

# Television coverage of the funeral of President Tito

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**Summary** During the days of national mourning for President Tito, Yugoslav television carried out its greatest and most difficult task, that of televising the funeral of President Tito.

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Jovan Valčić was born in 1939. He was educated at the Technical University in Belgrade, Yugoslavia. He joined Television Belgrade in 1967 and worked in Studio and Outside Broadcast Departments. In 1971 he became Chief Engineer of OB Department and he has been responsible for a wide range of different projects of the television coverage of the most important political and sporting events. In April 1980 he became Technical Director of Television Belgrade.

camera mini-mobile van and several independent cameras were used (a total of 41 cameras was installed).

The microphone relay system was rather complex, consisting of 24 pairs of portable links.



cannon for the salvos of honour were positioned in another part of Belgrade at the ancient medieval fortress on the confluence of the Sava and the Danube.

It was concluded that owing to the topography, the whole programme of the ceremony could very well be televised using ten OB vans and several independent cameras. The possibility of using a moving van was taken into account and it was also decided to mount one camera in a helicopter.

Shortage of time was a major problem as the OB crews participating, drawn from all the Yugoslav television centres, had to cover also a considerable number of additional events – the departure from Ljubljana, the arrival in Belgrade and the memorial sessions of the various political bodies. The final installation of the whole OB van system took place on 7th May 1980, the day before live transmission.

## Introduction

During the days of national mourning for President Tito, Yugoslav Television carried out its greatest and most difficult task, that of televising a considerable number of events among which the funeral was the most important.

The most complex problem was the provision of television coverage of the entire funeral procession, from its beginning at the National Assembly to its conclusion at the mausoleum, a distance of some five kilometres.

At the same time it was its most responsible task, as an unprecedented number of heads of state and leading figures from almost every country in the world were to attend the funeral ceremony; also, in addition to Yugoslav Television, the broadcast had been taken by 60 television organizations in 44 countries in Europe, Asia, Africa and the Americas.

The programme of the ceremony commenced with the President of the League of Communists of Yugoslavia pronouncing the eulogy in front of the National Assembly. The procession

then proceeded through the streets of Belgrade to the mausoleum. There, in the presence of the family, Yugoslav dignitaries and foreign delegations, the President of the Yugoslav Federation made the final farewell speech. The

## Deployment of the OB vans and cameras

Two OB vans (No.1 and No.2) each equipped with four cameras, were



Fig. 1. The funeral procession about to depart from the steps of the National Assembly





Fig. 2. The procession passing through the streets of Belgrade

installed at the National Assembly where President Tito's body was to lie. A ninth camera was mounted 200 metres away on the roof of a five-storey building and was coupled into the system as the fifth camera of van No.2 by microwave link. The disposition of these cameras offered good coverage not only of the beginning of the funeral ceremony itself but also of the programmes broadcast (from 7 a.m till

midnight) on the two previous days. These featured the arrival of foreign delegations and citizens coming to pay homage to President Tito. Three of the cameras belonging to van No.1 were installed in the hall of honour inside the National Assembly while the fourth was in the portico. The four cameras of van No.2 were mounted across the street from the National Assembly.

Another three OB vans (Nos.3, 4 and 5), each with four cameras, were positioned along one of the main streets on the procession route. Van No.3 took shots of the flags as the procession entered the street, van No.5 covered the procession turning into another street and van No.4 was installed in between the two (figure 3). Apart from one camera from van No.3 (12) which was positioned on the roof of a high building, and one from van No.4 which was on a hydraulic platform borrowed from the fire brigade, all the cameras from these three vans were mounted more or less at street level.

Van No.6 (four cameras), with one camera across the road on the roof of a ten-storey building, covered the approach of the procession to the entrance to the mausoleum, where van No.7 (four cameras) was positioned. Four cameras from van No.8 and three from van No.9 were installed inside and in front of the mausoleum, covering the final ceremony of the funeral.

Van No.10 (equipped with three cameras) followed the procession over practically the whole route and thus performed an important function in the broadcast as the distance from the National Assembly to the mausoleum is about five kilometres. This flexible arrangement enabled good coverage of

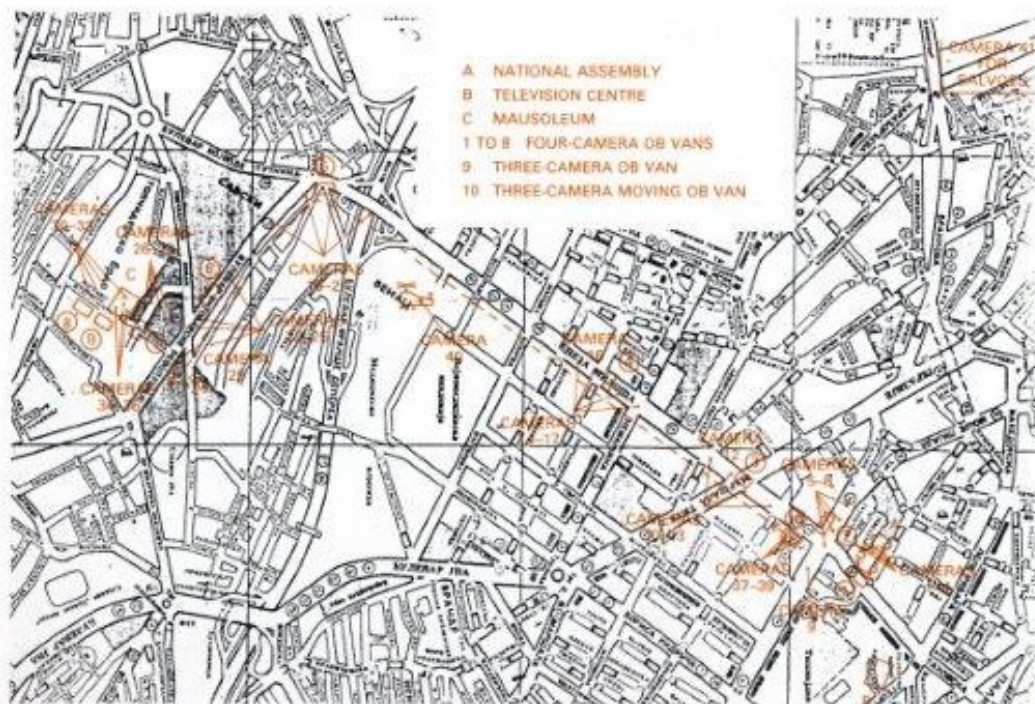


Fig. 3. Deployment of the OB vans and cameras



the procession route to be provided, with a minimum of OB vans (e.g. the distance between vans Nos.4 and 5 was more than 1½ kilometres). For this mobile application it was decided to select the van which could best provide good coverage of the ceremony, allowing all three cameras to be mounted simultaneously with ample room for the crews, who would have to work continuously for more than two hours.

Reliability was also an essential factor as this was a key role in the broadcast. Yugoslav television possessed a Marconi mini-mobile van which met all these requirements and, in the event, fulfilled its role very successfully.

One of the independent cameras was positioned to take shots of the salvos of honour being fired, and the other, installed in the helicopter, took aerial shots of the procession.

Figure 3 shows the deployment of the OB vans and cameras. Ten OB vans were used (four of which, Nos.3, 5, 8 and 10 were Marconi vans) with 38 cameras plus three independent cameras, making a total of 41.

### Microwave links

Planning the microwave relay system presented serious technical problems.

The basic aim was to convey the signals from all vans except Nos.2 and 9 to the Central Control Room at the Television Centre. Vans Nos.1 and 2, also Nos.8 and 9 were regarded as one complex van system (figure 4).

The number of frequencies that could be made available was limited. Because of the importance of the broadcast, fully duplicated microwave links (on-air and standby) were installed for each van. The frequencies used were in the 2, 5, 7 and 13GHz bands. Two 1.5GHz ENG links were used for the Marconi mini-mobile van (No.10), with its reception point at van No.5. This maintained communication with the mini-mobile over practically the whole of the route from the National Assembly up to van No.7. In total, 24 pairs of portable links were used. Two u.h.f transmitters (700MHz band) were used for the helicopter, the reception point for which was on the roof of the Television Centre.

A Marconi standards converter (DICE), installed in the Television Centre, was used when necessary for foreign television organizations.

### Vision synchronization

Figure 5 represents the arrangement for achieving vision synchronization

throughout the broadcast, fulfilling the requirements of the main programme director – i.e. to follow the whole procession with the ability to switch freely from one van to another. Firstly, some of the OB vans were grouped into several sub-systems and gen-locked.

Sub-system I: van No.1 (main) slaved its pulse generator to van No.2 which in turn slaved to the independent camera (9);

Sub-system II: vans No.3 (main) and No.4;

Sub-system III: vans Nos.5 and 6 (main);

Sub-system IV: vans No.8 (main) and No.9.

Throughout the broadcast the main programme director always had pictures from each of the vans on his monitors.

As only one frame synchronizer was available, and to suit the funeral ceremony, it was arranged that the Television Centre pulse generator should be slaved to the signal from van No.7, which in turn fed directly to the studio vision mixer. The other signals, (sub-systems I to IV, van No.10, and those from the salvos of honour and the helicopter) were fed via a pre-selector into the frame synchronizer, whose output was connected to one of the studio mixer inputs.

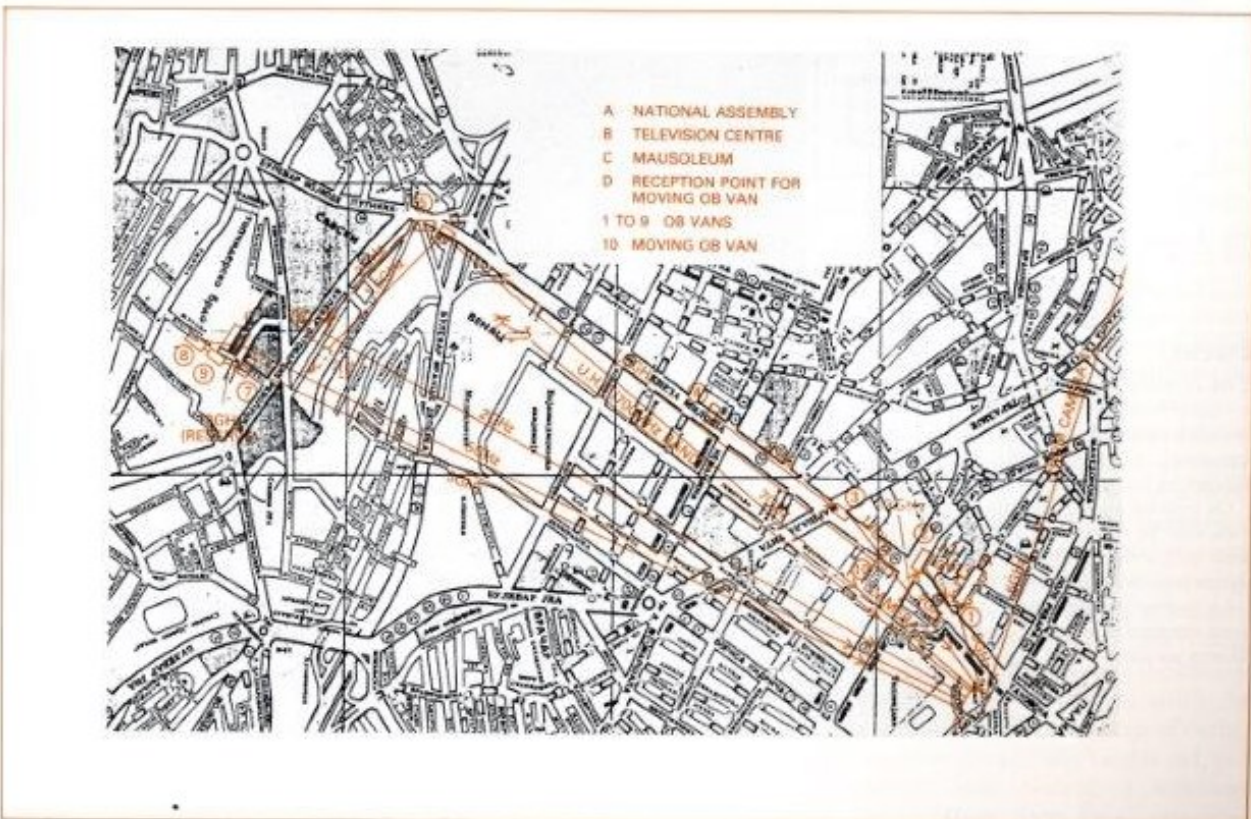


Fig. 4. Portable microwave links system



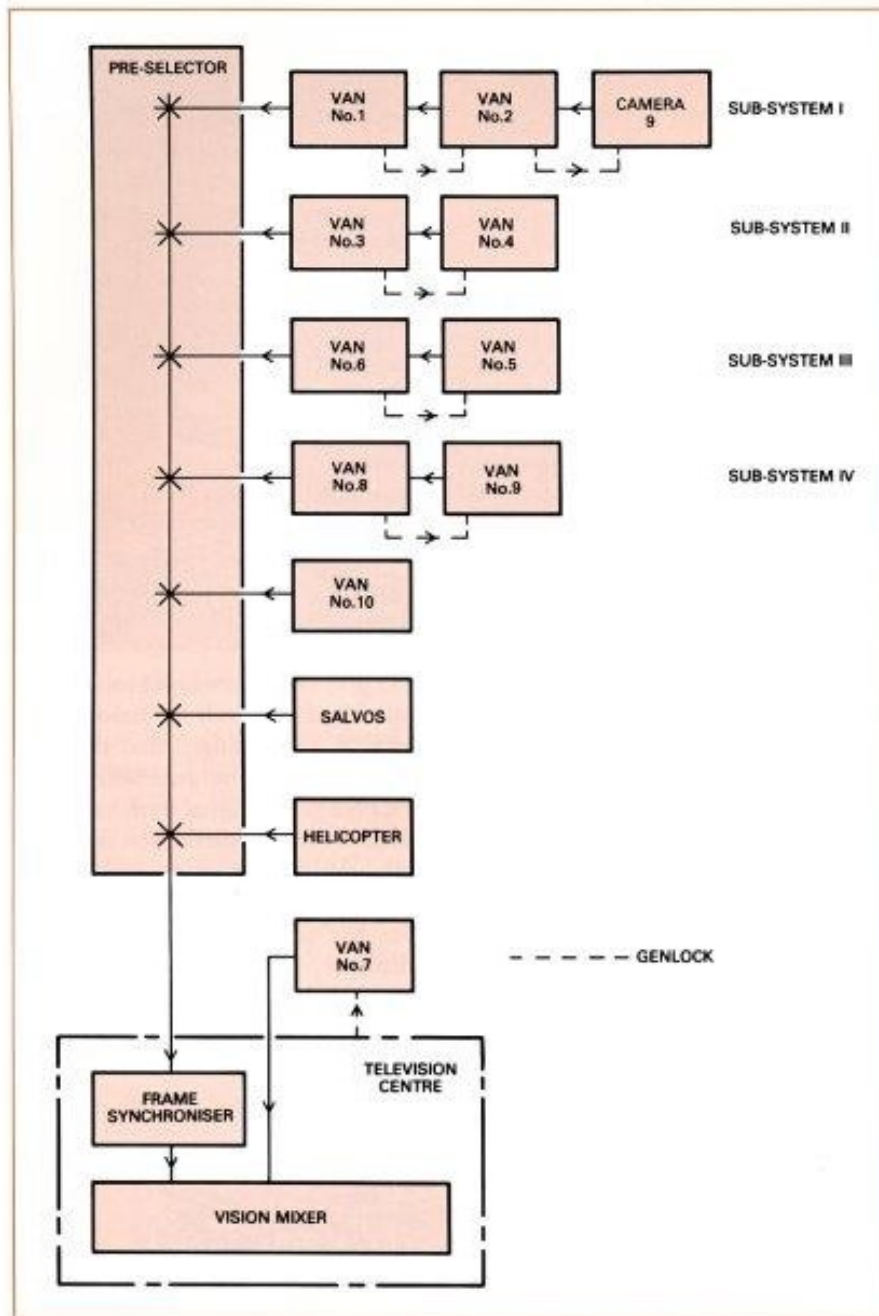


Fig. 5. Arrangement of vision synchronization

## RESUMÉ

C'est au cours des journées de deuil national marquant le décès du Président Tito, que la télévision yougoslave a achevé sa tâche la plus importante et la plus difficile, notamment de téléviser les funérailles du Président.

On avait fait appel à dix voitures de prises de vues, dont un véhicule mobile à trois caméras, ainsi qu'à plusieurs autres caméras indépendantes (au total on installa 41 caméras).

Le système de relais par micro-ondes était assez complexe et se composait de 24 paires de liaisons portables.

## ZUSAMMENFASSUNG

Während der Staatstrauertage für Präsident Tito bewältigte das jugoslawische Fernsehen seine grösste und schwerste Aufgabe, als es das Begräbnis Präsident Titos übertrug.

Dabei wurden zehn Aussenreportagewagen, einschliesslich eines Drei-Kamera-Fahrzeugs, sowie einige unabhängige Kameras eingesetzt (insgesamt wurden 41 Kameras installiert).

Das Mikrowellen-Relaisystem war ziemlich komplex, es bestand aus 24 Paaren tragbarer Verbindungsstücke.

A special radio-telephone system was installed for the main programme director, enabling all OB vans and independent camera positions to receive his orders simultaneously. Such an arrangement simplified control of the 41 cameras.

## International sound

Using several directional microphones, each OB van picked up its locally derived sound for international transmission, which was sent to the Television Centre by the same microwave links as the vision signal. The final mixing of the international sound was done in the studio control room. Van No.10, the mini-mobile, had a special role in the international sound mixing, using the two parabola microphones mounted on its roof to pick up 'atmosphere' along the whole route.

In addition 35 booths were equipped, for foreign and Yugoslav commentators, in one of the studios in the Television Centre.

## Conclusion

This live transmission, which started for the Yugoslav network at 8 a.m. on 8th May 1980 (foreign networks started the transmission at noon) and lasted till 3.30 p.m., demonstrated the capability of Yugoslav television to organize at very short notice and successfully carry out such a complex and responsible task.

## RESUMEN

Durante los días de duelo nacional por la muerte de Tito, la televisión yugoslava llevó a cabo su mayor y más difícil misión televisando los funerales del Presidente Tito.

Se emplearon (se instalaron 41 cámaras en total) diez furgonetas OB, incluyendo una furgoneta móvil de tres cámaras y varias cámaras independientes.

El sistema de relé de microonda fue bastante complejo, consistiendo en 24 pares de enlaces portátiles de radiocomunicación.