

Flavio Pairol, Brazil

- *discovered all by himself how to receive circular signals*
- *designed a 2-axis tracking system for reception of inclined signals*
- *watched satellite TV for the first time in 1984*
- *receives Russian TV channels with his 3-meter antenna*
- *devised multi-LNB feeds for different bands and polarisations*

■ Hardly visible from the road: Flavio Pairol's 3-meter satellite antenna in Sao Jose dos Campos, province of Sao Paulo, Brazil.



After ten years in the making, a dream has (almost) come true

■ Flavio Pairol loves to watch Russian channels. He can receive EXPRESS AM44 at 11° W with his satellite antenna. Russia 1 and Planeta RTR are transmitted from that position.



Flavio Pairol had his first encounter with satellite reception back in 1984 in Mexico. "At the time I was employed by large multi-national corporation Philips which was in the process of setting up a production plant for TV sets. Some members of staff in charge of the construction project were from the United

States and in order to watch US channels in Mexico they set up large satellite dishes in their housing areas." This is when Flavio Pairol caught his first glimpse of channels such as CNN and Playboy via satellite. For him, one thing was for sure: "I want to watch that at home, too!"

Nonetheless, Flavio Pairol had to test

his patience until he was able to buy his first mesh antenna in 1993: "I remember that it set me back 100 US dollars, but at least that amount also bought me an LNB and a receiver." With this equipment he was able to receive channels broadcast from the recently launched BRASIL-SAT – which, unfortunately, did not carry

CNN or the Playboy channel. BRASILSAT transmitted signals with linear polarisation, but in 1995 Flavio Pairol observed that some satellites also provide circular signals. Not one to run away from a challenge he wanted to receive those signals as well and began to experiment.

One day he accidentally held a screwdriver right in front of the feed in a precisely upright position when all of a sudden the extremely weak signal of a circular channel turned into a perfect picture. Flavio Pairol had discovered how to receive circular signals. "Rather than using the usual teflon disc – like everybody else – a piece of metal in perpendicular position to the feed worked just as well."

One of the most circular-happy satellites was EXPRESS from Russia, and since Flavio Pairol had got the knack of it Russian emigrants all over the place heard through the grapevine that there was a fellow around who would be able to bring Russian TV into their Brazilian living rooms. "I began to offer suitable LNBFs for this group of people and, if required, I even took care of installation."

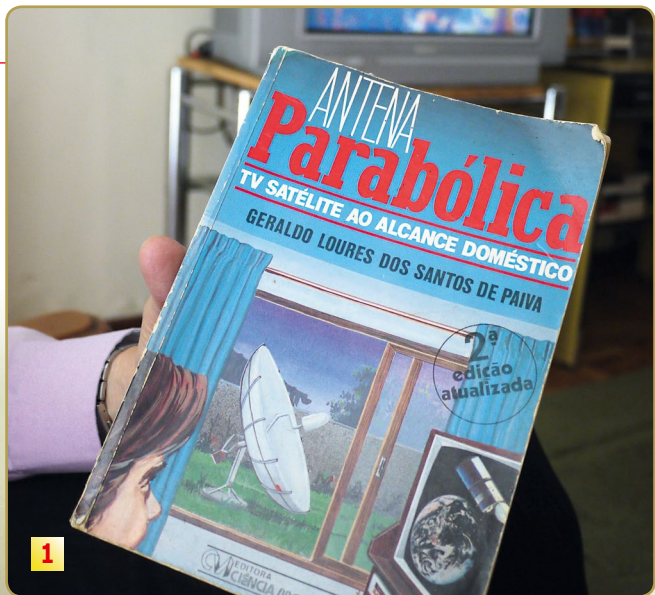
By 2003 EXPRESS 14°W was wobbling to an extent that reception with standard antennas had become all but impossible. "So I went about constructing a two-axis control mechanism using two actuators. This way it was possible to follow all wobbles of the satellite." At first it was necessary to readjust the dish manually, but Flavio Pairol eventually equipped his invention with a fully automatic control system. "I imported those controls from the USA." At the time you had to invest around 2000 US dollars for such state-of-the-art equipment. Naturally, most people could not afford to spend that amount of money. "In 2006 all this came to an end anyway, since the EXPRESS satellite was not used any longer."

What followed then was the Internet, and with it the whole world at your fingertips, so to speak. The fascination of receiving satellite channels from far-away countries gave way to the possibility of receiving TV from around the globe via IPTV. "Admittedly, I've always wanted to receive CNN and the Playboy channel, but to be honest, I hardly ever watched them."

After all his experiments with Russian satellite channels Flavio Pairol had become an avid follower of Russian TV. "I remember the time of the Cold War, and it never ceases to amaze me that today I can watch channels from a country that was considered the communist enemy of the western world for so many years. Back in that time, Russia seemed cordoned off from the outside world." Flavio Pairol frequently watches repeats of pro-



■ Flavio's second dish is a 2.6-meter mesh antenna, which currently also points towards EXPRESS at 11° W.



1. Flavio Pairol learned the ins and outs of satellite reception from this book.
2. Receivers used by Flavio Pairol.
3. Is this a DVD? Not really, it's a Video Laser Disc. Philips launched this system in 1978 and Favio must be one of only a few still owning such a device, plus a large selection of laser discs. "It still works beautifully," Flavio Pairol confirms. And not without pride, since he was employed by Philips all his working life.





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grams produced during the Soviet Union era. "To me this feels like a journey back in time, to a world that fascinated me even back then."

While his 3-meter dish can theoretically be moved to any receivable position, it is generally aligned towards EXPRESS AM44 at 11° West. It is from this orbital spot that he receives Russia 1 and Planeta RTR. "True, I don't speak Russian, but I still enjoy those channels, above all newscasts and music shows."

So Flavio Pairol has made his personal dream come true, even though not with the US channels he originally wanted to receive, but with TV channels from Russia. Who's to say dreams cannot change?



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4. Flavio Pairol re-enacts how he accidentally discovered a trick for receiving circular signals. He was adjusting the feed and by chance placed a screwdriver vertically in front of the feed – all of a sudden he obtained a clear signal.

5. He then reasoned that a metal bar or rod must have the same effect as his screwdriver and thus invented his own solution for receiving circular signals.

6. Using this construction with two actuators, Flavio was able to receive signals from the inclined EXPRESS 14°W. He could even make money with this invention by selling such systems to emigrants from Russia in Brazil.

7. Sometimes it doesn't take a lot to achieve a lot: Flavio discovered that a slightly longer feed horn can improve reception by about 2 dB.

8. Flavio designed a multi-LNB feed for a C band LNB for circular polarisation, and one for linear polarisation and the Ku band. The feeds are arranged precisely along the orbital axis, so that whenever the antenna is rotated, the LNBs always point right to the respective satellites.

9. Flavio came up with a similar multi-LNB feed for circular and linear Ku band LNBs and a linear C band LNB – as seen here on his 2.6-meter antenna.

10. The same multi-LNB feed with closed weather protection.