



## Service Assured Networking for Railroads TCDD, Turkey

# Delivering Railway Signaling over Fiber

### Challenge

Migrate intercity railway signaling system.

### Solution

RAD's Megaplex Multiservice Networking Platform.

TCDD (Türkiye Cumhuriyeti Devlet Demiryolları), the Turkish state railway, had long employed a signaling system between Ankara, the country's capital and second-largest city, and Kayseri, a large industrialized hub in central Anatolia, located about 325 kilometers (200 miles) away.

Until now, the signaling along the route was transported with catenary copper lines, resulting in transmission quality issues due to the noise generated by high voltage. The railway was determined to replace the entire system along the most heavily traveled section of the route and transport the signaling between the cities over alternative fiber optic infrastructure. The challenge was that the access infrastructure between the control rooms and the two stations on either end would continue to be copper.

After consulting with RAD's local partner, Dengebir Telekomunikasyon, TCDD chose RAD's Megaplex multiservice networking platform to enable the migration. Megaplex units were deployed in the stations starting with Ankara Central and ending at Kayseri Central. The copper lines between them were likewise replaced with fiber. The copper lines that lead into the first station and lead out of the last, however, remain in place.



"Megaplex proved a perfect solution for this upgrade because it does everything required, without the need for any additional external device."

Mustafa Altay, Managing Partner,  
Dengebir Telekomunikasyon



Your Network's Edge

The Megaplex, part of RAD's Service Assured Networking (SAN) portfolio for transportation systems, grooms, aggregates and transports multiple broadband and narrowband data and voice services over copper and fiber, as well as DSL, wireless, or satellite circuits – all in a single-box. It is especially suitable, therefore, for use as economical, compact remote multiservice nodes for transportation systems.

"Megaplex proved a perfect solution for this upgrade because it does everything required without the need for any additional external device," explained Mustafa Altay, Managing Partner of Dengebir Telekomunikasyon. "Needless to say, this significantly reduced CapEx while simplifying installation, integration and network management."

Multiple interfaces and pseudowire technology enable the Megaplex to receive the signaling from the local copper access line and then transmit it over the fiber optic link from station to station.

RAD's Megaplex line can also be utilized to support both existing and new IP services.

"Pseudowire, which was pioneered and introduced to the market by RAD, is a perfect fit for enabling the migration of legacy traffic to packet-switched networks," Altay adds. "This is a future-proof solution that is already making a significant contribution to improving the quality of the railway's communication network."

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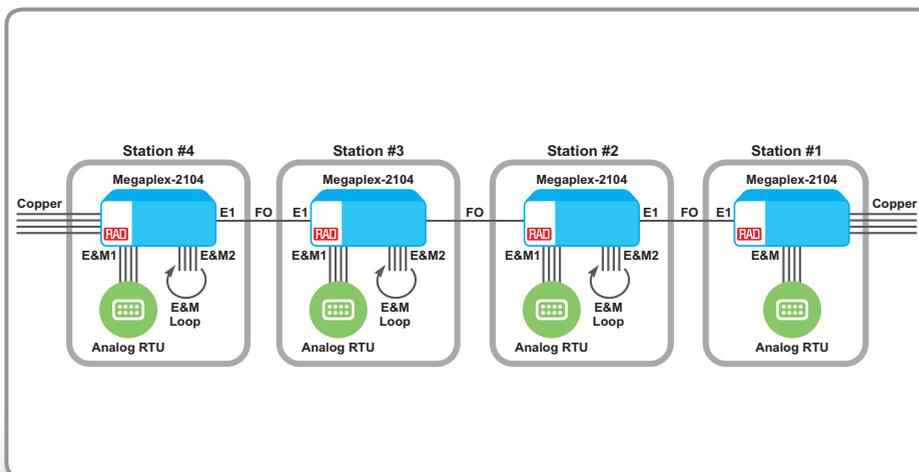
Mustafa Altay, Managing Partner,  
Dengebir Telekomunikasyon

#### Features

- One-box solution
- Multiservice interfaces
- TDM pseudowire emulation

#### Benefits

- Reduces CapEx
- Transports traffic over both copper and fiber
- Enables migration of legacy services to PSNs



Signaling Transmission over Fiber

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