



**PEAK**  
S I G N A L

**Tokyo 1964 - The Birth of Satellite TV**

# Tokyo Olympics 1964 - The Birth of Satellite TV

**The Tokyo Games became known as the “TV Olympics” with satellite technology used for the first time to deliver television signals. Looking back from a distance of 57 years, it is hard to imagine how cutting edge it was to be able to use this then new technology to facilitate making the action at the Olympics available on TV screens.**

For a view of the challenges that needed to be overcome to enable satellite technology to relay TV pictures, Paula went to a source close to home - her Grandad, Leonard Mathews, then Head of Special Projects for ATV; his brief was planning technical arrangements for special programmes, including major network activities such as The Olympics, State Occasions and EBU international events. This involved him in looking at the possibility of using satellites for TV which had become within reach with the launch of Telstar on July 11th 1962.

Using extracts from her Grandad’s memoirs, here is some of the behind the scenes story of how ITV’s Olympic coverage in 1964 was achieved.

## What was the plan for Olympic coverage in the UK for Tokyo 1964

Leonard recalls:

*From the early planning stage of the Olympic Games, the EBU had arranged to convey the Eurovision coverage by video taping the pictures in Tokyo, then flying the tapes by scheduled airline, via Anchorage, to Hamburg for onward transmission over the Eurovision Network. Meanwhile, the sound commentaries from the ten member organisations taking the programmes, would be recorded onto multi-channel audio tape in Tokyo and flown in the same aircraft. In Hamburg, suitable synchronising equipment would be used to produce the composite vision and sound signal. It was appreciated that this system had a number of shortcomings, the major disadvantage being that the flying time from Tokyo to Hamburg was of some sixteen hours’ duration. As a result, programmes could not be available on-air until the following day in Europe, when by that time results would be well-known to viewers from radio and newspapers.*

## The space age - new opportunities

My Grandad, Leonard Mathews was part of the ITV Olympics Committee. He was convinced that these plans could be improved upon using modern satellite technology - although at the time there were no satellites available to provide a service. However, he was aware that the American Space Agency, Comsat, were planning to launch Syncom 3, which would give mutual visibility between Japan and the West Coast of the USA. There was one obstacle - it wasn't designed for TV relays. Armed with the conviction that with the appropriate technical modifications this could be overcome, Leonard set off for Washington to discuss this with Comsat and the manufacturer of the Syncom satellite, Hughes Aircraft Company. Finding that he had arrived when most of the senior staff were at a weekend barbecue, he gatecrashed it and corralled a number of staff to discuss the proposal, which was met with enthusiasm.

*Photo credit<sup>1</sup>*

### ..... and new problems

It turned out that earthly concerns also need to be addressed, as Leonard explains:

*One major problem remained to be resolved: the provision of ground stations which at that time did not exist. A call to NHK and the Japanese Post Office established that they were extremely excited about the prospect of being the pioneers of transmitting the Olympic Games by satellite. They also believed that they could bring forward the necessary station in Japan. In the USA, there was an 85-foot satellite dish at Point Mugu, some thirty miles north of Los Angeles in the Mojave Desert, which had been installed for a previously cancelled Military Advent project. The receiver equipment was not, however, capable of operation with Syncom 3. The engineers from Hughes felt confident that they could introduce equipment to achieve an operational ground station.*

Just when you think all problems have been overcome, another presents itself when discussions take place with representatives of the USA Naval Air Station staff, on whose land the ground station was situated.

*.....the naval experts predicted that the operation of the ground station with Syncom would disrupt communications with their ships and aircraft on exercise as part of the Pacific Fleet. We then studied the timetable during which the Olympic Games transmissions were expected to take place. The Navy finally kindly agreed to cease their own operations during the periods when we would be requiring the satellite link.*



Martin Pulling of the BBC and me at an EBU Technical Committee Meeting in Seville in 1957

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<sup>1</sup> Photo from Leonard Mathews' memoirs - he is on the right of the photo

## Getting to Europe

While satellite technology could get the signal to the US, the method of getting to the UK had to be managed within the confines of air and sea travel!

*Our next round of discussion was with the American and Canadian broadcasters and the telephone companies, to arrange onward programme transmission by microwave network to Montreal via Buffalo. At Montreal, the video programme material could then be recorded and the videotape flown by charter jet aircraft to Hamburg. At the latter the video signal would be married to the audio commentaries. The latter being recorded on multi-channel audiotape in Tokyo, would be transmitted in sequence over four circuits in a transoceanic cable from Tokyo to Hamburg. The composite programme would then be distributed to EBU member organisations over the Eurovision network. By this method, in view of the timescale difference between Japan and Europe, it would be possible to broadcast to viewers the Olympic events on the same day in Europe as they took place in Japan.*

The upshot of all this was that the satellite worked perfectly for the duration of the Olympic Games (although what happened to the submarine cable carrying the sound is another story), enabling ITV to broadcast a programme on each night of the Games. Leonard received the RTS Pye Premium Award in recognition of the planning and execution of the satellite and sound arrangements.

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**Paula's footnote: this is the abridged version; if anyone is interested in the full article it can be found in Leonard's memoirs:**

**Forty Years On - ATV A Personal Memoir; Leonard Mathews**

**Feet Under The Table - The Day I Walked Into Broadcasting House; Leonard Mathew**

**Both are hard to come by as they were small print runs, so I am happy to provide extracts as I think much of the history has now been lost as the people involved are sadly no longer with us.**

***Remembering Leonard Mathews (1917-2015) with much affection***