## **KT-C Series**

### For Small to Meddle Size Antennas, 11~18m

As Slim As 60 cm Tower Face, Lightweight and Strong, A Variety of Optional Components Required Only Small Amount of Concrete and Easy Construction, Bolt Fastening Assembly



This KT-C series are a complete self-supporting semi-tapered triangular tower intended for a small to middle size of antennas newly designed and developed from achievements of passed 20 years of history in KT-N series towers engineering. It shapes slim but has a rugged strength so that a larger size of antenna can easily be installed even in narrow construction site. A variety of optical height of the towers can be choiceable according to the requirement of user's applications as it is classified into 4 types ranging from 10.6m to 17.7m of the tower heights. Those part of structure needing for strength, is solved by adopting a larger diameter of main post. Although it is slim, it is designed to meet the requirements considering that a larger size of antenna can comparatively be mountable on the top of the tower. Installing these antennas such as Yagi type HF antennas for Ham use while stacked Yagi for V and UHF bands and an particular antennas like a sharing antenna system are mostly suitable. By upgrading with use of elevator system (optionally available), makes it possible to perform for easier antenna installation or for upgrading an to a larger size of antenna. Structurally, required tower height above the ground is obtained by joining 2.44m long of the each tower section. The face width of each section is 41cm at the top section in the meanwhile 60cm at the bottom section. See work schedule list for the details of the KT-R series installation procedures.

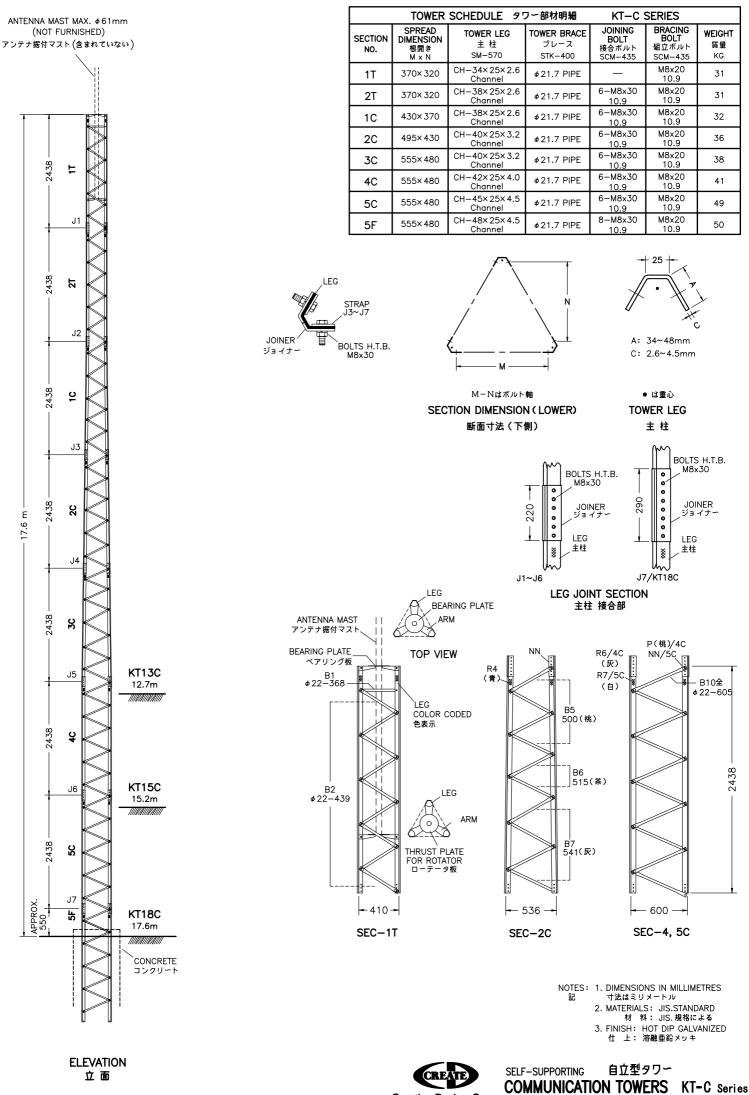
#### Concreteless Foundation Base Kit 5FB/Optional

Those towers which are not required the concrete foundation are also available (suitable in the case for faster installation and uninstallation etc.). Applicable models of this foundation type are KT11C~KT15C.

KT18C 17.7 m/h

Model No.	Height above the Ground (m)		Allowable Loads (m <sup>2</sup> ) 60m/s	Concrete (m <sup>3</sup> )	Mast Diameter Rotator	Weight (kg)
KT11C	10.6	3.8	1.0	1.0		190
KT13C	13.0	3.0	0.85	1.0	Mentioned in the	215
KT15C	15.3	2.4	0.7	1.5	Tower Setup Guide	255
KT18C	17.7	1.8	0.5	1.5		305

\* Allowable loads denote wind surface area of antenna in the wind speed at 45m/s and 60m/s.



Creative Design Corp.

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#### For Middle to Large Size Antennas, 15~22m

Self-Supporting Tower Inherited from KT-C Series, Enable to Earn a Tall Height of Tower and Installable a Large Antenna.



The KT-R series are complete self-supporting semi-tapered triangular towers. Like the conventional KT tower, the KT-R series towers are composed of three rails (formed channel steel) and braces (tubings) bolted together to fasten each other. They are intended for large antennas, and have a new design to make them light-weight and strong. A side view of the antenna shows that the two upper sections (40cm wide) are straight, while the 3rd, 4th, 5th and 6th sections constitute a tapered portion (giving a 1m increase in width) seated on the lower straight portion on the foundation. This allows a minimum foundation area. Generally, a self-supporting tower has a large lower part and an upper part which tapers to the top. In the KT-R series is the tower designed and developed the stress problem by altering the materials of the antenna members and the structure, obviating the need to enlarge the antenna. The structure and design of the antenna tower are based not only on calculations but also on experiments under various stress conditions. Particular consideration has been given to torsion, warp and directional strength, which are vital factors in triangular cross-sectional, self-supported towers. A grounding plate is provided at the foundation to allow for possible lightning strikes. This also facilitates construction and makes it easier to find the true perpendicular.

#### Working Schedule

Construction work for this KT-R tower is processed in two steps. The 1st step is to provide a foundation for the tower, excavation and concrete. 2nd steps is to assembly of the each section units (above the foundation) of the tower and to stack them on the foundation. Before start working the 2nd step, it must to wait at least 4 days until concrete is formed. It is advisable to purchase the most appropriate concrete for actual use from one of the dealers instead of mixing them by your own as timing is important. Contact your local concrete provider and reserve them the concrete by telling them the required volume of excavated hole and the time in order to meet the time for concrete pouring to be.

### Tower Foundation

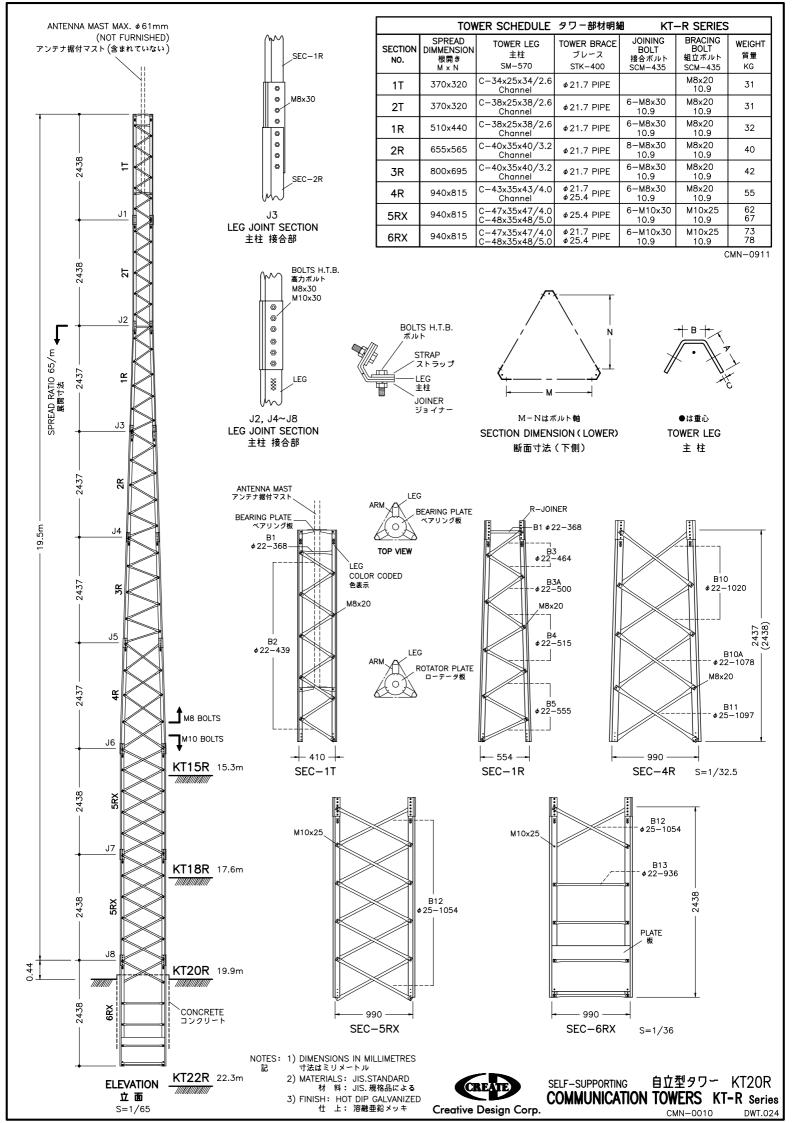
The tower foundation is buried under the ground together with the concrete as listed in the table below. Excavation work takes approximately 3 hours with  $2 \sim 3$  workers.

KT20R 19.9m/h

Foundation Work	<ol> <li>Excavation, 2~3 workers required, takes 3~4 hours.</li> <li>Assembly, foundation and upper sections</li> <li>concrete pouring</li> </ol>
Section Assembly	2 workers required for assembly, takes 30~40 min. per 1 section.
Stacking (by man power)	<ol> <li>Stacking each section, 5~6 days after the concrete pouring</li> <li>2~3 workers required for stacking above section, takes 20~40 per stacking 1 section.</li> </ol>

Model No.	Height above the Ground (m)	Allowable Loads (m <sup>2</sup> ) 45m/s	Concrete (m <sup>3</sup> )	Mast Diameter Rotator	Volume of Package (m <sup>3</sup> )	Weight (kg)
KT15R	15.0	4.2	2.0		0.60	295
KT18R	17.5	3.6	2.5	Mentioned in the	0.70	360
KT20R	20.0	2.4	3.0	Tower Setup Guide	0.75	430
KT22R	22.3	1.4	4.0		0.80	495

\* Allowable loads denote the wind surface area of the antenna in the wind speed at 45m/s. Equipment Supplied : Ratchet wrench for assembly, corch bolt



# **KT-S, SR Series**

### Tower Height, 20~25m

The Most Suitable For Large Antennas, The Most Standard In Self-Supporting Towers

This KT-S, SR series towers are intended for a heavy and large-size antennas or where stronger wind resistance is required. Unlike the KT-C and R series of tower, the structure of this tower is tapered from the top to the foundation that gives high performance effectiveness for its weight and the cost that installable size of antenna is  $3 m^2$  or above. As the height is increased, size and the thickness of the bottom section is consequently increased. This tower is the typical type of a self-supporting tower standardly inherited its shape. The width of one face in the top section of this tower is 41 cm, and an antenna support mast of diameter up to 61 mm can be mounted on the top section where mount plate for rotator and thrust bearing is attached. These sections which consists of 2.44m long section can easily be hoisted and stacked toward the top using a jin pole and a rope. The dimension and construction example for each tower of standard foundation shows in the following table.

Model No.	Height above the Ground (m)	Allowable Loads (m <sup>2</sup> ) 45m/s	Face Width at Bottom Section (m)	Weight (kg)
KT20S	19.9	4.0	1.39	420
KT20SR	19.8	4.8	1.54	480
KT22S	22.3	3.0	1.54	505
KT22SR	22.3	3.5	1.76	570
KT25S	24.7	3.0	2.0	670
KT25SR	24.7	3.5	2.2	690
KT27SR	27.2	3.0	2.5	810

1. Allowable loads denote the wind surface area of the antenna in the wind speed at 45 m/s.

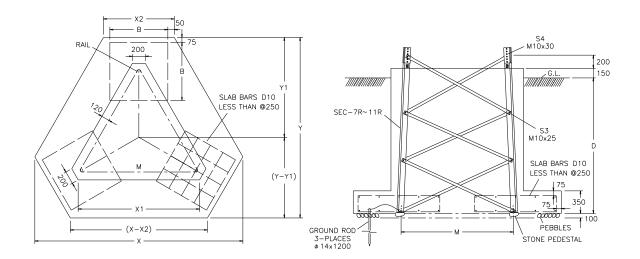
2. Grounding fixtures for foundation is attached standard, slub reinforcing is optional.

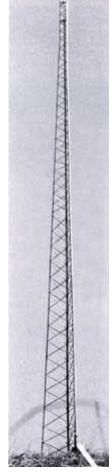
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Model No.	Х	Y	D	M	Concrete (m <sup>3</sup> )
KT20S	2.4	2.1	2.0	1.4	4.0
KT20SR	2.7	2.3	2.1	1.6	5.2
KT22S	2.7	2.3	2.1	1.6	5.2
KT22SR	2.9	2.5	2.1	1.8	6.0
KT25S	3.5	3.0	2.2	2.0	8.1
KT25SR	3.8	3.3	2.2	2.2	9.7
KT27SR	3.9	3.4	2.2	2.5	12.0

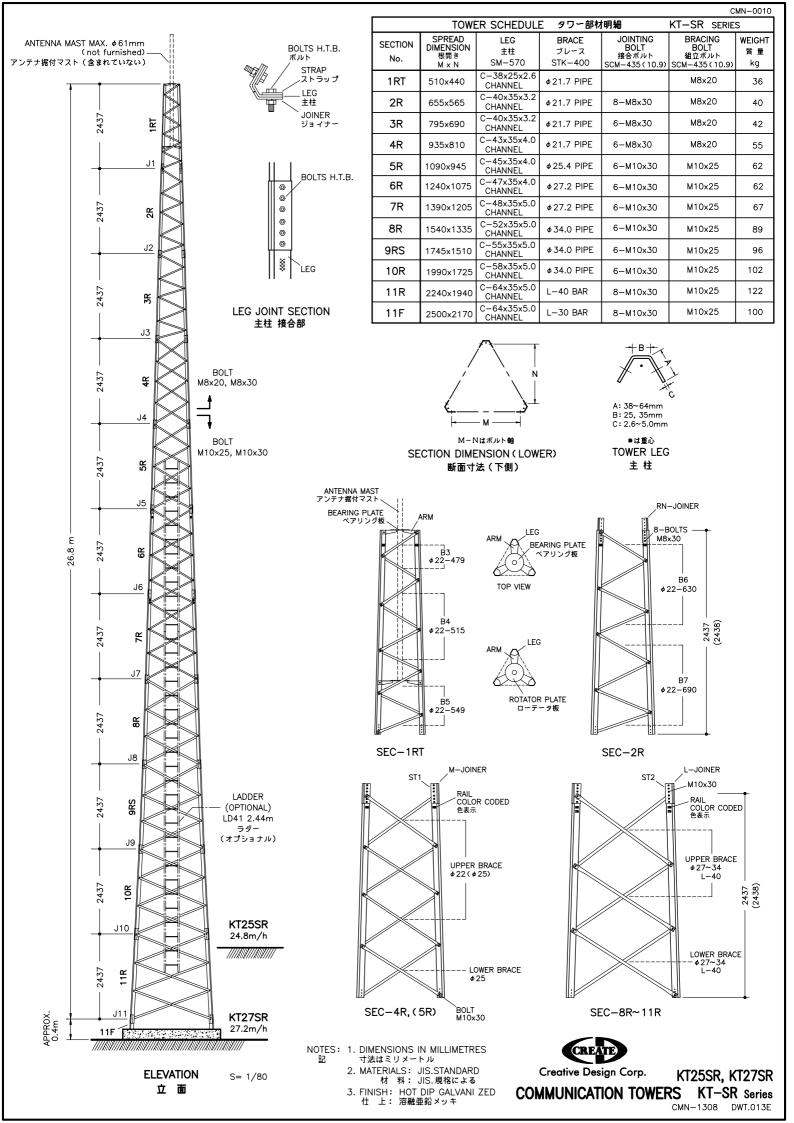
#### Dimension of Foundation

KT22SR 22.3m/h

Note: The figures in the table is assuming that the soil bearing is  $7t/m^2$  and dimension is in millimeter.

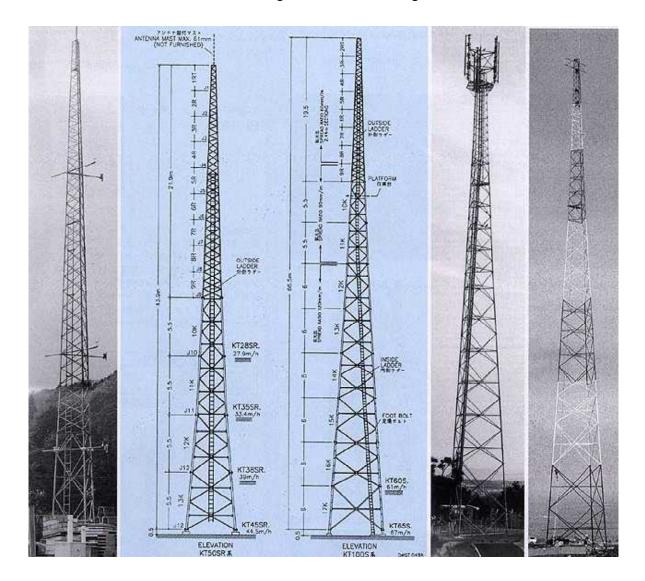






# **KT-50SR Family, KT-100S Family**

Tower Height, 28~50m For a Middle to Large and an Extra-Large Antennas



This KT-50SR Family of the tower, is a self-supporting tower offering the tower height from 28 to 50 m designed for install a middle to large size of antennas. The tower structure is exceptionally strong that channel type of main post used in KT-25SR family tower is used in the upper section while tubing type of main post in the tower section is used in the lower section offering high strength of structure. In the lower part of section in the tower where need for the high strength uses an unique bracing structures which fit to the tubing structural main post that fitted properly with proper joint system with each other. Outer side of the tower from lower section up to the SEC-5R, the ladder is equipped standard so that makes construction perform smoother for easy ascending. Considering the workability of the tower construction, the foundation units is the type of main post structure enable to bury reinforcing steels supplied.

KT50SR Family						
Model No.	Height above the Ground (m)	Allowable Loads (m <sup>2</sup> ) 45m/s	Face Width at Bottom Section (m)	Weight (kg)		
KT28SR	27.9	3.9	2.27/10K	800		
KT35SR	33.4	3.6	2.78/11K	1,190		
KT38SR	39.0	3.2	3.71/12K	1,650		
KT45SR	44.5	2.5	4.64/13K	2,250		
KT50SR	49.9	2.0	5.57/14K	2,930		

Allowable Loads : Allowable loads denote wind surface area of antenna when the wind speed at 45 m/s.

This KT-100S family, is a self-supporting tower of 60~100m height designed to intended for put a middle to large size of antennas on the top of the tower. It enables to put a extra large of antenna if large and thicker diameter tubings of section is used in the upper section instead of thin and slim section used in upper sections. Overall structure of the tower is almost the same as that of KT-50SR family, but lower sections from 12K~23K (for KT100S) is constructed with 6m long. The ladder is quipped inner side of the tower from below the section 10K in the meanwhile is extended outer side from above the section 10K. Furthermore, the lower side of the main most below the section 15K is fabricated with a step-bolt for the sake of safer workability for performing construction. The foundation is supplied standard with the main posts of ground bury-type and grounding fixtures. Reinforcing fixtures are optional.

	KT100SR Family, Typical Models						
Model No.	Height above the Ground (m)	Allowable Loads (m <sup>2</sup> ) 45m/s	Face Width at Bottom Section (m)	Weight (kg)			
KT60S	61.0	4.0	6.4/16K	4,660			
KT75S	73.0	3.7	8.0/18K	7,110			
KT80S	79.0	3.6	8.9/19K	8,560			
KT90S	91.0	3.3	10.7/21K	12,160			
KT100S	103.0	3.0	12.5/23K	16,810			

Allowable Loads : Allowable loads denote wind surface area of antenna when the wind speed at 45 m/s.

