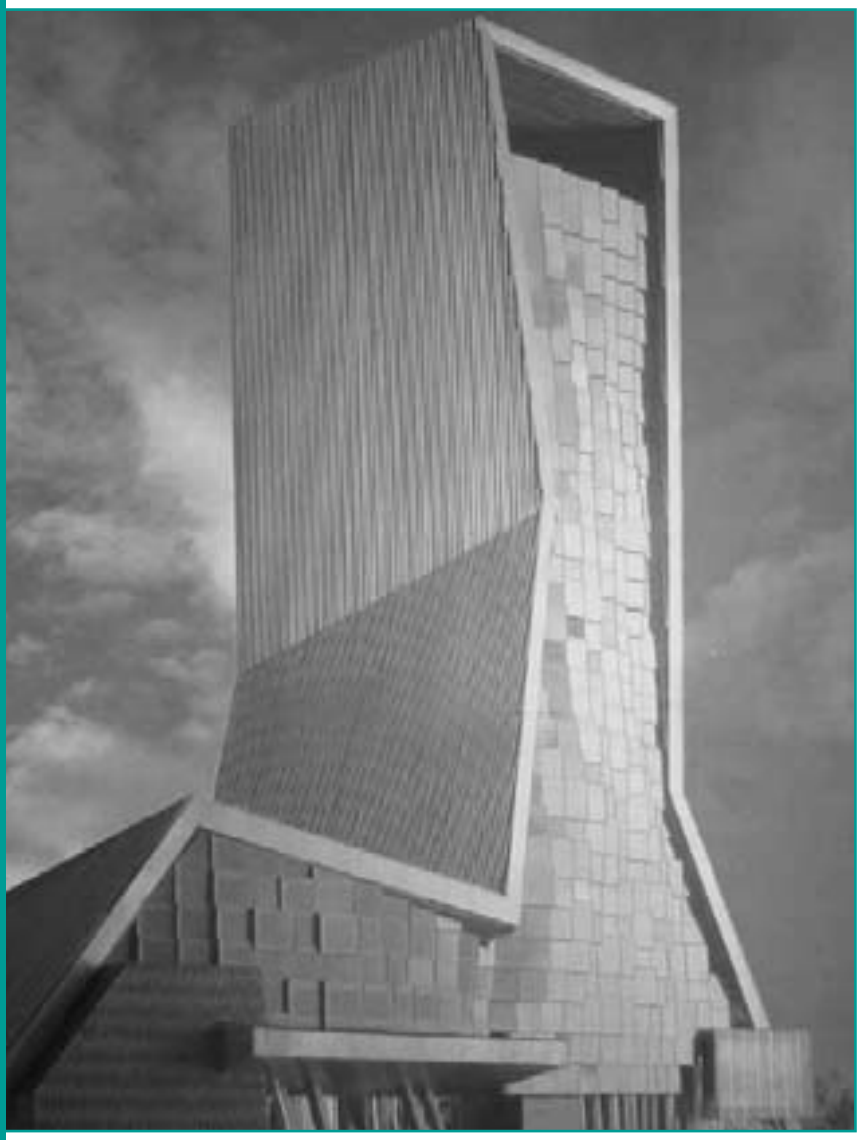
CommScope Technology for New Landmark on Beijing Skyline

SYSTIMAX® iPatch®, GigaSPEED® XL, LazrSPEED® and TeraSPEED® Solutions underpin high performance networks at Project B of China Central Television's New Site Construction and Development Program



CCTV (China Central Television), the national television station of the People's Republic of China, attracts more than 1.1billion viewers. Through 16 channels it achieves 95.9% coverage of the population across China and also reaches a global audience. Its international and English language channels transmit programs on news, economics, arts, sport and technology all over the world via satellite.

The station prides itself on the use of leading-edge technologies throughout its operations, including an advanced computer–based system for program planning and administration.

Getting full benefit from systems such as this, demands a high performance network infrastructure that is reliable, secure and easy to manage. In planning its new, $600 million, 550,000m^2 headquarters in Beijing, CCTV was determined to meet each of these requirements.

To find the best network infrastructure solution, all the major suppliers were invited to tender for the first stage of the project - the 60,000m^2 Television Cultural Center (TVCC). This building houses a hotel, TV theater, audio studios and other media facilities. The requirement not only included high performance copper and fiber cabling, but also an efficient means of managing the network physical layer and ensuring its security.

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The winning bid came from CommScope for its complete portfolio of fiber, copper and network infrastructure management offerings. The success was based on technical excellence backed by the strong track record of CommScope’s SYSTIMAX product range in major projects. In China, SYSTIMAX installations include those at Beijing Airport, the new Guangzhou Baiyun International Airport, the Guangzhou Baiyun International Convention Center, China News Agency and the Bank of China.

The solution chosen for the 159m high TVCC building includes the advanced SYSTIMAX iPatch® intelligent infrastructure solution. This gives network administrators greater vision and more knowledge about physical layer connections and end-points. As a result, they can monitor, manage and control network components effectively in real-time. It also helps cabling technicians to work more productively with fewer errors and so reduce network downtime.

In total, the TVCC network will have 5,000 copper outlets connected via 400km of Low Smoke Zero Halogen (LSZH), GigaSPEED XL cable. These will be complemented by 1,000 optical fiber outlets linked via 53kms of LazrSPEED 300 multimode fiber cable, which exceeds requirements of the OM3 fiber standard.

The GigaSPEED XL copper solution can support data transmission at 1Gb/s from end-to-end over a 100m, six-connector channel - comfortably exceeding specifications in the Category 6 cabling standard. The LazrSPEED 300 fiber solution will support data transmission at up to 10 Gb/s over a 300m channel without the high cost electronics associated with single-mode fiber.

24 iPatch Rack Manager Plus panels are used in 40 telecommunications rooms that house 209 iPatch panels for copper cabling and 30 panels to handle fiber connections. The iPatch Rack Manager Plus panel may trace existing connection and display end-to-end connectivity information, including not only the location of patch cords, but the devices connected on either end of the circuit.

Commenting on the role of the iPatch Solution, Duan Wen Kai, Vice General Manager of Tongfang Digital City Technology under Tsinghua Tongfang Co., Ltd, the general contractor of Electrical Low Voltage System of CCTV new site program said: “By automating connectivity change management, the systems makes it much easier to comply with industry best practices. At the same time, it enhances security by sounding alarms when unauthorized changes are made and creates an audit trail for tracking all changes.”

In the backbone connecting the iPatch panels, Tsinghua Tongfang is installing 10km of SYSTIMAX TeraSPEED® singlemode fiber cabling. This zero water peak fiber offers 60% more usable wavelengths by providing low loss transmission at the ‘E-band’ wavelengths around 1383 nanometers. More than 250m of this fiber will be in the form of factory terminated, 12-fiber InstaPATCH® Plus Trunk Cable, which reduces installation time and ensures perfect connectorization of the fiber.

Installation of the TVCC network infrastructure presented two specific challenges. First, the TV broadcasting and news center had to be operational by the end of 2008. Few cabling companies can meet deadlines as tight as this for such a large, sophisticated network infrastructure.

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The second challenge was the complex architecture and construction of the TVCC building, which includes a five-floor TV broadcasting center and a 30-floor hotel. The structure has two more levels below ground and is covered by a long-span spaceframe roof that wraps up and over the hotel to form a canopy for the whole development. The innovative design makes planning and installation of the network infrastructure a bigger, more complicated task than for conventional buildings of the same size.

To meet the challenges, CommScope worked in collaboration with Tsinghua Tongfang to work out the best practices for the cabling proposal. And Tsinghua Tongfan sent out a 50-people strong cabling design and installation team.

Cable routing includes under floor connections to floor-mounted outlets and above-the-ceiling cableways with dropdowns to desk-mounted outlets. Layout of the outlets, cables and communications rooms had to be carefully integrated within the working environment and the structure of the building. As well as video, audio, data and VoIP, the connections also support building management and access control applications.

Stringent fire safety standards apply in all areas, since the building has many public places and houses a large workforce. Collaboration with engineers and consultants handling construction was especially important in meeting these safety requirements.

“The new CCTV headquarters is a giant undertaking with many technically ambitious features,” said Charles Wong, Regional Director of Greater China, CommScope Enterprise Solutions. “Our objective as suppliers of the network physical layer is to ensure that the connectivity matches the needs of advanced systems used throughout the building for the next 20 years.

“Through its SYSTIMAX product line, CommScope can deliver the high-performance, intelligent network infrastructure that is vital to efficient working in large buildings. Our advanced technology and innovative solutions are perfectly in tune with the vision displayed throughout CCTV’s stunning new headquarters.”

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05/08 CA-A-20