

Report Remastering

# Mission Quadro



Deutsche Grammophon Gesellschaft made quadrophonic recordings? Industry experts won't believe it. But it's true: Over 250 multi-channel tapes from the 1970s are about to be reborn in the form of remastered audiophile recordings on Super Audio CD.

This could have been really something: Imagine hundreds of thousands and even millions of music lovers back in the 1970s discovering three-dimensional sound through loudspeakers placed behind them. But they didn't. Quadrophonic sound has been regarded as one of the great miscalculations of the record industry, but was it in reality a great missed opportunity?

The first experimental "surround" recordings were

made by Walt Disney in the 1930s, but the starting gun for the modern era of surround sound was fired in 1968 during smalltalk at a dinner in New York. The record producer Thomas Mowrey recalled chatting with Robert Berkovitz, an executive from Acoustic Research, a stereo equipment manufacturer based in Cambridge, Mass.: "We were speculating on the acoustical and aesthetic effects of recording in a

concert hall with four microphones. What would be the effect if the direct sounds of the musicians would be picked up by the front pair of microphones, in a normal stereo arrangement, but the indirect sounds would be picked up by another pair of mics in back? And then the listener would be sitting in the middle, surrounded by a 360-degree sound field?"

### An Idea Becomes a Trend

That was a mind game, but by spring of 1969, it had become serious experimentation. Berkovitz arranged some recording sessions in Boston, and Mowrey took his "quadrophonic" concept to the Eastman School of Music in Rochester, New York.

Soon what had begun as a little idea became a trend. In October, 1969 it was written up in the prominent German news magazine, "Der Spiegel". Under the headline, "Surrounded by the Beat", Der Spiegel wondered whether or not four-channel surround sound would drive

### The First Releases from Pentatone

<p><b>BEETHOVEN, Piano Concertos Nos. 3 &amp; 5</b> Christoph Eschenbach, Boston Symphony Orchestra, Seiji Ozawa, London Symphony Orchestra, Werner Henze</p>	<p><b>Ab März 2015:</b> <b>RODRIGO, Fantasia para un Gentle-hombre / Concerto de Aranjuez / Concerto Madrigal</b> Narciso Yepes, English Chamber Orchestra, Philharmonia Orchestra, Luis Antonio Garcia Navarro</p>
<p><b>GIULIANI / CASTELNUOVO-TEDESCO / VILLA-LOBOS, Guitar Concertos</b> Narciso Yepes, London Symphony Orchestra, Luis Antonio Garcia Navarro, English Chamber Orchestra</p>	<p><b>BERLIOZ, Symphony fantastique, Op. 14</b> Boston Symphony Orchestra, Seiji Ozawa</p>
<p><b>MOZART, Piano Concertos Nos. 14 &amp; 26</b> Berliner Philharmoniker, Tamas Vasary</p>	<p><b>BERLIOZ, La Damnation de Faust, Op. 24</b> Boston Symphony Orchestra, Seiji Ozawa</p>
<p><b>RAVEL, Orchestral Works</b> Boston Symphony Orchestra, Seiji Ozawa</p>	<p><b>BIZET, Carmen</b> Metropolitan Opera Orchestra, Leonard Bernstein</p>
<p><b>BACH, Brandenburg Concertos Nos. 1 – 6</b> Members of the Los Angeles Philharmonic Orchestra, Pinchas Zukerman</p>	



The Raider of the Analog Ark: Dirk van Dijk



The Master from the Early Days of Quadro: Thomas Mowrey

people crazy. This question became prophetic in regard to the development of quadrophonic sound: “The super-stereophonic cascades of surround sound are resounding only from tapes at this point,” said Der Spiegel. “Neither Vanguard nor any of the other US companies experimenting with four-channel stereo for home listeners have managed to squeeze all four tracks into the grooves of a record suitable for mass production.”

The basic question was, how could two rear channel signals be integrated into normal stereo sound systems without alienating the old customers? Mixing rear channel information into the



Machines which can play the half-inch, four channel tapes are available, as is information concerning track contents and layout.

normal stereo signals had one advantage — namely, the need for only one LP pressing. However, this was offset by a mountain of disadvantages. Firstly, HiFi fans had to buy a matrix decoder. Then they

needed two additional speakers. Further, the anti-phased back channels had very limited crosstalk suppression. Then, as the history of quadrophonic sound progressed, two

different matrix systems competed against each other.

In still a later development, the rear channel information was superimposed onto a high-frequency subcarrier at 30 kilohertz, but these records had to be played with a special “Shibata” stylus, so they didn’t help to bring about the hoped-for boom in quadrophonic sound.

### True Legends of the Recording Arts

Thus the magic spell fizzled. Today it still exists in certain fan circles, though — and in the archives of the record companies. Between 1970 and 1980, quadrophonic techniques were used by many true legends of the recording arts:

## Jean-M. Geijsen: “Like they were recorded yesterday”



Multi-channel specialist Jean-Marie Geijsen started his career as an engineer for Philips. In 1998 he founded his own recording studio, Polyhymnia.

directly to four tracks on half-inch tape. In these cases, I just had to put the tape on a four-track analog machine and play it one to one, without doing much mixing. With the eight-track masters, I followed the mixing instructions in the documentation with the tapes, which were very precise concerning levels.

**stereoplay:** It kind of sounds like your colleague Dirk van Dijk brought you a little bag of goodies from Germany, but actually, they were old tapes. How do they sound to modern ears?

**J.-M. Geijsen:** Astonishingly fresh. Like they were recorded yesterday. To be completely honest, I had to do very little.

**stereoplay:** Can you give us an idea of exactly what the tapes look like?

**J.-M. Geijsen:** The number of channels to be recorded determined which tape width was used. In those days, they mostly recorded eight tracks on one-inch tape, and then mixed them

**stereoplay:** How compatible are the tapes with today’s equipment?

**J.-M. Geijsen:** We have several Studer A80 tape machines here with different track configurations. They are original and authentic from those times, but we have soldered in new Van den Hul cables at the heads. In addition, we have built entirely new playback amplifiers, based on our microphone amps. Then we use Merging Technologies AD converters to go directly into DSD 256.

**stereoplay:** Have forty years really not left their mark on these tapes?

**J.-M. Geijsen:** They are in very good condition. We have the original masters here, and even the splices are perfect. We only had one case — an Ampex tape — where the magnetic layer was stripped from its backing. Fortunately, that was the only loss. The other tapes are from AGFA and BASF, and they’re in excellent condition. We had no trouble de-noising. The signal to noise ratio is wide enough, but most of the tapes were recorded with Dolby noise reduction systems, which means still another ten decibels less noise.

**stereoplay:** And the aesthetics? How do you assess the sound aesthetics of your predecessors?

**J.-M. Geijsen:** It’s exciting when you listen today and hear that colleagues back then were doing practically the same as what we do now, but without a center channel. Many of these recordings sound almost brand-new — very direct and very detailed. For me personally, this is fascinating and motivating. Boring it certainly isn’t.

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Mike Oldfield was pressed in quadro, as were John Lennon, Deep Purple, Miles Davis, Santana and Pink Floyd. Classical performers in particular fell in love with the new three-dimensional sound, including, naturally, the technical afficionado Herbert von Karajan, whose quadro recordings were released in great numbers, but only on EMI; Karajan's house label, Deutsche Grammophon, never pressed quadraphonic discs.

However, DGG certainly recorded quadrophonically. The quadro co-originator, classical producer Thomas Mowrey, can confirm this: "I made over 35

productions for DGG in multi-channel technology — enough material for more than 50 LPs — and I think DGG has many, many more surround productions in its archives."

The Dutchman Dirk van Dijk agrees. He should know, as he has already brought out the entire catalogue of Philips quadro recordings. They were released on SACD, with dual stereo layers and a discrete quadro layer, by the Dutch label, Pentatone. The former Philips employee, however, came upon the treasures of Deutsche Grammophon in Gütersloh, Germany, where Sonopress maintains a special

storage facility for historical material that is climate controlled and safeguarded every which way. The once great recording companies use Sonopress's service as tenants.

Van Dijk was allowed to look into the central computer and marveled at the DGG Directory there: "It was about 250 entries," he said. "I counted up quickly how many combinations that would make for CD playing time, and I came up with about 150 recordings." Mr. van Dijk, of course, wanted to release on SACD. "There were legal restrictions for some," he noted, "But we received the green light for

many."

Universal permitted it. But why is the giant not releasing these recordings itself? Van Dijk says, "I don't know. I think the big companies don't see the benefits and opportunities of Super Audio CD. This is still a growing market, especially for multi-channel."

This month Pentatone will make its first thrust into the market with these recordings, and March will see further releases, including real jewels such as the Ravel recordings of Seiji Ozawa and the complete recording of "Carmen" under Leonard Bernstein.

Andreas Günther

### Multichannel in the 1970s and Today



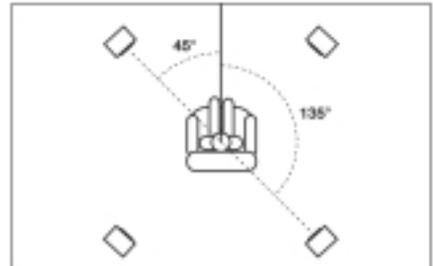
A natural outgrowth of stereophonic sound occurred in 1969 (above, the control room at Eastman) in the form of four-channel quadraphony. By 1971, companies such as Marantz, Sansui, JVC (pictured below), Sony, and many others were bringing quadro devices to market, some with very sophisticated technology. However, by 1981 the proliferation of immature or incompatible memory cards and decoders had ultimately driven the final nail in quadro's coffin.

While pop, rock and jazz recordings were often made with experimental, "wild" distribution of instruments throughout all channels, classical music engineers concentrated on "natural" reproduction of instruments and directionality in the recording hall.

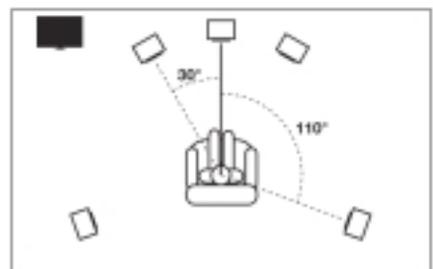
Anyone who wants to play quadro recordings and is equipped with a surround system set up for today's formats will find that compatibility is surprisingly high. The center automatically remains silent. During installation and adjustment, the following tips should be considered:

1. The distance between the surround speakers and the listener should not be less than the distance between the front speakers, and ideally it should be identical.
2. If possible, the surrounds should be placed further back than the sides.
3. Reduce the level a bit.

Quadro recordings can be reproduced on all modern recorded formats (Blu-ray, SACD, DVD etc.). *Malte Ruhnke*



**Quadro Setup:** The base width in front was slightly greater and the surround channels were placed further back.



**5.1 (ITU):** The fronts are stereo compatible within an equilateral triangle, the rears further apart, and the center and subwoofer are optional.

