. (sound on film), in addition to remote and network lines.

"I learned a lot the hard way; in a hurry. I watched a lot of the network shows and observed the camera shots and microphone placement. I picked up an engineers' handbook for radio station operations. There was one chapter on audio techniques with a few pictures of how to place mikes and other microphone applications. This gave me my basic knowledge of audio. The older broadcast engineers were strictly into radio and had no live music mixing experience.

"Doing the newscast was the big thing for me, because I got to select the records to play behind the films for sound effects. The two turntables were going constantly. In the meantime we also picked up a small tape recorder. I was really into doing all of these effects and it kept me hopping.

"About 1958 CBS was looking to local stations for network programs, so our station put together a show called "Country Junction" that had some of the Nashville Opera stars on it. Our show didn't make the network so we decided to air it locally. I got elected to do the sound for this early morning country show, and I was really into it. We were using RCA microphones, BK-5's (uni-directional) and BK-1A's (omni-directional) which were both moving coil dynamics and also RCA 77-D ribbon microphones. There was no EQ on the board and you could only use 4 microphones at one time. There was one mike on a boom for the host of the show, which left three microphones for the band. There were a total of 6 to 8 players plus singers. There was very little to work with and microphone placement was a challenge. I really learned a lot about how to select and place microphones to get the most from them. All of this happened about 1958 and some of the producers said they had heard people comment that the sound on the show was pretty good.

"In 1959, the little bit of record



recording that was going on in Nashville was being done at RCA and Bradley's. RCA was a union studio. Bradley's was hiring most of the recording engineers from the television stations and they would pay them $25.00 for doing a three hour session. I was then making $97.50 a week at the TV station. I started talking with the players in the country morning show, to see if they could help me get in to do some recording sessions at Bradley's. But nothing happened. Bob Ferris, the engineer at RCA was being transferred out of Nashville. So I applied for the job at RCA and was told that Chet Atkins was the person that I needed to see. I worked the morning shift at the TV station which was from 5:00 a.m. until 3:30 p.m. and every day I went straight to RCA at 3:30 and sat inside the office waiting to see Chet until they locked the doors at 5:00 p.m. This I did every day for two weeks. I would wait in the office but Chet would never see me. Everytime I walked into the office the girls would say, 'Oh no, not him again!' But I wouldn't take no for an answer. I do believe in all honesty that the girls talked Chet into seeing me because they got tired of me coming into the office.

"After two weeks of waiting, he finally talked to me. A couple of players on the TV morning show had talked to him about me, so he knew who I was. The first thing that he told me was that he had nothing to do with the hiring and there were a couple of guys coming in from RCA the following week to interview and he would put my name in. The man who came to interview, was Les Chase, who was either the third or fourth employee of the original Victor Talking Machine Company. Later Bill Miltonberg from New York interviewed me, along with other applicants. That afternoon Bill called and asked if I wanted to go to work for RCA. The starting pay was $145.00 per week.

"So I gave my two weeks notice at the TV station and started hanging out at RCA constantly watching Bob Ferris work. The mixing console was an old radio board with 8 inputs and 2 outputs. The knobs were as big as your hands. Four inputs were for one channel in addition to four for the other channel and there was also a little Altec mixer (a passive device) that was used for a center channel that was split between left and right. There was no EQ on the board and only one live reverberation chamber. We were using RCA 77-B's and some Altec 150-A microphones in addition to some Neumann U-47's and 48's and a couple of M-49's. It was about my third day of hanging around there and Chet told me that I could record the Statesman gospel quartet. I told him that I wasn't sure yet how to do it and he said that Bob would help me if I made any mistakes. So, he sent me down and my heart was beating 100 miles-per-hour. I recorded one gospel song which took me about one hour and thirty minutes and I felt like I had been through a fight when I was finished. There was so much tension on my body, I felt that I was going to collapse. Chet looked at me and said, 'Well, that was not too bad for the first time!' Then he asked me if I was ready to go again. I said that I wasn't able to and he said, 'What do you mean, you have another hour and a half to go and you can't quit now?' I was completely drained so Ferris took over for the rest of the session. All of this happened before I went to work for RCA on a full time basis.

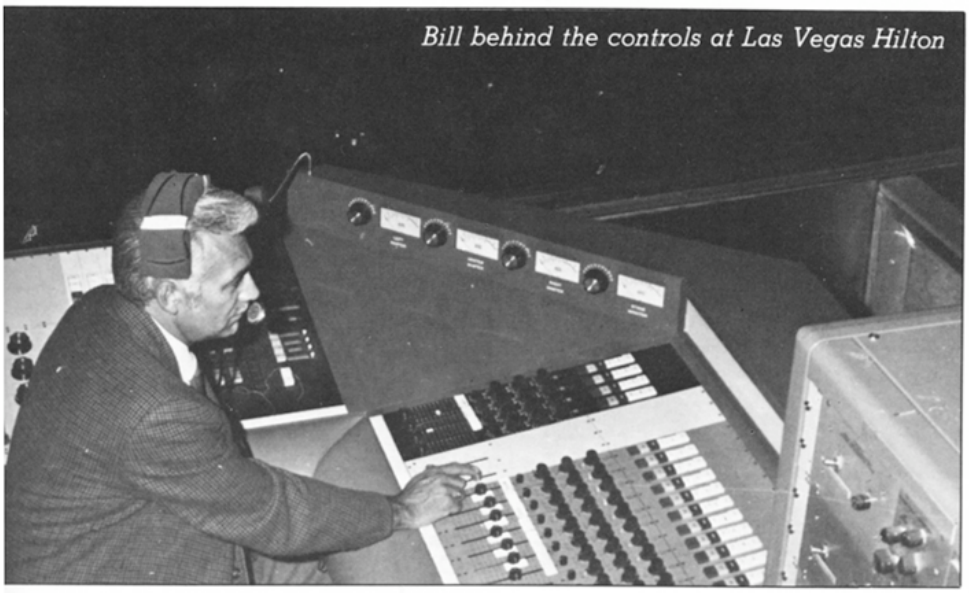
"When I went to work for RCA full time, I watched Ferris work for a week before he moved back to New York. He was an unusual kind of a guy, very technical and a true engineer. On the last day of the week he blocked off the studio and went over everything for me. He also let me cut my first disk on an old manual cutting lathe. When we weren't doing sessions we had to cut disks. I had to learn all of this during the last day and I thought I had it all pretty well together. Bob Ferris moved to New York that same weekend.

"When I came in the following Monday morning I had the feeling, 'My God, what am I doing here!' The nearest help was in New York and that was 1,500 miles away. I was the only person there besides Chet Atkins (who knew a lot about engineering). He could get a good balance, he wasn't into limiting very much and showed me the advantages of not

using a limiter, but you had to watch your levels. If you miked things up too close you were not able to control the levels and couldn't get a blend. So I would tend to mike things from a distance and to me this was natural, because you listen to music from a distance. You don't listen to a trumpet with your ear stuck in the bell of the horn. Later I started using limiters and compressors on the featured artist, but very little. The music that I recorded was done with basically a purist approach. The right mike in the right place would make the right sound because we didn't have EQ. All of this helped me a lot and it was much different from the way that things are done today.

"We did 3 or 4 sessions a day in 3 hour segments. There were no vocal booths. We had a couple of flats to move around when we needed to isolate things and we placed vocalists and musicians behind these flats. The Victor studio was set up so you faced the wall rather than the glass to the studio. You had to look over your right into the studio. The room was quite small and it was hard to get any isolation. It was a very live room and it had a lot of problems. After I had been there about one year we had hired another engineer. One day we tried to find the deadest spots in the studio, so he banged on the toms and I moved mikes around searching for minimum bass in the room and put an "X" on the floor at any place there was a soft sound and we then put the mikes in those spots; and it worked.

"My first 'chart' record was a Don Gibson tune called 'Lonesome Old House' which got up to 77 on the charts. By the last of May I had three hits and the third one was cut on a new console. This new console had 12 inputs and 3 outputs. Some of the inputs were wired directly into buss 1 and some wired directly into buss 3, and a few could switch to 1, 2, 3 or split between 1 and 3. There was no such thing as a pan-pot. There was some EQ on this console; the high frequency was 12 kHz with 8 dB of boost and cut, the low frequency was 50 Hz with 8 dB of boost and cut (each was shelving only). We now had two echo chambers, one live chamber and an EMT; this meant that we didn't have any echo at all for buss 3 (more fun, without echo on some instruments for about 8 months). My approach to recording in those days was to attempt to record all the frequencies from DC to channel 5 and this got me into all kinds of trouble, particularly with bass frequencies.



*Bill behind the controls at Las Vegas Hilton*

"Fred Foster was the owner of Monument Records and was a custom client of RCA studios. My first session with Fred Foster was with Roy Orbison, and we recorded a couple of songs that didn't go anywhere. Fred and I seemed to groove the same way with music. I cut almost 90% of Roy Orbison's hits with Fred; some of these were 'Crying,' Running Scared,' 'Pretty Woman,' Only the Lonely,' 'Candy Man' and there is a whole list of them. Studio time was $40 to $45 per hour in those days.

"I did some work with Archie Blyer who found the Everly Brothers and Andy Williams; he was a very hard guy to work with and a very demanding person. On the last of May in 1959, I was doing a session with the Everly Brothers on a new console which we had been working around the clock to install. I was beat. On the first run-through, one or two lines into the song the Everly's sang the word 'never,' which was very loud and the worst distortion I have ever heard came through the speakers. Archie looked at me and said 'What was that?' I said that I didn't hear anything. (I didn't know what the problem was and I thought that if I ignored it, it would go away!) So he told the boys to do it again from the top. It happened again at the same place in the song and of course I couldn't say that I didn't hear it, this time. He asked me to fix it, so I picked up a patchcord and changed the patching on the console looking for the problem, and told him, 'try this.' I didn't know what I was doing and was stalling for time hoping to find an answer. This went on for about 20 minutes and the pressure kept mounting. He was getting uptight and I was getting more nervous because I couldn't find out what was wrong. So in desperation, to get him off my back, I told him that this was all that I could do. He started screaming and yelling like crazy and said, 'I came here from New York and hired a good studio and a good engineer. What it this? What are ***you*** doing here?' This was of course, putting me down and the musicians were asking what was wrong and wondered if I could get it back together. I kept telling him that was all that I could do. I had to get him off my back as I couldn't take the pressure, so he called off the date and everybody left. Ray Walker (bass singer with the Jordan-Aires) stayed around and talked with me until 11:00 that night trying to calm me down. I was a nervous wreck, shaking like a leaf and going to pieces. Without his help that night, I would have quit the recording business.

"I came back in over the weekend and tried to analyze what the problem was and found out that the installer from RCA had set the gain differently in the line amps, which caused the compressor to freak out, and this was the problem. I got a call from New York on Monday morning from Bill Miltonberg (my boss) and I was told, 'You never tell a client, that is all you can do, if so, you are fired. You tell them that there is some equipment problem or something, but you never tell them that is all you can do.'

"Archie Blyer was a big client for RCA and they offered to pay all his expenses for the musicians and his trip to Nashville to see if they could get him back again. So Archie came back and we did the same tune and

he said, 'Is everything working Bill?' and I said 'Yes.' I knew that I had solved the problem, but deep inside I still had the feeling that it might happen again. So we started and that word came along and it sailed right through with no problem at all. He looked at me and said 'By God you fixed it didn't you? It sounds great!' That tune was 'Till I Kissed You' and it was a million seller. I learned alot from that lesson and I had only been in the business 3 months. You have to be in control of your own faculties first and I really wasn't at that time. This story isn't very flattering to me, but by the same token it's one of the things that you must learn to handle.

"Archie and I became good friends and in fact he started having me cut some of his 45 masters. Previously, he had always had his masters cut in New York but he liked the quality control I was doing. If an engineer can follow the entire recording all the way through and cut the masters as well, you have complete control as you know exactly what is on the tape and also know what is on the disk. I cut quite a few disk masters for Orbison and others. Of course we didn't do any Victor mastering as it was all done in New York. I cut only 45's as the old lathe wouldn't cut LP's. Later on we got another lathe and I cut some LP reference disks on it, but no LP masters.

"After a session with Roy Orbison he said, 'I want to show you the sound that I want on my next record,' he took his guitar and started to play while the two singers standing beside him seemed to be singing with him, or so I thought. I said, 'What kind of sound is that, I can't even hear them?' So Roy told me to come over and listen to them, and I walked over and they were just breathing the words, very subtle and very soft. I asked if he wanted that on the record and he said, 'Yes!' I asked him how would I get that on the record because it was so soft, and he said, 'That is your problem!' Remember there was no overdubbing and no isolation booths at this time. So two weeks later we did the date.

"My normal mixing procedure is to get the balance for the rhythm section (piano, bass, drums, etc.) and then add strings, horns, background singers and the featured artist last. It's done like a pyramid. Sometimes if you feel like you are getting into a rut and all of your mixing and balancing is sounding alike, try doing it differently! Don't mix the rhythm first, do it last! I had to think of some way to get the soft sounds that Roy wanted 'on top,' so I did my normal mixing job ***backwards.*** I started with the real soft vocal sounds and brought them up to "0" level and built the whole mix around the vocal. We used this soft breathy sound for 4 or 5 records, and this sound established Roy Orbison as an artist.

"Roy's voice was very thin and we didn't have delay devices to fatten it out, so I used a little trick that was used years ago, tape slapback. I had tried a number of times to find a way to make Roy's voice stand out. I couldn't seem to make it happen with EQ, I could increase the level but his voice was still too thin, so I took the multi-track machine and set it up for just enough slapback to fatten out his voice. In fact, if you listen closely to some of the tunes you can hear this in the breaks. On 'Only the Lonely,' near the end, there is a phrase that says, 'you've got to take': and you can hear the "K" continue on. This was very subtle and, as his voice got better over the years, I used less and less and eventually didn't need it anymore. I was always into gimmicks and I guess at this time I was considered to be a gimmick engineer. When I recorded "Cathy's Clown" by the Everly Brothers I used a tape loop on the drums. The drummer played a drum pattern, which was kind of a stilted puppet walking effect and I put this tape loop on the drum. I used this only on the choruses and not the verses; this was done in real time so I had to switch it in and out while the song was being performed. That sound kind of made the record.

"I never got a Grammy all the time that I was in the business. Orbison's 'Pretty Woman' almost made it, as it was nominated but lost out to Petula Clark's, 'Downtown.'

"I left Victor in fall of 1963 and went to work for Columbia in Nashville. Columbia had purchased Bradleys Studio. The Columbia studios were definitely better equipped than RCA. I brought a lot of clients with me and got additional ones for them, but I just didn't fit into the Columbia operation too much. I was there for about 6 months when Fred Foster came in to tell me that he had acquired a studio downtown and wanted me to go work with him, so we worked out a deal and I took over the operations of his new studio.

"The name of the studio was 'Fred Foster's Studio' (all of the Monument work was done there) and I managed the operation for about 2½ years. The studio had a lot of technical problems and it was on the top floor of a building. There was not much room for parking. The studio was about 65' x 45' with a 25 foot ceiling that was all wood and it was a fantastic room to work in. There was great isolation and a beautiful sound. We had a couple of live chambers that weren't too good. There was an old Studio Electronics console (now known as UREI) with 14 inputs and 4 outputs with very limited EQ, a 4 track, 2 track and mono tape machines. There was no outboard EQ such as Pultec's or anything. The AKG C-60 was one of my favorite microphones and we had 3 or 4 of those. The Telefunken M-251 was also one of my favorites and we also had an assortment of some microphones that I have mentioned previously.

"While I was at Fred Fosters one of our clients had a company called Hit Records and we used to do records with un-known performers that would sound just like the ones done by the featured artists. We would do the same arrangements and everything. These records would sell for 49¢ while the records of the main artist would go for 79¢ to 89¢ and they would sound almost the same. We would listen to a record on a player and try to copy the sound, sometimes you could not tell how the record was done so I would fake it as best I could in the mixing.

"I wanted to build my own studio, so I went to see Bill Putnum on the west coast to ask him to help me design the studio. While I was out there he started talking to me about taking over his studio in Las Vegas. He wanted to get out from underneath it because he had suffered a stroke. The studio was going downhill and Wally Heider who had worked there as a mixer had left. The studio had been there for about 3 years and was called United Recording of Las Vegas. He offered me a fantastic deal and my lawyer agreed it was, and told me I should take it. So I moved out to Las Vegas with my family in August of 1966 and took over the operation of the studio on September 1st.

"The studio was next to a train track and when the scheduled trains would come by it would shake the whole building. The musicians union finally posted a notice that said if a train came by there could be a fixed amount of extra time added to the session at no additional cost for the studio musicians. The original equipment was a tube type 12 in and 4 out console and some Pultec equalizers. The microphones included Altec 639, RCA 77 and 44, AKG C-60, Neumann U-47, Telefunken M-251 and various dynamic mikes. Altec

A-7's were used for monitor speakers that I replaced with Electro-Voice Sentury IV's.

"I had a maintenance man working for me named Bob Swartz and he modified that console enough to make it 8 track. In 1969 we built our own 8 track machine out of some old Ampex parts and it was a huge machine. We struggled along like this. We did a couple of remotes but most of the remotes were being done with either 8 or 16 track and Wally Heider had most of that business. I lost remote business because I couldn't compete without 8 track remote facilities and I didn't have enough money to buy everything that I needed. So what we did was low budget 4 track and 2 track remotes. I did record the Buddy Rich hit, "Mercy, Mercy" which was pretty big. I recorded Rusty Warren a couple of times, Buddy Grecco and Jerry Lee Lewis, all 'live.' We stayed pretty busy. Many of the big stars who worked in the hotels would book time after they finished work in the evening. Paul Anka would come in after he finished work and would record from 2:00 a.m. until 8:00 a.m. The studio grew from a one man operation to three plus a secretary. Brent Maher came out from Nashville after six months. I had also hired a maintenance man and the four of us ran the studio. We did disk cutting on our Neumann lathe and it was a pretty fancy system.

"We had a lot of trouble with radio and television frequency interference. An AM radio station transmitter was across the street about 200 yards and a television station was about 6 blocks away. We were getting hit with R.F. from both sides. This caused us a lot of trouble when we purchased a new API 16 output console in 1969 and a 3M 16 track tape machine.

"My Vegas operation had done pretty well up to a point and in 1972 I got involved with some people and formed a record label, publishing firm and artist management. We set up a big corporation and raised some private funds hoping to go public. We had a couple of publishing hits, Glen Campbell recorded one of them. We never got anything off the ground with the label as we couldn't find any decent talent, and we started to get into a financial bind. There were a lot of decisions made that I had no control over. It was a corporation and my say had little weight so I resigned from the company in January of 1973. In October, a few months later, a big mysterious fire came along and destroyed everything. My studio went up in smoke and I lost everything. At that time it was worth about a quarter of a million dollars. In the meantime, I still had the electronics sales company and I moved it to a different location. So with that and working with artists like Ann Margaret, Paul Anka and Elvis, I was able to do pretty well.

"In 1975 I got a call from Jerry Milam (Milam Audio) who told me that there was an opening for someone to teach the audio engineering course at the University of Miami and he felt that I would be an ideal person for this. I contacted Dr. Crager of the University and told him I didn't have a degree and he said that we could work it out. So I went to Miami and we made a deal and I moved there in September of 1975. I still did the Elvis tours while I was working for the University. I was gone 10 to 12 weeks at the most and the students all wanted to hear about each tour when I came back. The University of Miami offered the first four year degree program for recording engineering in the world. I did a lot of work with the staff in developing this program. We built the program up to about 100 students. They would finish with a four year degree in music and a minor in electrical engineering and also a lot of practical experience. There was definitely a need for a program like this and that's why I took it on. I worked there for 6 years and I was granted tenure in May of 1981 before I left. The program became tops in the country and some people even say that it was tops in the world.

"In June of 1981 I went to work for Auditronics (a console manufacturer) as their director of marketing. I left in March of this year and I am currently employed by Jimmy Swaggart to do live sound, record production and engineering. I also do freelance educational sessions, seminars and consulting with professional audio equipment manufacturers.

"I have been asked a number of times what I see in the future of the professional audio business and I would like to comment on this: Video is going to be a big part of the

industry. To a certain extent it is getting back to the point where people are going to have to learn to mix again, because in certain cases a multi-track recorder is used strictly for a safety now and they are trying to get a 'live' mix as they go, which is routed directly to the video tape. I think that this is good because you can catch the excitement of the performance. It is not ***cut and paste***. Cut and paste is OK, and there are certain things that you can improve on. One can make more perfect records that way. But to me these kind of recordings lack excitement. Most of the sessions that I did had everybody playing at the same time and they played off of each other. These recordings weren't so much better technically, but they were better musically. One must keep in mind that you are not just selling words and music, but you are also selling feel.

"I think that today's mixers are typically not as good as in the past. They can make better records because they can play with it and work with it. But there's a certain amount of mixing chops you can pick up when you do stuff 'live,' all at one time. If an engineer has his or her act together and really gets into it, to me that's an art! If I'm an artist and I'm putting my artistic talents into that mix, it's going to sound good. If I'm an artist and the players or performers are artists as well, we get a combination going that is ***unique.*** Engineers who think artistically usually are better mixers than those who think technically. My experience has been that the two don't seem to go hand in hand. I think that the record industry is going the direction of video and they are going to do 'live' sound, and a better quality of mixers will come out of all this.

"What I've heard on digital tape recordings, I don't like because I hear a high frequency hash (about 12 kHz and up.) I think that digital audio disks are going to happen and mixers are going to have to get their technical chops together. They just can't indiscriminately use microphones in a haphazard manner anymore. The quality is going to have to come back. With digital, you have the capability of doing full dynamic range recordings and you have a whole industry that doesn't know how to do this. Full dynamic range recordings with multi-miking and close miking techniques are very difficult to do. Placing a microphone on top of every instrument is a concept that I do not agree with. It does not sound natural and you cannot capture the natural dynamics of the instrument. If somebody comes and talks to you, right in your ear and they whisper, the whisper is quite loud; if they back away and talk to you that same whisper is quite soft. That is the kind of difference that I am talking about. I feel for wide dynamic range recordings that the mikes should be placed further away from the instruments using more of the normal acoustics of the environment, when possible. Close miking will be around for quite a while because people have learned to do it that way, and that is how they are accustomed to working. I believe that the birth of digital will force people to re-think a little bit about what they are doing because the record buyers are becoming more aware of technical progress. Normal and full dynamics in recording are going to happen. It is going to sound so quiet and then the music is just going to jump out at you. This will be exciting.

"Broadcasting will be an exciting new area with AM "stereo" and "stereo" television. The television business today is just like the recording business was in the late 50s and early 60s. Some advice that I would like to give to the people in the recording business is to look at television as a field to go into.

"For those people who are coming up in the field, I feel that you should learn as much about working with digital as you possibly can, because it is going to be the way of the future. Get as much musical knowledge and acquire as much practical experience as you can. I'm a firm believer that if you start learning how to do quality work when you begin working, a reputation for quality will go where ever you go. It is important that you learn how to do this. When you're working for your employer you must present a product to the client that is the best job you can do. People that don't think that way are not going to make it, because the world is just too competitive out there. The recording business is something that you must be married to. It is very difficult to maintain a personal life along with this business as well. It is a very demanding business and it certainly is no joyride. I often hear that my reputation preceeds me, and I have strived all my life to respect that." ■

# RCA'S STUDIO B

**by Larry Thomas**

RCA's Studio B in Nashville, where Bill Porter recorded Elvis Presley in the 1950's, today has the unique distinction of being one of the only studios anywhere operating as a full-time museum. When the historic facility closed its doors in 1977, it was acquired by the Country Music Foundation Hall of Fame and Museum, which now conducts guided tours of the studio for aficionados of country music. In 1981, more than 80,000 visitors toured Studio B, which can justly claim to be one of the birthplaces of the modern country sound.

Studio B was constructed in 1957, and was one of the very first studios opened by a major label in Nashville. As such, it was one of the important factors in the growth of Music Row and for twenty years it spawned the seminal hits of country and rockabilly music.

Under the management of Chet Atkins (a country music great in his own right), Studio B hosted not only RCA's artists but those recording for numerous other labels as well. Their combined output during the 50's and 60's reads like a discography of the "Nashville Sound." Cut within the walls of Studio B were Elvis Presley's "It's Now or Never," and "Are You Lonesome Tonight?"; Don Gibson's "Oh Lonesome Me" and "I Can't Stop Loving You"; Jim Reeves' "Four Walls"; Roy Orbison's "Only the Lonely"; the Everly Brothers' "Cathy's Clown"; Chet Atkins' "Yakety Yak"; Charlie Pride's "Kiss an Angel Good Morning"; Waylon Jenning's "Good Hearted Woman" and Dolly Parton's "Love Like a Butterfly"—to mention a tiny fraction of Studio B's staggering credits.

Today's tourists can view the studio exactly as it was when most of its big hits were recorded. Although the original 3-channel RCA custom console was removed in 1971, and is now on display in the Hall of Fame Museum, the 24 x 16 board (also RCA, designed in New York) remains in the control room, and is used now to play back some of the historic tapes. Engineers will appreciate the fact that every meter on the console is labeled, to designate the instrument customarily assigned by Bill Porter and the other engineers to each of the channels. Also on view and in use are the Ampex MM-1000 16-track recorder (Serial #194) on which so many of B's hits were cut, as well as two Ampex 440's. If you're looking for outboard gear, however, you won't find much of it; this studio dates back to when engineers got their sound by judicial placement of microphones and the careful riding of faders!

There's one other interesting thing about Studio B that will no doubt raise the eyebrows—or perhaps bring tears to the eyes of today's cost-conscious studio owner: the studio was built in 1957 at a total cost cost of $39,000! Eat your hearts out fellas...

*ABOVE PHOTOS: Hank Lochlin session at RCA in 1962; inset is the RCA custom 3 channel console.*