

AUGUST 1983
\$2.00

THE RECORDING INDUSTRY MAGAZINE

Mix

Interview: Phil Collins

Studio Design Special Issue

Bill Putnam

**Bee Gees'
Studio**

**Music Video
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Steve Allen

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**Listings:
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PHOTO: ED SLAVER

SOMEWHERE IN MIAMI BEACH



The Bee Gees' Middle Ear

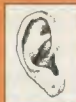
by Tom Paine

There's a nondescript warehouse-type building somewhere in Miami Beach. It looks like so many of those "taxpayers" that one might easily pass it by, except for the odd teenager hanging around outside with a camera. The kids hang around to catch a glimpse of one of their favorite personalities, for this is the site of Middle Ear, the personal studio of the Bee Gees, one of the past two decades' most enduring musical success stories.

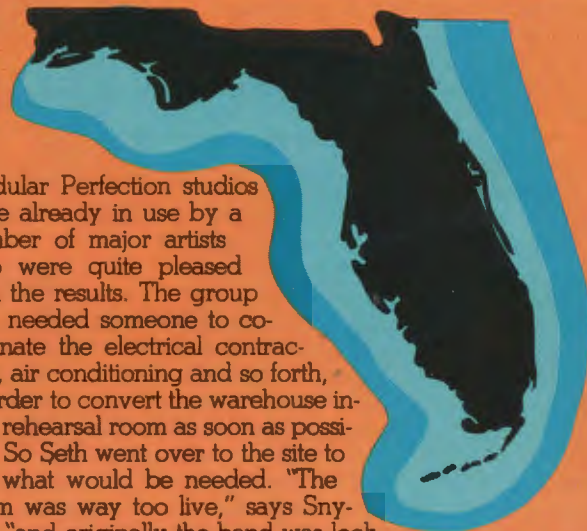
Middle Ear was built about three years ago and has since become the source of some of today's most popular music, including "Guilty," "Living Eyes," "Heartbreaker," and now music for the new movie *Stayin' Alive*. The funny thing was how it all evolved - when the Bee Gees and their management moved to Miami Beach in the late seventies, they didn't think they would be building a studio and continuing the long tradition of major musical production in South Florida.

Leasing a building which had been designed as a warehouse and then "evolving it" into a major new recording venue is an interesting story, bringing to light a number of technical and aesthetic problems that demanded some unusual solutions. In fact, the existence and success of Middle Ear proves one can put a successful studio almost

anywhere today if the right combination of dedication, design talent, and money exists.



A few years after the band moved to Miami Beach they decided they could use a home base and a place to store their equipment. They scouted around and found a seven year old warehouse structure which had been used to store cut-out records, of all things. It was located conveniently to the band members' houses and seemed to fit the bill nicely. In January of 1979 the building was leased, and soon most of the group's equipment was moved in from outside storage. In the spring of 1979 the band was riding high on the phenomenal success of *Saturday Night Fever*, and they began preparations for a summer tour. They needed a place to rehearse and the building seemed to be the logical answer. As a warehouse the acoustics were pretty awful—uneven and full of reflections—and the group sought advice on how to acoustically treat the room, quickly. They contacted Lutz H. Meyer of MCI and he suggested that they get in touch with Seth Snyder, a local MCI dealer who also provided studio design and construction services. Seth and his associates at a company called Modular Perfection had developed studio designs consisting of prefabricated acoustical "building blocks" which could be assembled in a variety of ways to create spaces that are acoustically correct and aesthetically pleasing. The modules could be installed and then removed for setup in another location, if needed, and



Modular Perfection studios were already in use by a number of major artists who were quite pleased with the results. The group also needed someone to coordinate the electrical contracting, air conditioning and so forth, in order to convert the warehouse into a rehearsal room as soon as possible. So Seth went over to the site to see what would be needed. "The room was way too live," says Snyder, "and originally the band was looking for something temporary, inexpensive, and expedient, just enough to make it okay for rehearsals."

But Seth just happened to have most of the modules necessary to do a great treatment job at Modular Perfection's Orlando factory, having built them for inventory just prior to the spring A.E.S. in L.A. "So I offered them a chance to check out the Modular system, and worked out a ceiling treatment as well. The deal was that they could 'borrow' the studio modules to see what they were like and if they liked them, they could buy them. We were contracted to do the ceiling treatment, which the room would have needed anyway, and shortly after we returned from the A.E.S., we started work on the room."

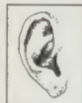
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Thirty-eight of Modular's standard "semi-live" modules were installed around the perimeter of the main 28' x 65' room and over three thousand acoustical "cones" or wedges were glued to the ceiling. Since the band was eager to begin rehearsals, the installation team was under considerable time pressure and they completed the job in just three days - largely because of the use of prefabricated modular parts.

After four or five days of rehearsals Barry Gibb remarked that the room sounded "really good," and he wondered if the band shouldn't build a recording studio in the building. "Just put the control room over there," he said, pointing to the other end of the large room. So what once was a cut-out record warehouse, then a rehearsal room, was now to be a state-of-the-art recording studio. Again Seth and Modular Perfection were called in to talk to the management. Seth was asked to make up a list of the equipment that would be needed, and to develop a proposal for a Modular control room, the studio modules, and also to finish off the upstairs into offices, a tape dubbing room, and an artist's lounge. The band was just about to leave on tour and everybody thought that it would be

great if the studio could be ready by the time they returned.

Seth got together with Karl Richardson, for years the band's principal engineer, to develop an equipment list and some preliminary designs. Karl approved of the Modular concept in general and made some additions to the equipment list. He also wanted a very large, dramatic control room/studio window of a specific shape, suggested designs for monitor speaker cabinets, and asked about a convection cooling system - noiseless in operation and also distributed by Modular Perfection. Early in the summer of 1979 the next stage in the building's evolution began in earnest. And naturally problems associated with the building's original design and location started to surface... things which were of little consequence as a warehouse or rehearsal room, but could be absolutely deadly for a recording studio.



For starters, it was determined that double 8" thick concrete walls were needed to properly isolate the control room from the studio. The ground floor had always sounded hollow and seemed a little flexible, even though it was



PHOTO: DAVID MOORE

Irregularly shaped wall cavities of slot absorber/diffusers and bass traps

supposed to be poured concrete. A void of nearly three feet was found when the floor's load bearing capacity was checked. Settling since the building had been completed created this space and caused cracks in the slab above, making the floor incapable of supporting the weight of a large double wall. In order to solve this problem, over 100 tons of concrete had to be pumped into the space under the floor, forming a solid piling under the building.

The studio is equipped with an MCI JH-556D console, and its immunity to RF noise was about to be tested to the limit, because this warehouse was



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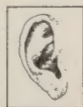
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across the street from the transmitting tower of a 5000 watt AM radio station. A number of things were done in the construction phase to eliminate potential problems with noise, among them building the control room out of modules with the RF shielding option—grounded metal screen in each module—making the room an RF shielded enclosure.

When the system was completely installed and grounded there was still a problem of induced RF noise on some but not all of the mike inputs. By isolating lines the problem was even-

tually traced to induced RF in shielded mike lines running into the studio. Disconnecting the lines from the console eliminated the noise from all channels, further proving the point. Plug-in low pass networks were designed and installed on the noisy lines and completely eliminated the problem.



Since the lines were already buried in the walls and kind of hard to get to for detailed analysis, many

theories have been advanced as to why only certain lines picked up noise. Perhaps the most interesting of these is that the inner lines in the bundle were the quiet ones, being shielded by the effect of all the outer lines.

The radio station transmitter and tower have been moved to another site now, but the studio operated successfully when the tower was less than 200 feet from the console inputs - and the control room was almost right on top of the buried copper forming the ground plane.

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AN INTERVIEW WITH KARL RICHARDSON

CHIEF ENGINEER AT MIDDLE EAR

by Tom Paine

When preparing this article I had the opportunity to talk with Karl about some of the production techniques that are used at Middle Ear, recent projects and audio in general.

Mix: I'd like to ask you about dual synchronized multi-track work, because it's something that Middle Ear uses extensively as a production technique. In talking with people at shows and all it's remarkable how many you run across who still think that the major advantage is that you wind up with 48 tracks, or 44, or whatever.

Richardson: Yes, that's right.

Mix: Could we talk about a recent project, like Heartbreaker, or something else in which various special aspects of the dual twenty four track setup were used?

Richardson: Well, I think that the new Bee Gees record, *Stayin' Alive*, is one of the more complex records that we have done recently. The sound track for "Stayin' Alive" [the movie]



PHOTO: BOB SHERMAN

required five songs, and the album will be out by the time this is published. It was done with dual multi-tracks and a lot of the material was assembled from various tracks all on the same "slave" reel. We worked with a live band and we would, let's say, pick the performance of a guitar player based on... well, you know, he might have played a great bridge on one of the takes, and he never quite had that amount of emotion or feeling in the bridge on any of the other takes. So, since everything was SMPTE synchronized, we would go back and get that bridge from that guitar performance and lay it on a "second generation" master, or whatever you might call it.

The way we kept everything synchronized musically was that on every slave reel we had Barry's rhythm guitar and a shaker-sort of a click track, so that the music coming through the player's headphones was always the same arrangement of the song, and the tempo stayed the same.

But as far as what the drum fills became, or the bass line, or any of the other stuff, we could choose which

takes or parts of takes we wanted. We would have guitar slave reels, percussion slaves, string slaves, synthesizer slaves and so on, so instead of trying to splice twenty four track tape together, we had the ability to rearrange musicians' performances more easily, letting them fly a little more freely.

Mix: In the production of *Stayin' Alive*, how many tracks or slave reels do you remember using? I remember once that someone at Middle Ear told me you did a production where there were 140 reels of tape for one number...

Richardson: Must have been the Streisand record.

Mix: Well, what's the count on tracks for *Stayin' Alive*?

Richardson: I really don't know. I would suppose it was into the hundreds of tracks.

For instance, if we do a bank of choir with the guys, and they're all singing "ahhh" or whatever in harmony, we might do twelve tracks of that on a harmony slave reel just to

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The large trapezoidal windows used between the studio and control room are two pieces of glass cut to shape. One pane is 3/4" thick, and the other 5/8". The thicker window was originally specified at 1/2", but it was cracked during the cutting process and the glass supply house offered the three quarter pane as a replacement. The windows are 16' long and 9' high at the center. They are set in a custom-milled solid oak frame which is isolated from the wall by 8" thick rubber plugs pounded in after the frame was set. Altogether the frame and window assembly weighs over 5000 pounds.



The ceiling needed aesthetic treatment, so a suspended ceiling frame was hung under the rows of glued-on cones. Honeycomb grilles were installed around the perimeter for air conditioning, and frames covered with grille cloth were set into the large middle area of the grid. No duct work or air isolation baffles were required in the studio because the room is cooled entirely by a noiseless convection cooling system. As the room was tuned up a number of reflective "clouds" were hung under the cones and over the grille cloth in various areas of the studio, forming a wide variety of reflective and absorptive surfaces.

The time needed to solve structural problems with the building and the need for very careful system installation delayed putting the room on-line until mid-winter, but finally in early 1980, all was ready.

As a personal studio, Middle



PHOTO: DAVID MOORE

Middle Ear setup for Kenny Rogers session

Ear is not open for outside bookings and even its location is kept shrouded in mystery. The studio is the tool of the production team (Barry Gibb, Albhy Galuten and Karl Richardson) which has been involved with most of the Bee Gees' later releases. In addition to Bee Gees productions, the team has worked on albums here for Barbra Streisand, Dionne Warwick, and most recently the music for *Stayin' Alive* and a Kenny Rogers album. The room has been as busy or busier than many public re-

ording venues - quite an achievement given the economic climate of the past two years.



When I talked to Barry and Maurice Gibb about their studio, they made some good points about why artists have their own rooms, and why Middle Ear was built and equipped the way it is. Barry: "One of the nicest

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Middle Ear control room from studio side

PHOTO: DAVID MOORE

things about having your own studio is the ability to leave complicated setups on the console or in the studio and know that no other act is going to be booked in the morning so you will have to change it all back again in the afternoon. We can make our own hours, and fine tune setups for days if necessary, which enables us to complete projects in a way that gives us much more creative freedom. Middle Ear is a laboratory for developing new techniques which may lead to tomorrow's hit sounds, and we can experiment with presenting artists in new ways through our production companies."

When asked about the room and the equipment choice (MCI console and multi-tracks), Barry commented, "When we decided to make our rehearsal room into a studio, we knew that we had to have the very best of everything. We had been working over at Criteria, and we wanted dual multi-track capability - priceless when you do a lot of overdubs. Our MCI JH-556D is the best that MCI has and we're pleased with it. I'm going to be building a home studio soon and I hope that I can equip it with an MCI system."

About the studio itself, Barry says, "The Modular Perfection system gave us a great sounding room without spending a fortune and we were able to get the studio up and rolling without all kinds of headaches from architects and contractors. When you have a good sounding studio, good equipment, and have great people like Karl and Albhy to work with, you have everything go-

ing for you. As a producer I'm ready to use every trick in the book in order to make a great sounding record, and one that is a commercial success. *Guilty* is a good example - the back tracks were laid down at Criteria, the vocals in Los Angeles, and the overdubs and mixing here at Middle Ear. Although both "Guilty" and "What Kind of Fool" were originally written as solos, we turned them into duets for the record."

Maurice Gibb: "The use of multiple slave tapes for vocals really helped us on this material, because it gave us the flexibility to pick lyrics that had been sung with everything right . . . in time, on key, and with the correct emotional interpretation that really makes a song come alive. I think everyone was very pleased with the vocal styling on Barbra's album, and although every performance she gave was a good one, the production team could assemble all of it into something really terrific."



What's next for Middle Ear?

A lot depends on the success of the new film, "Stayin' Alive", which may lead to a solo album effort by Barry Gibb. The Kenny Rogers album will be completed soon, and there is a Diana Ross project in the wind. One thing is for certain, though. With the resources in talent and equipment available at Middle Ear, we are sure to be hearing a lot from them. ■

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