

= Tokyo Tower =

Tokyo Tower (????? , T?ky? tow?) is a communications and observation tower located in the Shiba @-@ koen district of Minato , Tokyo , Japan . At 332 @.@ 9 metres (1 @,@ 092 ft) , it is the second @-@ tallest structure in Japan . The structure is an Eiffel Tower @-@ inspired lattice tower that is painted white and international orange to comply with air safety regulations .

Built in 1958 , the tower 's main sources of revenue are tourism and antenna leasing . Over 150 million people have visited the tower since its opening . FootTown , a four @-@ story building located directly under the tower , houses museums , restaurants and shops . Departing from there , guests can visit two observation decks . The two @-@ story Main Observatory is located at 150 metres (490 ft) , while the smaller Special Observatory reaches a height of 249 @.@ 6 metres (819 ft) .

The tower acts as a support structure for an antenna . Originally intended for television broadcasting , radio antennas were installed in 1961 , but the tower is now used to broadcast signals for Japanese media outlets such as NHK , TBS and Fuji TV . Japan 's planned digital television transition by July 2011 was problematic , however ; Tokyo Tower 's height , 332 @.@ 9 m (1 @,@ 092 ft) was not high enough to adequately support complete terrestrial digital broadcasting to the area . A taller digital broadcasting tower , known as Tokyo Skytree , was completed on February 29 , 2012 .

= = Construction = =

A large broadcasting tower was needed in the Kant? region after NHK , Japan 's public broadcasting station , began television broadcasting in 1953 . Private broadcasting companies began operating in the months following the construction of NHK 's own transmission tower . This communications boom led the Japanese government to believe that transmission towers would soon be built all over Tokyo , eventually overrunning the city . The proposed solution was the construction of one large tower capable of transmitting to the entire region . Furthermore , because of the country 's postwar boom in the 1950s , Japan was searching for a monument to symbolize its ascendancy as a global economic powerhouse .

Hisakichi Maeda , founder and president of Nippon Denpat? , the tower 's owner and operator , originally planned for the tower to be taller than the Empire State Building , which at 381 meters was the highest structure in the world . However , the plan fell through because of the lack of both funds and materials . The tower 's height was eventually determined by the distance the TV stations needed to transmit throughout the Kant? region , a distance of about 150 kilometres (93 mi) . Tach? Nait? , renowned designer of tall buildings in Japan , was chosen to design the newly proposed tower . Looking to the Western world for inspiration , Nait? based his design on the Eiffel Tower in Paris , France . With the help of engineering company Nikken Sekkei Ltd . , Nait? claimed his design could withstand earthquakes with twice the intensity of the 1923 Great Kant? earthquake or typhoons with wind speeds of up to 220 kilometres per hour (140 mph) .

The new construction project attracted hundreds of tobi (?) , traditional Japanese construction workers who specialized in the construction of high @-@ rise structures . The Takenaka Corporation broke ground in June 1957 and each day at least 400 laborers worked on the tower . It was constructed of steel , a third of which was scrap metal taken from US tanks damaged in the Korean War . When the 90 @-@ metre antenna was bolted into place on October 14 , 1958 , Tokyo Tower was the tallest freestanding tower in the world , taking the title from the Eiffel Tower by 13 metres . Despite being taller than the Eiffel Tower , Tokyo Tower only weighs about 4 @,@ 000 tons , 3 @,@ 300 tons less than the Eiffel Tower . While other towers have since surpassed Tokyo Tower 's height , the structure was still the tallest artificial structure in Japan until April 2010 , when the new Tokyo Skytree became the tallest building of Japan . It was opened to the public on December 23 , 1958 at a final cost of ¥ 2 @.@ 8 billion (\$ 8 @.@ 4 million in 1958) . Tokyo Tower was mortgaged for ¥ 10 billion in 2000 .

Planned as an antenna for telecommunications and brightly colored in accordance with the time 's

Aviation Law , the tower 's two panoramic observatories are mostly frequented by tourists today ; the tower constitutes a clear reference point in the center 's chaotic skyline , forming a strong landmark , both night and day .

= = Maintenance = =

Every 5 years the tower is repainted in a process that takes about 12 months .

= = Functions = =

Tokyo Tower 's two main revenue sources are antenna leasing and tourism . It functions as a radio and television broadcasting antenna support structure and is a tourist destination that houses several different attractions . Over 150 million people have visited the tower in total since its opening in late 1958 . Tower attendance had been steadily declining until it bottomed out at 2 @. @ 3 million in 2000 . Since then , attendance has been rising , and it has recently been attracting approximately 3 million visitors per year . The first area tourists must visit upon reaching the tower is FootTown , a four @- @ story building stationed directly under the tower . Here , visitors can eat , shop and visit several museums and galleries . Elevators that depart from the first floor of FootTown can be used to reach the first of two observation decks , the two @- @ story Main Observatory . For the price of another ticket , visitors can board another set of elevators from the second floor of the Main Observatory to reach the final observation deck ? the Special Observatory .

= = = Broadcasting = = =

Tokyo Tower , a member of the World Federation of Great Towers , is utilized by many organizations for various broadcasting purposes . The structure was originally intended for broadcasting television , but radio antennas were installed in 1961 because it could accommodate them . The tower now broadcasts analog television , digital television , radio and digital radio . Stations that use the tower 's antenna include :

NHK General TV Tokyo (JOAK @- @ TV) : VHF Channel 1 (Analog)

NHK Educational TV Tokyo (JOAB @- @ TV) : VHF Channel 2 (Analog)

NHK Radio FM Tokyo (JOAK @- @ FM) : 82 @. @ 5 @- @ MHz

NHK Radio 1 AM Tokyo (JOAK @- @ AM) : 594 @- @ KHz

NHK Radio 2 AM Tokyo (JOAB @- @ AM) : 693 @- @ KHz

TV Asahi Tokyo (JOEX @- @ TV) : TV Asahi Analog Television / VHF Channel 10 (Analog)

Fuji Television Tokyo (JOCX @- @ TV) : Fuji Television Analog / VHF Channel 8 (Analog)

Tokyo Broadcasting System Television (JORX @- @ TV) : TBS Television / VHF Channel 6 (Analog)

Nippon Television Tokyo (JOAX @- @ TV) : VHF Channel 4 (Analog)

TV Tokyo (JOTX @- @ TV) : VHF Channel 12 (Analog)

J @- @ WAVE (JOAV @- @ FM) : 81 @. @ 3 @- @ MHz

Tokyo FM (JOAU @- @ FM) : 80 @. @ 0 @- @ MHz

FM Interwave (JODW @- @ FM) : 76 @. @ 1 @- @ MHz

The University of the Air TV (JOUD @- @ TV) : VHF Channel 16 (Analog)

The University of the Air @- @ FM (JOUD @- @ FM) : 77 @. @ 1 @- @ MHz

Tokyo Metropolitan Television (JOMX @- @ TV) : VHF Channel 14 (Analog)

Nikkei Radio Broadcasting Relay Antenna (JOZ @- @ SW) : 3 @. @ 925 @- @ MHz

Japan currently employs both analog and digital broadcasting , but by July 2011 all television broadcasting is to be digital . Tokyo Tower is not a reliable broadcasting antenna for completely digital broadcasting because the tower is not tall enough to transmit the higher frequency waves needed to areas surrounded by forests or high @- @ rise buildings . As an alternative , a new 634 @- @ metre @- @ tall (2 @, @ 080 ft) tower called the Tokyo Skytree was opened in 2012 . To make Tokyo Tower more appealing to NHK and five other commercial broadcasters who plan to

move their transmitting stations to the new tower , Nihon Denpat? officials drafted a plan to extend its digital broadcasting antenna by 80 to 100 metres at a cost of approximately ¥ 4 billion (US \$ 50 million) . Because these plans have not been realized , Tokyo Tower is expected to stop transmitting digital TV radio waves with the exception of Open University of Japan , who will continue to broadcast through the tower . FM radio stations will also continue to utilize the tower for broadcasting in the Tokyo area . Masahiro Kawada , the tower 's planning director , also pointed out the possibility of the tower becoming a backup for the Tokyo Skytree , depending on what the TV broadcasters want or need .

The tip of the antenna was damaged on March 11 , 2011 as a result of the T?hoku earthquake . On July 19 , 2012 , the Tokyo Tower 's height shrank to 315 meters while the top antenna was repaired for damage sustained during the earthquake .

== = Attractions == =

== = FootTown == =

Located in the base of the tower is a 4 @-@ story building known as FootTown . The first floor includes the Aquarium Gallery , a reception hall , the 400 @-@ person @-@ capacity " Tower Restaurant " , a FamilyMart convenience store and a souvenir shop . This floor 's main attractions , however , are the three elevators that serve as a direct ride to the Main Observatory . The second floor is primarily a food and shopping area . In addition to the five standalone restaurants , the second floor 's food court consists of four restaurants , including a McDonald 's and a Pizza @-@ La

FootTown 's third and fourth floors house several tourist attractions . The third floor is home to the Guinness World Records Museum Tokyo , a museum that houses life @-@ size figures , photo panels and memorabilia depicting interesting records that have been authenticated by the Guinness Book . The Tokyo Tower Wax Museum , opened in 1970 , displays wax figures imported from London where they were made . The figures on display range from pop culture icons such as The Beatles to religious figures such as Jesus Christ . A hologram gallery named the Gallery DeLux , a lounge and a few specialty stores are also located on this floor . Tokyo Tower 's Trick Art Gallery is located on the building 's fourth and final floor . This gallery displays optical illusions , including paintings and objects that visitors can interact with .

On the roof of the FootTown building is a small amusement park that contains several small rides and hosts live performances for children . On weekends and holidays , visitors can use the roof to access the tower 's outside stairwell . At approximately 660 steps , the stairwell is an alternative to the tower 's elevators and leads directly to the Main Observatory .

= = Appearance = =

Tokyo Tower requires a total of 28 @,@ 000 litres (7 @,@ 400 US gal) of paint to completely paint the structure white and international orange , complying with air safety regulations . Before the tower 's 30th anniversary in 1987 , the only lighting on the tower were light bulbs located on the corner contours that extended from the base to the antenna . In the spring of 1987 , Nihon Denpat? invited lighting designer Motoko Ishii to visit the tower . Since its opening 30 years earlier , the tower 's annual ticket sales had dropped significantly , and in a bid to revitalize the tower and again establish it as an important tourist attraction and symbol of Tokyo , Ishii was hired to redesign Tokyo Tower 's lighting arrangement .

Unveiled in 1989 , the new lighting arrangement required the removal of the contour @-@ outlining light bulbs and the installation of 176 floodlights in and around the tower 's frame . From dusk to midnight , the floodlights illuminate the entire tower . Sodium vapor lamps are used from October 2 to July 6 to cover the tower in an orange color . From July 7 to October 1 , the lights are changed to metal halide lamps to illuminate the tower with a white color . The reasoning behind the change is a

seasonal one . Ishii reasoned that orange is a warmer color and helps to offset the cold winter months . Conversely , white is thought a cool color that helps during the hot summer months .

Occasionally , Tokyo Tower 's lighting is changed to specific , unique arrangements for special events . The tower is specially lit for some annual events . Since 2000 , the entire tower has been illuminated in a pink light on October 1 to highlight the beginning of National Breast Cancer Awareness Month . The tower has also had a variety of special lighting arrangements for Christmas since 1994 . During New Year 's Eve , the tower lights up at midnight with a year number displayed on one side of the observatory to mark the arrival of the new year . Special Japanese events have also been cause to light the tower in several nontraditional ways . In 2002 , alternating sections of the tower were lit blue to help celebrate the opening of the FIFA World Cup in Japan . Alternating sections of the tower were lit green on Saint Patrick 's Day in 2007 to commemorate the 50th anniversary of Japanese @-@ Irish relations . On a few occasions , Tokyo Tower has even been specially lit to correspond with corporate events . For example , the top half of the tower was lit green to correspond with the Japanese premiere of The Matrix Reloaded and different sections of the tower were lit red , white and black to commemorate the first day of sales of Coca @-@ Cola C2 . The tower was also uniquely lit for the new millennium in 2000 with Motoko Ishii again reprising her role as the designer . In December 2008 , Nihon Denpat? spent \$ 6 @.@ 5 million to create a new nighttime illumination scheme ? titled the " Diamond Veil " ? to celebrate the tower 's 50th anniversary . The arrangement featured 276 lights in seven colors equally distributed across the towers four faces .

When employing specialty lighting on the tower , the Main Observatory often plays an important role . During the second international " White Band Day " on September 10 , 2005 , the tower was completely unlit except for the Main Observatory , which was lit with a bright white light . The resulting white ring represented the White Band referenced in the day 's name . The two floors of windows that make up the exterior of the Main Observatory are utilized to display words or numbers . When the tower employed unique lighting to commemorate terrestrial digital broadcasting first being available in the Kant? region on December 1 , 2005 , each side of the Main Observatory displayed the characters ??? (chi deji , an abbreviation for ???????? chij? dejitaru h?s? terrestrial digital broadcasting) . More recently , the observatory displayed both " TOKYO " and " 2016 " to stress Tokyo 's 2016 Olympic bid . Primitive images , such as hearts , have also been displayed using the observatory 's windows .

= = Mascots = =

The Tokyo Tower has two mascots named Noppon . They are two brothers : Older Brother , who wears blue dungarees , and Younger Brother , who wears red dungarees . They were " born " on December 23 , 1998 to celebrate the 40th anniversary of the Tokyo Tower .

= = In popular culture = =

Just as the Eiffel Tower is often used in popular culture to immediately locate a scene in Paris , France , the Tokyo Tower is often used in the same way for Tokyo . It is used in anime and manga such as Tokyo Magnitude 8 @.@ 0 , Magic Knight Rayearth , Please Save My Earth , Cardcaptor Sakura , Digimon , Detective Conan , Sailor Moon , and Death Note . The tower is also frequently used in the Japanese kaiju (giant monster) film genre . It has been the location of the climactic battles between Godzilla , Mothra and King Kong (King Kong Escapes) wherein it is frequently destroyed and rebuilt . Based on the popular manga series by Ry?hei Saigan , the 2005 film Always Sanch?me no Y?hi was a nostalgic view of life in the neighbourhoods under the construction of the Tokyo Tower .

The Japanese culture and lifestyle television show Begin Japanology aired on NHK World , featuring a full episode on Tokyo Tower in 2008 .